## FIFTH FIVE-YEAR REVIEW REPORT FOR GENEVA INDUSTRIES/FUHRMANN ENERGY SUPERFUND SITE HARRIS COUNTY, TEXAS



#### August 2018



August 1982 aerial of the Site



2018 aerial of the Site (Imagery ©2018 Google, Map data ©2018 Google)

Prepared by

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

#### FIFTH FIVE-YEAR REVIEW REPORT FOR GENEVA INDUSTRIES/FUHRMANN ENERGY SUPERFUND SITE EPA ID#: TXD980748453 HARRIS COUNTY, TEXAS

This memorandum documents the U.S. Environmental Protection Agency's performance, determinations and approval of the Geneva Industries/Fuhrmann Energy Superfund site (Site) Fifth five-year review 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 Fifth Five-Year Review Report.

Summary of the Fifth Five-Year Review Report

The Site is a former petrochemical facility. The Site's remedy consisted of excavation and off-site disposal of contaminated soils and most drums, capping of residually-contaminated soils and remaining drums with a perimeter slurry wall, recovery and treatment of trichloroethylene-contaminated groundwater, and implementation of institutional controls. Institutional controls are in place for the Site in the form of 28 deed notices that restrict digging on the capped area, restrict activities that could cause erosion or disrupt the integrity of the cap or landfill, restrict groundwater use in the 30-foot sand and 100-foot sand groundwater units, restrict installation of water wells within the cap or landfill, and prohibit residential uses. The Site is currently not in use. There are currently no human or ecological exposure pathways in the short term at the Site. Site groundwater is not used for any purpose. The Site achieved construction completion on September 14, 1993. EPA deleted Operable Unit 1 (soil) from the National Priorities List on April 8, 1997.

#### **Environmental Indicators**

Human Exposure Status: Under Control

Contaminated Groundwater Status: Groundwater Migration Under Control

Site-Wide Ready for Reuse: Yes

#### **Actions Needed**

The following actions must be taken for the remedy to be protective over the long term:

- Deep zone monitoring wells within the slurry wall (MW-101, MW-102, MW-103 and MW-104) should be plugged and abandoned to avoid acting as conduits for vertical migration of contaminants from the shallow zone to the deep zone.
- Develop an updated conceptual site model to determine if site conditions have changed since early investigations
- Reevaluate site contaminants of concern for groundwater.

U.S. Environmental Protection Agency, Region 6

• Evaluate the upcoming optimization review report and determine if the current remedy is effective.

#### Determination

I have determined that the remedy for the Geneva Industries/Fuhrmann Energy Superfund site is short-term protective. This Five-Year Review Report specifies the actions that need to be taken for the remedy to be protective in the long term.

Render O Confined

Carl E. Edlund, P.E.

Director, Superfund Division

#### CONCURRENCES

# FIFTH FIVE-YEAR REVIEW REPORT GENEVA INDUSTRIES/FUHRMANN ENERGY SUPERFUND SITE EPA ID#: TXD980748453 HARRIS COUNTY, TEXAS

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#### ISSUES/RECOMMENDATIONS

#### FIFTH FIVE-YEAR REVIEW REPORT GENEVA INDUSTRIES/FUHRMANN ENERGY SUPERFUND SITE EPA ID#: TXD980748453 HARRIS COUNTY, TEXAS

Issues/Recommendations OU(s) without Issues/Recommendations Identified in the FYR:								
OUI			-					
Issues and Recom	mendations Identifie	d in the FYR:						
OU(s): 2	Issue Category: Re	medy Performance						
	Issue: Flow patterns and the extent of contamination in the deep zone are not well-defined, there may not be enough deep-zone groundwater monitoring wells to infer groundwater flow direction, and the DNAPL plume may be expanding to the southeast and may be migrating into the deep zone. Additionally, TCE is the only designated COC, but there are other contaminants, including PCBs and vinyl chloride in groundwater, that continue to exceed their respective PCLs.							
	Recommendation: Develop an updated conceptual site model, determine if site conditions have changed since early investigations, and reevaluate site COCs. Deep zone groundwater monitoring wells should not be installed within the slurry wall because they could serve as additional conduits for vertical migration of contaminants from the shallow zone to the deep zone.							
Affect Current Protectiveness	Affect Future Protectiveness	, , , , , , , , , , , , , , , , , , , ,						
No	Yes	EPA/TCEQ	EPA/TCEQ	12/30/2019				
OU(s): 2	Issue Category: Re	medy Performance						
	HCFCC, the cluster for vertical contami	ination may be outsi of deep wells surrour nation migration fror low zone is preventin y wall.	nding MW-101 may bent the shallow zone,	be potential conduits and the presence of				
Recommendation: Conduct an evaluation of PCBs remaining on site and determine whether additional actions are needed. The updated conceptual site model and optimization report will be used to assist in planning this activity. Deep zone monitoring wells within the slurry wall (MW-101, MW-102, MW-103 and MW-104) should be plugged and abandoned to avoid acting as conduits for vertical migration of contaminants from the shallow zone to the deep zone.								
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date				
No	Yes	EPA/TCEQ	EPA/TCEQ	9/30/2020				

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#### LIST OF ABBREVIATIONS AND ACRONYMS

ARAR Applicable or Relevant and Appropriate Requirement

bgs below ground surface

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulations

DNAPL Dense Non-Aqueous Phase Liquid

EPA United States Environmental Protection Agency

ESD Explanation of Significant Differences

FYR Five-Year Review

HCFCC Harris County Flood Control Channel

HQ Hazard Quotient IC Institutional Control

MCL Maximum Contaminant Level
mg/kg Milligrams per Kilogram
mg/L Milligrams per Liter
msl Mean Sea Level
MW Monitoring Well

NCP National Contingency Plan NPL National Priorities List O&M Operation and Maintenance

OU Operable Unit

PCB Polychlorinated Biphenyl
PCL Protective Concentration Level
PRP Potentially Responsible Party
RAO Remedial Action Objective

RCRA Resource Conservation and Recovery Act RI/FS Remedial Investigation/Feasibility Study

ROD Record of Decision

RPM Remedial Project Manager RSL Regional Screening Level

RW Recovery Well TCE Trichloroethylene

TCEQ Texas Commission on Environmental Quality

TRRP Texas Risk Reduction Program

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 Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the Fifth FYR for the Geneva Industries/Fuhrmann Energy 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 two operable units (OUs); this FYR addresses both OUs. OU1 addresses soil contamination. OU2 addresses groundwater contamination.

EPA remedial project manager (RPM) Stephen Pereira led the FYR. Participants included Midori Campbell from the Texas Commission on Environmental Quality (TCEQ), Marc Viola, Andy Gilchrest and Michael Stevens from Aptim, TCEQ's Operation & Maintenance (O&M) contractor, and Treat Suomi and Brice Robertson from Skeo, EPA FYR contractor support. The review began on 7/26/2017.

#### Site Background

The 13.5-acre Site is in the city of Houston in Harris County, Texas (Figure 1). Before 1967, petroleum exploration and production occurred on site. From June 1967 to September 1978, several different owners manufactured petrochemicals on site. Facility operations contaminated site soils and groundwater. The principal sources of contamination at the Site were waste lagoons and ponds, buried drums, landfarming, surface storage of material in drums and piles, and operational leaks and spills.

The Site is not in use. Current site features include monitoring wells, recovery wells, fencing, a paved area for parking, the groundwater treatment system building, and six storage tanks for treated groundwater. The Site is in a primarily commercial, industrial and residential area. The Site is bounded to the north and south by vacant land, to the west by an industrial business, and to the east by a residential community. Appendix A provides additional resources. Appendix B provides a chronology of site events.

The Site and surrounding area are flat and have a maximum surface elevation of about 35 feet above mean sea level (msl). Surface water at the Site runs off into the Harris County Flood Control Channel (HCFCC), which runs along the eastern boundary of the Site. The channel flows north about a mile into Berry Bayou, which is the closest surface water feature to the Site.

The shallowest groundwater bearing zone at the Site is the 30-foot sand (shallow zone), which is a semi-confined groundwater zone between 15 and 35 feet below ground surface (bgs). Groundwater in the shallow zone generally flows east but may vary seasonally. Shallow zone groundwater is not a suitable source of water due to high total dissolved solids. The deeper water bearing zone is the 100-foot sand (deep zone), which is semi-confined and occurs from about 62 to 140 feet bgs. The deep zone is a minor water supply in the area. Groundwater flow in the deep zone varies but a northwest flow direction was observed in the most recent monitoring event (August 2017).

The shallow and deep zones at the Site are part of the Upper Chicot Aquifer. The Lower Chicot Aquifer provides most of the groundwater used for public and industrial water supplies in southeastern Harris County, including the city of South Houston and Galveston County. The bottom depth of the Lower Chicot is about 600 feet bgs. The Evangeline Aquifer lies below the Chicot Aquifer and is the major source of groundwater for the city of Houston.

#### FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION

Site Name: Geneva Industries/Fuhrmann Energy

EPA ID: TXD980748453

Region: 6 State: TX City/County: Houston/Harris

SITE STATUS

NPL Status: Final

Multiple OUs? Has the Site achieved construction completion?

Yes Yes

**REVIEW STATUS** 

Lead agency: EPA

Author name: Stephen Pereira, with additional support provided by Skeo

Author affiliation: EPA Region 6

Review period: 7/26/2017 - 4/30/2018

Date of site inspection: 10/3/2017

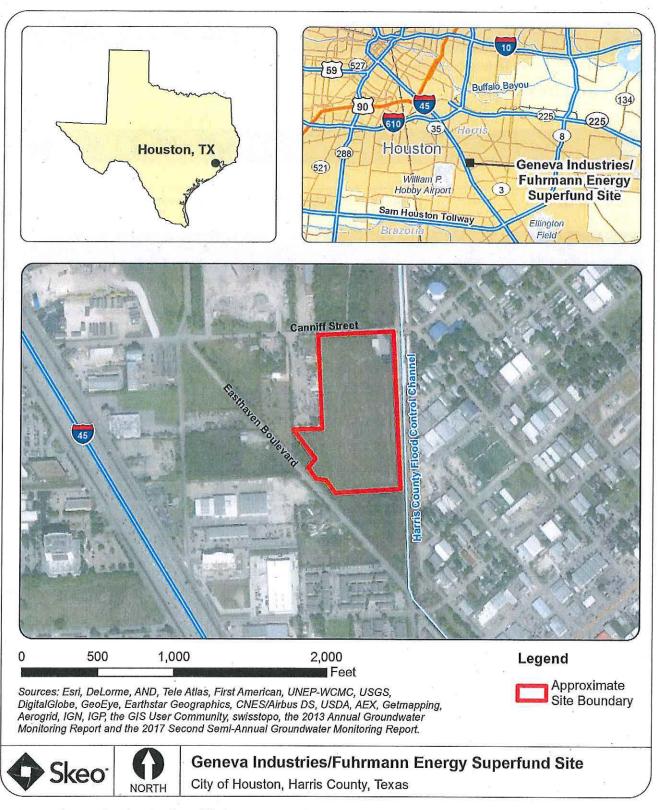
Type of review: Statutory

Review number: 5

Triggering action date: 9/23/2013

Due date (five years after triggering action date): 9/23/2018

Figure 1: Site Vicinity Map



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.

#### II. RESPONSE ACTION SUMMARY

#### **Basis for Taking Action**

Texas Water Quality Board and Harris County Pollution Control District issued several citations to the various site owners in the 1970s for unauthorized discharges of wastewater into the adjacent flood control channel (now referred to as the HCFCC). Records also indicated that plant operators had numerous spills and process leaks and that disposal practices deteriorated over time. During the early 1980s, a preliminary site investigation by EPA found significant polychlorinated biphenyl (PCB) contamination in site soils and sediments in the adjacent flood control channel, as well as significant PCB and other organic compounds in groundwater samples. Based on these results, EPA listed the Site on the Superfund program's National Priorities List (NPL) on September 21, 1984.

EPA initiated the Site's remedial investigation and feasibility study (RI/FS) in September 1984. It indicated that site soils were contaminated with PCBs, with the highest concentrations found in the upper 5-6 feet of soil. Sediment contamination in the adjacent flood control channel was found to be minimal due to the emergency removals that took place before the RI/FS. The RI/FS estimated that 400 to 700 drums remained buried on site. The RI/FS also indicated that groundwater in the 30-foot sand was contaminated with PCBs, volatile organic compounds (VOCs) and base-neutral extractables, and had a visible film of oil. Groundwater contamination in the 100-foot sand was limited to trichloroethylene (TCE).

As part of the RI/FS, EPA completed a human health and ecological risk assessment. The human health risk assessment found three primary pathways of potential concern: consumption of contaminated groundwater, ingestion of contaminated aquatic species and plants, and direct contact with contaminated soils and surface water. The ecological risk assessment found an area of stressed vegetation in the adjacent flood control channel and noted that the soil in the area was contaminated with PCBs. EPA concluded that aquatic and benthic biota in the flood control channel had accumulated PCBs at levels exceeding the Food and Drug Administration's tolerance level of 2 milligrams per kilogram (mg/kg) for PCBs in fish and shellfish. However, after the remedy was selected, Harris County lined the ditch with concrete; it currently only has intermittent waters and no aquatic organisms.

#### Response Actions

From October 1983 to September 1984, EPA performed several emergency removal actions. Removal actions included:

- Closure of all three lagoons.
- Excavation and transportation of 550 drums containing contaminated materials and 30 tons of asbestos to an approved facility.
- Excavation and transportation of 3,400 cubic yards of contaminated soil and sludge to an approved facility.
- Installation of a temporary cap over on-site soils containing greater than 50 mg/kg PCBs.
- Improvement of site drainage. Plugging abandoned oil/gas wells.
- Removing storage tank materials.

EPA issued the Site's Record of Decision (ROD) on September 18, 1986. In the ROD, EPA developed remedial action objectives (RAOs) for the Site:

- Prevent future contamination of the adjacent flood control channel.
- Minimize direct contact with contaminated soil on site.
- Prevent degradation of off-site soil.
- Prevent further degradation of off-site groundwater in the 30-foot sand unit and reduce the risk of degradation of deeper sand units.
- Reduce contamination in the 100-foot sand unit.

The remedy selected in the 1986 ROD and modified by the Site's 1993 and 2007 Explanations of Significant Differences (ESDs) included:

- Removal and disposal of all former buildings and facilities.
- Plugging and abandonment of unnecessary monitoring wells.
- Excavation of soils contaminated with greater than 100 mg/kg PCBs. The 1993 ESD increased the total amount of contaminated soils removed.
- Excavation of most buried drums on site. Remaining buried drums to be relocated underneath the permanent protective cap.
- Disposal of excavated material in an EPA-approved off-site facility.
- Construction of a slurry wall barrier around the Site with a pressure relief well system.
- Construction of a permanent, multi-layer Resource Conservation and Recovery Act (RCRA) protective cap across the site surface.
- Recovery and treatment of the TCE-contaminated groundwater in both the 30-foot and 100-foot sands.
  - o The 1993 ESD raised the 1986 ROD remedial goal for TCE from 0.001 milligram per liter (mg/L) to 0.005 mg/L, a result of a change in EPA's promulgated maximum contaminant level (MCL) for TCE.
- Implementation of institutional controls to reflect the current site status and restrict certain activities.

#### Status of Implementation

#### OU1

TCEQ began OU1 remedial activities in May 1988 and completed them in September 1990. Completed remedial activities included:

- Removal and disposal of all surface facilities.
- Plugging all unnecessary monitoring wells.
- Excavation and disposal of about 38,900 cubic yards of contaminated soil.
- Excavation and disposal of most buried drums; remaining buried drums were relocated under the protective cap.
- Construction of a slurry wall barrier inside the perimeter of the Site to a depth of 30 feet keyed into the aquitard underlying the shallow zone, with a pressure relief well system. The slurry wall is supposed to prevent migration of contaminants in the shallow zone off site and possible exposure of the flood control channel to free-phase PCB-contaminated oil.
- Construction of a permanent protective cap across the site surface consisting of clay and a synthetic highdensity polyethylene liner.

After the completion of remedial activities in September 1993, EPA deleted OU1 from the NPL in April 1997. Institutional controls for OU1 were implemented in August 2015.

#### OU<sub>2</sub>

TCEQ began OU2 remedial activities (construction of the groundwater recovery and treatment system) in December 1992. TCEQ completed construction of the system in April 1993. System construction included ten recovery wells and three monitoring wells, 1,878 linear feet of aboveground supported piping, a treatment building containing an activated carbon filtration system, six 30,000-gallon storage tanks, related foundation facilities, service utilities, monitoring controls, asphalt paving and fencing.

By the end of June 1993, EPA and TCEQ verified that discharge criteria had been met in seven verification groundwater discharge events. TCEQ then began the treatment phase of the OU2 remedial activities in July 1993.

The O&M section below details treatment discharge criteria and the location of the discharge point. TCEQ completed several major modifications to the groundwater recovery and treatment system in September 1994. Modifications included addition of a heavy-oil/water separator, related piping changes, charcoal filter material replacement and system cleaning. However, by the end of 1999, TCEQ's O&M contractor failed to maintain the groundwater recovery and treatment system, resulting in shutdowns. TCEQ terminated that contract in October 1999 and hired CB&I (now Aptim) in 2004 to rebuild the system and perform O&M activities at the Site.

CB&I resumed groundwater pumping on a regular basis in 2008. In February 2011, CB&I installed nine new groundwater recovery wells and pumps in the 30-foot sand adjacent to the older recovery wells, a result of siltation in the older wells. Pumping from the deeper zone in the 100-foot sand is currently suspended, as withdrawal of water from the deeper zone may draw contaminants down from the shallow zone.

#### **Institutional Control Review**

As required by the 2007 ESD, TCEQ implemented institutional controls at the Site in the form of 28 deed notices on nine affected parcels on and close to the Site in August 2015. The ESD required that the property deed information reflect the current site status and restrict the following activities:

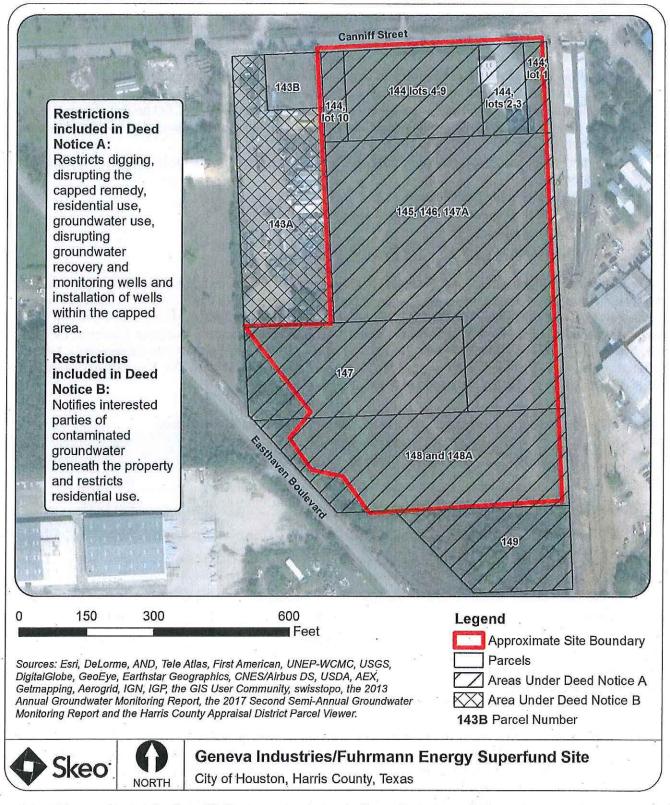
- No digging on the capped area.
- No activities that will cause erosion or disrupt the integrity of the cap or landfill.
- No use, for any purpose, of the groundwater from the 30-foot sand unit and the 100-foot sand unit.
- No water wells of any kind drilled within the cap or landfill.
- No residential use.

Table 1 summarizes implemented institutional controls at the Site; Figure 2 shows institutional controls on a map.

Table 1: Summary of Implemented Institutional Controls (ICs)

Media, Engineered	1				
Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcels	IC Objective	Title of IC Instrument Implemented and Date
Soil and Groundwater	Yes	Yes	Tract 144 Lots 1- 10, Tract 145, Tract 146, Tract 147, Tract 148 and Tract 148A, Tract 149	Restrict digging on the capped area, any activities that will cause erosion or disrupt the integrity of the cap or landfill, any residential use of the affected properties, groundwater use in the 30-foot and 100-foot sand units, activities that could disturb components of the groundwater recovery and monitoring system, and restrict drilling of water wells within the cap or landfill area.	Deed Notices 20150393005, 20150393006, 20150393007, 20150393008, 20150393009, 20150393010, 20150393011, 20150393012, 20150393014, 20150393015, 20150393016, 20150393017, 20150393018, 20150393019, 20150393020, 20150393021, 20150393021, 20150393022, 20150393023, 20150393024, 20150393025, 20150393027, 20150393027, 20150393028, 20150393030, 20150393030, 20150393031 (Referred to as Deed Notice B in Figure 2) (08/28/2015)
	Yes	Yes	Tract 143A	Notifies interested parties of contaminated groundwater beneath property and restricts residential use.	Deed Notice 20150393031 (Referred to as Deed Notice A in Figure 2) (8/28/2015)

Figure 2: Institutional Control Map



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.

#### **Systems Operations/O&M**

O&M activities at the Site are conducted by TCEQ contractor Aptim. Aptim, under direction of TCEQ, updated the Site's O&M Manual and Sampling & Analysis Plan in May 2015. O&M activities include:

- Operation of the groundwater recovery and treatment system (groundwater pumped and treated at an average of about 3 gallons per minute when operational).
- Groundwater sampling and analysis semi-annually or as instructed by the TCEQ project manager. Prior to 2015, groundwater sampling events ranged in frequency from quarterly, tri-annual, semi-annual to annual based on funding.
- Gauging of monitoring and recovery wells each time wells are sampled or the treatment system begins
  operation.
- Preparation of monthly O&M reports.
- Preparation of semi-annual or annual groundwater sampling reports.
- Monthly site inspections.
- Routine maintenance as needed, including mowing of cap.

Table 2 contains a list of the treated water criteria for contaminants that are analyzed before discharge, which are based on their respective MCLs or levels of required performance, as identified in TCEQ's 2015 O&M Sampling & Analysis Plan and 1993 ESD. The 1986 ROD and 1993 ESD only designated an MCL for TCE because the remedial objectives only applied to TCE-contaminated groundwater recovery and treatment. However, the 2015 O&M Sampling & Analysis Plan designated levels of required performance for other site contaminants. Levels of required performance are based on the Texas Risk Reduction Program's (TRRP's) Tier 1 protective concentration levels (PCLs), which are calculated using a residential exposure scenario.

Table 2: Groundwater Contaminants' MCLs and Levels of Required Performance

Groundwater Contaminant	O&M Sampling & Analysis Plan Cleanup Goal (mg/L)	Basis	
Велгеле	0.005	Tier 1 PCL	
1,1-Dichloroethylene	0.007	Tier 1 PCL	
cis-1,2-Dichloroethylene	0.07	Tier 1 PCL	
trans-1,2-Dichloroethylene	0.1	Tier 1 PCL	
TCE (only contaminant of concern (COC) designated in the ROD)	0.005*	Federal MCL	
Vinyl chloride	0.002	Tier 1 PCL	
Total PCBs · · · · · · · · · · · · · · · · · · ·	0.0005	Tier 1 PCL	

Notes:

\* Cleanup goal modified by 1993 ESD.

mg/L = milligrams per liter

Source: 2015 O&M Sampling & Analysis Plan

As part of operation of the groundwater recovery and treatment system, treated water is stored in large holding tanks until analysis of treated water confirms it passed the discharge criteria. Once this is confirmed, treated water is discharged to the HCFCC adjacent to the Site. Recovered dense non-aqueous phase liquid (DNAPL) is stored in drums until it is picked up for off-site disposal. Table 3 contains a list of the treated water criteria contaminants that are analyzed before discharge. Effluent discharge action levels are based on EPA's effluent guidelines for organic chemicals, the Texas Water Quality Standards and the Texas Pollutant Discharge Elimination System General Permit TXG830000. Repairs to the groundwater recovery and treatment system during the FYR period included repairing leaking pipelines and replacing check valves, inoperable pumps, electrical pumps, recovery

well pumps, the front gate, fencing, transfer pumps and lights. TCEQ mows the cap about twice a year. Several routine maintenance activities have taken place in the past five years to improve the groundwater recovery and treatment system. In 2015, TCEQ replaced two of the clean water storage tanks with two tanks with larger volumes. TCEQ also installed a telemetry system in the groundwater recovery and treatment building to send automated messages for unscheduled system shutdowns in 2016. Other activities included refurbishing the two oil/water separator tanks and repairing leaks. Any leaked contaminated groundwater is captured by a sump in the groundwater treatment building. During the FYR period, there were several instances when the groundwater recovery and treatment system was not operational, generally a few months at a time due to repairs, system upgrades and weather events. Historical data indicate that the slurry wall can maintain an inward hydraulic gradient in the 30-foot sand after the recovery wells are shut down for three months or longer. The data review section provides more information.

