

**SIXTH FIVE-YEAR REVIEW REPORT FOR
DIXIE OIL PROCESSORS, INC. SUPERFUND SITE
HARRIS COUNTY, TEXAS**



August 2023



Prepared by

**U.S. Environmental Protection Agency
Region 6
Dallas, Texas**

**SIXTH FIVE-YEAR REVIEW REPORT
DIXIE OIL PROCESSORS, INC. SUPERFUND SITE
HARRIS COUNTY, TEXAS
EPA ID#: TXD089793046**

This memorandum documents the U.S. Environmental Protection Agency's performance, determinations and approval of the sixth five-year review for the Dixie Oil Processors, Inc. Superfund site (the Site) under Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S. Code Section 9621(c), as provided in the attached sixth Five-Year Review Report.

Summary of the Sixth Five-Year Review Report

The results of the sixth Five-Year Review indicate that the remedy completed to date is currently protective of human health and the environment over the long term. EPA's selected remedy includes removal of surface contamination, improvement of surface water controls, maintenance and stabilization of the mud galley, and the installation of a security fence. Cleanup also included removal and off-site disposal of tank wastes, breakdown of process tanks and drums, disposal of process equipment, and institutional controls. Limited groundwater monitoring activities are ongoing. Overall, the remedial actions performed are functioning as designed, and the Site is being maintained appropriately. Continued monitoring and maintenance, as well as compliance with existing institutional controls, will ensure the continued long-term protectiveness of the remedy.

The EJSscreen report (Appendix L) identifies 4 EJ indexes that exceed the 80th percentile at either the national or state average level. The EJ indexes flagged are Particulate Matter 2.5, Air Toxics Cancer Risk, Air Toxics Respiratory Hazard Index, and Superfund Proximity. Public input was solicited through a public notice in the Houston Chronicle on 11/30/2022.

All aspects of the selected remedy have been completed including the filing of institutional controls. The remedy has been in place and functioning since 1993. The Site has weathered several hurricanes including Hurricane Harvey in 2017 which did not result in any significant impacts to the remedy or loss of protectiveness. Due to the nature and resiliency of the remedy, the protectiveness of the remedy is anticipated to not be affected by climate change.

Actions Needed

None identified.

Determination

I have determined that the remedy for the Dixie Oil Processors, Inc. Superfund Site is protective of human health and the environment. No issues were identified during this Five-Year Review process that affect the protectiveness of the remedy.

LISA PRICE

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Lisa Price
Acting Director, Superfund and Emergency Management Division

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ISSUES/RECOMMENDATIONS
SIXTH FIVE-YEAR REVIEW REPORT
DIXIE OIL PROCESSORS, INC. SUPERFUND SITE
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None identified.

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LIST OF ABBREVIATIONS AND ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
AROD	Amended Record of Decision
bgs	Below Ground Surface
BSTF	Brio Site Task Force
cPAH	Carcinogenic Polycyclic Aromatic Hydrocarbon
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
1,2-DCA	1,2-Dichloroethane
1,1-DCE	1,1-Dichloroethene
DOP	Dixie Oil Processors
DOPSTF	Dixie Oil Processors Site Task Force
EA	Endangerment Assessment
EPA	United States Environmental Protection Agency
FFSZ	Fifty-Foot Sand Zone
FYR	Five-Year Review
HQ	Hazard Quotient
IC	Institutional Control
MCL	Maximum Contaminant Level
MCU	Middle Clay Unit
mg/kg	Milligrams per Kilogram
µg/L	Micrograms per Liter
MOM	Maintenance, Operations, and Monitoring
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ND	Below Detection
NPL	National Priorities List
NSCZ	Numerous Sand Channels Zone
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
RSL	Regional Screening Level
SVOC	Semi-volatile Organic Compound
1,1,2-TCA	1,1,2-Trichloroethane
TAC	Texas Administrative Code
TCEQ	Texas Department of Environmental Quality
UU/UE	Unlimited Use and Unrestricted Exposure
VOC	Volatile Organic Compound

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the sixth FYR for the Dixie Oil Processors, Inc. Superfund site (the Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of one sitewide operable unit (OU) which addresses the Site's soil, groundwater, and source control remedies. This FYR Report addresses the OU.

EPA remedial project manager (RPM) Nathaniel Applegate led the FYR. Participants included Texas Commission on Environmental Quality (TCEQ) Michael Jeude, and Ryan Burdge and Claire Marcussen from EPA FYR contractor Skeo. The Site's potentially responsible party (PRP) group, the Dixie Oil Processors Site Task Force (DOPSTF), was notified of the initiation of the FYR. The review began on 9/26/2022. Appendix A provides a list of documents reviewed for this FYR. Appendix B provides the Site's chronology of events.

Site Background

The 26.6-acre Site is in Harris County, Texas, about 20 miles southeast of Houston, Texas. It includes areas north and south of Dixie Farm Road. The property north of Dixie Farm Road, referred to as "DOP North", is where site operators ran a copper recovery and hydrocarbon washing facility from 1969 to 1978. Operators used six surface impoundments to store contaminated wastewater. Between 1978 and 1986, site owners conducted various processing operations on the property south of Dixie Farm Road, also known as "DOP South." Operations at DOP South included hydrocarbon washing, oil recovery and blending, and production of petroleum products from local chemical plants and refinery residues. Site activities and waste disposal practices contaminated soil and groundwater with hazardous chemicals.

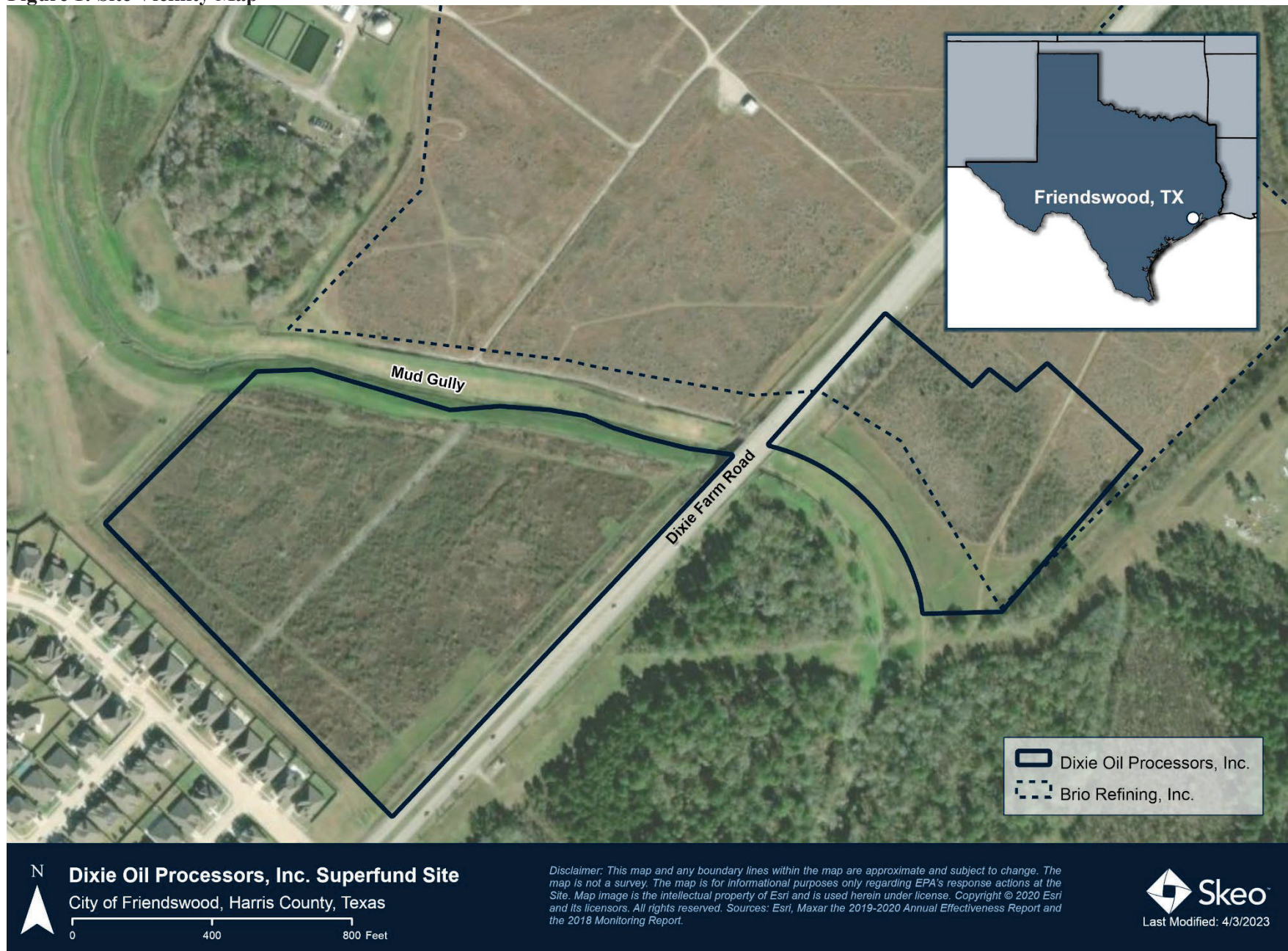
DOP North is bounded on the north by Mud Gully, a flood-control ditch and local tributary of Clear Creek, with the Brio Refining, Inc. Superfund site (Brio site) on the east side of Mud Gully and vacant land southeast of Dixie Farm Road. Clear Creek is about a half-mile southwest of the Site. The area southwest of DOP North is property that has recently been redeveloped as a residential community. DOP South is bounded on the northwest by Dixie Farm Road, with the southern part of the Brio site to the northeast, and vacant land to the southeast and Mud Gully on the southwest.

Groundwater occurs in two zones: the Numerous Sand Channels Zone (NSCZ) and the Fifty-Foot Sand Zone (FFSZ). Both zones are contaminated. The upper water-bearing zone, the NSCZ, consists of interbedded sands and silty clays and is generally encountered from 14 feet to 32 feet below ground surface (bgs). It has a low well yield and typically flows toward and discharges to Mud Gully to the east of DOP North and west of DOP South. The FFSZ is separated from the NSCZ by the Middle Clay Unit (MCU), a confining layer. The FFSZ is generally encountered between 52 feet and 61 feet bgs and has a reasonably high well yield. Groundwater in the FFSZ flows in a south-southeastward direction. The area is served by a public water supply.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Dixie Oil Processors, Inc.		
EPA ID: TXD089793046		
Region: EPA Region 6	State: Texas	City/County: Friendswood/Harris
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? No	Has the Site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Nathaniel Applegate, with additional support provided by Skeo		
Author affiliation: EPA Region 6		
Review period: 9/26/2022 - 7/11/2023		
Date of site inspection: 12/15/2023		
Type of review: Statutory		
Review number: 6		
Triggering action date: 9/13/2018		
Due date (five years after triggering action date): 9/13/2023		

Figure 1: Site Vicinity Map



II. RESPONSE ACTION SUMMARY

Basis for Taking Action

DOPSTF completed the Site’s remedial investigation and feasibility study (RI/FS) with EPA oversight from 1986 to 1988. The RI/FS found that the major sources of contamination were the closed impoundments (pits) on site and that contamination migrated from the pits to the NSCZ groundwater. DOPSTF completed an Endangerment Assessment (EA) for both the Brio site and the Site after the completion of the RI/FS. The EA estimated the potential for adverse effects on human health and the environment from trespasser exposure to site soils (which assumed that the Site would remain a secured industrial facility with restricted future use) and sediment and unrestricted exposure to off-site soils. The EA concluded that the Site potentially posed five major risks to human health and the environment. The identified pathways were:

- Ingestion of contaminated on-site soil.
- Direct (dermal) contact with contaminated on-site soil.
- Inhalation of contaminated dust and emissions.
- Ingestion of shallow on-site groundwater.
- Exposure of aquatic biota to NSCZ discharges of contaminated groundwater to Mud Gully.

The environmental media contaminated by past disposal operations are groundwater and soil. The principal contaminants of concern (COCs) at the Site are organic compounds and chlorinated solvent compounds. EPA proposed the Site for listing on the Superfund program’s National Priorities List (NPL) in June 1988. EPA finalized the Site’s listing on the NPL in October 1989.

Response Actions

EPA issued a Record of Decision (ROD) in March 1988 selecting a cleanup plan to address sitewide contamination. The ROD did not list formal remedial action objectives (RAOs). However, the 1988 ROD determined that site COC concentrations were below the soil action levels established in the EA that apply to trespassers at the Brio site and this Site, based on the assumption that the Site would remain a secured industrial facility. In addition, the detailed analysis of alternatives provided informal RAOs as follows:

- Reduce the risks associated with direct exposure to contaminated materials.
- Inhibit the migration of contaminated groundwater from the Site.
- Promote runoff and minimize infiltration of contaminated soil.

The remedy components that EPA selected in the 1988 ROD are limited action and monitoring (Table 1).

Table 1: Site Remedy Components (1988 ROD)

Medium	Remedy Component
Site surface contamination	<ul style="list-style-type: none"> • Engineering controls to restrict site access. • Regrading and covering to promote proper site drainage and minimize infiltration. • Institutional controls to restrict site use.
Off-site soil contamination	<ul style="list-style-type: none"> • Excavation to background levels to be defined further in the remedial design.
Debris and rubble	<ul style="list-style-type: none"> • Consolidation and disposition, as specified in the remedial design.
Mud Gully	<ul style="list-style-type: none"> • Flood control improvements to ensure flow capabilities within the drainage system. • Sediment monitoring.
Water treatment system	<ul style="list-style-type: none"> • Use of parts of the existing water treatment system, as needed, during the remedial action, with decommissioning after the completion of the remedial action.
Existing tanks and drums	<ul style="list-style-type: none"> • Removal of tank contents. • Decontamination of tanks and sale or transportation of them to an EPA-approved off-site disposal facility.

Medium	Remedy Component
	<ul style="list-style-type: none"> • Transportation of tank contents and drums to an EPA-approved off-site disposal facility. • Dismantling of tanks used during remedial activities and disposal of the tanks at an EPA-approved off-site disposal facility.
Process equipment	<ul style="list-style-type: none"> • Dismantling and disposal of the equipment at an EPA approved off-site disposal facility.
NSCZ and FFSZ groundwater	<ul style="list-style-type: none"> • Long-term monitoring. • Institutional controls.
Air	<ul style="list-style-type: none"> • Monitoring during remedy construction.
<i>Source:</i> The Site's 1988 ROD.	

