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8 November 2019

Mr. Kenneth Shewmake
Task Order Monitor
U.S. Environmental Protection Agency (EPA)
1201 Elm Street, Suite 500
Dallas, Texas, 75270-2102

RE: Phase 1 Remedial Investigation Data Summary Technical Memorandum, Revision 01
Lane Plating Works, Inc. Superfund Site
Phase 2 Remedial Investigation
U.S. Environmental Protection Agency Region 6
Remedial Action Contract 2
Task Order: 68HE0618F0309
Contract: EP-W-06-004

Dear Mr. Shewmake:

EA Engineering, Science, and Technology, Inc., PBC (EA) is enclosing one hard copy and two electronic copies on compact disc (CD) of the Phase 1 Remedial Investigation Data Summary Technical Memorandum, Revision 01 for the above-referenced Task Order. As requested, one electronic copy (on CD) is also being distributed to Mr. Scott Settemeyer, Texas Commission on Environmental Quality (TCEQ) Project Manager. An electronic copy of this deliverable was also submitted via email on 8 November 2019.

Please do not hesitate to contact me at (972) 315-3922 if you have any questions.

Sincerely,

Mark Paddack
Project Manager

Enclosure

cc: Brian Delaney, EPA Contract Officer (letter only)
Scott Settemeyer, TCEQ Superfund Section Project Manager (one electronic copy on CD)
Tim Startz, EA Program Manager (letter only)
File

TRANSMITTAL OF DOCUMENTS FOR ACCEPTANCE BY EPA		DATE: **8 November 2019**	TRANSMITTAL NO.: **0014**
TO: **Mr. Kenneth Shewmake** **U.S. Environmental Protection Agency Region 6**		FROM: **Mark Paddack** **EA Engineering, Science, and Technology, Inc., PBC**	
SUBTASK NO.	DELIVERABLE	NO. OF COPIES	
6.1.3	Phase 1 Remedial Investigation Data Summary Technical Memorandum, Revision 01 Lane Plating Works, Inc. Superfund Site Phase 2 Remedial Investigation Dallas, Dallas County Texas	EPA: 1 Hard Copy; 2 Electronic Copies on Compact Disc (CD) TCEQ: 1 Electronic Copy on CD	
ACCEPTANCE ACTION			
DOCUMENTS FOUND ACCEPTABLE (LIST BY SUBTASK NO.)		NAME/TITLE/SIGNATURE OF REVIEWER DATE	

Phase 1 Remedial Investigation
Data Summary Technical Memorandum

Lane Plating Works, Inc. Superfund Site
Dallas, Dallas County, Texas
EPA Identification No. TXN000605240
Remedial Action Contract 2 Full Service
Contract: EP-W-06-004
Task Order: 68HE0618F0309

Prepared for

U.S. Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Prepared by

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Revision: 01
EA Project No. 14342.168

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LIST OF ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
COPC	Contaminant of potential concern
DPT	Direct-Push Technology
DQO	Data quality objective
DSTM	Data Summary Technical Memorandum
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
ft	Feet (foot)
HRS	Hazardous Ranking System
HWTB	Hazardous Waste Treatment Building
in.	Inch (inches)
MCL	Maximum Contaminant Level
mg/kg	Milligram(s) per kilogram
NOE	Notice of Enforcement
ORP	Oxidation-reduction potential
PFC	Perfluorinated compound
PCB	Polychlorinated biphenyl
PWS	Public water supply
RA	Removal Assessment
RI	Remedial Investigation
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
SCDM	Superfund Chemical Data Matrix
site	Lane Plating Works, Inc. Superfund Site
SL	Screening level
SVOC	Semivolatile organic compound
TAL	Target Analyte List
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TOC	Total organic carbon
TPH	Total Petroleum Hydrocarbon

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LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

TXDWW	TCEQ Texas Drinking Water Watch
VOC	Volatile organic compound
Weston	Weston Solutions, Inc.

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1. INTRODUCTION

This document presents the Phase 1 Remedial Investigation (RI) data and has been prepared by EA Engineering, Science, and Technology, Inc., PBC (EA) for the Lane Plating Works, Inc. Superfund Site (site) located in Dallas, Dallas County, Texas. This Data Summary Technical Memorandum (DSTM) documents and summarizes the analytical data collected during the Phase 1 RI field event. EA produced this DSTM for the U.S. Environmental Protection Agency (EPA) Region 6 as part of Task Order No. 68HE0618F0309 under Remedial Action Contract No. EP-W-06-004.

The purpose of the Phase 1 field event was to collect data to support the RI for the site and use this data to identify any data gaps that will be addressed during the Phase 2 field event. The media sampled included surface soil, subsurface soil, sediment, surface water, and groundwater. The Final Sampling and Analysis Plan (SAP) (EA 2019b) set forth the framework and requirements for the Phase 1 RI sampling event. Results from the Phase 1 RI field investigation are the focus of this Phase 1 DSTM, and data from prior assessment activities formed the basis for the Phase 1 RI sample locations. The historical data has been carried forward for further evaluation and presentation when completing the risk assessments and RI Report. This historical data was provided in the following documents:

- Weston Solutions, Inc. (Weston) Removal Report for Lane Plating Removal Action, December 2016 (Weston 2016). During the April 2016 remedial action field event, composite five-point soil sampling was conducted within thirty-seven 50 foot (ft) by 50 ft grids along the exterior of the facility. Within each grid, sample aliquots were collected from each corner and from the center of the grid at a depth of 0 to 6 inches (in.) below ground surface (bgs). During the September 2016 remedial action field event, composite five-point soil samples were collected from within approximately 72 grids. Samples were collected at three depth intervals: 0 to 6 in. bgs, 6 to 12 in. bgs, and 12 to 18 in. bgs. Soil samples were submitted for analysis of metals and hexavalent chromium.

- Texas Commission on Environmental Quality (TCEQ) Site Inspection Report, January 2017 (TCEQ 2017). Surface soil samples were collected to a maximum depth of 12 in. from seven locations to characterize a potential source, establish site attribution, and ascertain an observed release of contaminants to the surface water pathway. Samples were collected from 13 sediment and 11 surface water locations, to establish an observed release of contaminants and exposure to environmental receptors along the surface water migration pathway. Samples were analyzed for total metals, mercury, and cyanide.

1.1 SITE DESCRIPTION

Based on information adapted from the 2018 Hazardous Ranking System (HRS) Documentation Record (EPA 2018a), the site is located at 5322 Bonnie View Road, approximately five miles south of downtown Dallas, Dallas County, Texas (Figure 1). It is situated immediately east of Bonnie View Road on 4.6 acres and is surrounded on all sides by open or wooded land. Land use is listed as residential and commercial in the area. The original facility building and adjacent structures are still present and include the main facility building where the majority of electroplating operations took place, a storage shed structure known as the Hazardous Waste

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Treatment Building (HWTB), and a former wastewater treatment building with miscellaneous tractor trailers located south of the facility and HWTB (Figure 2). A barbed wire and locked chain-link fence surround the property.

Asphalt/concrete cover extends from the facility entrance to the driveway and footprint around the facility building. Soil and vegetation are exposed on all other sides. Two old, unused water wells are located on the north side of the facility building. Old equipment and trash surround the facility in open and wooded areas located to the east and south. According to the Dallas Central Appraisal District, the office building was built in 1950.

The closest residences are located approximately 200 to 300 ft west of the facility along Bonnie View Road, and a baseball diamond is located approximately 650 ft south of the facility. There are no daycare facilities, schools, or churches located in the immediate vicinity of the facility. However, as indicated on Figure 1, there are several day care facilities, schools, a college, and other receptors located in the surrounding community.

The site was historically occupied by a former electroplating facility that conducted primarily hard chromium and cadmium plating for approximately 90 years until 2015. Additional processes included chromate dips, chromic acid anodize, hard chrome plating using chromic acid, cadmium plating, copper plating using copper cyanide, zinc plating aluminum using nitric acid and zinc cyanide, nickel plating using nickel sulfate, black oxide coating, electroless nickel, passivation, machining and grinding, stripping of metal parts in acid, pretreatment of metal parts using sodium hydroxide and sulfuric acid, operating a lead melting pot to repair anodes used in plating baths, and electroplating wastewater treatment. Resource Conservation and Recovery Act and TCEQ Notice of Registration records document the following waste streams: corrosive and reactive waste, cadmium, chromium, lead, spent chromic acid solution, spent muriatic acid, chromate, metals filings and dust, cyanide waste, caustic waste, caustic soda solid (tank bottoms), and wastewater treatment sludges from electroplating operations. Operations ceased in 2015 with numerous violations, investigations, and bankruptcy.

1.2 PREVIOUS INVESTIGATIONS

Based on information adapted from the 2018 HRS Document Record (EPA 2018a), the site has been investigated by several state and federal agencies over the past 40 years, and releases of plating wastes to onsite soils have been documented by recent investigations. TCEQ conducted investigations at the site in February 2010 and January 2011. Analytical results from soil samples collected from a waste pile and around the facility foundation indicated leachable cadmium, chromium, lead, and mercury concentrations. Formal enforcement action was requested based on numerous violations, including the failure to obtain a permit prior to disposal of hazardous waste and to prevent unauthorized discharge of industrial solid waste. A Notice of Enforcement (NOE) letter and a Proposed Agreed Order were transmitted to the facility in April and July 2011, respectively, which also included a fine. TCEQ conducted a follow-up investigation in October 2014 and noted several additional issues and alleged violations of waste management, including the failure to install a secondary containment unit for a hazardous waste tank. Onsite soil samples indicated total chromium, hexavalent chromium, antimony, arsenic,

cadmium, mercury, and nickel detections above the EPA Superfund Chemical Data Matrix (SCDM) soil exposure pathway benchmarks and lead above the EPA interim screening level. The Department of Labor Occupational Safety and Health Administration issued a fine to the facility in January 2015 based on inspections made in 2014. Violations were related to the upkeep, use, and provision of required safety equipment and training for employees in addition to proper storage and disposal of chemicals. Specific violations of note included storing sodium hydroxide together with sulfuric acid and exposing employees to hexavalent chromium. Violations documented hexavalent chromium on surfaces inside the facility building. A second NOE letter was transmitted to the facility in March 2015.

TCEQ conducted an investigation in November 2015 to determine if conditions posed an immediate threat to nearby residents and if grinding grit had spread off of the facility property. Grinding grit was observed on the ground surface south and southeast of the HWTB. Leaks, openings in the walls, and yellow stains believed to be chromium were observed in the facility building. Yellow stains were additionally observed on the west side of the facility building on the exterior southeast corner. Soil samples were collected from the southern boundary of the property at a depth of 0-3 in. bgs. Antimony, arsenic, cadmium, chromium, and mercury were detected above SCDM soil exposure pathway benchmarks, and lead was detected above the screening level.

TCEQ conducted a limited removal action in November and December 2015. The scope of work included hazard characterization analysis/chemical characterization of chemicals in the facility lab, lab pack and re-packaging of select chemicals, the removal of chromic acid sludge from two sumps at the facility, and securing the chromic acid waste into poly totes. All outside doors to the facility building were secured and locked, and metal cattle panels were used to secure the first floor windows. As State enforcement was exhausted, TCEQ referred the site to the EPA Region 6 Superfund Program for further evaluation.

Representatives from the TCEQ and EPA Superfund Removals program conducted a facility visit in February 2016 and observed incompatible wastes stored together, staining, visibly impacted soils, wastes appearing to seep underneath the facility foundation, and large volumes of hazardous wastes. Grab samples collected by TCEQ from the two shallow facility water wells in February 2016 contained concentrations of chromium and hexavalent chromium above SCDM groundwater pathway benchmarks and the Maximum Contaminant Level (MCL).

In March 2016, the EPA Emergency Management Branch tasked an EPA Region 6 Superfund Technical Assessment Response Team contractor to perform a Removal Assessment (RA) at the site, which is documented in the Removal Report (Weston 2016) completed for the site. A two-phase remedial action was conducted at the site in April and September 2016 (EPA 2018a). Excessive chromium staining on the floor and small pools of plating wastes from ongoing releases were observed in the facility building, in addition to chromium staining on the outside of the building from past spills and releases.

Based on information provided by EPA, during the April 2016 remedial action field event, composite five-point soil sampling was conducted within thirty-seven 50 ft by 50 ft grids along the exterior of the facility. Within each grid, sample aliquots were collected from each corner

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and from the center of the grid at a depth of 0 to 6 in. bgs. The aliquots were then combined and containerized as a composite sample. Five biased grab soil samples were collected by the EPA Team in areas previously identified by TCEQ to have elevated concentrations of lead and chromium along the southeastern part of the site. A total of 36 soil samples and 4 liquid waste samples were collected to determine the nature and extent of site related, hazardous constituents associated with electroplating waste (plating waste) in onsite soils. Liquid waste samples were used to verify if liquids, contained in an unknown number of drums and totes, were considered hazardous substances. Soil samples were submitted for analysis of metals and hexavalent chromium. Soil analytical data was compared to the May 2016 Regional Screening Levels (RSLs), Industrial Soil (Target Hazard Quotients = 1.0). The liquid waste characterization results were compared to 40 Code of Federal Regulations Part 261. Based on the analytical results, hexavalent chromium, lead, and mercury contaminated soil were present around the footprint of the building. Hexavalent chromium was reported in 17 grids exceeding the EPA RSL of 6.3 milligrams per kilogram (mg/kg). Hexavalent chromium contaminated soil ranged in concentration from 167 mg/kg (Grid E7) to 5,620 mg/kg (Grid G7). Lead exceeded the EPA RSL of 800 mg/kg in six grids. Mercury was observed above instrument detection limits in several grids but only exceeded in one grid above the EPA RSL of 46 mg/kg.

During the September 2016 remedial action field event, composite five point soil samples were collected from within approximately 72 grids. Samples were collected at three depth intervals: 0 to 6 in. bgs, 6 to 12 in. bgs, and 12 to 18 in. bgs. Soil samples were submitted for analysis of metals and hexavalent chromium. A total 216 samples (192 normal, 20 duplicate, and 4 equipment) were collected during this sampling event. Samples collected at the 6 to 12 in. interval were placed on hold pending analytical results from the 0 to 6 in. and 12 to 18 in. intervals. Based on the analytical results, hexavalent chromium, lead, and mercury contaminated soil was present around the footprint of the building. Hexavalent chromium was reported in three grids exceeding the May 2016 EPA RSL of 6.3 mg/kg. Hexavalent chromium contaminated soil ranged in concentration from 9.69 mg/kg (Grid H4 at a depth of 18 in.) to 203 mg/kg (Grid E6 at a depth of 6 in.). Lead exceeded the EPA RSL of 800 mg/kg in one grid at a concentration of 3,740 mg/kg (E6 at a depth of 6 in.). Mercury was reported in two grids exceeding the EPA RSL of 46 mg/kg, ranging from 46.2 mg/kg (I10 at a depth of 6 in.) to 77.8 mg/kg (E6 at a depth of 6 in.).

Based on information adapted from the 2018 HRS Documentation Record (EPA 2018a), samples of chromic acid waste collected during the 2016 remedial action field events were confirmed to be hazardous. Hazardous characterization identification of waste containers was performed, and remaining vats and sumps were pumped and transferred into compatible containers. Waste containers were transported from the facility to authorized facilities for final disposal in November 2016. The following waste streams were identified: cyanide solution and solids, chromic acid and chromic acid sludges/solids, sulfuric acid, flammable aerosol and liquids, acid solids and liquids, neutral solids and liquids, elemental mercury, caustic solids and liquids, and soil.

In July 2016, TCEQ also performed a site inspection sampling event to evaluate the surface water pathway (TCEQ 2017). Antimony, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected at elevated concentrations in soil along the overland segments at depths

up to 6 to 8 in. bgs. Of these, arsenic, cadmium, chromium, and mercury were detected above SCDM soil exposure pathway benchmarks, and lead was detected above the screening level in soil. Chromium, cyanide, lead, and mercury in sediment at depths of 0 to 6 or 6 to 12 in. bgs; and aluminum, arsenic, chromium, copper, iron, lead, manganese, mercury, nickel, and zinc in surface water were detected at elevated concentrations in the surface water pathway. Of these, aluminum, copper, iron, lead, and zinc were detected above SCDM surface water pathway environmental benchmarks (chronic, fresh criteria continuous concentration).

In January 2018 the HRS Documentation Record was prepared for the site, and in May 2018 the site was placed on the National Priority List.

1.3 PHYSICAL SETTING

1.3.1 Site Description

Information pertaining to the physical setting is referenced from the 2018 HRS Documentation Record (EPA 2018a), the 2018 National Priority List (EPA 2018b), and the May 2016 Preliminary Assessment Report, which was prepared by TCEQ in cooperation with EPA Region 6 (TCEQ 2016).

1.3.2 Physical Site Characterization

The site, as scored in the 2018 HRS Documentation Record (EPA 2018a), consists of four sources and releases of chromium, copper, cyanide, lead, manganese, mercury, nickel, and zinc to the surface water migration pathway. The identified sources include: (1) contaminated soil currently located underneath and surrounding the facility building, (2) underground sumps located inside the facility building, (3) wastes containerized in tanks and other containers, and (4) wastes containerized in drums. The identified targets in the 2018 HRS Documentation Record included fisheries, wetlands, and sensitive environments located within the target distance limit.

Fisheries are located in the Joppa Preserve/Lemmon Lake Park and Trinity River. Habitat known to be used by the state-designated endangered or threatened wood stork and white-faced ibis are located in the Joppa Preserve/Lemmon Lake Park. Freshwater forested/shrub wetlands are located in the site vicinity, Joppa Preserve/Lemmon Lake Park, and along the Trinity River.

The primary receptors near the site consist of the small streams and associated wetlands, making surface water a suspected pathway. This habitat and fisheries are upstream of where the small streams merge with the Trinity River. An unnamed stream, referred to as Stream 5A2, is located approximately 450 ft east of the facility and flows south into a small pond located southeast of the facility. Site and area topography slope gently to the south and southeast (Figure 2). Surface water runoff follows two primary overland segments: (1) east along the north side of the facility building and then due south for approximately 500 ft before reaching a wetland, and (2) southeast of the facility across a field for approximately 400 ft before reaching a small pond and Stream 5A2 (Figure 2). Stream 5A2 flows south from the small pond for approximately 300

ft before joining another unnamed stream (Figure 2). The merged stream flows east and eventually discharges into the Trinity River.

Based on prior data collected for the site, cyanide, lead, mercury, chromium, and hexavalent chromium were identified as contaminants of potential concern (COPCs) impacting onsite soils, underlying groundwater, and sediments downstream from the site (EPA 2018b).

1.3.3 Geologic Setting

The site is underlain by Quaternary alluvium and Pleistocene fluviatile terrace deposits. The Quaternary alluvium is comprised of flood plain deposits of gravel, sand, silt, silty clay, and organic matter. Fluviatile terrace deposits consist of gravel, sand, silt, and clay in contiguous terraces. These deposits range in thickness from approximately 0 to 75 ft bgs. The Quaternary sediments are underlain by the Cretaceous-age Austin Chalk. The upper and lower parts of the Austin Chalk consist of mostly massive microgranular calcite and some interbeds and partings of calcareous clay, with thin bentonitic beds locally in the lower part. The middle part of the Austin Chalk is mostly thin-bedded marl with interbeds of massive chalk. The Austin Chalk has a thickness of approximately 300 to 500 ft (TCEQ 2016).

Underlying the Austin Chalk is the Eagle Ford Group of Cretaceous age, which is 200 to 300 ft thick and comprised predominantly of shale with thin beds of limestone and bentonite. The Cretaceous-age Woodbine Formation underlies the Eagle Ford Group. This formation is approximately 175 to 250 ft thick and composed mostly of sandstone. The Woodbine is underlain by the Cretaceous-age Washita and Fredericksburg Groups, which consist primarily of limestone, dolomite, marl, and shale. The Fredericksburg and Washita Groups have a combined thickness of approximately 1,250 ft and separate the Woodbine from the underlying Paluxy Formation of the Trinity Group. The Paluxy Formation is the upper member of the Trinity Group, approximately 400 ft thick, and is comprised mostly of sand/sandstone and some shale and limestone. The Glen Rose Formation divides the two Trinity Group aquifer formations in the area and consists of limestone, marl, shale, and anhydrite. It can reach thicknesses of up to 1,500 ft. The Twin Mountains Formation, originally named the Travis Peak Formation, consists of sand, silty clay, and siliceous conglomerates of chert, quartzite, and quartz pebbles and has a thickness of up to 1,000 ft (TCEQ 2016).

1.3.4 Aquifer System

The site overlies the Quaternary alluvium and Pleistocene fluviatile terrace deposits and the Austin Chalk. The Quaternary alluvium and Pleistocene fluviatile terrace deposits are generally irregular in thickness and extent in close proximity to the site, as well as along Five Mile Creek and the Trinity River to the east of the site. Several nearby groundwater monitoring wells are installed to the northwest, northeast, and east of the site to an average depth of 40 ft bgs. These monitoring wells are completed in the unconfined alluvium and terrace deposits, with static water levels around 10 ft bgs. Groundwater gradient information is not available for the shallow aquifer. Hydraulic conductivity is low in the Austin Chalk, which is very limited as an aquifer. The Woodbine Aquifer and Twin Mountains Formation of the Trinity Aquifer are also present below the site based on area well drilling logs (TCEQ 2016).

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Underlying the Austin Chalk is the Eagle Ford Group. The 200 to 300 ft thick Eagle Ford Group unconformably overlies the Woodbine Aquifer and acts as a confining unit. The Woodbine Aquifer is categorized by the Texas Water Development Board as a minor aquifer consisting of sandstone interbedded with shale and clay that form three distinct water-bearing zones. The Woodbine Aquifer occurs from approximately 700 to 1,100 ft bgs and reaches 600 to 700 ft in thickness in subsurface areas, with freshwater saturated thickness averages of about 160 feet. Based on area well drilling logs, water levels in the Woodbine Aquifer in the vicinity of the site range from 100 to 230 ft bgs, with total depths of approximately 853 to 1,100 ft bgs. Groundwater gradient in the Woodbine Aquifer is generally to the east-southeast (TCEQ 2016).

The Washita Group underlies the Woodbine and overlies the Fredericksburg Group. The two groups are generally considered a confining unit above the Trinity Aquifer and yield only small amounts of water. The two water-bearing formations of the Trinity Group in the vicinity of the site are the Paluxy and Twin Mountains Formations, separated by the Glen Rose Formation. The Glen Rose Formation only yields small amounts of water to localized areas (TCEQ 2016).

The top of the Paluxy Formation occurs from approximately 1,700 to 2,000 ft bgs, with a maximum thickness of approximately 400 ft. The Paluxy Formation yields small to moderate quantities of fresh to slightly saline water to municipal, industrial, domestic, and livestock wells. The Twin Mountains Formation has a maximum thickness of up to 1,000 ft and the top of the formation occurs from approximately 2,300 to 2,800 ft bgs. It is the primary Cretaceous-age water-bearing formation in the region and yields moderate to large quantities of fresh to slightly saline water to municipal and industrial wells. Groundwater gradient in both aquifers is generally to the east. The Trinity is the largest and most prolific aquifer in the region; however, the aquifer has been overdeveloped, resulting in significant water level declines across the region (TCEQ 2016).

The unconfined alluvium, Woodbine Aquifer, and Paluxy Formation of the Trinity Aquifer are unlikely to have interconnectivity in this area as the three aquifers are separated from one another by confining units of the Eagle Ford and Washita/Fredericksburg Groups, as discussed earlier in this section. Interconnectivity between the Paluxy and Twin Mountains Formations of the Trinity Aquifer is also unlikely in the vicinity of the site as they are separated by the Glen Rose Formation, which yields small amounts of water. Additionally, the upper part of the Twin Mountains Formation is mostly claystone, and few wells are developed in the upper part of the formation. The Glen Rose Formation pinches out towards the north and is absent in northern Texas counties where the Paluxy and Twin Mountains Formations coalesce into the Antlers Formation (TCEQ 2016).

The Trinity Aquifer supplies wells for pubic supply, industrial, irrigation, domestic, and livestock use. Irrigation use constitutes a small portion of overall pumpage in the Paluxy and Twin Mountains Formations and is generally limited to irrigation of golf courses and lawns. Irrigation of crops from the Twin Mountains Formation is confined to the outcrop areas located in Hood, Parker, and Wise Counties. Approximately 55 percent of total groundwater use in the Twin Mountains Formation is for municipal and industrial purposes. Municipal and domestic use of the Paluxy Formation accounted for approximately 50 and 24 percent of total groundwater pumpage, respectively. There is no evidence at this time that groundwater is used for irrigation

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of food or forage crops of five or more acres, for commercial livestock watering, as an ingredient in commercial food preparation, for commercial aquaculture, or for major or designated recreation in close proximity to the site (TCEQ 2016).

Based on information provided in the PA (TCEQ 2016), one domestic well, three public water supply (PWS) wells, two stock wells, eight irrigation wells, and seven industrial wells lie within four miles of the site. The only well located within a mile of the site is an irrigation well. Additional irrigation wells are located within two miles to the northeast and southwest (three wells), within three miles to the east and west (three wells), and within four miles northeast. The nearest PWS wells are located within two, three, and four miles west and southwest of the site and are screened in the Woodbine Aquifer. The closest domestic well is located within three miles east of the site, and two stock wells are located within three and four miles east of the site, all screened within shallow alluvium. Industrial wells are situated within two miles east-northeast (two wells) and four miles north (five wells) of the site. Irrigation and industrial wells are reportedly screened in the shallow alluvium and Woodbine Aquifer.

Water analytical results were not available for the domestic and PWS wells identified in the search. The TCEQ Texas Drinking Water Watch (TXDWW) website lists one of the PWS facilities (Community Water Service Grand Prairie) as buying their water from the City of Grand Prairie, who buys from the Cities of Fort Worth and Midlothian and the Dallas Water Utility. These are all surface water sources of drinking water located west or north of the site. The other PWS facilities are not listed on the TXDWW website. Installation dates of the domestic and PWS wells are old, ranging from the 1940s to the 1970s, and it is unknown if these wells are still in use (TCEQ 2016).

There are two onsite shallow wells of unknown historical use located adjacent north of the facility building (Figure 2). These onsite wells were sampled in February 2016 for metals. WW-1 displayed chromium and hexavalent chromium concentrations that exceeded the MCL and SCDM for these metals, and WW-2 displayed a hexavalent chromium concentration that exceeded the SCDM for this metal. The site is not located within a wellhead protection area (TCEQ 2016).

The purpose of the DSTM is presented in Section 2. A summary of work completed as part of the phase 1 RI field event is provided in Section 3. Section 4 provides a summary of the data obtained during the Phase 1 RI field event. References are provided in Section 5. Supporting materials follow the text in Appendixes A through E. Appendix F contains a response to comments on the Revision 00 Phase 1 RI DSTM.

2. PURPOSE

The purpose of the Phase 1 RI DSTM is to summarize analytical data collected during Phase 1 RI field event as related to the project-specific data quality objectives (DQOs) presented in the SAP (EA 2019b). The DQO process is a series of planning steps designed to ensure that the type, quantity, and quality of environmental data used in decision-making are appropriate for the intended application. The methods and techniques required to yield analytical data of acceptable

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quality and quantity to support DQOs are also outlined in the SAP (EA 2019b).

The DQO process goals for the Phase 1 RI field event are as follows:

1. ***Confirm location of sources for contamination.***

2. ***Expand analyte list to include organic compounds for a limited number of collected samples to ensure other COPCs do not exist for the site.***

3. ***Evaluate a limited number of collected samples for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and perfluorinated compounds (PFCs) to determine if these COPCs are present at the site.***

4. ***Determine the nature and extent of contamination in soil, groundwater, surface water, and sediment, and if necessary, in the future based on the Phase 1 finding, collect biota samples for laboratory analyses. If necessary, also conduct soil gas and indoor air investigations if VOCs are identified as COPCs.***

5. ***Evaluate the groundwater to surface water pathway to determine if groundwater impacts surface water (e.g., complete or potentially complete pathway).***

6. ***Characterize and delineate groundwater discharge to surface water to determine if COPCs present unacceptable human health/ecological risk requiring evaluation of options and technologies to support future actions.***

7. ***Determine whether COPCs present unacceptable human health/ecological risk requiring the evaluation of options and technologies to support future actions.***

8. ***Evaluate the hydraulic gradient of the shallow groundwater bearing unit(s) in the site vicinity.***

9. ***Evaluate and delineate the small, interconnected streams and ponds of the surface water pathway located east of the site.***

Samples were collected during prior investigations under the supervision of TCEQ and EPA that formed the basis for the Phase 1 RI field event sampling approach; these prior investigations occurred in 2016. The results of these prior investigations are summarized in the Revision 02 Conceptual Site Model Technical Memorandum (EA 2019a).

3. PHASE 1 REMEDIAL INVESTIGATION ACTIVITIES

3.1 SAMPLING APPROACH

The Phase 1 RI field event was conducted from May 2019 through June 2019 to supplement the other data previously collected in 2016. The field event included collection of surface and subsurface soil samples from 13 soil boring locations and 3 locations where monitoring wells were installed. Figures 3 and 4 illustrate the Phase 1 RI surface and subsurface soil sample locations, respectively. Sediment and surface water samples were also collected from the surface drainage system consisting of Stream 5A2 located east of the site, the unnamed stream located south of the site, the drainage system east of the site where these two streams converge, and the small pond located southeast of the site. Figures 5 and 6 illustrate the Phase 1 RI sediment and surface water sample locations, respectively.

The three newly installed monitoring wells were developed. After development, low-flow groundwater sampling techniques were used to collect groundwater from the newly installed monitoring wells, as well as two existing on site hand-dug water wells situated near the northwest portion of the site's main building. Figure 7 illustrates the locations of the monitoring well and water wells sampled during the Phase 1 RI field event. The following analyses were performed for the collected samples:

- Soil samples were analyzed for total analyte list (TAL) metals, hexavalent chromium, and cyanide. A subset of these samples (10 percent) were also analyzed for a full suite of analyses that included VOCs, SVOCs, PCBs, PFCs, total petroleum hydrocarbons (TPH), oxidation reduction potential (ORP), and pH. Figures 3 and 4 illustrate the soil sample locations and denote the locations where soil samples were collected for full suite analyses.

- Sediment samples were analyzed for TAL metals, hexavalent chromium, and cyanide. A subset of these samples (10 percent) were analyzed for a full suite of analyses that included VOCs, SVOCs, PCBs, PFCs, TPH, ORP, pH, total organic carbon (TOC), and acid volatile sulfide/simultaneously extracted metals. Figure 5 illustrates the sediment sample locations and denotes the locations where sediment samples were collected for full suite analyses.

- Surface water samples were analyzed for TAL metals (total and dissolved), hexavalent chromium, and cyanide. A subset of these samples (10 percent) were analyzed for a full suite of analyses that included VOCs, SVOCs, PCBs, PFCs, TPH, hardness, total dissolved solids (TDS), total suspended solids, alkalinity, and TOC. Figure 6 illustrates the surface water sample locations and denotes the locations where surface water samples were collected for full suite analyses.

- Groundwater samples collected from MW-01, MW-02, MW-03, WW-01 and WW-02 were analyzed for TAL metals (total and dissolved), hexavalent chromium, cyanide, and TDS. Monitoring well MW-01, which was installed within the probable source area, was also sampled and submitted for a full suite of analyses that included VOCs, SVOCs, PCBs, PFCs, and TPH (Figure 7).

3.2 REFINEMENT OF SITE SPECIFIC GEOLOGY AND HYDROGEOLOGY

During the Phase 1 RI field event, 13 soil borings and 3 groundwater monitoring wells (MW-01, MW-02, and MW-03) were installed to investigate subsurface conditions and groundwater quality associated with the site. Monitoring well MW-01 was installed east of the HWTB, MW-02 was installed east of the site in close proximity to Stream 5A2, and MW-03 was installed in close proximity to the small pond located southeast of the site (Figure 7). In addition to collecting samples for laboratory analyses, the encountered subsurface condition data was used to answer a portion of the DQO process goals discussed in Section 2.0 of this document.

A direct-push technology (DPT) rig was used to collect soil cores from the soil boring locations. The DPT rig was equipped with hollow stem augers and was also used to install the three monitoring wells. While advancing tooling used to collect soil cores at the soil boring locations, the DPT rig encountered refusal at 10 of 13 soil boring locations due to reaching the top of the Austin Chalk. The top of the Austin Chalk was encountered at a depth of 10 to 13 ft bgs at these 10 locations. It was overlain with clay units, with the basal unit just above the Austin Chalk being a clay unit with increased silt and sand, and very moist to wet at some of the boring locations.

While installing MW-01 using hollow stem auger drilling methods, the top of the Austin Chalk was encountered at approximately 11.5 ft bgs and the DPT rig got refusal at 12 ft bgs. However, when installing monitoring wells MW-02 and MW-03, the DPT rig did not encounter the top of the Austin Chalk, and these wells were installed 10 ft into the top of the apparent groundwater interface. MW-02 was installed to a total depth of 25 ft bgs, and MW-03 was installed to a total depth of 20 ft bgs.

Following installation and development of the monitoring wells, the wells were gauged while collecting groundwater samples using low-flow groundwater sampling methods. Depth to groundwater from ground surface ranged from 1.48 ft in MW-02 to 2.91 ft in MW-01. This data indicates that groundwater beneath, and in close proximity to, the former facility is shallow and perched in terrace deposits overlying the Austin Chalk. In the case of MW-02 and MW-03, these wells are in close proximity to Stream 5A2, which may be responsible for erosion of the Austin Chalk and deposition of thicker alluvium deposits associated with the stream's flood plain. Given the relatively shallow nature of the perched groundwater unit beneath the site, it is also plausible there is a groundwater to surface water pathway.

