



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

Inspection Date: March 15 - 16, 2010 EPA ID Number: not applicable

Facility Name: Frisco Neighborhood Soil Survey

Physical Location: Public areas within 1 mile of Exide Technologies
Frisco, Texas

Mailing Address: Mr. Ron Patterson
Assistant City Manager
6101 Frisco Square Blvd.
Frisco, TX 75034

Type of Ownership: Federal State County X Municipal Private/Commercial

Inspection Participants: (name and phone number)

Lead EPA Inspector: Melissa L. Smith 214-665-7357 Initials (3): M.L.S.

Other Participants:

Table with 3 columns: Name, Title, Phone No.
Paul James, US EPA Inspector 214-665-6445
Ryan Rosser, US EPA Inspector 214-665-2247
Patty Willis, US EPA Inspector 214-665-8356
Ron Patterson, Frisco Assistant City Manager 972-292-5102
Tim Sanz, Frisco ISD Env Health & Safety Coordinator 469-633-6340
Blake Vaughn, Frisco ISD Director of Maintenance 469-633-6000
Liz Scaggs, Southwest Geoscience Senior Project Manager 214-350-5469
Jason Minter, Southwest Geoscience 214-350-5469

Facility Description: Various public city-owned properties within approximately 1 mile of the Exide Technologies plant in Frisco, Texas.

Generator Status: Not applicable

LQG (>1000kg/mo) SQG (100kg/mo to 1000kg/mo) CESQG (<100kg/mo) TSDF

Inspection Type: X EPA Lead State Lead CSE CEI
CDI X Sampling Multi-Media Other

Reason for Evaluation:

(01)Follow up (02)Case Development X (03)Sampling
(04)Citizen Complaint (07)General (16)CAV
(63)US/Mexico (65)CAV-US/Mexico

Peer Reviewed by: [Signature]

Date: 1/20/2014

Summary of Inspection:

On March 15 and 16, 2010, staff from EPA’s Hazardous Waste Enforcement Branch and Air/Toxics and Inspection Coordination Branch, collected surface soil samples from thirteen (13) publicly accessible areas within approximately one mile of the Exide facility, as well as one location farther away as a background comparison. The purpose of the sampling was to determine the potential concentration of lead and cadmium in the surface soil to determine if additional investigation of residential areas is warranted and to document if there is a potential threat to human health or the environment from contaminant accumulation in soil due to emissions from the facility. Photographs taken during the sampling event are included in Attachment 1. Representatives from the City of Frisco were present during the sampling event and were provided with split samples.

EPA collected a total of thirty-eight (38) soil samples from the following fourteen (14) locations within in the City of Frisco (See Attachment 2 for a map of approximate sample locations):

- Frisco Independent School District (FISD) Child Development Center
- ZT Acker Special Programs Center and Office Complex
- Ida Lee Bright Elementary School
- Frisco High School
- Downtown Gazebo
- Gallegos Park
- First Street Park
- Frisco Heritage Center
- Senior Center at Frisco Square
- Grand Park
- Oakbrook Park
- Caddo Trail
- Frisco Police Headquarters
- Beavers Bend Park (background sample location)

EPA used sampling procedures recommended in the February 18, 2000, U.S. EPA Environmental Response Team Standard Operating Procedures for soil sampling and in the August 2003 EPA Superfund Lead-Contaminated Residential Sites Handbook. Specifically:

1. EPA delineated between one and four 50-square foot sampling squares at defined locations, depending on the size of the area. Each sample square was measured, flagged, and documented with Global Positioning System (GPS) coordinates;
2. A 5-point composite sample was collected from each sample square. Each sample was collected using a dedicated disposable plastic scoop, or a dedicated stainless steel trowel depending upon the consistency of the soil. Each composite was composed of 0 – 1 inch depth aliquots taken from the four corners and center of the sample square. Vegetation was removed prior to collection of the aliquots. The aliquots for each sample were placed into a dedicated resealable plastic bag and homogenized.
3. Each sample bag was scanned using a calibrated portable x-ray fluorescence (XRF)

analyzer to determine approximate lead and cadmium concentrations. Lithological data and XRF data were recorded for each sample on a Soil Grid Composite Log (Attachment 3).