**Table 3: Effluent Discharge Action Levels** 

Groundwater Contaminant	Action Level (mg/L)
Benzene	0.057
trans-1,2-dichloroethylene	0.025
TCE	0.026
Vinyl chloride	0.024
Total PCBs	0.002
Total organic carbon	- 75
Oil and grease	. 15
Potential hydrogen	6 to 9

The 1986 ROD estimated annual O&M costs for operation of the groundwater recovery and treatment system at \$426,000 until remediation of the 100-foot sand has been completed. Once this has been completed, the ROD reduced estimated annual O&M costs to \$375,000 until remediation of the TCE plume in the 30-foot sand has been completed. The ROD did not separate out capital costs and O&M costs for maintenance of the capped area, but the average annual O&M cost over the FYR period is \$228,800, well below the ROD estimate. In 2015, O&M costs were \$463,000, which can be attributed to development of the 2015 O&M Sampling & Analysis Plan and large equipment replacements.

#### III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determinations and statements from the previous FYR as well as the recommendations from the previous FYR and the status of those recommendations.

Table 4: Protectiveness Determinations/Statements from the 2013 FYR

OU#	Protectiveness Determination	Protectiveness Statement
1	Protective	The remedy for OU1 concerning contaminated soil at the Geneva site is protective of human health and the environment because the waste has been removed or contained and is protected from erosion.
2	Short-term Protective	The remedy for OU2 concerning contaminated groundwater is protective of human health and the environment in the short term because there is no evidence that there is current exposure. Twenty-one issues were identified which need to be addressed for the remedy to remain protective for the long term, and the recommendations and follow-up actions listed in Section 9 should be implemented to address these issues. In addition to the recommendations in Section 9, site operations and implementation of performance and compliance monitoring should continue.
Sitewide -	Short-term Protective	Because the completed remedial actions and monitoring program for the Geneva site are protective for the short term, the remedy for the site is protective of human health and the environment and will continue to be protective if the action items identified in this report are addressed.

Table 5: Status of Recommendations from the 2013 FYR

OU#	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	PCB concentrations exceed the MCL and are increasing in the 100-foot sand unit.	An investigation of the possible mechanisms for PCBs entering the deeper water-bearing units should be conducted with the goal of mitigating the downward migration of PCB from the 30-foot sand unit. The investigation should include the possibility that the deep monitoring wells are the source of the downward migration of PCBs.	Ongoing	Through TCEQ's review of historical documents and data, TCEQ has determined that PCBs in the 100-foot sands predated implementation of the groundwater remedy and that continuing sources of contamination exist at the Site.  Lapses in O&M did not contribute to PCBs entering the 100-foot sands. EPA will develop an updated conceptual site model and conduct an optimization review of the Site's remedy.	Not Applicable
2	No cleanup criteria have been established for PCBs in the groundwater in the ROD.	The ROD should be amended with an ESD or ROD amendment to include cleanup criteria for PCBs in groundwater.	Ongoing	EPA will implement a decision document as needed based on findings from the optimization review.	Not Applicable
2	There is no remediation or containment of PCB-contaminated groundwater in the 100-foot sand unit.	Recovery and treatment of PCB-contaminated groundwater in the 100-foot sand unit should be conducted to prevent the further migration of PCBs.	Ongoing	EPA will develop an updated conceptual site model and conduct an optimization review to determine if vertical migration of contaminants is occurring from the 30-foot sand unit to the 100-foot sand unit.	Not Applicable

OU#	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	There is insufficient treatment plant capacity to treat pumped groundwater from the 30-foot sand units.	The capacity of the treatment plant needs to be increased. An optimization study should be conducted to determine the best method of increasing plant capacity.	Completed	TCEQ completed a treatment plant capacity increase through replacing recovery well pumps in August 2015.	08/26/2015
2	There has been sporadic operation of the recovery/treatment system and groundwater elevation gauging during the review period.	The recovery/treatment system needs to be operated on a consistent basis to maintain an inward gradient of the contaminated 30-foot sand unit within the slurry wall to prevent migration of contaminants off site. Groundwater elevation gauging is needed at least quarterly, as recommended in the last FYR, to confirm the inward gradient is being maintained.	Completed	Consistent operation of the recovery/treatment system was initiated in 2015 following renovations to the treatment system. Groundwater elevation gauging is being conducted semi-annually and was conducted quarterly during 2017.	08/26/2015
2	PCB concentrations appear to be increasing in MW-24 at the eastern boundary of the Site in the 100-foot sand unit and PCB-contaminated groundwater may be leaving site boundaries at levels exceeding the MCL.	Verify that no groundwater use is occurring in the 100-foot sand unit in the area of MW-24. If PCB concentrations continue to exceed the MCL at MW-24, consideration should be given to installing additional groundwater monitoring wells downgradient of MW-24.	Completed	The Drinking Water Survey Report (August 2016) indicated there were three domestic wells located within a quarter mile of the Site in the northwest and southwest directions. One of these wells is inactive and the other two were private wells for mobile homes and are most likely no longer in use as the mobile homes are gone and a new hotel has been constructed where the wells used to be.	8/31/2016
2	Institutional controls mandated in the 2007 ESD have not been implemented at the Site.	Implement institutional controls as mandated in the 2007 ESD.	Completed	TCEQ filed deed notices with the county clerk in August 2015.	8/28/2015

OU#	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	Groundwater contained within the slurry wall in the 30-foot sand is contaminated with VOCs, benzene, toluene, ethylbenzene, xylene and TCE. The treatment system building is adjacent to the slurry wall on site and there is a possibility of vapor intrusion in the building at levels above those protective of human health.	A vapor intrusion screen should be performed on the site treatment system building.	Completed	EPA completed a vapor intrusion screening assessment and found no current exposure pathways.	9/06/2016
2	Due to the shallow depth to groundwater of the 30-foot sand unit along the eastern boundary of the Site and the detected contaminants in MW-26, there is a possibility that contaminated groundwater from the 30-foot sand unit has discharged into the Harris County flood control channel.	An evaluation of the potential for contaminated groundwater from the site to discharge to the Harris County flood control channel should be conducted. If there is a potential for this to occur, sampling and analysis of the channel sediments and surface water for site contaminants should be conducted to verify the sediments and surface water are protective of human health and the environment.	Ongoing	EPA will develop an updated conceptual site model and determine if there is additional work required to determine if there is contamination near MW-26 and if it is discharging contaminated groundwater to the HCFCC.	NA
2	Based on current information showing the groundwater flow direction in the 100-foot sand unit is to the north, there may be insufficient groundwater monitoring along the northern boundary of the Site.	An evaluation should be made of the groundwater flow direction in the 100-foot sand unit, and a determination made as to the sufficiency of the number and location of monitoring wells along the northern boundary of the Site.	Completed	The direction of groundwater flow in the 100-foot sands under and next to the Site is to the northwest, as documented in the August 2015 O&M Report. Based on current data, the number and location of monitoring wells may not be sufficient along the northern boundary. EPA will develop an updated conceptual site model and conduct an optimization review and determine if additional deep-zone monitoring wells are needed along the northern boundary.	8/26/2015

OU#	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	None of the monitoring wells have locks on the casing covers. The old recovery wells (RW-01 through RW-05 and RW-7 through RW-10) now used as piezometers do not have caps. Monitoring wells MW-02, MW-23 and MW-25 are missing bollards.	Monitoring wells should be locked and missing well caps and bollards should be replaced.	Completed	TCEQ fitted all monitoring wells with locks and replaced missing well caps and bollards.	8/31/2016 ·
2	Two monitoring wells, MW-18 and MW-02, were identified during the site inspection as being lost or abandoned.	A review of past monitoring wells used at the Site should be conducted and wells that are no longer needed should be identified, located, and properly plugged and abandoned.	Completed	TCEQ determined that there are no monitoring wells that need to be plugged and abandoned at this time.	1/13/2016
2	No O&M log was found during the site inspection.	An O&M log should be maintained for the Site.	Completed	The updated O&M Manual contains a provision about maintaining an O&M log and one is maintained.	5/31/2015
2	The soil has eroded out from beneath the well pad at RW-03.	Soil erosion under well RW-03 well pad should be repaired.	Completed	TCEQ repaired soil erosion under the well RW-03 well pad.	8/31/2016
2	East of the deep monitoring wells, brackets holding the conduits on the stands have failed.	Brackets holding the conduits on the stands east of the deep monitoring wells should be repaired to hold the conduits on the stands.	Completed	TCEQ replaced brackets holding the conduits on the stands east of the deep monitoring wells.	8/31/2016
2	Fire ant mounds were observed on the cap, which could create a conduit between the ground surface and the buried wastes.	The fire ant mounds on the cap should be mitigated.	Completed	TCEQ mitigated fire ant mounds and none were observed during the 2017 site inspection.	8/31/2016
2	Site documents are missing from the local site information repository, the M.D. Anderson Library at the main campus of the University of Houston.	All site decision documents and past FYR reports should be available for public review at the M.D. Anderson Library.	Completed	EPA sent all site-related documents to the M.D. Anderson Library.	4/5/2018

OU#	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	The March 31, 2009 sample from the clean water storage tanks exceeded the PCB discharge criteria. The water was resampled on April 30, 2009 and was reported to meet the discharge criteria. This review was unable to confirm that the resampled results met the discharge criteria because the analytical results were not provided.	Copies of the analytical sampling reports should be retained to provide verification that discharge criteria are being met.	Completed	TCEQ emailed EPA on April 7, 2016, stating that analytical sampling reports are retained, either in electronic or paper format, per the Superfund Sections Standard Operating Procedure on records, issued September 21, 2015. Monthly O&M reports contain records of effluent discharge sampling reports.	4/07/2016
2	There is erosion control fabric exposed at the surface at the toe of the cap at the southeast corner.	Erosion control fabric exposed at the surface at the toe of the southeast corner of the cap should be covered with soil and grass.	Completed	TCEQ covered erosion control fabric with soil and grass at the toe of the southeast corner of the cap.	8/31/2016
2	The grate covering the floor drainage channel in the treatment plant is bent and presents a tripping hazard.	The bent grate covering the floor drainage in the treatment plant should be replaced or repaired.	Completed	TCEQ replaced the bent grate covering the floor in the treatment plant.	8/31/2016
2	Currently reported well depths given for MW-101 and MW-102 do not match the depths given in the original 1985 well schematics, and it appears the labels for these two wells have been switched at some point in the past. The labels for the other two deep wells, MW-103 and MW-104, may also have been switched.	The depths of the deep monitoring wells MW-101, -102, -103 and -104 should be gauged to verify the currently reported depths are correct.	Completed	The depths of MW-101, -102, and -104 were gauged in June 2014, as documented in the Annual Groundwater Monitoring Report. The depth of MW-103 could not be gauged due to the presence of the down-hole pump and was estimated based on the well log and depth of the pump.	6/31/2014

#### 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* Spanish insert and the *Houston Chronicle* on 10/1/2017 and 10/2/2017, respectively (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, the University of Houston's M.D. Anderson Library, located at 4333 University Drive, in Houston, Texas.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy implemented to date. Interviews were completed with Midori Campbell of TCEQ (TCEQ Project Manager), Marc Viola of Aptim (O&M contractor), representatives from two nearby businesses and a church, and three residents. The interviews are summarized below. Complete interviews are in Appendix G.

The local interviewees did not report any concerns with the Site. The interviewees' homes, businesses and church are connected to city water. The business owners, the church representative and one resident expressed that they would like to be informed of site activities through some type of fact sheet. The other two residents stated that they prefer being informed of site activities in person.

Midori Campbell (TCEQ) stated that more work will be necessary in the future to ensure that the Site's remedy is protective of human health and the environment. Ms. Campbell stated that the groundwater remedy is not performing as designed and may not be protective of human health and the environment. TCEQ has clarified that Ms. Campbell's comments were made regarding the long term protectiveness of human health and the environment, not the short term protectiveness. TCEQ agrees with the protectiveness determination in the short term for OU2 because there are no active private or public wells located within a half mile of the Site and therefore there are no current groundwater receptors. Mr. Viola (O&M contractor) believes that current O&M procedures are effective at treating the pumped groundwater and maintaining an inward hydraulic gradient. He stated that PCBs and vinyl chloride detected above their PCLs in the deep zone and the presence of DNAPL in deep monitoring wells might indicate that the remedy is not effective in controlling the vertical migration of PCBs. He also mentioned that O&M activities have increased in frequency over the last five years due to the age of the treatment system. Mr. Viola recommends replacing the treatment system control panel to allow the adjustment of individual recovery pumps and the monitoring of critical functions to keep the system operational.

#### **Data Review**

Data reviewed for this FYR included:

- Groundwater elevation data from July 2013 to August 2017.
- Groundwater monitoring data from July 2013 to August 2017.
- DNAPL monitoring data from December 2016 to August 2017.
- Effluent discharge data from July 2013 to August 2017.

The purpose of the groundwater recovery and treatment system is to induce an inward hydraulic gradient, preventing contaminated groundwater from spreading out past the slurry walls, and to reduce groundwater contamination in both the 30-foot (shallow zone) and 100-foot (deep zone) sands. Groundwater monitoring data are collected to determine whether groundwater contaminant concentrations are decreasing or increasing and to detect contaminants above their respective MCL and PCLs. It should be noted that the 1986 ROD only lists TCE with a standard cleanup goal, the federal MCL for TCE. TCEQ conducts additional monitoring of contaminants identified during the RI/FS that caused EPA and TCEQ to reassess the original conceptual site model. A summary of these data is presented below. Figure 3 contains a detailed map of site features.

#### Groundwater Elevations

Groundwater elevation data are collected within the shallow zone both inside and outside the slurry wall to verify that the inward hydraulic gradient is being maintained (i.e., that groundwater elevations are lower inside the wall than outside the wall). Potentiometric maps for the shallow zone were reviewed to determine if groundwater elevations and the difference in groundwater elevations inside and outside the slurry wall were maintained. Throughout the FYR period, groundwater elevations were consistently lower within the slurry wall, indicating that an inward hydraulic gradient was maintained. Table 6 lists gauging event data for the shallow zone during the last four quarterly gauging events (quarterly sampling only occurred in 2017 as a result of quarterly DNAPL sampling). Appendix F provides the most recent shallow zone potentiometric map.

Table 6: Fiscal Year 2017 Quarterly Gauging Events in the Shallow Zone

Gauging Event	Average Groundwater Elevation Inside Slurry Wall (feet msl)*	Average Groundwater Elevation Outside Slurry Wall (feet msl)*	Static Groundwater Difference (feet msl)
December 2016	16.78	22.34	-5.56
March 2017	17.34	23.19	-5.85
June 2017	16.25	23,29	-7.04
August 2017	15.94	22.21	-6.27

Notes:

Groundwater elevation data in the deep zone are collected to monitor groundwater flow direction. During the most recent monitoring event, groundwater in the deep zone appears to be flowing north or northwest. Generally, groundwater flow in the deep zone has varied over this FYR period, ranging from west to north. There are limited deep zone wells from which to infer groundwater flow direction. The conceptual site model will be updated for the deep zone to clarify groundwater flow conditions in the deep zone. Appendix F provides the most recent deep-zone potentiometric map.

#### **Groundwater Monitoring**

Groundwater monitoring data are collected from the shallow and deep zones to determine whether groundwater contaminant concentrations are decreasing or increasing and to detect contaminants above their respective MCLs and PCLs (Table 2). As noted earlier, TCE is the only contaminant with a standard cleanup goal set forth in the 1986 ROD and modified by the 1993 ESD. Both the shallow and deep monitoring wells are sampled for TCE contamination, as well as deeper monitoring wells MW-102, MW-103 and MW-104, which have depths of 296 feet, 675 feet and 850 feet, respectively. MW-102 and MW-103 are located in the underlying drinking water aquifer. Since groundwater monitoring began in January 2005, TCE has only been detected above its federal MCL at MW-26, with the most recent occurrence in January 2009. During the FYR period, TCE was only detected above detection limits once in January 2013 with a concentration of 0.0011 mg/L.

#### Additional Analytes/Performance Monitoring

Shallow and deep zone monitoring wells, as well as deeper monitoring wells MW-102, MW-103 and MW-104, are also sampled for benzene, cis-1.2-dichloroethylene, trans-1,2-dichloroethylene, 1,1-dichloroethylene, vinyl chloride and total PCBs.

In the shallow zone, four groundwater monitoring wells – MW-10, MW-11, MW-17 and MW-26 – are sampled during each sampling event. All wells are located outside the slurry wall, as the presence of DNAPL within the slurry wall does not allow for sampling within the slurry wall. PCL exceedances occurred for benzene, vinyl chloride and total PCBs during the FYR period (Table 7). Historically, PCBs have been detected consistently at MW-26, which is located adjacent to the HCFCC. The PCB concentrations at MW-26 may indicate PCB contamination has migrated outside the slurry wall or that a residual source area is present in this area. Generally, total PCB concentrations have decreased slightly at MW-26 during this FYR period. The conceptual site model will be updated for the shallow zone to determine the cause of this PCB contamination. Historically, concentrations for other contaminants monitored in the shallow zone have been stable and below PCLs and detection limits. However, 1,2-dichloroethylene was detected above its detection limit, but below its PCL, at MW-26 in July 2013, January 2016 and December 2016 with concentrations of 0.0124, 0.0013 and 0.0014 mg/L, respectively. There were no PCL exceedances observed in the most recent monitoring event in June 2017. Appendix F contains cumulative groundwater monitoring data.

<sup>\* =</sup> average groundwater elevations calculated by TCEQ contractor in the 2017 Quarterly Groundwater and DNAPL Gauging Reports

<sup>&</sup>lt;sup>1</sup> In July 2014, gauging data found that what was thought to be MW-101 was actually MW-104, what was thought to be MW-102 was actually MW-101, and what was thought to be MW-104 was actually MW-102. This information is reflected in the data review section.

Table 7: Shallow Zone Monitoring Well Exceedances, 2013 – 2017

Monitoring Well	Date	Benzene (mg/L) PCL = 0.005 mg/L	Vinyl Chloride (mg/L) PCL = 0.002 mg/L	Total PCBs (mg/L) PCL = 0.0005 mg/L
MW-10	December 2016			0.00051 J
	July 2013	0.0101	0.0157	0.0075
MW-26	July 2014		'	0.0063
•	January 2016	10 MI	0.0022	0.0032
	December 2016			0.0034

Notes:

-- = PCL not exceeded

J = result is an estimated value

Source: 2013-2017 Annual and Semi-Annual Groundwater Monitoring Reports

In the deep zone, six groundwater monitoring wells are sampled during each sampling event. These monitoring wells include MW-8, MW-22, MW-23, MW-24, MW-25 and MW-101. Two monitoring wells in the underlying drinking water aquifer (MW-102 and MW-103) are also sampled during each sampling event. PCL exceedances were observed for vinyl chloride and total PCBs during the FYR period. Vinyl chloride exceeded its PCL of 0.002 mg/L at monitoring wells MW-24 and MW-101. The maximum concentration of vinyl chloride at each of these wells during each year of the FYR period are provided in Table 8.

Table 8: Maximum Detected Vinyl Chloride Concentrations at Select Wells, 2013 – 2017

Monitoring Well	2013	2014	2015	2016	2017
MW-24	IS	0.0115 J	0.0084 Ј	0.0099	0.00030
MW-101	0.0047 J	0.0040 J	0.0031 J	0.0039	0.0014

Notes:

All concentrations reported in mg/L

IS = Invalidated Sample

J = result is an estimated value

Bold = exceeds PCL of 0.002 mg/L

Source: 2013-2017 Annual and Semi-Annual Groundwater Monitoring Reports

Vinyl chloride exceeded its PCL four times at MW-24, with a maximum concentration of 0.0115 J mg/L in January 2014. However, it was not detected above the PCL during the two most recent monitoring events (December 2016 and June 2017). Historically, vinyl chloride was below its detection limit of 0.0003 mg/L at MW-101. Since July 2013, vinyl chloride was detected above the PCL in four out of the five most recent sampling events, with a maximum concentration of 0.0047 J mg/L in July 2013. Vinyl chloride was below the PCL in June 2017. Fluctuations in vinyl chloride concentrations may be due to residual sources of TCE contamination in the vicinity of MW-24 and MW-101, as vinyl chloride is one of its breakdown products.

Total PCBs exceeded their PCL of 0.0005 mg/L in eight deep monitoring wells during the FYR period. These monitoring wells included MW-8, MW-22, MW-23, MW-24, MW-25, MW-101, MW-102 and MW-103. The maximum concentration of total PCBs at each of these wells during each year of the FYR period are provided in Table 9.

Table 9: Maximum Detected Total PCBs Concentrations at Select Wells, 2013 - 2017

Monitoring Well	2013	2014	2015	2016	2017
MW-8	ЙD	ND	0.0011	0.00108 J	0.00036
MW-22	ND	0.00060	0.0012	0.00072 J	0.00068
MW-23	ND	0.00057	ND	0.00325	ND
MW-24	0.0076	14,3	0.017	0.0404	ND
MW-25	ND	ND	ND -	0.0025	ND
MW-101	1.87 Л- FD	0.528	0.394	1.91	0.204
MW-102	ND	ND	0.0225	ND	ND
MW-103	ND	NS	ND	ND	0.0049

Notes.

All concentrations reported in mg/L

ND = not detected above laboratory detection limit

NS = not sampled

J = result is an estimated value

I = result bias was indeterminate

FD = field duplicate

Bold = exceeds PCL of 0.0005 mg/L

Source: 2013-2017 Annual and Semi-Annual Groundwater Monitoring Reports

Total PCB concentrations at several wells increased to above the PCL during this FYR. In 2013, two wells exceeded the PCL for total PCBs. In 2016, six wells had concentrations that exceeded the PCL for total PCBs. Based on these data, the extent of groundwater contamination within the deep zone appears to be expanding. In addition, since about 2011, variations of PCB concentrations at MW-101 have been observed, but have all exceeded the PCL of 0.0005 mg/L. Droplets of DNAPL were observed at MW-101 during the January 2016 sampling event, which may indicate MW-101 or the cluster of deep wells surrounding MW-101 are potential preferential pathways for vertical DNAPL migration from the shallow zone. This observation is further supported by first-time occurrences of total PCBs in MW-103 (depth of 675 feet). Based on the apparent groundwater flow direction to the north/northwest, every downgradient deep-zone monitoring exceeded the total PCBs PCL during this FYR period. The deep-zone total PCB plume may be expanding and has not been defined on site or off site. The extent of the deep zone groundwater plume and PCB and vinyl chloride contamination, as well as whether the cluster of deep wells are preferential pathways will be addressed in the updated conceptual site model in the optimization review. Appendix F provides cumulative groundwater monitoring data.

#### DNAPL Gauging

Because of the observation of DNAPL in MW-101 during the January 2016 sampling event, TCEQ began quarterly DNAPL gauging to determine the extent, depth and amount of DNAPL in the shallow zone. During the four quarterly sampling events in 2017, DNAPL was observed in recovery wells RW-1, RW-2, RW-3, RW-4, RW-5 and RW-10. DNAPL was not observed in recovery wells RW-7, RW-8 and RW-9. An attempt to gauge RW-6 was made. However, the presence of a pump mounted to the top of the well prevented the oil/water interface probe from reaching the bottom of the well.

During the third quarterly sampling event (June 2017), RW-3 contained a measurable thickness of DNAPL for the first time since May 2016, which was observed again during the fourth quarterly sampling event (August 2017). This increase in DNAPL could indicate that the plume is expanding to the southeast. During the four quarterly sampling events in 2017, RW-10 had the highest measurable thickness in each sampling event, with a maximum thickness of 12.92 feet in the second quarterly sampling event (March 2017). Based on the DNAPL thickness and soil lithology, TCEQ initially estimated there are about 1.12 million gallons of DNAPL potentially present in the shallow zone. TCEQ has since indicated that this estimate assumed that DNPAL is uniformly distributed throughout the shallow zone with a thickness of the average of measured thickness, which is most likely too conservative and has likely overestimated the DNPAL volume. Table 10 lists the range of DNAPL thickness

observed during each of the four quarterly sampling events in fiscal year 2017. TCEQ did not sample any of the deep zone wells for DNAPL during the FYR period. Appendix F provides the most recent DNAPL plume map.