4. PHASE 1 REMEDIAL INVESTIGATION DATA SUMMARY

This section presents a summary of the analytical data collected during the Phase 1 RI field event. The DSTM has been structured so that presentation of supporting tables and figures for surface soil, subsurface soil, sediment, surface water, sediment, and groundwater, are presented in Appendices A through E, respectively.

Table A-2 (surface soil; Appendix A), Table B-2 (subsurface soil, Appendix B), Table C-2 (sediment, Appendix C), Table D-2 (surface water, Appendix D) and E-2 (groundwater,

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appendix E) present the screening levels (SLs) used to evaluate and screen the data. They also provide a summary of the number of detections for each analyte, where the highest detection occurred, and if a SL exceedance occurred, the magnitude of the exceedance over the SL.

4.1 SOIL

Surface soil samples from 0 to 2 ft bgs and subsurface soil samples greater than 2 ft bgs were collected during the Phase 1 RI field investigation to supplement the soil samples collected during previous investigations. As previously stated under Section 1.0, the soil samples collected during the 2016 RA included surface soil samples that were analyzed for metals, including mercury. The surface soil samples collected by TCEQ in 2016 were analyzed for metals and cyanide. These historical sample locations are included on the surface soil maps illustrating the distributions of historical COPCs in relationship to the Phase 1 RI results.

4.1.1 Surface Soil

Appendix A contains tables and figures that summarize and illustrate the distribution of SL exceedances in Phase 1 RI surface soil samples. Table A-1 provides a summary of surface soil locations and associated laboratory analyses for each surface soil location. Table A-2 provides a summary of detections and SL exceedances. As indicated on Table A-2, only metals and cyanide exceeded Human Health and/or Ecological SLs. COPCs that exceeded Human Health SLs included antimony, arsenic, cadmium, hexavalent chromium, lead, mercury, and cyanide. Metals that exceeded Ecological SLs included antimony, cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, vanadium, and zinc.

Table A-3 summarizes preliminary metal and cyanide SL exceedances at each Phase 1 RI surface soil sample location. As indicated on this table, and summarized below, there were widespread Human Health and Ecological SL exceedances for multiple metals in the surface soil samples collected during the Phase 1 RI field event. The most widespread Human Health SL exceedances include arsenic and hexavalent chromium, while cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, vanadium and zinc displayed the most widespread Ecological SL exceedances in the Phase 1 RI surface soil. Figures A-1 and A-2 illustrate Human Health and Ecological SL exceedances for metals in the Phase 1 RI surface soil samples, respectively, and Figure A-3 illustrates the distribution of Human Health SL exceedances for cyanide in the Phase 1 RI surface soil samples. These exceedances are based on use of default EPA and/or TCEQ screening values. The distribution of exceedances may change once background conditions for soil has been evaluated, and formal, site-specific Human Health and Ecological Risk Assessments have been completed.

Analyte	Human Health SL Exceedances	Ecological SL Exceedances	Maximum Concentration (mg/kg)	Sample Location
Antimony	1	7	55.6	MW-1-0-0.5-D
Arsenic	37	0	8.1	DSB-4-0.0-0.5
Cadmium	2	21	109	MW-1-0-0.5-D
Chromium	0	37	6320	MW-1-0-0.5-D
Chromium (hexavalent)	35	35	1130	JSB-2-0.0-0.5

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Analyte	Human Health SL Exceedances	Ecological SL Exceedances	Maximum Concentration (mg/kg)	Sample Location
Copper	0	14	224	MW-1-0-0.5-D
Cyanide	2	0	5.1	JSB-3-0.0-0.5
Lead	7	36	7850	MW-1-0-0.5-D
Manganese	0	37	1480	DSB-6-0.0-0.5 JSB-4-0.5-2.0
Mercury	5	22	144	JSB-4-0.0-0.5
Nickel	0	14	528	MW-1-0.0-0.5
Vanadium	0	35	56.2	JSB-2-0.5-2.0
Zinc	0	17	350	MW-1-0.0-0.5

4.1.2 Subsurface Soil

Appendix B contains tables and figures that summarize and illustrate the distribution of screening level exceedances in Phase 1 RI subsurface soil samples. Table B-1 provides a summary of surface soil locations and associated laboratory analyses for each subsurface soil location. Table B-2 provides a summary of detections and SL exceedances. As indicated on Table B-2, only metals exceeded Human Health SLs. Metals that exceeded Human Health SLs included arsenic and hexavalent chromium.

Table B-3 summarizes preliminary metal SL exceedances at each Phase 1 RI subsurface soil sample location. As indicated on this table, and summarized below, there were widespread Human Health SL exceedances for both arsenic and hexavalent chromium in the areas where the Phase 1 subsurface soil samples were collected. An arsenic exceedance as deep as 16 ft bgs occurred in a soil sample collected during the installation of MW-02, while soil boring JSB-4 displayed a hexavalent chromium SL exceedance from a soil sample collected in the 14 to 15 ft bgs interval of this boring location. Figure B-1 illustrates the distribution of metal exceedances in the Phase 1 RI subsurface soil samples. These exceedances are based on use of default EPA and/or TCEQ screening values. The distribution of exceedances may change once background conditions for soil has been evaluated, and formal, site-specific Human Health and Ecological Risk Assessments have been completed.

Analyte	Human Health SL Exceedances	Maximum Concentration (mg/kg)	Sample Location
Arsenic	26	22.1	DSB-5-9.0-11.0
Chromium (hexavalent)	22	53.5	JSB-2-2.0-5.0

4.2 SEDIMENT AND SURFACE WATER

4.2.1 Sediment

Appendix C contains tables and figures that summarize and illustrate the distribution of SL exceedances in Phase 1 RI sediment samples. Table C-1 provides a summary of sediment locations and associated laboratory analyses for each sediment location. Table C-2 provides a summary of detections and SL exceedances.

It is noted that after conferring with the EA Human Health Risk Assessor, SLs for metals were adjusted following the procedures that will be followed when the human health risk assessment is performed. Because the EPA has not set forth RSLs for sediment, EPA residential soil RSLs are used to screen sediment results. Typically, any receptor exposure to sediment is significantly less than soil since soil contact accounts for daily contact throughout a year within a residential yard. Receptor contact with sediment would be intermittent and likely less than one day per week, specifically the surface water bodies at the site are small and not sufficient to support swimming or other high contact recreational activities. Additionally, the residential soil RSLs take into account the ingestion of dust, both indoor and outdoor, when evaluating the ingestion of soil exposure route. Exposure to sediment is not expected to result in ingestion of dust, resulting in a decreased ingestion rate of sediment in comparison to soil. To account for these reduced exposure parameters, the residential soil RSLs are increased by a factor of ten to account for reduced exposures to sediment when performing the Human Health Risk Assessment. This adjustment resulted in use of a SL of 6.8 mg/kg for arsenic, and 3.0 mg/kg for hexavalent chromium, and these SLs are still more conservative than the Texas Commission on Environmental Quality's (TCEQ's) Texas Risk Reduction Program Tier 1 $^{Tot}Sed_{Comb}$ Protective Concentration Levels.

As indicated on Table C-2, only metals and SVOCs (polycyclic aromatic hydrocarbons) exceeded Human Health and/or Ecological SLs. Metals that exceeded Human Health SLs included arsenic and hexavalent chromium; none of the SVOC detections exceeded Human Health SLs. Metals that exceeded Ecological SLs included chromium, lead, manganese, nickel, and zinc. The SVOCs that exceeded Ecological SLs included fluoranthene and pyrene.

Table C-3 summarizes preliminary metal and cyanide SL exceedances at each Phase 1 RI sediment sample location. As indicated on this table, and summarized below, there were two sediment sample locations (LSED-02, and LSED-12) where arsenic exceeded the Human Health SL for this metal. There also two locations (LSED-9 and LSED-12) where hexavalent chromium exceeded the Human Health SL for this metal. The most widespread Ecological SL exceedances for metals included lead and manganese. The SVOCs that exceeded Ecological SLs included fluoranthene and pyrene and were detected at LSED-1. Figures C-1 and C-2 illustrate the distribution of metal detections that exceeded Human Health and Ecological SLs, respectively, in the Phase 1 RI sediment samples. Figure C-3 illustrates Ecological SL exceedances for SVOCs in the Phase 1 RI sediment samples. As indicated on Figure C-2, there were metal detections that exceeded SL exceedances at sample locations LSED-13 and LSED-14, which are upstream of the site. These exceedances are based on use of default EPA and/or TCEQ screening values. The distribution of exceedances may change once background conditions for sediment has been evaluated, and formal, site-specific Human Health and Ecological Risk Assessments have been completed.

Analyte	Human Health SL Exceedances	Ecological SL Exceedances	Maximum Concentration (mg/kg)	Sample Location
Arsenic	2	0	8.1	LSED-12
Chromium	0	1	79.1	LSED-9
Chromium (hexavalent)	2	0	5.1	LSED-9
Lead	0	14	120	LSED-16

Analyte	Human Health SL Exceedances	Ecological SL Exceedances	Maximum Concentration (mg/kg)	Sample Location
Manganese	0	19	1240	LSED-9
Nickel	0	2	55.9	LSED-4
Zinc	0	2	151	LSED-5
Fluoranthene	0	1	0.637	LSED-1
Pyrene	0	1	0.710	LSED-1

4.2.2 Surface Water

Appendix D contains tables and figures that summarize and illustrate the distribution of SL exceedances in Phase 1 RI surface water samples. Table D-1 provides a summary of surface water locations and associated laboratory analyses for each surface water sample location. Table D-2 provides a summary of detections and SL exceedances. As indicated on Table D-2, only metals and cyanide exceeded Human Health and/or Ecological SLs. Metals that exceeded Human Health SLs included manganese, with one surface water sample location also displaying a cyanide SL exceedance. Metals that exceeded Ecological SLs included aluminum, iron, magnesium, and manganese, with one surface water location also displaying a cyanide SL exceedance.

Table D-3 summarizes preliminary metal and cyanide SL exceedances at each Phase 1 RI surface water sample location. As indicated on this table, and summarized below, manganese exceeded its Human Health SL at all of the surface water locations. The one cyanide detection that exceeded the Human Health SL was located at surface water sample location LSW-08. The most widespread Ecological SLs for metals were aluminum and magnesium, with one to two exceedances for the other metals. Figures D-1, D-2 illustrate the distribution of total metal detections that exceeded Human Health Ecological SLs, respectively, while Figures D-3 and D-4, illustrate the distribution of dissolved metal detections that exceeded Human Health Ecological SLs, respectively. Figures D-5, and D-6 illustrate the distribution of cyanide detections that exceeded Human Health and Ecological SLs, respectively. As indicated on Figures D-1 through D-4, there were metal SL exceedances at sample locations LSW-13 and LSW-14, which are upstream from the site. These exceedances are based on use of default EPA and/or TCEQ screening values. The distribution of exceedances may change once background conditions for surface water has been evaluated, and/or formal, site-specific Human Health and Ecological Risk Assessments have been completed.

It is also noted that due to limited screening values for PFCs in surface water, the PFC detections in surface water were also compared to TCEQ Tier 1 $^{GW}GW_{Ing}$ Protective Concentration Levels, and none of the detections exceeded groundwater SLs for these compounds.

Analyte	Human Health SL Exceedances	Ecological SL Exceedances	Maximum Concentration (µg/L)	Sample Location
Aluminum	0	12	326	LSW-06
Iron	0	1	1170	LSW-06
Magnesium	0	21	4620	LSW-04-F
Manganese	22	2	1680	LSW-02

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Analyte	Human Health SL Exceedances	Ecological SL Exceedances	Maximum Concentration (µg/L)	Sample Location
Cyanide	1	1	32.9	LSW-08

4.3 GROUNDWATER

Appendix E contains tables and figures that summarize and illustrate the distribution of Phase 1 RI SL exceedances in groundwater. Table E-1 provides a summary of groundwater locations and associated laboratory analyses for each groundwater sample location. Table E-2 provides a summary of detections and SL exceedances. As indicated on Table E-2, only metals and PFCs exceeded Human Health SLs. Metals that exceeded Human Health SLs included chromium and hexavalent chromium. The PFCs that were detected above Human Health SLs included perfluorohexanesulfonic acid and perfluorooctanesulfonic acid.

Table E-3 summarizes preliminary metal and PFC SL exceedances for the groundwater samples collected from the three monitoring wells and two onsite water wells. As indicated on this table, and summarized below, both chromium and hexavalent chromium were detected at concentrations that exceeded screening criteria in WW-01 and MW-01. The PFC SL exceedances were associated with the groundwater sample collected from MW-1 Figures E-1 and E-2 illustrate the distribution of metal and PFC exceedances in the Phase 1 RI groundwater samples, respectively. These exceedances are based on use of default EPA and/or TCEQ screening values. The distribution of exceedances may change once background conditions for groundwater has been evaluated, and/or formal, site-specific Human Health Assessment has been completed.

Analyte	Human Health SL Exceedances	Maximum Concentration (µg/L)	Sample Location
Chromium	5	626	WW-01-F-D
Chromium (hexavalent)	3	565	WW-01
Perfluorohexanesulfonic acid (PFHxS)	2	0.48	MW-01
Perfluorooctanesulfonic acid (PFOS)	2	18	MW-01

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5. REFERENCES

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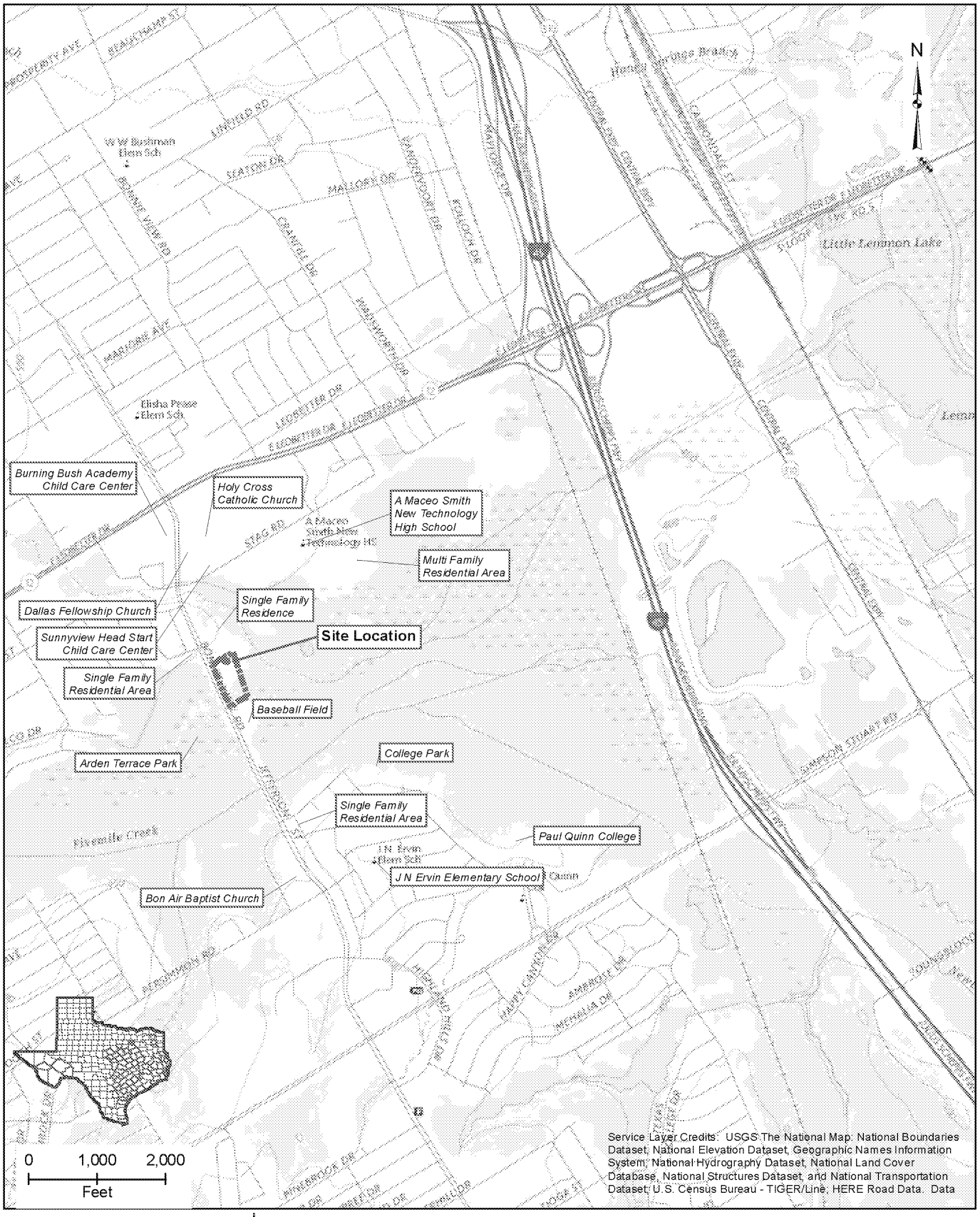
Figures



Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 1
Site Location

2019-02-14 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\CUSTMLP_SigFeaturesP.mxd EA-Dallas jschwertz

N

0 100 200
Feet

Legend

- On-site Wells
- Overland Flow
- Approximate Site Boundary
- Stream
- Stream Seasonal
- Barbed Wire Fence fair to poor condition
- Chainlink Fence good condition
- Chainlink Gate good condition
- Freshwater Emergent Wetland
- Freshwater Forested /Shrub Wetland
- Freshwater Pond

Note:
HWTB: Hazardous Waste Treatment Building

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 2
Site Features

N

0 50 100
Feet

Legend

- RI Soil Sample Locations
- Sample locations with full suite analysis.
- ERT Soil Sample Location
- TCEQ Soil Sample Location
- On-site Wells
- Approximate Site Boundary
- Stream
- Stream Seasonal
- Freshwater Emergent Wetland
- Freshwater Forested /Shrub Wetland
- Freshwater Pond

Note:
RI - Remedial Investigation - Phase 1
ERT - US EPA Emergency response Team
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 3
Phase 1 RI Surface Soil Sample Locations

2019-09-27 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\RI\LP_SsLocs.mxd EA-Dallas jschweitz

N

0 50 100
Feet

Legend

- Soil Sample Locations
- Sample locations with full suite analysis.
- On-site Wells
- Approximate Site Boundary
- Stream
- Stream Seasonal
- Freshwater Emergent Wetland
- Freshwater Forested /Shrub Wetland
- Freshwater Pond

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 4
Phase 1 RI Subsurface Soil Sample Locations

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N

0 150 300
Feet

Legend

- RI Sediment Sample Locations
- Sample locations with full suite analysis.
- TCEQ Sediment Sample Locations
- On-site Wells
- Approximate Site Boundary
- Stream
- Stream Seasonal
- Freshwater Emergent Wetland
- Freshwater Forested /Shrub Wetland
- Freshwater Pond

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 5
Phase 1 RI Sediment Sample Locations

2019-09-27 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\RI\LP_SedimentLocs.mxd EA-Dallas jschwertz

N

0 150 300
Feet

Legend

- RI Surface Water Sample Locations
- Sample locations with full suite analysis.
- TCEQ Surface Water Sample Locations
- On-site Wells
- Approximate Site Boundary
- Stream
- Stream Seasonal
- Freshwater Emergent Wetland
- Freshwater Forested /Shrub Wetland
- Freshwater Pond

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 6
Phase 1 RI Surface Water Sample Locations

2019-09-27 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\RI\LP_SWLocs.mxd EA-Dallas jschwertz

N

0 50 100
Feet

Legend

- Groundwater Sample Locations
- Sample locations with full suite analysis.
- On-site Wells
- Approximate Site Boundary
- Stream
- Stream Seasonal
- Freshwater Emergent Wetland
- Freshwater Forested /Shrub Wetland
- Freshwater Pond

Note:
RI - Remedial Investigation - Phase 1
ERT - US EPA Emergency response Team
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure 7
Phase 1 RI Groundwater Sample Locations

2019-09-30 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\RI\LP_GWLocs.mxd EA-Dallas jschwertz

Appendix A

Phase 1 Remedial Investigation Data Summary for Surface Soil

Table A-1: Phase 1 Remedial Investigation Surface Soil Sample Summary

Sample Location	Boring Total Depth (ft bgs)	Sample Medium	Sample Identification	Sampling Depth (ft bgs)	Analysis									
					VOCs	SVOCs	TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	ORP	pH	TPH
Surface Soil Sample Locations														
DSB- 1	11	Surface soil	DSB-1-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-1-0.5-2.0	0.5 - 2.0			X	X	X					
DSB- 2	11	Surface soil	DSB-2-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-2-0.5-2.0	0.5 - 2.0			X	X	X					
DSB- 3	10	Surface soil	DSB-3-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-3-0.5-2.0	0.5 - 2.0	X	X	X	X	X	X	X	X	X	X
DSB- 4	15	Surface soil	DSB-4-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-4-0.5-2.0	0.5 - 2.0			X	X	X					
DSB- 5	11	Surface soil	DSB-5-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-5-0.5-2.0	0.5 - 2.0			X	X	X					
			DSB-5-0.5-2.0-D	0.5 - 2.0			X	X	X					
DSB- 6	15	Surface soil	DSB-6-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-6-0.5-2.0	0.5 - 2.0			X	X	X					
DSB- 7	11	Surface soil	DSB-7-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-7-0.5-2.0	0.5 - 2.0	X	X	X	X	X	X	X	X	X	X
DSB- 8	10	Surface soil	DSB-8-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-8-0.0-0.5-D	0.0 - 0.5			X	X	X					
			DSB-8-0.5-2.0	0.5 - 2.0	X	X	X	X	X	X	X	X	X	X
			DSB-8-0.5-2.0-D	0.5 - 2.0	X	X	X	X	X	X	X	X	X	X
DSB- 9	12	Surface soil	DSB-9-0.0-0.5	0.0 - 0.5			X	X	X					
			DSB-9-0.5-2.0	0.5 - 2.0			X	X	X					
JSB- 1	11	Surface soil	JSB-1-0.0-0.5	0.0 - 0.5			X	X	X					
			JSB-1-0.5-2.0	0.5 - 2.0			X	X	X					
JSB- 2	10	Surface soil	JSB-2-0.0-0.5	0.0 - 0.5			X	X	X					
			JSB-2-0.0-0.5-D	0.0 - 0.5			X	X	X					
			JSB-2-0.5-2.0	0.5 - 2.0			X	X	X					
			JSB-2-0.5-2.0-D	0.5 - 2.0			X	X	X					
JSB- 3	13	Surface soil	JSB-3-0.0-0.5	0.0 - 0.5			X	X	X					
			JSB-3-0.5-2.0	0.5 - 2.0			X	X	X					
			JSB-3-0.5-2.0-D	0.5 - 2.0			X	X	X					
JSB- 4	15	Surface soil	JSB-4-0.0-0.5	0.0 - 0.5			X	X	X					
			JSB-4-0.5-2.0	0.5 - 2.0			X	X	X					

Table A-1: Phase 1 Remedial Investigation Surface Soil Sample Summary

Sample Location	Boring Total Depth (ft bgs)	Sample Medium	Sample Identification	Sampling Depth (ft bgs)	Analysis									
					VOCs	SVOCs	TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	ORP	pH	TPH
Monitoring Wells														
MW- 1	12	Surface soil	MW-1-0.0-0.5	0.0 - 0.5			X	X	X					
			MW-1-0.0-0.5-D	0.0 - 0.5			X	X	X					
			MW-1-0.5-2.0	0.5 - 2.0			X	X	X					
MW- 2	25	Surface soil	MW-2-0.0-0.5	0.0 - 0.5			X	X	X					
			MW-2-0.5-2.0	0.5 - 2.0			X	X	X					
MW- 3	20	Surface soil	MW-3-0.0-0.5	0.0 - 0.5			X	X	X					
			MW-3-0.5-2.0	0.5 - 2.0			X	X	X					

NOTE:
bgs = Below ground surface.
ft = foot (feet).
ORP = Oxidation Reduction Potential .
PCB = Polychlorinated biphenyl.
PFC = Perfluorochemical .
SVOC = Semivolatile organic compound.
TAL = Total analyte list.
TPH = Total petroleum hydrocarbons.
VOC = Volatile organic compound.

Table A-2 Phase 1 Surface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Soil Standard Unit	[2]Residential Human Health Screening Value	[2]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[2]Industrial Human Health Screening Exceedance	[4]Ecological Screening Value	Applicable Ecological Soil Screening value Source	[3]Ecological Screening Exceedance
Miscellaneous													
Chromium (hexavalent)	mg/kg	4.40E-01	1.13E+03	JSB-2	35/35	mg/kg	3.00E-01	3.77E+03	6.30E+00	1.79E+02	4.00E-01	TCEQ Ecological Soil Benchmark	2.83E+03
Cyanide	mg/kg	3.30E-02	5.10E+00	JSB-3	22/37	mg/kg	2.70E+00	1.89E+00	1.20E+01	--	--	--	--
Metals													
Aluminum	mg/kg	9.41E+03	2.56E+04	JSB-4	37/37	mg/kg	7.70E+04	--	1.10E+06	--	--	--	--
Antimony	mg/kg	1.90E+00	5.56E+01	MW-01	7/37	mg/kg	3.10E+01	1.79E+00	4.70E+02	--	5.00E+00	TCEQ Ecological Soil Benchmark	1.11E+01
Arsenic	mg/kg	5.20E+00	8.10E+00	DSB-4	37/37	mg/kg	6.80E-01	1.19E+01	3.00E+00	2.70E+00	1.80E+01	--	--
Barium	mg/kg	6.92E+01	1.91E+02	JSB-2	37/37	mg/kg	1.50E+04	--	2.20E+05	--	3.30E+02	--	--
Beryllium	mg/kg	5.50E-01	9.30E-01	DSB-5, JSB-2	32/37	mg/kg	1.60E+02	--	2.30E+03	--	1.00E+01	--	--
Cadmium	mg/kg	2.60E-01	1.09E+02	MW-01	24/37	mg/kg	7.10E+01	1.54E+00	9.80E+02	--	3.60E-01	--	3.03E+02
Calcium	mg/kg	6.16E+04	2.01E+05	DSB-6	37/37	--	--	--	--	--	--	--	--
Chromium	mg/kg	1.02E+01	6.32E+03	MW-01	37/37	mg/kg	1.20E+05	--	1.80E+06	--	4.00E-01	TCEQ Ecological Soil Benchmark	1.58E+04
Cobalt	mg/kg	5.90E+00	1.18E+01	JSB-2	37/37	mg/kg	2.30E+01	--	3.50E+02	--	1.30E+01	--	--
Copper	mg/kg	8.00E+00	2.24E+02	MW-01	37/37	mg/kg	3.10E+03	--	4.70E+04	--	7.00E+01	--	3.20E+00
Iron	mg/kg	1.24E+04	2.99E+04	JSB-2	37/37	mg/kg	5.50E+04	--	8.20E+05	--	--	--	--
Lead	mg/kg	1.38E+01	7.85E+03	MW-01	37/37	mg/kg	4.00E+02	1.96E+01	8.00E+02	9.81E+00	1.10E+01	--	7.14E+02
Mercury	mg/kg	2.00E-02	1.44E+02	JSB-4	37/37	mg/kg	1.10E+01	1.31E+01	4.60E+01	3.13E+00	1.00E-01	TCEQ Ecological Soil Benchmark	1.44E+03
Magnesium	mg/kg	1.70E+03	5.14E+03	JSB-4	37/37	--	--	--	--	--	--	--	--
Manganese	mg/kg	6.27E+02	1.48E+03	DSB-6, JSB-4	37/37	mg/kg	1.80E+03	--	2.60E+04	--	2.20E+02	TCEQ Ecological Soil Benchmark	6.73E+00
Nickel	mg/kg	1.66E+01	8.97E+02	MW-01	37/37	mg/kg	1.50E+03	--	2.20E+04	--	3.80E+01	TCEQ Ecological Soil Benchmark	2.36E+01
Potassium	mg/kg	1.51E+03	3.87E+03	JSB-4	37/37	--	--	--	--	--	--	--	--
Selenium	mg/kg	2.40E-01	5.10E-01	JSB-3	15/37	mg/kg	3.90E+02	--	5.80E+03	--	5.20E-01	--	--
Silver	mg/kg	6.40E-01	1.70E+00	MW-01	3/37	mg/kg	3.90E+02	--	5.80E+03	--	5.60E+02	--	--
Sodium	mg/kg	1.09E+02	1.99E+02	DSB-7	6/37	--	--	--	--	--	--	--	--
Thallium	mg/kg	7.30E-02	1.10E-01	DSB-5, MW-02	11/37	mg/kg	7.80E-01	--	1.20E+01	--	1.00E+00	--	--
Vanadium	mg/kg	4.70E+00	5.62E+01	JSB-2	35/37	mg/kg	3.90E+02	--	5.80E+03	--	2.00E+00	TCEQ Ecological Soil Benchmark	2.81E+01
Zinc	mg/kg	2.28E+01	3.87E+02	MW-01	37/37	mg/kg	2.30E+04	--	3.50E+05	--	1.20E+02	TCEQ Ecological Soil Benchmark	3.23E+00
Polycyclic Aromatic Hydrocarbons													
2-Methylnaphthalene	µg/kg	--	--	--	0/3	mg/kg	2.40E+02	--	3.00E+03	--	2.90E+01	--	--
Acenaphthene	µg/kg	--	--	--	0/3	mg/kg	3.60E+03	--	4.50E+04	--	2.90E+01	--	--
Acenaphthylene	µg/kg	--	--	--	0/3	mg/kg	3.60E+03	--	4.50E+04	--	2.90E+01	--	--
Anthracene	µg/kg	--	--	--	0/3	mg/kg	1.80E+04	--	2.30E+05	--	2.90E+01	--	--
Benzo (a) anthracene	µg/kg	--	--	--	0/3	mg/kg	1.10E+00	--	2.10E+01	--	1.00E+00	--	--
Benzo (a) pyrene	µg/kg	--	--	--	0/3	mg/kg	1.10E-01	--	2.10E+00	--	1.00E+00	--	--
Benzo (b) fluoranthene	µg/kg	--	--	--	0/3	mg/kg	1.10E+00	--	2.10E+01	--	1.00E+00	--	--
Benzo (k) fluoranthene	µg/kg	--	--	--	0/3	mg/kg	1.10E+01	--	2.10E+02	--	1.00E+00	--	--
Benzo (g,h,i) perylene	µg/kg	--	--	--	0/3	mg/kg	1.80E+03	--	2.30E+04	--	1.00E+00	--	--
Chrysene	µg/kg	--	--	--	0/3	mg/kg	1.10E+02	--	2.10E+03	--	1.00E+00	--	--
Dibenz (a,h) anthracene	µg/kg	--	--	--	0/3	mg/kg	1.10E-01	--	2.10E+00	--	1.00E+00	--	--
Fluoranthene	µg/kg	--	--	--	0/3	mg/kg	2.40E+03	--	3.00E+04	--	1.00E+00	--	--

