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 TESTING OF DISPOSAL AREA FINAL COVERS – EXIDE TECHNOLGIES, FRISCO, TEXAS**

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)[i]. 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 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, 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 1.0×10^{-7} to 1.5×10^{-8} centimeters per second (cm/sec), with a geometric mean value of value of 4.3×10^{-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 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, 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 $1.3x10^{-7}$ to $4.5x10^{-8}$ cm/sec, with a geometric mean value of $9.8x10^{-8}$ 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.

MEMORANDUM

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 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.

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 3.5×10^{-7} to 2.5×10^{-8} cm/sec, with a geometric mean value of 1.3×10^{-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.

MEMORANDUM

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.

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[i] Lake Engineering, Inc. Addendum to the RCRA Facility Investigation for GNB Incorported (sp), Frisco, Texas. December 10, 1993

EXHIBITS

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

EXHIBIT A

SITE PLANS

LEGEND

- SHELBY TUBE SAMPLE LOCATION
- APPROXIMATE DISPOSAL AREA

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

CLIENT
EXIDE TECHNOLOGIES

PROJECT
AFFECTED PROPERTY ASSESSMENT REPORT

TITLE
NORTH DISPOSAL AREA
SHELBY TUBE LOCATIONS

CONSULTANT
Golder Associates

YYYY-MM-DD	5/19/2014
PREPARED	JWT
DESIGN	JWT
REVIEW	DEP/JW
APPROVED	DEP

PROJECT No. 13-02086 Rev. 0 FIGURE **1**

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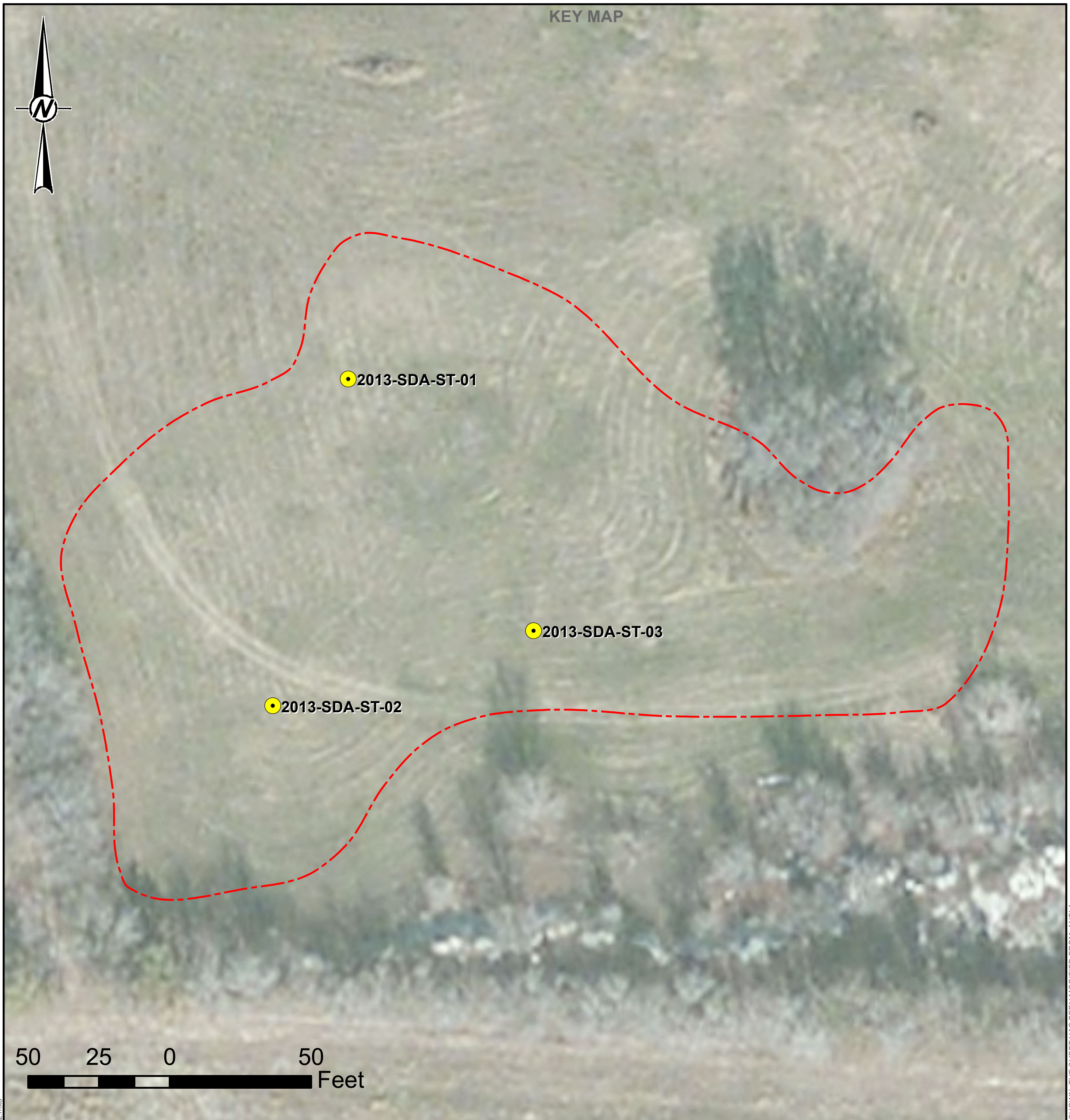

LEGEND

- SHELBY TUBE SAMPLE LOCATION
- APPROXIMATE DISPOSAL AREA

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

CLIENT
EXIDE TECHNOLOGIES

PROJECT
AFFECTED PROPERTY ASSESSMENT REPORT

TITLE
SOUTH DISPOSAL AREA
SHELBY TUBE LOCATIONS

CONSULTANT
Golder Associates

YYYY-MM-DD	5/19/2014
PREPARED	JWT
DESIGN	JWT
REVIEW	DEP/JW
APPROVED	DEP

PROJECT No. 13-02086 | Rev. 0 | FIGURE **2**

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0 1 in

LEGEND

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

CLIENT
EXIDE TECHNOLOGIES

PROJECT
AFFECTED PROPERTY ASSESSMENT REPORT

TITLE
SLAG LANDFILL
SHELBY TUBE LOCATIONS

CONSULTANT

Golder Associates

YYYY-MM-DD	5/19/2014
PREPARED	JWT
DESIGN	JWT
REVIEW	DEP/JW
APPROVED	DEP

PROJECT No. 13-02086 | Rev. 0 | FIGURE **3**

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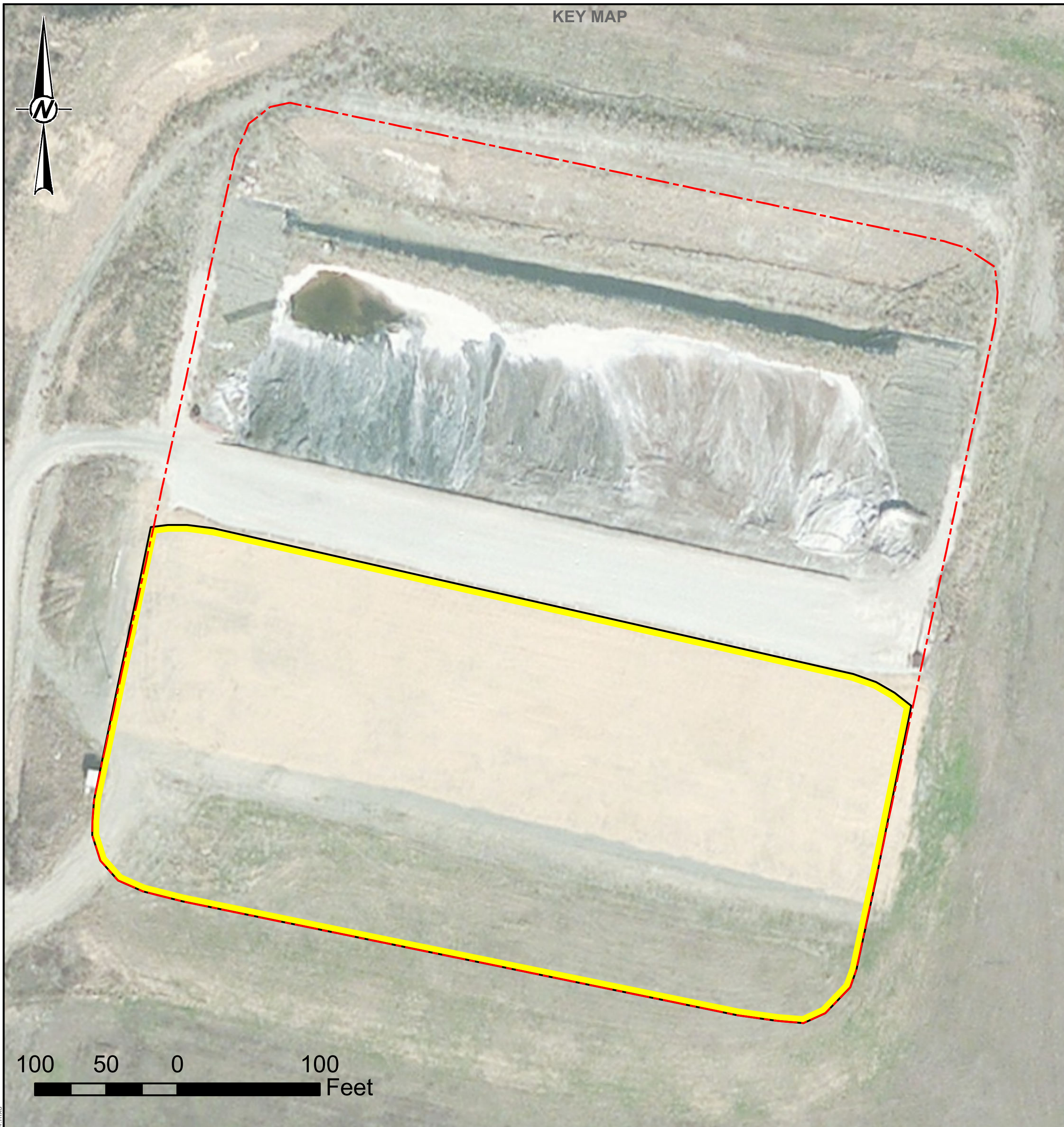

LEGEND

APPROXIMATE DISPOSAL AREA

APPROXIMATE LIMITS OF FINAL COVER

REFERENCE

1. BOUNDARY - ADDENDUM TO THE RCRA FACILITY INVESTIGATION FOR GNB INCORPORTED (SP), FRISCO, TEXAS. LAKE ENGINEERING, INC. DECEMBER 10, 1993.
2. LIMITS OF FINAL COVER – CONSTRUCTION PLANS FOR CELLS 7-9 AND CLOSURE OF CELLS 4-6, W&M ENVIRONMENTAL GROUP, INC., 2003.
3. IMAGERY - SOURCE: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, AND THE GIS USER COMMUNITY

CLIENT
EXIDE TECHNOLOGIES

PROJECT
AFFECTED PROPERTY ASSESSMENT REPORT

TITLE
CLASS II LANDFILL BOUNDARY

CONSULTANT

Golder Associates

YYYY-MM-DD	5/19/2014
PREPARED	JWT
DESIGN	JWT
REVIEW	DEP/JW
APPROVED	DEP

PROJECT No. 13-02086 | Rev. 0 | FIGURE 4

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EXHIBIT B

PHOTOGRAPHS

Project Title: Exide Technologies Frisco Recycling Center, Frisco, Texas

PHOTO 1

View of the North Disposal Area north of the roadway looking west.

PHOTO 2

View of the North Disposal Area north of the roadway looking east.

PHOTO 3 View of the North Disposal Area south of the roadway looking south.	
PHOTO 4 View of the North Disposal Area south of the roadway looking southwest.	

PHOTO 5 View of the North Disposal Area south of the roadway looking east.	
PHOTO 6 View of the South Disposal area looking northwest.	

PHOTO 7

View of South Disposal area looking southwest.

PHOTO 8

View of the South Disposal area looking east.

PHOTO 9

View of the South Disposal area looking northeast.

PHOTO 10

View of South Disposal area looking southeast.

PHOTO 11 View of the Slag Landfill looking east-northeast with the north tributary of Stewart Creek to the north.	
PHOTO 12 View of the Slag Landfill looking east-southeast.	

PHOTO 13 View of the Slag Landfill looking west-southwest.	
PHOTO 14 View of the eastern portion of the Slag Landfill (beyond the roadway) looking north.	

PHOTO 15 View of the southern portion of the inactive area of the Class 2 Landfill looking west.	
PHOTO 16 View of the southern portion of the inactive area of the Class 2 Landfill looking east.	

PHOTO 17 View of the northern portion of the inactive area of the Class 2 Landfill looking northeast.	
PHOTO 18 View of the active area of the Class 2 Landfill looking northeast.	

EXHIBIT C

PERMEABILITY TEST RESULTS

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		centimeters
Height, in	4.097	10.41	Height, in	4.131	10.49
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^2	41.35		Area, cm^2	41.48	
Volume, cm^3	430.31		Volume, cm^3	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 cm^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings

Pipette = 25.4

Annulus = 0.85

Visual Classification

Dark brown, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. °C	rt temp. corr.	Hydraulic Conductivity (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
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 CONDUCTIVITY REPORTED AS 5.25E-08 cm/sec

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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		centimeters
Height, in	4.012	10.19	Height, in	4.03	10.24
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^2	40.93		Area, cm^2	41.22	
Volume, cm^3	417.14		Volume, cm^3	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 cm^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings

Pipette = 25.0

Annulus = 0.85

Visual Classification

Dark brown, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. °C	rt temp. corr.	Hydraulic Conductivity (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 REPORTED AS **1.48E-08** **cm/sec**

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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**		centimeters
Height, in	3.47	8.81	Height, in	3.481	8.84
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^2	40.72		Area, cm^2	40.98	
Volume, cm^3	358.92		Volume, cm^3	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^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings
Pipette = 21.5
Annulus = 0.85

Visual Classification
Dark brown, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. ^oC	rt temp. corr.	Hydraulic Conductivity (cm/sec) @20^oC
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** **cm/sec**

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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		centimeters
Height, in	3.972	10.09	Height, in	3.985	10.12
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^2	41.32		Area, cm^2	41.46	
Volume, cm^3	416.88		Volume, cm^3	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^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings

Pipette = 24.0

Annulus = 0.85

Visual Classification

Dark gray, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. °C	rt temp. corr.	Hydraulic Conductivity (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

HYDRAULIC CONDUCTIVITY REPORTED AS **4.49E-08** **cm/sec**

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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**		centimeters
Height, in	4.012	10.19	Height, in	4.101	10.42
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^2	41.27		Area, cm^2	41.65	
Volume, cm^3	420.53		Volume, cm^3	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 cm^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings
Pipette = 25.0
Annulus = 0.85

Visual Classification
Dark brownish gray, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. °C	rt temp. corr.	Hydraulic Conductivity (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 CONDUCTIVITY REPORTED AS **1.56E-07** **cm/sec**

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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
LIFT NUMBER:	10"		

Sample Data, Initial		centimeters	Sample Data, Final		centimeters
Height, in	4.012	10.19	Height, in	4.021	10.21
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^2	41.15		Area, cm^2	41.58	
Volume, cm^3	419.34		Volume, cm^3	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^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings

Pipette = 24.5

Annulus = 0.85

Visual Classification

Dark brown, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. ^oC	rt temp. corr.	Hydraulic Conductivity (cm/sec) @20^oC
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 cm/sec

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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		centimeters
Height, in	4.194	10.65	Height, in	4.206	10.68
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^2	41.10		Area, cm^2	41.58	
Volume, cm^3	437.87		Volume, cm^3	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:

$a_{annulus}$ = 0.76712 cm^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings
Pipette = 25.5
Annulus = 0.85

Visual Classification
Dark brown, CLAY

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

HYDRAULIC CONDUCTIVITY REPORTED AS 2.61E-07 cm/sec

TECH:	PN	CHECKED:	SBK
DATE:	1/30/2014	DATE:	2/3/2014

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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		centimeters
Height, in	4.085	10.38	Height, in	4.096	10.40
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^2	41.41		Area, cm^2	41.59	
Volume, cm^3	429.68		Volume, cm^3	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 cm^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings

Pipette = 25.5

Annulus = 0.85

Visual Classification

Dark brown, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. ^oC	rt temp. corr.	Hydraulic Conductivity (cm/sec) @20^oC
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
5	40	257	24.6	0.89	7.334E-05	28.25	6.24E-08	23	0.931	5.81E-08
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

HYDRAULIC CONDUCTIVITY REPORTED AS 2.51E-08 cm/sec

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

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		centimeters
Height, in	3.882	9.86	Height, in	3.892	9.89
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^2	41.36		Area, cm^2	41.64	
Volume, cm^3	407.84		Volume, cm^3	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 cm^2

$a_{center\ pipette}$ = 0.03142 cm^3

Initial Manometer Readings
Pipette = 23.5
Annulus = 0.85

Visual Classification
Dark brown, CLAY

Minutes	Seconds	Δt (sec)	Pipette (cm)	Annulus (cm)	Flowrate (cm^3/s)	Gradient (i)	Hydraulic Conductivity (cm/sec)	Temp. °C	rt temp. corr.	Hydraulic Conductivity (cm/sec) @20°C
0	0	0	23.5	0.85		28.85		23	0.931	
1	27	87	22.0	0.91	5.417E-04	25.79	5.04E-07	23	0.931	4.70E-07
2	26	59	21.0	0.95	5.325E-04	24.80	5.16E-07	23	0.931	4.80E-07
3	41	75	20.0	0.99	4.189E-04	23.48	4.28E-07	23	0.931	3.99E-07
5	4	83	19.0	1.03	3.785E-04	22.16	4.10E-07	23	0.931	3.82E-07
6	34	90	18.0	1.08	3.491E-04	20.84	4.02E-07	23	0.931	3.75E-07
8	10	96	17.0	1.12	3.273E-04	19.51	4.03E-07	23	0.931	3.75E-07
10	1	111	16.0	1.16	2.830E-04	18.19	3.74E-07	23	0.931	3.48E-07
11	58	117	15.0	1.20	2.685E-04	16.87	3.82E-07	23	0.931	3.56E-07
14	3	125	14.0	1.24	2.513E-04	15.54	3.88E-07	23	0.931	3.62E-07
16	27	144	13.0	1.28	2.182E-04	14.22	3.69E-07	23	0.931	3.43E-07
19	10	163	12.0	1.32	1.927E-04	12.90	3.59E-07	23	0.931	3.34E-07

HYDRAULIC CONDUCTIVITY REPORTED AS 3.49E-07 cm/sec

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

GEOTECHNICAL TESTING LABORATORY
GOLDER ASSOCIATES
HOUSTON, TEXAS

W&M ENVIRONMENTAL GROUP, INC.

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 5th 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 5th 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 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.

Frank W Clark

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

Brent Vollmar

Brent Vollmar
Environmental Scientist

Figures, Tables, Attachment A

FIGURES

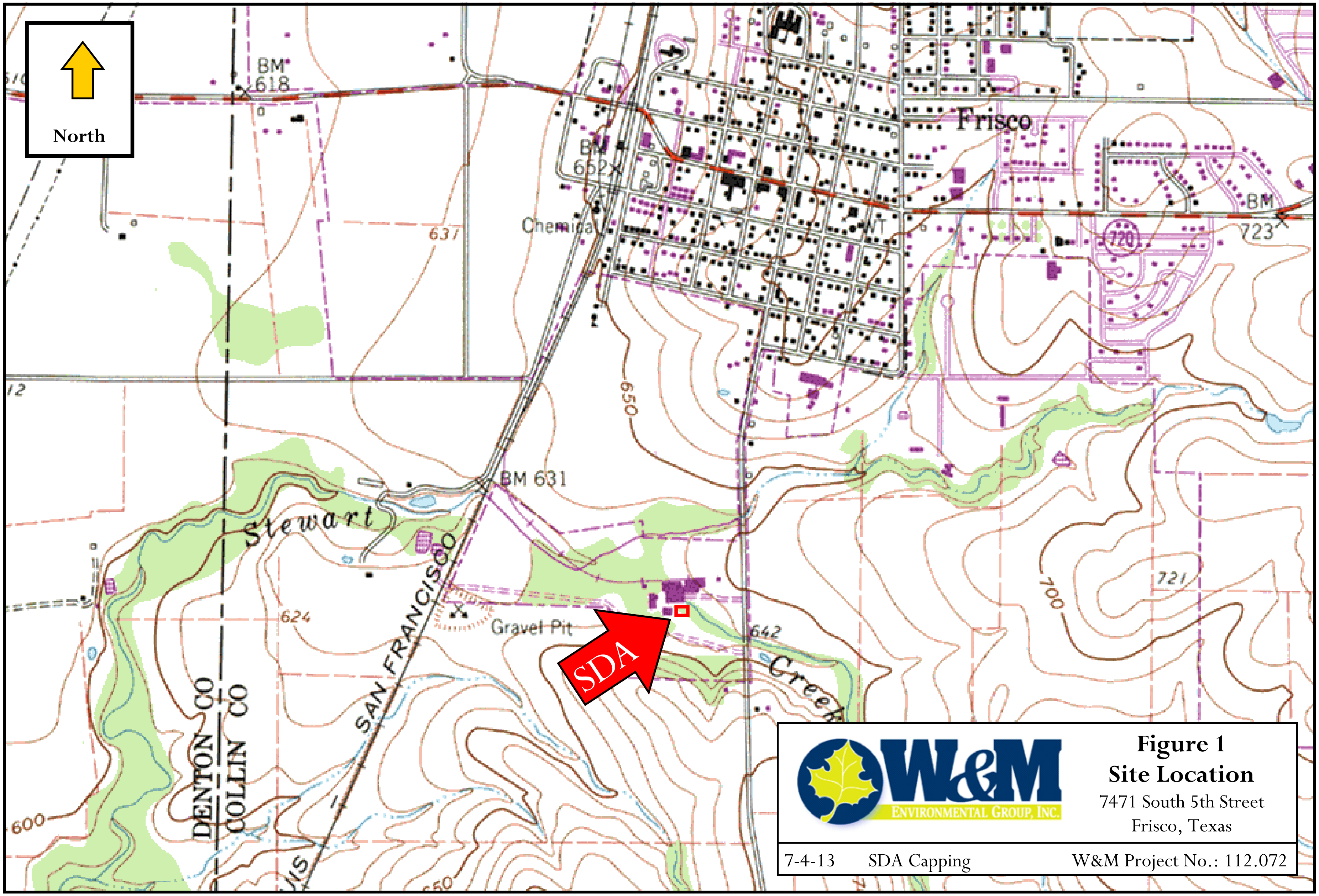


Figure 1
Site Location
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.