4. Samples were transferred from the bags into four pre-cleaned 8-oz glass jars using dedicated disposable plastic scoops. Two jars for each sample were provided to the City of Frisco. The other two jars for each sample were labeled, custody-sealed, placed in sealed plastic bags with bubble wrap, placed in coolers with ice at 4° C, maintained under chain-of-custody, and shipped via overnight express service to the EPA laboratory in Houston, Texas.
5. All samples were sent to the laboratory; however, samples were designated on the chain of custody to either be analyzed or held. One sample per location was designated for laboratory analysis. For locations with more than one sample collected, the sample with the highest XRF reading was designated for laboratory analysis. In the event that laboratory analytical data differed significantly from the field XRF data, the held samples would be analyzed. Designated samples were analyzed by the laboratory for total lead and cadmium concentrations in both the fine fraction of the soil (i.e. “dust-sized” particles at or less than 250 microns) and in the soil as a whole using EPA approved method 6010 (SW 846 method 6010). Laboratory analytical results are included in Attachment 4.

Sample Results:

XRF Field Screening: All of the samples were scanned in the field with the XRF for lead and cadmium. All of the XRF results for both lead and cadmium were below the EPA screening levels for residential soil (which is 400 ppm for lead and 39 ppm for cadmium).

Laboratory Analysis of Fine Fraction: Eighteen (18) samples were sieved for the fine fraction (dust-sized particles) and analyzed by the EPA laboratory in Houston for lead and cadmium concentration. All samples were below the EPA screening level for cadmium in residential soil. Four (4) of the sieved samples exceeded the EPA screening level for lead in residential soil; however, the screening level is based on soil concentrations as a whole, not on sieved or fine fractions of the soil. The fine fraction concentrations are used in determining locations for further evaluation of soil concentrations as a whole. The locations of these samples were in front of the library at the Frisco High School (FSS-HS-003 and FSS-DP-019), in front of the Senior Center (FSS-SC-031), west of the playground at First Street Park (FSS-FS-017), and at Beavers Bend Park (FSS-BG-038; background location). Samples collected from Frisco High School (FSS-HS-003 and FSS-DP-019) were reanalyzed due to differences observed in lead concentrations between the sample and the duplicate sample (FSS-BG-DP-019). The reanalyzed samples again exhibited differences indicating variability in the concentration within the fine fraction. The City of Frisco also had the split samples sieved and analyzed for these four locations. All of the concentrations in the split samples were below EPA screening levels. Analytical results provided by the City of Frisco are included as Attachment 5.

Laboratory Analysis of Whole Soil: Eighteen (18) soil samples (unsieved) were analyzed by the EPA laboratory for total lead and cadmium concentrations. All samples were below the EPA screening level for lead and cadmium in residential soil and were comparable to XRF results

obtained in the field; therefore, the held samples were not analyzed. The Frisco High School samples (FSS-HS-003 and FSS-DP-019) were reanalyzed to verify and confirm the concentrations. The reanalyzed samples were again below the screening levels for lead and cadmium. The City also analyzed the unsieved samples for the four (4) locations mentioned above. The unsieved samples were all below the EPA screening level for lead and cadmium.

Summary:

In March 2010, thirty-eight (38) surface soil samples were collected from thirteen (13) publicly accessible areas in Frisco within approximately 1 mile of the Exide Technologies facility, and one area farther from the facility as a background comparison. The purpose of the sampling was to determine the potential concentration of lead and cadmium in the surface soil to determine if additional investigation of residential areas is warranted and to document if there is a potential threat to human health or the environment from lead and cadmium accumulation in soil due to emissions from the facility. Samples were analyzed for lead and cadmium concentrations and compared to EPA human health screening levels for residential soil. Sample results confirmed that concentrations are below regulatory levels of concern and no further testing or remedial action is needed for those areas that were sampled.

Summary of Off-site Samples Collected:

Sample Name	Location	Description
FSS-HS-001	Frisco High School	Band practice field
FSS-HS-002	Frisco High School	Front of main entrance
FSS-HS-003	Frisco High School	Front of library
FSS-HS-004	Frisco High School	Sports practice field
FSS-IL-005	Ida Lee Bright Elementary	Near playground
FSS-IL-006	Ida Lee Bright Elementary	North field
FSS-IL-007	Ida Lee Bright Elementary	Front of school
FSS-ZT-008	ZT Acker Special Program Center	South field
FSS-ZT-009	ZT Acker Special Program Center	Courtyard
FSS-ZT-010	ZT Acker Special Program Center	Front of school
FSS-CD-011	FISD Child Development Center	SW of playground
FSS-CD-012	FISD Child Development Center	SE of playground
FSS-CD-013	FISD Child Development Center	Near back of school
FSS-DG-014	Downtown Gazebo	SE corner of 4 th and Main St.
FSS-GA-015	Gallegos Park	NE portion of park
FSS-GA-016	Gallegos Park	SE portion of park
FSS-FS-017	First Street Park	W of playground
FSS-FS-018	First Street Park	NE of playground
FSS-DP-019	Frisco High School	Duplicate of FSS-HS-003
FSS-DP-020	ZT Acker Special Program Center	Duplicate of FSS-ZT-010
FSS-DP-021	FISD Child Development Center	Duplicate of FSS-CD-013
FSS-DP-022	Downtown Gazebo	Duplicate of FSS-DG-014
FSS-PD-023	Police Station	North field
FSS-PD-024	Police Station	NE field
FSS-CT-025	Caddo Trail	West portion of park
FSS-CT-026	Caddo Trail	NE portion of park
FSS-CT-027	Caddo Trail	North central portion of park
FSS-OP-028	Oakbrook Park	East adjacent to ball field
FSS-OP-029	Oakbrook Park	North adjacent to playground
FSS-OP-030	Oakbrook Park	West portion of park
FSS-SC-031	Senior Center	North of building
FSS-HC-032	Heritage Center	Adjacent to gazebo
FSS-GR-033	Grand Park	NE corner
FSS-GR-034	Grand Park	SE corner
FSS-GR-035	Grand Park	SW of building
FSS-GR-036	Grand Park	West of building
FSS-BG-037	Beavers Bend Park	Background
FSS-BG-038	Beavers Bend Park	Background

Frisco Neighborhood Soil Survey Summary

Field Screening and Analytical Results for Lead (all values are in parts per million [ppm]):

Sample Name	XRF (mean concentration)	Lab (Whole Soil)	Lab (Fine Fraction)	Split Sample (Whole Soil)	Split Sample (Fine Fraction)
FSS-HS-001	16.85	not analyzed (NA)	NA	NA	NA
FSS-HS-002	16.22	NA	NA	NA	NA
FSS-HS-003 (reanalyzed)	18.88	18.3 16.3	1100 118	20.8	21.5
FSS-HS-004	15.69	NA	NA	NA	NA
FSS-IL-005	15.57	NA	NA	NA	NA
FSS-IL-006	Not detected	NA	NA	NA	NA
FSS-IL-007	18.33	18.6	216	NA	NA
FSS-ZT-008	23.95	NA	NA	NA	NA
FSS-ZT-009	40.98	NA	NA	NA	NA
FSS-ZT-010	37.87	37.5	156	NA	NA
FSS-CD-011	61.28	NA	NA	NA	NA
FSS-CD-012	69.05	NA	NA	NA	NA
FSS-CD-013	108.43	256	142	NA	NA
FSS-DG-014	28.92	46.8	67.6	NA	NA
FSS-GA-015	52.43	NA	NA	NA	NA
FSS-GA-016	49.49	69.6	200	NA	NA
FSS-FS-017	99.04	144	428	20.3	182
FSS-FS-018	63.20	NA	NA	NA	NA
FSS-DP-019 (reanalyzed)	18.88	16.9 18.3	196 637	22	23.4
FSS-DP-020	37.87	39	85	NA	NA
FSS-DP-021	108.43	123	123	NA	NA
FSS-DP-022	28.92	45	54.1	NA	NA
FSS-PD-023	29.36	28.7	66.9	NA	NA
FSS-PD-024	22.10	NA	NA	NA	NA
FSS-CT-025	34.09	27.3	57.8	NA	NA
FSS-CT-026	22.13	NA	NA	NA	NA
FSS-CT-027	21.29	NA	NA	NA	NA
FSS-OP-028	17.04	NA	NA	NA	NA
FSS-OP-029	20.82	NA	NA	NA	NA
FSS-OP-030	28.21	24.6	51.7	NA	NA
FSS-SC-031	26.36	41	453	31	55.2
FSS-HC-032	43.95	37.7	189	NA	NA
FSS-GR-033	24.94	NA	NA	NA	NA
FSS-GR-034	58.59	71.2	224	NA	NA
FSS-GR-035	27.92	NA	NA	NA	NA
FSS-GR-036	33.70	NA	NA	NA	NA
FSS-BG-037	18.52	NA	NA	NA	NA
FSS-BG-038	19.62	14.8	545	135	16.4

Attachments:

1. Photograph Log
2. Map of Sample Locations
3. Soil Composite Log
4. EPA Laboratory Analytical Data and Chain of Custody Records
5. City of Frisco Laboratory Analytical Data

ATTACHMENT 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 1



Photographer: Melissa Smith	Date: 03/15/10	Time: 8:01 AM
City/County: Frisco / Collin County		State: TX
Location: Frisco High School		
Subject: Band practice area on NW side of school. Pink flags denote the grid and composite sample locations.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 2



Photographer: Melissa Smith	Date: 03/15/10	Time: 8:53 AM
City/County: Frisco / Collin County		State: TX
Location: Frisco High School		
Subject: XRF screening of band practice area sample.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 3



Photographer: Melissa Smith	Date: 03/15/10	Time: 8:59 AM
City/County: Frisco / Collin County		State: TX
Location: Frisco High School		
Subject: Front of school. Pink flags denote grid and composite sample locations.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 4



Photographer: Melissa Smith	Date: 03/15/10	Time: 10:45 AM
City/County: Frisco / Collin County		State: TX
Location: Ida Lee Bright Elementary		
Subject: Playground area east of school.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 5



Photographer: Melissa Smith	Date: 03/15/10	Time: 10:45 AM
City/County: Frisco / Collin County		State: TX
Location: Ida Lee Bright Elementary		
Subject: Playground east of school.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 6



Photographer: Melissa Smith	Date: 03/15/10	Time: 12:23 PM
City/County: Frisco / Collin County		State: TX
Location: ZT Acker Special Program Center		
Subject: Play field south of building.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 7



Photographer: Melissa Smith	Date: 03/15/10	Time: 12:40 PM
City/County: Frisco / Collin County		State: TX
Location: ZT Acker Special Program Center		
Subject: Courtyard in center of building.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 8



Photographer: Melissa Smith	Date: 03/15/10	Time: 2:08 PM
City/County: Frisco / Collin County		State: TX
Location: ZT Acker Special Program Center		
Subject: Front of building.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 9



Photographer: Melissa Smith	Date: 03/15/10	Time: 2:09 PM
City/County: Frisco / Collin County		State: TX
Location: FISS Child Development Center		
Subject: Playground south of building.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 10



Photographer: Melissa Smith	Date: 03/15/10	Time: 2:10 PM
City/County: Frisco / Collin County		State: TX
Location: FISSD Child Development Center		
Subject: Sample location south of playground.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 11



Photographer: Melissa Smith	Date: 03/15/10	Time: 3:30 PM
City/County: Frisco / Collin County		State: TX
Location: Downtown Gazebo		
Subject: Downtown Gazebo sampling location.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 12



Photographer: Melissa Smith	Date: 03/15/10	Time: 2:10 PM
City/County: Frisco / Collin County		State: TX
Location: Gallegos Park		
Subject: Sampling grid at the southeast corner of park.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 13



Photographer: Melissa Smith	Date: 03/15/10	Time: 4:26 PM
City/County: Frisco / Collin County		State: TX
Location: First Street Park		
Subject: Playground at First Street Park.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 14



Photographer: Melissa Smith	Date: 03/16/10	Time: 8:51 AM
City/County: Frisco / Collin County		State: TX
Location: Frisco Police Department		
Subject: Labeling sample containers.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 15



Photographer: Melissa Smith	Date: 03/16/10	Time: 10:08 AM
City/County: Frisco / Collin County		State: TX
Location: Frisco Police Department		
Subject: Sample area north of police dept. parking lot.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 16



Photographer: Melissa Smith	Date: 03/16/10	Time: 10:09 AM
City/County: Frisco / Collin County		State: TX
Location: Frisco Police Department		
Subject: Exide property looking north from police department.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 17



Photographer: Melissa Smith	Date: 03/16/10	Time: 2:49 PM
City/County: Frisco / Collin County		State: TX
Location: Heritage Center		
Subject: Sample area near gazebo at Heritage Center.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 18



Photographer: Melissa Smith	Date: 03/16/10	Time: 2:49 PM
City/County: Frisco / Collin County		State: TX
Location: Senior Center		
Subject: Sample area in front of Senior Center.		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo # 19



Photographer: Melissa Smith	Date: 03/16/10	Time: 3:32 PM
City/County: Frisco / Collin County		State: TX
Location: Grand Park		
Subject: Sampling areas on southeast side of park; Exide facility in background.		

ATTACHMENT 2

Approximate Sample Locations