Status of Implementation

DOPSTF prepared a remedial design and remedial action work plan for the implementation of the remedial action. DOPSTF completed the remedial actions in two phases between March 1992 and June 1993. Phase I consisted of the following activities:

- Removal of surface contamination, debris and rubble.
- Improvement of surface water controls.
- Reconstruction of Mud Gully.
- Installation of a 19-acre cover on DOP North and a 7.6-acre cover on DOP South consisting of compacted clay layer of variable thickness.
- Revegetation of covers.
- Installation of security fencing.

EPA approved the Phase II Work Plan in August 1992. It included the following remedial activities:

- Removal and off-site disposal of tank residuals.
- Dismantling of process tanks and drums.
- Disposal of process equipment.

EPA conducted a pre-certification inspection and DOPSTF certified the completion of the remedial action in April 1993. EPA completed the Site's Preliminary Close-Out Report in June 1993. The PRP completed the Remedial Action Report that EPA approved in August 1993. EPA issued the Site's Final Close-Out Report in January 1996.

Between 2001 and 2002, DOPTSF extended an additional compacted clay layer over a segment of the DOP South cover system in conjunction with the cover construction on the neighboring Brio site. This additional cover soil provides controlled surface water runoff. The compacted clay cover was extended to the limits of the Brio site soil bentonite barrier wall and tied in with the Brio site's compacted clay layer on the east side and to the Dixie Farm Road right of way on the north side. A vegetative cover was installed over the DOP South cover system. EPA deleted the Site from the NPL in August 2006.

Institutional Control (IC) Review

The 1988 ROD required institutional controls to restrict site and groundwater use. The PRPs prepared an Institutional Control plan (IC Plan) that was incorporated into the Site's Maintenance, Operations, and Monitoring (MOM) Plan. Deed restrictions and notices for the Site have been filed at the Harris County Clerk's Office., Table 2 lists the Site's institutional controls. The institutional controls generally provide that DOP North and DOP South shall not be used for residential, agricultural, or recreational use, or for wells, drilling, or other subsurface activities; in addition, all future commercial use is limited and subject to EPA approval. Figure 2 shows the

locations where the institutional controls apply at the Site. Appendix K includes a copy of the institutional control instruments.

Table 2: Summary of Planned and/or Implemented Institutional Controls (ICs)

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Groundwater, soils and sediments	Yes	Yes	0410110000260 0402230000080 0402230000234	Restricts certain land uses and groundwater use within site boundaries. Provides notice of CERCLA actions and site contaminants. See Appendix K, Exhibit F and G for specific restrictions.	Deed Restriction Harris Co. Doc.# Y730709 August 19, 2005

Systems Operations/Operation and Maintenance (O&M)

DOPSTF conducts site monitoring and O&M activities in accordance with the Site’s 2006 MOM Plan. The MOM Plan includes the procedures used to assess the long-term success of the site remedy. MOM activities include:

- Monthly inspections of security lighting, gates, fences, roads, drainage, signs and worker safety equipment/systems.
- Monthly inspections and maintenance of remedial components, the cover system, monitoring wells and the condition of the Mud Gully slope.
- Annual groundwater sampling and monitoring.
- Reporting to EPA.

In September 2019, EPA approved a field change order (Appendix I) for the purpose of revising the Site’s monitoring, reporting and meeting requirements. The rationale for the field change order was due to long-term monitoring of the NCSZ showing compliance standards being met in the NCSZ groundwater wells since 2014. The field change order provided for the following modifications to the MOM Plan:

- The last annual effectiveness report would be submitted for the period from January to December 2018.
- There would be no more DOPSTF-EPA annual meetings. Instead, meetings would take place on an as-needed basis.
- All NSCZ wells on DOP North would be plugged and abandoned, per state regulations.
- NCSZ wells on DOP South and all FFSZ site wells would be left in place and monitored as needed by the Brio Site Task Force (BSTF).
- FYRs of the Site’s remedy would continue, using previously collected site groundwater monitoring data and future site groundwater data collected by BSTF.

Figure 2: Institutional Controls Map



	Dixie Oil Processors, Inc.
	Brio Refining, Inc.
	Parcel
	Subject to 2005 Grant of Environmental Deed Restrictions #Y730709
	NSCZ Monitoring Well
	Former NSCZ Monitoring Well
	FFSZ Monitoring Well
	Surface Water Sample Location

Dixie Oil Processors, Inc. Superfund Site
 City of Friendswood, Harris County, Texas

0 200 400 600 800 1,000 Feet

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding EPA's response actions at the Site. Map image is the intellectual property of Esri and is used herein under license. Copyright © 2020 Esri and its licensors. All rights reserved. Sources: Esri, Maxar, Microsoft and the Harris County Appraisal District parcel viewer.

Skeo
 Last Modified: 8/9/2023

III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determinations and statements from the previous FYR Report (Table 3). There were no recommendations from the previous FYR Report.

Table 3: Protectiveness Determinations/Statements from the 2018 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
Source Control	Protective	The remedy for the Source Control OU is currently protective of human health and the environment because the waste has been removed or contained.
Sitewide	Protective	The Site's remedy is protective of human health and the environment in the long-term. There is no evidence that there is current exposure to site contaminants and the remedy is being implemented as planned.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available by a newspaper posting, in the *Houston Chronicle*, on 11/30/2022 (Appendix C). It stated that the FYR was underway and invited the public to submit any comments to EPA. The results of the review and the report will be made available at the Site's information repository, Parker Williams Library at the San Jacinto College South Campus, located at 13735 Beamer Road in Houston, Texas.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy implemented to date. The interviews are summarized below and the completed interview forms are included in Appendix J.

Michael Jeude – Mr. Jeude is the Site's project manager for TCEQ. He believes the site remedy is performing well and he is unaware of any complaints from the local community in the past five years. He stated that TCEQ attends annual meetings with site operators and also checks in with them before and after major storm events. Mr. Jeude is comfortable with the institutional controls in place.

Marie Flickinger – Ms. Flickinger is the owner of the *South Belt Ellington Leader* newspaper and chairperson of the Brio Site Community Advisory Group (CAG). She is aware of former environmental issues at the Site and cleanup activities that have taken place to date. She indicated that the Site has been sold and reuse is not yet evident. She believes that, historically, there have been some effects on the local community but none of any significance since the completion of the remedy. She indicated that EPA and DOPSTF have done a good job of keeping the community informed.

Dr. Latrice Babin – Dr. Babin is the executive director for the Office of Harris County Pollution Control Services (PCS). She is familiar with the environmental issues and cleanup activities at the Site and is not aware of any trespassing or vandalism at the Site. She indicated that EPA's site website should be updated to include more current documentation on the Site. Dr. Babin recommends that the FYR Report provide more detail on extreme weather conditions and that activities that are restricted at the Site should not be allowed next to or in the right of way at the Site. Dr. Babin also stated that, according to the 2018 FYR Report, the northern part of the Site was purchased by a new owner who was informed of the deed restriction. However, PCS is concerned that the new owner or heirs may not be aware of any site deed restrictions or not fully understand the environmental concerns.

John Danna and Matthew Foresman – Mr. Danna is the Site manager and contractor for the PRP and Mr. Foresman is the Site coordinator. They believe that the site remedy and maintenance are proceeding according to

plan and human health and the environment are protected. Mr. Danna noted the continuous O&M presence associated with the adjacent Brio site and that it has been demonstrated that the groundwater has been cleaned up to levels below standards and that further monitoring is not necessary.

Data Review

The data review focused on an evaluation of the last groundwater monitoring sampling event in 2018 and historical data for assessing contaminant trends. The compliance levels for the Site were adopted from the Brio site, per the Site’s MOM Plan, and include surface water quality standards for the NSCZ and maximum contaminant levels (MCLs) for FFSZ groundwater.¹ Table 4 lists the monitoring wells in the monitoring program. Figure 3 shows their locations at the Site.

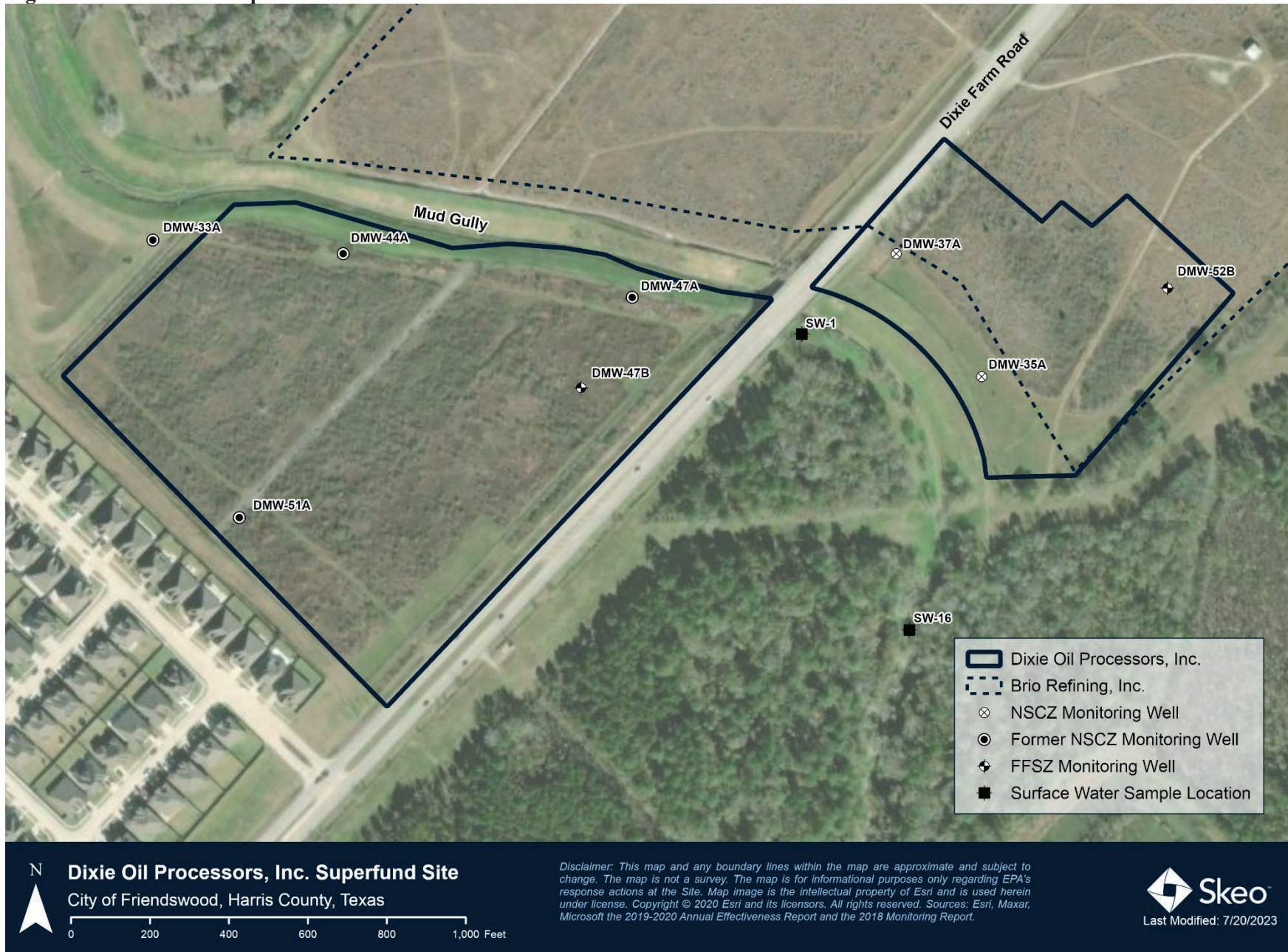
Table 4: Summary of Monitoring Wells Sampled in 2018

NSCZ Monitoring Wells	FFSZ Monitoring Wells
<p style="text-align: center;"><u>DOP North</u> DMW-33A^a DMW-44A^a DMW-47A^a DMW-51A^a</p> <p style="text-align: center;"><u>DOP South</u> DMW-35A DMW-37A</p>	<p style="text-align: center;"><u>DOP North</u> DMW-47B</p> <p style="text-align: center;"><u>DOP South</u> DMW-52B</p>
<p>a. Well is now plugged and abandoned. <i>Source:</i> Thirty-Third (2018) Annual Groundwater Monitoring Report and 2018 Inspection and Maintenance Activities. Dixie Oil Processors Superfund Site, Houston, Texas. December 2021.</p>	

A review of the data shows that site COCs were detected in the NCSZ and the FFSZ below compliance standards since the previous FYR, as shown in Table F-1 and Table F-2, respectively. Based on these results, EPA approved a field change order in September 2019 that discontinued annual groundwater monitoring and approved the plugging and abandonment of NSCZ wells on DOP North. NSCZ wells on DOP South and the FFSZ wells would be left in place and monitored as needed.

¹ Surface water standards for the Brio site were established in Table 2 of the Brio site’s 1997 AROD.

Figure 3: Detailed Site Map



Site Inspection

The site inspection took place on 12/15/2022. Participants included EPA RPM Nathaniel Applegate, Michael Jeude from TCEQ, PRP representative Matt Foresman, site manager John Dana, and Ryan Burdge and Claire Marcussen from EPA FYR contractor Skeo. The purpose of the inspection was to assess the protectiveness of the remedy. The site inspection checklist and photographs are provided in Appendix D and Appendix E, respectively.

Site inspection participants met at the site office, located near the northern area of the Brio site. The office houses a complete set of site logs, documents and records. A large detention pond was observed off site, northwest of the office. The Harris County Stormwater Control Department is building the pond for stormwater management due to the development occurring around the Site. The site inspection continued, entering DOP South, which is covered with grass. The cover was in good condition; no erosion or damage was observed. Site inspection participants entered DOP North from Dixie Farm Road through a locked gate. The site cover included dense grass and shrubs. A drainage road that diverts stormwater flow northeast toward Mud Gully was observed. Participants observed the northernmost part of DOP North and fence. The fence was in good condition; no damage was observed. Mud Gully was observed; the banks were vegetated with grass that grows over the articulated rock placed for stabilization. Participants observed that fencing topped with barbed wire surrounded the entire DOP North and DOP South and appeared to be in good condition, with “no trespassing signs” posted at regular intervals. The gated entries were all locked and functional. Residential development was observed on the southwest edge of DOP North.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

Yes. The remedy is functioning as intended by the Site’s 1988 ROD, based on a review of the long-term groundwater monitoring data and the results of the site inspection.