7-4-13 SDA Capping W&M Project No.: 112.072

Legend

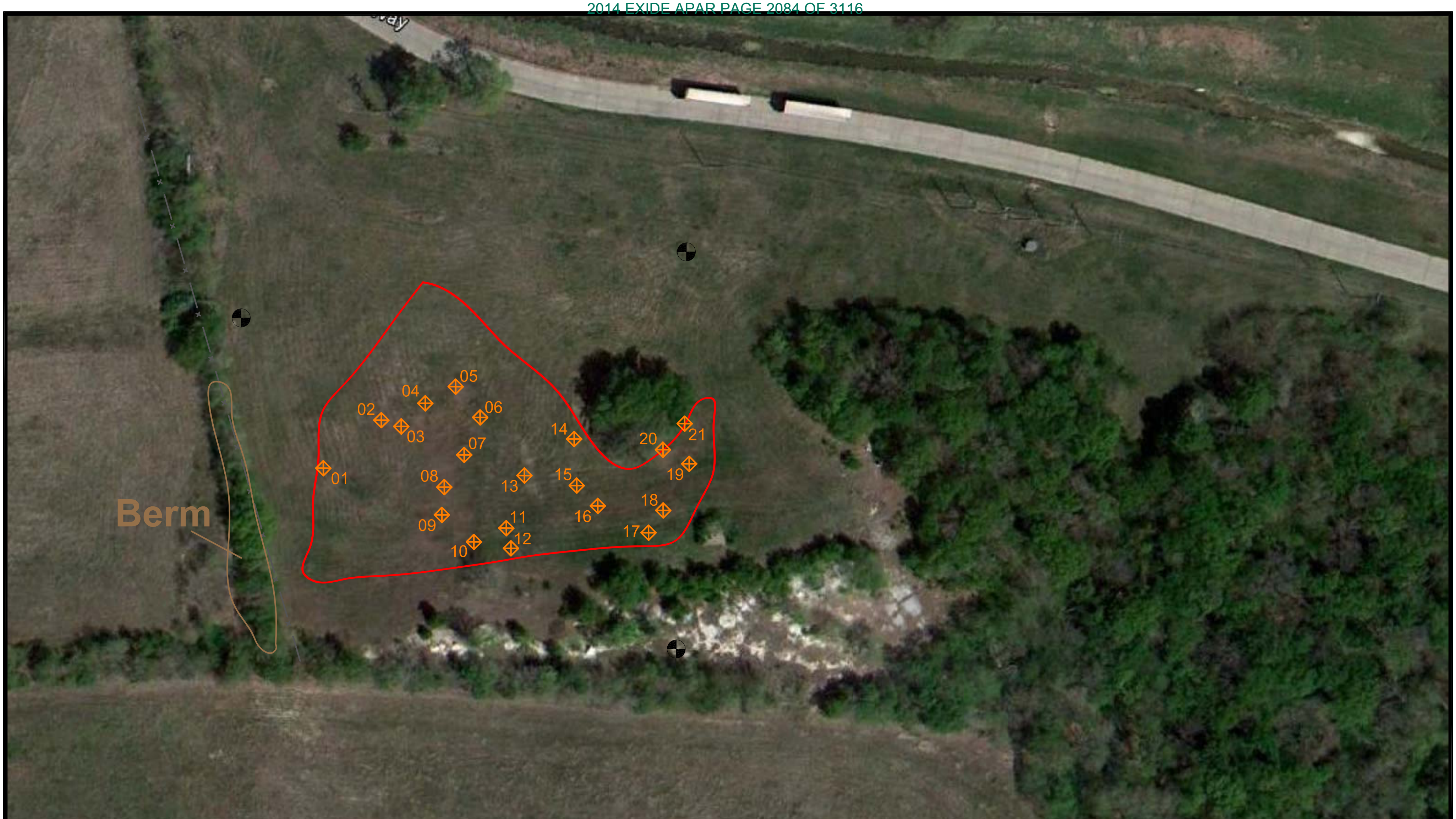
Interim Action Boundary (Approximate)

0' 200' 400'
APPROXIMATE SCALE

Figure 2
Site Map
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.
www.wh-m.com

3/22/13	W&M Project No. 112.072	Disposal Area Investigation	Drawn by: BV



Legend

Clay Soil Capped Areas

Mapped Disposal Area Boundary per 1993 RFI

0' 100' 200'

APPROXIMATE SCALE

N

Figure 3
South Disposal Area
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.
www.wh-m.com

9/28/11	W&M Project No. 112.072		Drawn by: SF	Revised by: BV, 7/4/13

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.

W&M
ENVIRONMENTAL GROUP, INC.

Attachment A
Photographic Log
South Disposal Area Capping
Frisco, Texas

7-4-13	SDA Capping	W&M Project No.: 112.072

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.

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

Photo 8: Feathering out clay cap.

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.

W&M ENVIRONMENTAL GROUP, INC.

Attachment A
Photographic Log
South Disposal Area Capping
Frisco, Texas

7-4-13	SDA Capping	W&M Project No.: 112.072

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

Photo 14: Completed area with erosion mat in place.

W&M ENVIRONMENTAL GROUP, INC.

May 10, 2013

Ms. Vanessa Coleman, Site Manager
Exide Technologies
7471 South 5th 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.

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 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 on-site 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.

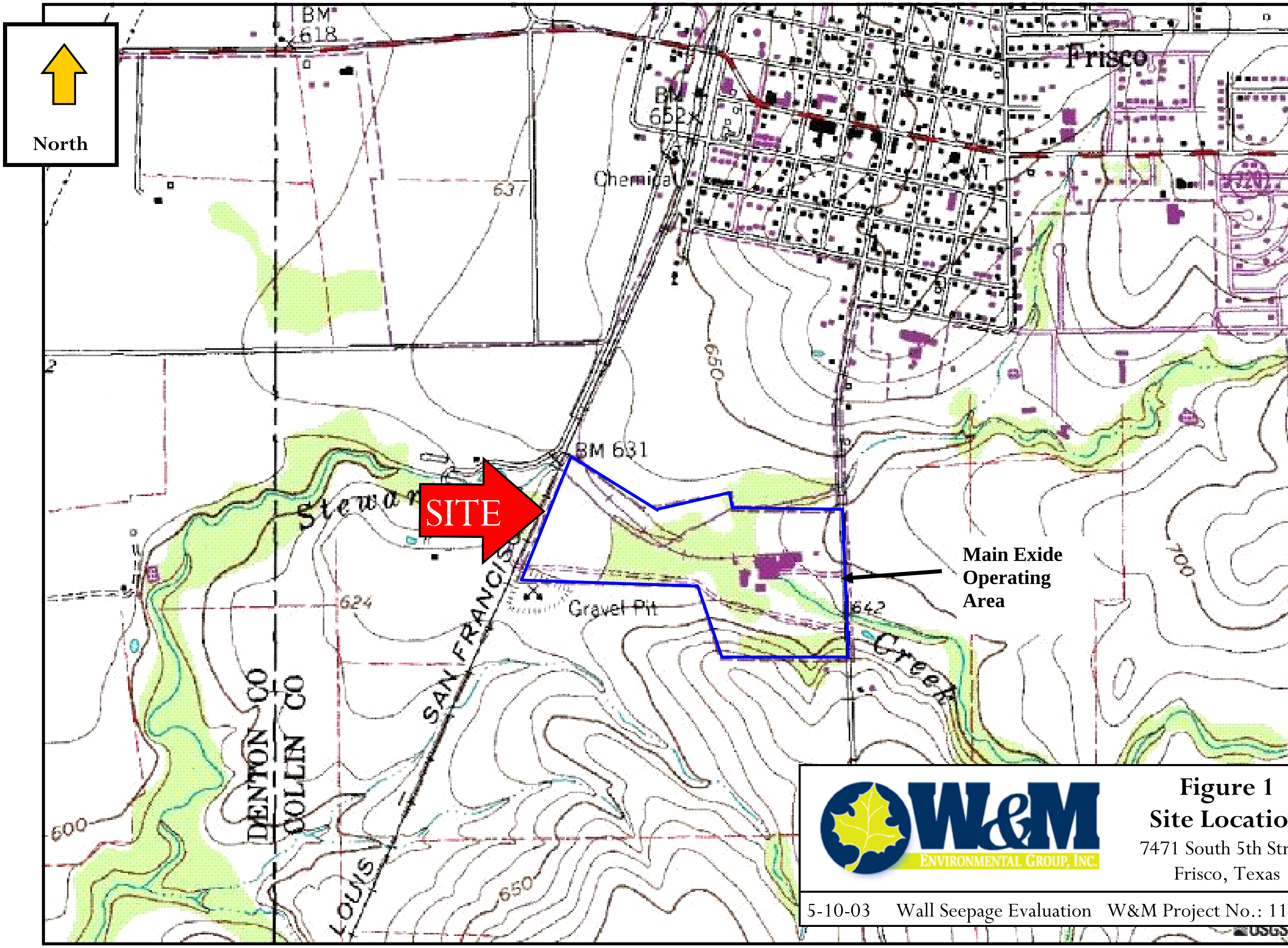
This report was prepared for the sole use of Exide Technologies by employing generally accepted methods and customary practices of the engineering profession. W&M appreciates the opportunity to be of service to you on this project. If you have any questions or need additional information, please contact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

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

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

Michael Whitehead
Senior Reviewer

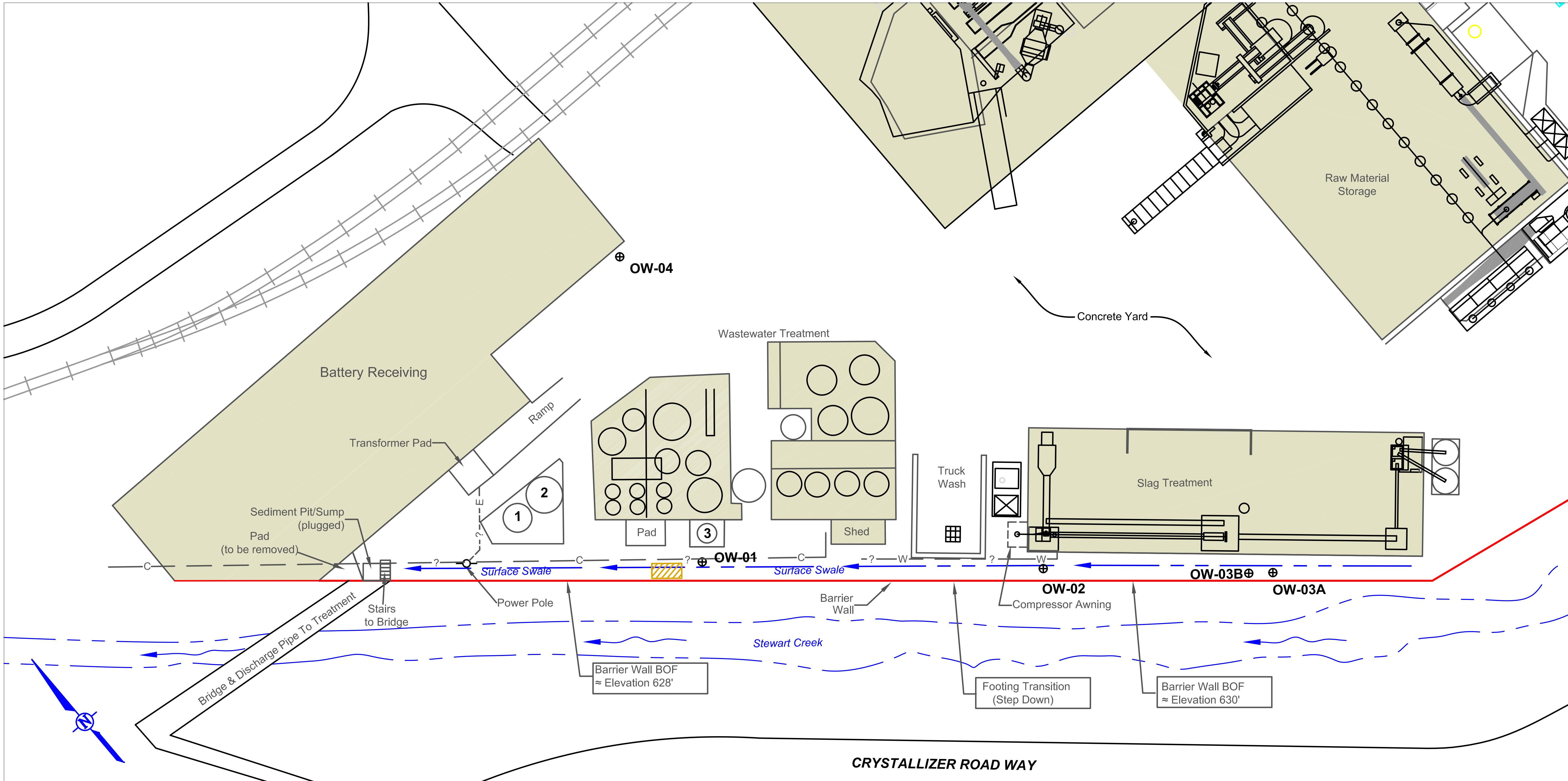
Figures, Tables, Attachments



W&M ENVIRONMENTAL GROUP, INC.

Figure 1
Site Location
7471 South 5th Street
Frisco, Texas

5-10-03 Wall Seepage Evaluation W&M Project No.: 112.052



⊕	Observation Well (to be removed)
(hatched)	Retaining Wall Investigation Area
BOF	Bottom of Footing

ASTs In Work Area
1. Crystallizer Feed
2. Liquid Caustic
3. Sufuric Acid

Underground Utilities (Approximate)

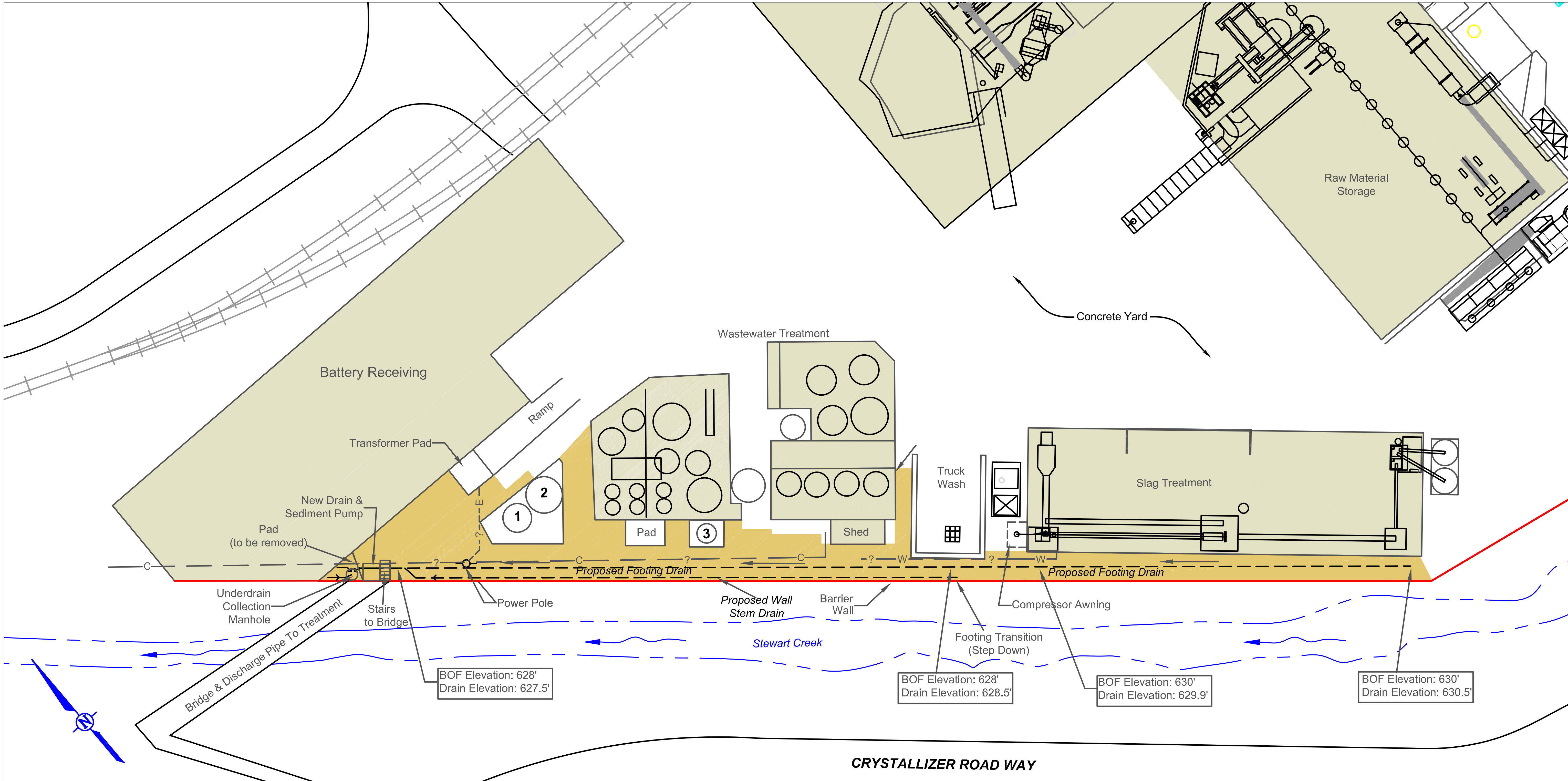
E	Electric
W	Water
C	Condensate Liquid

0' 40' 80'
APPROXIMATE SCALE

Figure 2
General Site Layout
7471 South 5th Street
Frisco, Texas

W&M ENVIRONMENTAL GROUP, INC.
www.wh-m.com

10/27/11 | W&M Project No. 112.052.002 | Drawn by: SF



Areas of Concrete Removal and Replacement

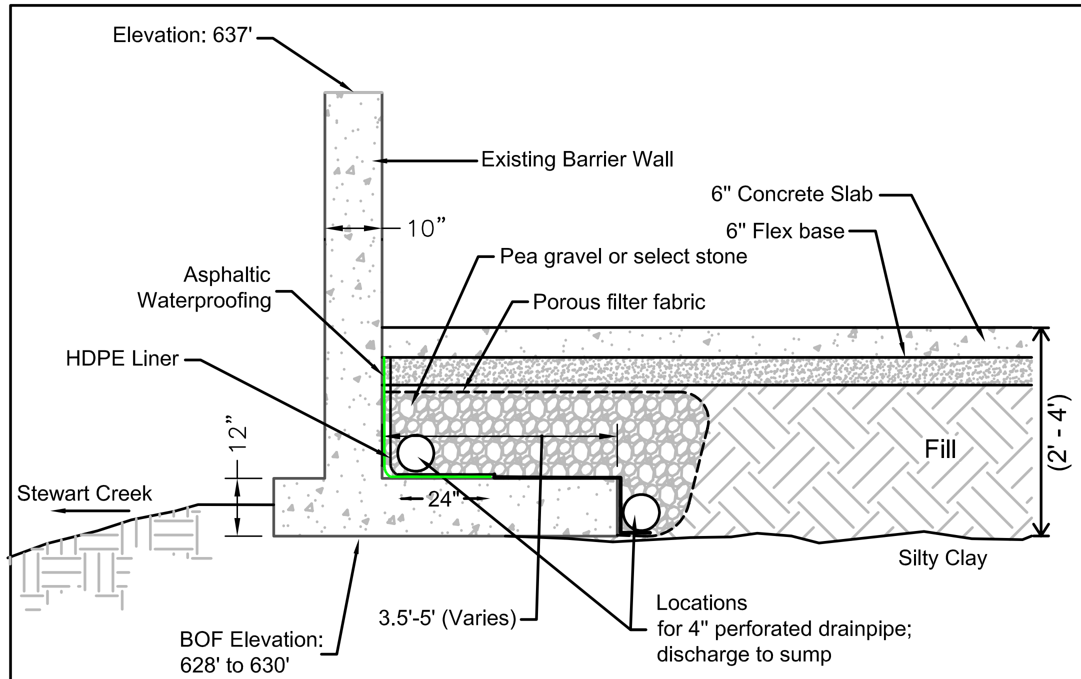
BOF Bottom of Footing

0' 40' 80'
APPROXIMATE SCALE

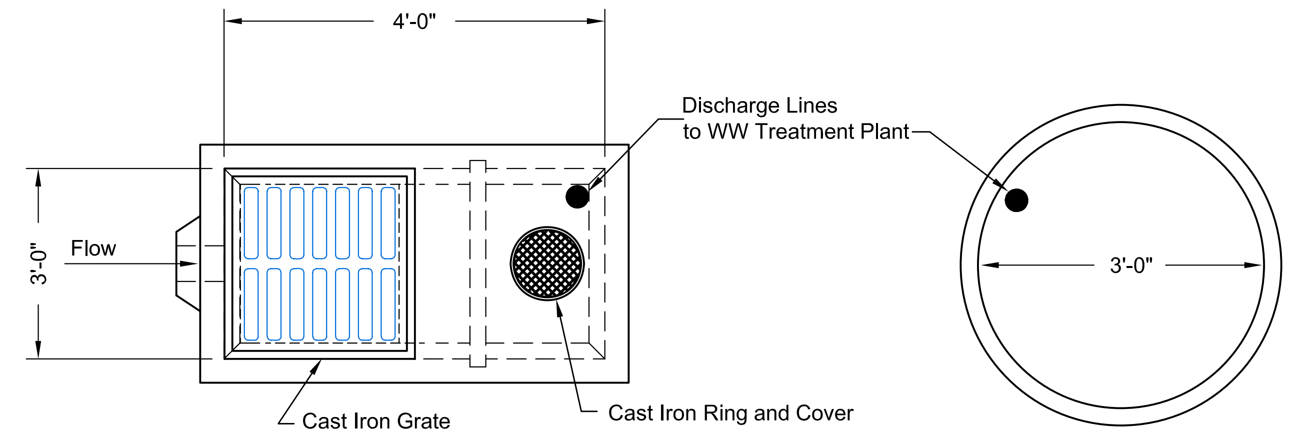
Figure 3
Wall Drain and
Concrete Replacement Areas
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.
www.wh-m.com

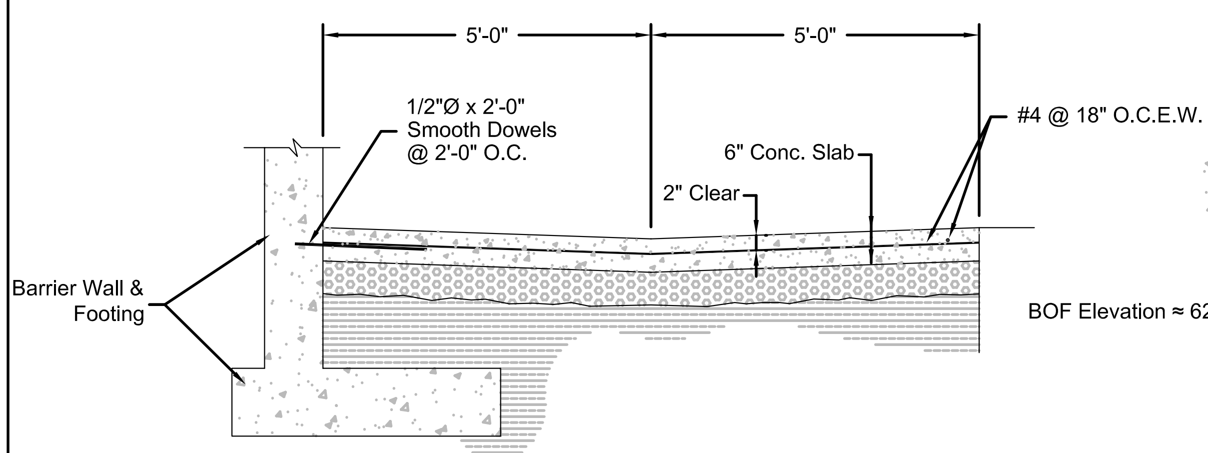
10/27/11	W&M Project No. 112.052.002	Drawn by: SF