Table A-2 Phase 1 Surface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Soil Standard Unit	[2]Residential Human Health Screening Value	[2]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[2]Industrial Human Health Screening Exceedance	[4]Ecological Screening Value	Applicable Ecological Soil Screening value Source	[3]Ecological Screening Exceedance
Fluorene	µg/kg	--	--	--	0/3	mg/kg	2.40E+03	--	3.00E+04	--	2.90E+01	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	--	--	--	0/3	mg/kg	1.10E+00	--	2.10E+01	--	1.00E+00	--	--
Naphthalene	µg/kg	--	--	--	0/3	mg/kg	3.80E+00	--	1.70E+01	--	2.90E+01	--	--
Phenanthrene	µg/kg	--	--	--	0/3	mg/kg	1.80E+03	--	2.30E+04	--	2.90E+01	--	--
Pyrene	µg/kg	--	--	--	0/3	mg/kg	1.80E+03	--	2.30E+04	--	1.00E+00	--	--
Polychlorinated biphenyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1016	µg/kg	--	--	--	0/3	mg/kg	4.10E+00	--	2.70E+01	--	--	--	--
Aroclor-1221	µg/kg	--	--	--	0/3	mg/kg	2.00E-01	--	8.30E-01	--	--	--	--
Aroclor-1232	µg/kg	--	--	--	0/3	mg/kg	1.70E-01	--	7.20E-01	--	--	--	--
Aroclor-1242	µg/kg	--	--	--	0/3	mg/kg	2.30E-01	--	9.50E-01	--	--	--	--
Aroclor-1248	µg/kg	--	--	--	0/3	mg/kg	2.30E-01	--	9.50E-01	--	--	--	--
Aroclor-1254	µg/kg	--	--	--	0/3	mg/kg	2.40E-01	--	9.70E-01	--	--	--	--
Aroclor-1260	µg/kg	--	--	--	0/3	mg/kg	2.40E-01	--	9.90E-01	--	--	--	--
Perfluorinated Compounds													
Perfluorobutanesulfonic acid (PFBS)	ng/g	3.20E-01	4.10E-01	DSB-7	2/4	mg/kg	8.60E+01	--	6.00E+02	--	--	--	--
Perfluorobutanoic acid	ng/g	--	--	--	0/4	mg/kg	1.80E+02	--	1.10E+03	--	--	--	--
Perfluorodecanesulfonic acid	ng/g	--	--	--	0/4	mg/kg	8.00E-01	--	8.20E+00	--	--	--	--
Perfluorodecanoic acid	ng/g	--	--	--	0/4	mg/kg	9.90E-01	--	9.40E+00	--	--	--	--
Perfluorododecanoic acid	ng/g	--	--	--	0/4	mg/kg	7.90E-01	--	7.50E+00	--	--	--	--
Perfluoroheptanoic acid	ng/g	--	--	--	0/4	mg/kg	1.50E+00	--	1.60E+01	--	--	--	--
Perfluorohexanesulfonic acid (PFHxS)	ng/g	--	--	--	0/4	mg/kg	2.50E-01	--	2.20E+00	--	--	--	--
Perfluorohexanoic acid	ng/g	--	--	--	0/4	mg/kg	2.50E-01	--	2.60E+00	--	--	--	--
Perfluorononanoic acid	ng/g	--	--	--	0/4	mg/kg	7.60E-01	--	6.10E+00	--	--	--	--
Perfluorooctanesulfonic acid (PFOS)	ng/g	3.00E+01	7.60E+01	DSB-8	4/4	mg/kg	1.50E+00	--	1.50E+01	--	--	--	--
Perfluorooctanoic acid (PFOA)	ng/g	--	--	--	0/4	mg/kg	6.00E-01	--	2.40E+00	--	--	--	--
Perfluoropentanoic acid	ng/g	--	--	--	0/4	mg/kg	2.50E-01	--	2.60E+00	--	--	--	--
Perfluorotetradecanoic acid	ng/g	--	--	--	0/4	mg/kg	5.10E-01	--	8.20E+00	--	--	--	--
Perfluorotridecanoic acid	ng/g	--	--	--	0/4	mg/kg	6.10E-01	--	8.20E+00	--	--	--	--
Perfluoroundecanoic acid	ng/g	--	--	--	0/4	mg/kg	8.00E-01	--	8.20E+00	--	--	--	--
PFOSA	ng/g	--	--	--	0/4	mg/kg	5.80E-02	--	8.70E-02	--	--	--	--
Semi-volatile Organic Compounds													
1,1'-Biphenyl	µg/kg	--	--	--	0/3	mg/kg	4.70E+01	--	2.00E+02	--	6.00E+01	--	--
1-Methylnaphthalene	µg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/kg	--	--	--	0/3	mg/kg	6.30E+03	--	8.20E+04	--	4.00E+00	--	--
2,4,6-Trichlorophenol	µg/kg	--	--	--	0/3	mg/kg	4.90E+01	--	2.10E+02	--	1.00E+01	--	--
2,4-Dichlorophenol	µg/kg	--	--	--	0/3	mg/kg	1.90E+02	--	2.50E+03	--	--	--	--
2,4-Dimethylphenol	µg/kg	--	--	--	0/3	mg/kg	1.30E+03	--	1.60E+04	--	--	--	--
2,4-Dinitrophenol	µg/kg	--	--	--	0/3	mg/kg	1.30E+02	--	1.60E+03	--	2.00E+01	--	--
2,4-Dinitrotoluene	µg/kg	--	--	--	0/3	mg/kg	1.70E+00	--	7.40E+00	--	6.00E+00	--	--
2,6-Dinitrotoluene	µg/kg	--	--	--	0/3	mg/kg	3.60E-01	--	1.50E+00	--	5.00E+00	--	--

Table A-2 Phase 1 Surface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Soil Standard Unit	[2]Residential Human Health Screening Value	[2]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[2]Industrial Human Health Screening Exceedance	[4]Ecological Screening Value	Applicable Ecological Soil Screening value Source	[3]Ecological Screening Exceedance
2-Chloronaphthalene	µg/kg	--	--	--	0/3	mg/kg	4.80E+03	--	6.00E+04	--	--	--	--
2-Chlorophenol	µg/kg	--	--	--	0/3	mg/kg	3.90E+02	--	5.80E+03	--	--	--	--
2-Methylphenol	µg/kg	--	--	--	0/3	mg/kg	3.20E+03	--	4.10E+04	--	--	--	--
2-Nitroaniline	µg/kg	--	--	--	0/3	mg/kg	6.30E+02	--	8.00E+03	--	--	--	--
2-Nitrophenol	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
3 &/or 4-Methylphenol	µg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
3,3′-Dichlorobenzidine	µg/kg	--	--	--	0/3	mg/kg	1.20E+00	--	5.10E+00	--	--	--	--
3-Nitroaniline	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/kg	--	--	--	0/3	mg/kg	5.10E+00	--	6.60E+01	--	--	--	--
4-Bromophenyl phenyl ether	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/kg	--	--	--	0/3	mg/kg	6.30E+03	--	8.20E+04	--	--	--	--
4-Chloroaniline	µg/kg	--	--	--	0/3	mg/kg	2.70E+00	--	1.10E+01	--	--	--	--
4-Chlorophenyl phenyl ether	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
4-Nitroaniline	µg/kg	--	--	--	0/3	mg/kg	2.70E+01	--	1.10E+02	--	--	--	--
4-Nitrophenol	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	7.00E+00	--	--
Acetophenone	µg/kg	--	--	--	0/3	mg/kg	7.80E+03	--	1.20E+05	--	--	--	--
Atrazine	µg/kg	--	--	--	0/3	mg/kg	2.40E+00	--	1.00E+01	--	--	--	--
Benzaldehyde	µg/kg	--	--	--	0/3	mg/kg	7.80E+03	--	1.20E+05	--	--	--	--
Bis(2-chloro-1-methylethyl)ether	µg/kg	--	--	--	0/3	mg/kg	3.10E+03	--	4.70E+04	--	--	--	--
Bis(2-chloroethoxy)methane	µg/kg	--	--	--	0/3	mg/kg	1.90E+02	--	2.50E+03	--	--	--	--
Bis(2-chloroethyl)ether	µg/kg	--	--	--	0/3	mg/kg	2.30E-01	--	1.00E+00	--	--	--	--
Bis(2-ethylhexyl)phthalate	µg/kg	--	--	--	0/3	mg/kg	3.90E+01	--	1.60E+02	--	--	--	--
Butyl benzyl phthalate	µg/kg	--	--	--	0/3	mg/kg	2.90E+02	--	1.20E+03	--	--	--	--
Caprolactam	µg/kg	--	--	--	0/3	mg/kg	3.10E+04	--	4.00E+05	--	--	--	--
Carbazole	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
Dibenzofuran	µg/kg	--	--	--	0/3	mg/kg	7.30E+01	--	1.00E+03	--	--	--	--
Diethyl phthalate	µg/kg	--	--	--	0/3	mg/kg	5.10E+04	--	6.60E+05	--	1.00E+02	--	--
Dimethyl phthalate	µg/kg	--	--	--	0/3	mg/kg	--	--	--	--	2.00E+02	--	--
Di-n-butyl phthalate	µg/kg	--	--	--	0/3	mg/kg	6.30E+03	--	8.20E+04	--	2.00E+02	--	--
Di-n-octyl phthalate	µg/kg	--	--	--	0/3	mg/kg	6.30E+02	--	8.20E+03	--	--	--	--
Hexachlorobenzene	µg/kg	--	--	--	0/3	mg/kg	2.10E-01	--	9.60E-01	--	--	--	--
Hexachlorobutadiene	µg/kg	--	--	--	0/3	mg/kg	1.20E+00	--	5.30E+00	--	--	--	--
Hexachlorocyclopentadiene	µg/kg	--	--	--	0/3	mg/kg	1.80E+00	--	7.50E+00	--	1.00E+01	--	--
Hexachloroethane	µg/kg	--	--	--	0/3	mg/kg	1.80E+00	--	8.00E+00	--	--	--	--
Isophorone	µg/kg	--	--	--	0/3	mg/kg	5.70E+02	--	2.40E+03	--	--	--	--
Nitrobenzene	µg/kg	--	--	--	0/3	mg/kg	5.10E+00	--	2.20E+01	--	4.00E+01	--	--
N-Nitrosodi-n-propylamine	µg/kg	--	--	--	0/3	mg/kg	7.80E-02	--	3.30E-01	--	--	--	--
N-Nitrosodiphenylamine/Diphenylamine	µg/kg	--	--	--	0/3	mg/kg	1.10E+02	--	4.70E+02	--	2.00E+01	--	--
Pentachlorophenol	µg/kg	--	--	--	0/3	mg/kg	1.00E+00	--	4.00E+00	--	2.00E+00	--	--
Phenol	µg/kg	--	--	--	0/3	mg/kg	1.90E+04	--	2.50E+05	--	3.00E+01	--	--

Table A-2 Phase 1 Surface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Soil Standard Unit	[2]Residential Human Health Screening Value	[2]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[2]Industrial Human Health Screening Exceedance	[4]Ecological Screening Value	Applicable Ecological Soil Screening value Source	[3]Ecological Screening Exceedance
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/kg	--	--	--	0/3	mg/kg	8.10E+03	--	3.60E+04	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/kg	--	--	--	0/3	mg/kg	6.00E-01	--	2.70E+00	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/kg	--	--	--	0/3	mg/kg	6.70E+03	--	2.80E+04	--	--	--	--
1,1,2-Trichloroethane	µg/kg	--	--	--	0/3	mg/kg	1.10E+00	--	5.00E+00	--	--	--	--
1,1-Dichloroethane	µg/kg	--	--	--	0/3	mg/kg	3.60E+00	--	1.60E+01	--	--	--	--
1,1-Dichloroethene	µg/kg	--	--	--	0/3	mg/kg	2.30E+02	--	1.00E+03	--	--	--	--
1,2,4-Trichlorobenzene	µg/kg	--	--	--	0/6	mg/kg	2.40E+01	--	1.10E+02	--	2.00E+01	--	--
1,2-Dibromo-3-chloropropane	µg/kg	--	--	--	0/3	mg/kg	5.30E-03	--	6.40E-02	--	--	--	--
1,2-Dibromoethane	µg/kg	--	--	--	0/3	mg/kg	3.60E-02	--	1.60E-01	--	--	--	--
1,2-Dichlorobenzene	µg/kg	--	--	--	0/6	mg/kg	1.80E+03	--	9.30E+03	--	--	--	--
1,2-Dichloroethane	µg/kg	--	--	--	0/3	mg/kg	4.60E-01	--	2.00E+00	--	--	--	--
1,2-Dichloropropane	µg/kg	--	--	--	0/3	mg/kg	2.80E+00	--	1.20E+00	--	7.00E+02	--	--
1,3-Dichlorobenzene	µg/kg	--	--	--	0/6	mg/kg	1.80E+03	--	9.30E+03	--	--	--	--
1,4-Dichlorobenzene	µg/kg	--	--	--	0/6	mg/kg	2.60E+00	--	1.10E+01	--	2.00E+01	--	--
2-Butanone	µg/kg	--	--	--	0/3	mg/kg	2.70E+04	--	1.90E+05	--	--	--	--
2-Hexanone	µg/kg	--	--	--	0/3	mg/kg	2.00E+02	--	1.30E+03	--	--	--	--
4-Methyl-2-pentanone	µg/kg	--	--	--	0/3	mg/kg	3.30E+04	--	1.40E+05	--	--	--	--
Acetone	µg/kg	1.75E+01	1.75E+01	DSB-8	1/3	mg/kg	6.10E+04	--	6.70E+05	--	--	--	--
Benzene	µg/kg	--	--	--	0/3	mg/kg	1.20E+00	--	5.10E+00	--	--	--	--
Bromodichloromethane	µg/kg	--	--	--	0/3	mg/kg	2.90E-01	--	1.30E+00	--	--	--	--
Bromoform	µg/kg	--	--	--	0/3	mg/kg	1.90E+01	--	8.60E+01	--	--	--	--
Bromomethane	µg/kg	--	--	--	0/3	mg/kg	6.80E+00	--	3.00E+01	--	--	--	--
Carbon disulfide	µg/kg	--	--	--	0/3	mg/kg	7.70E+02	--	3.50E+03	--	--	--	--
Carbon tetrachloride	µg/kg	--	--	--	0/3	mg/kg	6.50E-01	--	2.90E+00	--	--	--	--
Chlorobenzene	µg/kg	--	--	--	0/3	mg/kg	2.80E+02	--	1.30E+03	--	4.00E+01	--	--
Chloroethane	µg/kg	--	--	--	0/3	mg/kg	1.40E+04	--	5.70E+04	--	--	--	--
Chloroform	µg/kg	--	--	--	0/3	mg/kg	3.20E-01	--	1.40E+00	--	--	--	--
Chloromethane	µg/kg	--	--	--	0/3	mg/kg	1.10E+02	--	4.60E+02	--	--	--	--
cis-1,2-Dichloroethene	µg/kg	--	--	--	0/3	mg/kg	1.60E+02	--	2.30E+03	--	--	--	--
cis-1,3-Dichloropropene	µg/kg	--	--	--	0/3	mg/kg	1.80E+00	--	8.20E+00	--	--	--	--
Cyclohexane	µg/kg	--	--	--	0/3	mg/kg	6.50E+03	--	2.70E+04	--	--	--	--
Dibromochloromethane	µg/kg	--	--	--	0/3	mg/kg	8.30E+00	--	3.90E+01	--	--	--	--
Dichlorodifluoromethane	µg/kg	--	--	--	0/3	mg/kg	8.70E+01	--	3.70E+02	--	--	--	--
Ethylbenzene	µg/kg	--	--	--	0/3	mg/kg	5.80E+00	--	2.50E+01	--	--	--	--
Isopropylbenzene	µg/kg	--	--	--	0/3	mg/kg	1.90E+03	--	9.90E+03	--	--	--	--
meta-/para-Xylene	µg/kg	--	--	--	0/3	mg/kg	5.80E+02	--	2.50E+03	--	--	--	--
Methyl acetate	µg/kg	--	--	--	0/3	mg/kg	7.80E+04	--	1.20E+06	--	--	--	--
Methyl tert-butyl ether	µg/kg	--	--	--	0/3	mg/kg	4.70E+01	--	2.10E+02	--	--	--	--
Methylcyclohexane	µg/kg	--	--	--	0/3	mg/kg	6.50E+03	--	2.70E+04	--	--	--	--

Table A-2 Phase 1 Surface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Soil Standard Unit	[2]Residential Human Health Screening Value	[2]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[2]Industrial Human Health Screening Exceedance	[4]Ecological Screening Value	Applicable Ecological Soil Screening value Source	[3]Ecological Screening Exceedance
Methylene chloride	µg/kg	--	--	--	0/3	mg/kg	5.70E+01	--	1.00E+03	--	--	--	--
ortho-Xylene	µg/kg	--	--	--	0/3	mg/kg	6.50E+02	--	2.80E+03	--	--	--	--
Styrene	µg/kg	--	--	--	0/3	mg/kg	6.00E+03	--	3.50E+04	--	3.00E+02	--	--
Tetrachloroethene	µg/kg	--	--	--	0/3	mg/kg	2.40E+01	--	1.00E+02	--	--	--	--
Toluene	µg/kg	--	--	--	0/3	mg/kg	4.90E+03	--	4.70E+04	--	2.00E+02	--	--
trans-1,2-Dichloroethene	µg/kg	--	--	--	0/3	mg/kg	1.60E+03	--	2.30E+04	--	--	--	--
trans-1,3-Dichloropropene	µg/kg	--	--	--	0/3	mg/kg	1.80E+00	--	8.20E+00	--	--	--	--
Trichloroethene	µg/kg	--	--	--	0/3	mg/kg	9.40E-01	--	6.00E+00	--	--	--	--
Trichlorofluoromethane	µg/kg	--	--	--	0/3	mg/kg	2.30E+04	--	3.50E+05	--	--	--	--
Vinyl chloride	µg/kg	--	--	--	0/3	mg/kg	5.90E-02	--	1.70E+00	--	--	--	--
Total Petroleum Hydrocarbons													
TPH (C12-C28)	mg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
TPH (C28-C35)	mg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
TPH (C6-C12)	mg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
TPH (C6-C28)	mg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--
TPH (C6-C35)	mg/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	--	--

NOTE:

[1]Organic compounds and Perfluorinated Compounds were reported in ug/kg and ng/g respectively; calculations were used to adjust these values to mg/kg when comparing them to screening level values, which are reported in mg/kg.

[2] RSLs (May 2019) as presented at EPA website at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (target hazard quotient of 1.0).

[3] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

[4] The Ecological Screening level is based on the most conservative value. It is based on EPA Ecological Soil Screening Levels (SSLs). http://www.epa.gov/ecotox/ecossl/ and Ecological Screening Values for Soil Benchmarks fromTCEQ's Conducting Ecological Risk Assessments at Remediation Sites in Texas. August 2018.
https://www.tceq.texas.gov/remediation/eco/eco.html

-- = Not applicable or not available.

ug/kg = Microgram(s) per kilogram.

mg/kg = Milligram(s) per kilogram.

ng/g = Nanograms per gram.

TCEQ = Texas Commisionon Environmental Quality.

Table A-3 Phase 1 RI Surface Soil Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
DSB-1	DSB-1-0.0-0.5	Surface Soil	5/13/2019	Arsenic	5.2	mg/kg		0.68	7.65	18	----
				Cadmium	0.4	mg/kg	J	71	----	0.36	1.11
				Chromium	19.6	mg/kg		120000	----	0.4	49.00
				Chromium (hexavalent)	0.72	mg/kg		0.3	2.40	0.4	1.80
				Lead	37	mg/kg		400	----	11	3.36
				Manganese	866	mg/kg		1800	----	220	3.94
				Vanadium	28.1	mg/kg		390	----	2	14.05
	DSB-1-0.5-2.0	Surface Soil	5/13/2019	Arsenic	5.3	mg/kg		0.68	7.79	18	----
				Cadmium	0.37	mg/kg	J	71	----	0.36	1.03
				Chromium	18.3	mg/kg		120000	----	0.4	45.75
				Chromium (hexavalent)	0.56	mg/kg		0.3	1.87	0.4	1.40
				Lead	92	mg/kg		400	----	11	8.36
				Manganese	819	mg/kg		1800	----	220	3.72
				Vanadium	28	mg/kg		390	----	2	14.00
DSB-2	DSB-2-0.0-0.5	Surface Soil	5/13/2019	Arsenic	6.1	mg/kg		0.68	8.97	18	----
				Cadmium	1.7	mg/kg		71	----	0.36	4.72
				Chromium	198	mg/kg		120000	----	0.4	495.00
				Chromium (hexavalent)	21.9	mg/kg		0.3	73.00	0.4	54.75
				Lead	33.6	mg/kg		400	----	11	3.05
				Manganese	1090	mg/kg		1800	----	220	4.95
				Mercury	0.31	mg/kg		11	----	0.1	3.10
				Vanadium	21.9	mg/kg		390	----	2	10.95
	DSB-2-0.5-2.0	Surface Soil	5/13/2019	Arsenic	5.8	mg/kg		0.68	8.53	18	----
				Cadmium	0.59	mg/kg		71	----	0.36	1.64
				Chromium	57.9	mg/kg		120000	----	0.4	144.75
				Chromium (hexavalent)	2	mg/kg		0.3	6.67	0.4	5.00
				Lead	17.9	mg/kg		400	----	11	1.63
				Manganese	1200	mg/kg		1800	----	220	5.45
				Vanadium	38.1	mg/kg		390	----	2	19.05
DSB-3	DSB-3-0.0-0.5	Surface Soil	5/15/2019	Arsenic	6	mg/kg		0.68	8.82	18	----
				Cadmium	3.9	mg/kg		71	----	0.36	10.83
				Chromium	736	mg/kg		120000	----	0.4	1840.00
				Chromium (hexavalent)	9.7	mg/kg		0.3	32.33	0.4	24.25
				Copper	29.5	mg/kg		3100	----	28	1.05
				Lead	63.2	mg/kg		400	----	11	5.75
				Manganese	879	mg/kg		1800	----	220	4.00
				Mercury	7.4	mg/kg		11	----	0.1	74.00
				Nickel	40	mg/kg		1500	----	38	1.05
				Vanadium	35.1	mg/kg		390	----	2	17.55
				Zinc	58.7	mg/kg	J	23000	----	46	1.28
	DSB-3-0.5-2.0	Surface Soil	5/15/2019	Arsenic	7.1	mg/kg		0.68	10.44	18	----
				Cadmium	12.1	mg/kg		71	----	0.36	33.61
				Chromium	2440	mg/kg		120000	----	0.4	6100.00
				Chromium (hexavalent)	20.5	mg/kg		0.3	68.33	0.4	51.25

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
DSB-3	DSB-3-0.5-2.0	Surface Soil	5/15/2019	Copper	72.7	mg/kg		3100	----	28	2.60
				Lead	172	mg/kg		400	----	11	15.64
				Manganese	893	mg/kg		1800	----	220	4.06
				Mercury	10.7	mg/kg		11	----	0.1	107.00
				Nickel	100	mg/kg		1500	----	38	2.63
				Vanadium	41.2	mg/kg		390	----	2	20.60
				Zinc	122	mg/kg	J	23000	----	46	2.65
DSB-4	DSB-4-0.0-0.5	Surface Soil	5/14/2019	Arsenic	8.1	mg/kg		0.68	11.91	18	----
				Chromium	11.3	mg/kg		120000	----	0.4	28.25
				Chromium (hexavalent)	1.2	mg/kg		0.3	4.00	0.4	3.00
				Lead	14.8	mg/kg		400	----	11	1.35
				Manganese	744	mg/kg		1800	----	220	3.38
				Mercury	0.58	mg/kg		11	----	0.1	5.80
				Vanadium	42.5	mg/kg		390	----	2	21.25
	DSB-4-0.5-2.0	Surface Soil	5/14/2019	Arsenic	6.7	mg/kg		0.68	9.85	18	----
				Chromium	24.8	mg/kg		120000	----	0.4	62.00
				Chromium (hexavalent)	0.83	mg/kg		0.3	2.77	0.4	2.08
				Lead	21.4	mg/kg		400	----	11	1.95
				Manganese	835	mg/kg		1800	----	220	3.80
				Vanadium	40.5	mg/kg		390	----	2	20.25
DSB-5	DSB-5-0.0-0.5	Surface Soil	5/14/2019	Arsenic	5.2	mg/kg		0.68	7.65	18	----
				Cadmium	2.6	mg/kg		71	----	0.36	7.22
				Chromium	399	mg/kg		120000	----	0.4	997.50
				Chromium (hexavalent)	1.9	mg/kg		0.3	6.33	0.4	4.75
				Copper	30.4	mg/kg		3100	----	28	1.09
				Lead	109	mg/kg		400	----	11	9.91
				Manganese	965	mg/kg		1800	----	220	4.39
				Mercury	1.9	mg/kg		11	----	0.1	19.00
				Nickel	39.1	mg/kg		1500	----	38	1.03
				Zinc	74.5	mg/kg		23000	----	46	1.62
	DSB-5-0.5-2.0	Surface Soil	5/14/2019	Arsenic	6.9	mg/kg		0.68	10.15	18	----
				Chromium	12.3	mg/kg		120000	----	0.4	30.75
				Chromium (hexavalent)	18.3	mg/kg	J	0.3	61.00	0.4	45.75
				Lead	15.8	mg/kg		400	----	11	1.44
				Manganese	982	mg/kg		1800	----	220	4.46
				Vanadium	44.8	mg/kg		390	----	2	22.40
	DSB-5-0.5-2.0-D	Surface Soil	5/14/2019	Arsenic	6.9	mg/kg		0.68	10.15	18	----
				Chromium	22.5	mg/kg		120000	----	0.4	56.25
				Chromium (hexavalent)	0.87	mg/kg	J	0.3	2.90	0.4	2.18
				Lead	18.8	mg/kg		400	----	11	1.71
				Manganese	974	mg/kg		1800	----	220	4.43
				Vanadium	45.8	mg/kg		390	----	2	22.90
DSB-6	DSB-6-0.0-0.5	Surface Soil	5/14/2019	Arsenic	7.1	mg/kg		0.68	10.44	18	----
				Chromium	17.4	mg/kg		120000	----	0.4	43.50
				Chromium (hexavalent)	2.7	mg/kg		0.3	9.00	0.4	6.75

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
DSB-6	DSB-6-0.0-0.5	Surface Soil	5/14/2019	Lead	15.8	mg/kg		400	----	11	1.44
				Manganese	1480	mg/kg		1800	----	220	6.73
				Mercury	0.14	mg/kg		11	----	0.1	1.40
				Vanadium	36.7	mg/kg		390	----	2	18.35
	DSB-6-0.5-2.0	Surface Soil	5/14/2019	Arsenic	7.2	mg/kg		0.68	10.59	18	----
				Chromium	12.5	mg/kg		120000	----	0.4	31.25
				Chromium (hexavalent)	1.4	mg/kg		0.3	4.67	0.4	3.50
				Lead	16.4	mg/kg		400	----	11	1.49
				Manganese	1050	mg/kg		1800	----	220	4.77
				Vanadium	42.4	mg/kg		390	----	2	21.20
DSB-7	DSB-7-0.0-0.5	Surface Soil	5/15/2019	Arsenic	6.2	mg/kg		0.68	9.12	18	----
				Cadmium	0.64	mg/kg		71	----	0.36	1.78
				Chromium	147	mg/kg		120000	----	0.4	367.50
				Chromium (hexavalent)	6.2	mg/kg		0.3	20.67	0.4	15.50
				Lead	28.3	mg/kg		400	----	11	2.57
				Manganese	1030	mg/kg		1800	----	220	4.68
				Mercury	0.26	mg/kg		11	----	0.1	2.60
				Vanadium	32.3	mg/kg		390	----	2	16.15
	DSB-7-0.5-2.0	Surface Soil	5/15/2019	Arsenic	6.6	mg/kg		0.68	9.71	18	----
				Chromium	28.8	mg/kg		120000	----	0.4	72.00
				Chromium (hexavalent)	1.8	mg/kg		0.3	6.00	0.4	4.50
				Lead	15.7	mg/kg		400	----	11	1.43
				Manganese	906	mg/kg		1800	----	220	4.12
				Vanadium	36.2	mg/kg		390	----	2	18.10
DSB-8	DSB-8-0.0-0.5	Surface Soil	5/16/2019	Arsenic	7	mg/kg		0.68	10.29	18	----
				Cadmium	13.5	mg/kg	J	71	----	0.36	37.50
				Chromium	928	mg/kg		120000	----	0.4	2320.00
				Chromium (hexavalent)	82.1	mg/kg		0.3	273.67	0.4	205.25
				Copper	41	mg/kg		3100	----	28	1.46
				Lead	258	mg/kg	J	400	----	11	23.45
				Manganese	1050	mg/kg		1800	----	220	4.77
				Mercury	4	mg/kg		11	----	0.1	40.00
				Nickel	87.8	mg/kg		1500	----	38	2.31
				Vanadium	43.5	mg/kg		390	----	2	21.75
				Zinc	74.5	mg/kg	J	23000	----	46	1.62
	DSB-8-0.0-0.5-D	Surface Soil	5/16/2019	Arsenic	6.6	mg/kg		0.68	9.71	18	----
				Cadmium	7.4	mg/kg	J	71	----	0.36	20.56
				Chromium	728	mg/kg		120000	----	0.4	1820.00
				Copper	32.8	mg/kg		3100	----	28	1.17
				Lead	142	mg/kg	J	400	----	11	12.91
				Manganese	792	mg/kg		1800	----	220	3.60
				Mercury	1.5	mg/kg		11	----	0.1	15.00
				Nickel	70.8	mg/kg		1500	----	38	1.86
				Vanadium	40.3	mg/kg		390	----	2	20.15
				Zinc	60.4	mg/kg	J	23000	----	46	1.31

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
DSB-8	DSB-8-0.5-2.0	Surface Soil	5/16/2019	Arsenic	7	mg/kg		0.68	10.29	18	----
				Chromium	296	mg/kg		120000	----	0.4	740.00
				Chromium (hexavalent)	47.9	mg/kg		0.3	159.67	0.4	119.75
				Lead	17.4	mg/kg	J	400	----	11	1.58
				Manganese	1340	mg/kg		1800	----	220	6.09
				Vanadium	37.3	mg/kg		390	----	2	18.65
DSB-9	DSB-9-0.0-0.5	Surface Soil	5/13/2019	Arsenic	7.2	mg/kg		0.68	10.59	18	----
				Cadmium	9.4	mg/kg		71	----	0.36	26.11
				Chromium	129	mg/kg		120000	----	0.4	322.50
				Chromium (hexavalent)	7.2	mg/kg		0.3	24.00	0.4	18.00
				Copper	38	mg/kg		3100	----	28	1.36
				Lead	100	mg/kg		400	----	11	9.09
				Manganese	1150	mg/kg		1800	----	220	5.23
				Mercury	2.6	mg/kg		11	----	0.1	26.00
				Nickel	91.5	mg/kg		1500	----	38	2.41
				Vanadium	31.7	mg/kg		390	----	2	15.85
				Zinc	51.8	mg/kg	J	23000	----	46	1.13
	DSB-9-0.5-2.0	Surface Soil	5/13/2019	Arsenic	6.9	mg/kg		0.68	10.15	18	----
				Cadmium	4.7	mg/kg		71	----	0.36	13.06
				Chromium	75.1	mg/kg		120000	----	0.4	187.75
				Chromium (hexavalent)	1.6	mg/kg		0.3	5.33	0.4	4.00
				Lead	62.6	mg/kg		400	----	11	5.69
				Manganese	1200	mg/kg		1800	----	220	5.45
				Mercury	0.65	mg/kg		11	----	0.1	6.50
				Nickel	46.5	mg/kg		1500	----	38	1.22
				Vanadium	40.6	mg/kg		390	----	2	20.30
JSB-1	JSB-1-0.0-0.5	Surface Soil	5/13/2019	Arsenic	6.4	mg/kg		0.68	9.41	18	----
				Chromium	22	mg/kg		120000	----	0.4	55.00
				Chromium (hexavalent)	0.82	mg/kg		0.3	2.73	0.4	2.05
				Lead	78.6	mg/kg		400	----	11	7.15
				Manganese	998	mg/kg		1800	----	220	4.54
				Mercury	0.11	mg/kg	J	11	----	0.1	1.10
				Vanadium	40.1	mg/kg		390	----	2	20.05
	JSB-1-0.5-2.0	Surface Soil	5/13/2019	Arsenic	5.3	mg/kg		0.68	7.79	18	----
				Chromium	10.2	mg/kg		120000	----	0.4	25.50
				Chromium (hexavalent)	0.44	mg/kg	J	0.3	1.47	0.4	1.10
				Lead	41.3	mg/kg		400	----	11	3.75
				Manganese	1090	mg/kg		1800	----	220	4.95
				Vanadium	29.5	mg/kg		390	----	2	14.75
JSB-2	JSB-2-0.0-0.5	Surface Soil	5/16/2019	Antimony	7.1	mg/kg		31	----	0.27	26.30
				Arsenic	6.3	mg/kg		0.68	9.26	18	----
				Cadmium	15.1	mg/kg	J	71	----	0.36	41.94
				Chromium	3130	mg/kg		120000	----	0.4	7825.00
				Chromium (hexavalent)	1130	mg/kg		0.3	3766.67	0.4	2825.00
				Copper	111	mg/kg		3100	----	28	3.96

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
JSB-2	JSB-2-0.0-0.5	Surface Soil	5/16/2019	Lead	1850	mg/kg	J	400	4.63	11	168.18
				Manganese	1010	mg/kg		1800	----	220	4.59
				Mercury	17.1	mg/kg		11	1.55	0.1	171.00
				Nickel	159	mg/kg		1500	----	38	4.18
				Vanadium	46.2	mg/kg		390	----	2	23.10
				Zinc	168	mg/kg	J	23000	----	46	3.65
	JSB-2-0.5-2.0	Surface Soil	5/16/2019	Antimony	2.2	mg/kg		31	----	0.27	8.15
				Arsenic	7.2	mg/kg		0.68	10.59	18	----
				Cadmium	16.4	mg/kg	J	71	----	0.36	45.56
				Chromium	2850	mg/kg		120000	----	0.4	7125.00
				Chromium (hexavalent)	56.3	mg/kg		0.3	187.67	0.4	140.75
				Copper	137	mg/kg		3100	----	28	4.89
				Lead	778	mg/kg	J	400	1.95	11	70.73
				Manganese	1060	mg/kg		1800	----	220	4.82
				Mercury	18	mg/kg		11	1.64	0.1	180.00
				Nickel	212	mg/kg		1500	----	38	5.58
				Vanadium	56.2	mg/kg		390	----	2	28.10
				Zinc	203	mg/kg	J	23000	----	46	4.41
	JSB-2-0.5-2.0-D	Surface Soil	5/16/2019	Antimony	1.9	mg/kg		31	----	0.27	7.04
				Arsenic	6.7	mg/kg		0.68	9.85	18	----
				Cadmium	23.2	mg/kg	J	71	----	0.36	64.44
				Chromium	2150	mg/kg		120000	----	0.4	5375.00
				Chromium (hexavalent)	1070	mg/kg		0.3	3566.67	0.4	2675.00
				Copper	94.6	mg/kg		3100	----	28	3.38
				Lead	745	mg/kg	J	400	1.86	11	67.73
				Manganese	945	mg/kg		1800	----	220	4.30
				Mercury	8.3	mg/kg		11	----	0.1	83.00
				Nickel	187	mg/kg		1500	----	38	4.92
				Vanadium	50.7	mg/kg		390	----	2	25.35
				Zinc	166	mg/kg	J	23000	----	46	3.61
JSB-3	JSB-3-0.0-0.5	Surface Soil	5/13/2019	Arsenic	6.3	mg/kg		0.68	9.26	18	----
				Chromium	50.3	mg/kg		120000	----	0.4	125.75
				Chromium (hexavalent)	1.9	mg/kg		0.3	6.33	0.4	4.75
				Cyanide	5.1	mg/kg	J	2.7	1.89	----	----
				Lead	29.7	mg/kg		400	----	11	2.70
				Manganese	1050	mg/kg		1800	----	220	4.77
				Mercury	0.45	mg/kg		11	----	0.1	4.50
				Vanadium	41	mg/kg		390	----	2	20.50
	JSB-3-0.5-2.0	Surface Soil	5/13/2019	Arsenic	7	mg/kg		0.68	10.29	18	----
				Chromium	12.3	mg/kg		120000	----	0.4	30.75
				Chromium (hexavalent)	1.1	mg/kg	J	0.3	3.67	0.4	2.75
				Lead	15	mg/kg		400	----	11	1.36
				Manganese	1080	mg/kg		1800	----	220	4.91
				Vanadium	43.4	mg/kg		390	----	2	21.70