Based on the 2019 monitoring data, the long-term monitoring data for NCSZ and the FFSZ groundwater shows that compliance standards have been met for five consecutive years. O&M activities are occurring, as required by the Site’s MOM Plan. Regular site inspections are performed. These inspections cover the gates, fences, access roads, wells, the cap and drainage facilities. During the site inspection, a visual inspection of site features, including the cap, compliance wells, fences and gates, found that the remedy is in place and effective.

Deed restrictions and notices have been implemented to complement the existing site controls (fencing and signs). The Site’s IC Plan, incorporated in the MOM Plan, documents these control measures. Appendix K of this FYR includes a copy of the institutional control instruments.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection still valid?

Question B Summary:

Yes. The exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection are still valid. A review of the applicable or relevant and appropriate requirements (ARARs) demonstrate that the remedy remains protective. Several surface water criteria became more stringent (Appendix G) and two NSCZ wells exceed the surface water criteria for vinyl chloride. However, the long-term surface water monitoring data collected by the PRPs for the Brio site show that the surface water samples from Mud Gully downgradient of DOP NCSZ wells are below detection or below the most current standards. The drinking water standards used in the monitoring reports for FFSZ groundwater have not changed. No new regulations have been promulgated by the state or federal government that would call into question the protectiveness of the selected remedy. There has not been a change in exposure pathways that may call into question the protectiveness of the remedy since the

previous FYR. There have been no changes in toxicity characteristics or other contaminant characteristics related to the Site that affect the protectiveness of the remedy, as shown in the screening-level risk evaluation of the soil cleanup goals (Appendix H). Additionally, there has been no change to the standardized risk assessment methodology that would affect the protectiveness of the selected remedy.

The 1997 ROD Amendment does not include human contact to surface water as a potential exposure pathway or in its remedial action objectives. Recent residential development adjacent to the Site increases the potential that people may be wading, swimming, or recreating in Mud Gully. However, there is no known complete human exposure pathway for contact with surface water. Should use of Mud Gully be noted during regular site inspections, EPA will determine if additional assessment of the pathway and associated risk is warranted.

The remedy has achieved the RAOs. The soil cover and compliance with the deed restriction have eliminated the risks associated with direct exposure to contaminated materials and inhibits the migration of contaminated groundwater from the Site. In addition, flood control improvements promote runoff and minimize infiltration of contaminated soil.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

The Site has weathered several hurricanes including Hurricane Harvey in 2017 which did not result in any significant impacts to the remedy or loss of protectiveness. Due to the nature and resiliency of the remedy, the protectiveness of the remedy is anticipated to not be affected by climate change.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the FYR:
<i>OUI</i>

OTHER FINDINGS

One additional recommendation was identified during the FYR that does not affect current and/or future protectiveness.

- The County requested more site documents be made available on the Site’s webpage. EPA will ensure the website remains up to date.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement
<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The Site’s remedy is protective of human health and the environment over the long term. No issues were identified during this Five-Year Review process that affect the protectiveness of the remedy.

VIII. NEXT REVIEW

The next FYR Report for the Dixie Oil Processors, Inc. Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Field Change Order PC-002 (Revised Monitoring, Reporting, and Meeting Requirements) Dixie Oil Processors Site. Prepared by DOPSTF. August 16, 2019.

Fifteenth Annual Effectiveness Report (April 2019-March 2020), Brio Refining, Inc. Site Superfund. August 2021.

Fifth Five-Year Review Report for the Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. September 2018.

First Five-Year Review Report for the Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. September 1998.

Fourteenth Annual Effectiveness Report (April 2018-March 2019), Brio Refining, Inc. Site Superfund. November 2020.

Fourth Five-Year Review Report for the Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. September 2013.

Health Assessment for Brio Refining, Inc. and Dixie Oil Processors, Inc. NPL Sites. Houston, Texas. February 1989.

Post-Closure Monitoring, Operations and Maintenance Plan. Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. Prepared by DOPSTF. January 1999.

Post-Closure Monitoring, Operations and Maintenance Plan. Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. Prepared by DOPSTF. May 2006.

Record of Decision. Dixie Oil Processors, Inc. Superfund Site. Houston Texas. March 1988.

Second Five-Year Review Report for the Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. August 2003.

Third Five-Year Review Report for the Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. September 2008.

Thirty-Third (2018) Annual Groundwater Monitoring Report and 2018 Inspection and Maintenance Activities. Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. December 2019.

Thirty-Second (2017) Annual Groundwater Monitoring Report and 2017 Inspection and Maintenance Activities. Dixie Oil Processors, Inc. Superfund Site, Houston, Texas. October 2018.

APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
Copper recovery and hydrocarbon washing activities conducted at the Site	1969-1986
PRP began the Site's RI/FS	April 23, 1986
PRP completed the RI/FS	March 31, 1988
EPA issued the sitewide ROD	
EPA proposed the Site for inclusion on the NPL	June 24, 1988
PRP began the remedial design	June 30, 1989
EPA Final Listing on EPA NPL	October 4, 1989
Unilateral Administrative Order issued	July 10, 1991
PRP completed the remedial design	March 25, 1992
PRP began on-site remedy construction	
DOPSTF notified EPA of the completion of Phase I and II activities	March 27, 1993
PRP completed the remedial action	June 9, 1993
EPA issued the Site's Preliminary Close-Out Report	
PRP submitted the Site's MOM Plan to EPA	July 1993
EPA approved the Site's Remedial Action Report	August 6, 1993
EPA issued the Site's Final Close-Out Report	January 18, 1996
PRP revised the MOM Plan (revision 1)	January 1997
EPA issued the Site's first FYR Report	September 24, 1998
PRP revised the MOM Plan (revision 2)	January 1999
EPA issued the Site's second FYR Report	September 4, 2003
PRP finalized the Site's IC Plan	February 2, 2006
PRP revised the MOM Plan (revision 3)	May 2006
EPA deleted the Site from the NPL	August 8, 2006
EPA determined the Site achieved EPA's sitewide ready for anticipated use measure	September 24, 2007
EPA issued the Site's third FYR Report	September 9, 2008
EPA issued the Site's fourth FYR Report	September 20, 2013
EPA issued the Site's fifth FYR Report	September 13, 2018
PRP submitted a field change order to EPA revising the Site's monitoring, reporting and meeting requirements	August 16, 2019
EPA approved PRP's field change order revising the Site's monitoring, reporting and meeting requirements.	September 17, 2019

APPENDIX C – PRESS NOTICE



Brio Refining, Inc. and Dixie Oil Processors, Inc. Superfund Site Public Notice U.S. Environmental Protection Agency, Region 6 November 2022

The U.S. Environmental Protection Agency Region 6 (EPA) will be conducting the sixth five-year reviews of the implementation and performance of the remedies at the Brio Refining, Inc. and Dixie Oil Processors, Inc. Superfund sites in Houston, Texas.

Brio Refining, Inc.

From the 1950s to 1982, the 58-acre site operated as a chemical processing and refining facility. Facility disposal operations contaminated groundwater, surface soils and subsurface soils with hazardous chemicals. EPA added the site to the Superfund program's National Priorities List (NPL) in March 1989. EPA's selected remedy includes the excavation and removal of contaminated soils, debris, and storage drums, as well as continued operations of a wastewater treatment system. EPA updated the remedy to include construction of a vertical barrier wall, a site cover, a groundwater pumping system, and maintenance and stabilization of the mud galley. Institutional controls were also implemented limiting land use. Maintenance and monitoring are ongoing at the site. The site was deleted from the NPL in December 2006.

Dixie Oil Processors, Inc.

From 1969 to 1986, the 26.6-acre site operated as a copper recovery and hydrocarbon washing facility. Site activities and waste disposal practices contaminated soil and groundwater with hazardous chemicals. EPA added the site to the Superfund program's National Priorities List

(NPL) in October 1989. EPA's selected remedy includes removal of surface contamination, improvement of surface water controls, maintenance and stabilization of the mud galley, and the installation of a security fence. Cleanup also included removal and off-site disposal of tank wastes, breakdown of process tanks and drums, disposal of process equipment, and institutional controls. Groundwater monitoring activities are ongoing. Following clean up, the EPA removed the site off the NPL in August 2006.

The five-year reviews will determine if the remedies are still protective of human health and the environment. The five-year reviews are scheduled for completion in September 2023.

The reports will be made available to the public at the following local information repository:

Parker Williams Library/San Jacinto College
South Campus
13735 Beamer Road
Houston, Texas 77089
(832) 927-7870

Site status updates are available on the Internet at <https://www.epa.gov/superfund/brio-refining>
<https://www.epa.gov/superfund/dixie-oil-processors>
All media inquiries should be directed to the EPA Press Office at (214) 665-2200

For more information about the Site, contact:

Nathaniel Applegate/Remedial Project Manager
(214) 665-2252
or by email at applegate.nathaniel@epa.gov

Jason McKinney/Community Involvement Coordinator
(214) 665-8132
or 1-800-887-6063 (toll-free)
or by email at mckinney.jason@epa.gov

Ellington Leader newspaper
Matthew Foresman, DOPSTF

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

1.	O&M Documents <input checked="" type="checkbox"/> O&M manual <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A <input checked="" type="checkbox"/> As-built drawings <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Maintenance logs <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A Remarks: <u>All documents are available at the Brio site office.</u>
2.	Site-Specific Health and Safety Plan <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Contingency plan/emergency response plan <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A Remarks: _____
3.	O&M and OSHA Training Records <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A Remarks: _____
4.	Permits and Service Agreements <input type="checkbox"/> Air discharge permit <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Effluent discharge <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Waste disposal, POTW <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Other permits: _____ <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A Remarks: _____
5.	Gas Generation Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A Remarks: _____
6.	Settlement Monument Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A Remarks: _____
7.	Groundwater Monitoring Records <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A Remarks: _____
8.	Leachate Extraction Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A Remarks: _____
9.	Discharge Compliance Records <input type="checkbox"/> Air <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Water (effluent) <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A Remarks: _____
10.	Daily Access/Security Logs <input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input type="checkbox"/> N/A Remarks: <u>Site visitors must enter through the secured Brio site entrance to sign in.</u>

IV. O&M COSTS

1.	O&M Organization <input type="checkbox"/> State in-house <input type="checkbox"/> Contractor for state <input checked="" type="checkbox"/> PRP in-house <input type="checkbox"/> Contractor for PRP <input type="checkbox"/> Federal facility in-house <input type="checkbox"/> Contractor for Federal facility <input type="checkbox"/> _____
2.	O&M Cost Records <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Funding mechanism/agreement in place <input type="checkbox"/> Unavailable Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached Total annual cost by year for review period if available From: _____ To: _____ <input type="checkbox"/> Breakdown attached Date Date Total cost From: _____ To: _____ <input type="checkbox"/> Breakdown attached Date Date Total cost From: _____ To: _____ <input type="checkbox"/> Breakdown attached Date Date Total cost From: _____ To: _____ <input type="checkbox"/> Breakdown attached Date Date Total cost

From: _____ Date	To: _____ Date	_____ Total cost	<input type="checkbox"/> Breakdown attached
3. Unanticipated or Unusually High O&M Costs during Review Period Describe costs and reasons: <u>None.</u>			
V. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Fencing			
1. Fencing Damaged <input checked="" type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A Remarks: <u>All fencing was in good condition. No breaches or damage observed.</u>			
B. Other Access Restrictions			
1. Signs and Other Security Measures <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A Remarks: <u>"No trespassing" signs are posted at all main entrance gates.</u>			
C. Institutional Controls (ICs)			
1. Implementation and Enforcement			
Site conditions imply ICs not properly implemented		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Site conditions imply ICs not being fully enforced		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Type of monitoring (e.g., self-reporting, drive by): <u>Self-reporting</u>			
Frequency: <u>Daily informal/monthly formal inspections</u>			
Responsible party/agency: <u>DOPSTF</u>			
Contact <u>John Danna</u>		<u>DOPSTF Site</u>	
Name		Manager	
Title		Date	
Reporting is up to date		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Reports are verified by the lead agency		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Specific requirements in deed or decision documents have been met		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Violations have been reported		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Other problems or suggestions: <input type="checkbox"/> Report attached			
2. Adequacy <input checked="" type="checkbox"/> ICs are adequate <input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A Remarks: <u>Deed restrictions and deed notices have been executed for the Superfund properties. Certified copies were obtained from the Harris County Clerk's Office. They are maintained on site at 11810 South Hill Drive, Houston, Texas.</u>			
D. General			
1. Vandalism/Trespassing <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No vandalism evident Remarks: _____			
2. Land Use Changes On Site <input checked="" type="checkbox"/> N/A Remarks: _____			
3. Land Use Changes Off Site <input type="checkbox"/> N/A Remarks: <u>Residential development constructed adjacent to the DOP North area to the southwest.</u>			
VI. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1. Roads Damaged <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A Remarks: <u>Drainage roads are in good condition and allow for surface flow away from caps and diversion to drainage culverts and pipes to Mud Gully.</u>			
B. Other Site Conditions			
Remarks: <u>Site is in good condition and maintained.</u>			
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1. Settlement (low spots) <input type="checkbox"/> Location shown on site map		<input checked="" type="checkbox"/> Settlement not evident	
Area extent: _____		Depth: _____	
Remarks: _____			
2. Cracks <input type="checkbox"/> Location shown on site map		<input checked="" type="checkbox"/> Cracking not evident	
Lengths: _____		Depths: _____	
Widths: _____			
Remarks: _____			
3. Erosion <input type="checkbox"/> Location shown on site map		<input checked="" type="checkbox"/> Erosion not evident	
Area extent: _____		Depth: _____	
Remarks: _____			

4.	Holes Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Holes not evident Depth: _____
5.	Vegetative Cover <input checked="" type="checkbox"/> No signs of stress Remarks: <u>The MOM Plan allows for trees and ground cover.</u>	<input checked="" type="checkbox"/> Grass <input checked="" type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	<input checked="" type="checkbox"/> Cover properly established
6.	Alternative Cover (e.g., armored rock, concrete) Remarks: _____		<input checked="" type="checkbox"/> N/A
7.	Bulges Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident Height: _____
8.	Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks: _____	<input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map	Area extent: _____ Area extent: _____ Area extent: _____ Area extent: _____
9.	Slope Instability <input checked="" type="checkbox"/> No evidence of slope instability Area extent: _____ Remarks: _____	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map
B. Benches <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)			
1.	Flows Bypass Bench Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
2.	Bench Breached Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
3.	Bench Overtopped Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
C. Letdown Channels <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)			
1.	Settlement (Low spots) Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement Depth: _____
2.	Material Degradation Material type: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation Area extent: _____
3.	Erosion Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion Depth: _____
4.	Undercutting Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting Depth: _____
5.	Obstructions <input type="checkbox"/> Location shown on site map Size: _____ Remarks: _____	Type: _____ Area extent: _____	<input checked="" type="checkbox"/> No obstructions
6.	Excessive Vegetative Growth <input checked="" type="checkbox"/> No evidence of excessive growth <input checked="" type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map Remarks: _____	Type: _____ Area extent: _____	
D. Cover Penetrations <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			