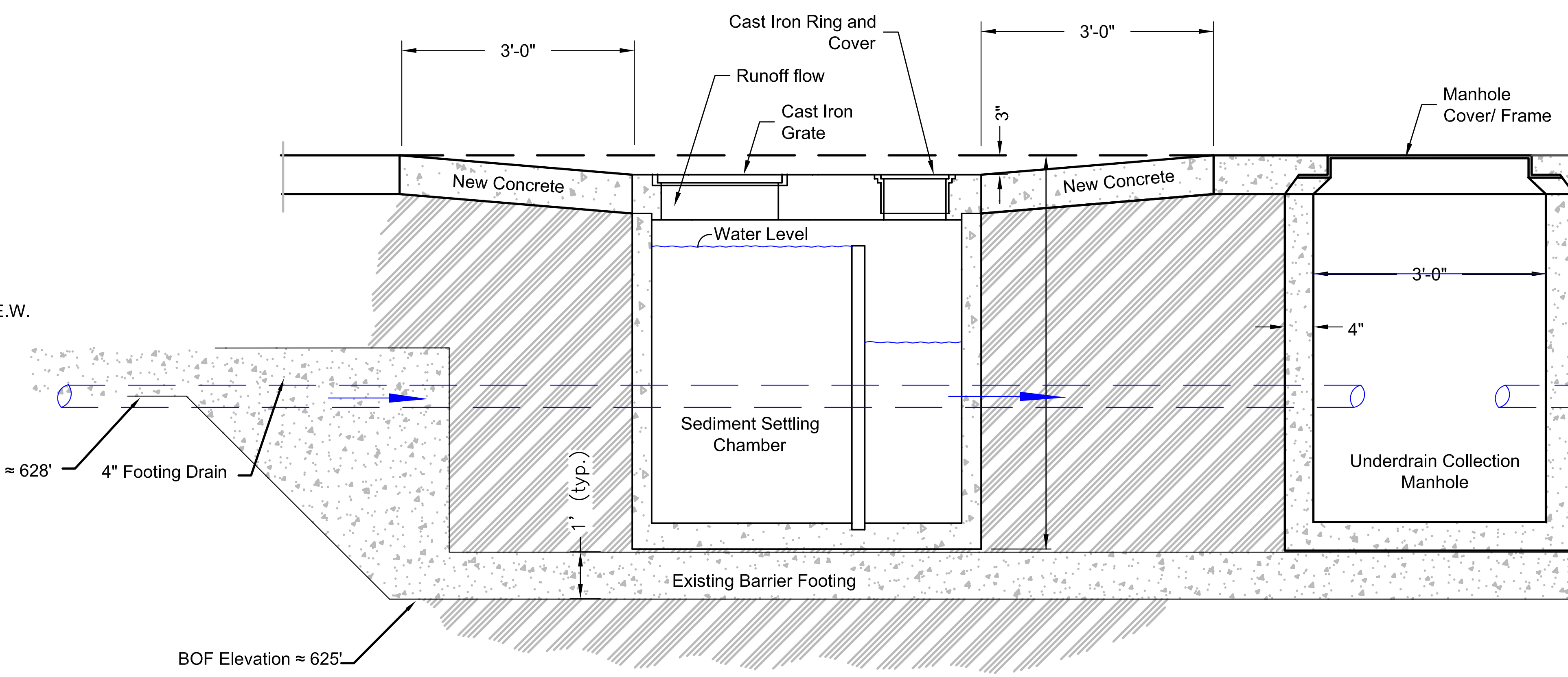
FOOTING DRAIN DETAIL



SUMP DETAIL - PLAN VIEW



DRAINAGE FLUME

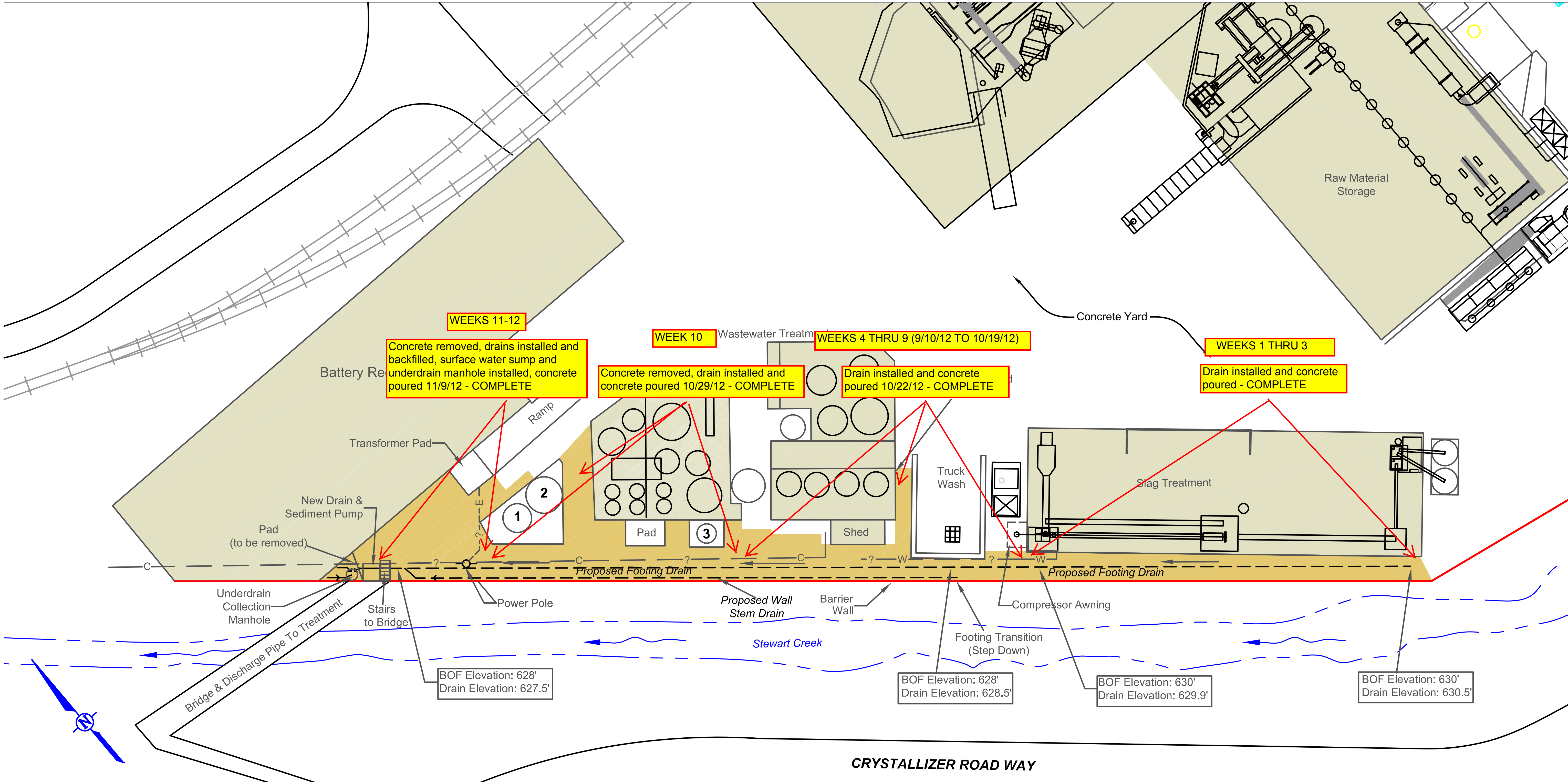


SUMP DETAIL - SIDE VIEW

Figure 4
Detail Sheet
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.
www.wh-m.com

10/27/11	W&M Project No. 112.052.002	Drawn by: SF



Areas of Concrete Removal and Replacement

BOF Bottom of Footing

0' 40' 80'
APPROXIMATE SCALE

FIGURE 5

Wall Drain and Concrete Replacement Areas

7471 South 5th Street
Frisco, Texas

W&M ENVIRONMENTAL GROUP, INC.
www.wh-m.com

10/27/11	W&M Project No. 112.052.002	Drawn by: SF

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.

W&M ENVIRONMENTAL GROUP, INC.

Attachment A
Photographic Log
Retaining Wall Seepage
Frisco, Texas

6/23/2009	Slag Sampling	W&M Project No.: 112.052

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

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

W&M Environmental Group, Inc.	**Attachment A** **Photographic Log** Retaining Wall Seepage Frisco, Texas

6/23/2009	Slag Sampling	W&M Project No.: 112.052

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.

Attachment A
Photographic Log
Retaining Wall Seepage
Frisco, Texas

W&M Environmental Group, Inc.

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

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

W&M ENVIRONMENTAL GROUP, INC.		**Attachment A** **Photographic Log** Retaining Wall Seepage Frisco, Texas
6/23/2009	Slag Sampling	W&M Project No.: 112.052

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

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

W&M Environmental Group, Inc.

Attachment A
Photographic Log
Retaining Wall Seepage
Frisco, Texas

6/23/2009	Slag Sampling	W&M Project No.: 112.052

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

STATE OF TEXAS PLUGGING REPORT for Tracking #79663

Owner:	**EXIDE TECHNOLOGIES**	Owner Well #:	**OW-01,02,03B**
Address:	**7471 SOUTH 5TH FRISCO , TX 75034**	Grid #:	**18-50-8**
Well Location:	**7471 SOUTH 5TH FRISCO , TX 75034**	Latitude:	**33° 08' 29" N**
Well County:	**Collin**	Longitude:	**096° 49' 41" W**
		GPS Brand Used:	**GARMIN**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**DARRIN S. STARK SR**
Driller's License Number of Original Well Driller:	**54891**
Date Well Drilled:	**6/10/2011**
Well Report Tracking Number:	**258277**
Diameter of Borehole:	**7 inches**
Total Depth of Borehole:	**5 feet**

Date Well Plugged:	**1/20/2012**
Person Actually Performing Plugging Operation:	**DARRIN S. STARK SR.**
License Number of Plugging Operator:	**54891**
Plugging Method:	**Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **No Data** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From 5 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:	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 DRILLING 9213 MONTANA STREET**

	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 **#79663**) on your written request.

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

STATE OF TEXAS PLUGGING REPORT for Tracking #79664

Owner:	**EXIDE TECHNOLOGIES**	Owner Well #:	**OW-04**
Address:	**7471 SOUTH 5TH FRISCO , TX 75034**	Grid #:	**18-50-8**
Well Location:	**7471 SOUTH 5TH FRISCO , TX 75034**	Latitude:	**33° 08' 29" N**
Well County:	**Collin**	Longitude:	**096° 49' 41" W**
		GPS Brand Used:	**GARMIN**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**DARRIN S. STARK SR**
Driller's License Number of Original Well Driller:	**54891**
Date Well Drilled:	**6/10/2011**
Well Report Tracking Number:	**258279**
Diameter of Borehole:	**7 inches**
Total Depth of Borehole:	**8 feet**

Date Well Plugged:	**1/20/2012**
Person Actually Performing Plugging Operation:	**DARRIN S. STARK SR.**
License Number of Plugging Operator:	**54891**
Plugging Method:	**Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **No Data** 2nd Interval: **No Data** 3rd Interval: **No Data**
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:	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 DRILLING 9213 MONTANA STREET**

	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

STATE OF TEXAS PLUGGING REPORT for Tracking #79665

Owner:	**EXIDE TECHNOLOGIES**	Owner Well #:	**OW-03A**
Address:	**7471 SOUTH 5TH FRISCO , TX 75034**	Grid #:	**18-50-8**
Well Location:	**7471 SOUTH 5TH FRISCO , TX 75034**	Latitude:	**33° 08' 29" N**
Well County:	**Collin**	Longitude:	**096° 49' 41" W**
		GPS Brand Used:	**GARMIN**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**DARRIN S. STARK SR**
Driller's License Number of Original Well Driller:	**54891**
Date Well Drilled:	**6/10/2011**
Well Report Tracking Number:	**258282**
Diameter of Borehole:	**7 inches**
Total Depth of Borehole:	**20 feet**

Date Well Plugged:	**1/20/2012**
Person Actually Performing Plugging Operation:	**DARRIN S. STARK SR.**
License Number of Plugging Operator:	**54891**
Plugging Method:	**Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **No Data** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From 20 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:	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 DRILLING 9213 MONTANA STREET**

	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 **#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 Laboratories, LLC

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;
  - [X] **R5** Test reports/summary forms for blank samples;
  - [X] **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;
  - [X] **R7** 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;
  - [X] **R8** 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	Chl B	President	September 4, 2012
Name	Signature	Official Title	Date

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Reportable Data

Laboratory 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

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-Custody (C-O-C)**					
		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?			X		
R2	OI	**Sample Quality Control (QC) and identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MDL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		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, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS)**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs)**					
		Are the MQLs for each method analyte included in the laboratory data package?	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?	X				
		Does the detectability check sample (DCS) data document the laboratory's capability to detect the COCs at the MQL used to calculate the SQLs?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for all analytes, matrices, and methods associated with this LRC?	X				
		Was applicable and available technology used to lower the SQL to minimize any matrix interference effects on the sample results?	X				

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).

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Supporting Data

Laboratory 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

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB)**					
		Was the CCV analyzed at the method required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal Standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	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?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results - Metals**					
		Were percent recoveries within the method QC limits?	X				
S9	I	**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?	X				
S10	OI	**Method Detection Limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		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 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	OI	**Demonstration of Capability (DOC)**					
		Was DOC conducted consistent with TNI Standard Module 4, Section 1.6?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
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)**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Exception Reports

Laboratory 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#[1]	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)

OXIDOR Laboratories, LLC

T104704227-12-7

Order ID: 12080639
Date: 9/4/2012

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:

Sample	Sample ID	Matrix	Collected	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,

Charles Brungardt
President

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall Project**

Customer Sample ID: **SP-01**
Oxidor Sample ID: 12080639-001
Sample Received: 8/30/2012

Matrix: **Solid**
Sample Collected: **8/30/2012 08:30**

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.	

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Cross Reference

Project Name: **Retaining Wall Project**

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

OXIDOR Laboratories, LLC

ACCREDITED IN ACCORDANCE WITH nelac T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall Project**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**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%	
QCBatchID	**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		0.1 mg/L	100%	85-115%	0.8%	0-20%	
MS	TCLP Antimony	0.572 mg/L	0.065 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	0.153 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	0.579 mg/L	0.073 mg/L	0.5 mg/L	101%	80-120%			
	TCLP Chromium	0.475 mg/L	ND	0.5 mg/L	95%	80-120%			
	TCLP Lead	0.479 mg/L	ND	0.5 mg/L	96%	80-120%			

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall Project**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**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%	

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

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

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.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Preservation Verification

Project Name: **Retaining Wall Project**

Receipt temp: **1.3 °C on Ice**
All applicable VOA's received free of headspace: **N/A**
Receipt method: **Client**
Custody seal intact: **Not Present**
All samples / labels received intact: **Yes**

Customer Sample ID: **SP-01**
Collected By: **Nick Foreman**
Oxidor Sample ID: **12080639-001**
Collector Affiliation: **W&M Environmental Group, Inc.**
Collected: **08/30/12 08:30**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated Preservation	pH
4 oz Glass Jar	2	Composite		Temp	-

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

A.B.

OXIDOR Laboratories, LLC

T104704227-12-7

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall Project**

OXIDOR Laboratories, LLC
1825 East Plano Parkway, #160
Plano, TX 75074-8570
P: 972.424.6422 F: 972.424.6508
customerservice@oxidor.com

Chain of Custody Record

Page ___ of ___

Report Information

Company Name: WHM Environmental Group
Address: 905 E 18th
City: Plano State: TX Zip: 75074
Contact Name: Frank Clark, Vanessa Coleman
Contact Email: fclark@whm.com, VanessaColeman@na.exide.com
Phone: 972-516-0300 Fax: 972-516-4145

Billing Information (Only if Different from above)

Company Name: Exide
Address: 7471 South 5th Street
City: Frisco State: TX Zip: 75034
Contact Name: Vanessa Coleman
Phone: 972-335-2121 Fax: 972-377-2707

Project Information

Circle Requested Turn Around Time (1 Day and ASAP must be verified with lab)
7-10 Days 5-7 Days 3 Days 2 Days 1 Day ASAP

Project Name: Retaining Wall Project
Project Location: Frisco, TX
Project #: 112.052.003 Quote # PO #
Sampler Name: Nick Foreman Affiliation / Company: WHM
Sampler Signature:

Matrix Codes: L - Liquid, S - Solid, W - Wipes, A - Air
Presevation Codes: 1 - None, 2 - HNO_3, 3 - H_2SO_4, 4 - HCl, 5 - NaOH, 6 - Ice, 7 - Other
Container Codes: P - Plastic, G - Glass, O - Other

Special Instructions *: 200% Rush; LRC for TARP report

*Please confirm conditional requests prior to additional analysis

Requested Analysis

OXIDOR Order ID	#	Customer Sample ID	Date	Time	Matrix	# of Containers	Container Type	Pres Code	(C)omp / (G)rab	Parts / Interval	Hold	TCLP (RCRA-8, Sb, Ni, Be)	%Solids for Dry Wt Reporting	Laboratory Review Checklist	Chromatograms / Data Pages
12080639															
001	1	SP-01	8/30/12	0830	S	2	G	6	C				X	X	
	2														
	3														
	4														
	5														
	6														
	7														
	8														
	9														
	10														
	11														
	12														
	13														
	14														
	15														

Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
x [signature]	WHM	8/30/12	1139	x			
x				x			
x				Received by OXIDOR by: [signature]		8/30/12	1139

08/28/06 - Rev 3.3

Submittal of samples signifies acceptance of OXIDOR's Standard Terms and Conditions.
OXIDOR cannot accept verbal changes to this document. Please fax or email written modifications.

Temp at Reciept 1.3 °C

0X-48

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall Project**

Ashley Bishop 12080639

From: Nick Foreman [nforeman@wh-m.com]
Sent: Thursday, August 30, 2012 12:12 PM
To: CustomerService
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.

OXIDOR Laboratories, LLC

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);
  - [X] **R4** Surrogate recovery data including:
    - a) Calculated recovery (%R), and
    - b) The laboratory's surrogate QC limits;
  - [X] **R5** Test reports/summary forms for blank samples;
  - [X] **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;
  - [X] **R7** 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;
  - [X] **R8** 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	Chl B J –	President	September 24, 2012
Name	Signature	Official Title	Date

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Reportable 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[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-Custody (C-O-C)**					
		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?			X		
R2	OI	**Sample Quality Control (QC) and identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MDL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		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, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS)**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs)**					
		Are the MQLs for each method analyte included in the laboratory data package?	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?	X				
		Does the detectability check sample (DCS) data document the laboratory's capability to detect the COCs at the MQL used to calculate the SQLs?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X			ER#1
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for all analytes, matrices, and methods associated with this LRC?	X				
		Was applicable and available technology used to lower the SQL to minimize any matrix interference effects on the sample results?	X				

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).

OXIDOR Laboratories, LLC

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[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB)**					
		Was the CCV analyzed at the method required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	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?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results - Metals**					
		Were percent recoveries within the method QC limits?	X				
S9	I	**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?	X				
S10	OI	**Method Detection Limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		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 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	OI	**Demonstration of Capability (DOC)**					
		Was DOC conducted consistent with TNI Standard Module 4, Section 1.6?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
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)**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Exception Reports

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

ER#[1]	DESCRIPTION
ER#1	For pH, samples should be analyzed as soon as possible and preferably at the time of collection for Oxidor Sample ID's 12090435-001 and -002.

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

OXIDOR Laboratories, LLC

ACCREDITED IN ACCORDANCE WITH nelac
T104704227-12-7

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:

Sample	Sample ID	Matrix	Collected	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

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-02**
Oxidor Sample ID: 12090435-001
Sample Received: 9/21/2012

Matrix: **Solid**
Sample Collected: **9/21/2012 10:45**

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.	
pH	0.1	0.1	**7.6**	pH Units	09/21/12 16:21	9045	E.R.	S-12
Metals								
Digested by method 3005A on 09/24/12 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 09/24/12 at 09:30								
TCLP Mercury	0.001	0.001	ND	mg/L	09/24/12 15:01	7470A	T.C.	
Total Petroleum Hydrocarbons								
Prepared by method TX 1005 on 09/21/12 at 11:00								
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

TCLP Metals Extraction

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	09/23/12 15:30	1311	T.C.

OXIDOR Laboratories, LLC

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T104704227-12-7

Order ID: 12090435
Date: 9/24/2012

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-03**
Oxidor Sample ID: 12090435-002 — Matrix: **Solid**
Sample Received: 9/21/2012 — Sample Collected: **9/21/2012 10:52**

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	**7.7**	pH Units	09/21/12 16:21	9045	E.R.	S-12
Metals								
Digested by method 3005A on 09/24/12 at 09:50								
TCLP Antimony	0.05	0.050	**0.131**	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Barium	0.05	0.050	**0.086**	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Cadmium	0.01	0.010	**0.014**	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Lead	0.05	0.050	ND	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	09/24/12 13:57	6020	K.O.	
TCLP Silver	0.01	0.010	ND	mg/L	09/24/12 13:57	6020	K.O.	
Digested by method 7470A on 09/24/12 at 09:30								
TCLP Mercury	0.001	0.001	ND	mg/L	09/24/12 15:02	7470A	T.C.	
Total Petroleum Hydrocarbons								
Prepared by method TX 1005 on 09/21/12 at 11:00								
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

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	09/23/12 15:30	1311	T.C.

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

OXIDOR Laboratories, LLC

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T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Cross Reference

Project Name: **Retaining Wall**

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-02	12090435-001	Total Petroleum Hydrocarbons	TX 1005	1005_03629AS
		Dry Weight	Dry Weight	DW___05226_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
		pH	9045	PH___03115_S
SP-03	12090435-002	Total Petroleum Hydrocarbons	TX 1005	1005_03629AS
		Dry Weight	Dry Weight	DW___05226_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
		pH	9045	PH___03115_S

OXIDOR Laboratories, LLC

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W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**DW___05226_S**								
Replicate	% Solids	78.2 %	76.0 %				2.9%	0-20%	
QCBatchID	**PH___03115_S**								
LCS	pH	7.0 pH Units		7 pH Units	100%	99-102%			
LCSD	pH	7.0 pH Units		7 pH Units	101%	99-102%	0.6%	0-25%	
Replicate	pH	7.3 pH Units	7.0 pH Units				4.2%	0-10%	
QCBatchID	**MERC_08123_L**								
Blank	TCLP Mercury	ND mg/L							
LCS	TCLP Mercury	0.005 mg/L		0.005 mg/L	96%	85-115%			
LCSD	TCLP Mercury	0.005 mg/L		0.005 mg/L	101%	85-115%	1.4%	0-25%	
MS	TCLP Mercury	0.021 mg/L	ND	0.02 mg/L	103%	80-120%			
MSD	TCLP Mercury	0.019 mg/L	ND	0.02 mg/L	96%	80-120%	9.5%	0-25%	
QCBatchID	**META_09445_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	0.103 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 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%	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	99%	85-115%	2.1%	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	103%	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%	85-115%	0.2%	0-20%	
	TCLP Silver	0.102 mg/L		0.1 mg/L	102%	85-115%	0.0%	0-20%	

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**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%	
QCBatchID	**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							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	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%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	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%	
Surrogate		**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	ND	100 mg/Kg	116%	75-125%			
Surrogate		**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	ND	100 mg/Kg	120%	75-125%	3.4%	0-20%	

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	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%			

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

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

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.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Preservation Verification

Project Name: **Retaining Wall**

Receipt temp: **1.3 °C on Ice**
Receipt method: **Client**
Custody seal intact: **Not Present**

All samples / labels received intact: **Yes**

Customer Sample ID: **SP-02**
Oxidor Sample ID: **12090435-001**
Collected: **09/21/12 10:45**
Collected By: **Brent Vollmar**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated Preservation	pH
4 oz Glass Jar	3	Composite		Temp	-

Customer Sample ID: **SP-03**
Oxidor Sample ID: **12090435-002**
Collected: **09/21/12 10:52**
Collected By: **Brent Vollmar**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated 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.

OXIDOR Laboratories, LLC

T104704227-12-7

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall**

OXIDOR Laboratories, LLC
1825 East Plano Parkway, #160
Plano, TX 75074-8570
P: 972.424.6422 F: 972.424.6508
customerservice@oxidor.com

Chain of Custody Record

Page 1 of 1

Send Report To

Company Name: W&M Environmental Group
Address: 906 E. 18th St.
City: Plano State: TX Zip: 75074
Contact Name: Frank Clark
Contact Email: fclark@wh-m.com
Phone: (972) 509-9611 Fax:

Project / Report Information

Circle Requested Turn Around Time (Less than 2 Days must be verified with lab)
7-10 Days 5-7 Days RUSH 3-4 Days 2 Days ASAP

Project Name: Retaining Wall
Project Location: 7174 South Fifth street, Frisco, TX
Project #: 112.052.003 PO #:
Sampler Name: B. Vollmar Sampler Company: W&M
Sampler Signature: Brent Vollmar

Send Invoice To (Only if Different from above)

Company Name:
Address:
City: State: Zip:
Contact Name:
Phone: Fax:

Matrix Codes: L - Liquid S - Solid W - Wipes A - Air
Presevation Codes: 1 - None 4 - HCl 2 - HNO_3 5 - NaOH 3 - H_2SO_4 6 - Ice 7 - Other
Container Codes: P - Plastic G - Glass O - Other

Special Instructions *

*Please confirm conditional requests prior to additional analysis

Requested Analysis

OXIDOR Order ID 12090435		Customer Sample ID	Date	Time	Matrix	# of Containers	Container Type	Pres Code	(C)omp / (G)rab	Parts / Interval	Hold	TCLP Metals &	Sb, Ni, Be				TPH	pH			Total Solids / Dry Weight	Laboratory Review Checklist	Chromatograms / Data Pages
001	1	SP-02	9/21/12	10:45	S	3	G	6	C			X	X				X	X			X	X	
002	2	SP-03	9/21/12	10:52	S	3	G	6	C			X	X				X	X			X	X	
	3																						
	4																						
	5																						
	6																						
	7																						
	8																						
	9																						
	10																						
	11																						
	12																						
	13																						
	14																						
	15																						

Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
x Brent Vollmar		9/21/12	1153	x			
x				x			
x				Received by OXIDOR Lab: Ashley Zoglin		9/21/12	1153

Submittal of samples signifies acceptance of OXIDOR's Standard Terms and Conditions
OXIDOR cannot accept verbal changes to this document. Please fax or email written modifications

Temp at Reciept 1.3 °C
OX-48

5/22/2008 - Rev 4.0

OXIDOR Laboratories, LLC

T104704227-12-7

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall**

Page 1 of 1

Ashley Bishop 12090435

From: Brent Vollmar [bvollmar@wh-m.com]
Sent: Friday, September 21, 2012 12:08 PM
To: CustomerService
Subject: samples dropped off at 11:53 9-21-12 (112.052.003)

Samples dropped off at 11:53 9-21-12 for project #: 112.053.003.... Just wanted to make sure you know that all metals samples are TCLP metals.... I did not mark it for Sb, Ni, or Be.... samples are ASAP TAT..