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
JSB-3	JSB-3-0.5-2.0-D	Surface Soil	5/13/2019	Arsenic	5.9	mg/kg		0.68	8.68	18	----
				Chromium	13.6	mg/kg		120000	----	0.4	34.00
				Chromium (hexavalent)	3.6	mg/kg	J	0.3	12.00	0.4	9.00
				Lead	13.8	mg/kg		400	----	11	1.25
				Manganese	970	mg/kg		1800	----	220	4.41
				Vanadium	35.9	mg/kg		390	----	2	17.95
JSB-4	JSB-4-0.0-0.5	Surface Soil	5/13/2019	Antimony	2.4	mg/kg		31	----	0.27	8.89
				Arsenic	5.7	mg/kg		0.68	8.38	18	----
				Cadmium	5.2	mg/kg		71	----	0.36	14.44
				Chromium	1180	mg/kg		120000	----	0.4	2950.00
				Chromium (hexavalent)	158	mg/kg		0.3	526.67	0.4	395.00
				Copper	42.3	mg/kg		3100	----	28	1.51
				Lead	469	mg/kg		400	1.17	11	42.64
				Manganese	897	mg/kg		1800	----	220	4.08
				Mercury	144	mg/kg		11	13.09	0.1	1440.00
				Nickel	124	mg/kg		1500	----	38	3.26
				Zinc	99.1	mg/kg	J	23000	----	46	2.15
	JSB-4-0.5-2.0	Surface Soil	5/13/2019	Arsenic	7	mg/kg		0.68	10.29	18	----
				Cadmium	1.4	mg/kg		71	----	0.36	3.89
				Chromium	399	mg/kg		120000	----	0.4	997.50
				Chromium (hexavalent)	121	mg/kg		0.3	403.33	0.4	302.50
				Copper	68.2	mg/kg		3100	----	28	2.44
				Lead	51.6	mg/kg		400	----	11	4.69
				Manganese	1480	mg/kg		1800	----	220	6.73
				Mercury	1.5	mg/kg		11	----	0.1	15.00
				Vanadium	4.7	mg/kg		390	----	2	2.35
				Zinc	79.4	mg/kg	J	23000	----	46	1.73
MW-1	MW-1-0.0-0.5	Surface Soil	5/16/2019	Antimony	23.8	mg/kg		31	----	0.27	88.15
				Arsenic	7.2	mg/kg		0.68	10.59	18	----
				Cadmium	105	mg/kg	J	71	1.48	0.36	291.67
				Chromium	3970	mg/kg		120000	----	0.4	9925.00
				Chromium (hexavalent)	793	mg/kg	J	0.3	2643.33	0.4	1982.50
				Copper	201	mg/kg		3100	----	28	7.18
				Lead	4380	mg/kg	J	400	10.95	11	398.18
				Manganese	627	mg/kg		1800	----	220	2.85
				Mercury	57.5	mg/kg		11	5.23	0.1	575.00
				Nickel	528	mg/kg		1500	----	38	13.89
				Vanadium	35.9	mg/kg		390	----	2	17.95
				Zinc	350	mg/kg	J	23000	----	46	7.61
	MW-1-0.5-2.0	Surface Soil	5/16/2019	Antimony	5.5	mg/kg		31	----	0.27	20.37
				Arsenic	6.5	mg/kg		0.68	9.56	18	----
				Cadmium	5.1	mg/kg	J	71	----	0.36	14.17
				Chromium	1040	mg/kg		120000	----	0.4	2600.00
				Chromium (hexavalent)	239	mg/kg	J	0.3	796.67	0.4	597.50
				Copper	33.3	mg/kg		3100	----	28	1.19

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
MW-1	MW-1-0.5-2.0	Surface Soil	5/16/2019	Lead	2350	mg/kg	J	400	5.88	11	213.64
				Manganese	994	mg/kg		1800	----	220	4.52
				Mercury	8.7	mg/kg		11	----	0.1	87.00
				Nickel	38.4	mg/kg		1500	----	38	1.01
				Vanadium	32.4	mg/kg		390	----	2	16.20
				Zinc	57.9	mg/kg	J	23000	----	46	1.26
	MW-1-0-0.5-D	Surface Soil	5/16/2019	Antimony	55.6	mg/kg		31	1.79	0.27	205.93
				Arsenic	6.9	mg/kg		0.68	10.15	18	----
				Cadmium	109	mg/kg	J	71	1.54	0.36	302.78
				Chromium	6320	mg/kg		120000	----	0.4	15800.00
				Copper	224	mg/kg		3100	----	28	8.00
				Lead	7850	mg/kg	J	400	19.63	11	713.64
				Manganese	1180	mg/kg		1800	----	220	5.36
				Mercury	52.4	mg/kg		11	4.76	0.1	524.00
				Nickel	897	mg/kg		1500	----	38	23.61
				Vanadium	45.2	mg/kg		390	----	2	22.60
				Zinc	387	mg/kg	J	23000	----	46	8.41
MW-2	MW-2-0.0-0.5	Surface Soil	5/14/2019	Arsenic	6.6	mg/kg		0.68	9.71	18	----
				Cadmium	1.8	mg/kg		71	----	0.36	5.00
				Chromium	21.9	mg/kg		120000	----	0.4	54.75
				Chromium (hexavalent)	2	mg/kg		0.3	6.67	0.4	5.00
				Lead	90.1	mg/kg		400	----	11	8.19
				Manganese	801	mg/kg		1800	----	220	3.64
				Vanadium	31.3	mg/kg		390	----	2	15.65
				Zinc	79.2	mg/kg		23000	----	46	1.72
	MW-2-0.5-2.0	Surface Soil	5/14/2019	Arsenic	6.9	mg/kg		0.68	10.15	18	----
				Chromium	16.5	mg/kg		120000	----	0.4	41.25
				Chromium (hexavalent)	0.45	mg/kg	J	0.3	1.50	0.4	1.13
				Lead	57.3	mg/kg		400	----	11	5.21
				Manganese	954	mg/kg		1800	----	220	4.34
				Vanadium	43.3	mg/kg		390	----	2	21.65
				Zinc	48.3	mg/kg		23000	----	46	1.05
MW-3	MW-3-0.0-0.5	Surface Soil	5/15/2019	Arsenic	6.4	mg/kg		0.68	9.41	18	----
				Chromium	40.1	mg/kg		120000	----	0.4	100.25
				Chromium (hexavalent)	2.2	mg/kg		0.3	7.33	0.4	5.50
				Cyanide	3.7	mg/kg		2.7	1.37	----	----
				Lead	85.7	mg/kg		400	----	11	7.79
				Manganese	716	mg/kg		1800	----	220	3.25
				Mercury	0.14	mg/kg		11	----	0.1	1.40
				Vanadium	32.3	mg/kg		390	----	2	16.15
				Zinc	86.3	mg/kg	J	23000	----	46	1.88
	MW-3-0.5-2.0	Surface Soil	5/15/2019	Arsenic	6.5	mg/kg		0.68	9.56	18	----
				Chromium	13.9	mg/kg		120000	----	0.4	34.75
				Chromium (hexavalent)	0.48	mg/kg	J	0.3	1.60	0.4	1.20
				Lead	37.6	mg/kg		400	----	11	3.42

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance	[3]Ecological SL (mg/kg)	[2]Ecological SL Exceedance
MW-3	MW-3-0.5-2.0	Surface Soil	5/15/2019	Manganese	1050	mg/kg		1800	----	220	4.77
				Vanadium	35	mg/kg		390	----	2	17.50

Note:
[1] RSLs (May 2019) as presented at EPA website at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (target hazard quotient of 1.0). Value is Based on Residential Soil
[2] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.
[3] The Ecological Screening level is based on the most conservative value. It is based on EPA Ecological Soil Screening Levels (SSLs). http://www.epa.gov/ecotox/ecossl/ and Ecological Screening Values for Soil Benchmarks fromTCEQ's Conducting Ecological Risk Assessments at Remediation Sites in Texas. August 2018.
https://www.tceq.texas.gov/remediation/eco/eco.html
-- = Not applicable or not available.
J = Indicates an estimated value.
mg/kg = Milligram(s) per kilogram
SL = Screening Level

N

0 50 100
Feet

Legend

Screening Level Exceedances

- RI sample exceeds Human Health Residential Screening Level
- Historic sample exceeds Human Health Residential Screening Level
- On-site Well
- Monitoring Well
- RI Soil Sample Location
- ERT Soil Sample Location
- TCEQ Soil Sample Location

Note:
RI: Remedial Investigation - Phase 1
ERT - US EPA Emergency response Team
TCEQ - Texas Commision on Environmental Quality
COPC - Chemical of Potential Concern
CUSTM - Conceptual Understanding of the Site Technical Memorandum

- Historical data screened against COPCs identified in the CUSTM.

- Antimony (1 detection), , arsenic (37), cadmium (2), hexavalent chromium (35) lead (7) and mercury (5) exceed Human Health Screening values for soil. A background study, as well as additional nature and extent sampling will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure A-1
Preliminary Metals Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Surface Soil Samples

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N

0 50 100
Feet

Legend

Screening Level Exceedances

- RI sample exceeds one or more Ecological Screening Levels
- Historic sample exceeds one or more Ecological Screening Levels
- On-site Well
- Monitoring Well
- RI Soil Sample Location
- ERT Soil Sample Location
- TCEQ Soil Sample Location

Note:
RI: Remedial Investigation - Phase 1
ERT - US EPA Emergency response Team
TCEQ - Texas Commision on Environmental Quality
COPC - Chemical of Potential Concern
CUSTM - Conceptual Understanding of the Site Technical Memorandum

- Historical data screened against COPCs identified in the CUSTM
- Antimony (7 detections), cadmium (21), chromium (37), hexavalent chromium (35) lead (37), manganese (37), mercury (22), nickel (14) vanadium (35), and zinc (17) exceed Ecological Screening values for soil. A background study, as well as, additional nature and extent sampling will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure A-2
Preliminary Metals Ecological Screening Level Exceedances in Phase 1 Remedial Investigation Surface Soil Samples

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N

0 50 100
Feet

Legend

Screening Level Exceedances

- Exceeds Residential Sediment Human Health Screening Level
- On-site Well
- Monitoring Well
- RI Soil Sample Location
- ERT Soil Sample Location
- TCEQ Soil Sample Location

Note:
RI: Remedial Investigation - Phase 1
ERT - US EPA Emergency response Team
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure A-3
Preliminary Cyanide Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Surface Soil Samples

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Appendix B

Phase 1 Remedial Investigation Data Summary for Subsurface Soil

Table B-1: Phase 1 Remedial Investigation Subsurface Soil Sample Summary

Sample Location	Boring Total Depth (ft bgs)	Sample Medium	Sample Identification	Sampling Depth (ft bgs)	Analysis										
					[1]Geotechnical Parameters	VOCs	SVOCs	TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	ORP	pH	TPH
Subsurface Soil Borings															
DSB- 1	11	Subsurface soil	DSB-1-9.0-11.0	9.0 - 11.0				X	X	X					
DSB- 2	11	Subsurface soil	DSB-2-2.0-5.0	2.0 - 5.0				X	X	X					
			DSB-2-9.0-11.0	9.0 - 11.0				X	X	X					
DSB- 3	10	Subsurface soil	DSB-3-8.0-10.0	8.0 - 10.0				X	X	X					
DSB- 4	15	Subsurface soil	DSB-4-13.0-15.0	13.0 - 15.0				X	X	X					
DSB- 5	11	Subsurface soil	DSB-5-2.0-5.0	2.0 - 5.0				X	X	X					
			DSB-5-9.0-11.0	9.0 - 11.0				X	X	X					
DSB- 6	15	Subsurface soil	DSB-6-13.0-15.0	13.0 - 15.0				X	X	X					
DSB- 7	11	Subsurface soil	DSB-7-2.0-5.0	2.0 - 5.0				X	X	X					
			DSB-7-9.0-11.0	9.0 - 11.0				X	X	X					
DSB- 8	10	Subsurface soil	DSB-8-2.0-5.0	2.0 - 5.0				X	X	X					
			DSB-8-2.0-5.0-D	2.0 - 5.0				X	X	X					
			DSB-8-8.0-10.0	8.0 - 10.0				X	X	X					
			DSB-8-8.0-10.0-D	8.0 - 10.0				X	X	X					
DSB- 9	12	Subsurface soil	DSB-9-2.0-5.0	2.0 - 5.0				X	X	X					
			DSB-9-10.0-12.0	10.0 - 12.0				X	X	X					
JSB- 1	11	Subsurface soil	JSB-1-2.0-5.0	2.0 - 5.0				X	X	X					
			JSB-1-9.0-11.0	9.0 - 11.0				X	X	X					
JSB- 2	10	Subsurface soil	JSB-2-2.0-5.0	2.0 - 5.0		X	X	X	X	X	X	X	X	X	X
			JSB-2-2.0-5.0-D	2.0 - 5.0		X	X	X	X	X	X	X	X	X	X
			JSB-2-8.0-10.0	8.0 - 10.0				X	X	X					
			JSB-2-8.0-10.0-D	8.0 - 10.0				X	X	X					
JSB- 3	13	Subsurface soil	JSB-3-2.0-5.0	2.0 - 5.0				X	X	X					
			JSB-3-11.0-13.0	11.0 - 13.0				X	X	X					
JSB- 4	15	Subsurface soil	JSB-4-2.0-5.0	2.0 - 5.0				X	X	X					
			JSB-4-13.0-15.0	13.0 - 15.0				X	X	X					
Monitoring Wells															
MW- 1	12	Subsurface soil	MW-1-6.0-8.0	6.0 - 8.0		X	X	X	X	X	X	X	X	X	X
			MW-1-6.0-8.0-D	6.0 - 8.0		X	X	X	X	X	X	X	X	X	X
		Subsurface soil (core)	MW-1-3.5-5.0	3.5 - 5.0	X										
MW- 2	25	Subsurface soil	MW-2-14.0-16.0	14.0 - 16.0				X	X	X					
		Subsurface soil (core)	MW-2-16.0-18.0	16.0 - 18.0	X										
MW- 3	20	Subsurface soil	MW-3-9.0-11.0	9.0 - 11.0		X	X	X	X	X	X	X	X	X	X
		Subsurface soil (core)	MW-3-7.0-9.0	7.0 - 9.0	X										

Sample Location	Boring Total Depth (ft bgs)	Sample Medium	Sample Identification	Sampling Depth (ft bgs)	Analysis										
					[1]Geotechnical Parameters	VOCs	SVOCs	TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	ORP	pH	TPH

NOTE:

[1]Geotechnical parameters include bulk density, porosity, effective porosity, fraction organic carbon, and permeability.

bgs = Below ground surface.
ft = Foot (feet).
ORP = Oxidation Reduction Potential.
PCB = Polychlorinated biphenyl.
PFC = Perfluorochemical.
SVOC = Semivolatile organic compound.
TAL = Total analyte list.
TPH = Total petroleum hydrocarbon.
VOC = Volatile organic compound.

Table B-2 Phase 1 Subsurface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Subsurface Soil Standard Unit	[2]Residential Human Health Screening Value	[3]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[3]Industrial Human Health Screening Exceedance
Miscellaneous										
Chromium (hexavalent)	mg/kg	1.70E-01	5.35E+01	JSB-2	25/27	mg/kg	3.00E-01	1.78E+02	6.30E+00	8.49E+00
Cyanide	mg/kg	3.90E-02	2.60E-01	JSB-2	5/26	mg/kg	2.70E+00	--	1.20E+01	--
Metals										
Aluminum	mg/kg	2.99E+03	2.23E+04	JSB-2	26/26	mg/kg	7.70E+04	--	1.10E+06	--
Antimony	mg/kg	--	--	--	0/26	mg/kg	3.10E+01	--	4.70E+02	--
Arsenic	mg/kg	3.60E+00	2.21E+01	DSB-5	26/26	mg/kg	6.80E-01	3.25E+01	3.00E+00	7.37E+00
Barium	mg/kg	2.58E+01	7.94E+02	DSB-9	26/26	mg/kg	1.50E+04	--	2.20E+05	--
Beryllium	mg/kg	7.00E-01	1.00E+00	JSB-2	12/26	mg/kg	1.60E+02	--	2.30E+03	--
Beryllium	mg/kg	7.00E-01	1.00E+00	JSB-4	12/26	mg/kg	1.60E+02	--	2.30E+03	--
Cadmium	mg/kg	8.70E-02	2.30E+00	DSB-7	11/26	mg/kg	7.10E+01	--	9.80E+02	--
Calcium	mg/kg	7.52E+04	3.74E+05	DSB-2	26/26	--	--	--	--	--
Chromium	mg/kg	8.40E+00	6.52E+02	JSB-2	26/26	mg/kg	1.20E+05	--	1.80E+06	--
Cobalt	mg/kg	2.90E+00	1.91E+01	MW-02	26/26	mg/kg	2.30E+01	--	3.50E+02	--
Copper	mg/kg	3.50E+00	2.92E+01	DSB-7	26/26	mg/kg	3.10E+03	--	4.70E+04	--
Iron	mg/kg	9.03E+03	2.78E+04	DSB-6	26/26	mg/kg	5.50E+04	--	8.20E+05	--
Lead	mg/kg	4.30E+00	8.18E+01	DSB-7	26/26	mg/kg	4.00E+02	--	8.00E+02	--
Mercury	mg/kg	8.00E-03	1.00E+00	DSB-7	16/26	mg/kg	1.10E+01	--	4.60E+01	--
Magnesium	mg/kg	1.93E+03	1.00E+00	JSB-2	26/26	--	--	--	--	--
Manganese	mg/kg	4.95E+02	1.64E+03	MW-02	26/26	mg/kg	1.80E+03	--	2.60E+04	--
Nickel	mg/kg	1.41E+01	2.54E+02	DSB-7	26/26	mg/kg	1.50E+03	--	2.20E+04	--
Potassium	mg/kg	5.18E+02	2.74E+03	JSB-2	26/26	--	--	--	--	--
Selenium	mg/kg	2.10E-01	4.70E-01	JSB-3	4/26	mg/kg	3.90E+02	--	5.80E+03	--
Silver	mg/kg	--	--	--	0/26	mg/kg	3.90E+02	--	5.80E+03	--
Sodium	mg/kg	1.37E+02	6.64E+02	JSB-2	5/26	--	--	--	--	--
Thallium	mg/kg	1.50E-02	1.30E-01	MW-02	7/26	mg/kg	7.80E-01	--	1.20E+01	--
Vanadium	mg/kg	3.10E-01	5.33E+01	DSB-6	26/26	mg/kg	3.90E+02	--	5.80E+03	--
Zinc	mg/kg	1.63E+01	6.81E+01	DSB-7	26/26	mg/kg	2.30E+04	--	3.50E+05	--

Table B-2 Phase 1 Subsurface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Subsurface Soil Standard Unit	[2]Residential Human Health Screening Value	[3]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[3]Industrial Human Health Screening Exceedance
Polycyclic Aromatic Hydrocarbons										
2-Methylnaphthalene	µg/kg	--	--	--	0/4	mg/kg	2.40E+02	--	3.00E+03	--
Acenaphthene	µg/kg	--	--	--	0/4	mg/kg	3.60E+03	--	4.50E+04	--
Acenaphthylene	µg/kg	--	--	--	0/4	mg/kg	3.60E+03	--	4.50E+04	--
Anthracene	µg/kg	--	--	--	0/4	mg/kg	1.80E+04	--	2.30E+05	--
Benzo (a) anthracene	µg/kg	--	--	--	0/4	mg/kg	1.10E+00	--	2.10E+01	--
Benzo (a) pyrene	µg/kg	--	--	--	0/4	mg/kg	1.10E-01	--	2.10E+00	--
Benzo (b) fluoranthene	µg/kg	--	--	--	0/4	mg/kg	1.10E+00	--	2.10E+01	--
Benzo (k) fluoranthene	µg/kg	--	--	--	0/4	mg/kg	1.10E+01	--	2.10E+02	--
Benzo (g,h,i) perylene	µg/kg	--	--	--	0/4	mg/kg	1.80E+03	--	2.30E+04	--
Chrysene	µg/kg	--	--	--	0/4	mg/kg	1.10E+02	--	2.10E+03	--
Dibenz (a,h) anthracene	µg/kg	--	--	--	0/4	mg/kg	1.10E-01	--	2.10E+00	--
Fluoranthene	µg/kg	--	--	--	0/4	mg/kg	2.40E+03	--	3.00E+04	--
Fluorene	µg/kg	--	--	--	0/4	mg/kg	2.40E+03	--	3.00E+04	--
Indeno (1,2,3-cd) pyrene	µg/kg	--	--	--	0/4	mg/kg	1.10E+00	--	2.10E+01	--
Napthalene	µg/kg	--	--	--	0/4	mg/kg	3.80E+00	--	1.70E+01	--
Phenanthrene	µg/kg	--	--	--	0/4	mg/kg	1.80E+03	--	2.30E+04	--
Pyrene	µg/kg	--	--	--	0/4	mg/kg	1.80E+03	--	2.30E+04	--
Polychlorinated biphenyl										
Aroclor-1016	µg/kg	--	--	--	0/4	mg/kg	4.10E+00	--	2.70E+01	--
Aroclor-1221	µg/kg	--	--	--	0/4	mg/kg	2.00E-01	--	8.30E-01	--
Aroclor-1232	µg/kg	--	--	--	0/4	mg/kg	1.70E-01	--	7.20E-01	--
Aroclor-1242	µg/kg	--	--	--	0/4	mg/kg	2.30E-01	--	9.50E-01	--
Aroclor-1248	µg/kg	--	--	--	0/4	mg/kg	2.30E-01	--	9.50E-01	--
Aroclor-1254	µg/kg	--	--	--	0/4	mg/kg	2.40E-01	--	9.70E-01	--
Aroclor-1260	µg/kg	--	--	--	0/4	mg/kg	2.40E-01	--	9.90E-01	--

Table B-2 Phase 1 Subsurface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Subsurface Soil Standard Unit	[2]Residential Human Health Screening Value	[3]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[3]Industrial Human Health Screening Exceedance
Perfluorinated Compounds										
Perfluorobutanesulfonic acid (PFBS)	ng/g	5.80E+00	5.80E+00	JSB-2	1/3	mg/kg	8.60E+01	--	6.00E+02	--
Perfluorobutanoic acid	ng/g	--	--	--	0/3	mg/kg	1.80E+02	--	1.10E+03	--
Perfluorodecanesulfonic acid	ng/g	--	--	--	0/3	mg/kg	8.00E-01	--	8.20E+00	--
Perfluorodecanoic acid	ng/g	--	--	--	0/3	mg/kg	9.90E-01	--	9.40E+00	--
Perfluorododecanoic acid	ng/g	--	--	--	0/3	mg/kg	7.90E-01	--	7.50E+00	--
Perfluoroheptanoic acid	ng/g	--	--	--	0/3	mg/kg	1.50E+00	--	1.60E+01	--
Perfluorohexanesulfonic acid (PFHxS)	ng/g	7.10E-01	7.10E-01	JSB-2	1/3	mg/kg	2.50E-01	--	2.20E+00	--
Perfluorohexanoic acid	ng/g	--	--	--	0/3	mg/kg	2.50E-01	--	2.60E+00	--
Perfluorononanoic acid	ng/g	--	--	--	0/3	mg/kg	7.60E-01	--	6.10E+00	--
Perfluorooctanesulfonic acid (PFOS)	ng/g	3.10E+00	4.50E+01	JSB-2	2/3	mg/kg	1.50E+00	--	1.50E+01	--
Perfluorooctanoic acid (PFOA)	ng/g	--	--	--	0/3	mg/kg	6.00E-01	--	2.40E+00	--
Perfluoropentanoic acid	ng/g	--	--	--	0/3	mg/kg	2.50E-01	--	2.60E+00	--
Perfluorotetradecanoic acid	ng/g	--	--	--	0/3	mg/kg	5.10E-01	--	8.20E+00	--
Perfluorotridecanoic acid	ng/g	--	--	--	0/3	mg/kg	6.10E-01	--	8.20E+00	--
Perfluoroundecanoic acid	ng/g	--	--	--	0/3	mg/kg	8.00E-01	--	8.20E+00	--
PFOSA	ng/g	--	--	--	0/3	mg/kg	5.80E-02	--	8.70E-02	--
Semi-volatile Organic Compounds										
1,1'-Biphenyl	µg/kg	--	--	--	0/4	mg/kg	4.70E+01	--	2.00E+02	--
1-Methylnaphthalene	µg/kg	--	--	--	0/4	--	--	--	--	--
2,4,5-Trichlorophenol	µg/kg	--	--	--	0/4	mg/kg	6.30E+03	--	8.20E+04	--
2,4,6-Trichlorophenol	µg/kg	--	--	--	0/4	mg/kg	4.90E+01	--	2.10E+02	--
2,4-Dichlorophenol	µg/kg	--	--	--	0/4	mg/kg	1.90E+02	--	2.50E+03	--
2,4-Dimethylphenol	µg/kg	--	--	--	0/4	mg/kg	1.30E+03	--	1.60E+04	--
2,4-Dinitrophenol	µg/kg	--	--	--	0/4	mg/kg	1.30E+02	--	1.60E+03	--
2,4-Dinitrotoluene	µg/kg	--	--	--	0/4	mg/kg	1.70E+00	--	7.40E+00	--
2,6-Dinitrotoluene	µg/kg	--	--	--	0/4	mg/kg	3.60E-01	--	1.50E+00	--
2-Chloronaphthalene	µg/kg	--	--	--	0/4	mg/kg	4.80E+03	--	6.00E+04	--

Table B-2 Phase 1 Subsurface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Subsurface Soil Standard Unit	[2]Residential Human Health Screening Value	[3]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[3]Industrial Human Health Screening Exceedance
2-Chlorophenol	µg/kg	--	--	--	0/4	mg/kg	3.90E+02	--	5.80E+03	--
2-Methylphenol	µg/kg	--	--	--	0/4	mg/kg	3.20E+03	--	4.10E+04	--
2-Nitroaniline	µg/kg	--	--	--	0/4	mg/kg	6.30E+02	--	8.00E+03	--
2-Nitrophenol	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
3 &/or 4-Methylphenol	µg/kg	--	--	--	0/4	--	--	--	--	--
3,3′-Dichlorobenzidine	µg/kg	--	--	--	0/4	mg/kg	1.20E+00	--	5.10E+00	--
3-Nitroaniline	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/kg	--	--	--	0/4	mg/kg	5.10E+00	--	6.60E+01	--
4-Bromophenyl phenyl ether	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
4-Chloro-3-methylphenol	µg/kg	--	--	--	0/4	mg/kg	6.30E+03	--	8.20E+04	--
4-Chloroaniline	µg/kg	--	--	--	0/4	mg/kg	2.70E+00	--	1.10E+01	--
4-Chlorophenyl phenyl ether	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
4-Nitroaniline	µg/kg	--	--	--	0/4	mg/kg	2.70E+01	--	1.10E+02	--
4-Nitrophenol	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
Acetophenone	µg/kg	--	--	--	0/4	mg/kg	7.80E+03	--	1.20E+05	--
Atrazine	µg/kg	--	--	--	0/4	mg/kg	2.40E+00	--	1.00E+01	--
Benzaldehyde	µg/kg	--	--	--	0/4	mg/kg	7.80E+03	--	1.20E+05	--
Bis(2-chloro-1-methylethyl)ether	µg/kg	--	--	--	0/4	mg/kg	3.10E+03	--	4.70E+04	--
Bis(2-chloroethoxy)methane	µg/kg	--	--	--	0/4	mg/kg	1.90E+02	--	2.50E+03	--
Bis(2-chloroethyl)ether	µg/kg	--	--	--	0/4	mg/kg	2.30E-01	--	1.00E+00	--
Bis(2-ethylhexyl)phthalate	µg/kg	--	--	--	0/4	mg/kg	3.90E+01	--	1.60E+02	--
Butyl benzyl phthalate	µg/kg	--	--	--	0/4	mg/kg	2.90E+02	--	1.20E+03	--
Caprolactam	µg/kg	--	--	--	0/4	mg/kg	3.10E+04	--	4.00E+05	--
Carbazole	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
Dibenzofuran	µg/kg	--	--	--	0/4	mg/kg	7.30E+01	--	1.00E+03	--
Diethyl phthalate	µg/kg	--	--	--	0/4	mg/kg	5.10E+04	--	6.60E+05	--
Dimethyl phthalate	µg/kg	--	--	--	0/4	mg/kg	--	--	--	--
Di-n-butyl phthalate	µg/kg	--	--	--	0/4	mg/kg	6.30E+03	--	8.20E+04	--

Table B-2 Phase 1 Subsurface Soil Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Subsurface Soil Standard Unit	[2]Residential Human Health Screening Value	[3]Residential Human Health Screening Exceedance	[2]Industrial Human Health Screening Value	[3]Industrial Human Health Screening Exceedance
Di-n-octyl phthalate	µg/kg	--	--	--	0/4	mg/kg	6.30E+02	--	8.20E+03	--
Hexachlorobenzene	µg/kg	--	--	--	0/4	mg/kg	2.10E-01	--	9.60E-01	--
Hexachlorobutadiene	µg/kg	--	--	--	0/4	mg/kg	1.20E+00	--	5.30E+00	--
Hexachlorocyclopentadiene	µg/kg	--	--	--	0/4	mg/kg	1.80E+00	--	7.50E+00	--
Hexachloroethane	µg/kg	--	--	--	0/4	mg/kg	1.80E+00	--	8.00E+00	--
Isophorone	µg/kg	--	--	--	0/4	mg/kg	5.70E+02	--	2.40E+03	--
Nitrobenzene	µg/kg	--	--	--	0/4	mg/kg	5.10E+00	--	2.20E+01	--
N-Nitrosodi-n-propylamine	µg/kg	--	--	--	0/4	mg/kg	7.80E-02	--	3.30E-01	--
N-Nitrosodiphenylamine/Diphenylamine	µg/kg	--	--	--	0/4	mg/kg	1.10E+02	--	4.70E+02	--
Pentachlorophenol	µg/kg	--	--	--	0/4	mg/kg	1.00E+00	--	4.00E+00	--
Phenol	µg/kg	--	--	--	0/4	mg/kg	1.90E+04	--	2.50E+05	--
Volatile Organic Compounds										
1,1,1-Trichloroethane	µg/kg	--	--	--	0/4	mg/kg	8.10E+03	--	3.60E+04	--
1,1,2,2-Tetrachloroethane	µg/kg	--	--	--	0/4	mg/kg	6.00E-01	--	2.70E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/kg	--	--	--	0/4	mg/kg	6.70E+03	--	2.80E+04	--
1,1,2-Trichloroethane	µg/kg	--	--	--	0/4	mg/kg	1.10E+00	--	5.00E+00	--
1,1-Dichloroethane	µg/kg	--	--	--	0/4	mg/kg	3.60E+00	--	1.60E+01	--
1,1-Dichloroethene	µg/kg	--	--	--	0/4	mg/kg	2.30E+02	--	1.00E+03	--
1,2,4-Trichlorobenzene	µg/kg	--	--	--	0/8	mg/kg	2.40E+01	--	1.10E+02	--
1,2-Dibromo-3-chloropropane	µg/kg	--	--	--	0/4	mg/kg	5.30E-03	--	6.40E-02	--
1,2-Dibromoethane	µg/kg	--	--	--	0/4	mg/kg	3.60E-02	--	1.60E-01	--
1,2-Dichlorobenzene	µg/kg	--	--	--	0/8	mg/kg	1.80E+03	--	9.30E+03	--
1,2-Dichloroethane	µg/kg	--	--	--	0/4	mg/kg	4.60E-01	--	2.00E+00	--
1,2-Dichloropropane	µg/kg	--	--	--	0/4	mg/kg	2.80E+00	--	1.20E+00	--
1,3-Dichlorobenzene	µg/kg	--	--	--	0/8	mg/kg	1.80E+03	--	9.30E+03	--
1,4-Dichlorobenzene	µg/kg	--	--	--	0/8	mg/kg	2.60E+00	--	1.10E+01	--
2-Butanone	µg/kg	6.40E+00	6.40E+00	MW-03	1/4	mg/kg	2.70E+04	--	1.90E+05	--
2-Hexanone	µg/kg	--	--	--	0/4	mg/kg	2.00E+02	--	1.30E+03	--

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4-Methyl-2-pentanone	µg/kg	--	--	--	0/4	mg/kg	3.30E+04	--	1.40E+05	--
Acetone	µg/kg	2.84E+01	2.84E+01	MW-03	1/4	mg/kg	6.10E+04	--	6.70E+05	--
Benzene	µg/kg	--	--	--	0/4	mg/kg	1.20E+00	--	5.10E+00	--
Bromodichloromethane	µg/kg	--	--	--	0/4	mg/kg	2.90E-01	--	1.30E+00	--
Bromoform	µg/kg	--	--	--	0/4	mg/kg	1.90E+01	--	8.60E+01	--
Bromomethane	µg/kg	--	--	--	0/4	mg/kg	6.80E+00	--	3.00E+01	--
Carbon disulfide	µg/kg	--	--	--	0/4	mg/kg	7.70E+02	--	3.50E+03	--
Carbon tetrachloride	µg/kg	--	--	--	0/4	mg/kg	6.50E-01	--	2.90E+00	--
Chlorobenzene	µg/kg	--	--	--	0/4	mg/kg	2.80E+02	--	1.30E+03	--
Chloroethane	µg/kg	--	--	--	0/4	mg/kg	1.40E+04	--	5.70E+04	--
Chloroform	µg/kg	--	--	--	0/4	mg/kg	3.20E-01	--	1.40E+00	--
Chloromethane	µg/kg	--	--	--	0/4	mg/kg	1.10E+02	--	4.60E+02	--
cis-1,2-Dichloroethene	µg/kg	--	--	--	0/4	mg/kg	1.60E+02	--	2.30E+03	--
cis-1,3-Dichloropropene	µg/kg	--	--	--	0/4	mg/kg	1.80E+00	--	8.20E+00	--
Cyclohexane	µg/kg	--	--	--	0/4	mg/kg	6.50E+03	--	2.70E+04	--
Dibromochloromethane	µg/kg	--	--	--	0/4	mg/kg	8.30E+00	--	3.90E+01	--
Dichlorodifluoromethane	µg/kg	--	--	--	0/4	mg/kg	8.70E+01	--	3.70E+02	--
Ethylbenzene	µg/kg	--	--	--	0/4	mg/kg	5.80E+00	--	2.50E+01	--
Isopropylbenzene	µg/kg	--	--	--	0/4	mg/kg	1.90E+03	--	9.90E+03	--
meta-/para-Xylene	µg/kg	--	--	--	0/4	mg/kg	5.80E+02	--	2.50E+03	--
Methyl acetate	µg/kg	--	--	--	0/4	mg/kg	7.80E+04	--	1.20E+06	--
Methyl tert-butyl ether	µg/kg	--	--	--	0/4	mg/kg	4.70E+01	--	2.10E+02	--
Methylcyclohexane	µg/kg	--	--	--	0/4	mg/kg	6.50E+03	--	2.70E+04	--
Methylene chloride	µg/kg	--	--	--	0/4	mg/kg	5.70E+01	--	1.00E+03	--
ortho-Xylene	µg/kg	--	--	--	0/4	mg/kg	6.50E+02	--	2.80E+03	--
Styrene	µg/kg	--	--	--	0/4	mg/kg	6.00E+03	--	3.50E+04	--
Tetrachloroethene	µg/kg	--	--	--	0/4	mg/kg	2.40E+01	--	1.00E+02	--
Toluene	µg/kg	--	--	--	0/4	mg/kg	4.90E+03	--	4.70E+04	--

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trans-1,2-Dichloroethene	µg/kg	--	--	--	0/4	mg/kg	1.60E+03	--	2.30E+04	--
trans-1,3-Dichloropropene	µg/kg	--	--	--	0/4	mg/kg	1.80E+00	--	8.20E+00	--
Trichloroethene	µg/kg	--	--	--	0/4	mg/kg	9.40E-01	--	6.00E+00	--
Trichlorofluoromethane	µg/kg	--	--	--	0/4	mg/kg	2.30E+04	--	3.50E+05	--
Vinyl chloride	µg/kg	--	--	--	0/4	mg/kg	5.90E-02	--	1.70E+00	--
Total Petroleum Hydrocarbons										
TPH (C12-C28)	mg/kg	--	--	--	0/4	--	--	--	--	--
TPH (C28-C35)	mg/kg	--	--	--	0/4	--	--	--	--	--
TPH (C6-C12)	mg/kg	--	--	--	0/4	--	--	--	--	--
TPH (C6-C28)	mg/kg	--	--	--	0/4	--	--	--	--	--
TPH (C6-C35)	mg/kg	--	--	--	0/4	--	--	--	--	--

NOTE:
[1]Organic compounds and Perfluorinated Compounds were reported in ug/kg and ng/g respectively; calculations were used to adjust these values to mg/kg when comparing them to screening level values, which are reported in mg/kg.
[2] RSLs (May 2019) as presented at EPA website at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (target hazard quotient of 1.0).
[3] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.
-- = Not applicable or not available.
ug/kg = Microgram(s) per kilogram.
mg/kg = Milligram(s) per kilogram.
ng/g = Nanogram(s) per gram.