1.	Gas Vents	<input type="checkbox"/> Active	<input type="checkbox"/> Passive
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition
	Remarks: _____		
2.	Gas Monitoring Probes	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input checked="" type="checkbox"/> N/A
	Remarks: _____		
3.	Monitoring Wells (within surface area of landfill)	<input checked="" type="checkbox"/> Functioning	<input checked="" type="checkbox"/> Routinely sampled
	<input checked="" type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Needs maintenance	<input checked="" type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> N/A
	Remarks: <u>EPA approved a field change order in September 2019 that discontinued annual groundwater monitoring.</u>		
4.	Extraction Wells Leachate	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration		<input checked="" type="checkbox"/> N/A
	Remarks: _____		
5.	Settlement Monuments	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed
	Remarks: _____		
E. Gas Collection and Treatment		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Gas Treatment Facilities	<input type="checkbox"/> Thermal destruction	<input type="checkbox"/> Collection for reuse
	<input type="checkbox"/> Flaring	<input type="checkbox"/> Needs maintenance	
	<input type="checkbox"/> Good condition		
	Remarks: _____		
2.	Gas Collection Wells, Manifolds and Piping	<input type="checkbox"/> Needs maintenance	
	<input checked="" type="checkbox"/> Good condition		
	Remarks: _____		
3.	Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)	<input type="checkbox"/> Needs maintenance	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Good condition		
	Remarks: _____		
F. Cover Drainage Layer		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Outlet Pipes Inspected	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
	Remarks: _____		
2.	Outlet Rock Inspected	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
	Remarks: _____		
G. Detention/Sedimentation Ponds		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Siltation	Area extent: _____	Depth: _____
	<input type="checkbox"/> Siltation not evident		<input type="checkbox"/> N/A
	Remarks: _____		
2.	Erosion	Area extent: _____	Depth: _____
	<input type="checkbox"/> Erosion not evident		
	Remarks: _____		
3.	Outlet Works	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
4.	Dam	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
	Remarks: _____		
H. Retaining Walls		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident
	Horizontal displacement: _____	Vertical displacement: _____	
	Rotational displacement: _____		
	Remarks: _____		
2.	Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
	Remarks: _____		
I. Perimeter Ditches/Off-Site Discharge		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1.	Siltation	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Siltation not evident
	Area extent: _____	Depth: _____	

Remarks: _____		
2.	Vegetative Growth <input checked="" type="checkbox"/> Vegetation does not impede flow Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A Type: _____
3.	Erosion Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Erosion not evident Depth: _____
4.	Discharge Structure Remarks: <u>Concrete culvert on DOP North drains toward a pipe that discharges to Mud Gully.</u>	<input checked="" type="checkbox"/> Functioning <input type="checkbox"/> N/A
VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	Settlement Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident Depth: _____
2.	Performance Monitoring <input type="checkbox"/> Performance not monitored Frequency: _____ Head differential: _____ Remarks: _____	Type of monitoring: _____ <input type="checkbox"/> Evidence of breaching
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
A. Groundwater Extraction Wells, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	Pumps, Wellhead Plumbing and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____	
2.	Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3.	Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____	
B. Surface Water Collection Structures, Pumps and Pipelines <input type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	
3.	Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____	
C. Treatment System <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	Treatment Train (check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____ Remarks: _____	
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____	

3.	Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance Remarks: _____
4.	Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
5.	Treatment Building(s) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks: _____
6.	Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
D. Monitoring Data	
1.	Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality
2.	Monitoring Data Suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining
E. Monitored Natural Attenuation	
1.	Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
X. OTHER REMEDIES	
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.	
XI. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>The monitoring data show that site COCs were detected below compliance standards in the NCSZ and the FFSZ since the previous FYR. Engineering controls prevent exposure and institutional controls ensure the long-term effectiveness of the engineering controls.</u>
B.	Adequacy of O&M Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>The current MOM Plan is being complied with, ensuring the long-term protectiveness of the remedy.</u>
C.	Early Indicators of Potential Remedy Problems Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. <u>None.</u>
D.	Opportunities for Optimization Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>No recommendations at this time. Compliance levels were achieved in groundwater in 2018 and EPA approved a field change order to discontinue groundwater monitoring.</u>

APPENDIX E – SITE INSPECTION PHOTOS



Entrance to DOP South, through a secured gate



DOP South cover, looking southwest



DOP South, looking northeast with monitoring well on the left



Aboveground groundwater extraction water line across DOP South cover



DOP North secured gate entrance



Sign on North DOP entrance off Dixie Farm Road



DOP North, looking southwest to new residential community off Dixie Farm Road



DOP North drainage road, which ultimately drains surface runoff to Mud Gully



DOP North drainage road, looking southwest



DOP North drainage feature directing surface runoff from drainage roads to Mud Gully

APPENDIX F – DATA REVIEW TABLES AND FIGURES

Table F-1: Summary of NCSZ Groundwater Analytical Results, 2014 to 2018 (µg/L)

COMPOUND	NSCZ LIMIT	33A++	33A++	33A++	33A++	33A++	35A++	35A++	35A++	35A++	35A++	37A++	37A++	37A++	37A++
		10/8/2014	10/28/2015	10/18/2016	10/19/2017	10/30/2018	10/8/2014	10/28/2015	10/18/2016	10/19/2017	10/30/2018	10/8/2014	10/28/2015	10/18/2016	10/19/2017
1,1,2-Trichloroethane	4,180	5 U	5 U	5 U	5 U	5 U	3,000 D	2,600 D	2,100 D	1,700	2,300	5 U	5 U	5 U	1.7 J
1,1-Dichloroethane	8,740	5 U	5 U	5 U	5 U	5 U	1,100 D	930 D	640 D	940 D	1100 D	5.1	3.7 J	6.8	12
1,2-Dichloroethane	20,000	5 U	5 U	5 U	5 U	5 U	5,000 D	3,300 D	3,600 D	2,300 D	3,400 D	2.6 J	5 U	5 U	5 U
Vinyl Chloride	9,450	10 U	10 U	5 U	5 U	5 U	3,700 D	1,300 D	960 D	2,100 D	1,500 D	330	100	33	270 D

COMPOUND	NSCZ LIMIT	44A++	44A++	44A++	44A++	44A++	47A++	47A++	47A++	47A++	47A++	51A++	51A++	51A++	51A++
		10/8/2014	10/28/2015	10/18/2016	10/19/2017	10/30/2018	10/8/2014	10/28/2015	10/18/2016	10/19/2017	10/30/2018	10/8/2014	10/28/2015	10/18/2016	10/19/2017
1,1,2-Trichloroethane	4,180	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	8,740	2.7 J	8.3	18	22	25	5.3 J	5.8	3.4	4.8 J	3.8 J	5 U	5 U	5 U	5 U
1,2-Dichloroethane	20,000	1.5 J	3.4 J	13	6.1	4.7 J	44	43	37	30	25	5 U	5 U	5 U	5 U
Vinyl Chloride	9,450	16	15	25	51	38	190	67	54	100	64	10U	10U	5 U	5 U

Notes:

- U - Undetected at the listed detection limit
- N/A - Compound not on analyte list for this well
- D - Concentration detected at a secondary dilution
- B - Detected in lab blank
- + - EPA approved micro purge sampling
- ++ - EPA approved passive diffusion bag sampling. Bold result indicates above NSCZ limit
- J - An estimated value for the compound

Source: Thirty-Third (2018) Annual Groundwater Monitoring Report and 2018 Inspection and Maintenance Activities. Table 1. Dixie Oil Processors Superfund Site, Houston, Texas. December 2021.

Table F-2: Summary of FFSZ Groundwater Analytical Results, 2014 to 2018 (µg/L)

Compound	FFSZ Limit	47B++	47B++	47B++	47B++	47B++	52B++	52B++	52B++	52B++	52B++
		10/7/14	10/28/15	10/18/16	10/19/17	10/30/18	10/7/14	10/28/15	10/18/16	10/17/19	10/30/18
1,1,1-Trichloroethane	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane (total)	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	1,000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylenes (total)	10,000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

- U = undetected at the listed detection limit
- + = EPA approved micro purge sampling.
- N/A = compound not on analyte list for this well.
- ++ = EPA-approved passive diffusion bag sampling.
- Bold** result indicates above FFSZ limit
- J = an estimated value for the compound
- D = concentration detected at a secondary dilution
- B = detected in lab blank.

Source: Thirty-Third (2018) Annual Groundwater Monitoring Report and 2018 Inspection and Maintenance Activities. Table 1. Dixie Oil Processors Superfund Site, Houston, Texas. December 2021.

APPENDIX G – DETAILED ARARS REVIEW

The 1988 ROD selected MCLs as the ARAR that applies to the FFSZ and state and federal surface water criteria that applies to the NCSZ. The ROD did not list numeric standards for these two groundwater zones. However, compliance levels for the Site were adopted from the Brio site, per the Site’s MOM Plan, which includes the surface water criteria listed in the Brio site’s 1997 AROD; the Brio AROD did not list the MCL numeric standards. The MCLs used in the monitoring reports have not changed, as shown in Table G-1.

Table G-1: Evaluation of Groundwater Standards for the FFSZ

Compound	Compliance Standards for the FFSZ ^a	Current Standards
	(µg/L)	(µg/L)
1,1,1-Trichloroethane	200	200
1,1,2-Trichloroethane	5	5
1,1-Dichloroethene	7	7
1,2-Dichlorobenzene	600	600
1,2-Dichloroethane	5	5
1,2-Dichloroethene (total)	70	70
1,2-Dichloropropane	5	5
1,2,4-Trichlorobenzene	70	70
1,4-Dichlorobenzene	75	75
Benzene	5	5
Carbon tetrachloride	5	5
Chlorobenzene	100	100
Ethylbenzene	700	700
Methylene chloride	5	5
Styrene	100	100
Tetrachloroethene	5	5
Toluene	1,000	1,000
Trichloroethene	5	5
Vinyl chloride	2	2
Xylenes (total)	10,000	10,000
<i>Notes:</i>		
a. Table 1 of the Thirty-Third (2018) Annual Groundwater Monitoring Report and 2018 Inspection and Maintenance Activities. Dixie Oil Processors Superfund Site, Houston, Texas. December 2021.		
b. Current federal Safe Drinking Water Act standards, available at https://www.epa.gov/ground-water-and-drinking-water/table-regulated-drinking-water-contaminants (accessed 11/10/2022).		
µg/L = micrograms per liter		

Subsequent to the Brio AROD, Texas surface water quality standards for the four surface water COCs had been revised under 30 Texas Administrative Code (TAC) §307 in 2000, 2010, 2014 and 2018. Table G-2 compares the Brio AROD surface water criteria to current standards. The current standards have become more stringent for 1,2-dichloroethane (1,2-DCA), 1,2-trichloroethane (TCA) and vinyl chloride. A review of the NSCZ groundwater data shows that the last five years of data are all below the more stringent standards for 1,2-DCA and 1,1,2-TCA. However, vinyl chloride concentrations exceeded the most current surface water quality criteria in DMW-35A for monitoring years 2014 through 2018, in DMW-37A in 2014, 2017 and 2018, and once in DMW-47A in 2014, with remaining years below the standard. To determine if the NSCZ is impacting the downgradient surface water, Mud Gully, surface water data were reviewed. Surface water samples are not included in the Site’s MOM Plan; however, the PRP group for the Brio site collects surface water samples throughout Mud Gully (Table G-3). Surface water sampling near DMW-35A and SW-16 ranged in concentrations from non-detect to 24 micrograms per liter (µg/L), which is well below the revised standard of 165 µg/L for vinyl chloride. Similarly, the surface water sampling concentrations downgradient of DMW-47A, DMW-37A and SW-1 ranged from non-detect to 22 µg/L, which is also below the revised surface water standards for vinyl chloride. These data support the finding that the NSCZ is not impacting Mud Gully surface water at this time.

Table G-2: Evaluation of Surface Water Remedy Performance Criteria

COC	1997 AROD Brio Site Standards ^a	Current Standards ^b
1,2-Dichloroethane	20,000	3,640
1,1-Dichloroethene	8,740	3,030
1,1,2-Trichloroethane	4,180	900
Vinyl chloride	9,450	165
<i>Notes:</i> a. Table 2 in the 1997 AROD for the Brio site. b. Most current standards are dated 2018 and obtained from https://www.tceq.texas.gov/waterquality/standards (accessed on 11/4/2022).		

Table G-3: Summary of Surface Water Data Collected by the Brio PRP Group (µg/L)

COC	1997 AROD Brio Site Standards	1Q2018 No Sample	6/13/18	9/18/18	12/29/18	6/12/19	9/16/19	12/04/19	3/10/20
SW-1 (Downgradient of DMW-47A and DMW-37A)									
1,2-Dichloroethane	20,000	---	1.5 J	ND	6.1	16	10	31	16
1,1,2-Trichloroethane	4,180	---	2.3 J	ND	9.6	22	15	55	32
Vinyl chloride	9,450	---	2.9 J	ND	ND	19	15	22	13
1,1-Dichloroethene	8,740	---	1.3 J	ND	2.9 J	6.7	8.6	13	9.9
SW-16 (Downgradient of DMW-35A)									
1,2-Dichloroethane	20,000	---	1.5 J	ND	6.2	15	10	30	16
1,1,2-Trichloroethane	4,180	---	2.5 J	ND	10	21	14	55	32
Vinyl chloride	9,450	---	ND	ND	ND	16	11	24	13
1,1-Dichloroethene	8,740	---	1.1 J	ND	3.1 J	6.2	8.1	14	9.7
<i>Sources:</i> Table 3-1 in the 14th and 15th Annual Effectiveness Reports for the Brio Refining, Inc. Superfund Site. ND = not detected.									

APPENDIX H – SCREENING-LEVEL RISK REVIEW

Health-based target levels were established in the EA that applied to the Brio site and the Site. EPA established residential-based target levels for off-site soil and site-specific cleanup levels for on-site soil protective of trespassers. The EA assumed that the Site would remain a secured industrial facility with restricted future use. Based on this assumption, the target levels were not exceeded at the Site. Therefore, target levels for soil remediation were not presented in the 1988 ROD. These levels are presented in the 1997 AROD for the Brio site.