Thanks,

Brent Vollmar
972.509.9600

9/21/2012

OXIDOR Laboratories, LLC

T104704227-12-7

Order ID: 12100625
Date: 10/24/2012

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:

Sample	Sample ID	Matrix	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,

Charles Brungardt
President

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-04**
Oxidor Sample ID: 12100625-001 — Matrix: **Solid**
Sample Received: 10/22/2012 — Sample Collected: **10/22/2012 12:20**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
% Solids	0.1	0.1	**84.0**	%	10/22/12 20:00	Dry Weight	M.B.	
pH	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	**0.116**	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 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 Hydrocarbons								
Prepared by method TX 1005 on 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 Extraction

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	10/22/12 17:40	1311	K.O.

OXIDOR Laboratories, LLC

ACCREDITED IN ACCORDANCE WITH nelac
T104704227-12-7

Order ID: 12100625
Date: 10/24/2012

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-05**
Oxidor Sample ID: 12100625-002
Sample Received: 10/22/2012

Matrix: **Solid**
Sample Collected: **10/22/2012 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.	
pH	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 Hydrocarbons								
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

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	10/22/12 17:40	1311	K.O.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-06**
Oxidor Sample ID: 12100625-003
Sample Received: 10/22/2012

Matrix: **Solid**
Sample Collected: **10/22/2012 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.	
pH	0.1	0.1	**8.3**	pH Units	10/22/12 21:00	9045	M.B.	S-12
Metals								
Digested by method 3005A on 10/23/12 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 10/23/12 at 10:15								
TCLP Mercury	0.001	0.001	ND	mg/L	10/23/12 17:12	7470A	T.C.	
Total Petroleum Hydrocarbons								
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	106	mg/Kg	100 mg/Kg	106%	70-130%

Sample Prep

TCLP Metals Extraction

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	10/22/12 17:40	1311	K.O.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Cross Reference

Project Name: **Retaining Wall**

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-04	12100625-001	Total Petroleum Hydrocarbons	TX 1005	1005_05129BS
		Dry Weight	Dry Weight	DW___08326_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
		pH	9045	PH___07315_S
SP-05	12100625-002	Total Petroleum Hydrocarbons	TX 1005	1005_05129BS
		Dry Weight	Dry Weight	DW___08326_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
		pH	9045	PH___07315_S
SP-06	12100625-003	Total Petroleum Hydrocarbons	TX 1005	1005_05129BS
		Dry Weight	Dry Weight	DW___08326_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
		pH	9045	PH___07315_S

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**DW___08326_S**								
Replicate	% Solids	84.8 %	84.0 %				0.9%	0-20%	
QCBatchID	**PH___07315_S**								
LCS	pH	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	8.2 pH Units				0.1%	0-10%	
QCBatchID	**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%	
QCBatchID	**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%	

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**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%	
QCBatchID	**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							
Surrogate		**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%			
Surrogate		**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%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	1-chlorooctane	122 mg/Kg		100 mg/Kg	122%	70-130%			
	o-Terphenyl	114 mg/Kg		100 mg/Kg	114%	70-130%			
MS	TPH (C6 to C35)	119 mg/Kg	ND	100 mg/Kg	119%	75-125%			
Surrogate		**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%			
MSD	TPH (C6 to C35)	121 mg/Kg	ND	100 mg/Kg	121%	75-125%	1.7%	0-20%	

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	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%			

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

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

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: **2.7 °C on Ice**
Receipt method: **Client**
Custody seal intact: **Not Present**

All samples / labels received intact: **Yes**

Customer Sample ID: **SP-04**
Oxidor Sample ID: **12100625-001**
Collected: **10/22/12 12:20**

Collected By: **Nick Foreman**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated Preservation	pH
4 oz Glass Jar	3	Composite		Temp	-

Customer Sample ID: **SP-05**
Oxidor Sample ID: **12100625-002**
Collected: **10/22/12 12:25**

Collected By: **Nick Foreman**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated Preservation	pH
4 oz Glass Jar	3	Composite		Temp	-

Customer Sample ID: **SP-06**
Oxidor Sample ID: **12100625-003**
Collected: **10/22/12 12:30**

Collected By: **Nick Foreman**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated 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.

OXIDOR Laboratories, LLC

T104704227-12-7

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall**

OXIDOR Laboratories, LLC
1825 East Plano Parkway #160
Plano, TX 75074-8570
P: 972.424.6422 F: 972.424.6508
customerservice@oxidor.com

Chain of Custody Record

Page 1 of 1

Send Report To

Company Name: WHM Environmental Group, Inc.
Address: 906 E 18th Street
City: Plano State: TX Zip: 75074
Contact Name: Frank Clark
Contact Email: fclark@whm.com
Phone: 972-509-9611 Fax:

Send Invoice To (Only if Different from above)

Company Name: Exide
Address: 7471 South Fifth Street
City: Frisco State: TX Zip: 75034
Contact Name: Vanessa Coleman
Phone: 972-335-2121 Fax: 972-377-2707

Project / Report Information

Circle Requested Turn Around Time (Less than 2 Days must be verified with lab)
7-10 Days 5-7 Days RUSH 3-4 Days 2 Days ASAP

Project Name: Retaining Wall
Project Location: 7471 South 5th Street, Frisco, TX
Project #: 112.052.003 PO #:
Sampler Name: Nick Bozman Sampler Company: WHM
Sampler Signature:

Matrix Codes: L - Liquid S - Solid W - Wipes A - Air
Presevation Codes: 1 - None 4 - HCl 2 - HNO_3 5 - NaOH 3 - H_2SO_4 6 - Ice 7 - Other
Container Codes: P - Plastic G - Glass O - Other

Special Instructions: 200% rush LRL for TRRP report

*Please confirm conditional requests prior to additional analysis

OXIDOR Order ID 12100625		Customer Sample ID	Date	Time	Matrix	# of Containers	Container Type	Pres Code	(C)omp / (G)rab	Parts / Interval	Hold	TCLP RCRA-8	TCLP Sb, Ni, Be	TPH	pH					Total Solids / Dry Weight	Laboratory Review Checklist	Chromatograms / Data Pages
-001	1	SP-04	10/22/12	1220	S	3	G	6	C			X	X	X	X					X	X	
-002	2	SP-05	10/22/12	1225	S	3	G	6	C			X	X	X	X					X	X	
-003	3	SP-06	10/22/12	1230	S	3	G	6	C			X	X	X	X					X	X	
	4																					
	5																					
	6																					
	7																					
	8																					
	9																					
	10																					
	11																					
	12																					
	13																					
	14																					
	15																					

Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
x	WHM	10/22/12	1637	x			
Relinquished by x				Received by x			
Relinquished by x				Received for OXIDOR by x Leslie Banks		10-22-12	16.37

Submittal of samples signifies acceptance of OXIDOR's Standard Terms and Conditions.
OXIDOR cannot accept verbal changes to this document. Please fax or email written modifications.

Temp at Reciept 2.7 °C (ox-48)

5/22/2008 - Rev. 4.0

OXIDOR Laboratories, LLC

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;
  - [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;
  - [X] **R5** Test reports/summary forms for blank samples;
  - [X] **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;
  - [X] **R7** 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;
  - [X] **R8** 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	Chl Bg	President	November 7, 2012
Name	Signature	Official Title	Date

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Reportable 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[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-Custody (C-O-C)**					
		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?			X		
R2	OI	**Sample Quality Control (QC) and identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?		X			ER#1
		Other than those results < MDL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		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, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS)**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			ER#2
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs)**					
		Are the MQLs for each method analyte included in the laboratory data package?	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?	X				
		Does the detectability check sample (DCS) data document the laboratory's capability to detect the COCs at the MQL used to calculate the SQLs?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for all analytes, matrices, and methods associated with this LRC?	X				
		Was applicable and available technology used to lower the SQL to minimize any matrix interference effects on the sample results?	X				

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).

OXIDOR Laboratories, LLC

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[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB)**					
		Was the CCV analyzed at the method required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	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?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results - Metals**					
		Were percent recoveries within the method QC limits?	X				
S9	I	**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?	X				
S10	OI	**Method Detection Limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		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 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	OI	**Demonstration of Capability (DOC)**					
		Was DOC conducted consistent with TNI Standard Module 4, Section 1.6?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
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)**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Exception Reports

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

ER#[1]	DESCRIPTION
ER#1	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.
ER#2	Metals MS and MSD percent recoveries of Selenium for QC Batch ID META_04546_L (Oxidor Sample ID 12110105-001) were below Oxidor QC limits.

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

OXIDOR Laboratories, LLC

T104704227-12-7

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:

Sample	Sample ID	Matrix	Collected	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

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-07**
Oxidor Sample ID: 12110104-001
Sample Received: 11/5/2012

Matrix: **Solid**
Sample Collected: **11/5/2012 09:00**

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.	
pH	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	**0.122**	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 11/06/12 at 09:35								
TCLP Mercury	0.001	0.001	ND	mg/L	11/06/12 17:02	7470A	T.C.	
Total Petroleum Hydrocarbons								
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 Extraction

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	11/05/12 15:45	1311	H.B.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-08**
Oxidor Sample ID: 12110104-002
Sample Received: 11/5/2012

Matrix: **Solid**
Sample Collected: **11/5/2012 09:00**

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.	
pH	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 Hydrocarbons								
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 Extraction

Parameter	Date Analyzed	Method	Analyst
TCLP Extraction	11/05/12 15:45	1311	H.B.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Cross Reference

Project Name: **Retaining Wall**

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-07	12110104-001	Total Petroleum Hydrocarbons	TX 1005	1005_05729AS
		Dry Weight	Dry Weight	DW___09726_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
		pH	9045	PH___08615_S
SP-08	12110104-002	Total Petroleum Hydrocarbons	TX 1005	1005_05729AS
		Dry Weight	Dry Weight	DW___09726_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
		pH	9045	PH___08615_S

OXIDOR Laboratories, LLC

T104704227-12-7

Order ID: 12110104
Date: 11/7/2012

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**DW___09726_S**								
Replicate	% Solids	84.3 %	84.8 %				0.6%	0-20%	
QCBatchID	**PH___08615_S**								
LCS	pH	7.0 pH Units		7 pH Units	100%	99-102%			
LCSD	pH	7.0 pH Units		7 pH Units	100%	99-102%	0.0%	0-25%	
Replicate	pH	9.3 pH Units	9.3 pH Units				0.0%	0-10%	
QCBatchID	**MERC_13023_L**								
Blank	TCLP Mercury	ND mg/L							
LCS	TCLP Mercury	0.005 mg/L		0.005 mg/L	103%	85-115%			
LCSD	TCLP Mercury	0.005 mg/L		0.005 mg/L	106%	85-115%	6.2%	0-25%	
MS	TCLP Mercury	0.022 mg/L	ND	0.02 mg/L	110%	80-120%			
MSD	TCLP Mercury	0.022 mg/L	ND	0.02 mg/L	110%	80-120%	0.1%	0-25%	
QCBatchID	**META_04546_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	0.103 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 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 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	98%	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	0.100 mg/L		0.1 mg/L	100%	85-115%	4.0%	0-20%	
	TCLP Lead	0.099 mg/L		0.1 mg/L	99%	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		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%	

OXIDOR Laboratories, LLC

T104704227-12-7

Order ID: 12110104
Date: 11/7/2012

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**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%	
QCBatchID	**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							
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	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%			
Surrogate		**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%	
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	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%			
Surrogate		**Result**		**Spike Conc**	**Recovery**	**Rec Limits**			
	1-chlorooctane	92.3 mg/Kg		100 mg/Kg	92%	70-130%			
	o-Terphenyl	90.8 mg/Kg		100 mg/Kg	91%	70-130%			
MSD	TPH (C6 to C35)	99.0 mg/Kg	ND	100 mg/Kg	99%	75-125%	0.4%	0-20%	

OXIDOR Laboratories, LLC

ACCREDITED IN ACCORDANCE WITH nelac
T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	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%

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

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

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.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Preservation Verification

Project Name: **Retaining Wall**

Receipt temp: **3.8 °C on Ice**
Receipt method: **Client**
Custody seal intact: **Not Present**
All samples / labels received intact: **Yes**

Customer Sample ID: **SP-07**
Oxidor Sample ID: **12110104-001**
Collected: **11/05/12 09:00**
Collected By: **Nick Foreman**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated Preservation	pH
4 oz Glass Jar	3	Composite		Temp	-

Customer Sample ID: **SP-08**
Oxidor Sample ID: **12110104-002**
Collected: **11/05/12 09:00**
Collected By: **Nick Foreman**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated 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.

OXIDOR Laboratories, LLC

T104704227-12-7

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall**

OXIDOR Laboratories, LLC
1825 East Plano Parkway, #160
Plano, TX 75074-8570
P: 972.424.6422 F: 972.424.6508
customerservice@oxidor.com

Chain of Custody Record

Page ____ of ____

Send Report To

Company Name	WTM Environmental Group, Inc
Address	906 E 18th Street
City / State / Zip	Plano / TX / 75074
Contact Name	Frank Clark
Contact Email	Fclark @ wtm.com
Phone / Fax	972-509-9611 / 972-516-4145

Send Invoice To (Only if Different from above)

Company Name	Exide Technologies
Address	7471 South Fifth Street
City / State / Zip	Frisco / TX / 75034
Contact Name	Vanessa Coleman
Phone / Fax	972-335-2121 / 972-377-2707

Project / Report Information

Circle Requested Turn Around Time (Less than 2 Days must be verified with lab): 7-10 Days, 5-7 Days, RUSH, 3-4 Days, 2 Days, ASAP (circled)

Project Name	Retaining Wall
Project Location	7471 South 5th Street, Frisco TX
Project #	112.052.003
PO #	
Sampler Name	Nick Foreman
Sampler Company	WTM
Sampler Signature	(signed)

Matrix Codes: L - Liquid, S - Solid, W - Wipes, A - Air

Presevation Codes: 1 - None, 2 - HNO_3, 3 - H_2SO_4, 4 - HCl, 5 - NaOH, 6 - Ice, 7 - Other ______

Container Codes: P - Plastic, G - Glass, O - Other ______

Special Instructions *: Exide will pay Directly ☆
200% rush
LRC for TRRP report

*Please confirm conditional requests prior to additional analysis

Requested Analysis

OXIDOR Order ID 12110104		Customer Sample ID	Date	Time	Matrix	# of Containers	Container Type	Pres Code	(C)omp / (G)rab	Parts / Interval	Hold	TCLP (RCRA-8)	TCLP (Sb, Ni, Be)			TPH	pH					Total Solids / Dry Weight	Laboratory Review Checklist	Chromatograms / Data Pages
001	1	SP-07	11/5/12	0900	S	3	G	6	C			X	X			X	X					X	X	
002	2	SP-08	11/5/12	0900	S	3	G	6	C			X	X			X	X					X	X	
	3																							
	4																							
	5																							
	6																							
	7																							
	8																							
	9																							
	10																							
	11																							
	12																							
	13																							
	14																							
	15																							

Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
x (signed)	WTM	11/5/12	1157	x			
x				x			
x				Received for OXIDOR by: (signed)		11/5/12	1157

Submittal of samples signifies acceptance of OXIDOR's Standard Terms and Conditions.
OXIDOR cannot accept verbal changes to this document. Please fax or email written modifications.

5/22/2008 - Rev. 4.0

Temp at Reciept 3.9 °C
OX-48

OXIDOR Laboratories, LLC

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;
  - [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;
  - [X] **R5** Test reports/summary forms for blank samples;
  - [X] **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;
  - [X] **R7** 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;
  - [X] **R8** 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	[signature]	President	November 12, 2012
Name	Signature	Official Title	Date

OXIDOR Laboratories, LLC

Laboratory Review Checklist: Reportable 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

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-Custody (C-O-C)**					
		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?			X		
R2	OI	**Sample Quality Control (QC) and identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MDL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		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, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS)**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs)**					
		Are the MQLs for each method analyte included in the laboratory data package?	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?	X				
		Does the detectability check sample (DCS) data document the laboratory's capability to detect the COCs at the MQL used to calculate the SQLs?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for all analytes, matrices, and methods associated with this LRC?	X				
		Was applicable and available technology used to lower the SQL to minimize any matrix interference effects on the sample results?	X				

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).

OXIDOR Laboratories, LLC

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

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB)**					
		Was the CCV analyzed at the method required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal Standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	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?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results - Metals**					
		Were percent recoveries within the method QC limits?	X				
S9	I	**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?	X				
S10	OI	**Method Detection Limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		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 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	OI	**Demonstration of Capability (DOC)**					
		Was DOC conducted consistent with TNI Standard Module 4, Section 1.6?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
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)**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

OXIDOR Laboratories, LLC

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#[1]	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)

OXIDOR Laboratories, LLC

T104704227-12-7

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:

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

Respectfully submitted,

Charles Brungardt
President

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Analytical Report

Project Name: **Retaining Wall**

Customer Sample ID: **SP-07**
Oxidor Sample ID: 12110274-001
Sample Received: 11/8/2012

Matrix: **Solid**
Sample Collected: **11/5/2012 09:00**

Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Sample Prep								
TCLP Metals Extraction								
TCLP Extraction					11/08/12 16:40	1311	H.B.	
Metals								
Digested by method 3005A on 11/09/12 at 09:40								
TCLP Cadmium	0.01	0.010	**0.335**	mg/L	11/09/12 16:17	6020	K.O.	

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Cross Reference

Project Name: **Retaining Wall**

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

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

QC Summary

Project Name: **Retaining Wall**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatchID	**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%	

OXIDOR Laboratories, LLC

T104704227-12-7

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

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.

OXIDOR Laboratories, LLC

T104704227-12-7

W&M Environmental Group, Inc.
Frank Clark

Sample Preservation Verification

Project Name: **Retaining Wall**

Receipt temp: **3.8 °C on Ice**
Receipt method: **Additional Analysis**
Custody seal intact: **Not Present**
All samples / labels received intact: **Yes**

Customer Sample ID: **SP-07**
Oxidor Sample ID: **12110274-001**
Collected: **11/05/12 09:00**
Collected By: **Nick Foreman**
Collector Affiliation: **W&M Environmental Group, Inc.**
Matrix: **Solid**

Bottle Type	Count	Collection Method	Parts / Interval	Indicated 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.

OXIDOR Laboratories, LLC

T104704227-12-7

Order ID: 12110274
Date: 11/12/2012

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall**

OXIDOR Laboratories, LLC
1825 East Plano Parkway, #160
Plano, TX 75074-8570
P: 972.424.6422 F: 972.424.6508
customerservice@oxidor.com

Chain of Custody Record

Page ____ of ____

Send Report To	
Company Name	WHM Environmental Group, Inc
Address	906 E 18th Street
City / State / Zip	Plano, TX 75074
Contact Name	Frank Clark
Contact Email	Fclark @whm.com
Phone / Fax	972-509-9611 / 972-516-4145
Send Invoice To (Only if Different from above)	
Company Name	Exide Technologies
Address	7471 South Fifth Street
City / State / Zip	Frisco, TX 75034
Contact Name	Vanessa Coleman
Phone / Fax	972-335-2121 / 972-377-2707

Project / Report Information	
Circle Requested Turn Around Time (Less than 2 Days must be verified with lab)	7-10 Days, *5-7 Days, RUSH, 3-4 Days, 2 Days, ASAP (circled: ASAP)
Project Name	Retaining Wall
Project Location	7471 South 5th Street, Frisco TX
Project #	112052.003
PO #	
Sampler Name	Nick Foreman
Sampler Company	WHM
Sampler Signature	[signature]
Special Instructions *	Exide will pay Directly * 200% rush LRC for TRRP report

Matrix Codes: L - Liquid, S - Solid, W - Wipes, A - Air
Presevation Codes: 1 - None, 4 - HCl, 2 - HNO_3, 5 - NaOH, 3 - H_2SO_4, 6 - Ice, 7 - Other
Container Codes: P - Plastic, G - Glass, O - Other

*Please confirm conditional requests prior to additional analysis

Requested Analysis

OXIDOR Order ID 12110274	#	Customer Sample ID	Date	Time	Matrix	# of Containers	Container Type	Pres Code	(C)omp / (G)rab	Parts / Interval	Hold	TCLP (RCRA 8)	TCLP (SVOC?)			pH		TCLP Cd?	TCLPCd			Total Solids / Dry Weight	Laboratory Review Checklist	Chromatograms / Data Pages
001	1	SP-07	11/5/12	0900	S	3	G	6	C			X	X		X	X		X				X	X	
~~002~~	2	~~SP-08~~	~~11/5/12~~	~~0900~~	~~S~~	~~3~~	~~G~~	~~6~~	~~C~~			~~X~~	~~X~~		~~X~~	~~X~~						X	X	
	3																							
	4																							
	5																							
	6																							
	7																							
	8																							
	9																							
	10																							
	11																							
	12																							
	13																							
	14																							
	15																							

Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
x [signature]	WHM	11/5/12	1157	x			
x				x			
x				Received for OXIDOR by [signature]		11/5/12	1157

Submittal of samples signifies acceptance of OXIDOR's Standard Terms and Conditions.
OXIDOR cannot accept verbal changes to this document. Please fax or email written modifications.

5/22/2008 - Rev. 4.0

Temp at Reciept 3.9 °C
OX-48

OXIDOR Laboratories, LLC

ACCREDITED IN ACCORDANCE WITH nelac
T104704227-12-7

Order ID: 12110274
Date: 11/12/2012

Chain of Custody

PROJECT DESCRIPTION: **Retaining Wall**

Ashley Bishop 12110274

From: Nick Foreman [nforeman@wh-m.com]
Sent: Thursday, November 08, 2012 2:45 PM
To: Homer Youngblood; Charles Brungardt; CustomerService
Cc: Frank Clark; COLEMAN, Vanessa (Frisco, TX) (Vanessa.Coleman@na.exide.com)
Subject: Exide sample SP-07 (12110104-001)

Hi Charles and Homer,

Can you please re-run the SP-07 sample collected on 11/5/12 for TCLP Cadmium. We are having issues with the 0.496 being so close to the 0.5 cut-off.

We will need this ASAP and Exide should be billed directly.

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.

.1

WASTE DISPOSAL MANIFESTS – STOCKPILED SOILS FROM TRENCH EXCAVATION

ATTACHMENT D

643915

CWMI

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
TXD006451090	1	(800)424-9300	009996407 JJK

5. Generator's Name and Mailing Address
EXIDE TECHNOLOGIES
7471 S 5TH ST
FRISCO TX 75034-0005
Generator's Phone: (972)335-2121

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
SET Environmental Inc
U.S. EPA ID Number ~~ILD981957236~~ LA0000147272 GH

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CHEMICAL WASTE MANAGEMENT
7170 JOHN BRANNON RD.
SULPHUR LA 70665
Facility's Phone: (337)583-2169
U.S. EPA ID Number LAD000777201

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID NOS, 9, III, (D008) ~~9560364~~ LB5576	001	CM	25+ ~~020~~	GH ~~Y~~ Y	D008 ~~D006~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
ERG-171 Box 114
IN CASE OF EMERGENCY CONTACT CHEMTREC 800-424-9300. (WM CONTRACT #:CCN4557)
DISCREPANCIES CONTACT (972)786-5446

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: CARLILE, WENDELL A. Signature: Wendell A. Carlile Month Day Year 11 14 12

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gary Holcomb Signature: Gary Holcomb Month Day Year 11 14 12
Transporter 2 Printed/Typed Name Signature Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
11-15-12
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 (W) 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Leigh Anne Ack... Signature: Month Day Year 11 15 12

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Date 11/15/

Time 11:40:

WASTE MANAGEMENT

Chemical Waste Management

Data Error/Discrepancy Report

Page . . :

Program name

CHEMICAL WASTE MANAGEMENT, INC.

7170 John Brannon Road

Sulphur, LA 70665

(337) 583-2169

Initiated By: 0348TMK

Report Initiation Date: 11/15/12

Five Day Resolution Period Begin Date: 11/16/12

Receiving Ticket: 000643915 Line # 1

Profile Number : 956103LA

Generator Name : EXIDE TECHNOLOGIES

City : FRISCO

State: TX

Manifest : 009996407JJK

Federal EPA ID#: TXD006451090

Zip Code : 75034-0005

TYPE OF DISCREPANCY

Manifest* :	Weight* :	Analytical* :
Drum Count* :	LDR Form* :	Physical St* : X

Problem (be specific): Physical State SD

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

Time In : 0:08:36

Unresolved:

Time Out : 0:11:33

Pandora Nunez

Authorized Signature

Date Resolved: 11/15/12

** END OF REPORT **

Date 11/16/
Time 10:56:

WASTE MANAGEMENT

Chemical Waste Management
Data Error/Discrepancy Report

Page . . :
Program name

CHEMICAL WASTE MANAGEMENT, INC.
7170 John Brannon Road
Sulphur, LA 70665
(337) 583-2169

Initiated By : WM0348DR1

Report Initiation Date: 11/15/12
Five Day Resolution Period Begin Date: 11/16/12

Receiving Ticket: 000643915 Line # 1
Profile Number : LB5576
Generator Name : EXIDE TECHNOLOGIES
City : FRISCO
State: TX

Manifest : 009996407JJK

Federal EPA ID#: TXD006451090
Zip Code : 75034-0005

TYPE OF DISCREPANCY

Manifest* :
Drum Count* :
Weight* : X
LDR Form* :
Analytical* :
Physical St* :

Problem (be specific): Total Quantity

PTHERE IS A GREATER THAN 10% VOLUME DISCREPANCY.
MANIFESTED FOR 20 YARDS; CWM'S VOLUME IS
25 YARDS.