Table B-3 Phase 1 RI Subsurface Soil Exceedances

Sample Location	Sample Number	Media	Date Collected	[1]Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance
DSB-1	DSB-1-9.0-11.0	Subsurface Soil	5/13/2019	Arsenic	8.7	mg/kg		0.68	12.79
				Chromium (hexavalent)	1.5	mg/kg		0.3	5.00
DSB-2	DSB-2-2.0-5.0	Subsurface Soil	5/13/2019	Arsenic	6.5	mg/kg		0.68	9.56
				Chromium (hexavalent)	9.8	mg/kg		0.3	32.67
	DSB-2-9.0-11.0	Subsurface Soil	5/13/2019	Arsenic	6.7	mg/kg		0.68	9.85
				Chromium (hexavalent)	1.2	mg/kg		0.3	4.00
DSB-3	DSB-3-8.0-10.0	Subsurface Soil	5/15/2019	Arsenic	5	mg/kg		0.68	7.35
				Chromium (hexavalent)	1.2	mg/kg		0.3	4.00
DSB-4	DSB-4-13.0-15.0	Subsurface Soil	5/14/2019	Arsenic	14.2	mg/kg		0.68	20.88
DSB-5	DSB-5-2.0-5.0	Subsurface Soil	5/14/2019	Arsenic	3.6	mg/kg		0.68	5.29
				Chromium (hexavalent)	24.6	mg/kg		0.3	82.00
	DSB-5-9.0-11.0	Subsurface Soil	5/14/2019	Arsenic	22.1	mg/kg		0.68	32.50
				Chromium (hexavalent)	3.7	mg/kg		0.3	12.33
DSB-6	DSB-6-13.0-15.0	Subsurface Soil	5/14/2019	Arsenic	21.5	mg/kg		0.68	31.62
DSB-7	DSB-7-2.0-5.0	Subsurface Soil	5/15/2019	Arsenic	5.6	mg/kg		0.68	8.24
				Chromium (hexavalent)	25.4	mg/kg		0.3	84.67
	DSB-7-9.0-11.0	Subsurface Soil	5/15/2019	Arsenic	4.1	mg/kg		0.68	6.03
				Chromium (hexavalent)	14.5	mg/kg		0.3	48.33
DSB-8	DSB-8-2.0-5.0	Subsurface Soil	5/16/2019	Arsenic	5.7	mg/kg		0.68	8.38
				Chromium (hexavalent)	9.8	mg/kg		0.3	32.67
	DSB-8-2.0-5.0-D	Subsurface Soil	5/16/2019	Arsenic	6.9	mg/kg		0.68	10.15
	DSB-8-8.0-10.0	Subsurface Soil	5/16/2019	Arsenic	9.3	mg/kg		0.68	13.68
				Chromium (hexavalent)	10.9	mg/kg	J	0.3	36.33
	DSB-8-8.0-10.0-D	Subsurface Soil	5/16/2019	Chromium (hexavalent)	4.4	mg/kg	J	0.3	14.67
DSB-9	DSB-9-2.0-5.0	Subsurface Soil	5/13/2019	Arsenic	17.6	mg/kg		0.68	25.88
				Chromium (hexavalent)	1.2	mg/kg		0.3	4.00
	DSB-9-10.0-12.0	Subsurface Soil	5/13/2019	Arsenic	8.2	mg/kg		0.68	12.06
				Chromium (hexavalent)	3.3	mg/kg		0.3	11.00
JSB-1	JSB-1-2.0-5.0	Subsurface Soil	5/13/2019	Arsenic	4.3	mg/kg		0.68	6.32
				Chromium (hexavalent)	15.4	mg/kg		0.3	51.33
	JSB-1-9.0-11.0	Subsurface Soil	5/13/2019	Arsenic	5.1	mg/kg		0.68	7.50
				Chromium (hexavalent)	7.6	mg/kg		0.3	25.33

Table B-3 Phase 1 RI Subsurface Soil Exceedances

Sample Location	Sample Number	Media	Date Collected	[1]Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (mg/kg)	[2]Human Health SL Exceedance
JSB-2	JSB-2-2.0-5.0	Subsurface Soil	5/16/2019	Arsenic	7.5	mg/kg		0.68	11.03
		Subsurface Soil	5/16/2019	Chromium (hexavalent)	53.5	mg/kg		0.3	178.33
	JSB-2-8.0-10.0	Subsurface Soil	5/16/2019	Arsenic	5.4	mg/kg		0.68	7.94
				Chromium (hexavalent)	10.8	mg/kg	J	0.3	36.00
	JSB-2-8.0-10.0-D	Subsurface Soil	5/16/2019	Chromium (hexavalent)	4.3	mg/kg	J	0.3	14.33
JSB-3	JSB-3-2.0-5.0	Subsurface Soil	5/13/2019	Arsenic	6.5	mg/kg		0.68	9.56
	JSB-3-2.0-5.0	Subsurface Soil	5/13/2019	Chromium (hexavalent)	0.49	mg/kg	J	0.3	1.63
	JSB-3-11.0-13.0	Subsurface Soil	5/13/2019	Arsenic	8.4	mg/kg		0.68	12.35
JSB-4	JSB-4-2.0-5.0	Subsurface Soil	5/13/2019	Chromium (hexavalent)	1.5	mg/kg		0.3	5.00
	JSB-4-13.0-15.0	Subsurface Soil	5/13/2019	Arsenic	6.8	mg/kg		0.68	10.00
				Chromium (hexavalent)	0.94	mg/kg		0.3	3.13
	JSB-4-2.0-5.0	Subsurface Soil	5/13/2019	Arsenic	6.5	mg/kg		0.68	9.56
MW-01	MW-1-6.0-8.0	Subsurface Soil	5/16/2019	Arsenic	11.4	mg/kg		0.68	16.76
				Chromium (hexavalent)	4	mg/kg		0.3	13.33
MW-02	MW-2-14.0-16.0	Subsurface Soil	5/14/2019	Arsenic	15.1	mg/kg		0.68	22.21
MW-03	MW-3-9.0-11.0	Subsurface Soil	5/15/2019	Arsenic	4.7	mg/kg		0.68	6.91

NOTE:

[1] RSLs (May 2019) as presented at EPA website at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (target hazard quotient of 1.0). Value is Based on Residential Soil

[2] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

-- = Not applicable or not available.

J = Indicates an estimated value.

mg/kg = Milligram(s) per kilogram.

SL = Screening Level.

N

0 50 100
Feet

Legend

Screening Level Exceedances

- Exceeds Residential Subsurface Soil Human Health Screening Level
- On-site Well
- Monitoring Well
- RI Soil Sample Location

Note:
RI - Remedial Investigation - Phase 1

- Arsenic and Hexavalent Chromium exceed Human Health Screening values for subsurface soil. A background subsurface soil study, as well as, additional nature and extent sampling will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure B-1
Preliminary Metals Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Subsurface Soil Samples

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Appendix C

Phase 1 Remedial Investigation Data Summary for Sediment

Table C-1: Phase 1 Remedial Investigation Sediment Sample Summary

Sample Location	Total Depth (ft bgs)	Sample Medium	Sample Identification	Sampling Depth (ft bgs)	Analysis											
					VOCs	SVOCs	TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	AVS/SEM	PFCs	ORP	pH	TOC	TPH
Sediment Samples																
LSED- 1	0.5	Sediment	LSED-1-0.0-0.5	0.0 - 0.5	X	X	X	X	X	X	X	X	X	X	X	X
LSED- 2	0.5	Sediment	LSED-2-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 3	0.5	Sediment	LSED-3-0.0-0.5	0.0 - 0.5			X	X	X							
	0.5	Sediment	LSED-3-0.0-0.5-D	0.0 - 0.5			X	X	X							
LSED- 4	0.5	Sediment	LSED-4-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 5	0.5	Sediment	LSED-5-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 6	0.5	Sediment	LSED-6-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 7	0.5	Sediment	LSED-7-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 8	0.5	Sediment	LSED-8-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 9	0.5	Sediment	LSED-9-0.0-0.5	0.0 - 0.5	X	X	X	X	X	X	X	X	X	X	X	X
LSED- 10	0.5	Sediment	LSED-10-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 11	0.5	Sediment	LSED-11-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 12	0.5	Sediment	LSED-12-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 13	0.5	Sediment	LSED-13-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 14	0.5	Sediment	LSED-14-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 15	0.5	Sediment	LSED-15-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 16	0.5	Sediment	LSED-16-0.0-0.5	0.0 - 0.5			X	X	X							
	0.5	Sediment	LSED-16-0.0-0.5-D	0.0 - 0.5			X	X	X							
LSED- 17	0.5	Sediment	LSED-17-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 18	0.5	Sediment	LSED-18-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 19	0.5	Sediment	LSED-19-0.0-0.5	0.0 - 0.5			X	X	X							
LSED- 20	0.5	Sediment	LSED-20-0.0-0.5	0.0 - 0.5			X	X	X							

NOTE:
AVS/SEM = Acid volatile sulfide/simultaneously extracted metals.
bgs = Below ground surface.
ft = Foot (feet).
ORP = Oxidation-reduction potential.
PCB = Polychlorinated biphenyl.
PFC = Perfluorochemical.
SVOC = Semivolatile organic compound.
TAL = Target Analyte List.
TOC = Total organic carbon.
TPH = Total petroleum hydrocarbon.
VOC = Volatile organic compound.

Table C-2 Phase 1 Sediment Data Comparison to Screening Levels

Analyte	Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	Sediment Standard Unit	[2]Residential Human Health Screening Value for Residential Soil	[3]Residential Human Health Screening Value Exceedances	[4]TCEQ Ecological Screening Values	Applicable Eco Soil Source	[3]TCEQ Ecological Screening Values Exceeds	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs	[3]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs Exceedances
Miscellaneous													
[6]Chromium (hexavalent)	mg/kg	2.50E-01	5.10E+00	LSED-9	16/22	mg/kg	3.00E+00	1.70E+00	--	--	--	1.40E+02	--
Cyanide	mg/kg	4.30E-02	6.30E-01	LSED-4	26/44	mg/kg	2.70E+00	--	--	--	--	3.20E+02	--
[6]Metals													
Aluminum	mg/kg	4.52E+03	1.81E+04	LSED-3	22/22	mg/kg	7.70E+04	--	--	--	--	1.53E+05	--
Antimony	mg/kg	--	--	--	0/22	mg/kg	3.10E+01	--	3.00E-01	--	--	8.32E+01	--
Arsenic	mg/kg	2.90E+00	7.60E+00	LSED-12	22/22	mg/kg	6.80E+00	1.12E+00	9.79E+00	--	--	1.15E+02	--
Barium	mg/kg	4.14E+01	1.23E+02	LSED-9	22/22	mg/kg	1.50E+04	--	--	--	--	2.29E+04	--
Beryllium	mg/kg	9.10E-01	9.90E-01	LSED-3	3/22	mg/kg	1.60E+02	--	--	--	--	2.66E+01	--
Cadmium	mg/kg	5.50E-01	5.50E-01	LSED-7	1/22	mg/kg	7.10E+01	--	9.90E-01	--	--	1.46E+02	--
Calcium	mg/kg	1.05E+05	2.25E+05	LSED-12	22/22	--	--	--	--	--	--	--	--
Chromium	mg/kg	1.11E+01	7.91E+01	LSED-9	22/22	mg/kg	1.20E+05	--	4.34E+01	TCEQ Freshwater Benchmark	1.82E+00	3.65E+04	--
Cobalt	mg/kg	4.10E+00	9.10E+00	LSED-9	22/22	mg/kg	2.30E+01	--	5.00E+01	--	--	5.33E+03	--
Copper	mg/kg	8.70E+00	3.09E+01	LSED-1	22/22	mg/kg	3.10E+03	--	3.16E+01	--	--	5.17E+04	--
Iron	mg/kg	9.23E+03	1.63E+04	LSED-3	22/22	mg/kg	5.50E+04	--	2.00E+04	--	--	--	--
Lead	mg/kg	2.00E+01	1.20E+02	LSED-16	22/22	mg/kg	4.00E+02	--	3.58E+01	TCEQ Freshwater Benchmark	3.35E+00	5.00E+02	--
Mercury	mg/kg	2.00E-02	1.50E-01	LSED-1	22/22	mg/kg	1.10E+01	--	1.80E-01		--	3.43E+01	--
Magnesium	mg/kg	1.96E+03	2.39E+04	LSED-4	22/22	--	--	--	--	--	--	--	--
Manganese	mg/kg	3.77E+02	1.24E+03	LSED-9	22/22	mg/kg	1.80E+03	--	4.60E+02	TCEQ Freshwater Benchmark	2.70E+00	1.40E+04	--
Nickel	mg/kg	1.35E+01	5.59E+01	LSED-4	22/22	mg/kg	1.50E+03	--	2.27E+01	TCEQ Freshwater Benchmark	2.46E+00	1.40E+03	--
Potassium	mg/kg	6.86E+02	2.27E+03	LSED-8	22/22	--	--	--	--	--	--	--	--
Selenium	mg/kg	3.40E-01	8.60E-01	LSED-5	20/22	mg/kg	3.90E+02	--	--	--	--	2.66E+03	--
Silver	mg/kg	--	--	--	0/22	mg/kg	3.90E+02	--	5.70E-01	--	--	3.50E+02	--
Sodium	mg/kg	1.38E+02	1.70E+02	LSED-1	2/22	mg/kg	--	--	--	--	--	2.20E+04	--
Thallium	mg/kg	--	--	--	0/22	mg/kg	7.80E-01	--	--	--	--	3.57E+01	--
Vanadium	mg/kg	1.03E+01	4.00E+01	LSED-3	22/22	mg/kg	3.90E+02	--	--	--	--	8.47E+01	--
Zinc	mg/kg	4.40E+01	1.51E+02	LSED-5	22/22	mg/kg	2.30E+04	--	1.21E+02	TCEQ Freshwater Benchmark	1.25E+00	7.60E+04	--
Polycyclic Aromatic Hydrocarbons													
2-Methylnaphthalene	ug/kg	--	--	--	0/3	mg/kg	2.40E+02	--	2.02E-02	--	--	4.95E+02	--
Acenaphthene	ug/kg	--	--	--	0/3	mg/kg	3.60E+03	--	6.70E-03	--	--	7.42E+03	--
Acenaphthylene	ug/kg	--	--	--	0/3	mg/kg	3.60E+03	--	5.90E-03	--	--	7.42E+03	--
Anthracene	ug/kg	--	--	--	0/3	mg/kg	1.80E+04	--	5.72E-02	--	--	3.71E+04	--
Benzo (a) anthracene	ug/kg	--	--	--	0/3	mg/kg	1.10E+00	--	1.08E-01	--	--	1.16E+02	--
Benzo (a) pyrene	ug/kg	--	--	--	0/3	mg/kg	1.10E-01	--	1.50E-01	--	--	1.59E+00	--
Benzo (b) fluoranthene	ug/kg	9.71E+02	9.71E+02	LSED-1	1/3	mg/kg	1.10E+00	--	--	--	--	1.16E+02	--
Benzo (k) fluoranthene	ug/kg	--	--	--	0/3	mg/kg	1.10E+01	--	--	--	--	1.59E+02	--
Benzo (g,h,i) perylene	ug/kg	--	--	--	0/3	mg/kg	1.80E+03	--	--	--	--	3.71E+03	--
Chrysene	ug/kg	--	--	--	0/3	mg/kg	1.10E+02	--	1.66E-01	--	--	1.59E+03	--
Dibenz (a,h) anthracene	ug/kg	--	--	--	0/3	mg/kg	1.10E-01	--	3.30E-02	--	--	1.59E+00	--
Fluoranthene	ug/kg	6.37E+02	6.37E+02	LSED-1	1/3	mg/kg	2.40E+03	--	4.23E-01	TCEQ Freshwater Benchmark	1.51E+00	4.95E+03	--
Fluorene	ug/kg	--	--	--	0/3	mg/kg	2.40E+03	--	7.74E-02	--	--	4.95E+03	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	0/3	mg/kg	1.10E+00	--	--	--	--	1.59E+01	--
Naphthalene	ug/kg	--	--	--	0/3	mg/kg	3.80E+00	--	1.76E-01			2.47E+03	--
Phenanthrene	ug/kg	--	--	--	0/3	mg/kg	1.80E+03	--	2.04E-01	--	--	3.71E+03	--
Pyrene	ug/kg	7.10E+02	7.10E+02	LSED-1	1/3	mg/kg	1.80E+03	--	1.95E-01	TCEQ Freshwater Benchmark	3.64E+00	3.71E+03	--

Table C-2 Phase 1 Sediment Data Comparison to Screening Levels

Analyte	Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	Sediment Standard Unit	[2]Residential Human Health Screening Value for Residential Soil	[3]Residential Human Health Screening Value Exceedances	[4]TCEQ Ecological Screening Values	Applicable Eco Soil Source	[5]TCEQ Ecological Screening Values Exceeds	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs Exceedances
Polychlorinated biphenyl													
Aroclor-1016	ug/kg	--	--	--	0/3	mg/kg	4.10E+00	--	7.00E-03	--	--	--	--
Aroclor-1221	ug/kg	--	--	--	0/3	--	2.00E-01	--	--	--	--	--	--
Aroclor-1232	ug/kg	--	--	--	0/3	--	1.70E-01	--	--	--	--	--	--
Aroclor-1242	ug/kg	--	--	--	0/3	--	2.30E-01	--	--	--	--	--	--
Aroclor-1248	ug/kg	--	--	--	0/3	mg/kg	2.30E-01	--	3.00E-02	--	--	--	--
Aroclor-1254	ug/kg	--	--	--	0/3	mg/kg	2.40E-01	--	6.00E-02	--	--	--	--
Aroclor-1260	ug/kg	--	--	--	0/3	mg/kg	2.40E-01	--	5.00E-03	--	--	--	--
Perfluorinated Compounds													
Perfluorobutanesulfonic acid (PFBS)	ng/g	--	--	--	0/3	--	1.30E+03	--	--	--	--	--	--
Perfluorobutanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ng/g	4.00E-01	4.10E-01	LSED-9	2/3	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorohexanesulfonic acid (PFHxS)	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorohexanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorooctanesulfonic acid (PFOS)	ng/g	1.10E+00	2.40E+00	LSED-9	3/3	mg/kg	--	--	1.14E-01	--	--	--	--
Perfluorooctanoic acid (PFOA)	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
PFOSA	ng/g	--	--	--	0/3	--	--	--	--	--	--	--	--
Semi-volatile Organic Compounds													
1,1'-Biphenyl	ug/kg	--	--	--	0/3	mg/kg	4.70E+01	--	1.10E+00	--	--	7.65E+03	--
1-Methylnaphthalene	ug/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	0/3	mg/kg	6.30E+03	--	--	--	--	1.53E+04	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	0/3	mg/kg	4.90E+01	--	--	--	--	1.29E+03	--
2,4-Dichlorophenol	ug/kg	--	--	--	0/3	mg/kg	1.90E+02	--	--	--	--	4.59E+02	--
2,4-Dimethylphenol	ug/kg	--	--	--	0/3	mg/kg	1.30E+03	--	--	--	--	3.06E+03	--
2,4-Dinitrophenol	ug/kg	--	--	--	0/3	mg/kg	1.30E+02	--	--	--	--	3.06E+02	--
2,4-Dinitrotoluene	ug/kg	--	--	--	0/3	mg/kg	1.70E+00	--	1.34E+00	--	--	2.09E+01	--
2,6-Dinitrotoluene	ug/kg	--	--	--	0/3	mg/kg	3.60E-01	--	--	--	--	2.09E+01	--
2-Chloronaphthalene	ug/kg	--	--	--	0/3	mg/kg	4.80E+03	--	--	--	--	9.90E+03	--
2-Chlorophenol	ug/kg	--	--	--	0/3	mg/kg	3.90E+02	--	--	--	--	3.67E+03	--
2-Methylphenol	ug/kg	--	--	--	0/3	mg/kg	3.20E+03	--	--	--	--	7.65E+03	--
2-Nitroaniline	ug/kg	--	--	--	0/3	mg/kg	6.30E+02	--	--	--	--	4.59E+01	--
2-Nitrophenol	ug/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	3.06E+02	--
3 &/or 4-Methylphenol	ug/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
3,3´-Dichlorobenzidine	ug/kg	--	--	--	0/3	mg/kg	1.20E+00	--	--	--	--	3.16E+01	--
3-Nitroaniline	ug/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	4.59E+01	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	0/3	mg/kg	5.10E+00	--	--	--	--	1.53E+01	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	9.47E-01	--

Table C-2 Phase 1 Sediment Data Comparison to Screening Levels

Analyte	Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	Sediment Standard Unit	[2]Residential Human Health Screening Value for Residential Soil	[3]Residential Human Health Screening Value Exceedances	[4]TCEQ Ecological Screening Values	Applicable Eco Soil Source	[5]TCEQ Ecological Screening Values Exceeds	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs Exceedances
4-Chloro-3-methylphenol	ug/kg	--	--	--	0/3	mg/kg	6.30E+03	--	9.40E-01	--	--	7.65E+02	--
4-Chloroaniline	ug/kg	--	--	--	0/3	mg/kg	2.70E+00	--	--	--	--	6.12E+02	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	9.47E-01	--
4-Nitroaniline	ug/kg	--	--	--	0/3	mg/kg	2.70E+01	--	--	--	--	6.12E+02	--
4-Nitrophenol	ug/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	3.06E+02	--
Acetophenone	ug/kg	--	--	--	0/3	mg/kg	7.80E+03	--	--	--	--	1.53E+04	--
Atrazine	ug/kg	--	--	--	0/3	mg/kg	2.40E+00	--	--	--	--	6.40E+01	--
Benzaldehyde	ug/kg	--	--	--	0/3	mg/kg	7.80E+03	--	--	--	--	7.35E+04	--
Bis(2-chloro-1-methylethyl)ether	ug/kg	--	--	--	0/3	mg/kg	3.10E+03	--	--	--	--	2.03E+02	--
Bis(2-chloroethoxy)methane	ug/kg	--	--	--	0/3	mg/kg	1.90E+02	--	--	--	--	1.29E+01	--
Bis(2-chloroethyl)ether	ug/kg	--	--	--	0/3	mg/kg	2.30E-01	--	--	--	--	4.95E+01	--
Bis(2-ethylhexyl)phthalate	ug/kg	--	--	--	0/3	mg/kg	3.90E+01	--	5.00E-01	--	--	2.44E+02	--
Butyl benzyl phthalate	ug/kg	--	--	--	0/3	mg/kg	2.90E+02	--	1.10E+01	--	--	3.06E+04	--
Caprolactam	ug/kg	--	--	--	0/3	mg/kg	3.10E+04	--	--	--	--	7.65E+04	--
Carbazole	ug/kg	--	--	--	0/3	mg/kg	--	--	--	--	--	7.11E+02	--
Dibenzofuran	ug/kg	--	--	--	0/3	mg/kg	7.30E+01	--	2.00E-01	--	--	6.12E+02	--
Diethyl phthalate	ug/kg	--	--	--	0/3	mg/kg	5.10E+04	--	6.30E-01	--	--	1.22E+05	--
Dimethyl phthalate	ug/kg	--	--	--	0/3	mg/kg	--	--	1.49E+00	--	--	1.22E+05	--
Di-n-butyl phthalate	ug/kg	--	--	--	0/3	mg/kg	6.30E+03	--	1.10E+01	--	--	1.53E+04	--
Di-n-octyl phthalate	ug/kg	--	--	--	0/3	mg/kg	6.30E+02	--	3.90E-02	--	--	3.06E+03	--
Hexachlorobenzene	ug/kg	--	--	--	0/3	mg/kg	2.10E-01	--	2.00E-02	--	--	8.88E+00	--
Hexachlorobutadiene	ug/kg	--	--	--	0/3	mg/kg	1.20E+00	--	5.50E-02	--	--	3.06E+01	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	0/3	mg/kg	1.80E+00	--	6.70E-02	--	--	9.19E+02	--
Hexachloroethane	ug/kg	--	--	--	0/3	mg/kg	1.80E+00	--	2.25E-01	--	--	1.53E+02	--
Isophorone	ug/kg	--	--	--	0/3	mg/kg	5.70E+02	--	--	--	--	1.50E+04	--
Nitrobenzene	ug/kg	--	--	--	0/3	mg/kg	5.10E+00	--	2.10E+00	--	--	7.65E+01	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	0/3	mg/kg	7.80E-02	--	--	--	--	6.31E-01	--
N-Nitrosodiphenylamine/Diphenylamine	ug/kg	--	--	--	0/3	mg/kg	1.10E+02	--	--	--	--	9.01E+02	--
Pentachlorophenol	ug/kg	--	--	--	0/3	mg/kg	1.00E+00	--	1.20E+00	--	--	5.61E+01	--
Phenol	ug/kg	--	--	--	0/3	mg/kg	1.90E+04	--	1.20E-01	--	--	4.59E+04	--
Volatile Organic Compounds								--					
1,1,1-Trichloroethane	ug/kg	--	--	--	0/3	mg/kg	8.10E+03	--	8.27E+00	--	--	1.47E+05	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	0/3	mg/kg	6.00E-01	--	6.30E-01	--	--	2.72E+02	--
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/kg	--	--	--	0/3	mg/kg	6.70E+03	--	2.78E+00	--	--	1.00E+06	--
1,1,2-Trichloroethane	ug/kg	--	--	--	0/3	mg/kg	1.10E+00	--	9.80E-01	--	--	9.56E+02	--
1,1-Dichloroethane	ug/kg	--	--	--	0/3	mg/kg	3.60E+00	--	2.32E+00	--	--	7.35E+04	--
1,1-Dichloroethene	ug/kg	--	--	--	0/3	mg/kg	2.30E+02	--	3.74E+00	--	--	3.67E+04	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	0/6	mg/kg	2.40E+01	--	8.80E-01	--	--	1.53E+03	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	0/3	mg/kg	5.30E-03	--	--	--	--	1.78E+01	--
1,2-Dibromoethane	ug/kg	--	--	--	0/3	mg/kg	3.60E-02	--	--	--	--	6.61E+03	--
1,2-Dichlorobenzene	ug/kg	--	--	--	0/6	mg/kg	1.80E+03	--	8.30E-01	--	--	6.61E+04	--
1,2-Dichloroethane	ug/kg	--	--	--	0/3	mg/kg	4.60E-01	--	9.56E+00	--	--	5.99E+02	--
1,2-Dichloropropane	ug/kg	--	--	--	0/3	mg/kg	2.80E+00	--	7.05E+00	--	--	8.01E+02	--
1,3-Dichlorobenzene	ug/kg	--	--	--	0/6	mg/kg	1.80E+03	--	1.90E-01	--	--	2.20E+04	--
1,4-Dichlorobenzene	ug/kg	--	--	--	0/6	mg/kg	2.60E+00	--	7.70E-01	--	--	2.27E+03	--

Table C-2 Phase 1 Sediment Data Comparison to Screening Levels

Analyte	Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	Sediment Standard Unit	[2]Residential Human Health Screening Value for Residential Soil	[3]Residential Human Health Screening Value Exceedances	[4]TCEQ Ecological Screening Values	Applicable Eco Soil Source	[5]TCEQ Ecological Screening Values Exceeds	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs Exceedances
2-Butanone	ug/kg	--	--	--	0/3	mg/kg	2.70E+04	--	2.57E+01	--	--	4.41E+05	--
2-Hexanone	ug/kg	--	--	--	0/3	mg/kg	2.00E+02	--	4.70E+00	--	--	4.41E+04	--
4-Methyl-2-pentanone	ug/kg	--	--	--	0/3	mg/kg	3.30E+04	--	1.94E+01	--	--	5.88E+04	--
Acetone	ug/kg	--	--	--	0/3	mg/kg	6.10E+04	--	6.00E+01	--	--	6.61E+05	--
Benzene	ug/kg	--	--	--	0/3	mg/kg	1.20E+00	--	1.60E-01	--	--	9.91E+02	--
Bromodichloromethane	ug/kg	--	--	--	0/3	mg/kg	2.90E-01	--	2.46E+00	--	--	8.79E+02	--
Bromoform	ug/kg	--	--	--	0/3	mg/kg	1.90E+01	--	2.20E-01	--	--	6.90E+03	--
Bromomethane	ug/kg	--	--	--	0/3	mg/kg	6.80E+00	--	8.00E-02	--	--	1.03E+03	--
Carbon disulfide	ug/kg	--	--	--	0/3	mg/kg	7.70E+02	--	1.20E-01	--	--	7.35E+04	--
Carbon tetrachloride	ug/kg	--	--	--	0/3	mg/kg	6.50E-01	--	1.20E+00	--	--	4.19E+02	--
Chlorobenzene	ug/kg	--	--	--	0/3	mg/kg	2.80E+02	--	7.40E-01	--	--	1.47E+04	--
Chloroethane	ug/kg	--	--	--	0/3	mg/kg	1.40E+04	--	--	--	--	2.94E+05	--
Chloroform	ug/kg	--	--	--	0/3	mg/kg	3.20E-01	--	1.89E+00	--	--	7.35E+03	--
Chloromethane	ug/kg	--	--	--	0/3	mg/kg	1.10E+02	--	1.78E+01	--	--	4.19E+03	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	0/3	mg/kg	1.60E+02	--	--	--	--	7.35E+03	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	0/3	mg/kg	1.80E+00	--	--	--	--	7.35E+01	--
Cyclohexane	ug/kg	--	--	--	0/3	mg/kg	6.50E+03	--	--	--	--	3.67E+06	--
Dibromochloromethane	ug/kg	--	--	--	0/3	mg/kg	8.30E+00	--	1.60E-01	--	--	6.49E+02	--
Dichlorodifluoromethane	ug/kg	--	--	--	0/3	mg/kg	8.70E+01	--	3.68E+00	--	--	1.47E+05	--
Ethylbenzene	ug/kg	--	--	--	0/3	mg/kg	5.80E+00	--	2.63E+00	--	--	7.35E+04	--
Isopropylbenzene	ug/kg	--	--	--	0/3	mg/kg	1.90E+03	--	8.99E+00	--	--	7.35E+04	--
meta-/para-Xylene	ug/kg	--	--	--	0/3	mg/kg	5.80E+02	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	0/3	mg/kg	7.80E+04	--	--	--	--	7.35E+05	--
Methyl tert-butyl ether	ug/kg	--	--	--	0/3	mg/kg	4.70E+01	--	--	--	--	7.35E+03	--
Methylcyclohexane	ug/kg	--	--	--	0/3	mg/kg	6.50E+03	--	--	--	--	3.67E+06	--
Methylene chloride	ug/kg	--	--	--	0/3	mg/kg	5.70E+01	--	1.55E+01	--	--	7.27E+03	--
ortho-Xylene	ug/kg	--	--	--	0/3	mg/kg	6.50E+02	--	--	--	--	1.00E+06	--
Styrene	ug/kg	--	--	--	0/3	mg/kg	6.00E+03	--	1.02E+01	--	--	1.47E+05	--
Tetrachloroethene	ug/kg	--	--	--	0/3	mg/kg	2.40E+01	--	2.74E+00	--	--	1.05E+03	--
Toluene	ug/kg	--	--	--	0/3	mg/kg	4.90E+03	--	6.76E+00	--	--	5.88E+04	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	0/3	mg/kg	1.60E+03	--	2.40E+01	--	--	1.47E+04	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	0/3	mg/kg	1.80E+00	--	--	--	--	2.20E+04	--
Trichloroethene	ug/kg	--	--	--	0/3	mg/kg	9.40E-01	--	4.56E+00	--	--	4.41E+03	--
Trichlorofluoromethane	ug/kg	--	--	--	0/3	mg/kg	2.30E+04	--	1.69E+00	--	--	2.20E+05	--
Vinyl chloride	ug/kg	--	--	--	0/3	mg/kg	5.90E-02	--	1.96E+00	--	--	3.63E+01	--
Total Petroleum Hydrocarbons													
TPH (C12-C28)	mg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
TPH (C28-C35)	mg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
TPH (C6-C12)	mg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
TPH (C6-C28)	mg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--
TPH (C6-C35)	mg/kg	--	--	--	0/3	--	--	--	--	--	--	--	--

Table C-2 Phase 1 Sediment Data Comparison to Screening Levels

Analyte	Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	Sediment Standard Unit	[2]Residential Human Health Screening Value for Residential Soil	[3]Residential Human Health Screening Value Exceedances	[4]TCEQ Ecological Screening Values	Applicable Eco Soil Source	[3]TCEQ Ecological Screening Values Exceeds	[5]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs	[3]TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs Exceedances

NOTE:

[1]Organic compounds and Perfluorinated Compounds were reported in ug/kg and ng/g respectively; calculations were used to adjust these values to mg/kg when comparing them to screening level values, which are reported in mg/kg.