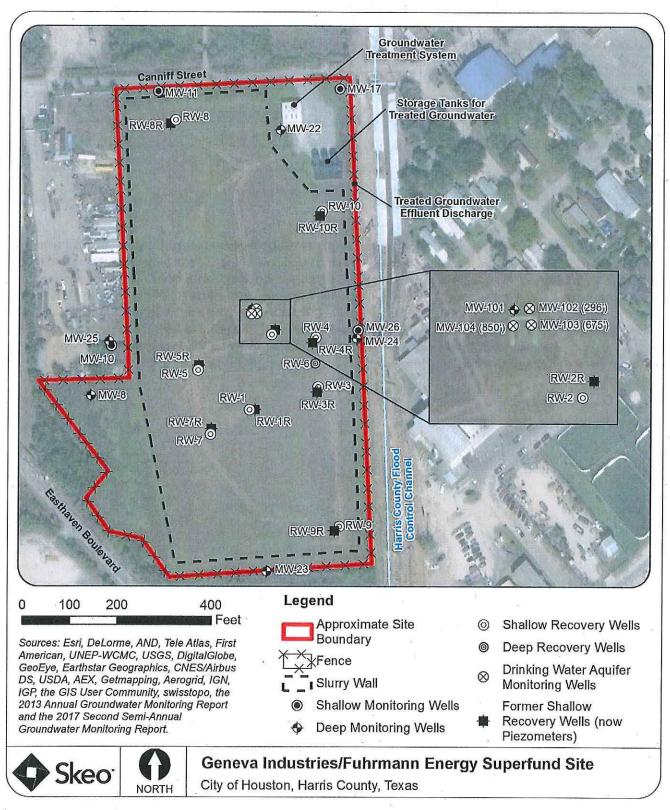
Table 10: Fiscal Year 2017 Quarterly DNAPL Gauging Thickness

Sampling Event	Range of DNAPL Thickness (feet)*
December 2016	3.00 - 11.75
March 2017	3.30 - 12.92
June 2017	0.4 - 12.18
August 2017	0.45 - 12.45
Notes: * DNAPL thickness presented in the 2017 (	Quarterly Groundwater and DNAPL Gauging Reports

#### Effluent Discharge

When the groundwater recovery and treatment system is operational, treatment plant effluent is sampled monthly to verify treated water is meeting the established discharge criteria (see Table 3). When the samples exceed the discharge criteria, the water is retreated and resampled to ensure the discharge criteria are met. While the groundwater recovery and treatment system was operational, there was one effluent exceedance of total PCBs in June 2017, with a concentration of 0.0022 mg/L. The treated water was retreated and resampled in July 2017 and total PCBs declined to a concentration of 0.0014 mg/L before being discharged to the HCCFC. It should be noted that the treated groundwater effluent discharge action for total PCBs of 0.002 mg/L is considerably higher than the groundwater PCL for total PCBs of 0.0005 mg/L.

Figure 3: Detailed Site Map



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.

#### **Site Inspection**

The site inspection took place on 10/03/2017. Participants included EPA RPM Stephen Pereira; Midori Campbell from TCEQ; Marc Viola, Andy Gilchrest and Michael Stevens from Aptim, the site O&M contractor; and Treat Suomi and Brice Robertson from Skeo, EPA contractor. The purpose of the inspection was to assess the protectiveness of the remedy. Appendix D contains a detailed site inspection checklist. Appendix E contains site inspection photos.

Participants met at the site entrance. Participants first discussed recent events and changes at the Site in the past five years. The Site did not experience much flooding from Hurricane Harvey and did not experience any serious damage to the cap or the rest of the Site. Mr. Viola mentioned that in 2016, DNAPLs were found during a clear bail of the wells. Participants then inspected the cap and monitoring wells. The vegetative cover was a little wet as it had recently rained, but properly established. All observed monitoring wells were labeled and locked. Mr. Viola performed a clear bail on RW-5 to show the presence of DNAPL in the 30-foot sand unit. He mentioned that there is an overall increase in DNAPL thickness since it was first observed.

There have been no trespassing or vandalism issues in the past five years. Participants then viewed the different parts of the groundwater treatment system. Overall, it is in good shape. However, it is getting older and some parts need to be replaced. Mr. Viola confirmed that they are going to replace the knockout tank soon and that separator tanks were refurbished earlier this year. There are some leaks during the treatment process. However, all leaked water is captured by a sump on the floor of the treatment system, so no contaminated water escapes. Treated water is held in storage tanks until it is confirmed that it has been treated to below cleanup goals and then is released into the adjacent drainage channel. Fencing was in good condition and there was adequate signage. The site entrance was also locked and secured upon arrival. Following the site inspection, participants interviewed several nearby residents and businesses. EPA and Skeo staff visited the site repository at the M.D. Anderson Library, located at 4333 University Drive in Houston. Because of Hurricane Harvey, the library's basement was completely flooded and was not open. The basement contains the reference section, so no site documents were accessible at the time of the site inspection. However, EPA sent all site-related documents to the library on 4/5/2018.

#### V. TECHNICAL ASSESSMENT

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

#### **Question A Summary:**

#### OU1

The site inspection and review of documents and applicable or relevant and appropriate requirements (ARARs) indicate that the OU1 remedy is functioning as intended by site decision documents. Remedial activities completed under OU1 included removal and disposal of all former facilities, plugging and abandonment of unnecessary monitoring wells, excavation and off-site disposal of contaminated soils and most buried drums, construction of a slurry wall barrier around the Site with a pressure relief well system, and construction of a permanent protective cap across the site surface. As required by the 2007 ESD, TCEQ implemented institutional controls for OU1 that restrict digging on the capped area, activities that could disrupt the integrity of the cap and residential uses of affected properties. Fencing and warning signs deter potential trespassers. OU1 was deleted from the NPL in April 1997.

Although the removal criterion for soil was 100 ppm of total PCBs, there were two grids with soil residual PCB concentrations greater than 100 ppm and this soil is in direct contact with the 30-foot sand aquifer without any clay separation. Besides the contaminated soil, other materials like drums containing NAPLs were consolidated and left on site. Although the engineered cap reduced direct exposure to the contaminants in soils, the residual contaminants in soils may be continuously releasing to groundwater and increasing groundwater degradation. The conceptual site model is being updated and will help better understand site conditions and whether residual soil

contamination is affecting groundwater quality. Any additional issues related to remaining source materials contributing to possible groundwater contamination will be addressed by the update of the conceptual site model under OU2.

#### OU2

The site inspection and review of documents and ARARs indicate that the OU2 remedy is not functioning as intended. Although remedial actions specified in the ROD have been completed, groundwater elevation monitoring, groundwater contaminant monitoring, and DNAPL monitoring data over the FYR period indicate that site conditions might be different from previously thought. There may not be enough deep-zone groundwater monitoring wells to infer groundwater flow direction, PCB contamination may be outside the slurry wall near MW-26 and the HCFCC, the extent of groundwater contamination may be expanding in the deep zone, the cluster of deep wells surrounding MW-101 may be potential conduits for vertical contamination migration from the shallow zone, the DNAPL plume may be expanding to the southeast and may be migrating into the deep zone, and the presence of DNAPLs in the shallow zone is preventing groundwater monitoring in the shallow zone within the slurry wall in certain areas. Within the slurry wall, quarterly monitoring for DNAPL presence during 2017 showed that the DNAPL plume may be expanding to the southeast. TCEQ estimates there are about 1.12 million gallons of DNAPLs potentially present in the shallow zone. However, this is most likely an overestimate and the volume of DNPAL needs to be estimated more accurately. Generally, groundwater flow in the deep zone has varied over this FYR period, ranging from west to north; however, this is based on a limited deep zone well network. The conceptual site model for the Site needs to be updated to assess the current extent of groundwater contamination in the shallow and deep zones and contaminant transport pathways that exist at the Site. However, additional deep zone groundwater monitoring wells should not be installed within the slurry wall because they could serve as additional conduits for vertical migration of contaminants from the shallow zone to the deep zone.

Groundwater elevation data during the FYR period indicated that the inward hydraulic gradient is being maintained in the shallow groundwater zone. Although monitoring shows no exceedances of TCE, which is the ROD-specified contaminant, additional groundwater monitoring data over the past five years showed exceedances of several groundwater contaminants (benzene, vinyl chloride and total PCBs) in the shallow groundwater zone. Historically, PCBs have been detected consistently at MW-26, which is located outside the slurry wall and adjacent to the HCFCC. The PCB concentrations at MW-26 may indicate PCB contamination has migrated outside the slurry wall or that a residual source area is present in this area. Because the treated groundwater effluent discharge action level is much higher than the groundwater PCL for total PCBs, any crack or fissure in the HCFCC could lead to these exceedances. Generally, total PCB concentrations have decreased slightly at MW-26 during this FYR period. Historically, concentrations for other contaminants monitored in the shallow zone have been stable and below PCLs. Groundwater monitoring data from the past five years showed consistent exceedances of the vinyl chloride and total PCBs PCLs in the deep zone. Total PCB concentrations at several wells in the deep zone increased during this FYR period. Additionally, variations of PCB concentrations at MW-101 have been observed, but all have been above its PCL of 0.0005 mg/L since 2011. During the January 2016 sampling event, droplets of DNAPL were observed at MW-101, which may indicate MW-101 or the cluster of deep wells surrounding MW-101 are potential preferential pathways for vertical DNAPL migration from the shallow zone. These wells should be plugged and abandoned since they are most likely preferential pathways for vertical DNAPL migration from the shallow zone. Due to the presence of DNAPL in the shallow zone, it is not possible to monitor shallow groundwater contaminant concentrations within the slurry wall. EPA will conduct an optimization study to assess the remedy effectiveness and determination whether additional evaluations and/or activities are needed.

O&M activities are implemented by Aptim, as required by the 2015 O&M Plan. In the past five years, the groundwater recovery and treatment system has not been consistently operational due to routine maintenance, O&M work order preparations and flooding events. There has been one effluent sampling exceedance. Water with the exceedance was retreated; water not meeting the discharge criteria has never been discharged. Several routine maintenance activities have taken place during the FYR period, including refurbishing the oil/water separator tanks and repairing leaks in the system.

As required by the 2007 ESD, TCEQ implemented institutional controls at the Site in August 2015. These institutional controls prevent groundwater use from the 30-foot and 100-foot sands and installation of groundwater wells within the cap or landfill and residential use. The deed notice at property parcel 143A only notifies interested parties of contaminated groundwater beneath the property and restricts residential use.

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:**

No. The exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection are mostly still valid. Some RAOs identified in the 1986 ROD are being met, while some RAOs are not. The cap effectively prevents exposure to contaminated soils on site. However, based on current groundwater monitoring data, deeper groundwater units may be subject to contamination migrating from the shallow zone and groundwater contamination concentrations are increasing and expanding in the 100-foot sand. The soil cleanup goal for total PCBs, 100 mg/kg, was equivalent to a cancer risk of 1 x 10<sup>-4</sup> for residential use in the 1986 ROD; however, the deed restrictions prohibit residential use. When compared to the current EPA regional screening level (RSL) for industrial use, the 1986 ROD cleanup goal for total PCBs is equivalent to 1 x 10<sup>-4</sup> (Appendix H, Table H-1). As the only designated site contaminant, the federal MCL for TCE has not changed and is still valid as a cleanup goal.

Many of the exposure assumptions identified in the 1986 ROD remain unchanged, as the HCFCC ditch is a concrete lined ditch with only intermittent water and no aquatic organisms, the Site is not in use, and use of contaminated groundwater is prevented by institutional controls. EPA performed a vapor intrusion assessment in the past five years, which found no risk for on-site and off-site buildings and structures. PCBs were not identified as a COC in groundwater, however recent groundwater monitoring data have indicated the presence of PCBs in groundwater. Additional evaluation is needed to update the conceptual site model and determine whether additional activities are needed.

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

On September 10, 2017, EPA performed soil and groundwater sampling to identify any potential contamination following Hurricane Harvey. The sampling found that post-hurricane conditions of soil and groundwater were consistent with historical site conditions before the hurricane made landfall. No other issues were reported at the Site as a result of the hurricane.

## VI. ISSUES/RECOMMENDATIONS

	Issues/Recommendations  OU(s) without Issues/Recommendations Identified in the FYR:
,	OU1

#### Issues and Recommendations Identified in the FYR:

OU(s): 2	Issue Category: Remedy Performance				
	Issue: Flow patterns and the extent of contamination in the deep zone are not well-defined, there may not be enough deep-zone groundwater monitoring wells to infer groundwater flow direction, and the DNAPL plume may be expanding to the southeast, may be migrating into the deep zone and its volume may not be accurately estimated. Additionally, TCE is the only designated COC, but there are other contaminants, including PCBs and vinyl chloride in groundwater, that continue to exceed their respective PCLs.				
	conditions have cha Additional deep zon within the slurry wa	Develop an updated inged since early invene groundwater monitual because they could because from the shall inants from the shall	stigations, and reeval coring wells should no serve as additional c	uate site COCs. ot be installed onduits for vertical	
Affect Current Protectiveness Protectiveness Protectiveness Protectiveness Protectiveness Protectiveness Protectiveness Protectiveness Protectiveness Party Party/Support Agency					
No	Yes	EPA/TCEQ	EPA/TCEQ	12/30/2019	

OU(s): 2	Issue Category: Remedy Performance				
	Issue: PCB contamination may be outside the slurry wall near MW-26 and the HCFCC, the cluster of deep wells surrounding MW-101 may be potential conduits for vertical contamination migration from the shallow zone, and the presence of DNAPLs in the shallow zone is preventing groundwater monitoring in the shallow zone within the slurry wall.				
	Recommendation: Conduct an evaluation of PCBs remaining on site and determine whether additional actions are needed. The updated conceptumodel and optimization report will be used to assist in planning this action zone monitoring wells within the slurry wall (MW-101, MW-102, MW-MW-104) should be plugged and abandoned to avoid acting as conduits vertical migration of contaminants from the shallow zone to the deep zo				
Affect Current Protectiveness	Affect Future Party Oversight Milestone Date Protectiveness Responsible Party/Support Agency				
No	Yes	EPA/TCEQ	EPA/TCEQ	9/30/2020	

#### VII. PROTECTIVENESS STATEMENT

#### **Protectiveness Statement(s)**

Operable Unit: 1

Protectiveness Determination:

Protective

Protectiveness Statement: The remedy at OU1 (source control - contaminated soils, drums and surface facilities) is protective of human health and the environment.

All surface facilities have been removed and disposed of, all unnecessary monitoring wells have been plugged and abandoned, contaminated soils with over 100 mg/kg PCBs have been excavated and disposed of, most buried drums have been excavated and disposed of, a slurry wall has been constructed around the Site to a depth of 30 feet preventing contaminated groundwater from leaving the Site, a permanent cap has been constructed over the site surface preventing exposure to remaining contaminated soils and buried drums, and institutional controls have been implemented that restrict digging or any disruptive activities on the capped area and restrict residential use of the Site.

#### **Protectiveness Statement(s)**

Operable Unit: 2

Protectiveness Determination:

Short-term Protective

Protectiveness Statement: The OU2 remedy for the Site's contaminated groundwater is currently protective of human health and the environment in the short term because a groundwater recovery and treatment system has been constructed and is operating; the inward hydraulic gradient and the slurry wall are preventing further degradation of off-site groundwater in the shallow groundwater unit; and institutional controls prevent groundwater use in the shallow and deep units on site, notify owners of contaminated groundwater on one off-site property, and prevent activities that could disturb components of the groundwater recovery and treatment system. However, in order for the remedy to be protective in the long term, the following actions need to be taken: update the conceptual site model and determine if site conditions have changed, reevaluate site COCs, conduct an evaluation of PCBs remaining on site to determine whether additional actions are needed and plug and abandon deep zone monitoring wells within the slurry wall.

#### Sitewide Protectiveness Statement

Protectiveness Determination:

Short-term Protective

Protectiveness Statement: The sitewide remedy is currently protective of human health and the environment in the short term. OU1 remedial actions adequately addressed all potential exposure pathways from contaminated soils, buried drums and surface facilities. EPA deleted the OU1 portion of the remedy from the NPL in April 1997. OU2 remedial actions currently protect all potential exposure pathways in the short term. For the remedy to be protective over the long term, EPA needs to develop an updated conceptual site model, determine if site conditions have changed since early investigations, reevaluate site COCs, conduct an evaluation of PCBs remaining on site to determine if additional actions are needed and plug and abandon deep zone monitoring wells within the slurry wall.

### VIII. NEXT REVIEW

The next FYR Report for the Geneva Industries/Fuhrmann Energy Superfund site is required five years from the completion date of this review.

## **APPENDICES**

## APPENDIX A - REFERENCE LIST

Annual Groundwater Monitoring Report, Fiscal Year 2013, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I (now Aptim) for TCEQ. August 30, 2013.

Annual Groundwater Monitoring Report, Fiscal Year 2014, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I (now Aptim) for TCEQ. August 30, 2014.

Annual Groundwater Monitoring Report, Fiscal Year 2016, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I (now Aptim) for TCEQ. August 30, 2016.

Feasibility Study, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. EPA Region 6. April 1986.

Fourth Five-Year Review Report, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. EPA Region 6. September 3, 2013.

Monthly O&M Reports, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by Aptim for TCEQ. July 2013-August 2017.

Operations and Maintenance Manual, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I Environmental & Infrastructure, Inc. (now Aptim) for TCEQ. May 2015.

Quarterly Groundwater and DNAPL Gauging Report, First Quarter, Fiscal Year 2017, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I Environmental & Infrastructure, Inc. (now Aptim) for TCEQ. April 21, 2017.

Quarterly Groundwater and DNAPL Gauging Report, Second Quarter, Fiscal Year 2017, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I Environmental & Infrastructure, Inc. (now Aptim) for TCEQ. June 5, 2017.

Quarterly Groundwater and DNAPL Gauging Report, Third Quarter, Fiscal Year 2017, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I Environmental & Infrastructure, Inc. (now Aptim) for TCEQ. August 17, 2017.

Quarterly Groundwater and DNAPL Gauging Report, Fourth Quarter, Fiscal Year 2017, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by Aptim for TCEQ. August 31, 2017.

Record of Decision, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. EPA Region 6. September 18, 1986.

Sampling & Analysis Plan for Operation and Maintenance Activities, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I Environmental & Infrastructure, Inc. (now Aptim) for TCEQ. May 2015.

Semi-Annual Groundwater Sampling Report, First Event, Fiscal Year 2017, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I (now Aptim) for TCEQ. April 21, 2017.

Semi-Annual Groundwater Sampling Report, Second Event, Fiscal Year 2017, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. Prepared by CB&I (now Aptim) for TCEQ. August 17, 2017.

Vapor Intrusion Screening Assessment Memorandum, Geneva Industries/Fuhrmann Energy Superfund Site, Houston, Texas. EPA Region 6. August 23, 2016.

## APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
A petrochemical production facility operated on site; operations included manufacture of PCBs	June 1967-September 1978
Site owners received several citations for unauthorized discharges of	1970s
wastewater into the adjacent flood control channel	19708
EPA conducted a preliminary site investigation and found significant	Early 1980s
PCB and other organics contamination in site soils, groundwater and	Barry 1760s
sediment in the adjacent flood control channel	•
EPA completed first emergency removal action, involving closure of site	February 1984
lagoons; excavation of contaminated drums, asbestos, soils and sludge;	Tobraary 1964
installation of a cap; and improvement of site drainage	•
EPA completed second emergency removal action to plug abandoned	May 1984
wells	1,22,
EPA listed the Site on the NPL	September 21, 1984
EPA completed third emergency removal action to remove storage tank	September 1984
materials	
EPA initiated the Site's RI/FS	September 1984
EPA completed the Site's RI/FS	April 1986
EPA signed the Site's ROD	September 18, 1986
TCEQ began OU1 remedial activities	May 1988
TCEQ completed OU1 remedial activities	September 1990
TCEQ began OU2 remedial construction	December 1992
TCEQ completed OU2 remedial construction	April 1993
EPA issued the Site's first ESD and TCEQ began the treatment phase of	July 1993
OU2 remedial activities	
EPA completed the Preliminary Close-Out Report for OU1	September 14, 1993
TCEQ completed several major modifications to the groundwater	September 1994
recovery and treatment system	•
EPA deleted OU1 from the NPL	April 8, 1997
EPA completed the Site's first FYR	April 1998
TCEQ terminated the first O&M contractor's contract due to them not	October 1999
upholding maintenance activities	
EPA completed the Site's second FYR	September 2003
TCEQ hired CB&I (now Aptim) to rebuild the groundwater recovery and	2004
treatment system and perform O&M activities	
EPA issued the second ESD for the Site	May 2007
EPA completed the Site's third FYR	September 2008
CB&I resumed regular groundwater pumping	2008
CB&I installed new groundwater recovery wells in the 30-foot sand	February 2011
EPA completed the Site's fourth FYR	September 2013
TCEQ updated the Site's O&M Manual and Sampling & Analysis Plan	May 2015
TCEQ implemented required institutional controls at the Site	August 28, 2015
Aptim discovered droplets of DNAPL in MW-101	January 2016
TCEQ began quarterly DNAPL monitoring and gauging	December 2016
Hurricane Harvey affected the Houston area	August 2017

## APPENDIX C – PRESS NOTICES

### Geneva Industries/Fuhrmann Energy Superfund Site Fifth Five-Year Review October 2017

The U.S. Environmental Protection Agency. Region 6 is conducting the fifth five-year review of remedy implementation and performance at the Geneva in dustries/Fuhrmann Energy Superlund site in Houston, Texas. Prior to 1967, petroleum exploration and production activities took place on site. From 1957 to 1978, Geneva industries operated a petrochemical production facility at the Site. Facility operations contaminated site soils, groundwater and surface water with hazardous chemicals.

The site is located in an industrial and residential area near interstate Highway 45 and the William P. Hobby Airport. An EPA removal action from 1983 to 1984 mitigated immediate health risks. The site-wide remedy, selected by EPA in 1986 and updated in 1993 and 2007, included excavation and off-site disposal of contaminated soils, capping of residual waste, treatment of contaminated groundwater, and institutional controls. The five-year review will determine if the remedies are still protective of human health and the environment. The five-year review is scheduled for completion in September 2018.

The report will be made available to the public at the following local information repository or visit https://www.epa.gov/superfund/geneva-industries:

MD Anderson Library 4333 University Drive Houston, Texas 77204-2000 (713) 743-9710

For press inquiries, please call (214) 665-2200. For more information about the site, please contact:

Stephen Pereira/Remedial Project Manager (214) 665-3137 or 1-800-533-3508 (toll-free) or by email at pereira.stephen@epa.gov

Edward Mekeel/Community Involvement Coordinator (214) 665-2252 or 1-800-533-3508 (toll-free) or by email at mekeel.edward@epa.gov

Midori Gampbell/Texas Commission on Environmental Quality Project
Manager
(512) 239-2077
or by email at midori.campbell@iceq.texas.gov

### Geneva Industries/Fuhrmann Energy Superfund Site La Quinta Revisión de Cinco Altos Octubre 2017

La Región 6 de la Agencia de Protección Ambiental de los Estados Unidos (EPA, por sus siglas en inglés), en cooperación con la Comisión de Calidad Ambiental de Tejas, llevará a cabo la quinta revisión de cinco años de la implementación y rendimiento del plan de limpieza del sitio Superfund (sitio) Industrias Geneva/Energia Fuhrmann en Houston, Tejas, Antes de 1967, las actividades de exploración y producción de petróleo ocurrieron en el sitio. Desde 1967 a 1978, industrias Geneva operó una instalación de producción de petroleo. Las operaciones del sitio contaminaron los suelos, las aguas subterráneas y las aguas superficiales con químicos peligrosos.

El sitio está localizado en un área industrial y residencial cerca do la autopista Interestatal 45 y el aeropuerto de William P. Hobby. Una acción de eliminación de EPA desde 1983 a 1984 mitigó riesgos inmediatos de salud. El remedio del sitio, seleccionado por la EPA en 1986 y actualizado en 1993 y 2007, incluyó excavación y eliminación fuera del sitio de los suelos contaminados, cubrimiento residuos residuales, tratamiento de las aguas subterráneas contaminadas, e imptementación de los controles institucionales. La revisión de cinco años determinará si la limpieza sigue protegiendo la salud humana y el medio ambiente. La revisión de cinco años está prevista para septiembre de 2018.