Efforts to resolve discrepancy: PER VANESSA COLEMAN OK TO USE CWM'S VOLUME OF
25 YARDS AND CHANGE THE PAPERWORK TO REFLECT THE
CORRECTION.

Resolved: X
Time In : 0:16:40

Unresolved:
Time Out : 0:08:40

Pandora Nunez

Authorized Signature

Date Resolved: 11/16/12

** END OF REPORT **

L0435608 SR# 992200 CWMI

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: TXD006451090
2. Page 1 of: 1
3. Emergency Response Phone: (800)424-9300
4. Manifest Tracking Number: 009996497 JJK

5. Generator's Name and Mailing Address:
EXIDE TECHNOLOGIES
7471 S 5TH ST
FRISCO TX 75034-0005
Generator's Phone: (972)335-2121

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Chemical waste management Inc — U.S. EPA ID Number: LAD000147272

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address:
CHEMICAL WASTE MANAGEMENT
7170 JOHN BRANNON RD.
SULPHUR LA 70665
Facility's Phone: (337)583-2169
U.S. EPA ID Number: LAD000777201

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE,SOLID,NOS,9,III, (D008) 956103LA	1	DT	46180	P	D008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
ERG#-01/171.
IN CASE OF EMERGENCY CONTACT CHEMTREC 800-424-9300. (WM CONTRACT #:CCN4557)
DISCREPANCIES CONTACT (972)786-5446

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: CARLILE, WENDELL L. — Signature: Wendell L. Carlile — Month 11 Day 06 Year 12

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Randy Smith — Signature: Randy Smith — Month 11 Day 6 Year 12
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Shawn Laws — Signature — Month 11 Day 7 Year 12

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

4461 SR# 993510 CWMI

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: TXD006451090
2. Page 1 of: 1
3. Emergency Response Phone: (800)424-9300
4. Manifest Tracking Number: 009996826 JJK

5. Generator's Name and Mailing Address:
EXIDE TECHNOLOGIES
7471 S 5TH ST
FRISCO TX 75034-0005
Generator's Phone: (972)335-2121

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Chemical Waste Management Inc.
U.S. EPA ID Number: LA0000147272

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address:
CHEMICAL WASTE MANAGEMENT
7170 JOHN BRANNON RD.
SULPHUR LA 70665
Facility's Phone: (337)583-2169
U.S. EPA ID Number: LAD000777201

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE,SOLID,NOS,9,III,(D008) 956103LA	1	DT	26.660	P	D008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
ERG#-01/171.
IN CASE OF EMERGENCY CONTACT CHEMTREC 800-424-9300. (WM CONTRACT #:CCN4557)
DISCREPANCIES CONTACT Carlile, Wendell (972) 786-5446

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: CARLILE, WENDELL L.
Signature: Wendell L. Carlile
Month/Day/Year: 11 29 12

16. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Port of entry/exit:
Transporter signature (for exports only):
Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: George Hoff III
Signature: [signature]
Month/Day/Year: 11 29 12

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Leah Anne Clark
Signature: [signature]
Month/Day/Year: 11 29 12

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1250879

Name Exide Technologies
Address PO Box 250
Frisco TX 75034
Phone No. 972 335-2121

Generating Location Exide Technologies
7471 South 5th St. Frisco, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
~~0911999??~~	~~116529TX~~	~~Soil, Concrete & Debris~~		Y
~~010215317012~~	~~957889TX~~			
010217310212	958041TX	SOIL FROM RETAINING WALL	20 yds	Y

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL D. — AUTHORIZED AGENT'S NAME (PRINT) 9/11/12 — DATE Wendell D. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name ~~Jack Henna Trucking~~ GREEN SCAPING
Address ~~403 W State Hwy 22~~ 2401 HANDLEY EDERVILLE Rd.
~~Barry, TX 75102~~ FORT WORTH, TX 76118

Phone No. ~~(903)695-2011~~ (817) 577-9299
Driver's name Travis Orr
Vehicle No. 844/845

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

9-11-12 SHIPMENT DATE — Travis Orr DRIVER'S SIGNATURE — 9-11-12 DELIVERY DATE — Travis Orr DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 S Railroad Street
Lewisville TX 75067
Permit No. 1025 B

Phone No. (972)459 1213
Time 2:24PM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

R Reed — NAME (PRINT) 9/11/12 — DATE — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1250878

Name: Exide Technologies
Address: P.O Box 250
Frisco TX 75034
Phone No.: 972 335-2121

Generating Location: Exide Technologies
7471 South 5th St. Frisco, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
~~[illegible]~~	~~[illegible]TX~~	~~[illegible]~~		Y
~~[illegible]39102~~	~~957829TX~~			
10027310212	958041TX	SOIL FROM RETAINING WALL	20yds	Y

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL S. — AUTHORIZED AGENT'S NAME (PRINT)
9/11/12 — DATE
Wendell S. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: ~~[illegible] Trucking~~ GREEN SCAPING
Address: ~~[illegible]~~ 2401 HANDLEY EDERVILLE RD.
~~[illegible]~~ FORT WORTH, TX 76118
Phone No.: ~~[illegible]~~ (817) 577-9299
Driver's Name: Travis Oar
Vehicle No.: 846 / 1846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

9-11-12 — SHIPMENT DATE
[signature] — DRIVER'S SIGNATURE
9-11-12 — DELIVERY DATE
[signature] — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: [illegible]
Address: [illegible] Railroad Street
Lewisville TX 75057
Permit No.: [illegible]
Phone No.: (972)459-[illegible]
Time: 1203pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

[signature] — NAME (PRINT)
9/11/12 — DATE
[signature] — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1250880

Name Exide Technologies
Address PO Box 250
Frisco TX 75034
Phone No. 972 335-2121

Generating Location Exide Technologies
7471 South 5th St; Frisco, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
~~[illegible]~~	~~[illegible]~~	~~Soil, Concrete & Debris~~		Y
~~0102139202~~	~~95782971~~			
0027302221	95804ITX	SOIL FROM RETAINING WALL	20 yds	Y

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL A. — AUTHORIZED AGENT'S NAME (PRINT)
9/11/12 — DATE
Wendell A. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name ~~[illegible]~~ GREEN SCAPING
Address ~~[illegible]~~ 2401 HAMLEY EDERVILLE RD
~~[illegible]~~ FORT WORTH, TX 76118

Phone No. ~~[illegible]~~ (817) 577-9299
Driver's name Travis Orr
Vehicle No. 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

9-11-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
9-11-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 S Railroad Street
Permit No. 1025 C

Phone No. (972)459 1210
Lewisville TX 75067
Time 459 pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Troy Turner — NAME (PRINT)
9/11/12 — DATE
SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

WMI 1252654

GENERATOR

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No. 972 [illegible]

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]		[redacted]	8yds	Y
082730212	95804ITX	SOIL FROM RETAING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL L. — AUTHORIZED AGENT'S NAME (PRINT)
10-1-12 — DATE
Wendell L. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping [redacted]
Address: [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx. 76118

Phone No. [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-1-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-1-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: [illegible]
Address: [illegible]
Permit No.

Phone No. [illegible]
Time: 4:03 pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

K Borley — NAME (PRINT)
10-1-12 — DATE
K Borley — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252655

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335-2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET; FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
002730212	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL L. — AUTHORIZED AGENT'S NAME (PRINT)
10-1-12 — DATE
Wendell L. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: [redacted] Green Seeding
Address: [redacted] 2401 Handley Ederville Rd
[redacted] Ft. Worth Tx. 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-1-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-1-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF
Address: 600 S RAILROAD STREET
LEWISVILLE TX 75057
Permit No.: 1025
Phone No.: (972)459-1713
Time: 2:46PM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

NAME (PRINT)
10/01/12 — DATE
A. Reed — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1252656

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335-2121

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
00273022	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL L.
AUTHORIZED AGENT'S NAME (PRINT)
10-2-12
DATE
Wendell L Carlile
SIGNATURE

TRANSPORTER

Transporter's Name [redacted] Green Scaping
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx. 76118

Phone No. [redacted] 817-577-9299
Driver's name Travis Orr
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-2-12
SHIPMENT DATE
Travis Orr
DRIVER'S SIGNATURE
10-2-12
DELIVERY DATE
Travis Orr
DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 E RAILROAD STREET
Permit No. [illegible]

Phone No. (972)[illegible]
LEWISVILLE TX 75067
Time 9:17 AM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

R. Reed
NAME (PRINT)
10/02/12
DATE
R. Reed
SIGNATURE

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

WM WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1252657

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335 2121

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	10	Y
010270130121	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLISLE, WENDELL A. 10-2-12 [signature]
AUTHORIZED AGENT'S NAME (PRINT) DATE SIGNATURE

TRANSPORTER

Transporter's Name Green Scaping [redacted]
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx 76118

Phone No. [redacted] 817-577-9299
Driver's name Travis Orr
Vehicle No. 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-2-12 [signature] 10-2-12 [signature]
SHIPMENT DATE DRIVER'S SIGNATURE DELIVERY DATE DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name [illegible]
Address [illegible]
Permit No. [illegible]
Phone No. [illegible]
Time 1010 Am

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Troy [illegible] 10/2/12 [signature]
NAME (PRINT) DATE SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____________
Ticket No. ____________

GENERATOR

WMI 1252658

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335-2121

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
0027310122	95804ITX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL I. AUTHORIZED AGENT'S NAME (PRINT) 10-2-12 DATE Wendell I. Carlile SIGNATURE

TRANSPORTER

Transporter's Name Green Scaping [redacted]
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx. 76118

Phone No. [redacted] 817-577-9299
Driver's name Travis Orr
Vehicle No. 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-2-12 SHIPMENT DATE Travis Orr DRIVER'S SIGNATURE 10-2-12 DELIVERY DATE Travis Orr DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 S RAILROAD STREET
Permit No. 1025B

Phone No. (972)459-1913
LEWISVILLE TX 75067
Time 12-11PM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

R Reed NAME (PRINT) 10/2/12 DATE R Reed SIGNATURE

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

WM WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252659

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335 2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8/15	Y
010217@p1212	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL A. — AUTHORIZED AGENT'S NAME (PRINT)
10-2-12 — DATE
Wendell A. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping [redacted]
Address: [redacted] 2401 Handley Ederville [redacted] Ft Worth Tx 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-2-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-2-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: [illegible]
Address: 1600 S RAILROAD STREET
LEWISVILLE TX 75067
Permit No.: [illegible]
Phone No.: (972) 409 1210
Time: 349 pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

NAME (PRINT)
10/2/12 — DATE
SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252660

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335-2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET; FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
0022130222	95R041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL A. — AUTHORIZED AGENT'S NAME (PRINT) | 10-2-12 — DATE | Wendell A. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Seaport [redacted]
Address: [redacted] 2401 Handley Ederville
[redacted] Ft. Worth TX 76118
Phone No.: [redacted] 817-577-9399
Driver's name: Travis Orr
Vehicle No.: 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-2-12 — SHIPMENT DATE | Travis Orr — DRIVER'S SIGNATURE | 10-2-12 — DELIVERY DATE | Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF
Address: 1700 S RAILROAD STREET
LEWISVILLE TX 75067
Permit No.: 1025B
Phone No.: (972)459 1213
Time: 1:56PM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

A. Reed — NAME (PRINT) | 10/02/12 — DATE | A. Reed — SIGNATURE

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

WM WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY

Customer Acc. No. ______

Ticket No. ______

WMI 1252661

GENERATOR

Name: EXIDE TECHNOLOGIES

Address: PO BOX 250
FRISCO TX 75034

Phone No.: 972 335-2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034

State Gen. ID No.: 30516

Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
002730222	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL A. — AUTHORIZED AGENT'S NAME (PRINT)
10-3-12 — DATE
Wendell A. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: [redacted] GreenScaping

Address: [redacted] 2401 Handley Ederville Rd
[redacted] Ft. Worth Tx. 76118

Phone No.: [redacted] 817-577-9299

Driver's name: Travis Orr

Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-3-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-3-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF

Address: 1600 S RAILROAD STREET
LEWISVILLE TX 75057

Phone No.: (972)459-1213

Permit No.: [illegible]

Time: 946Am

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

NAME (PRINT): [illegible]
DATE: 10/3/12
SIGNATURE: [illegible]

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

WM WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252662

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335 2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	4 yds	Y
00278022	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL D. — AUTHORIZED AGENT'S NAME (PRINT)
10-3-12 — DATE
Wendell D. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping
Address: [redacted] 2401 Hardley Edervill Rd
[redacted] Ft. Worth Tx. 76118
Phone No.: [redacted]
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-3-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-3-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW TDF
Address: [illegible]
Permit No.: [illegible]
Phone No.: (972)459 1210
LEWISVILLE TX 75067
Time: 1201 pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

NAME (PRINT)
10/3/12 — DATE
SIGNATURE

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

WM WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252663

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335 2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8yds	
0102713012	95804ITX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL I. — AUTHORIZED AGENT'S NAME (PRINT)
10-5-12 — DATE
Wendell I. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping [redacted]
Address: [redacted] 2461 Handley Ederville
[redacted] Ft. Worth Tx. 76118

Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-5-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-5-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW FIX
Address: 600 S RAILROAD STREET
Permit No.: [illegible]

Phone No.: (972) [illegible]
LEWISVILLE TX 75057
Time: 12:21 PM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

A. Reed — NAME (PRINT)
10/5/12 — DATE
A. Reed — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252664

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335-2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	[illegible]
0002173P212	958041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL B.
AUTHORIZED AGENT'S NAME (PRINT)
24 OCT. 2012
DATE
Wendell B. Carlile
SIGNATURE

TRANSPORTER

Transporter's Name: GreenScapes [redacted]
Address: [redacted] 2401 [illegible] Edenville Rd
Ft. Worth Tx. 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 844/805

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-24-12
SHIPMENT DATE
Travis Orr
DRIVER'S SIGNATURE
10-24-12
DELIVERY DATE
Travis Orr
DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: [illegible]
Address: [illegible]
Permit No.: [illegible]
Phone No.: [illegible]
Time: 1:20pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

[illegible]
NAME (PRINT)
10/24/12
DATE
[illegible]
SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS
WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252670

Name EXIDE TECHNOLOGIES

Address PO BOX 250

FRISCO TX 75034

Phone No. 972 335-21[illegible]

Generating Location EXIDE TECHNOLOGIES

7471 SOUTH FIFTH STREET; FRISCO, TX 75034

State Gen. ID No. 30516

Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]		Y
010217310212	958041TX	SOIL FROM RETAINING WALL	8 yds	

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLISLE, WENDELL S. — AUTHORIZED AGENT'S NAME (PRINT)
10-31-12 — DATE
Wendell S. Carlisle — SIGNATURE

TRANSPORTER

Transporter's Name [redacted] Green Scaling

Address [redacted] 2401 Hardy Eckerville

[redacted] Ft Worth Tx 76118

Phone No. [redacted] 817 577-9296

Driver's name Travis Orr

Vehicle No. 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-31-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-31-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW R[illegible]

Phone No. (972)[illegible]

Address 600 E RAILROAD STREET

LEWISVILLE TX 75067

Permit No. [illegible]

Time 12:4[illegible]p

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

[illegible] — NAME (PRINT)
10/31/12 — DATE
[illegible] — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252671

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335 2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	
0102730222	988041TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL B. — AUTHORIZED AGENT'S NAME (PRINT)
10-31-12 — DATE
Wendell B. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping [redacted]
Address: [redacted] 8401 Handley Ederville
[redacted] Ft. Worth Tx 76118

Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-31-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
10-31-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF
Address: 1600 S RAILROAD STREET
LEWISVILLE TX 75067
Permit No.: 1025-B

Phone No.: (972)459-1216
Time: 3:05 pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

K Bordey — NAME (PRINT)
10-31-12 — DATE
K Bordey — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS
WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____________
Ticket No. ____________

GENERATOR

WMI 1252672

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No. 972 335 2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]		Y
0012?0021	958041TX	SOIL FROM RETAINING WALL	6/05	

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL S. — AUTHORIZED AGENT'S NAME (PRINT)
11-1-12 — DATE
Wendell S. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: GreenSea Aloe [redacted]
Address: [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx. 76118

Phone No. [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-1-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
11-1-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF
Address: 1600 S RAILROAD STREET
Permit No. [illegible]

Phone No. (972)459 1219
LEWISVILLE TX 75067
Time: 1146am

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

[illegible] — NAME (PRINT)
11/1/12 — DATE
[illegible] — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252673

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335 2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET; FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
010273012	95804TX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL Jr. — AUTHORIZED AGENT'S NAME (PRINT)
11-1-12 — DATE
Wendell L. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping [redacted]
Address: [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-1-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
11-1-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: [illegible]
Address: [illegible] STREET
Permit No.: [illegible]
Phone No.: (972)459 1213
LEWISVILLE TX 75067
Time: 3:01pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Troy Cow — NAME (PRINT)
11/1/12 — DATE
SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252674

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335-2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
0102D3D2I2	95804ITX	SOIL FROM RETAINING WALL		

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL D. — AUTHORIZED AGENT'S NAME (PRINT)
11-1-12 — DATE
Wendell D. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: [redacted] Green Scaping
Address: [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-1-12 — SHIPMENT DATE
Travis Orr — DRIVER'S SIGNATURE
11-1-12 — DELIVERY DATE
Travis Orr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF
Address: 1600 S RAILROAD STREET
LEWISVILLE TX 75057
Permit No.: 1025B
Phone No.: (972)459-1211
Time: 10 9 Am

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

NAME (PRINT)
11/1/12 — DATE
SIGNATURE

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

WM WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252675

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335 2111

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
00R2130222	958041TX	SOIL FROM RETAINING WALL		

CODES: D = DRUM; B = BAG; C = CARTON; P = POUND; Y = YARDS; 0 = OTHER

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CARLILE, WENDELL B.
AUTHORIZED AGENT'S NAME (PRINT)
11-9-12
DATE
Wendell B. Carlile
SIGNATURE

TRANSPORTER

Transporter's Name GreenScaping [redacted]
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx 76118

Phone No. [redacted] 817-577-9299
Driver's name Travis Orr
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-9-12
SHIPMENT DATE
Travis Orr
DRIVER'S SIGNATURE
11-9-12
DELIVERY DATE
Travis Orr
DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address [illegible]
[illegible]
Permit No. [illegible]

Phone No. [illegible]
[illegible]
Time ____

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

K Boxley
NAME (PRINT)
11-9-12
DATE
K Boxley
SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252676

Name: EXIDE TECHNOLOGIES
Address: PO BOX 25[illegible]
FRISCO TX 7503[illegible]
Phone No.: 972 335-212[illegible]

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 7503[illegible]
State Gen. ID No.: 306[illegible]
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]		Y
00273022	958041TX	SOIL FROM RETAINING WALL	8 yds	

CODES: D = DRUM; B = BAG; C = CARTON; P = POUND; Y = YARDS; 0 = OTHER

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CARLILE, WENDELL A. — AUTHORIZED AGENT'S NAME (PRINT)
11-9-12 — DATE
[signature] — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaling [redacted]
Address: [redacted] 2401 Handley Ederville
[redacted] Ft. Worth TX 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Orr
Vehicle No.: 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-9-12 — SHIPMENT DATE
[signature] — DRIVER'S SIGNATURE
11-9-12 — DELIVERY DATE
[signature] — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW RDF
Address: [illegible]
Permit No.: [illegible]
Phone No.: (972)459-[illegible]
[illegible] TX 75[illegible]
Time: 1:53 PM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

K Boxley — NAME (PRINT)
11-9-12 — DATE
K Boxley — SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1252677

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335 2121

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET; FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	Y
01020310212	958041TX	SOIL FROM RETAINING WALL		

CODES: D = DRUM; B = BAG; C = CARTON; P = POUND; Y = YARDS; 0 = OTHER

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CARLILE, WENDELL S. AUTHORIZED AGENT'S NAME (PRINT) 11-9-12 DATE Wendell S. Carlile SIGNATURE

TRANSPORTER

Transporter's Name Green Scaping [redacted]
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx. 76118

Phone No. [redacted] 817-577-9299
Driver's name Travis Orr
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-9-12 SHIPMENT DATE Travis Orr DRIVER'S SIGNATURE 11-9-12 DELIVERY DATE Travis Orr DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 S RAILROAD STREET
Permit No. [illegible]

Phone No. (972)459-[illegible]
LEWISVILLE TX 75057
Time 12:45 pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

K Bexley NAME (PRINT) 11-9-12 DATE K Bexley SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ____
Ticket No. ____

GENERATOR

WMI 1252678

Name: EXIDE TECHNOLOGIES
Address: PO BOX 250
FRISCO TX 75034
Phone No.: 972 335-2121

Generating Location: EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No.: 30516
Gen. US EPA ID No.: TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]			8 yds	Y
100217301212	958041TX	SOIL FROM RETAINING WALL		

CODES: D = DRUM; B = BAG; C = CARTON; P = POUND; Y = YARDS; 0 = OTHER

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CARLILE, WENDELL A. — AUTHORIZED AGENT'S NAME (PRINT)
10-31-12 — DATE
Wendell A. Carlile — SIGNATURE

TRANSPORTER

Transporter's Name: Green Scaping [redacted]
Address: [redacted] 2401 Hardtrey Eckerstle
[redacted] Ft. Worth Tx. 76118
Phone No.: [redacted] 817-577-9299
Driver's name: Travis Carr
Vehicle No.: 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-31-12 — SHIPMENT DATE
Travis Carr — DRIVER'S SIGNATURE
10-31-12 — DELIVERY DATE
Travis Carr — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name: DFW [illegible]
Address: 1600 E RAILROAD STREET
LEWISVILLE TX 75057
Permit No.: 1025 [illegible]
Phone No.: (972)459 1213
Time: 1009 Am

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Troy Turner — NAME (PRINT)
10/31/12 — DATE
SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1252679

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX [illegible]
Phone No. [illegible]

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX [illegible]
State Gen. ID No. 30515
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8 yds	
00273022	958041TX	SOIL FROM RETAINING WALL		

CODES: D = DRUM; B = BAG; C = CARTON; P = POUND; Y = YARDS; 0 = OTHER

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CARLILE, WENDELL J. — AUTHORIZED AGENT'S NAME (PRINT) — 10-31-12 DATE — Wendell J. Carlile SIGNATURE

TRANSPORTER

Transporter's Name Green Scaping [redacted]
Address [redacted] 2401 Hardy Edenville Rd
[redacted] Ft. Worth Tx 76118

Phone No. [redacted] 817-577-5299
Driver's name Travis Orr
Vehicle No. 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

10-31-12 SHIPMENT DATE — Travis Orr DRIVER'S SIGNATURE — 10-31-12 DELIVERY DATE — Travis Orr DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name [illegible]
Address [illegible]
[illegible] LEWISVILLE TX [illegible]
Permit No. [illegible]
Phone No. [illegible]
Time 1148 AM

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

[illegible] NAME (PRINT) — 10/31/12 DATE — [illegible] SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252681

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335 2121

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]	8yds	[redacted]
0102130212	958041TX	SOIL FROM RETAINING WALL	/	Y

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL D. AUTHORIZED AGENT'S NAME (PRINT) 19 NOV. 2012 DATE Wendell D. Carlile SIGNATURE

TRANSPORTER

Transporter's Name Green Scaping [redacted]
Phone No. [redacted] 817-577-9299
Address [redacted] 8401 Handley Ederville
[redacted] Ft. Worth 76118
Driver's name Travis Old
Vehicle No. 846

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-19-12 SHIPMENT DATE Travis Old DRIVER'S SIGNATURE 11-19-12 DELIVERY DATE Travis Old DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 S RAILROAD STREET
Permit No. [illegible]
Phone No. (972)459 [illegible]
LEWISVILLE TX 7506[illegible]
Time 1009Am

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Troy [illegible] NAME (PRINT) 11/19/12 DATE [illegible] SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

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

GENERATOR

WMI 1252682

Name EXIDE TECHNOLOGIES
Address PO BOX 250
FRISCO TX 75034
Phone No. 972 335-2121

Generating Location EXIDE TECHNOLOGIES
7471 SOUTH FIFTH STREET, FRISCO, TX 75034
State Gen. ID No. 30516
Gen. US EPA ID No. TXD006451090

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]				
0022310221	95804 ITX	SOIL FROM RETAINING WALL	8 yds	Y

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLILE, WENDELL A. 19 NOV. 2012 Wendell A. Carlile
AUTHORIZED AGENT'S NAME (PRINT) DATE SIGNATURE

TRANSPORTER

Transporter's Name GreenScaploy [redacted]
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth Tx. 76116

Phone No. [redacted] 817-577-9299
Driver's name Travis Old
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-19-12 Travis Old 11-19-12 Travis Old
SHIPMENT DATE DRIVER'S SIGNATURE DELIVERY DATE DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name DFW RDF
Address 1600 S RAILROAD STREET
Permit No. 1025-B

Phone No. (972)459-1215
LEWISVILLE TX 75057
Time 12:53

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Debb 11-19-12
NAME (PRINT) DATE SIGNATURE

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

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY
Customer Acc. No. ______
Ticket No. ______

GENERATOR

WMI 1252683

Name [illegible]
Address [illegible]
[illegible]
Phone No. [illegible]

Generating Location [illegible]
[illegible]
State Gen. ID No. [illegible]
Gen. US EPA ID No. [illegible]

WASTE CODE	PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY	UNITS
[redacted]	[redacted]	[redacted]		[redacted]
010273922	95804ITX	Soil From Retaining wall	6yds	Y

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 hazardous waste as defined by 40 CFR Part 261 or any applicable state law. That each waste has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

CARLISLE, WENDELL B. — AUTHORIZED AGENT'S NAME (PRINT)
19 NOV. 2012 — DATE
[signature] — SIGNATURE

TRANSPORTER

Transporter's Name [redacted] Green Scaping
Address [redacted] 2401 Handley Ederville
[redacted] Ft. Worth 76118
Phone No. [redacted] 817-577-9255
Driver's name Travis ORR
Vehicle No. 866

I hereby certify that the above listed material was picked up at the Generator site listed above and delivered without incident to the disposal facility listed below.