To confirm the target levels remain valid, this FYR compared target levels to EPA’s current regional screening levels (RSLs). The RSLs incorporate current toxicity values and standard default exposure factors for residential (e.g., off site) and industrial (e.g., on site) land use assumptions. The industrial and residential evaluations are presented in Table H-1 and Table H-2, respectively. The industrial-use evaluation shows that the target levels for five COCs exceed EPA’s risk management range of 1×10^{-6} to 1×10^{-4} or the noncancer hazard quotient (HQ) of 1.0. However, the groundwater remedy covered the on-site soils with a combination of a clay cap and a vegetated soil cap. Therefore, there is no direct exposure to contaminated soils.

The off-site risk evaluation (Table H-2) shows that the target levels remain protective of residential exposure as the cleanup goals are equivalent to cancer risks that are more stringent or within EPA’s risk management range and below the noncancer threshold HQ of 1.

Table H-1: Screening-Level Risk Evaluation of On-Site Soil Target Levels

COC	On-site Target Level (mg/kg) ^a	Industrial RSL (mg/kg) ^b		Cancer Risk ^c	Noncancer HQ ^d
		1×10^{-6} Risk	HQ = 1		
<i>cPAHs</i>					
Benzo(a)anthracene	10,200	21	-	4.9×10^{-4}	-
Benzo(b)fluoranthene	1,200	21	-	5.7×10^{-5}	-
Benzo(k)fluoranthene	580	210	-	2.8×10^{-6}	-
Benzo(a)pyrene	44	2.1	220	2.1×10^{-5}	0.2
Dibenz(a,h)anthracene	74	2.1	-	3.5×10^{-5}	-
Indeno(1,2,3-c,d)pyrene	7,400	21	-	3.5×10^{-4}	-
<i>VOCs and SVOCs</i>					
1,2-Dichloroethane	2,800	2	140	1.4×10^{-3}	20
1,1,2-Trichloroethane	2,300	5	6.3	4.6×10^{-4}	365
Bis(2-chloroethyl)ether	230	1	-	2.3×10^{-4}	-
Methylene chloride	33,000	1,000	3,200	3.3×10^{-5}	10
Vinyl chloride	109	1.7	310	6.4×10^{-5}	0.4
<p><i>Notes:</i></p> <p>a. Table 1, 1997 Brio site AROD.</p> <p>b. Current EPA RSLs, dated November 2022, are available at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (accessed 12/6/2022).</p> <p>c. The cancer risks were calculated using the following equation, based on the fact that RSLs are derived based on 1×10^{-6} risk: cancer risk = (target level ÷ cancer-based RSL) × 10^{-6}.</p> <p>d. The noncancer HQ was calculated using the following equation: HQ = target level ÷ noncancer-based RSL.</p> <p>- = toxicity values not established by EPA, so an RSL could not be calculated.</p> <p>Bold = noncancer HQ exceeds 1.0 or cancer risk exceeds 1×10^{-4}.</p> <p>mg/kg = milligrams per kilogram</p>					

Table H-2: Screening-Level Risk Evaluation of Off-Site Soil Target Levels

COC	Off-Site Target Level (mg/kg)	Residential RSL (mg/kg)		Cancer Risk	Noncancer HQ
		1 x 10 ⁻⁶ Risk	1 x 10 ⁻⁶ Risk		
<i>cPAHs</i>					
Benzo(a)anthracene	26.9	1.1	-	2.4 x 10 ⁻⁵	-
Benzo(b)fluoranthene	5.1	1.1	-	4.6 x 10 ⁻⁶	-
Benzo(k)fluoranthene	5.1	11	-	4.6 x 10 ⁻⁷	-
Benzo(a)pyrene	0.04	0.11	18	3.6 x 10 ⁻⁷	0.002
Dibenz(a,h)anthracene	0.23	0.11	-	2.1 x 10 ⁻⁶	-
Indeno(1,2,3-c,d)pyrene	10.5	1.1	-	9.6 x 10 ⁻⁶	-
<i>VOCs and SVOCs</i>					
1,2-Dichloroethane	0.13	0.46	31	2.8 x 10 ⁻⁷	0.004
1,1,2-Trichloroethane	1.4	1.1	1.5	1.3 x 10 ⁻⁶	0.9
Bis(2-chloroethyl)ether	0.07	0.23	-	3.0 x 10 ⁻⁷	-
Methylene chloride	12.5	57	350	2.2 x 10 ⁻⁷	0.036
Vinyl chloride	0.02	0.059	60	3.4 x 10 ⁻⁷	0.0003
<p><i>Notes:</i></p> <p>a. Table 1, 1997 Brio site AROD.</p> <p>b. Current EPA RSLs, dated November 2022, are available at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (accessed 12/6/2022).</p> <p>c. The cancer risks were calculated using the following equation, based on the fact that RSLs are derived based on 1 x 10⁻⁶ risk: cancer risk = (target level ÷ cancer-based RSL) × 10⁻⁶.</p> <p>d. The noncancer HQ was calculated using the following equation: HQ = target level ÷ noncancer-based RSL.</p> <p>- = toxicity values not established by EPA, so an RSL could not be calculated.</p> <p>Bold = noncancer HQ exceeds 1.0 or cancer risk exceeds 1 x 10⁻⁴.</p>					

APPENDIX I – FIELD CHANGE ORDER

DIXIE OIL PROCESSORS TRUST GROUP

August 16, 2019

Mr. William Rhotenberry
United States Environmental Protection Agency
Region 6, Superfund Enforcement Section 6SF-RA
1445 Ross Ave., Suite 1200
Dallas, TX 75202-2733

**Re: Field Change Order PC-002 (Revised Monitoring, Reporting, and Meeting Requirements)
Dixie Oil Processors Site**

Dear Mr. Rhotenberry:

The remedy at the Dixie Oil Processors Site (“Site”) was completed in 1996, and the Site was removed from the National Priorities List in 2006. During the post-closure period, the Site has been closely evaluated: there have been approximately 23 annual effectiveness reports, and five five-year review reports produced. Additionally, there have been approximately 89 quarterly and annual meetings. Site groundwater monitoring results have met groundwater standards for the last four years. The purpose of this Field Change Order letter is to request that groundwater monitoring and annual effectiveness reporting by the Dixie Oil Processors Trust Group (“DOPTG”) and annual meetings for the Site be discontinued. The DOPTG requests that this Field Change Order become effective January 1, 2019. If it is approved:

- The last annual effectiveness report would be submitted for the period from January to December of 2018.
- There would be no more DOPTG-EPA annual meetings and instead meetings would be arranged on an as-needed basis.
- All Numerous Sand Channel Zone (“NSCZ”) wells on DOP North would be plugged and abandoned per State of Texas regulations. (See attached figure.) NCSZ wells on DOP South and all the Fifty-Foot Sand Zone wells at the Site would be left in place and monitored as needed by the Brio Site Task Force.
- Five-Year Reviews of the Site would continue, utilizing previously collected Site groundwater monitoring data and future Site groundwater data collected by the Brio Site Task Force.

Please feel free to contact me if you have any questions regarding this Field Change Order request.

Regards,

John Danna
DOPTG Representative

Approved:



William Rhotenberry, EPA Project Manager

09/17/2019

Date

cc: Sherell Heidt - TCEQ
Matthew Foresman - DOPTG
Larry Engle - DOPTG

APPENDIX J – INTERVIEW FORMS

DIXIE OIL PROCESSORS. SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Dixie Oil Processors	
EPA ID: TXD089793046	
Interviewer name:	Interviewer affiliation:
Subject name: Michael Jeude	Subject affiliation: TCEQ
Subject contact information: michael.jeude@tceq.texas.gov	
Interview date: 1/4/2023	Interview time:
Interview location: TCEQ Region 12 Office	
Interview format (circle one): In Person Phone Mail Email X Other:	
Interview category: State Agency	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
The remedy is performing well.

2. What is your assessment of the current performance of the remedy in place at the Site?
The remedy is performing well.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
No.

4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.
TCEQ attended annual meetings with the site operators and checked with the operators before and after major storm events.

5. Are you aware of any changes to state laws that might affect the protectiveness of the Site’s remedy?
No.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?
Yes.

7. Are you aware of any changes in projected land use(s) at the Site?
No.

8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site’s remedy?
No.

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR Report?
Yes.

DIXIE OIL PROCESSORS. SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Dixie Oil Processors	
EPA ID: TXD089793046	
Interviewer name:	Interviewer affiliation:
Subject name: Marie Flickinger	Subject affiliation: Resident
Subject contact information:	
Interview date: January 26, 2023	Interview time:
Interview location:	
Interview format (circle one): In Person Phone Mail Email X Other:	
Interview category: Resident	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
Yes.
2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
Not sure about reuse since property has been sold and reuse is not yet evident.
3. What have been the effects of the Site on the surrounding community, if any?
Some effects when the Site was first named; none of any significance since the remedy was completed.
4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?
None that has been a problem.
5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?
EPA and DOPSTF have done a good job of informing the community. We hope they continue to use the South Belt-Ellington Leader newspaper for this purpose.
6. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?
No.
7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
No, just continue to respond when community concerns are raised.

**DIXIE OIL PROCESSORS SUPERFUND SITE
FIVE-YEAR REVIEW INTERVIEW FORM**

Site Name: Dixie Oil Processors	
EPA ID: TXD089793046	
Interviewer name:	Interviewer affiliation:
Subject name: Dr. Latrice Babin	Subject affiliation: Executive Director
Subject contact information: 713-920-2831	
Interview date: 3/3/2023	Interview time: 2:30 pm
Interview location: Office of Harris County Pollution Control Services	
Interview format (circle one): In Person Phone Mail <u>Email</u> Other:	
Interview category: Local Government	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

Harris County Pollution Control Services (PCS) is aware of environmental issues and cleanup activities through publicly available documents.

2. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey site-related information in the future?

PCS requests to be copied and included in all correspondence and communication, including those conducted by government agencies, contractors, and any other entity affiliated with the Site.

3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

PCS is unaware of any unexpected activities at the Site related to emergency response, vandalism, or trespassing.

4. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy?

PCS is not aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy.

5. Are you aware of any changes in projected land use(s) at the Site?

PCS is not aware of any changes in the projected land use at the Site.

PCS requests to be updated on any changes related to projected land uses at and around the Site.

6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site?
How can EPA best provide site-related information in the future?

The public notice references the repository at the Parker Williams Library and the EPA website as sources of information. As a note, the library is less than a mile from the Site.

Upon contacting the repository, the library director indicated it had been several years since the information had been updated and new information added.

PCS recommends keeping the repository updated with Site information. As a final recommendation, due to increased residential development in the area, a sign which includes the repository information should be posted at the Site.

According to the EPA website, continued protectiveness of the remedy requires continued groundwater monitoring to assess the effectiveness of the Site controls.

PCS' concern - according to the EPA website under current status states, "The next five-year review will be completed in 2018." PCS also did not find any fact sheets on the EPA website. The only available information is a Site Status Summary dated August 2015.

PCS recommends keeping the website updated. PCS recommends placing all information on the EPA website.

7. Do you have any comments, suggestions, or recommendations regarding the project?

According to the EPA website, the current status at the Site is ongoing operation and maintenance activities. There are no unacceptable risks at the Site with both human exposure and groundwater migration under control. Prior to remediation, the risk assessment concluded there were elevated health risks associated with exposure to the wastes at the Site. The Site is currently ready for anticipated use (non-residential). The soil cover reduces the risk of direct contact with the residual wastes at the Site. Site inspections and groundwater monitoring activities are ongoing.

Per the 2018 FYR, Site personnel inspects the perimeter fencing, gates, and locks on a weekly basis, at a minimum, to evaluate compliance with institutional control (IC) documents. The IC Plan was incorporated into the Maintenance, Operations, and Monitoring (MOM) Plan in April 2006. The MOM includes inspection of perimeter and equipment, maintenance of cover, groundwater sampling and monitoring, and reporting to EPA. The 2018 FYR also mentioned a Community Advisory Group (CAG), quarterly activity meetings, and annual reports, with the last one dated 2018. The 2018 FYR also states that long-term protectiveness of the remedial action will be achieved by continued monitoring of the groundwater to assess the effectiveness of the Site controls and by IC. "The cap system is in good condition and prevents infiltration of surface water as well as the escape of volatile gasses from the contaminated soil." Some areas of concern in the 2013 FYR were increased levels of contaminants in monitoring wells, and it was

recommended to continue annual groundwater sampling and Mud Gully surface water stream sampling.

PCS is concerned updated information in support of the above-mentioned activities is not available at the repository or the website.

PCS again recommends updated information be available at the repository and on the EPA website.

The 2018 FYR also states the north Site was purchased by a new owner who was informed of the Deed Restrictions. The CAG interviewee stated that a complaint was received from the landowner.

PCS is concerned the new owner or heirs may not be aware of any Site deed restrictions or not fully understand the environmental concerns.

PCS recommends the EPA remind the land owner of the deed restrictions at regular intervals.

Upon review of the 100 and 500-year flood zones and Harvey inundation maps, it was found the Site was affected by 500-year flood events. Upon review of the 2018 FYR, there was no mention of the effects of Harvey on the Site.

PCS is concerned recent extreme weather conditions like Uri and Harvey may adversely affect the Site as well as the protections in place.

PCS recommends the EPA require the inspection of the Site and the weatherizing of exposed protections to withstand or mitigate the effects of future extreme weather conditions.

8. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

Yes

DIXIE OIL PROCESSORS SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Dixie Oil Processors	
EPA ID: TXD089793046	
Interviewer name:	Interviewer affiliation:
Subject name: John Danna	Subject affiliation: DOPSTF
Subject contact information: See transmittal email.	
Interview date: 3/1/2023	Interview time:
Interview location:	
Interview format (circle one): In Person Phone Mail Email Other:	
Interview category: O&M Contractor	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)? *The cleanup and maintenance are proceeding according to Site plans. DOP North has potential for reuse and the non-PRP property owners have considered this. DOP South has less potential for reuse due to the vicinity of the Brio Site remedy.*
2. What is your assessment of the current performance of the remedy in place at the Site? *The performance of the remedy continues to protect the environment and population.*
3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site? *Monitoring data indicate that concentrations of site constituents in the NSCZ groundwater have met groundwater standards since 2014. In September 2019, EPA approved discontinuing NSCZ sampling (Field Change Order PC-002) as well as plugging and abandoning the NSCZ monitoring wells on DOP North. FFSZ monitoring well DMW-47B and NSCZ monitoring wells on DOP South were not plugged and abandoned for the purpose of aiding monitoring of the Brio Site as needed.*
4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence. *There is a continuous O&M presence at the DOP Site with two operators and two maintenance personnel working eight hours per day five days per week at the adjacent Brio Site. Workers are able to easily move back and forth between the two sites.*
5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts. *The reason for the changes to the sampling requirements described in number 3 above is that through the groundwater monitoring data it has been demonstrated that the groundwater at*

DOP has been cleaned up to levels below the groundwater standards for a number of years and that further monitoring is not necessary. This does not negatively impact the DOP Site.