El informe se pondrá a la disposición del público en los siguientes repositorios locales de información:

La Biblioteca de MD Anderson 4333 University Drive Houston, Tejas 77204-2000 (713) 743-9710

Actualizaciones del estado del sitio Superfund están disponibles en Internet en https://cumulis.epa.gov/supercpad/cursiles/csitinfo.cfm?id=0602809

Todas las preguntas de los medios deben dirigirse a la Oficina de la Prensa de la EPA al (214) 665-2200

Para obtener más información sobre el sitio, por fayor contacte a:

Stephen Pereira/ Gerente de Proyecto de Limpieza (214) 665-3137 o 1-800-533-3508 (número gratuito) o por correo electrónico a <u>bereira stephen@epa.gov</u>

Edward MeKeel/ Coordinador de Participación Comunitaria (214) 665-2252 o 1-800-533-3508 (número gratuito) o por correo electrónico a mekeel edward@epa.goy

Midori Campbell/Gerente de Proyecto para la Comisión de Tejas para Calidad Ambiental (512) 239-2077 o por correo electrónico a midori campbell@(ceg.texas.gov

## APPENDIX D – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITI	E INSPECTION CHECKLIST
I. SITE IN	FORMATION
Site Name: Geneva Industries/Fuhrmann Energy	Date of Inspection: 10/03/2017
Location and Region: Houston, TX Region 6	EPA ID: TXD980748453
Agency, Office or Company Leading the Five-Year Review: EPA	Weather/Temperature: Cloudy and humid/80s
Remedy Includes: (Check all that apply)  Landfill cover/containment  Access controls  Institutional controls  Groundwater pump and treatment  Surface water collection and treatment  Other: Excavation of contaminated soils a site facility.	☐ Monitored natural attenuation ☑ Groundwater containment ☑ Vertical barrier walls  and buried drums with disposal at an EPA-approved off-
Attachments:	Site map attached
II. INTERVIEWS	S (check all that apply)
1. O&M Site Manager Marc Viola	<u>Project Manager</u> <u>12/28/2017</u> Title Date
Name Interviewed ☐ at site ☒ at office ☐ by phone F Problems, suggestions ☒ Report attached: <u>Yes</u>	Title Date  Phone:
2. O&M Staff Michael Stevens	Junior Associate
Name  Interviewed ☐ at site ☐ at office ☐ by phone  Problems/suggestions ☐ Report attached:	Title Date Phone:
	Agencies (i.e., state and tribal offices, emergency ablic health or environmental health, zoning office, ces). Fill in all that apply.
Name Pr M Ti	emedial
Problems/suggestions  Report attached:	<u> </u>
Name <u>M</u>	roject 12/18/2017
Agency	
Contact	Date Phone No.
Agency Contact	· · · · · · · · · · · · · · · · · · ·

	Name Problems/suggestions [ ] Report	Title tattached:	, Date	Phone No.	
	Agency Contact				
	Name Problems/suggestions Report	Title tattached:	Date	Phone No.	
4.	Other Interviews (optional)				
			-		-
Residen	ts				
	III. ON-SITE DOCUME	NTS AND RECO	ORDS VERIFIED (chec	k all that apply)	
1.	O&M Documents				
	☐ O&M manual ☐ ]	Readily available	Up to date		√A
I		Readily available	Up to date		N/A
	Maintenance logs	Readily available	Up to date		V/A
: i	Remarks:				
2.	Site-Specific Health and Safet	iy Plan	Readily available	Up to date	□ N/A
	☐ Contingency plan/emergency	y response plan	Readily available	Up to date	□ N/A
	Remarks: The site-specific Healt				
3.	O&M and OSHA Training Re	ecords	Readily available	Up to date	□ N/A
-	Remarks:				
4.	Permits and Service Agreemen	nts	·—		
	Air discharge permit	•	Readily available	Up to date	⊠ N/A
	Effluent discharge		Readily available	Up to date	□ N/A
	Waste disposal, POTW		Readily available	Up to date	⊠ N/A
	Other permits:	•	Readily available	Up to date	⊠ N/A
•	Remarks:		· · · · · · · · · · · · · · · · · · ·		
5.	Gas Generation Records		Readily available	Up to date	⊠ n/a
	Remarks:				
6.	Settlement Monument Records	ls	Readily available	Up to date	⊠ N/A
	Remarks:				
7.	Groundwater Monitoring Reco	ords	Readily available	Up to date	□ N/A
	Remarks:				
8.	Leachate Extraction Records	•	☐ Readily available	Up to date	⊠ N/A
	Remarks:				
9.	Discharge Compliance Record	ls		,	
	☐ Air ☐ R	Readily available	Up to date	⊠n	/A
	Water (effluent)	Readily available	□ Up to date	□N	/A

	Remarks:	
10	). Daily Access/Security Logs	⊠ Readily available ⊠ Up to date □ N/A
	Remarks:	
	IV. 08	M COSTS
1.	O&M Organization	
	State in-house	☐ Contractor for state
	PRP in-house	Contractor for PRP
	Federal facility in-house	Contractor for Federal facility
		·
2.	O&M Cost Records	
	Readily available	Up to date
	Funding mechanism/agreement in place	Unavailable
	Original O&M cost estimate: Brea	ıkdown attached
	Total annual cost by y	ear for review period if available
	From: <u>09/01/2012</u> To: <u>08/31/2013</u>	\$138,994.97
	Date Date	Total cost
	From: <u>09/01/2013</u> To: <u>08/31/2014</u>	\$275,112.09
	Date Date	Total cost
	From: <u>09/01/2014</u> To: <u>08/31/2015</u>	\$463,043.57 Breakdown attached
	Date Date	Total cost
	From: <u>09/01/2015</u> To: <u>08/31/2016</u>	\$111,599.86 Breakdown attached
	Date Date	Total cost
	From: <u>09/01/2016</u> To: <u>08/31/2017</u>	\$154,556.59
	Date Date	Total cost
3.		sts during Review Period
		<u> </u>
	V. ACCESS AND INSTITUTIONA	L CONTROLS   Applicable   N/A
A.	Fencing	
1.		on site map Gates secured N/A
	Daily Access/Security Logs   Readily available   Up to date   N/A	
B.	Other Access Restrictions	<u> </u>
1.	·	· —
		he name of the Site and no trespassing.
C.	Institutional Controls (ICs)	

1.	Implementation and Enfo	rcement											
	Site conditions imply ICs n	ot properly implemente	ed .	☐ Yes	⊠ No □ N/A								
	Site conditions imply ICs n	ot being fully enforced		☐ Yes	⊠ No □ N/A								
	Type of monitoring (e.g., so	elf-reporting, drive by):	Self-reporting										
	Frequency: Monthly												
	Responsible party/agency:	Responsible party/agency: O&M contractor											
	Contact Marc Viola		Project Manager										
	Name		Title	Date	Phone no.								
	Reporting is up to date			X Yes	□ No □N/A								
	Reports are verified by the	ead agency		X Yes	□ No □ N/A								
	Specific requirements in de-	ed or decision documer	its have been met	X Yes	□ No □ N/A								
	Violations have been report	ed		☐ Yes	⊠ No □ N/A								
	Other problems or suggestion	ons: Report attache	đ	•									
				٠									
2.	Adequacy 🔀 ICs a	re adequate	☐ ICs are ina	dequate									
	Remarks:	· .		-									
D.	General												
1.	Vandalism/Trespassing	Location shown on	site map   N	Vo vandalism	evident								
	Remarks:												
2.	Land Use Changes On Site												
	Remarks:												
3.	Land Use Changes Off Sit		I/A										
	Remarks:												
		VI. GENERAL SIT	E CONDITIONS										
Α.	Roads Applicable	□ N/A											
1.	Roads Damaged	Location shown on	site map Re	oads adequat									
	Remarks:			•	<b></b>								
В. •	Other Site Conditions	•		***************************************									
	Remarks:												
	VII. LAN	DFILL COVERS	Applicable	e N/A									
<b>A.</b> 3	Landfill Surface			•									
1.	Settlement (low spots)	Location shown	on site map	Settleme	ent not evident								
	Area extent:		•	Depth:									
	Remarks:	•		1									
2.	Cracks	Location shown	on site man	Cracking	g not evident								
	Lengths:	Widths:		Depths:									
	<u> </u>	· <del></del>		L.	<del></del>								

.3,	Erosion	Location shown on site map	Erosion not evident
	Area extent:		Depth:
	Remarks:	·	
4.	Holes	Location shown on site map	⊠ Holes not evident
	Area extent:		Depth:
	Remarks:	· -	
5.	Vegetative Cover	⊠ Grass	Cover properly established
	No signs of stress	Trees/shrubs (indicate size and lo	ocations on a diagram)
	Remarks: Vegetative cover	is property established and includes gr	asses that are about 3 feet high.
6.	Alternative Cover (e.g., ar	mored rock, concrete)	⊠ N/A
	Remarks:	· ·	
7.	Bulges	Location shown on site map	□ Bulges not evident
	Area extent:		Height:
	Remarks:		
8.	Wet Areas/Water Damage	e Wet areas/water damage not e	evident
	□ Wet errors		Anno outout
	☐ Wet areas	Location shown on site map	Area extent:
	Ponding	Location shown on site map	Area extent:
	Seeps	Location shown on site map	Area extent:
	Soft subgrade	Location shown on site map wet areas on the vegetative cover. How	Area extent:
	night.	wet areas on the vegetative cover. How	wever, it had ramed the previous
9.	Slope Instability	Slides	Location shown on site map
	☐ No evidence of slope ins	tability	
	Area extent:		
	Remarks: Some drainage mathis was expected given the	nterial from the landfill cover is expose nature of the material.	ed on the landfill slope. However,
B. Beno	ches	ble 🛛 N/A	
,		nds of earth placed across a steep land y of surface runoff and intercept and c	
C. Letd	own Channels	Applicable N/A	
S		ontrol mats, riprap, grout bags or gabio ow the runoff water collected by the be gullies.)	
D. Cove	er Penetrations	Applicable N/A	
1.	Gas Vents	Active	Passive
	Properly secured/locked	☐ Functioning ☐ Routinely sa	ampled Good condition
	Evidence of leakage at p	enetration Needs main	tenance 🛛 N/A
	Remarks:	•	

2.	Gas Monitoring Probes		
	Properly secured/locked Functioning	Routinely sampled	Good condition
	☐ Evidence of leakage at penetration	☐ Needs maintenance	⊠ N/A
	Remarks:		
3.		,	
	Properly secured/locked Functioning	☐ Routinely sampled	☐ Good condition
	Evidence of leakage at penetration	☐ Needs maintenance	□ N/A
	Remarks:		
4.	Extraction Wells Leachate		
	Properly secured/locked Functioning	Routinely sampled	Good condition
	Evidence of leakage at penetration	☐ Needs maintenance	⊠ N/A
	Remarks:		
5.	Settlement Monuments	Routinely surveyed	⊠ N/A
	Remarks:	· .	
E. Ga			
F. Co	ver Drainage Layer	⊠ N/A	
G. De	etention/Sedimentation Ponds	⊠ N/A	
H. Re	etaining Walls Applicable N/	A	
I. Per	rimeter Ditches/Off-Site Discharge	pplicable 🛛 N/A	
VIII.	VERTICAL BARRIER WALLS 🖂 Ap	pplicable \[ \] N/A	
1.	Settlement	n site map 🔀 Settlen	nent not evident
	Area extent:	Depth:	
·	Remarks:	ŧ	
2.	Performance Monitoring Type of monitoring:	Groundwater elevation mon	nitoring
	Performance not monitored		
	Frequency: <u>Semi-annually</u> or as directed by the TCE manager	O project Eviden	ce of breaching
	Head differential:		
	Remarks: It appears the inward hydraulic gradient is	being maintained in the sh	allow zone.
IX. G	ROUNDWATER/SURFACE WATER REMEDIES	S Applicable 1	N/A
A. Gr	oundwater Extraction Wells, Pumps and Pipelines	Applicable	□ N/A
Property secured/locked   Functioning   Routinely sampled   Good condition   Bvidence of leakage at penetration   Needs maintenance   N/A   Remarks:			
	☐ Good condition ☐ All required wells properly	ly operating Needs	maintenance N/A
	Remarks:		
2.	Extraction System Pipelines, Valves, Valve Boxes	and Other Appurtenance	es
	☑ Good condition ☐ Needs maintenance	****	

	Remarks:
3.	Spare Parts and Equipment
	Readily available Good condition Requires upgrade Needs to be provided
	Remarks: The system is old and is aging. However, it is being refurbished as needed to keep it running.
B. Su	rface Water Collection Structures, Pumps and Pipelines
1.	Collection Structures, Pumps and Electrical
	Good condition Needs maintenance
	Remarks:
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances
	Good condition Needs maintenance
	Remarks:
3.	Spare Parts and Equipment
	☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
	Remarks:
C. Tr	eatment System Applicable N/A
1.	Treatment Train (check components that apply)
	☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
	☐ Air stripping ☐ Carbon adsorbers
	☐ Filters: Charcoal
	Additive (e.g., chelation agent, flocculent):
	Others:
	☐ Good condition ☐ Needs maintenance
	Sampling ports properly marked and functional
	Sampling/maintenance log displayed and up to date
	☐ Equipment properly identified
	Quantity of groundwater treated annually:
	Quantity of surface water treated annually:
	Remarks:
2	Electrical Enclosures and Panels (properly rated and functional)
	□ N/A
	Remarks:
3.	Tanks, Vaults, Storage Vessels
	□ N/A □ Good condition □ Proper secondary containment ☑ Needs maintenance
	Remarks: Most tanks are in good condition. However, the knockout tank needs to be replaced.
4.	Discharge Structure and Appurtenances
	□ N/A
	Remarks:

5.	Treatment Building(s)
	□ N/A
	□ Chemicals and equipment properly stored
	Remarks:
6.	Monitoring Wells (pump and treatment remedy)
0.	
	☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
•	☐ All required wells located ☐ Needs maintenance ☐ N/A
	Remarks: All observed monitoring wells were locked and property labeled.
D. Mo	onitoring Data
1.	Monitoring Data
2.	Monitoring Data Suggests:
	Groundwater plume is effectively contained Contaminant concentrations are declining
E. M	onitored Natural Attenuation
1.	Monitoring Wells (natural attenuation remedy)
	☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
	☐ All required wells located ☐ Needs maintenance ☐ N/A
	Remarks:
	X. OTHER REMEDIES
If ther	e are remedies applied at the site and not covered above, attach an inspection sheet describing the physical
	and condition of any facility associated with the remedy. An example would be soil vapor extraction.
1.	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).
	The remedy was designed to prevent future contamination of the adjacent flood control channel, minimize
	direct contact with contaminated soils, prevent degradation of off-site soil, prevent further degradation of
	off-site groundwater, reduce the risk of groundwater degradation in the deeper sand units, and reduce
	contamination in the 100-foot sand unit. The remedy is mostly effective and functioning as designed.  However, it appears that groundwater contamination from the 30-foot sand unit might be moving into the
	100-foot sand unit. In 2016, O&M contractors also discovered the presence of DNAPL in deep monitoring
	wells while performing a clear bailing of the wells. The DNAPL plume may also be migrating to the
	southeast. Groundwater monitoring data over the FYR period has shown steady increases of PCB
D	contamination in the deep zone and groundwater contamination may be expanding.
В.	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.
	O&M procedures are implemented as prescribed in the ROD and O&M Manual. The treatment system is
	aging and some parts need to be replaced. Overall, it is in good condition.
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.  The remedy may need to be changed based on issues and problems listed above.
D.	Opportunities for Optimization

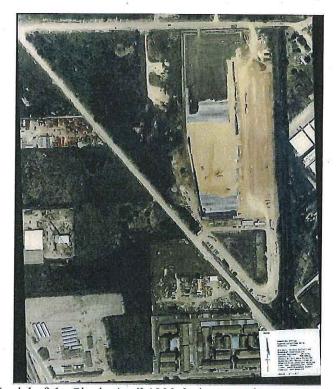
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. EPA is currently conducting an optimization study.

# $\begin{array}{c} \textbf{APPENDIX} \ \textbf{E} - \textbf{PRE-NPL}, \textbf{REMEDIAL} \ \textbf{ACTION} \ \textbf{AND} \ \textbf{SITE} \ \textbf{INSPECTION} \\ \textbf{PHOTOS} \end{array}$

BEFORE - 1982-1990



Aerial of the Site in August 1982 before NPL listing



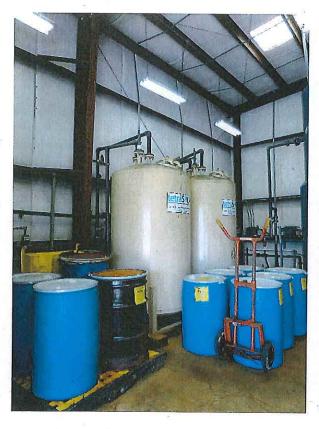
Aerial of the Site in April 1990 during remedy construction



Signage on the site entrance gate



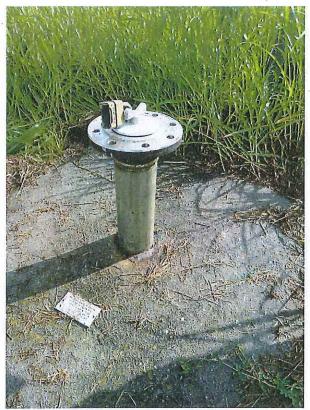
Groundwater recovery and treatment building



Granular activated carbon tanks, part of the groundwater recovery and treatment system



Oil/water separator tank, part of the groundwater recovery and treatment system



Locked recovery well RW-5



Clearly marked recovery well RW-5



Example of DNAPL recovered from RW-5 during site visit



Capped area looking east with vegetation



Locked monitoring well MW-26



Recovery well RW-6 (no longer functioning and disconnected)



Piping, part of the active groundwater recovery and treatment system



Cluster of deep monitoring wells – MW-101, MW-102, MW-103 and MW-104



One of the six tanks where treated groundwater is stored before discharge



Effluent discharge outfall piping



Treated groundwater storage tanks (right) and the HCFCC (left), located east of the Site