11-19-12 — SHIPMENT DATE
[signature] — DRIVER'S SIGNATURE
11-19-20 — DELIVERY DATE
[signature] — DRIVER'S SIGNATURE

DISPOSAL FACILITY

Site Name [illegible]
Address [illegible]
Permit No. [illegible]
Phone No. [illegible]
[illegible]
Time 2:05pm

I hereby certify that the above listed material has been accepted and that information presented on this document is true and accurate.

Debbie Pascal — NAME (PRINT)
11-19-12 — DATE
[signature] — SIGNATURE

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.

Table 1: Boreholes with Fill Containing Slag

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

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

Notes:

1. Table 1 does not contain delineation borings from the 1993 Lake Engineering Report
2. 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 PATHWAY INVESTIGATION – EXIDE TECHNOLOGIES, FRISCO, TEXAS**

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

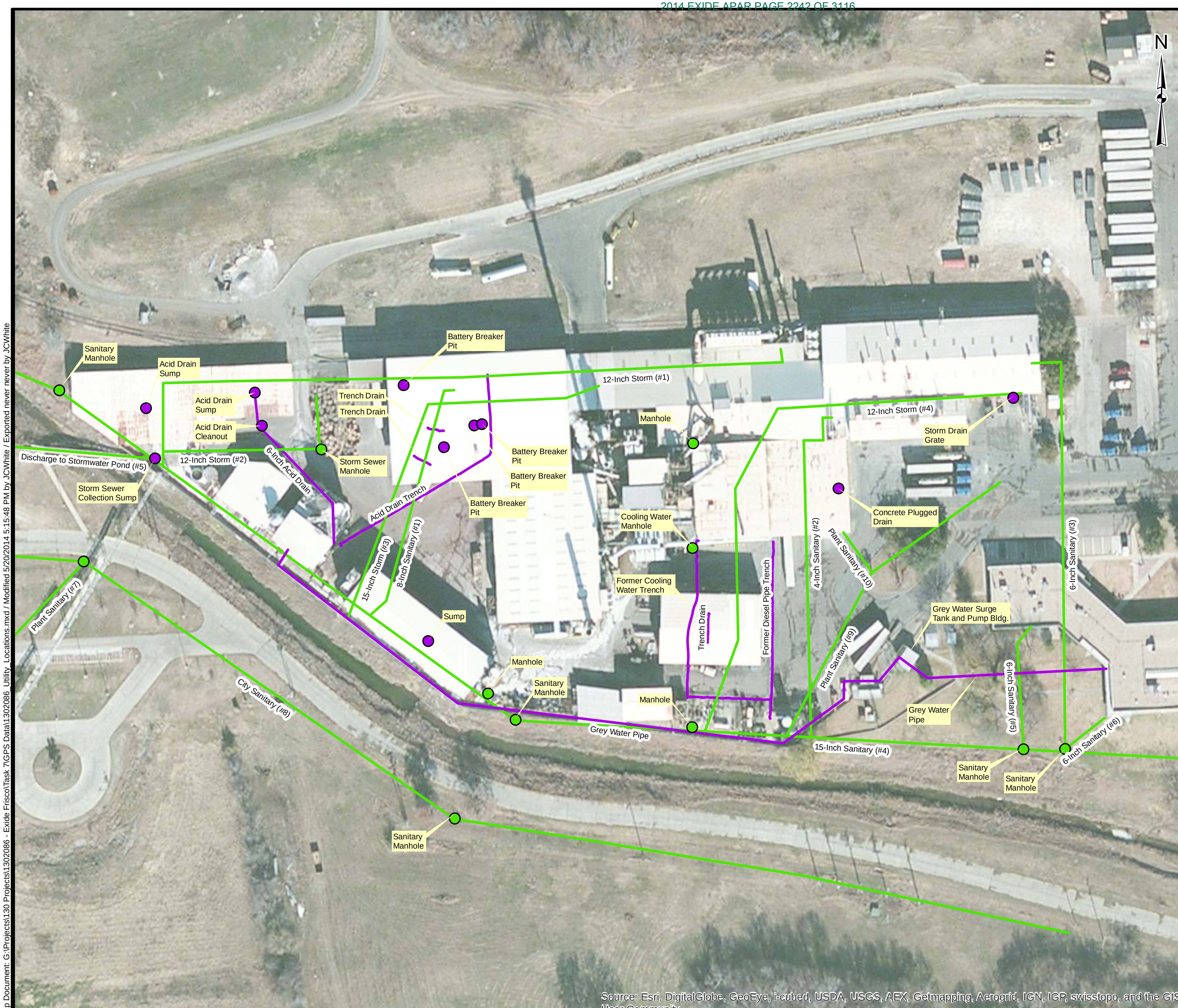
One sump with a grated inlet was observed on the Slag Treatment Building floor. Based on discussions with facility personnel, the sump was connected to a drain pipe which flowed to the waste water treatment plant.

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

- Process Feature
- Manhole/Cleanout

Linear Features

- Process Drain
- Sanitary Sewer
- Storm Sewer

NOTES

1.) Utility locations from Site observations and facility drawings.
2.) Utility locations are approximate.

REFERENCES

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

100 0 100 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT
EXIDE TECHNOLOGIES
UTILITY INVESTIGATION
FRISCO, TEXAS

TITLE
UTILITY LOCATIONS

Golder Associates

PROJECT NO. 130-2086			FILE No. 1302086_Utility_Locations.mxd	
DESIGN	JCW	24 Feb. 2014	SCALE: AS SHOWN	REV. 0
GIS	JCW	24 Feb. 2014	1	
CHECK	BEF	28 Feb. 2014		
REVIEW	JAW	24 Apr. 2014		

Map Document: G:\Projects\130 Projects\1302086 - Exide Frisco\Task 7\GPS Data\1302086_Utility_Locations.mxd / Modified 5/20/2014 5:15:48 PM by JCWhite / Exported never never by JCWhite

PBW

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. 5th 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.

<u>East Face of SRB</u>
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 box for disposal characterization purposes. Composite sample results for four of the eighteen 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.

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

Will V

For Tim Jennings, P.G.

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.

Report Narrative (cont'd)

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:

Richard McMillin Region 6 Laboratory Manager	David Neleigh Region 6 Laboratory Branch Chief

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6 Environmental Services Branch Laboratory

10625 Fallstone Road
Houston, Texas 77099

Sample Receipt and Disposal

Site Name: Exide

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:

Environmental Protection Agency

Region 6 Laboratory

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

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

Environmental Protection Agency

Region 6 Laboratory

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

Metals by EPA Method 6010B - ICP

Lab ID: 1201012-01 **Station ID: 1**

Batch: B2B0203
Sample Type: Solid

Date Collected: 01/11/12
Sample Weight: 3.076 g
%Solids: 5.04

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte 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
Sample Type: Solid

Date Collected: 01/11/12
Sample Weight: 0.108 g
%Solids: 5.04

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Mercury (7439-97-6)	U		1.5	1	02/07/12	02/09/12

cj

Environmental Protection Agency
Region 6 Laboratory
10625 Fallstone Road, Houston, TX 77099
Phone:(281)983-2100 Fax:(281)983-2248

Metals by EPA Method 6010B - ICP

Lab ID: 1201012-02 **Station ID: 2**

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 mg/kg dry	Analyte 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 **Station ID: 2**

Batch: B2B1009
Sample Type: Solid
Date Collected: 01/11/12
Sample Weight: 0.1 g
%Solids: 66.55
Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Mercury (7439-97-6)	U		0.1	1	02/07/12	02/09/12

cj

Environmental Protection Agency
Region 6 Laboratory
10625 Fallstone Road, Houston, TX 77099
Phone:(281)983-2100 Fax:(281)983-2248

Metals by EPA Method 6010B - ICP

Lab ID: 1201012-03 **Station ID: 3-1**

Batch: B2B0203 Date Collected: 01/11/12
Sample Type: Solid Sample Weight: 1.564 g Sample Qualifiers:
%Solids: 67.54

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	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 Date Collected: 01/11/12
Sample Type: Solid Sample Weight: 3.646 g Sample Qualifiers:
%Solids: 67.54

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Mercury (7439-97-6)	U		0.003	1	02/07/12	02/09/12

cj

Environmental Protection Agency
Region 6 Laboratory
10625 Fallstone Road, Houston, TX 77099
Phone:(281)983-2100 Fax:(281)983-2248

Metals by EPA Method 6010B - ICP

Lab ID: 1201012-04 **Station ID: 3-2**

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 mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U		5.6	2	02/02/12	02/08/12
Barium (7440-39-3)	**99.4**		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

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Mercury (7439-97-6)	**0.01**		0.007	1	02/07/12	02/09/12

cj

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TCLP Metals by EPA Method 1311/6010B-ICP

Lab ID: 1201020-01 **Station ID: 1 (Floodwall Comp-01)**

Batch: B2B1313
Sample Type: Solid
Batch Matrix: Solid

Date Collected: 01/18/12
Sample Volume: 50 ml
TCLP Prepared: 2/3/12

Sample Qualifiers:

Targets

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 ID: 1 (Floodwall Comp-01)**

Batch: B2B1006
Sample Type: Solid
Batch Matrix: Solid

Date Collected: 01/18/12
Sample Volume: 25 ml
TCLP Prepared: 2/3/12

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte 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 **Station ID: 2 (2012-FWCS-8)**

Batch: B2B0203
Sample Type: Solid
Date Collected: 01/18/12
Sample Weight: 0.897 g
%Solids: 47.16
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
Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Mercury (7439-97-6)	**0.08**		0.01	1	02/07/12	02/09/12

cj

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Percent Solids - Quality Control

Duplicate (B2A3101-DUP1)

Source: 1201012-03 Prepared: 1/31/2012 Analyzed: 2/2/2012

Targets

ANALYTE	Result %	Analyte Qualifiers	Reporting Limit	Spike 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

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

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 (Continued)

ANALYTE	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	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

ANALYTE	Result mg/kg dry	Analyte 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

ANALYTE	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	89.2		11.1	111	1.5	79.0	75-125	13.0	20
Barium	182		1.1	111	254	NR #	75-125	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 mg/kg dry	Analyte Qualifiers	Reporting Limit	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 #	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

ANALYTE	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%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 #	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 #	75-125	27.4 #	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

Targets

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

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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)

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

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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 mg/kg wet	Analyte Qualifiers	Reporting Limit
Mercury	U		0.08

LCS (B2B1009-BS1)

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

Targets

ANALYTE	Result mg/kg wet	Analyte Qualifiers	Reporting Limit	Spike Level	%REC	%REC Limits
Mercury	0.4		0.08	0.400	97.7	75-125

Matrix Spike (B2B1009-MS1)

Source: 1201012-01 Prepared: 2/7/2012 Analyzed: 2/9/2012

Targets

ANALYTE	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits
Mercury	7.5		1.5	7.49		99.6	75-125

Matrix Spike (B2B1009-MS2)

Source: 1201020-02 Prepared: 2/7/2012 Analyzed: 2/9/2012

Targets

ANALYTE	Result mg/kg dry	Analyte Qualifiers	Reporting 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 Qualifiers	Reporting 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	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	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

ANALYTE	Result mg/kg wet	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Mercury	2.9		0.7	3.59		80.0	51.8-148		

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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 Qualifiers	Reporting 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 Qualifiers	Reporting 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	Result mg/L	Analyte Qualifiers	Reporting Limit	Spike Level	%REC	%REC Limits
Arsenic	3.75		0.10	4.00	93.7	75-125

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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 Qualifiers	Reporting Limit	Spike Level	%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

ANALYTE	Result mg/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits
Arsenic	3.86		1.00	4.00		96.4	75-125
Barium	4.11		0.10	4.00	0.44	91.5	75-125
Cadmium	0.17		0.05	0.100	0.10	77.5	75-125
Chromium	0.75		0.10	0.800	4.96E-4	93.9	75-125
Lead	10.9		0.30	0.800	10.5	47.8 #	75-125
Selenium	2.14		1.00	2.00	0.08	103	75-125
Silver	0.09		0.10	0.100	8.20E-4	92.2	75-125

Matrix Spike Dup (B2B1313-MSD1)
Source: 1201020-01 Prepared: 2/13/2012 Analyzed: 2/23/2012

Targets

ANALYTE	Result mg/L	Analyte Qualifiers	Reporting 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

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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 Qualifiers	Reporting Limit	Spike Level	Source Result	%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

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

Blank (B2B1006-BLK2)

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

Targets

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

LCS (B2B1006-BS1)

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

Targets

ANALYTE	Result mg/L	Analyte Qualifiers	Reporting Limit	Spike Level	%REC	%REC Limits
Mercury	9.51E-4		2.00E-4	0.00100	95.1	75-125

Matrix Spike (B2B1006-MS1)

Source: 1201020-01 Prepared: 2/8/2012 Analyzed: 2/9/2012

Targets

ANALYTE	Result mg/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits
Mercury	0.001		2.00E-4	0.00100	2.02E-4	95.8	75-125

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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

Targets

ANALYTE	Result mg/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Mercury	0.001		2.00E-4	0.00100	2.02E-4	102	75-125	5.04	20

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ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL
CHAIN OF CUSTODY RECORD

PROJ. NO. | PROJECT NAME: EXIDE – FRISCO, TX

SAMPLERS: (Signature) (PAUL JAMES X6445)

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CON-TAINERS	TOTAL RCRA 8 METALS (6010)	RCAA 8 " " MS/MSD	REMARKS
1	1/11/12	1053		X	2012-SED-1	1	X		TAG # 6-189213
2	1/11/12	1120		X	2012-SED-2	1	X		" 6-018800
3-1	1/11/12	1158		X	2012-SED-3A	2	X	X	" 6-018799, 6-018798
3-2	1/11/12	1158		X	2012-SED-3B	1	X		" 6-018797

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	1/11/12 1455				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Isaiah Harris	Date / Time 1/12/12 9:30	Remarks: SEDIMENT SAMPLES (SPLITS) Sample Temp: 5°C	
Shipped by:		Airbill Number:			

Distribution: White Accompanies Shipment; Pink to Coordinator Field Files; Green to Report; Yellow Returns with Warrant

EPA 7500-53 (11/06)

6 – 07836

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Environmental Protection Agency

Region 6 Laboratory

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Phone:(281)983-2100 Fax:(281)983-2248

ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL
CHAIN OF CUSTODY RECORD

PROJ. NO.:
PROJECT NAME: EXIDE / FRISCO, TX
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CON-TAINERS	TCLP RCRA 8	TOTAL RCRA 8 METALS	TOT. RCRA 8-MS/MSD	REMARKS
1	1/18/12	1040	X		FLOODWALL-COMP-01	1	X			TAG No. 6-304066
2	1/18/12	1216		X	2012-FWCS-8	2		X	X	TAG NOs. 6-304065, 6-304063

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	1/18/12 5:00	UPS OVERNIGHT			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Isaiah Harris	Date / Time 1/19/12 9:45	Remarks Sample Temp: 4°C	
Shipped by:		Airbill Number:			

Distribution: White Accompanies Shipment; Pink to Coordinator Field Files; Green to Report; Yellow Returns with Warrant

EPA 7500-53 (11/06)

6 — 08284

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Environmental Protection Agency

Region 6 Laboratory

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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.

Environmental 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.

THE STATE OF TEXAS

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 5th 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.

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

Sincerely,

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. 18th 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

ENVIRONMENTAL GROUP, INC.

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

Exide Frisco Recycling Facility Frisco, Texas

October 14, 2013

STATE OF TEXAS
FRANK WILLIAM CLARK
82371
LICENSED
PROFESSIONAL ENGINEER
10/14/13
W&M Environmental Group
F-8240

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

EXIDE FRISCO RECYCLING FACILITY
7471 SOUTH 5TH 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 5TH STREET
FRISCO, TEXAS 75034

Prepared By:

W&M ENVIRONMENTAL GROUP, INC.
906 E. 18TH 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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APPENDICES

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 5th 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.

<u>Perimeter Air Monitoring</u>

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 60-minute 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.

<u>XRF Duplicate Samples</u>

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 = (Avg XRF – Duplicate Result) / (Avg XRF + Duplicate Result)/2)*100*

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.

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

Michael Whitehead
Michael Whitehead
Project Reviewer

Lori L Siegelman
Lori Siegelman, CIH
Senior Consultant

Attachments

FIGURES

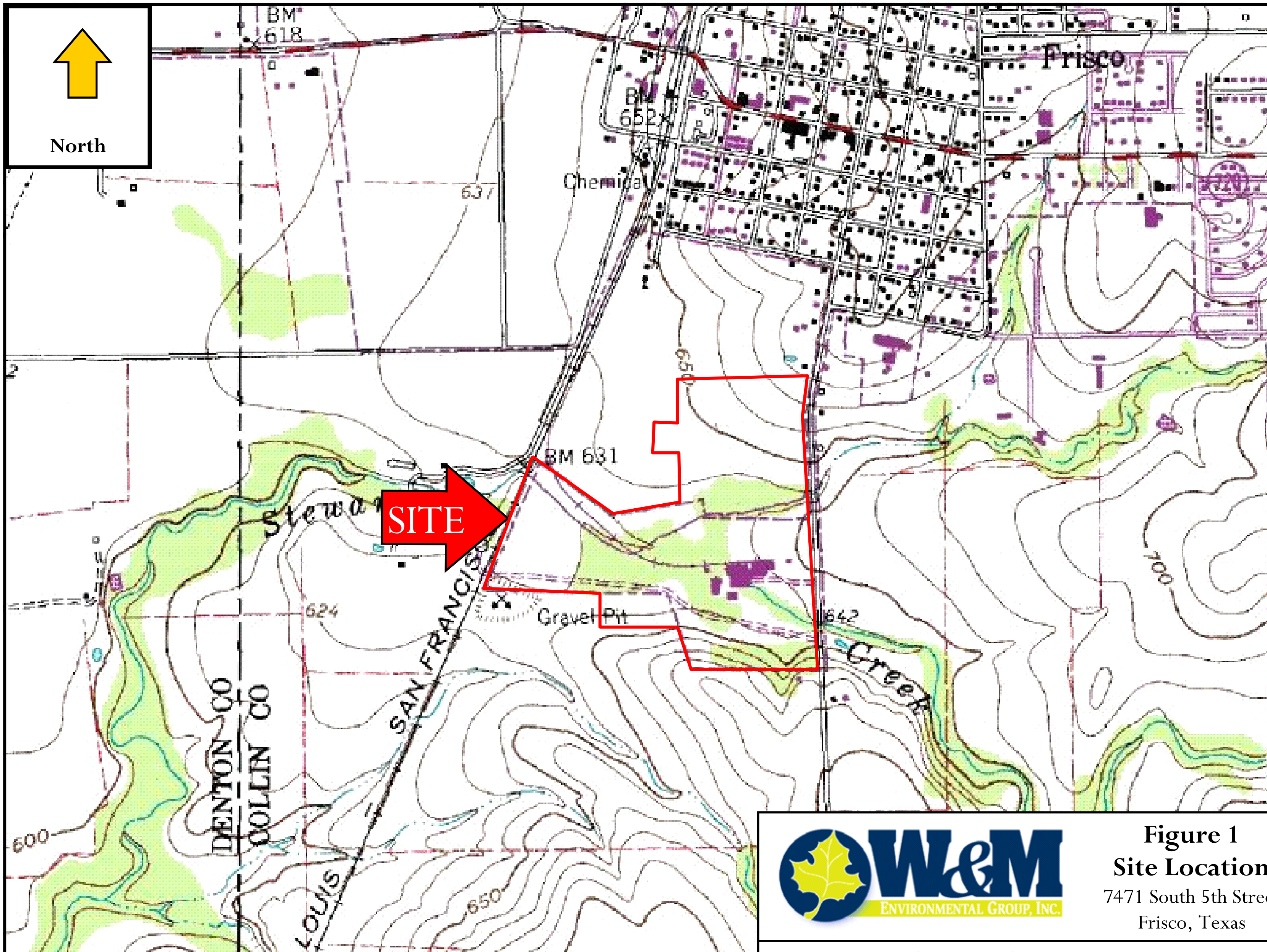
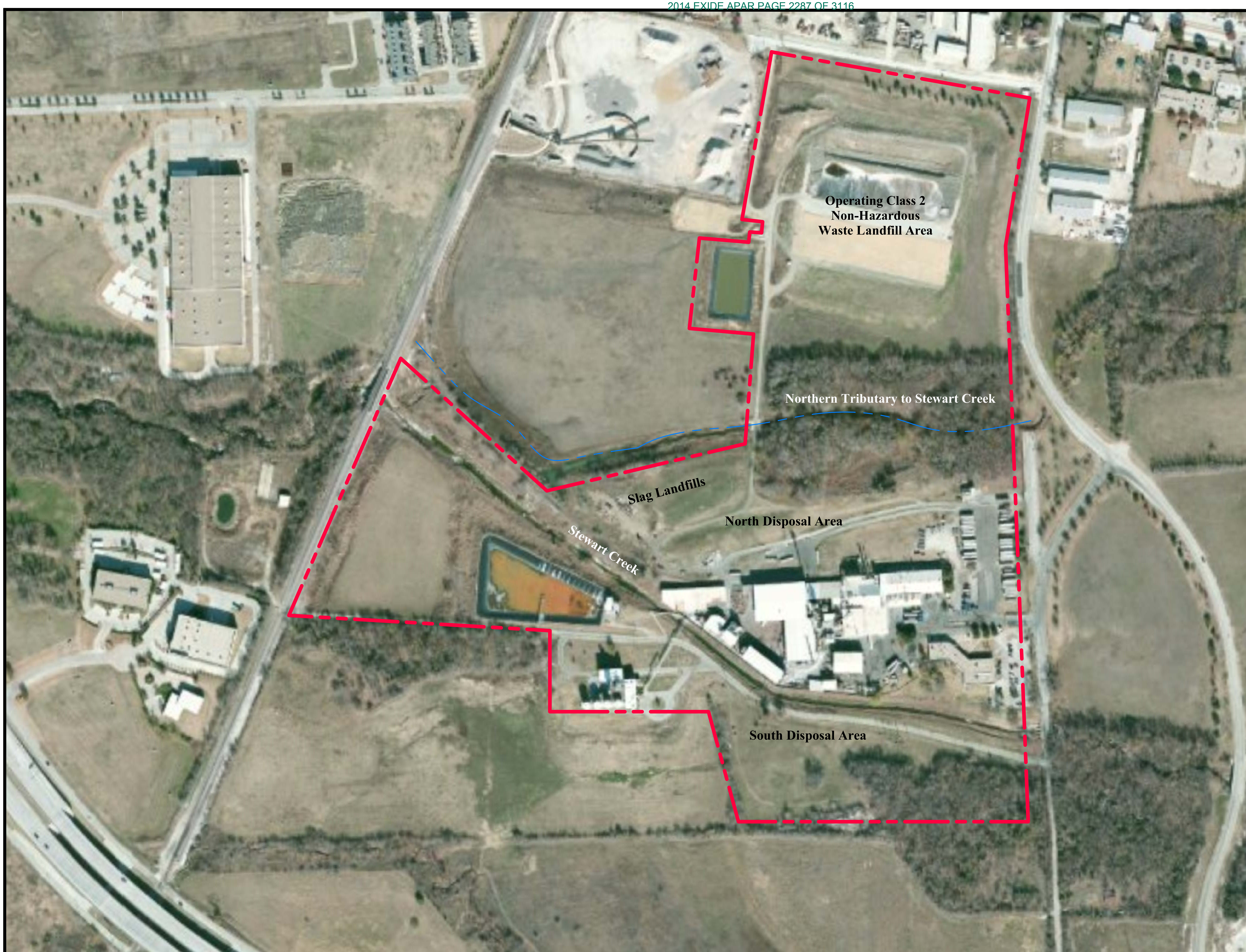


Figure 1
Site Location
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.