[2] RSLs (May 2019) as presented at EPA website at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (target hazard quotient of 1.0).

[3] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

[4] Ecological Screening Values for Freshwater Sediment from the Texas Commission on Environmental Quality's (TCEQ's) Conducting Ecological Risk Assessments at Remediation Sites in Texas (RG-263). August 2018. https://www.tceq.texas.gov/remediation/eco/eco.html

[5]TCEQ TRRP Tier 1 Direct Human Contact Sediment PCLs.

[6]After conferring with the EA Human Health Risk Assessor, Residential Soil Screening Levels (SLs) for metals were adjusted following the procedures that will be followed when the human health risk assessment is performed. This included an upward adjustment of non-carcinogen metal SLs by a factor of 10, followed by a reduction of each metal SL by a factor of 10 due to the anticipated limited exposure to sediments in the nearby drainage features. This resulted use of a SL of 6.8 mg/kg for arsenic, and 3.0 mg/kg for hexavalent chromium.

-- = Not applicable or not available.

ug/kg = Microgram(s) per kilogram.

mg/kg = Milligram(s) per kilogram.

ng/g = Nanogram(s) per gram.

TCEQ = Texas Commission on Environmental Quality.

Table C-3 Phase 1 RI Sediment Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1,2]Human Health SL (mg/kg)	[3]Human Health SL Exceedance	[4]Ecological SL (mg/kg)	[5]Ecological SL Exceedance
LSED-1	LSED-1-0.0-0.5	Sediment	5/15/2019	Fluoranthene	0.637	mg/kg		2400	----	0.423	1.51
				Lead	56.6	mg/kg		400	----	35.8	1.58
				Manganese	531	mg/kg		1800	----	460	1.15
				Pyrene	0.71	mg/kg		1800	----	0.20	3.55
				Zinc	128	mg/kg	J	23000	----	121	1.06
LSED-2	LSED-2-0.0-0.5	Sediment	5/14/2019	Arsenic	6.9	mg/kg		6.8	1.01	9.79	----
				Lead	68.6	mg/kg		400	----	35.8	1.92
				Manganese	736	mg/kg		1800	----	460	1.60
LSED-3	LSED-3-0.0-0.5	Sediment	5/16/2019	Manganese	611	mg/kg		1800	----	460	1.33
	LSED-3-0.0-0.5-D	Sediment	5/16/2019	Manganese	670	mg/kg		1800	----	460	1.46
LSED-4	LSED-4-0.0-0.5	Sediment	5/16/2019	Manganese	645	mg/kg		1800	----	460	1.40
				Nickel	55.9	mg/kg		1500	----	22.7	2.46
LSED-5	LSED-5-0.0-0.5	Sediment	5/16/2019	Lead	64.1	mg/kg		400	----	35.8	1.79
				Zinc	151	mg/kg	J	23000	----	121	1.25
LSED-6	LSED-6-0.0-0.5	Sediment	5/16/2019	Manganese	653	mg/kg		1800	----	460	1.42
LSED-7	LSED-7-0.0-0.5	Sediment	5/16/2019	Manganese	787	mg/kg		1800	----	460	1.71
LSED-8	LSED-8-0.0-0.5	Sediment	5/16/2019	Manganese	611	mg/kg		1800	----	460	1.33
LSED-9	LSED-9-0.0-0.5	Sediment	5/15/2019	Chromium	79.1	mg/kg		120000	----	43.4	1.82
				Chromium (hexavalent)	5.1	mg/kg		3	1.70	----	----
				Lead	43.7	mg/kg		400	----	35.8	1.22
				Manganese	1240	mg/kg		1800	----	460	2.70
LSED-10	LSED-10-0.0-0.5	Sediment	5/14/2019	Manganese	505	mg/kg		1800	----	460	1.10
LSED-11	LSED-11-0.0-0.5	Sediment	5/14/2019	Lead	56.2	mg/kg		400	----	35.8	1.57
				Manganese	487	mg/kg		1800	----	460	1.06
LSED-12	LSED-12-0.0-0.5	Sediment	5/17/2019	Arsenic	7.6	mg/kg		6.8	1.12	9.79	----
				Chromium (hexavalent)	3.2	mg/kg		3	1.07	----	----
				Manganese	746	mg/kg		1800	----	460	1.62
LSED-13	LSED-13-0.0-0.5	Sediment	5/17/2019	Lead	39.1	mg/kg		400	----	35.8	1.09
				Manganese	515	mg/kg		1800	----	460	1.12
LSED-14	LSED-14-0.0-0.5	Sediment	5/17/2019	Lead	69.4	mg/kg		400	----	35.8	1.94
LSED-15	LSED-15-0.0-0.5	Sediment	5/14/2019	Lead	87.3	mg/kg		400	----	35.8	2.44
			5/14/2019	Manganese	790	mg/kg		1800	----	460	1.72
LSED-16	LSED-16-0.0-0.5	Sediment	5/14/2019	Lead	117	mg/kg		400	----	35.8	3.27
				Manganese	488	mg/kg		1800	----	460	1.06
	LSED-16-0.0-0.5-D	Sediment	5/14/2019	Lead	120	mg/kg		400	----	35.8	3.35
LSED-17	LSED-17-0.0-0.5	Sediment	5/13/2019	Lead	70.6	mg/kg		400	----	35.8	1.97
				Manganese	636	mg/kg		1800	----	460	1.38
LSED-18	LSED-18-0.0-0.5	Sediment	5/13/2019	Lead	70.9	mg/kg		400	----	35.8	1.98
			5/13/2019	Manganese	751	mg/kg		1800	----	460	1.63

Table C-3 Phase 1 RI Sediment Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1,2]Human Health SL (mg/kg)	[3]Human Health SL Exceedance	[4]Ecological SL (mg/kg)	[3]Ecological SL Exceedance
LSED-19	LSED-19-0.0-0.5	Sediment	5/13/2019	Lead	58.8	mg/kg		400	----	35.8	1.64
			5/13/2019	Manganese	722	mg/kg		1800	----	460	1.57
LSED-20	LSED-20-0.0-0.5	Sediment	5/13/2019	Lead	72.7	mg/kg		400	----	35.8	2.03
			5/13/2019	Manganese	786	mg/kg		1800	----	460	1.71
			5/13/2019	Nickel	23	mg/kg		1500	----	22.7	1.01

NOTE:

[1]RSLs (May 2019) as presented at EPA website at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (target hazard quotient of 1.0).

[2]After conferring with the EA Human Health Risk Assessor, Residential Soil Screening Levels (SLs) for metals were adjusted following the procedures that will be followed when the human health risk assessment is performed. This included an upward adjustment of non-carcinogen metal SLs by a factor of 10, followed by a reduction of each metal SL by a factor of 10 due to the anticipated limited exposure to sediments in the nearby drainage features. This resulted use of a SL of 6.8 mg/kg for arsenic, and 3.0 mg/kg for hexavalent chromium.

[3] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds

[4] Ecological Screening Values for Freshwater Sediment from the Texas Commission on Environmental Quality's (TCEQ's) Conducting Ecological Risk Assessments at Remediation Sites in Texas (RG-263). August 2018. https://www.tceq.texas.gov/remediation/eco/eco.html

-- = Not applicable or not available.

J = Indicates an estimated value.

ug/kg = Microgram(s) per kilogram.

mg/kg = Milligram(s) per kilogram.

TCEQ = Texas Commission on Environmental Quality.

N

0 150 300
Feet

Legend

Screening Level Exceedances

- Exceeds Residential Sediment Human Health Screening Level
- On-site Well
- RI Sediment Sample Location
- Monitoring Well
- TCEQ Sediment Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality
COPC - Chemical of Potential Concern
CUSTM - Conceptual Understanding of the Site Technical Memorandum

- Historical data screened against COPCs identified in the CUSTM.
- Arsenic and Hexavalent Chromium exceed Human Health Screening values for sediment. A background sediment study will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure C-1
Preliminary Metals Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Sediment Samples

2019-11-07 M:\Federal\EPA\RAC II\0193-Lane RI-FS 365\GIS\MXD\DataReview\LP_SdTM_HH.mxd EA Dallas jschwartz

N

0 150 300
Feet

Legend

Screening Level Exceedances

- Exceeds one or more Sediment Ecological Screening Level
- On-site Well
- RI Sediment Sample Location
- Monitoring Well
- TCEQ Sediment Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality

- Metals that exceeded Ecological Screening Levels in the Phase 1 Remedial Investigation sediment samples included chromium (1 location), lead (13), manganese (19), nickel (2) and zinc (2). A background sediment study will be conducted during the Phase 2 Remedial Investigation field event to determine whether or not a portion of these detections are site-related, or due to background conditions.

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure C-2
Preliminary Metals Ecological Screening Level Exceedances in Phase 1 Remedial Investigation Sediment Samples

N

0 50 100
Feet

Legend

Screening Level Exceedances

- RI sample exceeds one or more Sediment Ecological Screening Level
- On-site Well
- Monitoring Well
- RI Sediment Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality

- Fluoranthene and pyrene exceed Ecological Screening values for sediment at one location (LSED-1)

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure C-3
Preliminary Semi-volatile Organic Compound Ecological Screening Level Exceedances in Phase 1 Remedial Investigation Sediment Samples

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Appendix D

Phase 1 Remedial Investigation Data Summary for Surface Water

Table D-1: Phase 1 Remedial Investigation Surface Water Sample Summary

Sample Location	Sample Medium	Sample Identification	Sampling Depth	Analyses for Surface Water Samples														
				[1]Field Parameters	VOCs (low water)	SVOCs	Total (Unfiltered) TAL Metals (includes Mercury)	Dissolved (Filtered) TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	TPH	Hardness	Total Dissolved Solids	Total Suspended Solids	Alkalinity	Total Organic Carbon
Surface Water Samples																		
LSW- 1	Surface water at Sediment Sample Location	LSW-1	0.0 - 0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LSW- 2	Surface water at Sediment Sample Location	LSW-2	0.0 - 0.5	X			X	X	X	X								
LSW- 3	Surface water at Sediment Sample Location	LSW-3	0.0 - 0.5	X			X	X	X	X								
	Surface water at Sediment Sample Location	LSW-3-D	0.0 - 0.5	X			X	X	X	X								
LSW- 4	Surface water at Sediment Sample Location	LSW-4	0.0 - 0.5	X			X	X	X	X								
LSW- 5	Surface water at Sediment Sample Location	LSW-5	0.0 - 0.5	X			X	X	X	X								
LSW- 6	Surface water at Sediment Sample Location	LSW-6	0.0 - 0.5	X			X	X	X	X								
LSW- 7	Surface water at Sediment Sample Location	LSW-7	0.0 - 0.5	X			X	X	X	X								
LSW- 8	Surface water at Sediment Sample Location	LSW-8	0.0 - 0.5	X			X	X	X	X								
LSW- 9	Surface water at Sediment Sample Location	LSW-9	0.0 - 0.5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LSW- 10	Surface water at Sediment Sample Location	LSW-10	0.0 - 0.5	X			X	X	X	X								
LSW- 11	Surface water at Sediment Sample Location	LSW-11	0.0 - 0.5	X			X	X	X	X								
LSW- 12	Surface water at Sediment Sample Location	LSW-12	0.0 - 0.5	X			X	X	X	X								
LSW- 13	Surface water at Sediment Sample Location	LSW-13	0.0 - 0.5	X			X	X	X	X								
LSW- 14	Surface water at Sediment Sample Location	LSW-14	0.0 - 0.5	X			X	X	X	X								
LSW- 15	Surface water at Sediment Sample Location	LSW-15	0.0 - 0.5	X			X	X	X	X								

Table D-1: Phase 1 Remedial Investigation Surface Water Sample Summary

Sample Location	Sample Medium	Sample Identification	Sampling Depth	Analyses for Surface Water Samples														
				[1]Field Parameters	VOCs (low water)	SVOCs	Total (Unfiltered) TAL Metals (includes Mercury)	Dissolved (Filtered) TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	TPH	Hardness	Total Dissolved Solids	Total Suspended Solids	Alkalinity	Total Organic Carbon
LSW- 16	Surface water at Sediment Sample Location	LSW-16	0.0 - 0.5	X			X	X	X	X								
	Surface water at Sediment Sample Location	LSW-16-D	0.0 - 0.5	X			X	X	X	X								
LSW- 17	Surface water at Sediment Sample Location	LSW-17	0.0 - 0.5	X			X	X	X	X								
LSW- 18	Surface water at Sediment Sample Location	LSW-18	0.0 - 0.5	X			X	X	X	X								
LSW- 19	Surface water at Sediment Sample Location	LSW-19	0.0 - 0.5	X			X	X	X	X								
LSW- 20	Surface water at Sediment Sample Location	LSW-20	0.0 - 0.5	X			X	X	X	X								

NOTE:

[1]Field parameters for surface water included pH, temperature, conductivity, dissolved oxygen, and oxidation reduction potential.
PCB = Polychlorinated biphenyl.
PFC = Perfluorochemical.
SVOC = Semivolatile organic compound.
TAL = Target Analyte List.
TPH = Total petroleum hydrocarbon.
VOC = Volatile organic compound.

Table D-2 Phase 1 Surface Water Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Water Standard Unit	Ecological Screening Values				[5]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Exceedances
							[2]Acute Benchmark	[3]Acute Benchmark Exceedances	[2,4]Chronic Benchmark	[3]Chronic Benchmark Exceedances						
Miscellaneous																
Chromium (hexavalent)	µg/L	--	--	--	0/22	µg/L	1.60E+01	--	1.10E+01	--	6.20E+01	--	5.02E+02	--	5.02E+03	--
Cyanide	µg/L	3.29E+01	3.29E+01	LSW-08	1/22	µg/L	2.20E+01	--	5.20E+00	6.33E+00	4.00E+00	8.23E+00	4.00E+02	--	4.00E+03	--
Total Metals																
Aluminum	µg/L	7.00E+01	3.26E+02	LSW-06	14/22	µg/L	7.50E+02	--	8.70E+01	3.75E+00	--	--	--	--	--	--
Antimony	µg/L	--	--	--	0/22	µg/L	--	--	--	--	6.00E+00	--	1.07E+03	--	1.07E+04	--
Arsenic	µg/L	1.20E+00	4.80E+00	LSW-02	22/22	µg/L	3.40E+02	--	1.50E+02	--	1.00E+01	--	1.00E+01	--	1.00E+02	--
Barium	µg/L	6.83E+01	1.19E+02	LSW-02	22/22	µg/L	--	--	--	--	2.00E+03	--	--	--	--	--
Beryllium	µg/L	--	--	--	0/22	µg/L	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	--	--	--	0/22	µg/L	1.80E+00	--	7.20E-01	--	5.00E+00	--	--	--	--	--
Calcium	µg/L	9.30E+04	1.85E+05	LSW-04	22/22	µg/L	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	--	--	--	0/22	µg/L	5.70E+02	--	7.40E+01	--	--	--	--	--	--	--
Cobalt	µg/L	4.90E-01	3.50E+00	LSW-02	6/22	µg/L	--	--	--	--	--	--	--	--	--	--
Copper	µg/L	4.70E-01	1.40E+00	LSW-13	4/22	µg/L	--	--	--	--	1.30E+03	--	--	--	--	--
Iron	µg/L	1.59E+02	1.17E+03	LSW-06	22/22	µg/L	--	--	1.00E+03	1.17E+00	--	--	--	--	--	--
Lead	µg/L	2.00E-01	5.70E-01	LSW-12	4/22	µg/L	6.50E+01	--	2.50E+00	--	1.15E+00	--	3.83E+00	--	3.83E+01	--
Mercury	µg/L	--	--	--	0/22	µg/L	1.40E+00	--	7.70E-01	--	1.00E-02	--	1.22E-02	--	--	--
Magnesium	µg/L	2.63E+03	4.62E+03	LSW-04	22/22	µg/L	--	--	3.24E+03	1.43E+00	--	--	--	--	--	--
Manganese	µg/L	7.19E+01	1.58E+03	LSW-02	22/22	µg/L	1.31E+03	1.21E+00	--	--	5.00E+01	3.16E+01	1.00E+02	1.58E+01	1.00E+03	1.58E+00
Nickel	µg/L	2.90E+00	5.90E+00	LSW-02	22/22	µg/L	4.70E+02	--	5.20E+01	--	3.32E+02	--	1.14E+03	--	1.14E+04	--
Potassium	µg/L	2.02E+03	6.65E+03	LSW-06	6/22	--	--	--	--	--	--	--	--	--	--	--
Selenium	µg/L	4.70E-01	1.90E+00	LSW-04	22/22	µg/L	--	--	--	--	5.00E+01	--	4.20E+03	--	4.20E+04	--
Selenium	µg/L	4.70E-01	1.90E+00	LSW-05	22/22	µg/L	--	--	--	--	5.00E+01	--	4.20E+03	--	4.20E+04	--
Silver	µg/L	--	--	--	0/22	µg/L	3.20E+00	--	--	--	--	--	--	--	--	--
Sodium	µg/L	2.26E+03	2.36E+04	LSW-02	22/22	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/L	--	--	--	0/22	µg/L	--	--	--	--	1.20E-01	--	2.30E-01	--	2.30E+00	--
Vanadium	µg/L	2.90E-01	2.70E+00	LSW-03	22/22	µg/L	--	--	--	--	--	--	--	--		--
Zinc	µg/L	1.50E+00	3.40E+00	LSW-02	22/22	µg/L	1.20E+02	--	1.20E+02	--	7.40E+03	--	2.60E+04	--	2.60E+05	--
Zinc	µg/L	1.50E+00	3.40E+00	LSW-06	22/22	µg/L	1.20E+02	--	1.20E+02	--	7.40E+03	--	2.60E+04	--	2.60E+05	--
Polycyclic Aromatic Hydrocarbons																
2-Methylnaphthalene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	7.00E+01	--	9.00E+01	--	9.00E+02	--
Acenaphthylene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.11E+03	--	1.32E+03	--	1.32E+04	--
Benzo (a) anthracene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.40E-02	--	2.50E-02	--	2.50E-01	--
Benzo (a) pyrene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.50E-03	--	2.50E-03	--	2.50E-02	--
Benzo (b) fluoranthene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.20E-02	--	1.30E-02	--	1.30E-01	--
Benzo (k) fluoranthene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.20E-01	--	1.30E-01	--	1.30E+00	--
Benzo (g,h,i) perylene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.45E+00	--	2.52E+00	--	2.52E+01	--
Dibenz (a,h) anthracene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.20E-03	--	1.30E-03	--	1.30E-02	--
Fluoranthene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.00E+01	--	2.00E+01	--	2.00E+02	--

Table D-2 Phase 1 Surface Water Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Water Standard Unit	Ecological Screening Values				[5]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Exceedances
							[2]Acute Benchmark	[3]Acute Benchmark Exceedances	[2,4]Chronic Benchmark	[3]Chronic Benchmark Exceedances						
Fluorene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+01	--	7.00E+01	--	7.00E+02	--
Indeno (1,2,3-cd) pyrene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.20E-02	--	1.30E-02	--	1.30E-01	--
Naphthalene	µg/L	--	--	--	0/4	µg/L	--	--	--	--	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.00E+01	--	3.00E+01	--	3.00E+02	--
Polychlorinated biphenyl																
Aroclor-1016	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Perfluorinated Compounds																
Perfluorobutanesulfonic acid (PFBS)	ng/L	2.30E+01	2.60E+01	LSW-09	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorobutanoic acid	ng/L	2.00E+01	2.20E+01	LSW-01	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorodecanesulfonic acid	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Perfluorodecanoic acid	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Perfluorododecanoic acid	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Perfluoroheptanoic acid	ng/L	1.20E+01	1.50E+01	LSW-01	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorohexanesulfonic acid (PFHxS)	ng/L	5.60E+01	7.10E+01	LSW-01	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorohexanoic acid	ng/L	2.90E+01	3.60E+01	LSW-01	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorononanoic acid	ng/L	1.30E+00	1.30E+00	LSW-01	1/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorooctanesulfonic acid (PFOS)	ng/L	2.50E+01	3.20E+01	LSW-01	3/3	µg/L	--	--	--	5.10E+00	--	--	--	--	--	--
Perfluorooctanoic acid (PFOA)	ng/L	8.40E+00	1.00E+01	LSW-01	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluoropentanoic acid	ng/L	3.50E+01	4.60E+01	LSW-01	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Perfluorotetradecanoic acid	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Perfluorotridecanoic acid	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Perfluoroundecanoic acid	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
PFOSA	ng/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Semi-volatile Organic Compounds																
1,1'-Biphenyl	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.04E+03	--	1.87E+03	--	1.87E+04	--
2,4,6-Trichlorophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.50E+01	--	2.80E+01	--	2.80E+02	--
2,4-Dichlorophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+01	--	6.00E+01	--	6.00E+02	--
2,4-Dimethylphenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	4.44E+02	--	8.44E+03	--	8.44E+04	--
2,4-Dinitrophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+01	--	3.00E+02	--	3.00E+03	--
2,4-Dinitrotoluene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	4.90E-01	--	1.70E+01	--	1.70E+02	--
2,6-Dinitrotoluene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	8.00E+02	--	1.00E+03	--	1.00E+04	--
2-Chlorophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	3.00E+01	--	8.00E+02	--	8.00E+03	--

Table D-2 Phase 1 Surface Water Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Water Standard Unit	Ecological Screening Values				[5]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Exceedances
							[2]Acute Benchmark	[3]Acute Benchmark Exceedances	[2,4]Chronic Benchmark	[3]Chronic Benchmark Exceedances						
2-Methylphenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
3 &/or 4-Methylphenol	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
3,3´-Dichlorobenzidine	µg/L	--	--	--	0/3	µg/L	--	--	--	--	7.90E-01	--	2.24E+00	--	2.24E+01	--
3-Nitroaniline	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.00E+00	--	3.00E+01	--	3.00E+02	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+02	--	2.00E+03	--	2.00E+04	--
4-Chloroaniline	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloro-1-methylethyl)ether	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.00E+02	--	4.00E+03	--	4.00E+04	--
Bis(2-chloroethoxy)methane	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	µg/L	--	--	--	0/3	µg/L	--	--	--	--	6.00E-01	--	4.28E+01	--	4.28E+02	--
Bis(2-ethylhexyl)phthalate	µg/L	--	--	--	0/3	µg/L	--	--	--	--	6.00E+00	--	7.55E+00	--	7.55E+01	--
Butyl benzyl phthalate	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+00	--	1.00E+00	--	1.00E+01	--
Caprolactam	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	0/3	µg/L	--	--	--	--	6.00E+02	--	6.00E+02	--	6.00E+03	--
Dimethyl phthalate	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.00E+03	--	2.00E+03	--	2.00E+04	--
Di-n-butyl phthalate	µg/L	--	--	--	0/3	µg/L	--	--	--	--	8.89E+01	--	9.24E+01	--	9.24E+02	--
Di-n-octyl phthalate	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	6.80E-04	--	6.80E-04	--	6.80E-03	--
Hexachlorobutadiene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.10E-01	--	2.20E-01	--	2.20E+00	--
Hexachlorocyclopentadiene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.07E+01	--	1.16E+01	--	1.16E+02	--
Hexachloroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.84E+00	--	2.33E+00	--	2.33E+01	--
Isophorone	µg/L	--	--	--	0/3	µg/L	--	--	--	--	3.40E+02	--	1.80E+04	--	1.80E+05	--
Nitrobenzene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	4.57E+01	--	1.87E+03	--	1.87E+04	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E-02	--	5.10E+00	--	5.10E+01	--
N-Nitrosodiphenylamine/Diphenylamine	µg/L	--	--	--	0/3	µg/L	--	--	--	--	3.30E+01	--	6.00E+01	--	6.00E+02	--
Pentachlorophenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.20E-01	--	2.90E-01	--	2.90E+00	--
Phenol	µg/L	--	--	--	0/3	µg/L	--	--	--	--	4.00E+03	--	3.00E+05	--	3.00E+06	--
Volatile Organic Compounds																
1,1,1-Trichloroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.00E+02	--	7.84E+05	--	7.84E+06	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.64E+00	--	2.64E+01	--	2.64E+02	--
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--

Table D-2 Phase 1 Surface Water Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Water Standard Unit	Ecological Screening Values				[5]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Exceedances
							[2]Acute Benchmark	[3]Acute Benchmark Exceedances	[2,4]Chronic Benchmark	[3]Chronic Benchmark Exceedances						
1,1,2-Trichloroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	1.66E+02	--	1.66E+03	--
1,1-Dichloroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	7.00E+00	--	5.51E+04	--	5.51E+05	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	0/6	µg/L	--	--	--	--	7.00E-02	--	7.60E-02	--	7.60E-01	--
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.70E-01	--	4.24E+00	--	4.24E+01	--
1,2-Dichlorobenzene	µg/L	--	--	--	0/6	µg/L	--	--	--	--	6.00E+02	--	3.30E+03	--	3.30E+04	--
1,2-Dichloroethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	3.64E+02	--	3.64E+03	--
1,2-Dichloropropane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	2.59E+02	--	2.59E+03	--
1,3-Dichlorobenzene	µg/L	--	--	--	0/6	µg/L	--	--	--	--	3.22E+02	--	5.95E+02	--	5.95E+03	--
1,4-Dichlorobenzene	µg/L	--	--	--	0/6	µg/L	--	--	--	--	7.50E+01	--	9.00E+02	--	9.00E+03	--
2-Butanone	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.39E+04	--	9.92E+05	--	9.92E+06	--
2-Hexanone	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Acetone	µg/L	6.40E+00	9.40E+00	LSW-09	3/3	µg/L	--	--	--	--	--	--	--	--	--	--
Benzene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	5.81E+02	--	5.81E+03	--
Bromodichloromethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.02E+01	--	2.75E+02	--	2.75E+03	--
Bromoform	µg/L	--	--	--	0/3	µg/L	--	--	--	--	6.69E+01	--	1.06E+03	--	1.06E+04	--
Bromomethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+02	--	1.00E+04	--	1.00E+05	--
Carbon disulfide	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	0/3	µg/L	--	--	--	--	4.50E+00	--	4.60E+01	--	4.60E+02	--
Chlorobenzene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+02	--	2.74E+03	--	2.74E+04	--
Chloroethane	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Chloroform	µg/L	--	--	--	0/3	µg/L	--	--	--	--	7.00E+01	--	7.70E+03	--	7.70E+04	--
Chloromethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	7.50E+00	--	1.83E+02	--	1.83E+03	--
Dichlorodifluoromethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	7.00E+02	--	1.87E+03	--	1.87E+04	--
Isopropylbenzene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
meta-/para-Xylene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.50E+01	--	1.05E+04	--	1.05E+05	--
Methylcyclohexane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Methylene chloride	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	1.33E+04	--	1.33E+05	--
ortho-Xylene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Styrene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	2.80E+02	--	2.80E+03	--
Toluene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+03	--	1.00E+03	--	1.00E+04	--
trans-1,2-Dichloroethene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	1.00E+02	--	4.00E+03	--	4.00E+04	--

Table D-2 Phase 1 Surface Water Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Water Standard Unit	Ecological Screening Values				[5]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Exceedances
							[2]Acute Benchmark	[3]Acute Benchmark Exceedances	[2,4]Chronic Benchmark	[3]Chronic Benchmark Exceedances						
trans-1,3-Dichloropropene	µg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	0/3	µg/L	--	--	--	--	5.00E+00	--	7.19E+01	--	7.19E+02	--
Trichlorofluoromethane	µg/L	--	--	--	0/3	µg/L	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	0/3	µg/L	--	--	--	--	2.30E-01	--	1.65E+01	--	1.65E+02	--
Dissolved Metals																
Aluminum	µg/L	1.15E+02	1.15E+02	LSW-06	1/22	µg/L	7.50E+02	--	8.70E+01	1.32E+00	--	--	--	--	--	--
Antimony	µg/L	--	--	--	0/22	µg/L	--	--	--	--	6.00E+00	--	1.07E+03	--	1.07E+04	--
Arsenic	µg/L	9.20E-01	4.70E+00	LSW-02	22/22	µg/L	3.40E+02	--	1.50E+02	--	1.00E+01	--	1.00E+01	--	1.00E+02	--
Barium	µg/L	6.66E+01	1.20E+02	LSW-02	22/22	µg/L	--	--	--	--	2.00E+03	--	--	--	--	--
Beryllium	µg/L	--	--	--	0/22	µg/L	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	--	--	--	0/22	µg/L	1.80E+00	--	7.20E-01	--	5.00E+00	--	--	--	--	--
Calcium	µg/L	9.32E+04	1.89E+05	LSW-04	22/22	µg/L	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	--	--	--	0/22	µg/L	5.70E+02	--	7.40E+01	--	--	--	--	--	--	--
Cobalt	µg/L	1.30E+00	3.70E+00	LSW-02	2/22	µg/L	--	--	--	--	--	--	--	--	--	--
Copper	µg/L	4.20E-01	1.10E+00	LSW-03	22/22	µg/L	--	--	--	--	1.30E+03	--	--	--	--	--
Copper	µg/L	4.20E-01	1.10E+00	LSW-14	22/22	µg/L	--	--	--	--	1.30E+03	--	--	--	--	--
Iron	µg/L	3.57E+01	5.18E+02	LSW-06	7/22	µg/L	--	--	1.00E+03	--	--	--	--	--	--	--
Lead	µg/L	2.70E-02	1.20E-01	LSW-06	7/22	µg/L	6.50E+01	--	2.50E+00	--	1.15E+00	--	3.83E+00	--	3.83E+01	--
Mercury	µg/L	--	--	--	0/22	µg/L	1.40E+00	--	7.70E-01	--	1.00E-02	--	1.22E-02	--	--	--
Magnesium	µg/L	2.61E+03	4.62E+03	LSW-04	22/22	µg/L	--	--	3.24E+03	1.43E+00	--	--	--	1.68E+01	1.00E+03	1.68E+00
Manganese	µg/L	6.70E+01	1.68E+03	LSW-02	22/22	µg/L	1.31E+03	1.28E+00	--	--	5.00E+01	3.36E+01	1.00E+02	--	1.14E+04	--
Nickel	µg/L	2.70E+00	5.80E+00	LSW-02	22/22		4.70E+02	--	5.20E+01	--	3.32E+02	--	1.14E+03	--	--	--
Potassium	µg/L	2.04E+03	6.61E+03	LSW-06	22/22	--	--	--	--	--	--	--	--	--	4.20E+04	--
Selenium	µg/L	5.20E-01	2.40E+00	LSW-07	22/22	µg/L	--	--	--	--	5.00E+01	--	4.20E+03	--	--	--
Silver	µg/L	--	--	--	0/22	µg/L	3.20E+00	--	--	--	--	--	--	--	--	--
Sodium	µg/L	1.35E+04	2.34E+04	LSW-14	20/22	--	--	--	--	--	--	--	--	--	2.30E+00	--
Thallium	µg/L	--	--	--	0/22	µg/L	--	--	--	--	1.20E-01	--	2.30E-01	--	--	--
Vanadium	µg/L	1.60E-01	2.30E+00	LSW-03	22/22	µg/L	--	--	--	--	--	--	--	--	2.60E+05	--
Zinc	µg/L	9.30E-01	4.60E+00	LSW-16	22/22	µg/L	1.20E+02	--	1.20E+02	--	7.40E+03	--	2.60E+04	--	--	--
Total Petroleum Hydrocarbons																
TPH (C12-C28)	mg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
TPH (C28-C35)	mg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
TPH (C6-C12)	mg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
TPH (C6-C28)	mg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--
TPH (C6-C35)	mg/L	--	--	--	0/3	--	--	--	--	--	--	--	--	--	--	--

Table D-2 Phase 1 Surface Water Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Surface Water Standard Unit	Ecological Screening Values				[5]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Water and Fish Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Fish Only Exceedances	[5]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Values	[3]Human Health Surface Water Risk-Based Exposure Limits for Incidental Fishery Exceedances
							[2]Acute Benchmark	[3]Acute Benchmark Exceedances	[2,4]Chronic Benchmark	[3]Chronic Benchmark Exceedances						

NOTE:

[1]Perfluorinated compound detections were reported in ng/L respectively; calculations were used to adjust these values to µg/L when comparing them to screening level values, which are reported inµg/L. Although not shown above, due to limited screening values for these compounds in surface water the detections were also compared to Texas Commision on Environmental Quality (TCEQ) Tier 1 PCL $^{GW}GW^{Ing}$ values, and none of the detectons exceeded the groundwater screenign values for these compounds.