6. What have been the O&M costs during the FYR period?

O&M Costs Over the FYR Period

Date Range	Total Cost <i>(rounded to the nearest \$1,000)</i>
2018	1,000
2019	2,000
2020	4,000
2021	10,000
2022	1,000

7. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details. *None.*
8. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies. *The DOP Site does not require much effort in terms of operation, maintenance, or sampling; however, the NSCZ sampling requirements were discontinued in 2018 per Field Change Order PC-002, which reduces the sampling efforts.*
9. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site? *Not at this time.*
10. Do you consent to have your name included along with your responses to this questionnaire in the FYR report? *Yes*

DIXIE OIL PROCESSORS SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Dixie Oil Processors	
EPA ID: TXD089793046	
Interviewer name:	Interviewer affiliation:
Subject name: Matthew Foresman	Subject affiliation: DOPSTF
Subject contact information: See transmittal email.	
Interview date: 4/1/2023	Interview time:
Interview location:	
Interview format (circle one): In Person Phone Mail <i>Email</i> Other:	
Interview category: Potentially Responsible Party (PRP)	

1. What is your overall impression of the remedial activities at the Site? *The chosen Remedy is in place and continues to successfully reduce the Site constituents as designed.*
2. What have been the effects of this Site on the surrounding community, if any? *The Remedy has been and continues to be protective of human health and the environment. Monitoring data continues to show that there are no adverse effects to the surrounding community.*
3. What is your assessment of the current performance of the remedy in place at the Site? *The Remedy continues to be protective of human health and the environment.*
4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup? *No*
5. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future? *Yes*
6. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy? *No, in cooperation with EPA and TCEQ, the Remedy has been and continues to be protective of human health and the environment.*
7. Do you consent to have your name included along with your responses to this questionnaire in the FYR report? *Yes*

APPENDIX K – INSTITUTIONAL CONTROL DOCUMENTS

875-05-1230

Y730709
08/30/05 200944471

\$56.00

HOLD FOR TEXAS AMERICAN TITLE COMPANY

Handwritten: 5/6 B

GRANT OF ENVIRONMENTAL DEED RESTRICTIONS AND RIGHT OF ACCESS

STATE OF TEXAS

§
§
§
§

KNOW ALL BY THESE PRESENTS THAT:

HARRIS COUNTY

THIS GRANT OF ENVIRONMENTAL DEED RESTRICTIONS AND RIGHT OF ACCESS is granted by **RALPH LAWRENCE LOWE, JR.** ("Grantor") in favor of **UMB Bank N.A.**, a national banking association, as Trustee for the Brio Site Trust, in its fiduciary and not in its individual capacity ("Grantee"), as the owner of the Benefited Property (hereinafter defined).

RECITALS

A. Grantor is the owner of the real property referred to as the Dixie Oil Processors Superfund Site, being comprised of two tracts of land in Harris County Texas, being that certain real property more particularly described on Exhibit A attached hereto and made a part hereof (the "DOP North Tract") and that certain real property more particularly described on Exhibit B attached hereto and made a part hereof (the "DOP South Tract"). The DOP North Tract and the DOP South Tract are sometimes collectively referred to herein as the "DOP Site."

B. Grantee is the owner of certain real property adjacent to and/or in the vicinity of the DOP Site, which property is more particularly described in Exhibit C attached hereto and made a part hereof (the "Benefited Property").

C. The DOP Site is the subject of a response action under the jurisdiction of the United States Environmental Protection Agency ("EPA") pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. § 9601 *et seq.*, and the National Contingency Plan, 40 C.F.R. § 300.400 *et seq.*

D. Pursuant to section 105 of CERCLA, EPA placed the DOP Site on the National Priorities List, set forth at 40 C.F.R. Part 300, on October 4, 1989.

E. The EPA issued Record of Decision R06-88/032 for the DOP Site on March 31, 1988 (the "1988 ROD").

F. In accordance with the terms of the 1988 ROD and a Unilateral Order dated July 10, 1991, remedial action was conducted at the DOP Site (the "Remedial Action") by those parties listed on Exhibit D attached hereto and made a part hereof or their predecessors or successors-in-interest (the "DOP Settlers").

G. Pursuant to the terms of that certain Consent Decree between the United States and Ralph L. Lowe, the then owner of the DOP Site, entered on December 28, 1992 (the "Lowe Consent Decree"), the owner of the DOP Site agreed to place certain restrictions on the use of the DOP

Site and to grant certain rights of access in order to maintain the integrity and effectiveness of the Remedial Action.

GRANT

NOW, THEREFORE, in consideration of the agreements reached in the Lowe Consent Decree and other good and valuable consideration, the receipt and sufficiency of which are acknowledged, Grantor covenants with the Grantee, EPA and their assigns, that he has the right to convey the easements, rights, obligations, covenants, and restrictions (collectively, the "Deed Restrictions") set forth herein, and Grantor further covenants with Grantee, EPA and their assigns that Grantor, his executors, heirs, successors and assigns will warrant and forever defend the same unto Grantee and its assigns forever against any person whomsoever claiming or to claim the same; and Grantor grants the Deed Restrictions in favor of Grantee and its assigns on the following terms and conditions:

1. Right of Access. Grantor hereby grants Grantee and its assigns a perpetual right of access in, on, upon, over, and through the DOP Site for the purposes of: implementing, overseeing, operating, maintaining, and monitoring the remedial activities relating to the DOP Site, which include but are not limited to inspecting, testing, surveying, monitoring, and treating hazardous substances on, over, under, and across the surface of the DOP Site.

2. Scope of Restrictions. These Deed Restrictions affect the entire tracts or parcels of real property owned by Grantor as described in Exhibit A attached hereto and made a part hereof (the "DOP North Tract") and Exhibit B attached hereto and made a part hereof (the "DOP South Tract"). The property affected by this Deed Restriction, which is the combination of the DOP North Tract and the DOP South Tract, and collectively constitute the DOP Site is sometimes referred to herein as the "Restricted Property."

3. Information Concerning Site Condition. The grantors of Grantee, which consist of the DOP Settlers, performed a remediation of the Restricted Property and the adjacent Brio Superfund Site. Information about the known waste constituents that have been left in place on the Restricted Property is attached hereto as Exhibit E and is made part of this filing. Further information concerning this matter may be found by an examination of the EPA's Dixie Oil Processors, Inc. Superfund Site Administrative Record at EPA Region 6, 1445 Ross Avenue, Dallas, Texas, 75202, and at the San Jacinto College-South Campus, 13735 Beamer Rd., Houston, Texas, 77089.

4. EPA Authority. EPA derives its authority to protect the environment and to review the remediation of the DOP Site from Section 101, *et seq.*, of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, ("CERCLA"), 42 U.S.C. § 9601, *et seq.*, and 40 C.F.R. Part 300. In accordance with this authority, EPA requires Grantor, as the owner of the Restricted Property, to provide the United States and its representatives access to the Restricted Property for the purposes of conducting any activity related to the Remedial Action and the Lowe Consent Decree. Under the Lowe Consent Decree, the then owner of the DOP Site, Ralph L. Lowe, agreed to comply with any requirements in the Record of Decision for the DOP Site applicable to owners of any portion of the DOP Site. The

1988 ROD and the Lowe Consent Decree recognized that permanent site control, including the imposition of necessary deed notices and restrictions (if possible) and restriction of access to the DOP Site, would be necessary. The 1988 ROD and the Lowe Consent Decree also required long term, effective site control. Effective controls for the Restricted Property are described in Exhibits F and G attached hereto and made a part hereof.

5. TCEQ Authority. TCEQ derives its authority to investigate conditions on the Restricted Property from Texas Health and Safety Code, § 361.002, which enables TCEQ to promulgate "closure and remediation" standards for hazardous waste sites to safeguard the health, welfare and physical property of the people of the State and to protect the environment by controlling the management of solid waste. In addition, pursuant to the Texas Water Code, §§ 5.012 and 5.013, Texas Water Code, Annotated, Chapter 5, TCEQ is given primary responsibility for implementing the laws of the State of Texas relating to water and to adopt any rules necessary to carry out its powers and duties under the Texas Water Code. In accordance with this authority, TCEQ requires certain persons to provide certification and/or recordation in the real property records to notify the public of the conditions of the land and/or the occurrence of remediation.

6. Effect of Deed Restrictions. These Deed Restrictions do not constitute a representation or warranty by EPA nor TCEQ of the suitability of this land for any purpose, nor do they constitute any guarantee by EPA or TCEQ that the remediation standards specified herein have been met by the DOP Settlers.

7. Restrictions on Use. Contaminants and waste deposited hereon have been remediated to meet nonresidential (i.e., industrial/commercial) soil criteria in accordance with a plan designed to meet the requirements of the 1998 ROD; 30 Texas Administrative Code §335.561 (Risk Reduction Standard Number 3), which mandates that the remedy be designed to eliminate or reduce, to the maximum extent practicable, substantial present or future risk. The remediation plan requires continued post-closure care or engineering and institutional control measures in accordance with the risk reduction standards applicable at the time of this filing. Future use of the DOP North Tract is limited as described in Exhibit F. Future use of the DOP South Tract is limited as described in Exhibit G. Institutional or legal controls placed on the Restricted Property to ensure appropriate future use include the Lowe Consent Decree and these Deed Restrictions. The current or future owner must undertake actions as necessary to protect human health or the environment in accordance with the statutory authority of EPA and TCEQ.

8. Additional Information. The current owner of the Restricted Property is Ralph Lawrence Lowe, Jr. and the address, where more specific information may be obtained is set forth in Section 3 above.

9. Provisions to Run with the Land. These Deed Restrictions set forth rights, liabilities, agreements, and obligations upon and subject to which the Restricted Property, or any portion thereof, shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, or conveyed. The rights, liabilities, agreements, and obligations herein set forth shall run with the Restricted Property, as applicable thereto, and any portion thereof, and shall inure to the benefit of the Grantee and EPA, as third party beneficiary, and their successors and be binding

upon Grantor and all parties claiming by, through or under Grantor. The rights hereby granted to the Grantee, and its successors and assigns, include the right of Grantee and EPA, as third party beneficiary, to enforce these Deed Restrictions.

10. Grantor Concurrence. Grantor and all parties claiming by, through, or under Grantor covenant and agree with the provisions herein set forth and agree for and among themselves and any party claiming by, through or under them, and their respective agents, contractors, subcontractors and employees, that the Deed Restrictions herein established shall be adhered to and not violated and that their respective interests in the Restricted Property shall be subject to the provisions herein set forth.

11. Incorporation into Deeds, Mortgages, Leases and Instruments of Transfer. Grantor hereby agrees to incorporate this Deed Restriction fully or by reference, into all deeds, easements, mortgages, deeds of trust, leases, licenses, occupancy agreements or any other instrument of transfer by which an interest in and/or a right to use the Restricted Property, or any portion thereof, is conveyed. Any transfer of the Restricted Property, or any portion thereof, shall take place only if the grantee agrees, as a part of the agreement to purchase or otherwise obtain an interest in the Property, that it will comply with the obligations of the Grantor to provide access and/or institutional controls, as set forth in these Deed Restrictions, with respect to such Restricted Property.

12. Severability. If any court or other tribunal determines that any provision of these Deed Restrictions is invalid or unenforceable, such provision shall be deemed to have been modified automatically to conform to the requirements for validity and enforceability as determined by such court or tribunal. In the event the provision invalidated is of such a nature that it cannot be so modified, the provision shall be deemed deleted from these Deed Restrictions as though it had never been included herein. In either case, the remaining provisions of these Deed Restrictions shall remain in full force and effect.

13. Governing Law. It is expressly agreed that the law of the State of Texas is the law governing these Deed Restrictions and any disputes regarding its contents and interpretation.

14. Binding Effect. The covenants, terms, conditions, and restrictions of these Deed Restrictions shall be binding upon the Grantor and his personal representatives, heirs, successors, and assigns, and shall continue as a servitude running into perpetuity with the Restricted Property.

15. Captions. The captions in this instrument have been inserted solely for convenience of reference and are not part of this instrument and shall have no effect upon construction or interpretation.

16. Notices. Any notice required hereunder shall be in writing and shall be delivered by hand, reputable overnight carrier, or certified mail, return receipt requested as follows:

To Grantor:

Ralph Lawrence Lowe, Jr.
3009 Green Tee
Pearland, Texas 77581

To Grantee:

UMB, N.A., as Trustee for the Brio Site Trust

Corporate Trust Division
Attn: Robert Clasquin
2 South Broadway, Suite 435
St. Louis, MO 63102-1713

with a copy to:

Baker Botts L.L.P.
Attn: Aileen Hooks
98 San Jacinto Blvd., Suite 1500
Austin, Texas 78701-4039

To EPA:

Office of Regional Counsel
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733

All notices shall be deemed effective three (3) business days after delivery by the means set forth above. Grantor, Grantee or EPA (or any of their respective successors) may change its address for by written notice to the others (or their respective successors).

EXECUTED this the 19 day of August, 2005.

EXHIBIT A

DOP NORTH TRACT

The legal description of real property owned by Ralph Lawrence Lowe, Jr. and known for purposes of this Deed Restriction as the DOP North Tract is presented as follows:

All of Lot 54 and a portion of Lots 52 and 53 in the George W. Jenkins subdivision, W.D.C. Hall League, according to the plat recorded in Volume 2, page 52, Harris County Map Records, and further described as follows:

DT

Beginning at the West corner of Lot 54; THENCE N45°E along the Northwest line of Lots 54 and 53 and along the Southeast line of a 30-foot county road, a distance of 553.96 feet; THENCE in an Easterly direction across Lots 52 and 53 along the centerline of a drainage easement from Hard-Lowe Chemical Company to the City of Houston, as per record in Volume 6597, page 245, of Harris County records; THENCE S45°W along the Northwest right-of-way line of Choate Road, now known as Dixie Farm Road, to the South corner of Lot 54; THENCE Northwest along the Southwest line of Lot 54, a distance of 1022.65 feet to the point of beginning.