## APPENDIX F - DATA FIGURES AND TABLES

Figure F-1: June 2017 Shallow Wells Potentiometric Surface Map

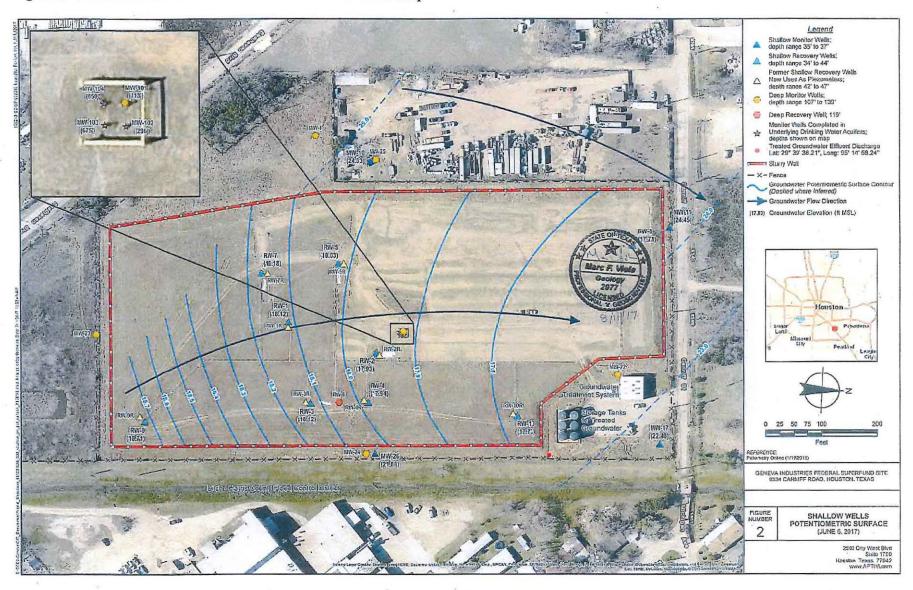


Figure F-2: June 2017 Deep Wells Potentiometric Surface Map

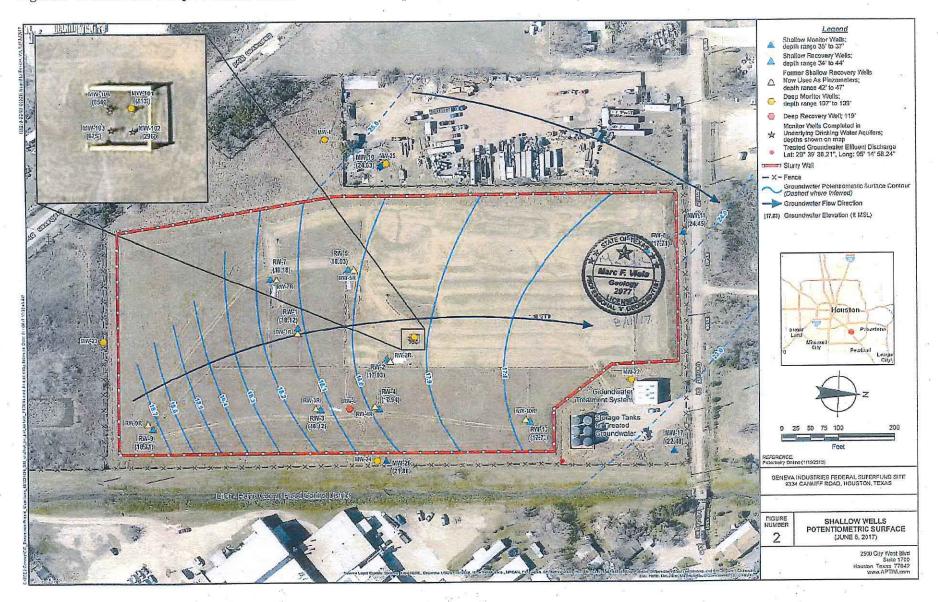


Table F-1: Cumulative Groundwater Monitoring Data

	Chemisal	Beoze	eræ	Tploére		Ethybenzere	•	Xylenes		ch-1, Dichkepet	hylene	Tetrach/oroeth)	tene	trans-1,2-Oichioroethyere	
	CAS No.	71-43		108-66-3		100-41-4		1220-20-7		155-3	9-2	127-15-4		155-51	
	Tier 1 PCL	0.00		1.00		0.70		10		G#7		0.005		9.10	
ungis ID	Date		Decay		Quai	Val	Cust.		Qual		Cital	Va)	Ousi		Cial
V-5	01/11/05	~9.0029 1		<0.0020		<0.0020		<0.006		N.A.		NA NA	<b>  </b>	NA	
V-8	01/25/06	40.000 (B) (	t	<0.00026		<0.00038		<0.00018		NA NA		NA.	$\vdash \vdash \vdash$	NA NA	
V-5	25/05/07	<b>-∞0.00050</b> [t		<0.00024		<0.03035		<0.00017 <0.0011		NA NA		NA.		NA NA	
.U-B	CS/31/07	40.03023 k		<0.00094		≈0.00048							₩	NA.	
N-6	07/12/07	-0.00023 t		<0.00054		<0.00048		<0.0011		NA NA		HA NA	ll	NA.	
V-8	\$E:109:07	<0.90023		<0.00054	U	<0.00048	<u>u</u> 1	-c.pc;1				HA.	1	NA NA	
W-2-0108	04/07/08	-:C.00023 t		≈D.ΩD054		<0.00048		<0.0011		NA.		HA.	1 1	NA NA	
W-9-0408	D4/29/08	-:0.00046 U		<0.0004B		~3.00045		<c 0014<="" td=""><td></td><td>NA.</td><td></td><td></td><td>1</td><td></td><td></td></c>		NA.			1		
V-S-07C8	enchie	<b>~</b> 3,00046 U		<0.0004B		<0.00045		<0.0014		NA		NA.	1	NA NA	
N-6-0109	01/08/09	-0.00046 U		-c0.00048		-3,00045		≈0.0014		N/A		HA.	$\vdash$		
V-8-0609	06/10/09	<0.00045 L		<0.00048	U	-0,00045	<u> </u>	<b>40.0014</b>	<u>U</u>	NA.		215	<del>  </del>	NA DOUBLE	
V-09-0710	07/25/10	<3.00050 (	J	NA.		NA.	L	NA NA		<0.000E5		NA NA	$\vdash$	<0.00045 <0.00009	
V-8-0211	03/24/61	<b>≈0.00008</b> (		NA.		. NA	$\sqcup$	NA NA		<0.00005			ļļ		
V-GS-0711	03/12/11	<b>≈</b> 0.00008 ¥	t	NA		NA		NA		<0.00005		NA.		e00000c=	
V-8-1211	12/14/11	÷2.00025 ₹	C	HA		NA		NA		<0.00024		<0.0033		<0.0003	
V-S-0412	B4/26/12	~D.00025	J	HA		NA.	$\Box$	NA.		<0.00024		<0.00033		<0.00030	
W-8-0113	01/22/12	<0.00034 U	0	NA	<u>.</u>	NA.		NA		<0.00040		<0.0004£		<0.00047	
W-5-0713	07/02/13	≤0.00034 (		МA		NA.		NA		<b>~0.00040</b>		<0.CCC46	10	40,00547	
V-3-0114	01/16/14	≈0.00034 t		NA		NA.		NA.		-0.00040		MA	$oldsymbol{\sqcup}$	~0.00047	
V-9-0714	07/02/14	≈0.00034 ¥		, NA		NA		NA	7	<b>-</b> 0.00040		NA.		<0.00047	Ů.
V-9-0115	01/08/15	<0.00034 t	U	. NA		NA		NA		<0.000¢0		NA.	ш	÷0.00047	Ŋ
W-8-0116	01/05/16	< 3.00047 L	υ – – – – – – – – – – – – – – – – – – –	~0.00049	y i	<0.00045	U	-0.0012	U	≪0.03052		<0.00038	U	<b>*9.00047</b>	
W-S-1216	12/21/16	<0.00047		NA		NA.		NA:		<0.00052	บ;เม-CGAL	λλŧ		-07,00947	
W-6-0617	B€/67/17	-0.90030	<u> </u>	HA.	$\vdash$	NA.		NA.		<0.00038		NA		0.6000.0>	IJ
	20.0((3)			<u> </u>			<u> </u>								
W-18	D1/14/05	<b>₹0.0020</b> (		· <0.0020	U	~0.5025	U	<0.005	ŭ	NA		NA		NA.	
W-10	01/26/06	<0.500tB		<0.00026		~0.00038		<0.00018	U	NA		HΑ	П	NA.	
W-10	01/05/07	-0.00050 (		<0.00024		-≤3.00035		<0.00017		NA.		HA	$\Box$	NA.	
W-10	05/30/07	40.00023		<0.00054		<0.00048		<b>-9.0011</b>		NA.		HA		NA.	
	07/13/07	<3.00023 t		<0.00054		<0.00048		-0.0011		34A		NA		NA	
N-10				<0.00024 <0.00054		<0.00048		<0.0011		NA		NA	1	NA.	
V-10	10.05.07	-0.00023 t		<0.00048		<0.0004s		<0.0014		52A		NA.		NA.	
W-10-0108	01/07/08	~0.00045 I		<0.00048		<0.00045		<0.9314		NA.		NA	1-	. NA	
W-10-C4C8	C4/15/08					<0.00045		<0.0014	-	NA.		HA		NA	
W-10-0708	07/03/08	-0.00045 i		<0.00048 <0.00048		0.00045		<0.0014	U	NA.		MA	1	NA.	
W-10-0109	E0/32/10	<b>₹0.00045</b> (								NA.		NA.	-	NA.	$\vdash$
W-10-0509	DE/16/05	-<0.00045 I		<0.00048		<b>-</b> 0.00045		+6.0014 NA	·	<0.00055	71	NA NA	1	-©.00645	[]
W-10-6710	87/26/10	40.00050	U	NA NA		NA NA		NA NA			U,WL-SUR	NA.	1	<b>€0.000.09</b>	
W-10-0211	02/24/15	*C:Ouppe C	น;บงเ-ซยห		<b>├</b> ─┤	NA.		NA.		-C.000015		210	-	≈0.00009	
W-10-0711	D7/12/51	-0.0000B	u		<b>  </b>	NA NA		NA NA		<0.03024		<0.00033	1.	~0.0503	
W-10-1211	12/14/11	-0.00025 t	u .	NA NA		NA NA		NA NA		÷0.00024		<0.00033		≈0.00030	
W-10-0412	E405M1	+0.00025		HA					—	<0.00040		<0.00046		-0.03047	
W-16-0113	04/22/12	<0.00534		NA.		NA NA		NA NA		<0.00348 <0.00348		<0.0004€		40.00047	
W-10-0713	C7/02/13	<b>~</b> 0.00034 \		NA				NA NA		40.0304II		NA NA		-0.00047	
W-10-0114	Baraeri4	≠0.00034		HA	<del></del>	NA NA		NA NA		40.00340		NA.	-	<0.00347	
W-10-0714	Q7/02/34	<0.00034		764								NA NA	-	<0.00047	
W-10-0115	DSIDZES	-0.90034		HA		N.A.		NA NA		-07.000341 -07.000352	및	≺8.00038	1	<0.00047 <0.00047	
W-10-0116	DATE: 16	<b>&lt;</b> 0.90047		<0.00049		-0.00046		40.0012	5				12-1		
W-10-1216	12/20/16	-¢0.00047 (		HA.		NA NA		NA		-0.00052		NA.	1	<0.09047 <0.09030	v .
W-10-0617	DE/B7/27	<0.90030	U	ASE	L	NA.	1	NA.		-40.00333	in .	NA.	1	40300040	<u> </u>
													1		<u> </u>
W-11	DAME	₹8,6020		≪0.0025		<b>&lt;</b> 0.0020		-0.D0s		NA.	<u> </u>	NA.	₩	NA.	
W-11	E4/26/06	<0.50018 l		≠0.00025		<0.00038	ш.	<0.00018		5XA	<u> </u>	NA	╙	NA.	
N-11	D1/5057	-0.00050	UU	~0.000.24		<b>~</b> 0.08835		<0.99317		NA	<u> </u>	NA	4	, NA	<u> </u>
W-11.	09/34/07	<0.00523		<0.00054		<b>*</b> 0.00048		*Q.0011		· AKA		NA NA		NA.	
W-11	07/12/07	40,89023 l	ע	<0.00054		<0.00048		40,0011		NA.		HΛ		NA.	<u> </u>
W-11	10/1007	-0.90023	U .	<b>≠2.0005</b> \$	U_	<0.05049		+0.0011		NA.		· NA		NA.	<b> </b>
V-11-0108	03/07/08	<0.00046 1		<0.0004B	U	<0.00045		<0.0314		DLA.		RA		NA:	<u> </u>
W-11-6466	G4/29/E8	+0.80045		<3.09348	U	<0.09845		<b>40.0014</b>		984		164	ш	NA.	
V-11-0708	67/64/66	40.80046		<b>€4000.0&gt;</b>		<0.00049	ប	<0.0014		34.5		78.4	$\perp$	N/A	<u> </u>
W-11-0108	DINESTE	<0.90046		<0.00045		<0.50049	U	<0.0014		NA.	1	245		NA.	
V-11-0609	860000	-0.90945		<0.00048		-3,30045		40.0014		NA.		MA		N/A	
V-(1-0710	97/26/3B	-40.00050		NA.		BLA		NA.		<0.03055		364		<b>-</b> €0.00845	Ü
N-11-0211	DDDEA11		บ:(เกาะสมม	. NA		N.A		NA		-0.00005	U,UJL-EUR	NA		<0.00000€	U, WL
V-11-0211	07/13/35	-C.00000		No.		N/A		NA		<0.00001£	U	NA.		€CECCOS>	
V-11-1211	52/13/11	-C 80025		NA.		NA		NA.		-C.D.3324		<0.00633	lu l	<0.0003	ט
		<0.00025		NA NA		NA		, NA		4000124		<0.EE632		<0.0393B	
W-11-B412	E4/25/52			NA.		NA NA		NA.	$\vdash$	-0.00010		≠0.9€04€		40.00347	
W-11-0113	tront1	40,00034				SIA.		NA NA		+C 000540		<0.0EC46		≪0.00047	
N-10-0713	07/03/13	-03.90034		NA.		824		NA NA		-0.00340		71.02.040		<0.00847	
W-11-0114	D3/57/54	-@.00034		NA		927 324		RA RA		<0.00040 <0.00040		NA NA		40,000#7	
W-11-0714	B7/02/54	<g.90034< td=""><td></td><td>NA.</td><td>—</td><td></td><td></td><td></td><td><math>\vdash</math></td><td>4000040</td><td></td><td>MA</td><td></td><td><b>-€.00047</b></td><td></td></g.90034<>		NA.	—				$\vdash$	4000040		MA		<b>-€.00047</b>	
W-11-011E	四個在海湾	40.00034		113		324		NA.				<0.00038		-0.03047	
W-11-0116	Dateme	≪3.0134F		<0.000149		<0.00849		<0.0312	U U	-0.00052 -0.00052	[2]	NA NA		<0.00047 <0.00047	
W-11-121E	12/25/16	-43.000#7		NA NA		30		NA.		<0.003£2				40,0003h	
W-11-0617	DE/07/57	-0.03830	11	141	i . I	N.A	i I	NA.	1	<0.000330	173 CT	NA.	41	ووورين	in.

	Chemical	Genzese	Tolvene	Ethybenzene	Kylenes	cis-1,2- Dichloraelhytene	Teleschiornethviere	irans-1,3-Dichlarge hylera
	CAT No.	71-43-2	106-66-3	100-41-4	1330-30-7	196-59-2	127-18-4	155-60-5
Cample (D	Tier 1 PCI. Date	OEGE Val Cust	1.00 Val Quat	0.70	10	0.870	6.66 <del>5</del>	0.10
MW-17	01/13/0E	<0.0020 U	Val €2:03 U 0:00:0≈	Val Qual	Val Qual	Vai Grei	Vzi Quai	Vat Quat
LUE-17	D\$/25/06	<5.00018 U	-0.00026 U	<0.0020 U <0.0038 U	√0.0035 U U 800.09~	NA NA	NA NA	NA NA
MW-17	01/1007	<6.000\$0 U	<0.00024 U	-01.00D35 U	<0.00017 U	NA NA	NA NA	NA NA
MW-17	DE/20/07	<0.00023 U	<0.00054 U	-: D.00048 U	<0.0011 U	NA .	NA NA	NA NA
MW-17	07/12/07	-0.00023 U	-≈0.00054 U	<0.00049 U	<0.0011 U	NA NA	NA NA	· NA
MW-17 MW-17-B108	15/31/07	-0.50923 U	<0.50054 U	≪9.00548 U	<0.0011 €	NA NA	NA	NA.
MW-17-0408	01/07/08 04/25/08	<0.00845 U <0.00846 U	≠0.00948 U	≈0.00045 U	<0.0014 U	NA NA	NA	NA NA
MW-17-0708	07/01/08	<0.00046 U	≪0.00049 U ≪0.00048 U	<0.00045 U	<8.0014 U	NA NA	NΛ	NA
MW-17-0109	P2/15/11	<0.00045 U	~0.00048 U	-0.00045 U -0.00045 U	-20.0014 U	NA NA	, NA	NA NA
MW-17-0689	DE/11/D9	<0.00046 U	-0.00048 U	40.00045 U	<0.0014 U <0.0014 U	NA NA	NA NA	NA NA
MW17-0710	07/20/10	-0.00350 U	NA	NA NA	NA NA	NA ≪3.00055 U	NA NA	NA ≈0.00045 U
MW-17-0211	02/25/11	-0.00008 U;UAL-3UR	NA NA	NA NA	NA	-0.0000E U;UJL-SUR	NA.	40.00009 U:UJL-01
MW-17-0751 MW-17-1215	07/13/11	-31.0000B U	NA NA	NA NA	NA	<0.00006 U	NA NA	-0.0000 U.002-0-0
MW-17-1211 MW-17-0412	12/12/11	<0.00025 U	NA .	NA NA	NA	<0.00034 U	<0.0033 U	40.0003 U
MW-17-0113	01/22/12	<0.0003± U	NÀ	NA NA	NA NA	<0.00024 U	<0.0033 U	-0.080d0.0≥-
MW-17-0713	07/03/13	<0.00034 U	NA NA	NA NA	NA NA	<0.00348 U	<0.0004€ U	-0.00047 U
MW-17-0114	01/17/14	<0.00034 U	NA NA	NA NA	NA NA	<.000040 0	<0.0004E U	<0.00047 U
MW-17-0744	07/01/14	∹0.00034 U	NA NA	NA NA	NA NA	<0.00040 U ≪0.00040 U	NA I	≪0.00047 U
MW-17-0115	01/07/35	<0.00034 U	NA	NA NA	NA NA	<0.00040 U	NA HA	<0.00047 U <0.00047 U
MW-17-0116	D1/06/56	<0.00047 U	≪0.00549 U	≈4.00046 U	<0.0012 U	-d.00052 U	. ≈0.00038 U	40.00047 U
MIV-17-1216 MIV-17-0617	12/20/16	<0.00947 U	NA.	NA NA	NA NA	≪0.00052 U	NA NA	40.00047 U
MW-17-1617	<b>E</b> €/07/17	<0.00030 U	NA	NA NA	NA NA	-\$.00036 U	JAA	<0.00030 U
MW-22	01/13/05	<0.0020 U	<0.0020 U	<0.0020 U				
MW-22	01/26/06	<0.0020 U	<0.00026 U	<0.0020 U	<0.005 U	NA NA	NA NA	NA NA
MW-22	01/10/07	-0.00050 U	<0.00034 U	≪9.00038 U	<0.00018 U <0.00017 U	NA NA	NA	NA NA
MW-22	05/20/07	-0.00023 U	<0.00054∫U	÷0.00035 U	+0.6011 U	NA NA	NA NA	NA NA
MW-22	07/12/97	<0.00023 U	<0.00054 U	<0.00048 U	-0.00110	NA NA	NA NA	NA.
MW-22	10/09/07	<0.00023 U	0.00055 J	-0.99948 U	≪0.0011 U	NA NA	NA NA	NA NA
dw-22-9108	01/08/08	-0.99046 U	0.0007	<0.00045 U	<0.0014 U	NA.	NA NA	NA NA
MIN-22-0408 MIN-22-0708	E4/29/E8	≪0.90046 U	0.00049	'≈0.00045 U	<0.0314 U	NA NA	NA.	NA.
JW-22-0109	07/01/06 01/06/09	<0.00045 U	<0.00048 U	≪0.00045 U	<0.0014 U	· NA	NA	, NA
#W-22-0609	06/11/09	<0.00045 U	<0.00048 U <0.00048 U	-0.00045 U	≪0.0014 U	NA NA	· NA	NA NA
JW-22-0710	07/20/10	<0.00050 U	NA NA	<0.00045 U NA	-0.0014 U	NA <0.00056 U	NA NA	NA NA
/LV-22-0211	DZ/25/51	<0.00008 U	NA NA	NA NA	NA NA	<0.00036 U	NA NA	≪0.00045 U
JW-22-0711	07/13/11	<0.00008 U	NA	NA NA	NA .	<0.00005 U	NA NA	U €0000.0> U €0000.0>
JW-22-1211	12/14/51	<0.00025 U	NA	NA NA	NA NA	≪0.00024 U	<0.00033;U	-0.0003 U
4W-22-0412 4W-22-0113	84/26/12	<0.00925 U	NA NA	NA NA	NA NA	<0.0002A U	<0.00033 U	-0.00030 U
JW-22-0713	01/23/13 07/02/13	<0.00034 U <0.00034 U	NA NA	NA NA	NA NA	<0.00040 U	<0.00046 U	-0.00047 U
JV-22-0114	B1/16/14	<0.00034 U	NA	NA NA	NA NA	<0.00140 ∩	-≠0.0004€ U	-30.00047 U
NV-22-0714	97/51/34	<0.00034 U	NA NA	NA NA	NA NA	<0.00040 U	NA NA	<0.09847 U
AW-22-0115	01/08/15	<0.00034 U	NA -	NA NA	NA NA	≪0.00040 U ≪0.00640 U	HA.	<0.00047 U
/IV-22-0116	D1/06/16 ·	<0.00047 U	0.00059 J	≪3.00046 U	+0.0012 U	40.00052 U	NA} ≺0.00028 U	-0.00047 U -0.00047 U
NV-22-1216	12/20/16	≈0.00847 U	· NA	NA NA	NA NA	-0.00052 U	NA NA	-0.00047 U
NV-22-0617	DE/DT/57	-<0.0903D U	NA	NA NA	NA NA	<0.00030 U	NA	-0.00030 U
1W-23	81/14/CS		ļ <u></u>					
1W-23	Bridece	<0.0020 U <0.00010 U	*0.0020 U <0.00025 U	<0.0020 U	≪0.005 U	NA NA	HA	NA NA
QV-23	B1/05/07	-0.00016 U	<0.000261U <0.00024U	-00.00038 U	<0.00018 U	NA NA	214	NA.
(IV-23	05/30/07	+8.90023 U	<0.00054 U	<0.00035 U <0.00048 U	<0.00017 U ≪0.0311 U	NA NA	NA NA	NA NA
IW-23	07/13/07	-0.00023 U	<0.00054 U	<0.00348 U	40.0311 U	NA NA	NA NA	NA NA
IW-25	100507	-0.00023 ป	<0.50054 U	<0.00048 U	40.0011 U	NA NA	RA RA	NA NA
(W-23-D168	82/12/12	<0.00045 U	<0.00049 U	<0.00045 U	<0.0014 U	NA NA	NA NA	NA NA
IV-23-0408	04/25/08	-0.00046 U	0.0004B U	<0.00045 U	<0.0014 U	NA NA	NA	NA.
55-23-6768 55-23-6166	07/02/08 01/08/09	-0.90946 U -0.90946 U	<0.00048 U	<0.00045 U	+0.D314 U	NA .	NA	NA.
IW-23-0104 IW-23-0605	01/10/09	≪0.00046 U ≪0.00046 U	8.00059 3	-0.00045 U	<0.0314 U	NA NA	NA	NA NA
IV-23-0710	07/26/18	-0.00050 U	0.00073 J NA	<0.00045 U NA	<0.0014 U	NA NA	NA.	NA NA
IV-23-0211	02/24/11	-0.00008 U:UUL-GOR	NA H	NA NA	NA NA	<0.00055 U;UJL-CUR	NA NA	-0.09845 U
W-25-0711	07/12/15	-0.00000 U	NA	NA NA	NA NA	40.0008E D.OOF-GOM	NA NA	-0.00009 n:mr-cas
W-23-1211	12/14/11	-0.00525 U	NA	. NA	NA NA	40.00038 U	<0.00033 U	-<0.00035 U -<0.0003 U
W-23-0412	D4726/13	<0.00025 U	NA NA	NA NA	NA NA	40.0002# U	<0.00033 U	40.00030 U 060000
W-23-0113	01/23/13	<9.90934 U	NA NA	NA NA	NA NA	<0.00840 U	-0.00546 U	≪0.00047 U
IV-23-0713 IV-23-0114	07/02/13	<0.00054 J	NA	NA	NA NA	<0.6000411 U	<#. CE CE CE 16   U	<0.90947 U
W-23-0114 W-23-0714	D3757/54	<0.00834 U	NA.	NA NA	NA NA	<0.00848 U	NA	<0.00047 U
W-23-0/14 W-23-0/15	07/07/14 01/07/15	<0.00034 U <0.0034 U	NA NA	NA NA	NA NA	≪0.00040 U	NA .	-0.00047 U
W-23-0116	D1/07/15	<0.90047 U	0.00(s)	NA <0.08846 U	NA POSTONIA	<0.00340 U	NA	≪0.09847 U
IV-23-1216	12/20/16	0.00067 3	NA NA	NA NA	<0.0012 U NA	<0.00052 U	<0.0638 U	<0.09347 U
IV-23-0617	C6/E6/17	9.0018	NA.	NA NA	NAI NAI	<0.600)52 U -@.60030 U	NA NA	<0.03/147 U
					- 42	The said	MA	-2.00030 U

	Chemical CAS No. Tier 1 PCL	71-	Wene 43-2 005	Taluene 109-88-3 1.00		Ethylbenzen 100-41-4 0.70		Xylenes 1330-20-7		els-1 Dichlorae 156-3 0.0	ethylene 19-2	Tetrachioroeth; 127-18-4 0.005	lene	trans-1,2-Dichi 156-6 0.10	0-5
Sample ID	Date	Val	Qual	Val	Qual	Val	Qual	Val	Qual	Val	Qual	Val	Qual	Val	Cupl
/IV-24	01/13/05	<0.0020	U	<0.0020	U	<0.0020	U	<0.006	U	N/A	0.000	NA.		NA	
fW-24	01/26/06	<0.00018		· <0.00026		<b>-©1.00038</b>		<0.00018		N/A		. NA		NA	
IV-24	01/09/07	<0.000E0	U.	< 0.00024	U	<0.00035		<0.00017		N/		NA		NA	
NV-24	05/31/07	<0.00023	U	<0.00054	υ	~0.00049	U	<0.0011	U	N/A		NA		NA	
(IV-24	07/12/07	<0.00023		<0.00054		<0.00049		<0.0011		NA NA		NA.		NA	
W-24	10/09/07	<0.00023	U	<0.00054		<0.00048	U	<0.0011	U	NA.		NA		NA	
NV-24-0106	01/08/08	<0.00046		÷0.00049		<0.00045		<0.0014		N/		NA.		NA	
IW-24-0408	04/29/08	<0.00046		0.00049		=0.00045		<0.0014		N/		NA.		NA	
IV-24-0708	07/02/08	<0.00046	U	⇒D.00048		0.007		<0.0014		NA NA		NA.	$\vdash$	NA	
IV-24-0109	01/09/09	-0.0004€		<0.00048		<0.00045		<0.0014		N/		NA.		NA	
IV-24-0609	06/10/09	~0.00046		≺0.00048		<0.00045		<0.0014		N/		NA NA		NA	
W-24-0710	07/26/10	<0.00050		N/		NA		N/		<0.00058		NA NA		-0.00045	11
W-24-0211	02/24/11		U:UJL-SUR	N/		NA		NA NA			JL-BUR	NA.			J;JL-SUR
IN-24-0711	07/13/11	0.000205		N/		NA.	_	NA NA		0.000515		NA.		0.00466	SULTOUR
W-24-1211	12/14/11	<0.00025		N/		NA NA	_	NA NA		<0.00024		<0.00033		<0.0003	11
W-24-0412	04/26/12	<0.00025		N/		NA.		NA NA		0.0076		<0.00033		0.0055	v
	04/26/12	<0.00025 <0.00034					. 1								
IW-24-0113 IW-24-0713	01/23/13			N/		NA		N.A		0.0025		<0.00046		0.0023	
		0.00044		N/		NA	-	N.A		0.0089		<0.00046	U	0.0034	
W-24-0114	01/17/14	0.00048		N/		NA	-	NA NA		0.0085		NA.		0.0040	
(W-24-0714	07/03/14	<0.00034		N/		NA	-	N.A		0.0074		NA		0.0022	-
IV-24-0115	01/07/15	0.0005		N/		NA		NA NA		0.0107		NA		0.0019	
fW-24-0116	01/07/16	0.00057		<0.00045		0.11		0.0036		0.009		<0.00038	U	0.0017	
(W-24-1216	12/20/16	<0.00047		N/		NA		N.A		<0.00052		NA.		<0.00047	U
IW-24-0617	DE/07/17	<0.00030	U	N/		NA.	1000	N.A		0.00070	2	NA		<0.00030	U
															14
NV-25	01/26/06	<0.00018	U	<0.00026	U	-0.00038	U	<0.00018	U	NA.		NA		NA	-
IV-25	01/09/07	<0.00050		< 0.00024		<0.00035		<0.00017	U	N.A		· NA		NA.	2
IV-25	DE/20/07	<0.00023	U	< 0.00054	U .	<0.00048	U	<0.0011	U	N.A		NA		NA	
W-25	07/13/07	<0.00023	U	<0.00054	U	<0.00049	U	<0.0011	U	N.A		NA		NA	
W-25	10/09/07	<0.00023	U	<0.00054	U	<0.00048	U	<0.0011	U	NA.		NA		NA	
W-25-0108	01/07/08	<0.00046		<0.00048		<0.00045		<0.0014		NA		NA.		NA	
W-25-0408	04/29/08	<0.00046		<0.00048		<0.00045		< 0.0014		NA		· NA		NA	S
W-25-0708	07/02/08	<0.00046		<0.00048		<0.00045		<0.0014		NA		NA.		NA	-
(W-25-0109	01/08/09	<0.00046		<0.00048		0.0015		<0.0014		NA		NA		NA	
(W-25-CEC9	06/10/05	<0.0004E		<0.00048		<0.00045		<0.0014		NA		NA.		NA	
W-25-0710	07/26/10	<0.00050		NA NA	-	NA.		NA NA	_	<0.00056		NA.		-0.00045	11
NV-25-0211	02/24/11	שממחת מיי	U;UJL-BUR	. NA	_	NA NA		NA NA			U;UJL-SUR	NA.		-0.00009	
IW-25-0711	07/13/11			NA NA	-	NA.	-	NA NA				NA.			
IW-25-1211	12/14/11	<0.00008 -<0.00029		NA NA		NA NA		NA NA		<0.00006				<0.00009	
(IV-25-0412	04/26/12			NA NA		NA NA	-	NA NA		<0.00024 <0.00024		<0.00033 <0.00033	U	<0.0003	
(W-25-0113	01/23/13	<0.00025	0			NA NA	_	NA NA						<0.00030	
		<0.00034		NA.					-	<b>~</b> 0.00040		<0.00046	U	<0.00047	
W-25-0713	07/02/13	<0.00034		NA		NA		NA	_	-0.00040		<0.00046	U	<0.00047	
IW-25-0114	01/16/14	<0.00034		NA		NA	8 1	NA		<0.00340		NA		<0.00047	
IIV-25-0714	07/03/14	<0.00034		NA NA		NA NA		N.A		<0.00040		NA	-	⇒0.00047	
IV-25-0115	01/07/15	<0.00034		NA		NA.	- 10	N.A		<0.00040		NA		<0.00047	
W-25-0116	01/26/16	<0.00047	U	<0.00049	U	-20.00046	U	<0.0012		<0.00052	U	8€000.0≻	U	<0.00047	
IW-25-1216	12/21/16	<0.00047		NA NA		NA NA	-00	N.A		<0.00052		NA NA		~0.00047	
IV-25-0617	06/07/17	<0.00030	U	NA.		NA.		N.A		<0.00030	U	NA		≈0.00030	U
					100				- 3			- I FOLD			
IV-25	01/13/05	<0.0020	U	<0.0020		<0.0020	U	≠0.006	U	NA		NA		NA.	
W-25	01/26/06	0.014		<0.00026		0.058		<0.00018	U	NA		NA		NA	1
W-26	01/11/07	0.038		0.002	J.	0.74		0.017		: NA		NA		NA	
IV-26	05/31/07	0.0412		0.0016		0.731		0.0117		NA		NA.		NA	C1-1/1110
W-26	07/12/07	0.0372		<0.0027		0.639		0.0527		NA		NA		NA	
W-26	10/09/07	0.0043	JFFD	<0.00054		0.0303	JI-FD	1100.0>		NA	Section 1	NA		NA	Charles Co.
W-26-0108	DIMENTS	0,0268		0.0011	J	0.155	JIFD	0.005		NA		NA		NA	774
W-26-0408	04/29/08	0.0088	JI-FD	0.00051		0.115		0.0017		NA		NA		NA	
W-25-0708	07/02/08	0,0078		<0.00048		0.107		<0.0014		NA		NA		NA	
W-26-0109	01/07/09	0.0336		0.0026		0.54		0.0112		NA		NA	$\vdash$	NA	
W-26-0609	CEMO/D9	0.00071	J	<0.00048	U	0.0015	3	<0.0014		NA		NA	-	NA	-
V-26-0710	07/20/10	<0.0005D	-	NA	-	NA NA		NA NA	_	<0.00056	TI.	NA.	-	<0.00045	H
W-26-0211	07/24/11		U;UJL-BUR	NA NA		NA NA	-	NA NA			JL-BUR	NA.	$\vdash$	<0.00009	
W-25-0711	07/13/11	0.000599		NA NA		NA.		NA NA		0,000525		NA.	$\vdash$	<0.0000.0> €0.0000.0>	U
W-26-0711						NA NA	-								
	12/13/11	0.0026		NA NA		NA NA	-	NA NA	-	0.0015 NA	ertu	<0.00033		<0.0003	
W-26-0412		<0.00025	0				-					<0.00033		<0.00030	
W-26-0113	01/23/13	<0.00034	U	NA		NA		NA		-¤2.00040	U	<0.00046		<0.00047	
IV-25-0713	07/03/13	0.0101		NA.		NA.		NA.		0.0124		<0.00046	U	<0.00047	
W-26-0114	01/17/14	<0.00034		NA		NA		NA		<0.00040		NA		<0.00047	
N-26-0714	07/02/14	≈0.00034		NÀ		NA		NA		<0.0004B		NA		<0.00047	
W-26-0115	01/07/15	<0.00034		NA		NA	_	NA		<b>40,00040</b>		NA	1	<0.00847	
V-26-0116	01/05/16	<b>≈0.00047</b>		<0.00049	U	<0.00045	U	<0.0012	U	0.0013		<0.00038	U	<0.00047	
W-26-1216	12/20/16	0.00096		- NA		NA		NA		0.0014		NA		<0.00047	
W-25-C617	D€/07/17	-<0.0003D	U	NA		NA.	CITA	NA	1	<0.000030	U	NA		<0.000030	
		3,000	7-1-XXXXX A-4		-		E						-	200000	_