[2]EPA National Recommended Water Quality Criteria (accessed October 2018 at http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm).

[3] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

[4]TRRP Surface Water Ecoloical Benchmarks taken from the TCEQ's Conducting Ecological Risk Assessments at Remediation Sites in Texas (RG-263). August 2018. https://www.tceq.texas.gov/remediation/eco/eco.html.

[5]TCEQ Human Health Surface Water Risk-Based Exposure Limits (^{SW}RBELs)(TCEQ 2018); March 1, 2018; located at: https://www.tceq.texas.gov/assets/public/waterquality/standards/tswqs2018/2018swqs_allsections_nopreamble.pdf; Note: The TSWQS Human Health for Fish Only Consumption value multiplied by 10 represents the value for an incidental fishery, as discussed in the TCEQ Regulatory Guidance RG-366/TRRP 24, "Determining PCLs for Surface Water and Sediment" (December 2007)."

-- = Not applicable or not available.
ug/L = Microgram(s) per liter.
mg/L = Milligram(s) per liter.
ng/L = Nanogram(s) per liter.

Table D-3 Phase 1 RI Surface Water Screening Level Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (ug/L)	[2]Human Health SL Exceedance	[3,5]Ecological SL (ug/L)	[5]Ecological SL Exceedance
LSW-01	LSW-01	Surface Water	5/15/2019	Aluminum	171	ug/L	J	----	----	87	1.97
	LSW-01	Surface Water	5/15/2019	Manganese	105	ug/L		50	2.10	1310	----
	LSW-01	Surface Water	5/15/2019	Magnesium	3270	ug/L	J	----	----	3235	1.01
	LSW-01-F	Surface Water	5/15/2019	Manganese	95.8	ug/L		50	1.92	1310	----
LSW-02	LSW-02	Surface Water	5/14/2019	Magnesium	4250	ug/L	J	----	----	3235	1.31
	LSW-02	Surface Water	5/14/2019	Manganese	1580	ug/L		50	31.60	1310	1.21
	LSW-02-F	Surface Water	5/14/2019	Magnesium	4160	ug/L	J	----	----	3235	1.29
	LSW-02-F	Surface Water	5/14/2019	Manganese	1680	ug/L		50	33.60	1310	1.28
LSW-03	LSW-03	Surface Water	5/16/2019	Aluminum	113	ug/L	J	----	----	87	1.30
	LSW-03	Surface Water	5/16/2019	Manganese	113	ug/L		50	2.26	1310	----
	LSW-03-F	Surface Water	5/16/2019	Manganese	77.6	ug/L		50	1.55	1310	----
	LSW-3-D	Surface Water	5/16/2019	Aluminum	111	ug/L	J	----	----	87	1.28
	LSW-3-D	Surface Water	5/16/2019	Manganese	113	ug/L		50	2.26	1310	----
	LSW-3-F-D	Surface Water	5/16/2019	Manganese	79.2	ug/L		50	1.58	1310	----
LSW-04	LSW-04	Surface Water	5/16/2019	Magnesium	4370	ug/L	J	----	----	3235	1.35
	LSW-04	Surface Water	5/16/2019	Manganese	140	ug/L		50	2.80	1310	----
	LSW-04-F	Surface Water	5/16/2019	Magnesium	4620	ug/L	J	----	----	3235	1.43
	LSW-04-F	Surface Water	5/16/2019	Manganese	132	ug/L		50	2.64	1310	----
LSW-05	LSW-05	Surface Water	5/16/2019	Aluminum	111	ug/L	J	----	----	87	1.28
	LSW-05	Surface Water	5/16/2019	Magnesium	4390	ug/L	J	----	----	3235	1.36
	LSW-05	Surface Water	5/16/2019	Manganese	145	ug/L		50	2.90	1310	----
	LSW-05-F	Surface Water	5/16/2019	Magnesium	4310	ug/L	J	----	----	3235	1.33
	LSW-05-F	Surface Water	5/16/2019	Manganese	133	ug/L		50	2.66	1310	----
LSW-06	LSW-06	Surface Water	5/16/2019	Aluminum	326	ug/L		----	----	87	3.75
	LSW-06	Surface Water	5/16/2019	Iron	1170	ug/L		----	----	1000	1.17
	LSW-06	Surface Water	5/16/2019	Magnesium	3880	ug/L	J	----	----	3235	1.20
	LSW-06	Surface Water	5/16/2019	Manganese	859	ug/L		50	17.18	1310	----
	LSW-06-F	Surface Water	5/16/2019	Aluminum	115	ug/L	J	----	----	87	1.32
	LSW-06-F	Surface Water	5/16/2019	Magnesium	3840	ug/L	J	----	----	3235	1.19
	LSW-06-F	Surface Water	5/16/2019	Manganese	828	ug/L		50	16.56	1310	----
LSW-07	LSW-07	Surface Water	5/16/2019	Aluminum	98	ug/L	J	----	----	87	1.13
	LSW-07	Surface Water	5/16/2019	Magnesium	4270	ug/L	J	----	----	3235	1.32
	LSW-07	Surface Water	5/16/2019	Manganese	85.2	ug/L		50	1.70	1310	----
	LSW-07-F	Surface Water	5/16/2019	Magnesium	4430	ug/L	J	----	----	3235	1.37
	LSW-07-F	Surface Water	5/16/2019	Manganese	79.2	ug/L		50	1.58	1310	----
LSW-08	LSW-08	Surface Water	5/16/2019	Cyanide	32.9	ug/L		4	8.23	5.2	6.33
	LSW-08	Surface Water	5/16/2019	Magnesium	3420	ug/L	J	----	----	3235	1.06
	LSW-08	Surface Water	5/16/2019	Manganese	523	ug/L		50	10.46	1310	----
	LSW-08-F	Surface Water	5/16/2019	Magnesium	3370	ug/L	J	----	----	3235	1.04
	LSW-08-F	Surface Water	5/16/2019	Manganese	497	ug/L		50	9.94	1310	----

Table D-3 Phase 1 RI Surface Water Screening Level Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (ug/L)	[2]Human Health SL Exceedance	[3,5]Ecological SL (ug/L)	[5]Ecological SL Exceedance
LSW-09	LSW-09	Surface Water	5/15/2019	Aluminum	137	ug/L	J	----	----	87	1.57
	LSW-09	Surface Water	5/15/2019	Magnesium	3500	ug/L	J	----	----	3235	1.08
	LSW-09	Surface Water	5/15/2019	Manganese	83.1	ug/L		50	1.66	1310	----
	LSW-09-F	Surface Water	5/15/2019	Magnesium	3570	ug/L	J	----	----	3235	1.10
	LSW-09-F	Surface Water	5/15/2019	Manganese	71.7	ug/L		50	1.43	1310	----
LSW-10	LSW-10	Surface Water	5/14/2019	Magnesium	3470	ug/L	J	----	----	3235	1.07
	LSW-10	Surface Water	5/14/2019	Manganese	76.7	ug/L		50	1.53	1310	----
	LSW-10-F	Surface Water	5/14/2019	Magnesium	3460	ug/L	J	----	----	3235	1.07
	LSW-10-F	Surface Water	5/14/2019	Manganese	67.5	ug/L		50	1.35	1310	----
LSW-11	LSW-11	Surface Water	5/14/2019	Aluminum	110	ug/L	J	----	----	87	1.26
	LSW-11	Surface Water	5/14/2019	Magnesium	3520	ug/L	J	----	----	3235	1.09
	LSW-11	Surface Water	5/14/2019	Manganese	83.9	ug/L		50	1.68	1310	----
	LSW-11-F	Surface Water	5/14/2019	Magnesium	3540	ug/L	J	----	----	3235	1.09
	LSW-11-F	Surface Water	5/14/2019	Manganese	75.8	ug/L		50	1.52	1310	----
LSW-12	LSW-12	Surface Water	5/17/2019	Magnesium	3270	ug/L	J	----	----	3235	1.01
	LSW-12	Surface Water	5/17/2019	Manganese	92	ug/L		50	1.84	1310	----
	LSW-12-F	Surface Water	5/17/2019	Magnesium	3410	ug/L	J	----	----	3235	1.05
	LSW-12-F	Surface Water	5/17/2019	Manganese	89.8	ug/L		50	1.80	1310	----
LSW-13	LSW-13	Surface Water	5/17/2019	Magnesium	3280	ug/L	J	----	----	3235	1.01
	LSW-13	Surface Water	5/17/2019	Manganese	71.9	ug/L		50	1.44	1310	----
	LSW-13-F	Surface Water	5/17/2019	Magnesium	3400	ug/L	J	----	----	3235	1.05
	LSW-13-F	Surface Water	5/17/2019	Manganese	67	ug/L		50	1.34	1310	----
LSW-14	LSW-14	Surface Water	5/17/2019	Aluminum	163	ug/L	J	----	----	87	1.87
	LSW-14	Surface Water	5/17/2019	Magnesium	3280	ug/L	J	----	----	3235	1.01
	LSW-14	Surface Water	5/17/2019	Manganese	73.8	ug/L		50	1.48	1310	----
	LSW-14-F	Surface Water	5/17/2019	Magnesium	3590	ug/L	J	----	----	3235	1.11
	LSW-14-F	Surface Water	5/17/2019	Manganese	67.5	ug/L		50	1.35	1310	----
LSW-15	LSW-15	Surface Water	5/14/2019	Manganese	3530	ug/L	J				
	LSW-15	Surface Water	5/14/2019	Manganese	87.8	ug/L		50	1.76	1310	----
	LSW-15-F	Surface Water	5/14/2019	Magnesium	3490	ug/L	J	----	----	3235	1.08
	LSW-15-F	Surface Water	5/14/2019	Manganese	77.8	ug/L		50	1.56	1310	----
LSW-16	LSW-16	Surface Water	5/14/2019	Magnesium	3570	ug/L	J	----	----	3235	1.10
	LSW-16	Surface Water	5/14/2019	Manganese	92.4	ug/L		50	1.85	1310	----
	LSW-16-D	Surface Water	5/14/2019	Aluminum	110	ug/L	J	----	----	87	1.26
	LSW-16-D	Surface Water	5/14/2019	Magnesium	3740	ug/L	J	----	----	3235	1.16
	LSW-16-D	Surface Water	5/14/2019	Manganese	95.2	ug/L		50	1.90	1310	----
	LSW-16-F	Surface Water	5/14/2019	Magnesium	3610	ug/L	J	----	----	3235	1.12
	LSW-16-F	Surface Water	5/14/2019	Manganese	83.6	ug/L		50	1.67	1310	----
	LSW-16-F-D	Surface Water	5/14/2019	Magnesium	3650	ug/L	J	----	----	3235	1.13
	LSW-16-F-D	Surface Water	5/14/2019	Manganese	84.7	ug/L		50	1.69	1310	----

Table D-3 Phase 1 RI Surface Water Screening Level Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1]Human Health SL (ug/L)	[2]Human Health SL Exceedance	[3,4]Ecological SL (ug/L)	[2]Ecological SL Exceedance
LSW-17	LSW-17	Surface Water	5/13/2019	Magnesium	3540	ug/L	J	----	----	3235	1.09
	LSW-17	Surface Water	5/13/2019	Manganese	86.5	ug/L		50	1.73	1310	----
	LSW-17-F	Surface Water	5/13/2019	Magnesium	3560	ug/L	J	----	----	3235	1.10
	LSW-17-F	Surface Water	5/13/2019	Manganese	75.9	ug/L		50	1.52	1310	----
LSW-18	LSW-18	Surface Water	5/13/2019	Aluminum	105	ug/L	J	----	----	87	1.21
	LSW-18	Surface Water	5/13/2019	Magnesium	3570	ug/L	J	----	----	3235	1.10
	LSW-18	Surface Water	5/13/2019	Manganese	85.1	ug/L		50	1.70	1310	----
	LSW-18-F	Surface Water	5/13/2019	Magnesium	3570	ug/L	J	----	----	3235	1.10
	LSW-18-F	Surface Water	5/13/2019	Manganese	75.3	ug/L		50	1.51	1310	----
LSW-19	LSW-19	Surface Water	5/13/2019	Magnesium	3550	ug/L	J	----	----	3235	1.10
	LSW-19	Surface Water	5/13/2019	Manganese	84.4	ug/L		50	1.69	1310	----
	LSW-19-F	Surface Water	5/13/2019	Magnesium	3430	ug/L	J	----	----	3235	1.06
	LSW-19-F	Surface Water	5/13/2019	Manganese	75.5	ug/L		50	1.51	1310	----
LSW-20	LSW-20	Surface Water	5/13/2019	Magnesium	3580	ug/L	J	----	----	3235	1.11
	LSW-20	Surface Water	5/13/2019	Manganese	80.1	ug/L		50	1.60	1310	----
	LSW-20-F	Surface Water	5/13/2019	Magnesium	3500	ug/L	J	----	----	3235	1.08
	LSW-20-F	Surface Water	5/13/2019	Manganese	71.1	ug/L		50	1.42	1310	----

NOTE:

[1]TCEQ Human Health Surface Water Risk-Based Exposure Limits (^{SW}RBELs)(TCEQ 2018); March 1, 2018; located at: https://www.tceq.texas.gov/assets/public/waterquality/standards/tswqs2018/2018swqs_allsections_nopreamble.pdf; Note: The TSWQS Human Health for Fish Only Consumption value multiplied by 10 represents the value for an incidental fishery, as discussed in the TCEQ Regulatory Guidance RG-366/TRRP 24, "Determining PCLs for Surface Water and Sediment" (December 2007)."

[2] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

[3]EPA National Recommended Water Quality Criteria (accessed October 2018 at http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm).

[4]TRRP Surface Water Ecoloical Benchmarks taken from the Texas Commission on Environmental Quality's (TCEQ's) Conducting Ecological Risk Assessments at Remediation Sites in Texas (RG-263). August 2018. https://www.tceq.texas.gov/remediation/eco/eco.html.

-- = Not applicable or not available.

J = Indicates an estimated value.

ug/L = Microgram(s) per liter.

N

0 150 300
Feet

Legend

Screening Level Exceedances

- RI sample exceedsone or more Resident Surface Water Human Health Screening Level for manganese
- Historical sample exceeds one or more Surface Water Human Health Screening Level
- On-site Well
- Monitoring Well
- RI Surface Water Sample Location
- TCEQ Surface Water Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality
COPC - Chemical of Potential Concern
CUSTM - Conceptual Understanding of the Site Technical Memorandum

- Historical data screened against COPCs identified in the CUSTM.
- Manganese exceeds Human Health screening values for surface water possibly due to background conditions. A background study will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure D-1
Preliminary Total Metals Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Surface Water Samples

2019-11-07 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\DataReview\LP_SwTM_HH.mxd EA-Dallas jschwertz

N

0 150 300
Feet

Legend

Screening Level Exceedances

- RI sample Exceeds one or more Surface Water Ecological Screening Level
- Historic sample exceeds one or more Surface Water Ecological Screening Level
- On-site Well
- Monitoring Well
- RI Surface Water Sample Location
- TCEQ Surface Water Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality
COPC - Chemical of Potential Concern
CUSTM - Conceptual Understanding of the Site Technical Memorandum

- Historical data screened against COPCs identified in the CUSTM
- Aluminum, Iron, Magnesium, and Manganese exceed Ecological Screening values for surface water possibly due to background conditions. A background study will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure D-2
Preliminary Total Metals Ecological Screening Level Exceedances in Phase 1 Remedial Investigation Surface Water Samples

2019-11-07 M:\Federal\EPA\RAC II\0168-Lane RI-FS 309\GIS\MXDs\DataReview\LP_SwTM_Eco.mxd EA-Dallas jschwertz

N

0 150 300
Feet

Legend

Screening Level Exceedances

- Exceeds Residential Surface Water Human Health Screening Level for manganese
- On-site Well
- Monitoring Well
- RI Surface Water Sample Location

Note:
RI - Remedial Investigation - Phase 1

- Manganese exceeds Human Health Screening values for surface water possibly due to background conditions. A background study will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure D-3
Preliminary Dissolved Metals Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Surface Water Samples

N

0 150 300
Feet

Legend

Screening Level Exceedances

- Exceeds one or more Surface Water Ecological Screening Level
- On-site Well
- Monitoring Well
- RI Surface Water Sample Location

Note:
RI - Remedial Investigation - Phase 1

- Aluminum, Iron, Magnesium, and Manganese exceed Ecological Screening values for surface water possibly due to background conditions. A background study will be conducted as part of the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure D-4
Preliminary Dissolved Metals Ecological Screening Level Exceedances in Phase 1 Remedial Investigation Surface Water Samples

2019-11-07 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\DataReview\LP_SwDM_Eco.mxd EA-Dallas jschwertz

N

0 150 300
Feet

Legend

Screening Level Exceedances

- Exceeds Residential Surface Water Human Health Screening Level for Cyanide
- On-site Well
- Monitoring Well
- RI Surface Water Sample Location
- TCEQ Surface Water Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure D-5
Preliminary Cyanide Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Surface Water Samples

2019-11-07 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\DataReview\LP_SwCN_HH.mxd EA-Dallas jschwertz

N

0 150 300
Feet

Legend

Screening Level Exceedances

- Exceeds one or more Surface Water Ecological Screening Level for Cyanide
- On-site Well
- Monitoring Well
- RI Surface Water Sample Location
- TCEQ Surface Water Sample Location

Note:
RI - Remedial Investigation - Phase 1
TCEQ - Texas Commision on Environmental Quality

Imagery Source:
Site:Texas Orthoimagery
Program 2015 0.5 Meter DOQQ,
Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure D-6
Preliminary Cyanide Ecological Screening Level Exceedances in Phase 1 Remedial Investigation Surface Water Samples

2019-11-07 M:\Federal\EPA\RAC II\0168-Lane RI-FS_309\GIS\MXDs\DataReview\LP_SwCN_HH.mxd EA-Dallas jschwertz

Appendix E

Phase 1 Remedial Investigation Data Summary for Groundwater

Table E-1: Phase 1 Remedial Investigation Groundwater Sample Summary

Sample Location	Sample Identification	Sampling Method	Analyses										
			[1]Field Parameters	Total Dissolved Solids	VOCs (low water)	SVOCs	Total (Unfiltered) TAL Metals (includes Mercury)	Dissolved (Filtered) TAL Metals (includes Mercury)	Cyanide	Hexavalent Chromium	PCBs	PFCs	TPH
Monitoring Wells													
MW-01	MW-01	Micro Purge and Sample	X	X	X	X	X	X	X	X	X	X	X
MW-02	MW-02	Micro Purge and Sample	X	X			X	X	X	X			
MW-03	MW-03	Micro Purge and Sample	X	X			X	X	X	X			
WW-01	WW-01	Micro Purge and Sample	X	X			X	X	X	X			
WW-02	WW-02	Micro Purge and Sample	X	X			X	X	X	X			

NOTE:
[1]Field parameters: pH, temperature, conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity .
PCB = Polychlorinated biphenyl. TAL = Total analyte list.
PFC = Perfluorochemical. TPH = Total petroleum hydrocarbon.
SVOC = Semivolatile organic compound. VOC = Volatile organic compound.

Table E-2 Phase 1 Groundwater Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Groundwater Standard Unit	[2]EPA MCL Values	[3]EPA MCL Exceedances	[4]EPA Tapwater RSL Values	[3]EPA Tapwater RSL Exceedances	[5]TCEQ Tier 1 PCL $^{GW}GW_{Ing}$ values	[3]TCEQ Tier 1 PCL $^{GW}GW_{Ing}$ Exceedances
Miscellaneous												
Chromium (hexavalent)	µg/L	7.10E+00	5.65E+02	WW-1	4/6	µg/L	--	--	3.50E-02	1.61E+04	1.00E+02	5.65E+00
Cyanide (total)	mg/L	--	--	--	0/3	µg/L	2.00E+02	--	1.50E+00	--	2.00E+02	--
Metals												
Aluminum	µg/L	--	--	--	0/3	µg/L	--	--	2.00E+04	--	2.40E+04	--
Antimony	µg/L	--	--	--	0/3	µg/L	6.00E+00	--	7.80E+00	--	6.00E+00	--
Arsenic	µg/L	--	--	--	0/3	µg/L	1.00E+01	--	5.20E-02	--	1.00E+01	--
Barium	µg/L	5.73E+01	1.10E+02	WW-1	3/3	µg/L	2.00E+03	--	3.80E+03	--	2.00E+03	--
Beryllium	µg/L	--	--	--	0/3	µg/L	4.00E+00	--	2.50E+01	--	4.00E+00	--
Cadmium	µg/L	--	--	--	0/6	µg/L	5.00E+00	--	9.20E+00	--	5.00E+00	--
Calcium	µg/L	1.82E+05	2.06E+05	WW-1	3/3	--	--	--	--	--	--	--
Chromium	µg/L	2.44E+02	6.20E+02	WW-1	9/9	µg/L	1.00E+02	6.20E+00	2.20E+04	--	1.00E+02	6.20E+00
Cobalt	µg/L	--	--	--	0/3	µg/L	--	--	6.00E+00	--	2.40E+02	--
Copper	µg/L	--	--	--	0/3	µg/L	1.30E+03	--	8.00E+02	--	1.30E+03	--
Iron	µg/L	--	--	--	0/3	µg/L	--	--	1.40E+04	--	--	--
Lead	µg/L	--	--	--	0/3	µg/L	1.50E+01	--	1.50E+01	--	1.50E+01	--
Mercury	µg/L	--	--	--	0/3	µg/L	2.00E+00	--	6.30E-01	--	2.00E+00	--
Magnesium	µg/L	4.53E+03	5.01E+03	MW-01	3/3	--	--	--	--	--	--	--
Manganese	µg/L	1.42E+01	2.73E+01	MW-01	3/3	µg/L	--	--	--	--	1.10E+03	--
Molybdenum	µg/L	--	--	--	0/3	--	--	--	--	--	--	--
Nickel	µg/L	--	--	--	0/3	--	--	--	--	--	--	--
Potassium	µg/L	--	--	--	0/3	--	--	--	--	--	--	--
Selenium	µg/L	--	--	--	0/3	µg/L	5.00E+01	--	1.00E+02	--	5.00E+01	--
Silver	µg/L	--	--	--	0/3	µg/L	--	--	9.40E+01	--	1.20E+02	--
Sodium	µg/L	4.25E+04	4.40E+04	WW-1	3/3	--	--	--	--	--	--	--
Thallium	µg/L	--	--	--	0/3	µg/L	2.00E+00	--	2.00E-01	--	2.00E+00	--
Vanadium	µg/L	--	--	--	0/3	µg/L	--	--	8.60E+01	--	4.40E+01	--
Zinc	µg/L	--	--	--	0/3	µg/L	--	--	6.00E+03	--	7.30E+03	--
Dissolved Metals												
Aluminum	µg/L	--	--	--	0/2	µg/L	--	--	2.00E+04	--	2.40E+04	--
Antimony	µg/L	--	--	--	0/2	µg/L	6.00E+00	--	7.80E+00	--	6.00E+00	--
Arsenic	µg/L	--	--	--	0/2	µg/L	1.00E+01	--	5.20E-02	--	1.00E+01	--
Barium	µg/L	1.03E+02	1.08E+02	WW-1	2/2	µg/L	2.00E+03	--	3.80E+03	--	2.00E+03	--
Beryllium	µg/L	--	--	--	0/2	µg/L	4.00E+00	--	2.50E+01	--	4.00E+00	--
Cadmium	µg/L	--	--	--	0/4	µg/L	5.00E+00	--	9.20E+00	--	5.00E+00	--
Calcium	µg/L	1.97E+05	2.06E+05	WW-1	2/2	--	--	--	--	--	--	--
Chromium	µg/L	5.97E+02	6.26E+02	WW-1	6/6	µg/L	1.00E+02	6.26E+00	2.20E+04	--	1.00E+02	6.26E+00
Cobalt	µg/L	--	--	--	0/2	µg/L	--	--	6.00E+00	--	2.40E+02	--
Copper	µg/L	--	--	--	0/2	µg/L	1.30E+03	--	8.00E+02	--	1.30E+03	--
Iron	µg/L	--	--	--	0/2	µg/L	--	--	1.40E+04	--	--	--

Table E-2 Phase 1 Groundwater Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Groundwater Standard Unit	[2]EPA MCL Values	[3]EPA MCL Exceedances	[4]EPA Tapwater RSL Values	[3]EPA Tapwater RSL Exceedances	[5]TCEQ Tier 1 PCL $^{GW}GW_{Ing}$ values	[3]TCEQ Tier 1 PCL $^{GW}GW_{Ing}$ Exceedances
Lead	µg/L	--	--	--	0/2	µg/L	1.50E+01	--	1.50E+01	--	1.50E+01	--
Mercury	µg/L	--	--	--	0/2	µg/L	2.00E+00	--	6.30E-01	--	2.00E+00	--
Magnesium	µg/L	4.40E+03	4.56E+03	WW-1	2/2	--	--	--	--	--	--	--
Manganese	µg/L	1.17E+01	1.21E+01	WW-1	2/2	µg/L	--	--	--	--	1.10E+03	--
Molybdenum	µg/L	--	--	--	0/2	--	--	--	--	--	--	--
Nickel	µg/L	--	--	--	0/2	--	--	--	--	--	--	--
Potassium	µg/L	--	--	--	0/2	--	--	--	--	--	--	--
Selenium	µg/L	--	--	--	0/2	µg/L	5.00E+01	--	1.00E+02	--	5.00E+01	--
Silver	µg/L	--	--	--	0/2	µg/L	--	--	9.40E+01	--	1.20E+02	--
Sodium	µg/L	4.19E+04	4.40E+04	WW-1	2/2	--	--	--	--	--	--	--
Thallium	µg/L	--	--	--	0/2	µg/L	2.00E+00	--	2.00E-01	--	2.00E+00	--
Vanadium	µg/L	--	--	--	0/2	µg/L	--	--	8.60E+01	--	4.40E+01	--
Zinc	µg/L	--	--	--	0/2	µg/L	--	--	6.00E+03	--	7.30E+03	--
Polycyclic Aromatic Hydrocarbons												
2-Methylnaphthalene	µg/L	--	--	--	0/2	µg/L	--	--	3.60E+01	--	9.80E+01	--
Acenaphthene	µg/L	--	--	--	0/2	µg/L	--	--	5.30E+02	--	1.50E+03	--
Acenaphthylene	µg/L	--	--	--	0/2	µg/L	--	--	5.30E+02	--	1.50E+03	--
Anthracene	µg/L	--	--	--	0/2	µg/L	--	--	1.80E+03	--	7.30E+03	--
Benzo (a) anthracene	µg/L	--	--	--	0/2	µg/L	--	--	1.30E-02	--	9.10E+00	--
Benzo (b) fluoranthene	µg/L	--	--	--	0/2	µg/L	--	--	2.50E-01	--	9.10E+00	--
Benzo (k) fluoranthene	µg/L	--	--	--	0/2	µg/L	--	--	2.50E+00	--	9.10E+01	--
Benzo (a) pyrene	µg/L	--	--	--	0/2	µg/L	2.00E-01	--	3.40E-03	--	2.00E-01	--
Benzo (g,h,i) perylene	µg/L	--	--	--	0/2	µg/L	--	--	1.20E+02	--	7.30E+02	--
Chrysene	µg/L	--	--	--	0/2	µg/L	--	--	2.50E+01	--	9.10E+02	--
Dibenz (a,h) anthracene	µg/L	--	--	--	0/2	µg/L	--	--	3.40E-03	--	2.00E-01	--
Fluoranthene	µg/L	--	--	--	0/2	µg/L	--	--	8.00E+02	--	9.80E+02	--
Fluorene	µg/L	--	--	--	0/2	µg/L	--	--	2.90E+02	--	9.80E+02	--
Indeno (1,2,3-cd) pyrene	µg/L	--	--	--	0/2	µg/L	--	--	2.50E-01	--	9.10E+00	--
Naphthalene	µg/L	--	--	--	0/2	µg/L	--	--	1.70E-01	--	4.90E+02	--
Phenanthrene	µg/L	--	--	--	0/2	µg/L	--	--	1.20E+02	--	7.30E+02	--
Pyrene	µg/L	--	--	--	0/2	µg/L	--	--	1.20E+02	--	7.30E+02	--
Polychlorinated biphenyl												
Aroclor-1016	µg/L	--	--	--	0/2	µg/L	--	--	2.20E-01	--	--	--
Aroclor-1221	µg/L	--	--	--	0/2	µg/L	--	--	4.70E-03	--	--	--
Aroclor-1232	µg/L	--	--	--	0/2	µg/L	--	--	4.70E-03	--	--	--
Aroclor-1242	µg/L	--	--	--	0/2	µg/L	--	--	7.80E-03	--	--	--
Aroclor-1248	µg/L	--	--	--	0/2	µg/L	--	--	7.80E-03	--	--	--
Aroclor-1254	µg/L	--	--	--	0/2	µg/L	--	--	7.80E-03	--	--	--
Aroclor-1260	µg/L	--	--	--	0/2	µg/L	--	--	7.80E-03	--	--	--

Table E-2 Phase 1 Groundwater Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Groundwater Standard Unit	[2]EPA MCL Values	[3]EPA MCL Exceedances	[4]EPA Tapwater RSL Values	[3]EPA Tapwater RSL Exceedances	[5]TCEQ Tier 1 PCL $^{GW}GW_{ing}$ values	[3]TCEQ Tier 1 PCL $^{GW}GW_{ing}$ Exceedances
Perfluorinated Compounds												
Perfluorobutanesulfonic acid (PFBS)	ng/L	4.00E+02	4.60E+02	MW-01	2/2	µg/L	--	--	4.00E+02	--	3.40E+01	--
Perfluorobutanoic acid	ng/L	2.00E+01	2.10E+01	MW-01	2/2	µg/L	--	--	--	--	7.10E+01	--
Perfluorodecanesulfonic acid	ng/L	--	--	--	0/2	µg/L	--	--	--	--	2.90E-01	--
Perfluorodecanoic acid	ng/L	--	--	--	0/2	µg/L	--	--	--	--	3.70E-01	--
Perfluorododecanoic acid	ng/L	--	--	--	0/2	µg/L	--	--	--	--	2.90E-01	--
Perfluoroheptanoic acid	ng/L	4.00E+00	4.50E+00	MW-01	2/2	µg/L	--	--	--	--	5.60E-01	--
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4.20E+02	4.80E+02	MW-01	2/2	µg/L	--	--	--	--	9.30E-02	5.16E+00
Perfluorohexanoic acid	ng/L	3.10E+00	3.20E+00	MW-01	2/2	µg/L	--	--	--	--	9.30E-02	--
Perfluorononanoic acid	ng/L	1.20E+00	1.20E+00	MW-01	2/2	µg/L	--	--	--	--	2.90E-01	--
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.50E+04	1.80E+04	MW-01	2/2	µg/L	--	--	--	--	5.60E-01	3.21E+01
Perfluorooctanoic acid (PFOA)	ng/L	2.80E+01	2.80E+01	MW-01	2/2	µg/L	--	--	--	--	2.90E-01	--
Perfluoropentanoic acid	ng/L	2.30E+00	2.40E+00	MW-01	2/2	µg/L	--	--	--	--	9.30E-02	--
Perfluorotetradecanoic acid	ng/L	--	--	--	0/2	µg/L	--	--	--	--	2.90E-01	--
Perfluorotridecanoic acid	ng/L	--	--	--	0/2	µg/L	--	--	--	--	2.90E-01	--
Perfluoroundecanoic acid	ng/L	--	--	--	0/2	µg/L	--	--	--	--	2.90E-01	--
PFOSA	ng/L	--	--	--	0/2	µg/L	--	--	--	--	2.90E-01	--
Semi-volatile Organic Compounds												
1,1'-Biphenyl	µg/L	--	--	--	0/2	µg/L	--	--	8.30E-01	--	1.20E+04	--
1-Methylnaphthalene	µg/L	--	--	--	0/2	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	0/2	µg/L	--	--	1.20E+03	--	2.40E+03	--
2,4,6-Trichlorophenol	µg/L	--	--	--	0/2	µg/L	--	--	4.10E+00	--	2.40E+01	--
2,4-Dichlorophenol	µg/L	--	--	--	0/2	µg/L	--	--	4.60E+01	--	7.30E+01	--
2,4-Dimethylphenol	µg/L	--	--	--	0/2	µg/L	--	--	3.60E+02	--	4.90E+02	--
2,4-Dinitrophenol	µg/L	--	--	--	0/2	µg/L	--	--	3.90E+01	--	4.90E+01	--
2,4-Dinitrotoluene	µg/L	--	--	--	0/2	µg/L	--	--	2.40E-01	--	1.30E+00	--
2,6-Dinitrotoluene	µg/L	--	--	--	0/2	µg/L	--	--	4.90E-02	--	1.30E+00	--
2-Chloronaphthalene	µg/L	--	--	--	0/2	µg/L	--	--	7.50E+02	--	2.00E+03	--
2-Chlorophenol	µg/L	--	--	--	0/2	µg/L	--	--	9.10E+01	--	1.20E+02	--
2-Methylphenol	µg/L	--	--	--	0/2	µg/L	--	--	9.30E+02	--	1.20E+03	--
2-Nitroaniline	µg/L	--	--	--	0/2	µg/L	--	--	1.90E+02	--	7.30E+00	--
2-Nitrophenol	µg/L	--	--	--	0/2	µg/L	--	--	--	--	4.90E+01	--
3 &/or 4-Methylphenol	µg/L	--	--	--	0/2	µg/L	--	--	9.30E+02	--	1.20E+03	--
3,3´-Dichlorobenzidine	µg/L	--	--	--	0/2	µg/L	--	--	1.30E-01	--	2.00E+00	--
3-Nitroaniline	µg/L	--	--	--	0/2	µg/L	--	--	--	--	7.30E+00	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	0/2	µg/L	--	--	1.50E+00	--	2.40E+00	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	0/2	µg/L	--	--	--	--	6.00E-02	--
4-Chloro-3-methylphenol	µg/L	--	--	--	0/2	µg/L	--	--	1.40E+03	--	1.20E+02	--
4-Chloroaniline	µg/L	--	--	--	0/2	µg/L	--	--	3.70E-01	--	4.60E+00	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	0/2	µg/L	--	--	--	--	6.00E-02	--
4-Nitroaniline	µg/L	--	--	--	0/2	µg/L	--	--	3.80E+00	--	4.60E+01	--