* * * * *

EXHIBIT B

DOP SOUTH TRACT

The legal description of real property owned by Ralph Lawrence Lowe, Jr. and known for purposes of this Deed Restriction as the DOP South Tract is presented as follows:

A tract out of Lot 67 of a subdivision of 2069 acres land out of the Perry and Austin League and the Thomas Labor, according to the map recorded in Volume 3, page 6, of the Harris County Map Records, and further described as follows:

Commencing at the North corner of Lot 67, said beginning point lying in the centerline of Choate Road, 86-foot right-of-way; THENCE S45°00'00"E, along the Northeast line of Lot 67, a distance of 56.00 feet to the Southeasterly right-of-way line of Choate Road; THENCE S45°00'00"W, along the Southeasterly right-of-way line of Choate Road, a distance of 61.73 feet to the place of beginning of the tract hereinafter described; THENCE from said beginning corner S45°00'00"E, parallel to the Northeast line of Lot 67, a distance of 281.47 feet to a point for corner; THENCE N45°12'50"E, a distance of 61.73 feet to a point for corner in the Northeast line of Lot 67; THENCE S45°00'00"E, along the Northeast line of Lot 67, a distance of 438.22 feet to a point for corner in an existing fence line; THENCE along said fence line with the following meanders; S45°00'14"W, a distance of 100.00 feet; S46°07'54"W, a distance of 300.06 feet; S87°19'06", a distance of 87.64 feet; S88°15'55"W, a distance of 87.54 feet to a point for corner in the Northeast line of drainage easement conveyed to Harris County Flood Control District, said point also being located in a curve of said easement; THENCE in a Northwesterly direction, along said drainage easement, around a curve to the left, having a radius of 483.10 feet, a distance of 104.16 feet to the P.T. for the curve; THENCE N17°17'55"W, a distance of 79.84 feet to the P.C. of curve; THENCE, in a Northwesterly direction, around said curve to the left, having a radius of 483.10 feet, a distance of 423.55 feet to the P.T. of the curve; THENCE N67°31'55", a distance of 26.59 feet to a point for corner, being the intersection of the said drainage easement with the Southeast right-of-way line or Choate Road; THENCE N45°00'00"E, parallel to Northeast line of Lot 67, a distance of 359.69 feet to the place of beginning and containing 6.55014 acres (285,324 square feet) more or less.

Also a tract of Northwest 1/2 of Lot 71, of a subdivision of 2069 acres of land out of the Perry and Austin League and the Thomas Labor, according to the plat recorded in Volume 3, page 6 of the Map Records of Harris County, and further described as follows:

Commencing at the West corner of Lot 71, said point lying in the centerline of Choate Road, 60-foot right-of-way; THENCE S45°00'00"E, along the Southwest line of Lot 71, a distance of 337.70 feet to the place of beginning of the tract hereinafter described; THENCE from said beginning corner, continuing S45°00'00"E, along the Southwest line of Lot 71, a distance of 322.30 feet to a

point for corner being the South corner of the West 1/2 of Lot 71; Thence N45°00'00"E, along the Southeast line of the Northwest 1/2 of Lot 71, a distance of 104.65 feet to a point for corner; THENCE N41°34'10"W, a distance of 70.00 feet to a point for corner; THENCE S48°25'50"W, a distance of 17.00 feet to a point for corner; THENCE N41°34'10"W, a distance of 35.00 feet to a point for corner; THENCE N48°25'50"E, a distance of 3.00 feet to a point for corner; THENCE N41°34'10"W, a distance of 6.00 feet to a point for corner, THENCE N48°25'50"E, a distance of 14.00 feet to a point for corner; THENCE N41°34'10"W, a distance of 156.46 feet to a point for corner; THENCE S48°25'50"W, a distance of 79.73 feet to a point for corner; THENCE N40°39'10"W, a distance of 50.53 feet to a point for corner; THENCE S45°12'50"W, a distance of 44.89 feet to the place of beginning and containing 0.73352. acres (31,952 square feet), more or less.

* * * * *

AUS01-371163.7

Exhibit B

EXHIBIT C

THE BENEFITED PROPERTY

AUSD1:371163.7

Exhibit C

BRIO SUPERFUND SITE
2.1485 ACRES
PERRY AND AUSTIN LEAGUE A-55
PAGE 1 OF 1

Being a tract or parcel of land containing 2.1485 acres (93,588 square feet), located in the Perry and Austin League, Abstract No. 55, Harris County, Texas, and being out of a called 9.099 acre tract described in deed executed May 19, 2002 from First Baptist Church of Dallas Undivided 1/8th interest to UMB Bank, N.A., Trustee of the Brio Site Trust recorded under Harris County Clerks File (HCCF) No. V822181 of the Official Public Records of Real Property, Harris County, Texas (OPRRPHCT). Said 2.1485 acre tract being more particularly described as follows:

Bearings shown hereon are based upon the Texas State Plane Coordinate System, South Central Zone and are Based upon the 1988 USC&GS adjustment of the North American Datum of 1927. Based upon City of Houston Monument 5850-0802.

COMMENCING at a three-quarter inch iron rod, found at the intersection of the existing southeasterly right-of-way line of Dixie Farm Road (width varies) and the southwesterly right-of-way line of Beamer Road (width varies);

THENCE, South 42° 05' 00" West, along said existing southeasterly right-of-way line of Dixie Farm Road a distance of 630.00 feet to a three-quarter inch iron rod, found for the southwesterly corner of said 9.099 acre tract;

THENCE, South 48° 27' 39" East, departing said existing southeasterly right-of-way line of Dixie Farm Road along the southwesterly property line of said 9.099 acre tract a distance of 24.15 feet to the intersection with a six foot chain link fence and POINT OF BEGINNING of the herein described tract;

THENCE, North 41° 39' 21" East, along said six foot chain link fence a distance of 151.50 feet to an angle point;

THENCE, South 49° 04' 25" East, continuing along said six foot chain link fence a distance of 181.55 feet to an angle point;

THENCE, South 48° 51' 56" East, continuing along said six foot chain link fence a distance of 349.87 feet to an angle point;

THENCE, South 51° 59' 12" East, continuing along said six foot chain link fence a distance of 75.30 feet to the intersection with the southeasterly property line of said 9.099 acre tract;

THENCE, South 42° 05' 08" West, along said southeasterly property line of the 9.099 acre tract a distance of 180.55 feet to a five-eighths inch iron rod with "Baseline Corp." cap, found for the southeasterly corner of the 9.099 acre tract;

THENCE, North 48° 27' 39" West, along said southwesterly property line of the 9.099 acre tract a distance of 605.34 feet to the POINT OF BEGINNING and containing 2.1485 acres (93,588 square feet) of land.

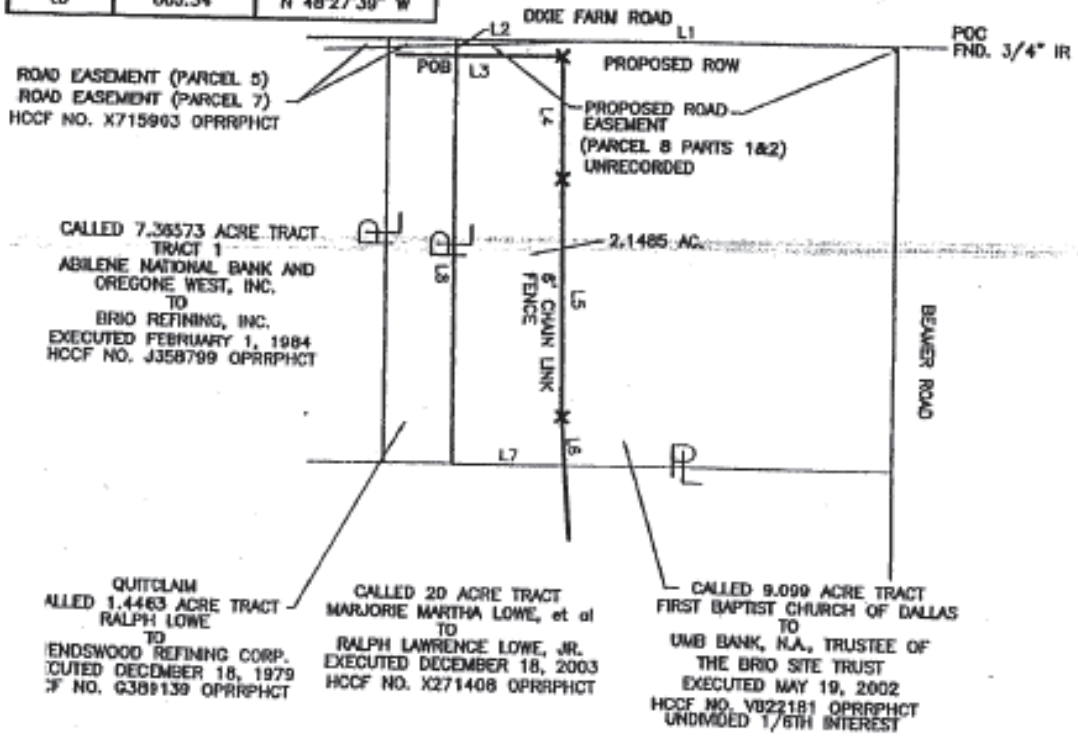
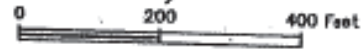
This description is based upon a survey performed by J. Patrick Going, Registered Professional Land Surveyor, Texas Registration Number 4477, completed November 05, 2004, and is on file in the office of Baseline Corporation, Houston, Texas, Job No. 85.044.34.

November 5, 2004
CKT:bgb
Job No. 85.044.34
File No. 8504434\WPM&B-DES-2-1485 ACRES



LINE	DISTANCE	BEARING
L1	639.00'	S 42°05'00" W
L2	24.15'	S 48°27'39" E
L3	151.50'	N 41°39'21" E
L4	181.55'	S 49°04'25" E
L5	349.87'	S 48°51'56" E
L6	75.30'	S 51°59'12" E
L7	160.55'	S 42°05'06" W
L8	605.34'	N 48°27'39" W

**PERRY AND AUSTIN LEAGUE
ABSTRACT 55**



- NOTES**
- 1) BEARINGS SHOWN HEREON ARE BASED UPON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE AND ARE BASED UPON THE 1968 USC&GS ADJUSTMENT OF THE NORTH AMERICAN DATUM OF 1927. BASED UPON CITY OF HOUSTON MONUMENT 5850-0802.
 - 2) A METES AND BOUNDS DESCRIPTION BASED UPON A SURVEY PERFORMED BY J. PATRICK GOING, REGISTERED PROFESSIONAL LAND SURVEYOR, TEXAS REGISTRATION NUMBER 4477, COMPLETED NOVEMBER 5, 2004, AND IS ON FILE IN THE OFFICE OF BASELINE CORPORATION, HOUSTON, TEXAS, JOB NUMBER 85.044.34

EXHIBIT
 2.1485 ACRES
 93,588 SQ. FT.
 BEING OUT OF
 A CALLED 9.099 ACRE TRACT
 IN THE
PERRY AND AUSTIN LEAGUE, A-55
 HARRIS COUNTY, TEXAS

BASELINE CORPORATION PROFESSIONAL SURVEYORS	
<small>1702 BRADLEY DRIVE, SUITE 2000, HOUSTON, TEXAS 77056 PHONE (713) 866-0500 FAX (713) 866-0504</small>	
Scale : 1" = 200'	Job No. : 85.044.34
Date : 11/12/2004	FD No. : X-405
Drawn by : GKT	Approved by : JPS

34.523 ACRES
(1,503,831 SQUARE FEET)

W.D.C. HALL LEAGUE
ABSTRACT NO. 23
Page 1 of 4

State of Texas

County of Harris

Being a tract or parcel of land containing 34.523 acres (1,503,831 square feet), located in the W.D.C. Hall League, Abstract No. 23, Harris County, Texas, and being all of Southbend Section Three, Partial Replat as recorded under Film Code No. 380143 of the Harris County Map Records (HCMR), furthermore being a part of Southbend Section Two, Partial Replat as recorded under Film Code No. 380140 of said HCMR, and all of a certain called 2.736 acre tract of land conveyed by Southbend Properties, Inc. to Beamer Road Management Company by deed executed September 26, 1997 as filed for record under Harris County Clerk's File (HCCF) No. 6659057 of the Official Public Records of Real Property of Harris County, Texas (OPRRPHCT). Said 34.523 acre tract being more particularly described by metes and bounds as follows:

All bearings are based upon the southeasterly line of said Partial Replat of Southbend Section Three.