10-14-13	Slag Removal	W&M Project No.: 112.072



Legend

Interim Action Boundary (Approximate)

N

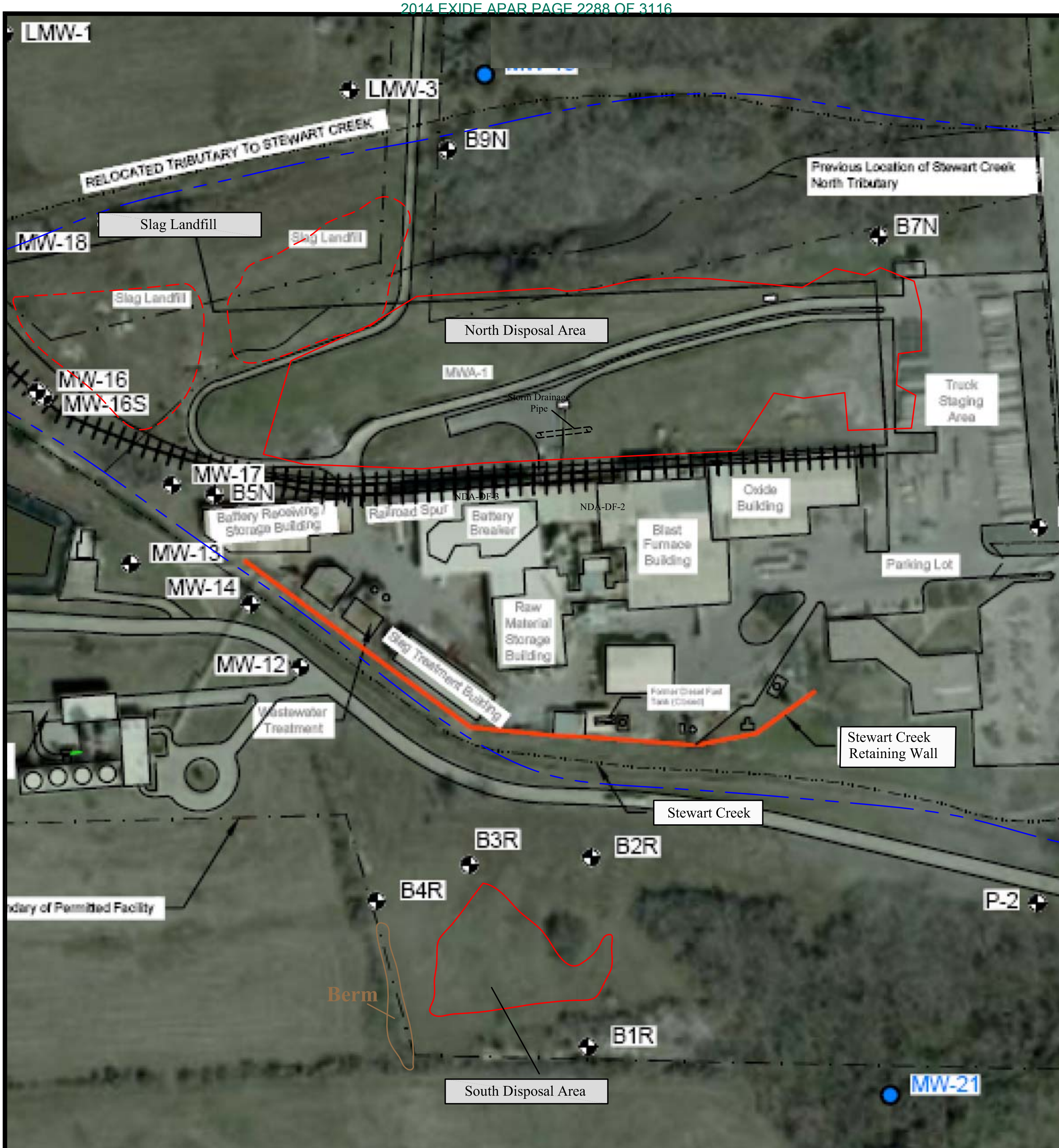
0' 330' 660'

APPROXIMATE SCALE
1"=330'

Figure 2
Site Map
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.
www.wh-m.com

10/14/2013	W&M Project No. 112.072	Disposal Area Investigation	Drawn by: BV	Revised: JPM



Legend

Mapped Disposal Area Boundaries per 1993 RFI

Slag Disposal Areas per Waste Summary of Investigations in Waste Management Areas - July 2011

Monitoring Well/Boring Locations from RFI

0' 200' 400'

APPROXIMATE SCALE
1"=200'

N

Figure 3
North and South Disposal Areas and Slag Landfill

7471 South 5th Street
Frisco, Texas

W&M ENVIRONMENTAL GROUP, INC.
www.wh-m.com

10/14/2013	W&M Project No. 112.072	Disposal Area Investigation	Drawn by: SDF

Legend

Individual Fragments of Slag Material	Mapped Disposal Area Boundary per 1993 RFI
Individual/Small Clusters of Battery Case Fragments	S-X Slag Sample
Clusters/Large Fragments of Slag Material	PL-X Plastic battery casing sample
Battery Case Fragments	

0' 100' 200'

APPROXIMATE SCALE
1"=100'

Figure 4
South Disposal Area
7471 South 5th Street
Frisco, Texas

W&M ENVIRONMENTAL GROUP, INC.
www.wh-m.com

10/14/2013	W&M Project No. 112.072	Drawn by: SF	Revised: JPM

Legend

⬠	Individual Fragments of Slag Material	S-X	Slag Sample
☐	Individual/Small Clusters of Battery Case Fragments	PL-X	Plastic battery casing sample
⬠	Clusters/Large Fragments of Slag Material		
☐	Battery Case Fragments		

0' 125' 250'
APPROXIMATE SCALE

N

Figure 6
Stewart Creek
7471 South 5th Street
Frisco, Texas

W&M Environmental Group, Inc.
www.wh-m.com

3/22/13	W&M Project No. 112.072	Drawn by: BV

Legend

⬠	Individual Fragments of Slag Material		Mapped Disposal Area Boundary per 1993 RFI
□	Individual/Small Clusters of Battery Case Fragments		
⬠	Clusters/Large Fragments of Slag Material		Slag Disposal Areas per Waste Summary of Investigations In Waste Management Areas - July 2011
□	Battery Case Fragments		
S-X	Slag Sample		
PL-X	Plastic battery casing sample		

0' 115' 230'

APPROXIMATE SCALE
1"=115'

Figure 5
North Disposal Area and Slag Landfill
7471 South 5th Street
Frisco, Texas

W&M ENVIRONMENTAL GROUP, INC.
www.wh-m.com

10/14/2013	W&M Project No. 112.072	Drawn by: SF	Revised: JPM

Legend

⬠	Individual Fragments of Slag Material
□	Individual/Small Clusters of Battery Case Fragments
⬠	Clusters/Large Fragments of Slag Material
□	Battery Case Fragments
S-X	Slag Sample
PL-X	Plastic battery casing sample

0' 250' 500'
APPROXIMATE SCALE

N

3/22/13	W&M Project No. 112.072	Disposal Area Investigation	Drawn by: BV

Figure 7
Operating Class 2 Non-Hazardous Waste Landfill Area
7471 South 5th Street
Frisco, Texas

W&M ENVIRONMENTAL GROUP, INC.
www.wh-m.com

TABLES

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

Exide Technologies
7471 South 5th Street
Frisco, Texas

Site Location	Material Designation	Latitude[1]	Longitude[1]	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											
South Disposal Area	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	---	---	---	---
	Slag-9	33.138499°	-96.828468°	Individual surface slag fragment	Slag picked up directly on chalk outcrop (no soil to sample)	---	---	---	---	---	---	---
	Slag-10	33.138431°	-96.828235°	Individual surface slag	Removed	5,903	5,258	5,581	5,648	1.2	---	
	Slag-11	33.138611°	-96.828736°	Individual surface slag	Removed	1,166	1,225	1,196	---	---	---	---
	Slag-12	33.138656°	-96.828420°	Individual surface slag	Removed	71	73	72	---	---	---	---
	Slag-13	33.138618°	-96.828328°	Individual surface slag	Removed	2,180	2,530	2,355	---	---	---	---
	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	---	---	---	---
	Slag-16	33.138585°	-96.828041°	Individual surface slag	Removed	6,494	6,583	6,539	---	---	---	---
	Slag-17	33.138940°	-96.828070°	Individual surface slag	Not found	---	---		---	---	---	---
	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 fragment	Removed	128,000	126,000	127,000	---	---	---	---
	Slag-24-2					60,000	81,000	70,500	56,000	22.9	---	---
	Slag-25-1	33.139022°	-96.827278°	Individual surface slag fragment	Removed	383,000	390,000	386,500	365,000	5.7	---	---
	Slag-25-2					4,703	5,128	4,916	5,428	9.9	---	---
North Disposal Area	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	---	---	---	---
	Slag-33	33.141016°	-96.827307°	Individual surface slag	Concrete Not Slag	---	---	---	---	---	---	---
	Slag-34	33.141063°	-96.827364°	Individual surface slag	Removed	22,000	23,000	22,500	---	---	---	---
	Slag-35	33.141001°	-96.827809°	Individual surface slag	Removed	50,000	42,000	46,000	41,000	11.5	15,600	98.7
	Slag-36	33.140974°	-96.827894°	Individual surface slag	Removed	39,000	37,000	38,000	---	---	---	---
	Slag-37	33.141050°	-96.827946°	Individual surface slag	Removed	31,000	23,000	27,000	---	---	---	---
	Slag-38	33.141109°	-96.827876°	Individual surface slag	Removed	26,000	14,000	20,000	---	---	---	---
	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	---	---	---	---
	Slag-41	33.141120°	-96.828371°	Individual surface slag	Removed	58,000	42,000	50,000	---	---	---	---
	Slag-42	33.141217°	-96.828494°	Individual surface slag	Concrete Not Slag	---	---		---	---	---	---
	Slag-43	33.141180°	-96.828714°	Individual surface slag	Removed	19,000	27,000	23,000	---	---	---	---
	Slag-44	33.141103°	-96.828698°	Individual surface slag	Large slag button in ground	---	---		---	---	---	---
	Slag-45	33.141067°	-96.828925°	Individual surface slag	Removed	46,000	42,000	44,000	---	---	---	---
	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	---	---	---	---
	Slag-48	33.141026°	-96.829806°	Individual surface slag	Removed	21,000	15,000	18,000	---	---	---	---
	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	---	---	---	---

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

Exide Technologies
7471 South 5th Street
Frisco, Texas

Site Location	Material Designation	Latitude[1]	Longitude[1]	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 (cont'd)											
North Disposal Area (cont'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	---	---	---	---
	Slag-55	33.141943°	-96.830564°	Individual surface slag	Large slag fragment cound not	---	---		---	---	---	---
	Slag-56	33.141785°	-96.829957°	Individual surface slag	Not found	---	---		---	---	---	---
	Slag-57	33.141710°	-96.829914°	Individual surface slag	Removed	3,799	3,731	3,765	---	---	---	---
	Slag-58	33.141715°	-96.829803°	Individual surface slag	Not found				---	---	---	---
	Slag-59	33.141473°	-96.829704°	Individual surface slag	Removed	434	399	417	451	8.0	372	11.3
	Slag-60	33.141654°	-96.829637°	Individual surface slag	Not found	---	---		---	---	---	---
	Slag-61	33.141644°	-96.829306°	Individual surface slag	Not found	---	---		---	---	---	---
	Slag-62	33.141865°	-96.829207°	Individual surface slag	Removed	16,000	16,000	16,000	---	---	---	---
	Slag-63	33.141984°	-96.829487°	Individual surface slag	Railroad Ballast, Not Slag	---	---		---	---	---	---
	Slag-64	33.142030°	-96.829328°	Individual surface slag	Not found	---	---	---	---	---	---	---
	Slag-65	33.142055°	-96.829960°	Individual surface slag	Removed	4,065	4,309	4,187	---	---	---	---
	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	---	---	---	---
	Slag-68	33.141728°	-96.828037°	Individual surface slag	Removed	21,000	19,000	20,000	---	---	---	---
	Slag-69	33.141752°	-96.827980°	Individual surface slag	Removed	17,000	19,000	18,000	---	---	---	---
	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	---	---	---	---
Stewart Creek	Slag-75	33.139851	-96.830809	Large Fragments in Bank	Native Rock, Not slag	---	---	---	---	---	---	---
	Slag-76-1	33.140198	-96.829193	Small Fragments in Bank	Removed	319	478	399	---	---	---	---
	Slag-76-2			Small Fragments in Bank	Removed	402	413	408	---	---	---	---
	Slag-77-1	33.140858	-96.830196	Large Fragments in Bank	Large slag buttons in ground	4,496	4,820	4,658	---	---	---	---
	Slag-77-2			Large Fragments in Bank	Large slag buttons in ground	4,923	5,745	5,334	---	---	---	---
	Slag-78-1	33.140865	-96.830209	Large Fragments in Bank	Large slag buttons in ground	3,406	8,183	5,795	---	---	---	---
	Slag-78-2			Large Fragments in Bank	Large slag buttons in ground	471	493	482	---	---	---	---
	Slag-79	33.141295	-96.830845	Large Fragments in Bank	Large slag buttons in ground	152	189	171	---	---	---	---
	Slag-80-1	33.141386	-96.830926	Large Fragments in Bank	Large slag buttons in ground	BDL	BDL	49	BDL	---	266	137.8
	Slag-80-2			Large Fragments in Bank	Large slag buttons in ground	97	BDL	97	---	---	---	---
	Slag-80-3			Large Fragments in Bank	Large slag buttons in ground	102	BDL	102	---	---	---	---
	Slag-81-1	33.141509	-96.831117	Large Fragments in Bank	Large slag buttons in ground	304	304	304	---	---	2,250	152.4
	Slag-81-2			Large Fragments in Bank	Large slag buttons in ground	620	398	509	---	---	---	---
	Slag-82	33.141570	-96.831099	Small Fragments in Bank	Removed	BDL	72	72	---	---	---	---
	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 smaller fragments	125	94	110	---	---	---	---
	Slag-84-2					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	---	---	---	---
North Landfill Area	Slag-87	33.145460	-96.827074	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---
	Slag-88	33.144404	-96.826258	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---
	Slag-89	33.144156	-96.827996	Small Fragment	Removed	177	199	188	---	---	---	---
	Slag-90	33.143626	-96.826234	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---
	Slag-91	33.143270	-96.826199	Small Fragment	Native Rock, Not Slag	---	---		---	---	---	---
	Slag-92	33.143257	-96.826849	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---
	Slag-93	33.143260	-96.827165	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---
Former Fire Training Area	Slag-94	33.141828	-96.826013	Small Fragment	Not found	---	---		---	---	---	---
	Slag-95	33.141850	-96.826067	Small Fragment	Removed	5,031	7,476	6,254	---	---	---	---
	Slag-96	33.141836	-96.826031	Large Fragment	Large Button in ground	---	---		---	---	---	---
	Slag-97	33.141893	-96.825990	Small Fragment	Removed	6,935	5,668	6,302	---	---	---	---
	Slag-98	33.141853	-96.825660	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---
	Slag-99	33.142338	-96.825668	Small Fragment	Native Rock, Not slag	---	---		---	---	---	---

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

Exide Technologies
7471 South 5th Street
Frisco, Texas

Site Location	Material Designation	Latitude[1]	Longitude[1]	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 Battery Case Fragments											
South Disposal Area	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	26,000	27,000	---	---	---	---
	Plastic-6	33.138484°	-96.828728°	Small Fragment	Removed	20,000	21,000	20,500	---	---	---	---
	Plastic-7	33.138675°	-96.827496°	Small Fragment	Removed	9,422	9,429	9,426	---	---	---	---
	Plastic-8	33.138678°	-96.828028°	Small Fragment	Previously Capped portion of SDA	---	---	---	---	---	---	---
	Plastic-9	33.138584°	-96.828346°	Small Fragment	Clay pigeon fragment, Not battery casing	---	---	---	---	---	---	---
	Plastic-10	33.139215°	-96.828764°	Small Fragment	Removed	8,436	11,000	9,718	---	---	---	---
	Plastic-11	33.139185°	-96.828297°	Small Fragment	Removed	9,471	8,857	9,164	---	---	---	---
	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	---	---	---	---
	Plastic-14	33.138856°	-96.827732°	Small Fragment	Removed	3,184	3,024	3,104	---	---	---	---
	Plastic-15	33.138850°	-96.827504°	Small Fragment	Removed	65,000	56,000	60,500	---	---	---	---
	Plastic-16	33.138982°	-96.827482°	Small Fragment	Removed	3,803	3,404	3,604	---	---	---	---
	Plastic-17	33.139159°	-96.827685°	Small Fragment	Removed	9,125	7,339	8,232	---	---	---	---
	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	---	---	---	---
North Disposal Area	Plastic-25-1	33.141027°	-96.827761°	3 to 6-inch Slag fragments	Removed	39,000	41,000	40,000	---	---	---	---
	Plastic-25-2					199,000	130,000	164,500	---	---	---	---
	Plastic-25-3					42,000	45,000	43,500	41,000	---	14,000	102.6
	Plastic-26-1	33.141035°	-96.828216°	3 to 6-inch Slag fragments	Removed	57,000	55,000	56,000	---	---	---	---
	Plastic-26-2			3 to 6-inch Slag fragments		29,000	23,000	26,000	---	---	---	---
	Plastic-27-1	33.141066°	-96.828816°	3 to 6-inch Slag fragments	Removed	31,000	26,000	28,500	---	---	---	---
	Plastic-27-2			3 to 6-inch Slag fragments		6,526	7,219	6,873	---	---	---	---
	Plastic-28-1	33.140931°	-96.829423°	3 to 6-inch Slag fragments	Removed	27,000	23,000	25,000	23,500	---	14,600	52.5
	Plastic-28-2			3 to 6-inch Slag fragments		51,000	52,000	51,500	---	---	---	---
	Plastic-29-1	33.140961°	-96.829566°	3 to 6-inch Slag fragments	Removed	5,878	7,243	6,561	6,150	---	5,090	25.2
	Plastic-29-2			3 to 6-inch Slag fragments		29,000	34,000	31,500	---	---	---	---
	Plastic-30-1	33.141560°	-96.830382°	3 to 6-inch Slag fragments	Removed	8,600	8,646	8,623	---	---	---	---
	Plastic-30-2			3 to 6-inch Slag fragments		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 Slag and Battery Chips											
Debris Clusters[1]	SDA DF-1-1	33.138506°	-96.827612°	Clusters of small chips and slag	Removed	490	486	488	---	---	---	---
	SDA DF-1-2					2,129	2,120	2,125	---	---	---	---
	SDA DF-1-3					3,568	3,404	3,486	---	---	---	---
	SDA DF-1-4					678	634	656	---	---	---	---
	SDA DF-1-5					4,887	5,000	4,944	---	---	---	---
	SDA DF-1-6					2,267	2,315	2,291	---	---	---	---
	NDA DF-2	33.141048°	-96.827420°	Densely vegetated area	No slag or plastic visible due to dense vegetation	---	---	---	---	---	---	---
	NDA DF-3-1	33.141024°	-96.828512°	Clusters of small chips and slag	Removed	35,000	33,000	34,000	---	---	---	---
	NDA DF-3-1					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

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 fragment	383,000	390,000	386,500	365,000	5.7	---	---
Slag-25-2				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

APPENDIX A

PHOTOGRAPH LOG

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.

W&M ENVIRONMENTAL GROUP, INC.

Appendix A
Photographic Log
Implementation of Slag Removal
Frisco, Texas

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.

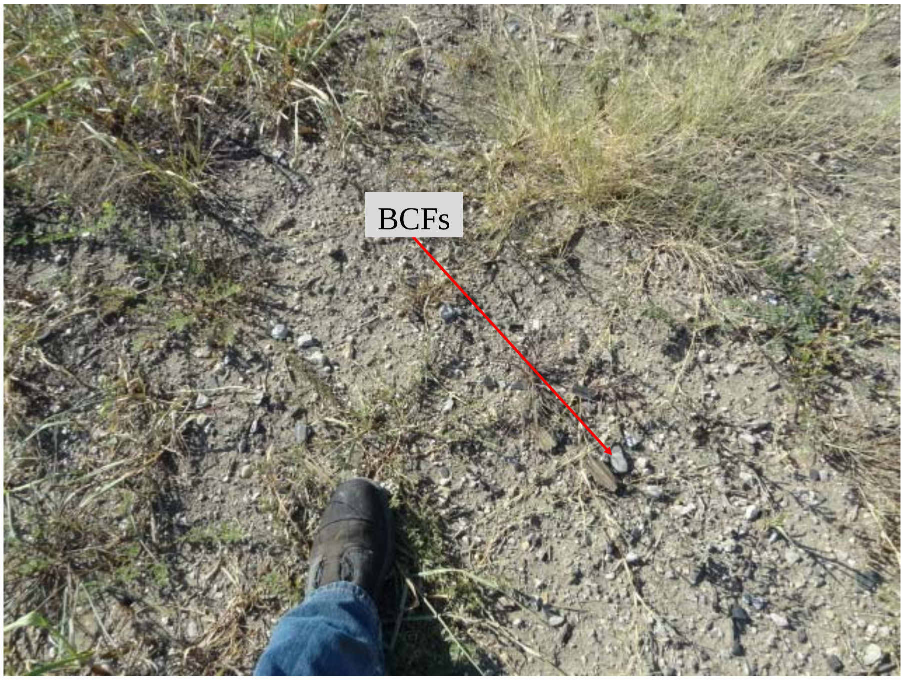


Photo 7: Typical BCFs scattered across exposed soil in the NDA.