Table E-2 Phase 1 Groundwater Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Groundwater Standard Unit	[2]EPA MCL Values	[3]EPA MCL Exceedances	[4]EPA Tapwater RSL Values	[3]EPA Tapwater RSL Exceedances	[5]TCEQ Tier 1 PCL $^{GW}GW_{Ing}$ values	[3]TCEQ Tier 1 PCL $^{GW}GW_{Ing}$ Exceedances
4-Nitrophenol	µg/L	--	--	--	0/2	µg/L	--	--	--	--	4.90E+01	--
Acetophenone	µg/L	--	--	--	0/2	µg/L	--	--	1.90E+03	--	2.40E+03	--
Atrazine	µg/L	--	--	--	0/2	µg/L	3.00E+00	--	3.00E-01	--	3.00E+00	--
Benzaldehyde	µg/L	--	--	--	0/2	µg/L	--	--	1.90E+01	--	2.40E+03	--
Bis(2-chloro-1-methylethyl)ether	µg/L	--	--	--	0/2	µg/L	--	--	7.10E+02	--	1.30E+01	--
Bis(2-chloroethoxy)methane	µg/L	--	--	--	0/2	µg/L	--	--	5.90E+01	--	8.30E-01	--
Bis(2-chloroethyl)ether	µg/L	--	--	--	0/2	µg/L	--	--	1.40E-02	--	8.30E-01	--
Bis(2-ethylhexyl)phthalate	µg/L	--	--	--	0/2	µg/L	6.00E+00	--	5.60E+00	--	6.00E+00	--
Butyl benzyl phthalate	µg/L	--	--	--	0/2	µg/L	--	--	1.60E+01	--	1.50E+02	--
Caprolactam	µg/L	--	--	--	0/2	µg/L	--	--	9.90E+03	--	1.20E+04	--
Carbazole	µg/L	--	--	--	0/2	µg/L	--	--	--	--	4.60E+01	--
Dibenzofuran	µg/L	--	--	--	0/2	µg/L	--	--	7.90E+00	--	9.80E+01	--
Diethyl phthalate	µg/L	--	--	--	0/2	µg/L	--	--	1.50E+04	--	2.00E+04	--
Dimethyl phthalate	µg/L	--	--	--	0/2	µg/L	--	--	--	--	2.00E+04	--
Di-n-butyl phthalate	µg/L	--	--	--	0/2	µg/L	--	--	9.00E+02	--	2.40E+03	--
Di-n-octyl phthalate	µg/L	--	--	--	0/2	µg/L	--	--	2.00E+02	--	2.40E+02	--
Hexachlorobenzene	µg/L	--	--	--	0/2	µg/L	1.00E+00	--	9.80E-03	--	1.00E+00	--
Hexachlorobutadiene	µg/L	--	--	--	0/2	µg/L	--	--	1.40E-01	--	1.20E+01	--
Hexachlorocyclopentadiene	µg/L	--	--	--	0/2	µg/L	5.00E+01	--	4.10E-01	--	5.00E+01	--
Hexachloroethane	µg/L	--	--	--	0/2	µg/L	--	--	3.30E-01	--	1.70E+01	--
Isophorone	µg/L	--	--	--	0/2	µg/L	--	--	7.80E+01	--	9.60E+02	--
Nitrobenzene	µg/L	--	--	--	0/2	µg/L	--	--	1.40E-01	--	4.90E+01	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	0/2	µg/L	--	--	1.10E-02	--	1.30E-01	--
N-Nitrosodiphenylamine/Diphenylamine	µg/L	--	--	--	0/2	--	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	0/2	µg/L	1.00E+00	--	4.10E-02	--	1.00E+00	--
Phenol	µg/L	--	--	--	0/2	µg/L	--	--	5.80E+03	--	7.30E+03	--
Volatile Organic Compounds												
1,1,1-Trichloroethane	µg/L	--	--	--	0/2	µg/L	2.00E+02	--	8.00E+03	--	2.00E+02	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	0/2	µg/L	--	--	7.60E-02	--	4.60E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	0/2	µg/L	--	--	1.00E+04	--	7.30E+05	--
1,1,2-Trichloroethane	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	2.80E-01	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	0/2	µg/L	--	--	2.80E+00	--	4.90E+03	--
1,1-Dichloroethene	µg/L	--	--	--	0/2	µg/L	7.00E+00	--	2.80E+02	--	7.00E+00	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	0/4	µg/L	7.00E+01	--	1.20E+00	--	7.00E+01	--
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	0/2	µg/L	2.00E-01	--	3.30E-04	--	2.00E-01	--
1,2-Dibromoethane	µg/L	--	--	--	0/2	µg/L	5.00E-02	--	7.50E-03	--	5.00E-02	--
1,2-Dichlorobenzene	µg/L	--	--	--	0/4	µg/L	6.00E+02	--	3.00E+02	--	6.00E+02	--
1,2-Dichloroethane	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	1.70E-01	--	5.00E+00	--
1,2-Dichloropropane	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	8.50E-01	--	5.00E+00	--
1,3-Dichlorobenzene	µg/L	--	--	--	0/4	µg/L	6.00E+02	--	3.00E+02	--	7.30E+02	--
1,4-Dichlorobenzene	µg/L	--	--	--	0/4	µg/L	7.50E+01	--	4.80E-01	--	7.50E+01	--
2-Butanone	µg/L	--	--	--	0/2	µg/L	--	--	5.60E+03	--	1.50E+04	--

Table E-2 Phase 1 Groundwater Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Groundwater Standard Unit	[2]EPA MCL Values	[3]EPA MCL Exceedances	[4]EPA Tapwater RSL Values	[3]EPA Tapwater RSL Exceedances	[5]TCEQ Tier 1 PCL $^{GW}GW_{ing}$ values	[3]TCEQ Tier 1 PCL $^{GW}GW_{ing}$ Exceedances
2-Hexanone	µg/L	--	--	--	0/2	µg/L	--	--	3.80E+01	--	1.20E+02	--
4-Methyl-2-pentanone	µg/L	--	--	--	0/2	µg/L	--	--	6.30E+03	--	2.00E+03	--
Acetone	µg/L	--	--	--	0/2	µg/L	--	--	1.40E+04	--	2.20E+04	--
Benzene	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	4.60E-01	--	5.00E+00	--
Bromodichloromethane	µg/L	--	--	--	0/2	µg/L	8.00E+01	--	1.30E-01	--	1.50E+01	--
Bromoform	µg/L	--	--	--	0/2	µg/L	8.00E+01	--	3.30E+00	--	1.20E+02	--
Bromomethane	µg/L	--	--	--	0/2	µg/L	--	--	7.50E+00	--	3.40E+01	--
Carbon disulfide	µg/L	--	--	--	0/2	µg/L	--	--	8.10E+02	--	2.40E+03	--
Carbon tetrachloride	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	4.60E-01	--	5.00E+00	--
Chlorobenzene	µg/L	--	--	--	0/2	µg/L	1.00E+02	--	7.80E+01	--	1.00E+02	--
Chloroethane	µg/L	--	--	--	0/2	µg/L	--	--	2.10E+04	--	9.80E+03	--
Chloroform	µg/L	--	--	--	0/2	µg/L	8.00E+01	--	2.20E-01	--	2.40E+02	--
Chloromethane	µg/L	--	--	--	0/2	µg/L	--	--	1.90E+02	--	7.00E+01	--
cis-1,2-Dichloroethene	µg/L	--	--	--	0/2	µg/L	7.00E+01	--	3.60E+01	--	7.00E+01	--
cis-1,3-Dichloropropene	µg/L	--	--	--	0/2	µg/L	--	--	4.70E-01	--	1.70E+00	--
Cyclohexane	µg/L	--	--	--	0/2	µg/L	--	--	1.30E+04	--	1.20E+05	--
Dibromochloromethane	µg/L	--	--	--	0/2	µg/L	8.00E+01	--	8.70E-01	--	1.10E+01	--
Dichlorodifluoromethane	µg/L	--	--	--	0/2	µg/L	--	--	2.00E+02	--	4.90E+03	--
Ethylbenzene	µg/L	--	--	--	0/2	µg/L	7.00E+02	--	1.50E+00	--	7.00E+02	--
Isopropylbenzene	µg/L	--	--	--	0/2	µg/L	--	--	4.50E+02	--	2.40E+03	--
meta-/para-Xylene	µg/L	--	--	--	0/2	µg/L	1.00E+04	--	1.90E+02	--	1.00E+04	--
Methyl acetate	µg/L	--	--	--	0/2	µg/L	--	--	2.00E+04	--	2.40E+04	--
Methyl tert-butyl ether	µg/L	--	--	--	0/2	µg/L	--	--	1.40E+01	--	2.40E+02	--
Methylcyclohexane	µg/L	--	--	--	0/2	µg/L	--	--	1.30E+04	--	1.20E+05	--
Methylene chloride	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	1.10E+01	--	5.00E+00	--
ortho-Xylene	µg/L	--	--	--	0/2	µg/L	--	--	1.90E+02	--	1.00E+04	--
Styrene	µg/L	--	--	--	0/2	µg/L	1.00E+02	--	1.20E+03	--	1.00E+02	--
Tetrachloroethene	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	1.10E+01	--	5.00E+00	--
Toluene	µg/L	--	--	--	0/2	µg/L	1.00E+03	--	1.10E+03	--	1.00E+03	--
trans-1,2-Dichloroethene	µg/L	--	--	--	0/2	µg/L	1.00E+02	--	3.60E+02	--	1.00E+02	--
trans-1,3-Dichloropropene	µg/L	--	--	--	0/2	µg/L	--	--	4.70E-01	--	9.10E+00	--
Trichloroethene	µg/L	--	--	--	0/2	µg/L	5.00E+00	--	4.90E-01	--	5.00E+00	--
Trichlorofluoromethane	µg/L	--	--	--	0/2	µg/L	--	--	5.20E+03	--	7.30E+03	--
Vinyl chloride	µg/L	--	--	--	0/2	µg/L	2.00E+00	--	1.90E-02	--	2.00E+00	--
Total Petroleum Hydrocarbons												
TPH (C12-C28)	mg/L	--	--	--	0/2	mg/L	--	--	9.80E-01	--	--	--
TPH (C28-C35)	mg/L	--	--	--	0/2	mg/L	--	--	9.80E-01	--	--	--
TPH (C6-C12)	mg/L	--	--	--	0/2	mg/L	--	--	9.80E-01	--	--	--
TPH (C6-C28)	mg/L	--	--	--	0/2	--	--	--	--	--	--	--
TPH (C6-C35)	mg/L	--	--	--	0/2	--	--	--	--	--	--	--

Table E-2 Phase 1 Groundwater Data Comparison to Screening Levels

Analyte	[1]Units	Minimum Detected Result	Maximum Detected Result	Location of Maximum Result	Detect result frequency per sample	[1]Groundwater Standard Unit	[2]EPA MCL Values	[3]EPA MCL Exceedances	[4]EPA Tapwater RSL Values	[3]EPA Tapwater RSL Exceedances	[5]TCEQ Tier 1 PCL $^{GW}GW_{ing}$ values	[3]TCEQ Tier 1 PCL $^{GW}GW_{ing}$ Exceedances

NOTE:

[1]Perfluorinated compound detections were reported in ng/L respectively; calculations were used to adjust these values to µg/L when comparing them to screening level values, which are reported in µg/L.

[2]U.S. Environmental Protection Agency (EPA) National Primary Drinking Water Regulations, Maximum Contaminant Levels (MCLs), May 2019.

[3] The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

[4]EPA Region 6 Regional Screening Levels (RSLs) for Tapwater (May 2019) for hazard index = 1.0 for non-carcinogens and a 10-6 cancer risk level for carcinogens.

[5]Texas Commission on Environmental Quality Risk Reduction Program (TRRP) PCLs for residential groundwater use; revised April 27, 2018 (WQSs) (https://www.tceq.texas.gov/remediation/trrp/trrppcls.html)

-- = Not applicable or not available.
ug/L = Microgram(s) per liter.
mg/L = Milligram(s) per liter.
ng/L = Nanogram(s) per liter.

Table E-3 Phase 1 RI Groundwater Screening Level Exeedances

Sample Location	Sample Number	Media	Date Collected	Analyte	Concentration	Unit	Qualifier	[1,2,3] Human Health SL (ug/L)	[4] Human Health SL Exceedance
MW-01	MW-01	Groundwater	5/28/2019	Chromium	244	ug/L		100	2.44
	MW-01	Groundwater	5/28/2019	Chromium (hexavalent)	216	ug/L		0.035	6171
	MW-01	Groundwater	5/28/2019	Perfluorohexanesulfonic acid (PFHxS)	0.48	ug/L		0.093	5.16
	MW-01	Groundwater	5/28/2019	Perfluorooctanesulfonic acid (PFOS)	18	ug/L		0.56	32.14
	WW-01-D	Groundwater	5/28/2019	Chromium (hexavalent)	509	ug/L		0.035	14543
	MW-01-D	Groundwater	5/28/2019	Perfluorohexanesulfonic acid (PFHxS)	0.42	ug/L		0.093	4.52
	MW-01-D	Groundwater	5/28/2019	Perfluorooctanesulfonic acid (PFOS)	15	ug/L		0.56	26.79
WW-01	WW-01	Groundwater	5/28/2019	Chromium	620	ug/L		100	6.20
	WW-01-F	Groundwater	5/28/2019	Chromium	597	ug/L		100	5.97
	WW-01	Groundwater	5/28/2019	Chromium (hexavalent)	565	ug/L		0.035	16143
	WW-01-D	Groundwater	5/28/2019	Chromium	612	ug/L		100	6.12
	WW-01-F-D	Groundwater	5/28/2019	Chromium	626	ug/L		100	6.26

NOTE:

[1]U.S. Environmental Protection Agency (EPA) National Primary Drinking Water Regulations, Maximum Contaminant Levels (MCLs), May 2019.

[2]EPA Region 6 Regional Screening Levels (RSLs) for Tapwater (May 2019) for hazard index = 1.0 for non-carcinogens and a 10-6 cancer risk level for carcinogens.

[3]Texas Commission on Environmental Quality Risk Reduction Program (TRRP) PCLs for residential groundwater use; revised April 27, 2018 (WQSs) (https://www.tceq.texas.gov/remediation/trrp/trrppcls.html)

[4]The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented.

-- = Not applicable or not available.

ug/L = Microgram(s) per liter.

N

0 50 100
Feet

Legend

Screening Level Exceedances

- Exceeds one or more Groundwater Human Health Screening Level
- On-site Well
- Monitoring Well

Note:
- Chromium and hexavalent Chromium exceed Human Health Screening values for groundwater. Nature and extent will be investigated further during the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure E-1
Preliminary Total Metals Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Groundwater Samples

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N

0 50 100
Feet

Legend

Screening Level Exceedances

- Exceeds one or more Groundwater Human Health Screening Level
- On-site Well
- Monitoring Well

Note:
- Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctanesulfonic acid (PFOS exceed Human Health Screening values for groundwater. Nature and extent will be investigated further during the Phase 2 Remedial Investigation.

Imagery Source:
Site:Texas Orthoimagery Program 2015 0.5 Meter DOQQ, Texas Strategic Mapping Program, 2015.

Lane Plating Works Superfund Site
Dallas, Dallas County, Texas

Figure E-2
Preliminary Perfluorinated Compound Human Health Screening Level Exceedances in Phase 1 Remedial Investigation Groundwater Samples

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Appendix F

Response to Comments on the Revision 00 Phase 1 RI Data Summary Technical Memorandum

EA Engineering, Science, and Technology, Inc., PBC

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8 November 2019

Mr. Kenneth Shewmake
Task Order Monitor
U.S. Environmental Protection Agency – Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Response to Comments on the Phase 1 Remedial Investigation Data Summary Technical Memorandum, Revision 00
Remedial Investigation, Lane Plating Works, Inc. Superfund Site
Dallas, Dallas County, Texas
Remedial Action Contract 2
Contract: EP-W-06-004, Task Order: 68HE0618F0309

Dear Mr. Shewmake:

EA Engineering, Science, and Technology, Inc., PBC (EA) has prepared the following memorandum that serves as a response to comments relating to the Phase 1 Remedial Investigation Data Summary Technical Memorandum, Revision 00. The responses are based on comments received from United States Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ) on 21 October.

Comments from Kenneth Shewmake, EPA Remedial Project Manager

1. Table D-2, surface water screening values. And Figs D-1 and D-2: It is likely that the levels of Manganese seen in surface water samples are due to background. I recommend using an alternate color like brown to identify surface water results that exceed screening values but are likely a result of background concentrations. Use the legend or a footnote to explain that levels exceed HH screening values but are possibly due to background. State that this will be further evaluated in phase Two of the RI. A similar footnote could be added to table D-2.

EA Response: *Because manganese was the only metal that exceeded Human Health screening values in the Phase 1 Remedial Investigation (RI) surface water samples, an alternate color was not used. However, EA added notes to the figure legends for both the Human Health and Ecological screening level exceedance figures to address the above comment. Similar notes were added to the other screening level exceedance figures that provide more clarity as to what analytes exceeded screening values, and the planned approach during the Phase 2 RI field event.*

2. Page 2 second paragraph: Remove the personal information on John R Lane and the location of the Lane residence. We do not want unnecessary personal information on individuals in this report.

EA Response: *Personal information regarding John Lane and current property ownership has been deleted from text, as requested.*

3. Page 3, first paragraph: Remove the fine amounts. Just state "issued fines" and don't indicate the amount.

EA Response: *The text has been revised and the amount of the fine/penalty has been removed, as requested.*

4. Page 5, 5th paragraph, section 1.3.2: State this habitat and fisheries are upstream of where creeks merge with Trinity River or remove this information.

EA Response: *The paragraph has been revised to state: " The primary receptors near the site consist of the small streams and associated wetlands, making surface water a suspected pathway. This habitat and fisheries are upstream of where the small streams merge with the Trinity River. An unnamed stream, referred to as Stream 5A2, is located approximately 450 ft east of the facility and flows south into a small pond located southeast of the facility. Site and area topography slope gently to the south and southeast (Figure 2). Surface water runoff follows two primary overland segments: (1) east along the north side of the facility building and then due south for approximately 500 ft before reaching a wetland, and (2) southeast of the facility across a field for approximately 400 ft before reaching a small pond and Stream 5A2 (Figure 2). Stream 5A2 flows south from the small pond for approximately 300 ft before joining another unnamed stream (Figure 2). The merged stream flows east and eventually discharges into the Trinity River."*

5. Figure A-1: depicting the location of subsurface soil exceedances for both Human Health and Ecological Screening Levels (SLs) is unclear. Table A-3 lists numerous Ecological SL exceedances, but in Figure A-1 the locations for Ecological exceedances are indistinct. EPA recommends making separate figures for the locations of Human Health and Ecological exceedances.

EA Response: *As requested, separate figures showing Human Health and Ecological screening level exceedances have been completed for surface soil, sediment, and surface water.*

6. Section 4.2.1, pages 13 and 14: states that SLs for metals were adjusted in preparation for the procedures to be used during the Human Health Risk Assessment. The modification includes an upward adjustment of non-carcinogen metal SLs by a factor of 10, followed by a reduction of each metal SL by a factor of 10. The reasoning for the adjustment is vague. Either the basis for the modifications should be clearly defined, or unaltered metal SLs can be used.

EA Response: *The text has been revised to define the basis for the adjustment. It now states: "It is noted that after conferring with the EA Human Health Risk Assessor, SLs for metals were adjusted following the procedures that will be followed when the human health risk assessment is performed. Because the EPA has not set forth RSLs for sediment, EPA residential soil RSLs are used to screen sediment results. Typically, any receptor exposure to sediment is significantly less than soil since soil contact accounts for daily contact throughout a year within a residential yard. Receptor contact with sediment would be intermittent and likely less than one day per week, specifically the surface water bodies at the site are small and not sufficient to support swimming or other high contact recreational activities. Additionally, the residential soil RSLs take into account the ingestion of dust, both indoor and outdoor, when evaluating the ingestion of soil exposure route. Exposure to sediment is not expected to result in ingestion of dust, resulting in a decreased ingestion rate*

of sediment in comparison to soil. To account for these reduced exposure parameters, the residential soil RSLs are increased by a factor of ten to account for reduced exposures to sediment when performing the Human Health Risk Assessment. This adjustment resulted in use of a SL of 6.8 mg/kg for arsenic, and 3.0 mg/kg for hexavalent chromium, and these SLs are still more conservative than the Texas Commission on Environmental Quality's (TCEQ's) Texas Risk Reduction Program Tier 1 $^{Tot}Sed_{Comb}$ Protective Concentration Levels."

Comments from Scott Settemeyer, P.G., TCEQ Project Manager

1. The word "maximum" should be removed from the footnote on Tables A-3, B-3, C-3, D-3, and E-3 which states "The exceed column is the maximum detected concentration divided by the comparison criteria. Only comparisons where the maximum detected concentration exceeds the comparison criteria are presented."

EA Response: *EA does not concur with removal of "maximum", as the footnote is true as currently stated. Removal of "maximum" from the footnote could lead reviewers not familiar with the site to conclude this is the only exceedance, when in fact, there may be several exceedances for that particular analyte.*

2. The TCEQ recommends illustrating sample locations that exceed human health screening levels on a separate figure from those locations that exceed ecological screening levels. Additionally, it would be helpful to include a figure that illustrates only the sample locations that exceed direct contact exposure limits. These additional figures will assist in presenting data to the public in a manner that is applicable to their concerns and potential exposures.

EA Response: *As requested, separate figures showing Human Health and Ecological screening level exceedances have been completed for surface soil, sediment, and surface water.*

Comments from Tracie Phillips, Ph.D., TCEQ Toxicology, Risk Assessment, and Research Division

Screening Criteria for Sediment (Table C-2)

Section 4.2.1 notes that screening levels (SLs) for metals were adjusted following procedures that will be followed when the human health risk assessment is performed. The description given is: an upward adjustment of non-carcinogenic metal SLs by a factor of 10, followed by a reduction of each metal SL by a factor of 10 due to the anticipated limited exposure to sediments in the nearby drainage features. The basis for these adjustments is unclear. Regardless, adjustment of screening values outside of TRRP would be unacceptable to TCEQ if the resulting screening values exceed TRRP PCLs. The TD therefore focused review on the metals screening level values for sediment.

While it is unclear where the modification to the SLs were done, it appears the TD calculated draft 2018 residential $^{Tot}Sed_{Comb}$ PCLs are being used in lieu of the 2006 sediment PCLs and the TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs appear to be in-tact. However, upon review, there are four TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCLs that are not represented correctly.

EA Response: *Please refer to EA's response to EPA's Comment 6.*

Discrepancies include no value listed for hexavalent chromium, when TCEQ does have a $^{Tot}Sed_{Comb}$ PCL for hexavalent chromium (1.40E+02 mg/kg). It also appears cadmium, cobalt, and copper are utilizing the 2006 residential $^{Tot}Sed_{Comb}$ PCLs; however, the draft 2018 $^{Tot}Sed_{Comb}$ PCLs should be utilized. Please see Table 1for the corrected draft 2018 $^{Tot}Sed_{Comb}$ PCLs.

Table 1. Analytes from Table C-2 with Draft Residential $^{Tot}Sed_{Comb}$ PCLs Discrepancies

Analyte	Table C-2 TCEQ TRRP Tier 1 $^{Tot}Sed_{Comb}$ PCL (mg/kg)	DRAFT Residential $^{Tot}Sed_{Comb}$ PCL - 2018 (mg/kg)
Chromium (hexavalent)	----	1.41E+02
Cadmium	1.09E+03	1.46E+02
Cobalt	3.20E+04	5.33E+03
Copper	2.13E+04	5.17E+04

EA Response: *The hexavalent chromium $^{Tot}Sed_{Comb}$ PCL was inadvertently left off Table C-2 and has been added per the above comment. As indicated on Table C-2, there were no hexavalent chromium detections that exceeded this PCL. The Draft 2018 Residential $^{Tot}Sed_{Comb}$ PCLs for cadmium, cobalt, and copper have also been revised per the above comment, as in the case of hexavalent chromium, there were no detections for these metals when screening them against these updated $^{Tot}Sed_{Comb}$ PCLs*

Assuming the adjustment was only carried out on the Residential Human Health Screening Values for Residential Soil values, the result is five SLs that are higher than draft 2018 $^{Tot}Sed_{Comb}$ PCLs (see Table 2). These values are therefore unacceptable.

Table 2. Analytes from Table C-2 with Draft Residential $^{Tot}Sed_{Comb}$ PCLs

Analyte	Table C-2 Residential Human Health Screening Value for Residential Soil (mg/kg)	DRAFT Residential $^{Tot}Sed_{Comb}$ PCL - 2018 (mg/kg)
Beryllium	1.60E+02	2.66E+01
Chromium	1.20E+05	3.65E+04
Nickel	1.50E+03	1.40+03
Silver	3.90E+02	3.50+02
Vanadium	3.90E+02	8.47E+01

EA Response: *As indicated in Table C-2, the Phase 1 RI sediment data were screened against multiple screening criteria, including $^{Tot}Sed_{Comb}$ PCLs, and the above draft 2018 $^{Tot}Sed_{Comb}$ PCLs in question were used in the original version of Table C-2 to screen the data. As indicated in Table C-2, none of the detections associated with the metals exceeded the above draft 2018 $^{Tot}Sed_{Comb}$ PCLs in question.*

Overall Comments

Some of the metals sediment analytes either have a TCEQ TRRP value lower than the screening value listed or have an error in the TCEQ values listed. It is important for the document to take into account all applicable and current TCEQ TRRP cleanup values. Use of incomplete screening values could result in COCs being inappropriately screened out of cleanup.

EA Response: *Comment noted. As indicated above, the Phase 1 RI sediment data were screened against multiple screening criteria, including* $^{Tot}Sed_{Comb}$ *PCLs. Based on this screening, and as indicated on Table C-2, there were one or more detections of hexavalent chromium and arsenic that exceeded EPA Residential Soil RSLs, and one or more detections of chromium, lead, manganese, nickel, zinc, fluoranthene, and pyrene that exceeded TCEQ Ecological Screening Values. Because of the exceedances, these analytes will be carried forward for further evaluation when performing the risk assessments. None of these detections exceeded TCEQ* $^{Tot}Sed_{Comb}$ *PCLs.*

Comments from Greg Zychowski, TCEQ Technical Program Support Team.

1. General - Previous submittals have already been evaluated for their ecological components, including the Conceptual Site Model (CSM), Sampling and Analysis Plan, and other content exchanged via email. In the Phase 1 RI DSTM, several ecological screening level exceedances were identified for metals and PAHs, with metals considered the main ecological and human health risk drivers at this site. In comparing site concentrations to screening values, the DSTM states that "the distribution of exceedances may change once background conditions for surface water has been evaluated, and/or formal, site-specific Human Health and Ecological Risk Assessments have been completed." Comments regarding a potential background study and other ERA-related topics were provided in an October 9, 2019 email from the TCEQ Project Manager to the EPA Remedial Project Manager (TCEQ, 2019a).

EA Response: *Comment noted.*

2. Soil and sediment - Site representatives are encouraged to explore the Ecological PCL Database (WTAMU, 2019) as a potentially useful resource,

   following exceedances of soil or sediment screening values. Ideally, benthic PCLs would be evaluated alongside wildlife PCLs for sediment. This recommendation is also discussed in the aforementioned email (TCEQ, 2019a). In the meantime, a few revisions to the existing tables are suggested:

   - PAHs - Please note that the TCEQ does offer an ecological screening value of 2.8 mg/kg for total PAHs in soil (TCEQ, 2019b). This was not reported in Table A-2 of the DSTM.

EA Response: *The EPA ecological screening values are used to screen individual PAHs, versus total PAHs, and in several cases are more conservative than the total PAH screening value referenced above.*

- Cadmium - The ecological screening levels for cadmium in soil do not match between Table A-2 (32 mg/kg) and Table A-3 (0.36 mg/kg). It is recommended that one or the other is used consistently. Both values appear to be based on the Eco-SSLs (U.S. EPA, 2019).

EA Response: *Table A-2 has been revised to include the Ecological SL of 0.36 mg/kg.*

- Lead - The ecological screening levels for lead in soil do not match between Table A-2 (120 mg/kg) and Table A-3 (11mg/kg). It is recommended that one or the other is used consistently. Both values appear to be based on the Eco-SSLs (U.S. EPA, 2019).

EA Response: *Table A-2 has been revised to include the Ecological SL of 11 mg/kg.*

- Atrazine - Table C-2 lists a TCEQ Ecological Screening Value of 3.00E-04 mg/kg for atrazine in sediment. This value does not appear in the TCEQ's 2018 or 2019 benchmark tables; its source is unknown.

EA Response: *EA concurs that this is a typographical error. This screening value has been removed from Table C-2.*

3. Surface water - Screening levels directly based on federal or state criteria (e.g., 30 TAC 307) should be retained as the surface water PCL or RBEL. Other values that are derived from specific scientific papers, guidance, or other states may be challenged with "alternative" benchmarks. As mentioned in the recent email to the EPA (TCEQ, 2019a), site representatives should note that although the magnesium surface water screening value of 3.235 mg/L (3,235 µg/L) was removed from the TCEQ's benchmark tables in August 2019 (TCEQ, 2019b), the older value from 2018 may continue to be used in the site's ERA-related work. Site representatives are still encouraged to periodically check for updates to any pertinent TCEQ resources (guidance, benchmarks, etc.). In cases where benchmarks are not offered, representatives would normally be asked to propose benchmarks, or otherwise to retain those COCs for further analysis (hazard quotients and/or PCLs).

EA Response: *Comment noted.*

4. Groundwater as a source - The most recent CSM states that "groundwater may emanate as surface water at various points (e.g., gaining streams) around the site" (EA, 2019b). Keeping this in mind, it is recommended that ecological groundwater-to-surface water (^{SW}GW) and groundwater-to-sediment (^{SED}GW) PCLs are eventually calculated. TCEQ guidance document TRRP-24 (TCEQ, 2007) discusses the basic parameters and concepts for determining these PCLs.

EA Response: *Comment noted.*

5. Perfluorinated compounds (PFCs) - PFCs were analyzed for soil, sediment, surface water, and groundwater, and compared to human health screening levels. Several exceedances were identified for groundwater. Site representatives should note that ecological screening benchmarks are currently available for PFOS for surface water

and sediment (TCEQ, 2019b), and that PFOS and PFOA; are both represented in the Ecological PCL Database (WTAMU, 2019). Although metals are still considered to be the primary risk drivers for the site, representatives should explain the relevance of PFCs to the site (any known use of PFCs in manufacturing, fire-fighting on site, etc.) and the potential risk to ecological receptors through any exposure medium (soil, surface water, or sediment), with considerations for groundwater as a source to other media. Are PFCs to also be included in the proposed background study?

EA Response: *The TCEQ Ecological Benchmarks for PFOS were used to screen sediment surface water detections for PFOS and there were no exceedances. The Ecological PCL Database will be considered when the Screening Level Ecological Risk Assessment is being completed. PFCs have been documented as being used at sites such as chrome plating facilities. As such, a subset of Phase 1 RI soil, sediment, surface water, and sediment samples were analyzed for PFCs, with only SL exceedances noted for groundwater. Based on these results, PFC background studies are not currently planned for the site.*