BEGINNING at a 5/8-inch iron rod found for the most easterly corner of said 2.736 acre tract, being on the southwesterly right-of-way line of Beamer Road (100 feet wide), same being on the northwesterly line of a 30 foot wide road easement (unopened) dedicated to the public by the plat of Geo. W. Jenkins Subdivision as recorded in Volume 2, Page 52 of said HCMR;

THENCE, South 45 degrees 27 minutes 27 seconds West, departing the southwesterly right-of-way line of said Beamer Road and along the southeasterly line of said 2.736 acre tract, at a distance of 309.66 feet passing the most southerly corner thereof, and continuing along the southeasterly line of the aforementioned Southbend Section Three, Partial Replat for a total distance of 2423.79 feet to a 5/8-inch iron rod set for corner on the easterly line of Mud Gully (HCFCD Unit A120-00-00, 190 feet wide), dedicated per plat of Sagebend Section Three as recorded in Volume 298 Page 5 of said HCMR;

THENCE, South 82 degrees 50 minutes 32 seconds West, departing said southeasterly line of Southbend Section Three, Partial Replat and along the most easterly line of Mud Gully, same being the most westerly line of said Southbend Section Three, Partial Replat, a distance of 102.98 feet to a 5/8-inch iron rod set for the point of curvature of a curve to the right;

THENCE, in a northwesterly direction continuing along said common line of Mud Gully and Southbend Section Three, Partial Replat, with said curve to the right having a central angle of 75 degrees 52 minutes 54 seconds, a radius of 245.89 feet, a long chord length of 302.37 feet, bearing North 59 degrees 12 minutes 59 seconds West, a distance along the arc of 325.65 feet to a 5/8-inch iron rod found for the point of tangency;

34.523 ACRES
(1,503,831 SQUARE FEET)

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THENCE, North 21 degrees 16 minutes 29 seconds West, continuing along said common line, a distance of 84.49 feet to a 5/8-inch iron rod found for angle point;

THENCE, North 12 degrees 59 minutes 37 seconds West, continuing along said common line, a distance of 183.20 feet to a 5/8-inch iron rod found for angle point;

THENCE, North 00 degrees 47 minutes 45 seconds West, continuing along said common line, a distance of 75.12 feet to a 5/8-inch iron rod found for angle point;

THENCE, North 18 degrees 38 minutes 50 seconds East, continuing along said common line, a distance of 170.74 feet to a 5/8-inch iron rod found for angle point;

THENCE, North 14 degrees 37 minutes 08 seconds West, continuing along said common line, a distance of 227.76 feet to a 5/8-inch iron rod found for angle point;

THENCE, North 60 degrees 31 minutes 52 seconds West, continuing along said common line of Mud Gully and Southbend, Section Three, Partial Replat, a distance of 82.00 feet to a 5/8-inch iron rod set for corner on the common line between the aforementioned Southbend Section Two Partial Replat and Southbend Section Three Partial Replat;

THENCE, North 32 degrees 16 minutes 12 seconds East, departing said easterly line of Mud Gully and continuing along said common line of Southbend Section Two, Partial Replat, and Southbend Section Three, Partial Replat, a distance of 204.48 feet to a 5/8-inch iron rod set for corner, from which a 1/2-inch iron rod found bears North 22 degrees 07 minutes East, a distance of 0.83 feet;

THENCE, South 60 degrees 01 minutes 13 seconds East, continuing along said common line, a distance of 402.87 feet to a 5/8-inch iron rod set for corner, from which a 1/2-inch iron rod found bears South 87 degrees 22 minutes East, a distance of 0.77 feet;

THENCE, North 29 degrees 58 minutes 47 seconds East, along the northerly line of a storm sewer access easement as shown on the aforementioned Southbend Section Two Partial Replat, a distance of 135.00 feet to a drill hole set in concrete for the point of curvature of a curve to the left;

THENCE, in a northwesterly direction along the northerly line of said storm sewer access easement with said curve to the left having a central angle of 85 degrees 28 minutes 30 seconds, a radius of 10.00 feet, a long chord length of 13.57 feet, bearing North 12 degrees 45 minutes 28 seconds West, and a distance along the arc of 14.92 feet to a drill hole set in concrete for the end of curve;

**34.523 ACRES
(1,503,831 SQUARE FEET)**

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THENCE, North 29 degrees 58 minutes 47 seconds East, continuing along the northerly line of said storm sewer access easement, as shown on Southbend Subdivision, Section Two, Partial Replat, a distance of 30.03 feet to a 5/8-inch iron rod set for corner;

THENCE, South 60 degrees 01 minutes 13 seconds East, along the easterly line of said storm sewer access easement, a distance of 178.92 feet to a 5/8-inch iron rod set for corner on the aforementioned common line between Southbend Section Two, Partial Replat and Southbend Section Three, Partial Replat;

THENCE, North 29 degrees 58 minutes 47 seconds East, along said common line, a distance of 64.32 feet to a 5/8-inch iron rod found for angle point;

THENCE, North 45 degrees 27 minutes 27 seconds East, along said common line, a distance of 859.52 feet to a 5/8-inch iron rod set for corner, from which a 5/8-inch iron rod found bears North 44 degrees 33 minutes East, a distance of 1.30 feet. Said set iron rod being on the westerly line of a certain called 2.750 acre tract as conveyed by Roosevelt Bank to Roosevelt Texas Holding Company, Inc. by deed executed November 10, 1994 as recorded under HCCF No. R157895 of said OPRRPHCT, said 2.750 acres is also called Olcott Gas Unit No. 2 Drill Site according to plat recorded under Volume 332, Page 146 of said HCMR;

THENCE, South 45 degrees 13 minutes 30 seconds East, along the common line of said 2.750 acre tract and the aforementioned Southbend Section Three, Partial Replat, a distance of 110.00 feet to a 5/8-inch iron rod set for corner;

THENCE, North 45 degrees 27 minutes 27 seconds East, along said common line, a distance of 328.94 feet to a 5/8-inch iron rod set for corner on the northwesterly right-of-way line of South Hill Drive (60 feet wide) as shown on the original plat of Southbend Section Three as recorded in Volume 304, page 64 of said HCMR;

THENCE, South 45 degrees 13 minutes 30 seconds East, departing the northwesterly right-of-way line of said South Hill Drive, a distance of 60.00 feet to a 5/8-inch iron rod set for corner on the southeasterly right-of-way line of said South Hill Drive, same being the northerly line of said Southbend Section Three, Partial Replat;

THENCE, North 45 degrees 27 minutes 27 seconds East, along the southeasterly right-of-way line of said South Hill Drive, at a distance of 70.36 feet passing the northwesterly corner of the aforementioned 2.736 acre tract and continuing for a total distance of 370.03 feet to a 5/8-inch iron rod found for cut-back corner on the northerly line of the aforementioned 2.736 acre tract;

34.523 ACRES
(1,503,831 SQUARE FEET)

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THENCE, South 89 degrees 53 minutes 01 seconds East, with said cut-back, a distance of 14.21 feet to a 5/8-inch iron rod found on the southwesterly right-of-way line of Beamer Road (100 feet wide);

THENCE, South 45 degrees 13 minutes 30 second East, along the common line of said Beamer Road and said 2.736 acre tract, a distance of 375.03 feet to the **POINT OF BEGINNING** and containing 34.523 acres (1,503,831 square feet);

This description is based on a Land Title Survey and Plat by J. Patrick Going, Registered Professional Land Surveyor, License Number 4477, completed April 30, 1998, and is on file in the office of Baseline Corporation, Houston, Texas, Job No. 85.044.13

April 30, 1998

LRB:ghb

Job No. 85.044.13

File: BLACAD\85044\8504413\WP\M&B-DES



EXHIBIT D

DOP SETTLERS

The Dow Chemical Company

Lyondell Chemical Company
(as successor to ARCO Chemical Company)

Merichem Company

Pharmacia Corporation
(formerly Monsanto Company)

Rohm and Haas Companies

* * * * *

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Exhibit D

EXHIBIT E

KNOWN WASTE CONSTITUENTS LEFT IN PLACE

The following primary constituents, along with other unlisted constituents, are known to be left in place at the Restricted Property:

1. copper
2. ethylbenzene
3. hexachlorobenzene
4. phenanthrene
5. 1, 2 dichloroethane
6. 1, 1, 2 trichloroethane
7. vinyl chloride

* * * * *

EXHIBIT F

DOP NORTH TRACT SITE RESTRICTIONS

Any use of the DOP North Tract shall strictly adhere to the following restrictions, limitations, and reserved rights:

1. The DOP North Tract shall not be used for any of the following activities or purposes:
 - a. animal grazing;
 - b. animal husbandry;
 - c. hay or crop production and harvesting::
 - d. any other agricultural activity;
 - e. any other commercial activity other than an Approved Limited Use;
 - f. installation and operation of any groundwater wells other than monitoring or recovery wells required in connection with remediation or environmental monitoring activities;
 - g. installation and operation of disposal wells;
 - h. any human habitation or residence, either temporary or permanent;
 - i. recreational, hunting, fishing, hiking, exercising, and athletic activities;
 - j. drilling, mining, seismic exploration, surface construction with the intent to drill or mine,
 - k. or any other similar surface or subsurface activity;
 - l. blasting or any other use of explosives; or
 - m. any casual pursuit of activity other than an Approved Limited Use.
2. Other than an Approved Limited Use that strictly conforms with the requirements below, the DOP North Tract shall only be used for such uses and activities as may be required or permitted pursuant to an Order issued by the United States Environmental Protection Agency ("EPA").
3. The owner of the DOP North Tract shall allow the Grantee, the EPA, and state and local governmental agencies with authority over environmental matters access to DOP North Tract for the purposes of implementing, overseeing, operating, maintaining, and monitoring the remedial

activities relating to the DOP Site and the Brio Superfund Site, which include but are not limited to inspecting, testing, surveying, monitoring, and treating hazardous substances on, over, under, and across the surface of the DOP North Tract, and such access and actions shall not be deemed to be a violation of these Restrictions.

4. Subject to strict compliance with paragraph 4 through 10 of this Exhibit, the DOP North Tract may be used for a Park 'N Ride Facility for a metropolitan transit authority ("Designated Approved Limited Use") or such other limited commercial or industrial purposes as may be approved by EPA and the Grantee as set forth herein ("Other Approved Limited Uses") (hereinafter "Designated Approved Limited Use" and "Other Approved Limited Uses" are referred to as "Approved Limited Uses"); provided any such limited use shall not disturb the integrity or the stability of the remedy for the DOP Site and the Brio Superfund Site, disturb the integrity of or impair access by the Grantee, its agents, or any governmental agency to any hazardous waste containment or monitoring system located on or adjacent to the DOP North Tract, or otherwise damage any monitoring well or security for any monitoring well (e.g., locking covers and protective posts) located on the DOP Site.

5. The surface of that portion of the DOP North Tract to be used for an Approved Limited Use must be paved and the installation of any such paving must be performed without excavating existing soils at the DOP North Tract, it being understood that any site leveling required in connection with such paving shall be accomplished by bringing clean fill material to the site. No utilities, pipelines, or appurtenances that penetrate the soil cover at the DOP Site may be installed except in strict accordance with a detailed plan approved in writing by the EPA, which plan must include worker protection measures to be put in place, provide for proper characterization and disposal of any materials generated as a result of such activity, and include measures to avoid compromising the existing soil cover for the DOP North Tract.

6. The owner of the DOP North Tract must notify and obtain written approval from the Grantee and the EPA of any proposed Approved Limited Use other than a Designated Approved Limited Use. The review by the EPA and the Grantee shall be limited to a consideration of whether the proposed use would be inconsistent with the intent and purpose of these Deed Restrictions. In no event shall any of the following be considered an Approved Limited Use: Day care facilities, hospitals or health care facilities, schools, bus stops for school children, parks or other recreational facilities, restaurants or retail establishments, churches or other places of worship, agricultural or horticultural uses, office uses, warehouse uses, fuel storage or fueling facility uses, solid or hazardous waste treatment, storage or disposal facilities or any facility at which the same person would be expected to be present at the site for any extended period of time on a regular basis. A person's temporary presence at the DOP North Tract during the course of normal transit shall not be considered an "extended period of time."

7. The owner of the DOP North Tract shall provide to the Grantee and the EPA copies of any and all engineering and construction drawings, plans and specifications relating to any Approved Limited Use (the "Plans"), including any modifications to any Approved Limited Use, at least 45 days' prior to taking any action to implement the Plans. The owner of the DOP North Tract shall not conduct or suffer or allow any person to conduct any activity that disturbs the soil at the DOP North Tract without first submitting a Plan for such activity to Grantee and the EPA and receiving EPA's written approval of the Plan. Grantee shall have the right, but not the

obligation, to review and provide comments on each Plan. EPA, and the Grantee if it chooses to comment, shall provide written comments on a Plan within 30 days of receipt of the Plan. EPA, and, if applicable, Grantee will review each Plan for the limited purpose of evaluating whether implementation of the Plan could adversely impact the remedy for the DOP Site or the Brio Superfund Site or otherwise conflict with these Deed Restrictions, and may consider, among other things, the possible impact of implementation of the Plan on the subsurface of the DOP Site, the cover for any contamination left in place, any containment or monitoring system on the DOP Site or the Brio Superfund Site, or any other potential adverse impact on the remedy. The owner of the DOP North Tract shall address, or cause to be addressed, comments on a Plan made by EPA and Grantee, if applicable, to the satisfaction of EPA and Grantee, and the owner shall conduct all construction activity and site work related to an Approved Limited Use strictly in accordance with the Plan, as approved by EPA.

8. The owner shall allow the EPA and/or the Grantee to observe any activities relating to the construction, maintenance, or use of any improvements at the DOP North Tract. The EPA or Grantee may object to and order immediate cessation of the activity if, in its sole judgment, it determines that the activity violates these Restrictions.

9. The owner of the DOP North Tract, at its sole cost and expense, shall arrange for the characterization and proper disposal of any wastes generated in connection with any Approved Limited Use, including related construction activities, in accordance with all applicable laws.

10. Failure of Grantor, its successors or assigns to strictly adhere to the foregoing procedures and requirements relating to Approved Limited Uses shall be grounds for the Grantee or EPA to require that the Grantor or then owner of the DOP North Tract immediately cease or take such actions as are needed to cease such use and/or modify or remove any improvements (including any buildings, structures, roads, driveways, and paved parking areas and appurtenances) placed on the DOP North Tract in violation of the Restrictions. Violation of these Restrictions shall be grounds for the Grantee or the EPA to obtain injunctive relief and to file such other causes of action as allowed by law.

* * * * *

EXHIBIT G

DOP SOUTH TRACT SITE RESTRICTIONS

Except as necessary or appropriate to implement, oversee, operate, maintain and monitor the remedial activities, which include but are not limited to inspecting, testing, surveying, monitoring, and treating hazardous substances on, over, under, and across the surface of the DOP Site or the Brio Superfund Site, the DOP South Tract shall not be used for any of the following activities or purposes:

- a. animal grazing;
- b. animal husbandry;
- c. hay or crop production and harvesting::
- d. any other agricultural activity;
- e. any other commercial activity other than an Approved Limited Use;
- f. installation and operation of any groundwater wells other than monitoring or recovery wells required in connection with remediation or environmental monitoring activities;
- g. installation and operation of disposal wells;
- h. any human habitation or residence, either temporary or permanent;
- i. recreational, hunting, fishing, hiking, exercising, and athletic activities;
- j. drilling, mining, seismic exploration, surface construction with the intent to drill or mine,
- k. or any other similar surface or subsurface activity;
- l. blasting or any other use of explosives; or
- m. any casual pursuit of activity;

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COUNTY CLERK
HARRIS COUNTY TEXAS

and the DOP South Tract shall only be used for such uses and activities as may be required or permitted pursuant to an order issued by the EPA.

* * * * *

ANY PROVISION HEREIN WHICH RESTRICTS THE SALE, RENTAL, OR USE OF THE DESCRIBED REAL PROPERTY BECAUSE OF COLOR OR RACE IS UNLAWFUL AND UNENFORCEABLE UNDER FEDERAL LAW THE STATE OF TEXAS
COUNTY OF HARRIS
I hereby certify that this instrument was FILED in file number Sequence on the date and at the time stamped hereon by me, and was duly RECORDED in the Official Public Records of Real Property of Harris County Texas on

AUG 30 2005

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Exhibit G



Dorely B. Keyman
COUNTY CLERK

APPENDIX L – EJSSCREEN REPORT