:	Chemical CAS No.	Berzene 71-43-2	108-88-3	Ethylbenz 100-41-		Xy/enes 1330-20-7		Cls-1 Dichloroe 156-5	ihylene 9-2	Tetrachlorpeth 127-18-4	iene	trans-1,2-Dich 155-6	0-5
	Tier 1 FCL	0.005	1.00	0.70	5-206520	10	Carriery In	0.07		0.005	2000	0.1	
ample ID W-101-0710	Date	Val Qua	2.00	Gual Val	Qual	Val	Qial	Val	Qual	Val	Qual	Val	Qual
W-101-0211	07/27/10		JL-SUR NA		VA.	NA.	-	<0.00056	U DUE	NA.		<0.00045	
W-101-0711	87/14/11	<0.00008 U	NA NA		VA.	NA NA		<0.00005	U;UJL-GUR	NA.			n'n'ra
W-101-1211	12/14/11	<0.00025 U	NA.		VA.	NA.		<0.00005 <0.00024	U	<0.00033		<0.00033	
W-101-0412	04/30/12	<0.00025 U	NA NA		VA.	NA.		<0.000024 <0.000024	11	<0.00033	0		
W-101-0113	01/25/13	<0.00034 U	NA.		VA	NA NA	-	<0.00040	11	<0.00046	11	<0.000347	U
W-101-0713	07/05/13	0.000513	NA		V.A	NA.		<0.00040	11	<0.00046	14	<0.00047	-
NV-101-0114	D1/16/14	0.0011	NA		KA A	NA.		<0.00040	g .	NA.	-	<0.00047	U
efore July 2014 this	s well was thought I	be SW-101. How	ever, gauging with a string a				loating t		fuelly MW-1				15
W-101-0714	D7/01/14	<0.00034 U	is entry is for MW-101.	1 3	NA I	NA							17.
W-101-0115	01/07/15	0.0004 3	NA NA		NA NA	NA NA		0.0027		NA		<0.00047	
W-101-0115	01/07/16	<0.00047 U	<0.00049			0.0025		0.00092		NA <0.00038		<b>≈</b> 0.00047	
W-101-1216	12/20/16	<0.00047 U	NA NA		NA.	0.0025 NA	3	0.00092	1		U	<0.00047 <0.00047	
W-101-0617	DE/DE/17	0.00059 J	NA NA		NA.	NA NA	_		d	NA			
W-10 PLOT	Deiners/	0.00000	NA.		VA.	NA.	-	0.00046	3	NA	1900	<b>≈0.00030</b>	U
W-102	01/17/05	<9.0020 U	<0.0020	U 0.00	44	0.0192	0.000	N/A		, NA		N.A	-
W-102	B1/26/86	<0.00018 U	<0.00005			0.001		NA.		NA NA		NA NA	1.00
W-102	05/31/07	0.0013		U 0.00		0.0049		NA.	-	NA NA		NA NA	
W-102	10(10)07	<0.00023 U		U 0.00		0.0261	-	NA		NA NA		NA NA	
W-102-0108	01:08:09	0.00113		U 0.00		0.0056	J	NA.		NA.		NA NA	
W-102-0408	84/30/89	<0.00045 U		U 0.00		0.0064	JH-FD	NA.		NA		NA.	
W-102-0708	07/02/08	<0.00045 U	<0.00048	U 0.000	47	0.0048	J	NA.		NA.		NA.	
W-102-0109	01/09/09	0.00008 J	<0.00048	U 0.0	31	0.0029	J	NA.		NA		N/A	
W-102-0609	06/11/09	0.0011 J	<0.00049	U 0.00	23	0.0026	J	NA		NA		NA.	7.
W-102-0710	07/27/18	- <0,00050 U	NA.		VA.	NA		0.0033		NA.		0.00073	J
W-102-0211	02/25/61	0.00115	NA		KA .	NA		0.00417		NA		0.000545	3
W-102-0711	07/14/11	0.000715 3	NA	1	VA.	NA	(e)	0.000954	J.	NA		0.000261	J
W-102-1211	12/14/11	D.00005 J	NA		(A)	NA		0.00049	3	<0.00033	U	<0.0003	U
W-102-0412	04/27/12	6,00053 4	NA	1	QA.	NA NA		0.0013		<0.00033	U	<0.00030	U
W-102-0113	01/24/13	0.00076 J	NA.	1	NA.	NA		0.0024		<0.00046	U	<b>40.00047</b>	U
W-102-0713	07/02/13	<0.00034 U	NA.	. 1	VA.	NA		0.0054		<0.00046	U	40,00047	U
W-102-0114	Ototerta	<0,00034 U	NA.	1	NA.	NA		0.0035		NA		<6.00047	U
			wever, gauging with a obin	g and weight confirme	ed a fotal de	pth of 113 feet, I	ndisatin	g the well was	actually MW	-101_			
			is entry is for MW-102.				-						
IW-102-0714 IW-102-0115	07/07/14 01/08/15	<0.00034 U	NA NA		NA NA	NA		<b>&lt;</b> 0.00040		NA		<0.00047	
IV-102-0115	D1/08/16	<0.00047 U				NA NA		+0.000AD		NA		<b>≈</b> 0.00047	
W-102-1215	12/19/16	<0.00047 U	⇒0.00049 NA		NA.	<0.0012	U	<0.00052		<0.00038	U	<0.00047	
						NA		<0.00052		NA		<0.00047	
W-102-1216 W-102-0617	12/19/16	<0.00047 U	NA NA		IA IA	NA.		<0.00052		NA		<0.00047	
W-102-0617	uentera/	<0.00030 O	NA.		¥A	NA	_	<0.00030	U	NA		<0.00030	U
W-103-0710	07/27/10	<0.00050 U	NA.		NA.	614							
W-103-0211	02/26/11	<0.000154 J;U-			IA	NA NA	-	*0.00055		NA NA		<0.00045	U
W-103-0711	07/14/11	0.0000955 J	NA NA		IA I	NA NA	-	<0.00006	U;UJL-EUR	NA.	-	<0.00009 <0.00009	U;UJL-SL
W-103-1211	12/14/11	0.0003 J	NA NA		IA -	NA NA		*0.00006 *0.00024		-0.00023	15	<0.00009 <0.0003	
W-103-0412	04/30/12	<0.00025 U	NA.		IA	NA.	-	<0.00024		<d.cc033< td=""><td></td><td>&lt;0.00030</td><td></td></d.cc033<>		<0.00030	
W-103-0113	B1/24/13	0.00044 3	NA NA		IA.	NA.		<0.00048		<0.00033 <0.00046		<0.00047	
W-103-0713	D7/05/13	0.0011	NA.		IA	NA.	100	<0.00040		<0.00546		<0.00047	
			se a pump was installed in t							-5.55595		-0.00041	1-
V-103-0115	DHEEMS	<0.00034 U	NA NA		IA	NA		-0.00040	U	NA	T	<0.00047	lu .
W-103-0116	D1/07/16	<0.00047 U	0.00079	J <0.000		<0.0012	U	<0.00052		'*D.00038	U	-9.00047	
V-103-1216	12/19/16	<0.00047 U	NA		IA	NA		<b>&lt;0.00052</b>		NA		<0.00047	
W-103-0617	CEICE/17	<0.00030 U	NA		ĮA.	NA		<0.0003B		NA		40.00030	
W-104-0609	06/11/09	<0.00046 U	<0.00078	40 000	45 11	<0.0014	11	NA.		NA.		NA.	
W-104-0609	07/27/10	<0.00050 U	NA NA		AA .	NA NA	-	<0.00055	ű.	NA.		<0.00045	11
W-104-0211	02/26/11	<0.00008 U	NA NA		iA .	NA.		<6.00005	Ü.	NA.	-	<0.00003	EI
W-104-0711	07/54/55	<0.00008 U	NA.		IA.	NA.		<0.00005	U	NA	1	<0.00009	ti .
W-104-1211	12/14/11	<0.00025 U	NA NA		(A)	NA	-	<0.00024	II .	<0.00033	12	<0.0003	ii .
W-104-0412	04/30/12	<0.00025 U	NA NA	1		NA	-	<0.00024	U	<0.00033	U	<0.00030	u
W-104-0113	01/24/13	<0.00034 U	NA.			NA.		<0.00040	11	<0.00046	LI.	<0.00030	11
W-104-0713	07/03/13	<0.00034 U	NA NA	N		NA.	-	<0.00043	U	<0.00046	U	<0.00347	U
						NA.	_	<0.00040		<0.00046	-		-
W-104-0114	01/15/14	<0.00034 U	NA	N. A.								<0.00047	

	Chemical CAS No. Tier 1 PCL	71- 0.0	zene 43-2 106	Toluene 108-88-3 1.00		Ethyberzene 100-41-4 0.70		Xyenes 1330-20-7		615-1 Dichlorue 156-5	thylene 9-2	Tetrachlorpeth 127-18-4 0.005	ylene	trans-1,2-Dict 155-6	50-5
Sample ID	Date	Val	Qual	Val	Cina	Val	Qual	Val	Qual	Val	Qual	Val	Qual	Val	Quali
RW-1	01/17/05	0.0102		0.005		0.0942		0.115		N.A		NA NA		NA.	
RW-1	01/24/06	0.005		0.07		1.3		7.2		N.A		NA NA		NA	
RW-1 RW-2	02/01/06	0.005	V-2015	0.07		1.3	-	7.2		NA		NA		N/	
RW-2	01/17/05	0.0118		0.009		0.974		2.45		NA.		NA NA		N/	
RW-3	01/16/05		11	0.00		0.47		0.512		N.A		NA		NA.	
RW-3	01/24/06	<0.0020		<0.002		0.017	-	0.0556		NA		. NA		N/	
RW-4	01/17/05	0.002 <0.0020		<0.0002 <0.002		0.24 0.0185	-	0.91		NA.		NA.		N/	
RW-4	01/24/06	0.01	0	0.0		1.4		0.0613		NA NA		NA · NA		NA NA	
RW-5	01/16/05	0.0169		0.066		0.573	1000	3.47		NA NA		NA NA		N/A	
RW-5	01/25/06	0.01		D.08		1.4		10.4		NA NA		NA NA		NA NA	
RW-6	01/17/05	<0.0020	U	<0.0021		. 0.0054	-	0.0233		NA NA		NA NA		NA.	
RW-5	01/25/06	<0.00018		<0.0002		0.008		<0.00018		NA NA		NA NA		NA NA	
RW-7	01/16/05	<0.0020		<0.002		0.0154		0.0913		NA	-	NA NA		NA.	
RW-7	01/25/06	<0.00018	U	<0.0002		<d.ddd38< td=""><td>U</td><td>&lt;0.00018</td><td></td><td>NA.</td><td></td><td>NA NA</td><td></td><td>N/A</td><td></td></d.ddd38<>	U	<0.00018		NA.		NA NA		N/A	
RW-8	01/16/05	<0.0020	U	<0.0020		0.001		0.002		NA.		NA		N/A	
RW-8	01/25/06	<0.00018		<0.00026		<d.00038< td=""><td>U</td><td>=0.00018</td><td></td><td>NA.</td><td></td><td>- NA</td><td></td><td>NA.</td><td></td></d.00038<>	U	=0.00018		NA.		- NA		NA.	
RW-9	01/16/05	≈0.0020		<0.0020		0.0046		0.0275		NA		NA.		NA	
₹W-9	01/25/06	<0.00018		<0.00026	U	<0.00038 I	U	<0.00018	U	NA	C. I. Ville	NA		NA	
W-10	01/17/05	0.0362	Appendix of the second	0.0039		0.0967		0.0505		NA		NA		NA	
RW-10	01/25/06	0.02	1129 22977	0.003		0.14	0	0.049		NA		NA		NA.	
and the second				110.000								4			
F8-01-0711	07/14/11	<0.00008		N/		NA		NA NA		<0.000006		Na		~0.00009	U
B-01-1211	12/14/11	<0.00025		N/		NA	come (	NA.		<0.00024		<0.00023	U	<0.0003	
8-01-0412	04/26/12	<0.00025	U	N/	4	MA		NA		<0.00024	U	<0.00033	U	<0.00030	U
UB 84 8444						The state of the s									
VD-01-0211	02/24/11	90,00008		N/		MA		NA NA		0.00197		NA		<0.00009	
VD-01-0711	07/13/11	0.000586		N/		NA		NA.		0.000539		NA.		<0.00009	
VD-01-1211	12/12/11	0.0014		14/		NA	-	NA.		0.00043		<0.00033		<p.0003< td=""><td></td></p.0003<>	
VD-01-0412 VD-01-0113	04/2E/12 01/23/13	<0.00025 <0.00034		N/ N/		NA	-	NA.		<0.00024		<0.00033	U	<0.00030	
VD-01-0713	07/02/13	0.00039		N/		NA NA		NA NA		<0.00040	U	<0.00046		<0.00047	
VD-01-0114	01/17/14	<0.00034		N/		NA NA	-	NA NA				<0.00046		<0.00047	
VD-01-0714	07/02/14	<0.00034		N/		NA.		NA NA		<0.00040 <0.00040		<0.00046 NA	U	<0.00047	
VD-01-0115	01/08/15	<0.00034		N/		NA	_	NA	-	<0.00040		NA NA	-	<0.00047 <0.00047	
ND-01-0116	01/08/16	<0.00047		<0.00049		<0.00046 1	,	<0.0012	11	0.0012	U.	<0.00038	.	<0.00047	
VD-01-1216 ·	12/20/16	<0.00047		NA.		NA NA	-	NA NA		0.00071		NA NA	U	<0.00047	
VD-01-0517	06/07/17	<0.00030		NA.		NA	-	NA		=0.00030	U	NA NA		<0.00030	
										(		100	-	-5.00030	
ND-02-0211	02/26/11	0.00114	JL-SUR	11/		NA.		NA		0.00415	JL-SUR	NA		0.000501	JUL-SUR
ND-02-0711	07/14/11	0.000766	J	NA.		NA		NA		0.00101		NA	911111111	0.00024	
VD-02-1211	12/14/11	0.00053	J	NA.		NA		NA		0.00049	.1	<0.00033	U	<0.0003	
VD-02-0412	04/27/12	0.00060	J	NA		NA		NA		0.0016		<0.00033		<b>≪0.00030</b>	
VD-02-0113	01/22/13	0.00077	J .	NA		NA		. NA		0.0022		<0.00046	U	<0.00047	U
VD-02-0713	07/02/13	0,0079		NA		NA		NA		0.0093		<0.00046	U	<0.00047	U
VD-02-0114	01/17/14	<0.00034	U	NA.		NA.		- NA		0.0036	Governo	<0.00046		<0.00047	U
VD-02-0714	07/07/14	⇒0.00034		NA		NA		NA	1	<0.00040		NA.		<0.00047	
VD-02-0115	01/09/15	=0.00034		NA		NA		NA		<0.00040		RA		<0.00047	
VD-02-0116	01/08/16	<0.00047		<0.00049	U	<0.00045 U	1	<0.0012	U	<0.00052		<0.00038	U	<0.00B47	
VD-02-1216	12/20/16	<0.00047		NA.		NA		NA		<0.00052		NA.		<0.00047	
/D-02-0617	06/07/17	÷0.00030	U	NA.		NA	_	NA		<0.00030	U	NA.		<0.00030	U
VE-01-0211	Barrera	*100010	141.00	10.		-	_		_			4			
/E-01-0211 /E-01-0711	02/26/11	<0.000122	UNTE	NA NA		NA NA		NA NA		<0.00006		NA.	-	<0.000009	
VE-01-1211	12/14/11	<0.00008		NA NA		NA.	-	NA NA		<0.00006 <0.00024		NA		-0.00009	
E-01-0412	04/20/12	<0.00025		NA NA	-	NA NA	-	NA NA		<0.00024		0.00037 <0.00033	u l	<0.0003 <0.0003	
E-01-0113	01/23/13	<0.00025 <0.00034		210	-	NA.	+	NA NA	-	*0.00024 *0.00040		<0.00033 <0.00046		<0.00030 <0.00047	
E-01-0713	07/02/13	<0.00034		NA NA		MA	-	NA NA	-	<0.00040					
E-01-0114	D1/17/14	<0.00034		NA.		NA.	-	NA NA	-	<0.00040		<0.00046 <0.00046		<0.00847 <0.00847	
E-01-0714	07/01/14	<0.00034		NA.	-	NA	-	NA.	-	<0.0004B		NA NA	-	<0.00847	
E-01-0115	01/08/15	<0.00034		NA.		NA		NA.		<0.00040		NA	-	<0.00B47	
E-01-0116	01/07/16	<0.00047		<d.00049< td=""><td>U</td><td>&lt;0.00045 U</td><td></td><td>&lt;0.0012</td><td>U</td><td>&lt;0.00052</td><td></td><td>&lt;0.00038</td><td>U</td><td>&lt;0.00B47</td><td></td></d.00049<>	U	<0.00045 U		<0.0012	U	<0.00052		<0.00038	U	<0.00B47	
E-01-1216	12/20/16	<0.00047	U	NA		MA	1000	NA	-		U	NA.	-	<0.00047	
E-01-1216	12/20/16	<0.00047		NA	1	NA		NA		+0.00052	U .	NA.	-	<0.00047	
E-01-0617	06/06/17	<0.0003D		NA		MA		MA			U	NA	1	<0.00030	
												-405		2,00030	
VE-02-0714	07/02/14	<0.00034	U	NA		MA		NA		+0.00040	U	NA.		<0.00047	U
					100					Total Control of the					
E-03-0714	07/07/14	≈0.00034 I		NA.		NA		NA	- 8	<b>-0.00840</b>	U	NA	.000	<0.00047	U
E-03-0714	07/07/14	<0.00034 t		NA		NA		NA	Manuel Control	<0.00040	υ	NA.		<0.00B47	U
E-03-0714	07/07/14	<0.00034	U	NA		NA		NA		-0.00B4D		NA.		<0.00047	
				e-option			_		-				_		

	Chemical CAS No. Tier 1 PCL	Benzene 71-43-2 0.005	Toluene 108-59-3 1.00	Ethyberizene 100-41-4 0.70	Xylenes 1330-20-7 10	cis-1,2- Dichlorpethylene 156-59-2 0.070	Tetrachloroethylene 127-18-4 0.005	trans-1,2-Dichisroethylene 155-60-5 0.10
Sample ID	Date	Val Qual	Val Qual	Val Qua	Val Qual	Val Qual	Val Qual	Val Qual
W7-01-0711	07/14/11	<0.0000BU	NA	NA	NA NA	<0.00005 U	NA	-0.00009 U
WT-01-1211	12/12/11	<0.00025 U	NA	NA .	NA NA	<0.00024 U	<0.00033 U	<0.0003 U
WT-01-0412	04/25/12	<0.00025 U	NA NA	NA	NA	<0.00024 U	c0.00033 U	<0.00030 U
WT-01-0113	01/23/13	<0.00034 U	NA NA	NA	NA	<0.00040 U	<0.00046 U	<0.00047 U
WT-01-0713	ge/28/13	<0.00034 U	NA	NA	NA	<0.0004 U	<0.00046 U	-0.00047 U
WT-01-0114	01/16/14	<0.00034 U	NA	NA	NA	<0.0084 U	<0.00046 U	-0.00047 U
WT-01-0714	07/02/14	<0.00034 U	NA	NA	N.A	<0.00040 U	NA	<0.00047 U
WT-01-0115	B1/07/15	<0.00034 U	NA '	NA	NA NA	<0.00040 U	NA NA	<0.00047 U
WT-01-1216	12/20/16	<0.00047 U	NA.	NA	NA NA	<0.00052 U	NA NA	<0.00047 U
WT-01-0517	DE/DE/17	-D.0003D U	.NA	NA	NA NA	<0.00030 U	NA	-0.00030 U

Notos:

\*\* - Not detected: the analyte was analyzed for, but was not detected above the level of the associated value.

\*\*Protective Concentration Level (PCL) values taken from Texas Risk Reduction Program (TRRP) Tier 1 Table 3 - Residential Groundwater Inc.