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 air-borne 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

ALS Environmental

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,

Electronically approved by: Dayna.Fisher

Bernadette A. Fini
Project Manager

NELAP ACCREDITED TNI LABORATORY

Certificate No: TX: T104704231-13-12

ALS Environmental

Date: 09-Aug-13

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

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
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	☐

ALS Environmental

Date: 09-Aug-13

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

Case Narrative

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

ALS Environmental

Date: *09-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-6
Collection Date: 7/30/2013 11:01 AM

Work Order: 1308122
Lab ID: 1308122-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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: **SW3550**				Analyst: **KAH**
Percent Moisture	**9.18**		**0.010**	**0.0100**	**wt%**	1	8/8/2013 16:05

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

ALS Environmental

Date: *09-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-19
Collection Date: 7/30/2013 04:06 PM

Work Order: 1308122
Lab ID: 1308122-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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

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

ALS Environmental

09-Aug-13

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

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID 72052	**Test Name:** Metals					
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 R151903	**Test Name:** Moisture					
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

ALS Environmental

Date: 09-Aug-13

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

QC BATCH REPORT

Batch ID: **72052** Instrument ID **ICPMS03** Method: **SW6020**

MBLK Sample ID: **MBLKS1-080513-72052** Units: **mg/Kg** Analysis Date: **8/5/2013 11:40 PM**
Client ID: Run ID: **ICPMS03_130805A** SeqNo: **3312751** Prep Date: **8/5/2013** DF: **1**

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: **MLCSS1-080513-72052** Units: **mg/Kg** Analysis Date: **8/5/2013 11:46 PM**
Client ID: Run ID: **ICPMS03_130805A** SeqNo: **3312752** Prep Date: **8/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	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** Units: **mg/Kg** Analysis Date: **8/6/2013 12:07 AM**
Client ID: Run ID: **ICPMS03_130805A** SeqNo: **3312756** Prep Date: **8/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	8.505	0.484	9.678	0.2792	85	75-125				
Lead	17.99	0.484	9.678	10.63	76	75-125				

MSD Sample ID: **1308141-01AMSD** Units: **mg/Kg** Analysis Date: **8/6/2013 12:12 AM**
Client ID: Run ID: **ICPMS03_130805A** SeqNo: **3312757** Prep Date: **8/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	8.041	0.474	9.477	0.2792	81.9	75-125	8.505	5.6	25	
Lead	17.48	0.474	9.477	10.63	72.2	75-125	17.99	2.91	25	S

DUP Sample ID: **1308141-01ADUP** Units: **mg/Kg** Analysis Date: **8/5/2013 11:56 PM**
Client ID: Run ID: **ICPMS03_130805A** SeqNo: **3312754** Prep Date: **8/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	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 following samples were analyzed in this batch: 1308122-01A 1308122-02A

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

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

QC BATCH REPORT

Batch ID: **R151903** Instrument ID **Balance1** Method: **SW3550** **(Dissolve)**

DUP Sample ID: **1308335-06ADUP** Units: **wt%** Analysis Date: **8/8/2013 04:05 PM**

Client ID: Run ID: **BALANCE1_130808E** SeqNo: **3316645** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	8.751	0.0100					8.023	8.68	20	

The following samples were analyzed in this batch: 1308122-01A 1308122-02A

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

ALS Environmental

Date: 09-Aug-13

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
WorkOrder: **1308122**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	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	Description
mg/Kg-dry	Milligrams per Kilogram - Dry weight corrected
wt%	

ALS Environmental

Sample Receipt Checklist

Client Name: **EXIDE TECHNOLOGIES**

Date/Time Received: **02-Aug-13 08:45**

Work Order: **1308122**

Received by: **WTJ**

Checklist completed by *William Jenkins* (eSignature) 02-Aug-13 (Date)

Reviewed by: *Bernadette A. Fini* (eSignature) 05-Aug-13 (Date)

Matrices: WATER

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
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 C/U	IR1	
Cooler(s)/Kit(s):	SM/RED		
Date/Time sample(s) sent to storage:	8/2/13 17:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

☑ ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody For

Page 1 of 1

1308122

EXIDE TECHNOLOGIES: Exide Technologies

Project: Exide Landfill

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	EXIDE SLAG REMOVAL	A	TOTAL Pb & Cd 6010/6020
Work Order		Project Number	112.072.002	B	
Company Name	EXIDE TECHNOLOGIES	Bill To Company	Exide Technologies	C	
Send Report To	VANESSA COLEMAN	Invoice Attn	Vanessa Coleman	D	
Address	7471 South 5th St.	Address	7471 South 5th St.	E	
				F	
City/State/Zip	Frisco, TX 75034	City/State/Zip	Frisco, TX 75034	G	
Phone	(972) 335-2121	Phone	(972) 335-2121	H	
Fax		Fax		I	
e-Mail Address	fclark@wh-m.com	e-Mail Address	fclark@wh-m.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-6	7/30/13	11:01	~~TCC~~ SS	Ice	1	X										
2	S-19	7/30/13	16:06	SS	Ice	1	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: B. VOLLMAR [signature]

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ______

Results Due Date:

Relinquished by: [signature]	Date: 8/1/13	Time: 13:00	Received by: FedEx
Relinquished by:	Date:	Time:	Received by (Laboratory): [signature] 8/2/13 0845
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: Standard T.A.T., L.R.C. + Dry weight

Cooler ID	Cooler Temp
Sn/Bl	3.9

QC Package: (Check One Box Below)
- ☑ Level II Std QC
- ☐ Level III Std QC/Raw Date
- ☐ Level IV SW846/CLP
- ☐ Other ______
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. 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.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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 21.

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

Sincerely,

Electronically approved by: Bernadette A. Fini

Bernadette A. Fini
Project Manager

Certificate No: TX: T104704231-13-12

ALS Environmental

Date: 23-Aug-13

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

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
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	☐

ALS Environmental

Date: 23-Aug-13

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

Case Narrative

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.

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-59
Collection Date: 8/10/2013 10:02 AM

Work Order: 1308600
Lab ID: 1308600-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: **SW6020**			Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-53
Collection Date: 8/10/2013 09:30 AM

Work Order: 1308600
Lab ID: 1308600-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 8/19/13		Analyst: **SKS**
Cadmium	**3.25**		**0.0414**	**0.414**	**mg/Kg-dry**	1	8/19/2013 16:03
Lead	**313**		**0.414**	**4.14**	**mg/Kg-dry**	10	8/21/2013 13:21
MOISTURE			Method: **SW3550**				Analyst: **KAH**
Percent Moisture	**4.57**		**0.010**	**0.0100**	**wt%**	1	8/21/2013 12:25

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-73-2
Collection Date: 8/10/2013 01:16 PM

Work Order: 1308600
Lab ID: 1308600-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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**				Analyst: **KAH**
Percent Moisture	**2.39**		**0.010**	**0.0100**	**wt%**	1	8/21/2013 12:25

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-35
Collection Date: 8/12/2013 08:18 AM

Work Order: 1308600
Lab ID: 1308600-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-80-1
Collection Date: 8/13/2013 11:35 AM

Work Order: 1308600
Lab ID: 1308600-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: **SW6020**			Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-81-1
Collection Date: 8/13/2013 11:55 AM

Work Order: 1308600
Lab ID: 1308600-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: PL-25-3
Collection Date: 8/13/2013 12:58 PM

Work Order: 1308600
Lab ID: 1308600-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: S-29
Collection Date: 8/13/2013 01:03 PM

Work Order: 1308600
Lab ID: 1308600-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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			Method: **SW3550**				Analyst: **KAH**
Percent Moisture	**4.43**		**0.010**	**0.0100**	**wt%**	1	8/21/2013 12:25

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: PL-31-1
Collection Date: 8/13/2013 01:08 PM

Work Order: 1308600
Lab ID: 1308600-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: PL-28-1
Collection Date: 8/13/2013 01:40 PM

Work Order: 1308600
Lab ID: 1308600-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: **SW6020**		Prep: SW3050A / 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

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

ALS Environmental

Date: *23-Aug-13*

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
Sample ID: PL-29-1
Collection Date: 8/13/2013 01:49 PM

Work Order: 1308600
Lab ID: 1308600-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method:	**SW6020**		Prep: SW3050A / 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:	**SW3550**				Analyst: **KAH**
Percent Moisture	**0.188**		**0.010**	**0.0100**	**wt%**	1	8/21/2013 12:25

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

ALS Environmental

Date: 23-Aug-13

Client: Exide Technologies

Work Order: 1308600

Project: Exide Slag Removal-112.072.002

QC BATCH REPORT

Batch ID: **72355** Instrument ID **ICPMS04** Method: **SW6020**

MBLK Sample ID: **MBLKS1-081913-72355** Units: **mg/Kg** Analysis Date: **8/19/2013 03:34 PM**

Client ID: Run ID: **ICPMS04_130819A** SeqNo: **3325968** 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	U	0.500								
Lead	U	0.500								

LCS Sample ID: **MLCSS1-081913-72355** Units: **mg/Kg** Analysis Date: **8/19/2013 03:39 PM**

Client ID: Run ID: **ICPMS04_130819A** SeqNo: **3325969** 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: **mg/Kg** Analysis Date: **8/19/2013 04:50 PM**

Client ID: **S-35** Run ID: **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	15920	6000	75-125				SEO

MSD Sample ID: **1308600-04AMSD** Units: **mg/Kg** Analysis Date: **8/19/2013 04:55 PM**

Client ID: **S-35** Run ID: **ICPMS04_130819A** SeqNo: **3326945** 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	15920	-16600	75-125	16480	12.5	25	SEO

DUP Sample ID: **1308600-04ADUP** Units: **mg/Kg** Analysis Date: **8/21/2013 12:52 PM**

Client ID: **S-35** Run ID: **ICPMS04_130821A** SeqNo: **3328173** Prep Date: **8/19/2013** DF: **200**

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 following samples were analyzed in this batch:

1308600-01A	1308600-02A	1308600-03A
1308600-04A	1308600-05A	1308600-06A
1308600-07A	1308600-08A	1308600-09A
1308600-10A	1308600-11A	

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

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

QC BATCH REPORT

Batch ID: **R152600** Instrument ID **Balance1** Method: **SW3550** **(Dissolve)**

DUP Sample ID: **1308635-02ADUP** Units: **wt%** Analysis Date: **8/21/2013 12:25 PM**

Client ID: Run ID: **BALANCE1_130821A** SeqNo: **3329176** Prep Date: DF: **1**

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 analyzed in this batch:

1308600-01A	1308600-02A	1308600-03A
1308600-04A	1308600-05A	1308600-06A
1308600-07A	1308600-08A	1308600-09A
1308600-10A	1308600-11A	

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

ALS Environmental

Date: 23-Aug-13

Client: Exide Technologies
Project: Exide Slag Removal-112.072.002
WorkOrder: **1308600**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	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	Description
mg/Kg-dry	Milligrams per Kilogram - Dry weight corrected
wt%	

ALS Environmental

Sample Receipt Checklist

Client Name: **EXIDE TECHNOLOGIES** Date/Time Received: **15-Aug-13 09:20**

Work Order: **1308600** Received by: **WTJ**

Checklist completed by	Makenzie L. Henderson (eSignature)	15-Aug-13 (Date)	Reviewed by:	Bernadette A. Fini (eSignature)	16-Aug-13 (Date)

Matrices: Soil
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
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):	1.7c/1.7c C/U	IR1	
Cooler(s)/Kit(s):	3109		
Date/Time sample(s) sent to storage:	8/15/13 11:18		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 2

1308600

EXIDE TECHNOLOGIES: Exide Technologies

Project: Exide Slag Removal-112.072.002

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	EXIDE SLAG REMOVAL	A	TOTAL Pb & Cd 6010/6020
Work Order		Project Number	112.072.002	B	
Company Name	EXIDE TECHNOLOGIES	Bill To Company	EXIDE TECHNOLOGIES	C	
Send Report To	VANESSA COLEMAN	Invoice Attn	VANESSA COLEMAN	D	
Address	7471 SOUTH 5TH ST.	Address	Same	E	
				F	
City/State/Zip	FRISCO, TX 75034	City/State/Zip		G	
Phone	(972) 335-2121	Phone		H	
Fax		Fax		I	
e-Mail Address	fclark@wh-m.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-59	8/10/13	10:02	SS	ICE	1	X										
2	S-53		9:30														
3	S-73-2		13:16														
4	S-35	8/12/13	8:18														
5	S-80-1	8/13/13	11:35														
6	S-81-1		11:55														
7	PL-25-3		12:58														
8	S-29		13:03														
9	PL-31-1		13:08														
10	PL-28-1		13:40														

Sampler(s) Please Print & Sign: BRENT VOLLMAR [signature]

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ______

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
[signature]	8/14/13	18:00	[signature] 8/15/13 0900
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: STANDARD TAT, LRL & Dry weight

Cooler ID	Cooler Temp
309	1.7

QC Package: (Check One Box Below)
- ☑ Level II Std QC
- ☐ Level III Std QC/Raw Date
- ☐ Level IV SW846/CLP
- ☐ Other ______
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. 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.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Forı

Page 2 of 2

1308600

EXIDE TECHNOLOGIES: Exide Technologies

Project: Exide Slag Removal-112.072.002

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	EXIDE SLAG REMOVAL	A	TOTAL Pb & Cd 6010/6020
Work Order		Project Number	112.072.002	B	
Company Name	EXIDE TECHNOLOGIES	Bill To Company	EXIDE TECHNOLOGIES	C	
Send Report To	VANESSA COLEMAN	Invoice Attn	Same	D	
Address	7471 SOUTH 5TH ST.	Address		E	
				F	
City/State/Zip	FRISCO, TX 75034	City/State/Zip		G	
Phone	(972) 335-2121	Phone		H	
Fax		Fax		I	
e-Mail Address	fclark@wh-m.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	PL-29-1	8/13/13	13:49	SS	Ice	1	X										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: BRENT VOLLMAR [signature]

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ______

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
[signature]	8/14/13	18:00	[signature] 8/15/13 0930

Relinquished by:	Date:	Time:	Received by (Laboratory):

Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: Std. T.A.T., LRL & Dry weight

Cooler ID	Cooler Temp
3109	1.7

QC Package: (Check One Box Below)
- ☑ Level II Std QC
- ☐ Level III Std QC/Raw Date
- ☐ Level IV SW846/CLP
- ☐ Other ______
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. 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.
3. The Chain of Custody is a legal document. All information must be completed accurately.

UNITED STATES US

CAD: /POS1400
DIMS: 17x11x14 IN
BILL RECIPIENT

TO

ALS LAB GP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099
(281) 530-5666 REF:
INV:
PO: DEPT:

FedEx Express

E

THU - 15 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 0215 **8013 8013 0694**

43 SGRA

77099
TX-US **IAH**

156297-435 RIT2 03/13

J131113021201 26

1308600

3109

APPENDIX C

DAILY QA REPORTS - PERIMETER AIR MONITORING

W&M ENVIRONMENTAL GROUP, INC.

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 25th through Monday, July 29th.***

☐	**Decontamination**	☐	**Facility Demolition**	☐	**Landfill Remediation**
☒	**Interim Action - Pickup of Surface Slag and Plastic Battery Casing Fragments**				

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

		Description	Details	Remarks
☒	A	Daily Summary Report	Real-time particulate monitoring, wind speed & direction	1
☒	B	Take Action/Stop Work Notifications	Response actions taken due to high wind, shift in wind direction, elevated real-time particulate readings	
☒	C	Field Data Sheet – E-BAMs	E-BAM particulate monitoring (PM) positions and locations	
☒	D	Field Data Sheet – Low Vols	Details for low-volume samples for Pd/Cd	
☒	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	

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 W Clark

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

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

O Facility Decontamination O Demolition O Landfill Remediation

⦻ Slag and Chip Removal

Date	Time Interval (30-min blocks)	E-BAM G4527 30-min avg (mg/m^3)	E-BAM F5001 30-min avg (mg/m^3)	E-BAM G4605 30-min avg (mg/m^3)	E-BAM G4607 30-min avg (mg/m^3)	E-BAM G4606 30-min avg (mg/m^3)	E-BAM G4604 30-min avg (mg/m^3)	E-BAM Gxxxx 30-min avg (mg/m^3)	Wind Direction (30-min avg from N)	Wind Speed (30-min avg mph)
		Upwind	Downwind	Downwind	Downwind	Downwind	Downwind	Downwind		
7/30/2013	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
	11:30-11:59	0.045	0.020	0.018	0.029	0.040	0.035		191	10.4
	12:00-12:29	0.032	0.023	0.027	0.013	0.035	0.032		194	8.9
	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	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
Daily Averages ----->		**0.060**	**0.025**	**0.023**	**0.024**	**0.023**	**0.053**		**184**	**9.2**

Notes:

- Data reported below 0 mg/m^3 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
7/30/2013	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
	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	> 0.1	**Up wind monitor. Monitor was located down wind of the road construction work on Stonebrook Parkway**
	8:59:13	Upwind Monitor	Informational	PM10 - 30min Avg	STOP WORK LEVEL - PM10 Trigger Condition (Stn G - G4527 -Up wind)	0.261	> 0.2	**Up wind monitor. Monitor was located down wind of the road construction work on Stonebrook Parkway**
	8:59:13	Upwind Monitor	Informational	PM10 - 60min Avg	STOP WORK LEVEL - PM10 (60-min) Trigger Condition (Stn G - G4527 -Up wind)	0.169	> 0.1	**Up wind monitor. Monitor was located down wind of the road construction work on Stonebrook Parkway**

FIELD DATA SHEETS – E-BAMS

ATTACHMENT C

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

RSI Project No: 21252/21238 **Exide, Frisco TX**

Project Name: Facility Demolition/Decontamination

Technician Name: Rick Barnard **Sampling Date** 7-30-13

E-BAM SN	G4607	G4604	G4606	G4527	G4605	F5001	G4729
Upwind				X			
Downwind	X	X	X		X	X	
GPS LOCATION							
Latitude	33.14451	33.14237	33.14327	33.13568	33.14460	33.14580	
Longitude	-96.82570	-96.82514	-96.8322	-96.82729	-96.83119	-96.82826	
EBAM PAIRED WITH LOW VOL PUMP?	NO	yes	yes	yes	yes	yes	
START TIME:	7:00	7:00	7:00	7:00	7:00	7:00	
END TIME:	17:59	17:59	17:59	17:59	17:59	17:59	

Daily Working Times Summary
Exide Technologies
Frisco Texas

Date Work Performed: 7-30-13

~~Building Demolition Activities~~

Slag/chip Removal

Start Time	08:30	Stop Time	10:21
Start Time	10:36	Stop Time	11:30
Start Time	13:15	Stop Time	13:58
Start Time	14:58	Stop Time	17:00

Landfill Waste Stabilization Activities

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

FIELD DATA SHEETS –
LOW VOLUME SAMPLERS

ATTACHMENT D

FIELD DATA SHEET
Low Volume Air Monitoring

Company:	RSI
Project:	Exide, Frisco TX
Project Number	21252/21238
Project Name (Demo, Landfill Stab, etc)	Decon/Demo
Technician Name:	Rick Barnard

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 Collected:	7-30-13

Pump No. 3013	1
Upwind	X
Downwind	
Sample ID #	ExDemo130730UW527
E-Bam Number	64527
Flow Rate: Start (L/min)	3.71L
Flow Rate: Stop (L/min)	3.42L
Avg Flow (L/min)	3.57L
Start time	6:55
End Time	17:00
Duration in minutes	595
Sample Volume (Liters)	2124L

Pump No. 3015	2
Upwind	
Downwind	X
Sample ID #	ExDemo130730DW606
E-Bam Number	64606
Flow Rate: Start (L/min)	3.79L
Flow Rate: Stop (L/min)	3.67L
Avg Flow (L/min)	3.73L
Start time	7:20
End Time	16:50
Duration in minutes	570
Sample Volume (Liters)	2126L

Pump No. 3018	5
Upwind	
Downwind	X
Sample ID #	ExDemo130730DW001
E-Bam Number	F5001
Flow Rate: Start (L/min)	3.78L
Flow Rate: Stop (L/min)	3.56L
Avg Flow (L/min)	3.61L
Start time	7:30
End Time	16:45
Duration in minutes	555
Sample Volume (Liters)	2004L

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 (Liters)	

Pump No. 3014	3
Upwind	
Downwind	X
Sample ID #	ExDemo130730DW604
E-Bam Number	64604
Flow Rate: Start (L/min)	3.69L
Flow Rate: Stop (L/min)	3.55L
Avg Flow (L/min)	3.62L
Start time	7:15
End Time	16:55
Duration in minutes	580
Sample Volume (Liters)	2100L

Pump No. 3017	4
Upwind	
Downwind	X
Sample ID #	ExDemo130730DW605
E-Bam Number	64605
Flow Rate: Start (L/min)	3.62L
Flow Rate: Stop (L/min)	3.44L
Avg Flow (L/min)	3.53L
Start time	7:22
End Time	16:48
Duration in minutes	566
Sample Volume (Liters)	1998L

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

Grant Sherwood
Remediation Services, Inc.
P.O. Box 587
2735 South 10th Street
Independence, KS 67301

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

Sample ID: **EXDEMO130730 UW527** Media: MCE Filter Collected: 07/30/2013
Lab ID: 1321211001 Sampling Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume 2124 L** **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	<0.18	0.38	1.3

Sample ID: **EXDEMO130730 DW604** Media: MCE Filter Collected: 07/30/2013
Lab ID: 1321211002 Sampling Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume 2100 L** **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	<0.18	0.38	1.3

Sample ID: **EXDEMO130730 DW606** Media: MCE Filter Collected: 07/30/2013
Lab ID: 1321211003 Sampling Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume 2126 L** **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	<0.18	0.38	1.3

Sample ID: **EXDEMO130730 DW605** Media: MCE Filter Collected: 07/30/2013
Lab ID: 1321211004 Sampling Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume 1998 L** **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

ANALYTICAL REPORT

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

Analytical Results

Sample ID: **EXDEMO130730 DW605** Media: MCE Filter Collected: 07/30/2013
Lab ID: 1321211004 Sampling Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume 1998 L** 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: **EXDEMO130730 DW001** Media: MCE Filter Collected: 07/30/2013
Lab ID: 1321211005 Sampling Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume 2004 L** 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 Location: Exide Frisco Received: 07/31/2013

Method: NIOSH 7300 Mod. **Sampling Parameter: Air Volume Not Applicable** 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 Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: 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.

Quality Control Sample Batch Report

Analysis Information

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

Analyte	Result	MDL	RL
Cadmium	ND	0.0225	0.0750
Lead	ND	0.375	1.25

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 345999
Analyzed: 07/31/2013 15:17
Dilution: 1
Units: ug/sample

LCSD: 346000
Analyzed: 07/31/2013 15:20
Dilution: 1
Units: ug/sample

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
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

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Environmental Laboratory	LRC Date: 08/01/2013
Project Name: Exide, Frisco	Laboratory Job Number: 1321211
Reviewer Name: Paul Pope	Prep Batch Number(s):

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		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?			X		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
		Were MS/MSD RPDs within laboratory QC limits?			X		
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?			X		
		Were all necessary corrective actions performed for the reported data?			X		
		Was applicable and available technology used to lower the SDL minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?			X		

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Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Environmental Laboratory	LRC Date: 08/01/2013
Project Name: Exide, Frisco	Laboratory Job Number: 1321211
Reviewer Name: Paul Pope	Reviewer Name: Paul Pope

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	**Raw data** (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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?			X		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		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 proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses 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	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Environmental Laboratory	LRC Date: 08/01/2013
Project Name: Exide, Frisco	Laboratory Job Number: 1321211
Reviewer Name: Paul Pope	Prep Batch Number(s):

ER#[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.

W 1321211

Chain of Custody

1321211 -

1. ☐ REGULAR Status

☒ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY 8-1-13
DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 7-30-13 Purchase Order No. 21252

3. Company Name Remediation Services, Inc.
Address PO Box 587
Independence, KS 67301
Person to Contact: Grant Sherwood
Telephone (620) 331-1200
Fax Telephone (620) 331-6216
E-mail Address gsherwood@rsi-ks.com
Billing Address (if different from above)

4. Quote No.
ALS Project Manager Paul Pope

5. Sample Collection
Sampling Site: Exide Frisco
Industrial Process: Decontamination and Demo
Date of Collection 7-30-13
Time Collected 7:00-17:00
Date of Shipment 7-30-13

Send Results to: gsherwood@rsi-ks.com, jrgillman@rsi-ks.com, vanessa.coleman@na.exide.com, droth@rsi-ks.com

Send Invoice to : strotter@rsi-ks.com

7. REQUEST FOR ANALYSES

W 07-31-13 HA

Laboratory Use Only	Client Sample Number	Matrix*	Sample Volume	ANALYSES REQUESTED - Use method number if known	Units**
	ExDemo130730U~~P~~W527	37 um MCE	2124L	NIOSH 7303 - Lead and Cadmium	ug/m^3
	ExDemo130730DW604	37 um MCE	2100L	NIOSH 7303 - Lead and Cadmium	ug/m^3
	ExDemo130730DW606	37 um MCE	2126L	NIOSH 7303 - Lead and Cadmium	ug/m^3
	ExDemo130730DW605	37 um MCE	1998L	NIOSH 7303 - Lead and Cadmium	ug/m^3
	ExDemo130730DW001	37 um MCE	2004L	NIOSH 7303 - Lead and Cadmium	ug/m^3
	ExDemo130730FB	37 um MCE		NIOSH 7303 - Lead and Cadmium	ug/m^3

EX-DEMO = Project (Exide-Demolition)
YYMMDD = Sampling date (e.g., 11/01/2012 = 121101)
LOC = Sample Location (e.g. UW = Upwind, DW = Downwind)
XXX = E-BAM Monitor Sample Association – Last 3 digits of Serial Number,
QQ = Optional QA sample flag (TB = trip blank, FB = field blank, SC = duplicate)

Comments LEAST POSSIBLE DETECTION LIMIT
Changed ID# UP527 to UW527 to match cassette
07-31-13 HA

Possible Contamination and/or Chemical Hazards: Lead and cadmium

7. Chain of Custody (Optional)

Relinquished by Rick Barnard Date/Time 7-30-13 18:00
Received by [signature] Date/Time 07-31-13 9:41
Relinquished by Date/Time
Received by Date/Time

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