\*\*Bold, yellow-highlight indicates cample above TRRP Tier 1 Residential Groundwater PCL

\*\*U - Not detected\*\*

\*\*J - Result or detection limit is an estimated value\*\*

\*I - Result or detection limit bias was indeterminate\*\*

\*\*B - Analyte was detected in an associated blank sample\*\*

\*\*P - Freservation required\*\*

\*\*P - Freservation required\*\*

\*\*P - Freservation in the Was biased high\*\*

\*I - Result or detection limit was biased high\*\*

\*I - Result or detection limit bias was indeterminate.\*\*

\*\*Outcompatible\*\*

\*\*P - Result or detection limit bias was indeterminate.\*\*

\*\*Outcompatible\*\*

\*\*Outcompatible\*\*

\*\*Outcompatible\*\*

\*\*P - Preservation of detection limit bias was indeterminate.\*\*

\*\*Outcompatible\*\*

\*\*O

I - Result or detection limit bias was indeterminate, IGAL - initial calibration result

L - Blas in sample result likely to be low LGS - Laboratory control sample recovery evaluation criteria not met

PR - Preservation requirement not met RB - Rinsate Blank

SDL - Sample Detection Limit

SUR - Surrogate NA - Not Analyzed

F-8

	Chamilea) CAS No.	1,1-Dichleroethylere 75-35-4	Tricklargelhylene 79-01-6	Vhys chlodde 7≘-G1-4	Total Disselved Solds	Of And Greate	Total Organic Carton	Arecise 1015 12674-11-2	Aroziar 1221 11104-28-2
	Tier t PCL	0.027	0.005	0.027	-	-		<b>→</b>	_
\$ zenpie 123	Date	Val Qual	Asi Caraj	Vat Qual	Vai Cusi	Val Qual	Val Qual	Vs: Ous	Val Qua
₩-9	01/13/05	NA NA	-0.0920 U	RA.	759	5.1 40.51 U	9.3 1.55	<0.00058 U	<0.50056 U <0.50014 U
₩-8 ₩-5	01/25/05	NA NA	-0.500035 U -0.00025 U	NA NA	933 1410	40.51U	5.771	<0.00034 0 <0.00015 0	40.00014 ∩
₩-9	05/31/07	NA NA	-0.00063 U	NA.	1230	<1.4 U	0.5	<0.00051 U:U.X-2UR,6CAL	40.000E1 U;UJL-GUR,K
W-9	07/12/07	NA	≈0.00053 U	NA .	1140	41.4 U	0.5	≺0.500£0 U	<0.00050 U
V?-9	10/09/07	NA	<0.00053 U	NA NA	12500	41.4U	Q.94 B	-0.20032.0>	<0.00090 U
VV-8-0109	Q3/Q7/QB	NA.	<0.00063 U	NA NA	1620	<1,4 U	<1.4 U-₹.5	<0.00050 U;U;€:20R	48/10050 D3/J1/L-GUR
W-3-0403	04/29/08	NA	≠0.50347 U	NA NA	1350	c1.4 U	0.92 6	-0.000±0 U±J±-5UR	40 E0020 O'ONF-3025
W-8-0703+	07/02/03	NA .	<0.00847 U	RA .	1950	<1,4 U √0.65 U	0.33 5	-40.00050 U;UX-20IR -40.00050 U	40.00000 U;UJU-8UR 40.00000 U
W-8-0109 W-8-0509	01/03/09 05/10/03	NA NA	<0.00047 U <0.50047 U	NA NA	1970 2460	3.8	√0.55 U 0.59 B	<0.00054 U	<0.0054 U
V/-08-07 (G	07/26/10	+0.000≣0 U	40.00052 U	<0.0010 U	NA NA	NA.	NA NA	<0.00014 U:U.E-SUR	-6.00022 U;UJL-8UR
W-8-0211	02/24/11	-0.00019iU	-0,00018 U	-9100011U	. KA	RA	NA	<0.000267 U	<0.00217 U
W-08-0711	07/12/11	<0.00019 U	<0.00318 U	<0.00011 U	ASA	NA	NA.	<0.000367 U	≺0.000217 U
14-8-1211	12/14/11	<0.00049 U	<0.£00935 U	40.00040 U	PÅA.	8A	HA	<0.0001£ U	<0.00022 V
W-8-0412	04/26/12	<0.00340 U	<0.00035 U	<0.00040 U	NA.	NA.	7A.	<0.05012 U	-0.00000 U
W-8-0113	01/23/13	<0.00045 U	<0.00049 U	<0.00379{U;UJL+FR	NA	NA OA	NA	≺0.0E021 U	<0.00030 U
W-9-0713	07/02/13	<0.00045 U	-0 00049 U	-0.0079 U;UJL#R	RA.	RA	NA NA	<0.00024 U	<0.00023 U
W-8-0114 W-8-0714	01/16/14 07/03/14	<0.00045 U <0.00045 U	<0.00013 O	<0.00079 U;UJL-PR <0.00079 U;UJL-FR	MA RA	NA NA	NA NA	<0.00021 U <0.00023 U	<0.000310 <0.000310
W-9-0115	01/03/15	<0.00045 U	40.00049 U	<0.000791U:UJL+FR	NA.	RA.	NA NA	-0.00021 U	<0.E0030 U
W-9-C116	01/05/16	<0.00063 U	<0.00048 U	<8.00057 U;UJ-LC2	NA	NA:	HA	<0.00022 U	<0.09021 U
W-9-1216	12/21/16	<0.00053 U;UJ-CCAL	-0.5003.0≥	<0.00057[U;UJ-CCAL	FEA	NA.	NA	<0.00€12 Ú	-0.00020 U
W-8-0517	06/07/17	<0.00010 U	~0.00030 U	<0.00030 U	NA NA	N۸	NA NA	<0.0000¢#5 U	. ব্যহেতে94 ঘ
W-10	01/14/05	NA.	<0.0030 U	NA NA	2210 15000	1_3 6,7	1.4 2.59	<0.00050 U <0.00014 U	<0.00000 U <0.00014 U
<i>H-</i> 10	01/26/06	NA .	-0.00025 U	NA NA	13500	VI2.0>	2.34	<0.00015 U	<0.00019.0
N-10 N-10	05/30/07	NA NA	<0.00035 U <0.00063 U	NA NA	12400	<1.4 U	2.54	<0.00011 U1UL ICAL 1	<0.00051 U;UJ, ICAL, I
77-10 77-10	07/13/07	NA NA	<0.00063 U	NA.	19700	<1.4 U	1.9	<0.00058 U.U.SSUR	<0.0000 U;UJU-SUR
7-10 7-10	10/09/07	NA NA	<0.50063 U	NA NA	890	<1,4 U	22	<0.000€0 U	<0.00030 U
M-10-0109	01/07/08	NA.	40.00047 U	RA	4580	<1,4 U	-3.4 U-RB	<0.00050 U;U3L-0UR	40.0003G N.JUIT-GUS
N-10-0408	04/29/03	NA	≪0.00047 U	RA.	14500	<1.4 U	2.5	<0.D0050 U	<0.E00E0 U
W-10-0708	07/02/03	NA.	. <0.00047 U	NA.	15800	√1,4 U	2,3	<0.00050 U:UX-5UR	<0.0000 0.001-80H
W-10-0109 ,	01/05/09	NA:	<0.00547 U	RA	11100	<0.85 U	2.3	<0.00052 U	+0.00050 U
W-10-0503	05/10/03	NA NA	<0.00047 U	NA NA	15300	4.7	2.4	<0.00E€4 U	<0.00054 U
W-10-0710	07/25/10	<0.000≅0U	<0.00052 U	40.0010 U	NA NA	RA RA	NA NA	<0.00012 U;UJL-EUR <0.000267 U	<0.000217 U
W-10-0211 W-10-07(1	03/24/11	<0.00019[U;U;U;I;-3UR] <0.00019[U	<0.00018 U;UJL<00R <0.00018 U	-0.00011[U;UJL-GUR	NA NA	RA.	NA NA	<0.030257 U	<0.000217 U
W-10-1211	12/14/11	*0.00010 U	<0.00035 U	40 E004610	NA NA	HA	NA NA	<0.00014 U;U.R2UR	-4B E0021 U,U3L-8UR
W-10-0412	DI/25/12	<0.00040 U	-€00035 U .	<0.00040 U	NA.	NA.	NA NA	<0.05013 U	-0.00020 U
W-10-6113	01/22/13	-<0.0004E U	+0.60049 U	<0.0079 U;UJL-PR	NA NA	NA.	· HA	<0.00021 U	+8.00030 U
W-10-0713	07/03/13	<0.00045(N	≪0.00043 U	<0.00079 U;UJL+FR	NA NA	NA NA	HA	<0.00023 U	<0.EC022}U
W-10-0114	01/15/14	<0.00018 N	~G.D0043 U	<0.20279 U;UJL+FR	ЖA	PEA	NA NA	<0.00021 U	<0.0002€ U
N-10-0714	07/02/14	-G000015 U	+C.00043 U	-0.00079 U;UJL-PR	NA:	NA	NA NA	<0.00022 U	<0.00021 U <0.00020 U
N-10-0115	01/07/15	<0.00045 U <0.00053 U	-0.00019 U -0.00019 U	<0.00079 U;UUL-FR <0.00057 U;UU-LC2	NA NA	RA NA	144	<0.00021 U	40.00021V
W-10-0116 W-10-1216	12/20/16	<0.00053 U	VIE4000.2>	<0.00057 U	NA NA	NA.	NA.	<0.00012 U	-6.00020 U
N-10-1216 N-10-0517	05/07/17	-0.00030 U	<0.00049 U	<0.00030 U	RA	BA	NA ·	<0.000000U	<0.00033 U
10 4211	1 2201715				1 1 1				
W-11	61/13/05	NA	-⊲0.0000 U	RA	1330	2.9	1.3	<0.00050 U	-0.000±0.p-
N-11	01/25/05	NA	40 00052 ∩	· KA	295	<0.51 U	3.11	<0.00914 U	<0.00014 U
<i>II-</i> 11	01/10/07	NA .	-0.00025 U	NA .	2750	≪0.£1 Ü	2.5	<0.0001€ U	<0.00015ju
N-11	05/31/07	NA .	+0.00053 U	NA NA	1350 1310	*1.4 U	2.4	<0.00050 U;U3, KGAL, I	<0.00050 U;UJ, IÇAL, I
V-11 V-11	07/12/07	NA NA	<0.00053[U	NA NA	1310	<1.4.U	2.5	U 93002.0>	-0.0000s/n
N-11-0103	10/10/07	NA NA	<0.00053∱U <0.00047∫U	NA NA	995	<1.4 U	√2.5 U-R8	<0.00050 U.V.JL-GUR	<0.00000 U;U,U-0UR
N-11-0108	04/29/08	NA NA	40.000471U	NA NA	1220	47 U	2.8	<0.00010 U	<0.moso(u
V-11-0703	57/01/08	NA NA	<0.00047 U	' NA	915	<5.4 U	2.5	<0.05550¦U;U.2€UR	<0.00050(U;U)L-0.0R
V-11-0109	01/09/09	NA	-01.00047 U	NA NA	1550	t.4 B	1.7	<0.000€0 U	<0.05050ju
V-11-0503	65/10/03	NA .	-01.00047 U	NA NA	1520	2.3	2.1	<0.00054 U	-0.0009f n
¥-11-0710	07/25/10	≈2.00050	-0.000252 N	<b>+0.0310</b> U	NA NA	NA	NA.	<0.00012 U;U,X-SUR	-c.complu;uut-eux
7-11-0211	02/25/11	<0.00019 U;UJL-2UR	ADDODES U;UL-SUR	#0.00011 U,UJL-QUR	NA NA	NA NA	HA NA	<0.000267 U	<0.000217 U <0.000217 U
V-11-0711	07/13/11	<0.00019 U	-0.00015 U	-0.00011 U	NA NA	NA NA	IIA	<0.000267 U <0.00014 U;U,E-2UR	<0.000217(0 <0.00021(0;03L-20R
V-11-1211 V-11-0312	12/13/11 04/25/12	≪0.00048 U ≪0.00048 U	-0.00035 U -0.00035 U	<0.00040 h <0.00040 h	NA NA	NA NA	HA NA	<0.00013 U	<0.0002110,000200X <0.0002010
V-11-0312 V-11-0113	01/22/13	40.00045 U	+C.00049 U	<0.00079 U;U3E-FR	NA.	NA.	NA NA	<0.00021 U	<0.0000010
V-10-0713	07/03/13	<0.00045 U	-C£03549 U	<0.00079 U;UJL-FR	NA NA	NA NA	IIA I	-0.00022 U	46 03033 ∩
9-11-0114	01/17/14	40.00345 U	U 640000>	<0.00079 U;U3L-FR:	NA	NA.	NA .	<0.00031 U	<6.0603D n .
V-11-0714	07/02/14	<0.00345 U	-0.00049 U	<0.00079 U;UJL-FFI	NA	NA	NA .	<0.00022 U	-0.00021U
9-11-0115	01/07/15	<0.000±5 U	-0.05049 U	-0.00079 U;UJL-FR	NA	NA NA	NA NA	<0.0062†U	-40.00020 U
y-11-0115	01/05/15	<0.00093 U	-00.003343 bi	<0.00357 U;U3-LC3	NA	NA	NA NA	<0.00021 U	<2.00000 U
n-11-1216	12/20/15	≠0.00051 U	~0.500±8 U	-0.00057 U	HA	NA NA	NA	<0.00312 U	€.020.0>
7-11-0517	06/07/17	<0.00030 U	~0 <i>0</i> 003331U	<0.00030 U	NA.	NA	, NA	<0.00000C	-<0.60810 U

	Chemical	1,1-Dichioroetiylese	**************************************	Vhyt	Total Disselved				
	CAS No.	1,1-Oktoroestylene 75-35-4	Tactionethyene 79-01-6	chloride	Golds	Oil And Grease	Yotal Organic Carbon	Arecier 1818	Arothy 1321
	Tier 1 PCL	. 0.037	9.035	75-81-4 0.032	_	_	-	12674-11-2	11104-28-2
Sample ID	Date	Val Gust	Vai Grani	Vai Quat	Val Gust	Val Qual	Vat Quat	Vs) Que	Val Chai
I-17	01/13/05	NA.	<0.00201U	NA NA	3550	9.7	1.5	<0.000€0 U	
Y-17	01/25/05	NA:	-0.00025 U	NA I	4315	-QE1U	1.51	-0.000e0 U	<0.€0390 U <0.00014 U
V-17 V-17	01/10/07	NA.	<0.00025 U	NA.	5240	40.51 U	1.78	<0.0001€ U	-0.00019 U
N-17	65/30/07	NA NA	<0.00053 U	NA NA	\$190	<1.4 U	2	40.00CE1 U;U,X,-CUR	-6.0005 เขามาเ-อยล
N-17	07/13/07 10/11/07	NA NA	<0.00053 U <0.00053 U	NA NA	4120		2	<0.00650 U;UX-SUR	*0.50030ju;UJL-60R
V-17-0108	01/07/08	NA NA	<0.00047 U	NA NA	4050	e1.4 U	1.7	-0.000£0 U	<0.00090 U
W-17-0408	04/29/08	NA.	<0.00047 U	NA NA	1930 5030	<1.4 U	석.8 U-RB 2.1	-0.00050 U;UJL-SUR	FUS-1LU;U 05003.0>
N-17-0705	07/01/03	NA	<0.00047 U	NA NA	±250	-1,4 U	1.8	-0.00000 U -0.00050 U334SUR	40.E0090 U.UGUR
N-17-0109	60.6010	NA	~0.00047 U	NA NA	4850	26.5	1.2	-0.00050 U	40.E0030 U
N-17-0509	DEJTENDE	NA .	<0.00047 U	NA NA	4930	£.2	1.5	<0.00054 Ü	<b>₹0.60354</b> ©
N 17-07 f0 N-17-0211	07/20/10	<0.00030 U	~0.00052 U	<0.0010 U	łłA	NA.	HA .	<0.00015 U	<0.60012 U
N-17-0711	07/13/11	-0.00019 U;U)U-GUR -0.00019 U	<0.00018 U.U.I3UR <0.00018 U	<0.00011U;UJC-0UR	RA	NA.	HA.	<0.000267 U	-40.000217 U
W-17-1211	12/13/11	<0.00040 U	<0.60035 U	-d1000110	NA I	NA NA	NA.	<0.000267 U	<0.E00345 ft
W-17-0412	D4/24/12	<0.50040 U	<0.00036 U		NA NA	NA NA	NA NA	<0.00014 U	<0.00021 U
V-11-0113	01/22/15	+0.00045 U	-01.00049 U	<0.00046}U <0.00075 U;U3L∓R	NA NA	NA NA	NA .	<0.00013 U <0.00025 U	<0.00020 U
N-17-0713	07/01/13	U 24003.0≻	-0.00049 U	-0.007/9 U;UJL-FR	NA NA	RA .	£4X	<0.00022 U	<0.£00211U
W-17-0114	01/17/14	<0.00045 U	<0.00049 U	<0.00079 U:UUL-FR	NA.	NA	344	<0.00021U	<b>40.666000</b> U
W-17-0714 W-17-0115	07.01/14	<0.00045 U <0.00045 U	<0.00043 /J	<0.00075 D;UJL∓R	NA	NA.	#A	-<0.00 E22 U	40.60027 U
W-17-0115 W-17-0116	G1/07/15		-40.00049 LI	<0.00079 U;UJL#R	NA.	NA NA	RA	<0.00011 U	40.0000 U
N-17-1216	. D1/05/76 12/20/15	<0.00063 U	~G.00049 U ~0.00049 U	<0.00037 U;UJ4.C3	NA NA	NA NA	NA NA	<0.00023 U	<0.00022 U
W-17-0517	05/07/17	<0.00030 U	+0.00030 U	-0.00030 U	NA NA	NA NA	NA NA	<0.00012 U <0.000062 U	<0.66019 U
	1		*******		- 100		PA.	~5.00034310	<0.000 to U
V-22	01/13/05	NA NA	<0.0020 U	RA	359	3.7	3	<0.000£0.U	<b>40.000≲0</b> U
V-22	01/26/06	NA .	<0.00025 U	RA	423	9.0	0.781	<0.00014 U	<0.00014 U
V-22	01/10/07	NA NA	40.06025 U	RA NA	192	-@51 U (	0.775	<0.0001E U	*d.ccc19.U
7-22 7-22	05/30/07	NA NA	-18.00053 U	,KA	381	€1.4 U	3.0	<0.000€1 U,U3, ICAL, I	<0.00051 U;UJ, KGAL,
y-22 y-22	10/08/07	NA NA	<8.00053 U	R/A	406	<1,4 ti	0.7	<0.00050 U	<0.0000 U
V-22-0 103	D1/08/03	NA NA	-0.00063 U -0.00047 U	NA '	439 328	41,410		-<0.000€ED[U	<0.50050 U
V-22-0408	D4/29/03	NA NA	<0.00047 U	NA NA	415	<1.4 U <1.4 U	<0.35 B;U-R9 1.1	<0.00050 U.U.A2UR	*0.60090 U;UJL-GUR
V-22-0708	07/01/09	NA NA	<0.00047 U	NA.	383	41.4 U	0.41 B	<0.00350 U <0.00350 U;UIL-3UR	#105-1(U) 0E000.0>
7-22-0109	60/2013	NA NA	- <0.00047 U	NA	432		<0.551U	<0.00050 U	<0.00030 U)00030A
7-32-0609	06/11/09	NA	<0.00047 U	NA NA	456	<0.5 U	0.69 B	<0.00052 U	<0.0003 U
V-22-0716	07/20/10	<0.00050 U	<0.00052 U	<0.EOID U	N/A	22.	NA.	<0.03014 U;UJL-5UR	40.000211U.XUE-BUR
V-22-0211 V-22-0711	03/25/11	<0.00019 U	<0.00013 U	<0.00011 U	NA.	PLA	NA NA	<0.000257 U	<0.0502+7 U
V-22-12-11	12/14/11	V 01000.0> U 01000.0>	<0.50018 U <0.00035 U	<0.00011 U <0.00040 U	NA .	NA I	NA NA	-0.091257 U	<0.0€0217 U
V-22-0412	04/26/12	<0.00000U	<0.00036 U	<0.00040 U	NA NA	NA NA	NA NA	<0.00914 U	<0.00021 U
9-22-0113	01/23/13	<0.00045 U	46.60039 U	<0.00079 U:UJL-FR	NA NA	NA NA	NA NA	<0.00913 U <0.00921 U	<0.60030 U <0.00026 U
V-22-0713	07/02/13	+0.00042 rt	<0.00049 U	<0.0075 U;UJL-FR	NA I	- RA	NA ·	<0.00221U	<0.00023 U
V-22-0114	01716/14	<0.00045 U	<0.00045 U	<0.00079 U;UJL#R	NA NA	SIA	NA:	<0.00021 U	<0.00020 U
V-22-0714	07/01/14	<0.00045 U	<0.00045 ⊓	* <0.00079 U;UJL-FR	NA .	NA NA	NA NA	<0.00023 U	<0.00072 U
7-22-01 (5 7-22-01 (6	01/02/15 01/06/16	<0.00045 U <0.00063 U	<0.00048 U	<0.00079 U:UJL-PR	NA.	NA (	NA NA	<0.03021 U	<0.08620¦U
V-22-1216	12/20/16	<0.00063 U	+0.00048 ()	<0.00057 U;U;H£C3 <0.00057 U	NA NA	RA NA	NA NA	<0.03032 U	<0.00021 G
9-22-0617	D5/07/17	<0.00030 U	-0.00036 U	<200030 U	NA)	NA NA	NA tiA	<0.00512 U <0.000062 U	<0.66026 U
							- 109	-0.00000230	<0.060099 U
7-23	01/14/05	NA NA	-6.6020 U	NA NA	455	2	8.3	-0.0005D U	<0.000300 U
J-23	01/25/05	NA NA	<0.00025 U	RA	431	6.7	1.25	<0.00014 U	<5.000HU
1-23	01/03/07	NA NA	<0.00025 U		445	40.51 U	0.52 J	-0.00015 U	<0.EEG19 U
(-23 (-23	05/30/07 07/13/07	NA NA	<0.00053 U	NA NA	416	±1,4	0.4	<0.ECCS1 U.U.J. ICAL, I	<0.00051 (U)U3, (CAL.)
-23	100307	NA NA	<0.00353 U -0.00353 U	NA NA	511	1,5	1.1	<0.601€ U	<6.0310[U
-23-0108	01/07/08	NA NA	-0.00047U	NA NA	436	41.4U 41.4U	0.73 8	<0.000€0 U	-0.00300 p
-23-0468	04/29/08	NA ·	40.00047 U	NA .	4301	1.98	<0.79 E;U-⊼5 0.59 B	<0.00000 U;U.X2UR	<0.000±0.0017470±
-23-0708	DWG5040	NA NA	<b>46.00037</b> U	NA NA	1840	<1.505 <1.4U	0.51 B	<0.00050 U 33.€-5UR	#UD-JUU;U 06030.0> #UD-JUU;U 06001.0>
-23-0109	60,8010	NA NA	-0.00047 U	NA NA	453	27.2	<0.65 U	<0.00050 U.U.A0UR	40.0030 0:00Febr
-23-0609	05/10/09	NA NA	<0.09047 U	NA NA	442	3.7	D.49 B	<0.00051 U	<0.00001 U
-23-0710 -23-0211	07/26/10	+6.60058 U	<0.00053 U	<0.0010,0	NA	NA	NA NA	<0.00014 U;\UL<3UR	<0.00021 U.U.EGUR
-23-02(1)	02/24/11	#US-JUU;U (£1000.0> U (£1000.0>	ACCOUNT STREET	-0.00011 U;U3L-GUR	HA	NA .	NA NA	40.000257 UXUX-SUR	-8.ECG217 U;UJL-CUR
-23-1211	12/14/11	<0.00019 U	-0.00018∫U	-0.03011 U -0.0340 U	NA NA	RA	144	<9,000267 U	<0.000217 U
-23-0412	04/26/12	<0.00049 U	<0.00036 U	40 00040 II	NA NA	NA NA	NA NA	<0.00914 C;USL-SUR	≪E.EGEZ1 U;UJL-GUR
-23-0113	B1/23/13	-0.00045]U	-0.000.0× U €±000.0×	<0.00079 U;UJL∓R	NA NA	NA NA	NA NA	<0.50612 V	<6.00000 U
-23-0713	07/02/13	<0.00048 U	<0.00043 U	<0.00079 U;U,U,L-PR	NA NA	NA)	NA I	<0.00021 U <0.00023 U.U.X-CUA	<0.00000 U <0.00000 U:UU-CUSI
-23-0114	01/17/14	≪0.00045 U	<0.000072 ft	-0.00079 U;UJL+FR	714	RA NA	NA.	<0.00821 U	6.00027700JC-00H
-23-0714	07/07/14	-6.00045 U	<0.000349 U	<0.00079 U;UJL-FR	11A	NA NA	NA	<0.90021 U	2 E0029 7
-23-0115	01/07/15	<2.00045 U	U €14500.0>	40.00379 U;UJL+FR	HA	NA .	NA	-0.00021 U	<6.0000 U
-23-0116 -23-1216	D1407/15 12/20/15	<0.00053 U	<0.00011 i)	<0.00057 ki	NA NA	NA NA	NA .	<0.00021 U	0.4022
-23-1216	06/06/17	<0.00053 U <0.00030 U	<0.00048jU <0.00038jU	<0.00057 U <0.00030 U	NA NA	NA NA	364	<0.00012 U.U.L-GUR	<0.00000 15.011°G/09
	W0100X12	-0.00030[0	~0.00U3SEU				NA NA	-6.000942 U	<0.000099 U

	Chemical CAS No. Tier 1 PCL	1,1-Dich/croettylere 75-35-4 0.007	Trichicrostyrene 79-01-6 0.005	Viryl chloride 75-01-4 0.002	Total Disselved Seles	Oil And Greaze	Total Organic Carten	Arocke 1016 12674-11-2	Arother 1221 11104-28-2
Sample ID	Date	Val Qual	Val Qual	Val Gual	Val Qual	Val Qual	Val Qual	Val Qual	Val Qual
W-24	01/13/05	NA	<0.0020 U	NA	1210	2.5	0.2	<0.000E0 U	<0.00000 U
W-24 W-24	01/25/05	NA	<0.00025 U	NA	1350	<0.51 U	1.14	-0.00014 U	<0.00014 U
W-24	05/91/07	NA	0.001 J	NA	4930	40.51 U	0.753 J	<0.00015 U	<0.00019 U
N-24	07/12/07	NA NA	0.0011	NA NA	50100 4800	<1.4	1	-D.COCED UNUS, ICAL, I	<0.00050 U;UJ, ICAL, I
W-24	10/03/07	NA NA	<0.00063 U	NA NA	1340	6	D.5	<0.000€0 U	<0.00050 U
W-24-0103	01/03/09	NA	<0.00047 U	NA NA	1290	<1.4 U	4.2	<0.00000.0>	<0.00050 U
W-24-0403	04/29/09	NA NA	<0.00047 U	NA NA	1390	*1.4 U	<4.7 U-RB	<0.00050 U:UJL-DUR <0.00050 U	<0.000±0 U;UJL-0UR
W-24-070a	07/02/08	NA	8.00093 J	NA NA	3040	<1.4 U	<0.21 B;U-RB	<0.000E0 U	<0.00050 U;UJL-CUR
W-24-0103	01/09/09	NA	<0.00047 U	NA	1430	<0.85 U	1.5	<0.00050 U	
W-24-0509	05/10/09	NA	<0.00047 U	NA	1580	6	1.3	<0.00054 U:UJL-BUR	<0.0050 U <0.0054 U;UJL-OUR
W-24-0710	07/26/10	<0.00050	=0.00052 U	<0.0010 U	NA ·	NA	NA	<0.00013 U;UUL-SUR	<0.00020 U;UJL-GUR
W-24-0211	0.2/24/11	+0.00019 U;UJL-2UR	<0.00018 U;UJL-SUR	<0.00011 U;UJL-SUR	NA.	NA	NA	<0.000267 U	<0.000217 U
W-24-0711	07/13/11	V €1000.0>	V 91000.D>	0.00846	NA	NA NA	NA .	<0.0002€7 U	<0.000217 U
W-24-1211	12/14/11	<0.00040 U	<0.00036 U	<0.00040 U	NA	NA	NA	<0.00014 U	<0.00021U
W-24-0412	84/26/12	<0.00040 U	<0.00035 U	0.0040	NA "	NA	NA	<0.00013 U	<0.00020 U
W-24-0113	01/23/13	<0.00045 U	<0.00049 U	0.0014 JL-FR	NA	NA	JIA	<0.00021 U	-0.00020 U
H-24-0713	07/02/13	<0.00045 U	<0.00049 U	<0.0084 JL-PR	NA	NA	HA	<0.00024 U	<0.00022 U
W-24-0114	01/17/14	<0.00045 U	<0.00049 U	0.0116 JL-FR	NA	NA	MA	-0.00021 U	<0.00020 U
W-24-0714 W-24-0115	07/03/14	<0.00045 U <0.00045 U	<0.00049 U .	0.0084 JL-PR	NA	NA NA	NA .	+D.ES U;U-GDL	-0.65 U;U-30L
W-24-0115 W-24-0116			<0.00049 U	0.0084 JL-FR	NA	NA NA	NA	<0.0021 U.U-3DL	<0.0020 U;U-SDL
W-24-0116 W-24-1216	01/07/16	<0.00063 U	<0.00048 U	0.0058	NA	NA	NA	<0.0021 U.U-00L	<0.0020 U;U-€DL
W-24-0517	08/07/17	<0.00030 U <0.00000 U	<0.00049 U <0.00030 U	<0.00057 U	NA	NA	NA	<0.00012 U	<0.00020 U
	www.cit	-0.000000	ADADOSE D	0.000000	NA	NA	NA	<0.000059 U	<0.000094 U
W-25	01/25/05	NA	<0.00025 U	NA NA	2840	0.6			
N-25	01/09/07	NA NA	<0.00025 U	NA NA			1.95	<0.00014 U	<0.00014 U
N-25	05/30/07	NA NA	<0.00025 U	NA NA	4910 4940	<0.51 U <1.4 U	0.396 J	<0.00015 U	<0.00019 U
V-25	97/13/07	NA NA	<0.00063 U	NA NA	5930	<1.4 U	0.4	<0.00058 U;UJ, ICAL, 1	<0.00050 U;UJ, ICAL, I
7-25	10/03/07	NA NA	<0.00053 U	NA NA	3170	*1.4 U	0.4 1.5	<0.00050 U:UXL-OUR	<0.00050 U;UJL-6UR
W-25-0103	01/07/03	NA	<0.00047 U	NA NA	2380	<1.4 U	<1.5 U-RB	<0.00050 U:UAL-2UR	<0.00050 U
W-25-040a	04/09/09	NA NA	<0.00047 U	NA NA	5020	<1.4 U	0.53 8	<0.000±0 U	<0.00050 U;UJL-GUR
N-25-0703	07/02/03	NA	<0.00047 U	NA NA	5410	<1.4 U	<0.25 B;U-RB	<0.00050 U;UL-SUR	
W-25-0109	01/03/09	NA	<0.00047 U	NA	5170	<0.es U	<0.55	<0.00050 U	<0.00050 U;UJL-0UR <0.00050 U
W-25-0609	06/10/09	NA	<0.00047 U	NA	5720	1,6 9	DA7 B	<0.00014 U	<0.00021 U
N-25-0710	07/25/10	<0.000±0 U	<0.00052 U	<0.0010 U	NA	NA -	NA	<0.00013 U;UUL-BUR	<0.00020 U;UJL-3UR
W-25-0211	02/24/11	<0.00019 U;UJL-SUR	<0.00018 U;UJL-SUR	<0.00011 U;UJL-0UR	NA	NA	NA	<0.0002€7 U	<0.000217 U
H-25-0711	07/13/11	<0.00019 U	<0.00018 U	<0.00011 U	NA	NA	NA	<0.000267 U	<0.000217 U
N-25-1211	12/14/11	<0.00040 U	<0.00036 U	<0.00040 U	NA	NA NA	NA	<0.00014 U	<0.00021U
N-25-0412	01/26/12	<0.00040 U	<0.00035 U	<0.00040 U	NA	NA	, NA	<0.00013 U	<0.00020 U
N-25-0113	01/23/13	<0.00045 U	<0,00049 U .	<0.00079 U;UJL-FR	NA	NA	NA	<0.00021 U	<0.00020 U
N-25-0713	07/02/13	<0.00045 U	<0.00049 U	<0.00079 U;UJL-PR	NA	NA.	NA	<0.00023 U	<0.00022 U
W-25-0114	01/16/14	<0.00045 U	<0.00049 U	<0.00079 U;UJL+R	. NA	NA	NA	<0.00021 U	<0.00020 U
N-25-0714 N-25-0115	07/03/14	<0.00045 U	<0.00049 U	<0.00079 U;UJL-FR	NA	NA	1UA	≪0.00024 U	<0.00023 U
V-25-0116	01/07/15	<0.00045 U	<0.00049 U	<0.00079 U;UJL+FR	NA NA	NA	NA	<0.00021 U	<0.60020 U
V-25-1215	12/21/15	<0.00053 U <0.00053 U	<0.00048 U	<0.00057 U;UJ-LCS	NA NA	N.A	RA	<0.00022 U	<0.00021 U
W-25-0517	05/07/17	<0.00030 U	<0.00039 U	<0.00057 U	NA	NA	NA	<0.00012 U	<0.00019 U
1100 0017	Pourit	~6,000300	~3,00030 U	<0.00030 U	NA	NA.	NA	<0.000€ U	U 360000°
V-25	D1/13/05	NA	<0.0020 U	NA NA	48783				
7-25	01/26/05	NA NA	0.007	NA NA	10700 31700	1.4	1.2 5.21	<0.0025 U	0.0357
7-25	01/11/07	NA	0.16	NA NA	50200	211	455	<0.00014 U	<0.00014 U
1-25	05/31/07	NA .	0.166	NA NA	3930	26	4.55 C	<0.00015 U	<0.00019 U
1-25	07/12/07	NA	0.0283	NA NA	63300	<1.4 U	4.8	<0.00050 U;UJ, ICAL, I <0.00050 U;UJL-BUR	<0.00050 U;UJ, ICAL, I
I-2E	1009/07	NA	0.00071 J	NA NA	19300	<1.4 U(U)	6.9	<0.00050 U,UJL-SUR	0.163 JL-SUR <0.00050 U;UJL-SUR
1-25-0108	01/03/09	NA	0.0326 JHFD	NA NA	244DD JHFD	<1.4 U	6.3	<0.0025 U;U;U-8UR	
-25-0408 .	04/29/08	NA	0.0072 JHFD	NA NA	25500	4.7 JI-FD	6.5	<0.00050 U	0.0357 JL-SUR,FD -0.00350 U;UJL-GUR
-25-0703	07/02/08	NA	0.0092	NA NA	27300	<1.4 U	7.3	<0.00050 UJL-SUR.M3	0.0468 JL-SUR.FD
-25-0109	01/07/09	NA .	0.098	NA	43000	<0.85 U	4.2	D.DOS4 JL-GUR	0.0716 JL-3UR
-25-0509	E0/01/20	NA NA	<0.00047 U	NA	25200	40.9 U	6	0.0026	0.0252
-25-0710	07/20/13	<0.00050 U	<0.00052 U	<0.0010 U	NA	NA	NA	0.0037 JL-3UR.	<0.00022 U;UJL-8UR
-25-0211	02/04/11	<0.00019 U;UJL-EUR	<0.00019 U;UJL-&UR	<0.00011 U;UJL-0UR	NA	NA	NA	<0.000267 U	<0.000217 U
-25-0711	07/13/11	<0.00019 U	<0.00018 U	0.00176 J	NA	NA.	NA	<0.000267 U	<0.000217 U
-25-1211	12/13/11	<0.00040 U	<0.0003€ U	0.60E JHFD	NA.	NA.	NA	D.M. JHUS-HL 2503.0	<0.00022 U
-25-0412	D4/25/12	<0.000010 N	<0.00036 U	<0.00040 n	NA	NA.	NA.	<0.00013 U	<0.00020 U
-25-0113	01/23/13	<0.00045 U	<0.00049 U	<0.0079 U;UJL-FR	NA	NA	NA	<0.00021 U	<0.000000 U
-25-0713	07/03/13	<0.00045 U	0.0011	0.0167 JL-PR	NA	NA	NA	<0.00024 U/UJL-SUR	◆CCCC22 U;UJL-GUR
-25-0114	01/17/14	<0.00045 U	<0.00049 U	<0.00079 U;UJL-PR	NA	NA.	NA	<0.00021 U	<0.00020 U
-25-0714	07/02/14	<0.00015 U	<0.00049 U	<0.00079 U;UJL-PR	NA	NA	SA	<0.00024 U	<0.00022 U
-25-0115	01/07/15	<0.0001E U	<0.00045 U	<0.00079 U;UJL-PR	NA	NA	NA.	<0.00021 U	V 000000 U
-25-0115 -25-1216	01/05/16	<0.00063 U	<0.00049 U	0.0022	NA	NA.	1KA	<0.00021 U	<0.00020 U
	12/20/16 05/07/17	<0.00053 U <0.00030 U	<0.00048 U <0.00030 U	0.0009 J	A.A.	NA NA	SIA	<0.00012 U <0.000062 U	<0.00000 U
-25-0517				<0.00030 U	NA		NA NA		

	II.			Vin		Total Dissolv	24							
	CAS No.	1,1-Dichiproethylene 75-35-4	Trichlorcethylene 79-01-6	thior 75-0	1-4	Colds —		OI And Greate	Total Organic	Darton		or 1016 4-11-2	1110	or 1221 34-28-2
	Tier 1 PCL	0.007	0.005	0.00	Cual Cual	Val 6	200	Val Qual	Val	O	Val	Gus!		Gual
Sample ID /-101-0710	Date	Val Qual	Val Qual		crear		203			Qual		U:UUL-SUR		CHANT-SUR
-101-0211	07/27/10	<0.00050 U <0.00019 U:UJL-QU		≠6.0010 R <0.00011	U:UJI-SUR	NA NA	-	NA NA	NA NA		<0.00014	U:UUL-SUR U:UUL-SUR	<0.00022	U:UJL-SUF
-101-0211	07/14/11	<0.00019 U/OUL-GU	<0.00018 U	<0.00011	C'OST-SOK	NA.	-	NA ·	NA NA			U.UUL-SUR		U:UJL-BUF
-101-1211	12/14/11	<0.00019 U	<0.00036 U	<0.00040		NA.	-	NA	NA	-	<0.00014		<0,00021	LEGIAL SUP
7-101-0412	64/36/12	<0.0004010 <0.0004010	<0.00036 U	<0.00046		NA	-	NA.	NA.		<0.00012	U.GGC-BOR	<0.00021	is our sur
V-101-0113	01/25/13	<0.00045 U	+0.00049 U	40.00079	U;UJL-PR	NA		HA	NA		<0.05021	0	<0.00020	0
V-101-0713	C7/CE/13	<0.00025 U	90.00049 U	<0.00075	U:UJL-FR	NA	-	NA	NA.		<0.00022	U.U.ISUR	<0.00021	USUL-SUP
V-101-0114	01/16/14	<0.00045 U	40.00049 U	<0.CC078		NA		NA	NA.		<0.00021	11	<0.00020	11
fore July 2014 t	his well was thoug	ht be MW-tot, However	gauging with a string and s				ing th	the same of the sa					1 -0.0000	
		W-104, and below this er		0.0000	In an	NA	-	NAI	I NA		-0.022	IIII ADI	1 -2000	U,U-EDL
V-101-0714	07/01/14	<0.00045 U	<0.00049 U		ルチス		-					n'n-aor		
V-101-0115	01/07/15	<0.00045 U	<0.00049 U	0.0031	JL-FR	NΛ	-	NA	NA			N'N-GOF		U,U-COL
V-101-0116	01/07/16	<0.00053 U	<0.000049 U	0.0028		NA NA	- 6	NA NA	NA			U/U-ODL	<0.022	U,U-ODL
W-101-1216	12/20/15	<0.00063 U .	<0.00048 U	0.0038			_		NA			U;U-BDL		U;U-SDL
V-101-0517	05/06/17	<0.00030 U	<0.00030 U	0,5014		NA	-1	NA	11.4		<0.0059	U,U-GDL	.<0.0095	U;U-SDL
V-102	01/17/05	NA.	<0.0020 U	NA		319		0.56	1.1		≈5.05	U	<0.03	Ų.
V-102	01/26/66	NA.	<0.00025 U	NA NA		325		1.5	0.939		<3.00014	U	<0.00014	U
V-102	05/21/07	NA	<0.00053 U	N/A		550		€1.4 U	1		<0.00051	UJUS, (CAL, )	<0.60061	U;UJ, ICAL
V-102	10/10/67	NA	<0.00053 U	NA.		345		<1.4 U	3	JI-FD	<0.00050	U	<0.00050	U
V-102-0109	01/08/09	NA	<0.0020 U	NA.		549		<1.4 U	<1.1	U-RB	<0.0025	U, UVL-SUR	0.0254	JL-SUR
V-102-0468	04/20/08	NA	<0.00047 U	. NA		386		4.7	<3.5	U-RE	0.0538	U	<0.00050	U
V-102-0708	07/02/08	NA.	<0.00047 U	NA		332 6	C-FD	<1.4 U	1.5		<0.00050	U.OUL-CUR	0.0664	U
V-102-0109	69/69/10	NA	<0.00047 U	NA.		551		4.7	<0.55	U	0.0331	U	<0.00050	Ü
W-102-0609	GE/11/09	NA	<0.00047 U	18.4		523		1.6 B	0.54	8	0.0204	U	0.0641	U
V-102-0710 -	07/27/10	<0.00050 U	<0.00052 U	0.0011	J	324		HA	NA		0.0161	JL-OUR,FD	<0.00022	UJUJL-BUF
V-102-0211	02/26/11	0.0013	<0.00018 U	0.0016	J	NA		NA	MA		<0.00532	U	<0.00433	U
V-102-0711	E7/14/11	<0.00019 U	<0.00018 U	<0.00011	0	MA		HA	NA		<0.0840	Ü	<0.00326	U
V-102-1211	12/14/11	<0.00040 U	<0.00035 U	<0.00040	U	MA		NA	, NA		<0.90014	บ	<0.00021	U U
V-102-0412	04/27/12	<0.00040 U	<0.00035 U	<0.00040	U	NA	_	NA	NA	134	<0.00013	U	<0.00020	U.
V-102-0113	01/24/13	<0.00045 U.	+ +0.00049 U	0.0012	JLFR	248		RA	NA		<0.03021	U	<0.00020	U
V-102-0713	07/02/13	<0.00045 U	<0.00049 U	8,0047	JL-PR	NA	-	NA	NA		<0.00023	Ü	<0.00022	Ü
W-102-0114	03/16/14	<0.00045 U	<0.00029 U	0,0045	JL-78	NA		NA.	NA		<0.00021	U	<0.80626	U
			er, gauging with a string an	d weight confirmed :	total cepth o	f 113 feet, India	sating	the well was actua	Hy MW-101.					
		W-101, and below this er												100
W-102-0714 W-102-0115	07/07/14	<0.00045 U <0.00045 U	<0.00049 U <0.00049 U		U;UJL-FR U;UJL-FR	NA NA	-	NA NA	NA NA		<0.00021 <0.0011		<0.0002	U,U-ODL
W-102-0115	01/08/15	<0.0004810	40.00048 U	<0.00057 <0.00057		NA	-	NA NA	NA		<0.00022		<0.00021	
W-102-1216	12/19/16	<0.00053 U	-0.00049 U	<0.00057		NA NA	-	NA NA	NA.			U.U.L-SUR		U;UJL-GUF
						NA.	-	NA NA	NA.	-		U:UJL-GUR		D'OTE COL
W-102-1216	12/19/16	<0.00063 U <0.00030 U	<0.00048 U <0.00030 U	<0.00057 <0.00030		ILA	-	NA NA	NA NA		<0.00012		<0.000030 <0.000095	D'OT-GO
V-102-0517	06/05/17	<0.0003010	40,00030	-010090	U	165		NA.	NA.		<0.900055	0	₹0.000095	U
V-103-0710	07/27/10	<0.00050 U	. <0.00052 U	<0.0010		NA		NA	NA			U;UVL-GUR		U:UJL-QU
V-103-0211	02/26/11	<0.00019 U;UJL-EU			U;UJL-GUR	NA		NA	NA		<0.000266	U	< 0.000217	
V-103-0711	07/14/11	<0.00019 U	40 000 fB U	<0.00011		NA		NA	NA	3.	<0.000267		<0.000217	
V-103-1211	12/14/11	<0.00040 N	40.00035 U	<0.00040		NA		NA	NA.		<0.000f4		<0.00021	
V-103-0412	04/30/12	<0.00040 U	<0.00035 U	<0.00040		NA	-	NA	NA	-	<0.00013			U
/-103-0113	01/24/13	<0.00045 U	<0.00049 U		U;UJL-FR	NA		NA	NA		<0.00021		<0.00020	
/-103-0713	07/05/13	<0.00045 U	<0.00049 U		U;UJL-FR	NA		NA	NA		<0.00024	U	<0.00023	U
			pump was Installed in the v						_					
7-103-0115	01/08/15	<0.00045 U	<0.00049 U		U;UJL-FR	NA		NA	NA		<0.00021		<0.00020	
/-103-0116	01/07/15	<0.00063 U	<0.000049 U		D'ATTC3	NA		NA NA	NA	e dini		UJUAL-CUR		U;UJL-GUF
V-103-1216	12/19/15	<0.00063 U	-0.00049 U	<0.00057		NA	_	NA.	NA	-		U.UJE-SUR		U;UJL-GU?
7-103-0517	05/05/17	<0.00030 U	<0.00030 U	◆0,0003.0>	U	NA		NA	NA		<0.0001E	0	<0.00030	U
-104-0609	- 06/11/09	NA	<0.00047 U	N.A		359		<0.9 U	0.8	8		U.U.RSUR	<0.00056	U;UJL-SUF
1-104-0710	07/27/10	<0.00050 U	<0.00052 U	<0.0010	U	NA.		NA	NA.			U;UNL-SUR	<0.00021	U,UJL-BUR
-104-0211	02/26/11	<0.00019 U	<0.00018 U	<0.00011	U	NA.		NA NA	NA.			U;UUL-SUR	<0.000217	U,UJL-GUR
1-104-0711	67/14/11	<0.00019 U	<0.00018 U	<0.00011	U	NA.		NA NA	MA		<0.900267	U	<0.000217	U
V-104-1211	12/14/11	<0.00040 U	<0.00035 U	<0.00040	U	NA.		NA	NA.		<0.00014	U	<0.00021	U
V-104-0412	04/30/12	<0.00040 U	<0.00038 U	< D.CCC40	U	NA		NA:	NA		<0.00013	U	<0.00020	Q .
-104-0113	01/24/13	<0.00045 U	<0.00049 U	<0.00079	U;UJL-PR	NA		NA:	NA		<0.00021	U	<0.00020	<b>U</b> .
7-104-0713	07/03/13	<0.00045 U	<0.00049 U	<0.00079	U;UJL-PR	NA		NA	NA.		<0.00023	U	<0.00022	U
1-104-0114	01/16/14	<0.00045 U	<0.00049 U	<0.00078	U;UJL-PR	NA	110	NA	NA.		<0.00021	U	<0.00026	Ų
torn July Stay de	his well was thoug	ht to be MW-104, Howev	er, video inspection of the v	ell ocnfirmed a tota	depth of 288	feet, Indicating	the w	ell was actually M	W-102	1 10 6				-
		W-102, and below this er			A CONTRACTOR OF THE PARTY OF TH		A CONTRACTOR		The second secon		0.0			

= n	Chambal GAS No. Tier 1 POL	1,1-Dichtoroedhyl 75-35-4 0.007	79	cethylene O1-6 O05	Vin chlori 75-8 0.01	de 1-4	Total Disched Setts	CII And Gr	este	Tatal Organic	Carbon		for 1016 74-11-2	1110	br 1221 14-28-2
Sample ID	Date	Val Gue	Val.	Qual	Val	Qual	Val Qual	Val	Qual	Wall	Qual	Val	Qust		Cial
1-1	01/17/05	NA	<0.002		NA NA	1	9093	13.1		343		-60.05		<0.05	-
<b>1</b>	01/24/05	NA	<0.0002		NA.		8550	5.9		389		<0.00014		<0.00014	
V-1	20,1020	NA.	<0.0002		- NA		NA	NA.		NA		NA	0	NA NA	
142	09/17/05	NA	<0.002		NA.		5290	6.3		31		≺0.05	17	<0.05	
V-2	01/24/06	NA	<0.0002	U	NA		10300	14		7.23		×0.00014		<0.00014	
19	CITIENS	NA	<0.002	U	NA.		5760	26		5.5		≺0.05	Ü	<0.05	
V-3	01/24/05	NA	0.00	1	NA NA		5520	4.9		9.31	-	<0.00014		<0.00014	
7-4	01/17/05	NA	<0.002	U	N.A		772	2.4		9		<b>⊀0.05</b>		<0.05	
7-4	01/24/05	NA	0.00		NA.	A	13300	5.4		12.9		<0.00034		<0.00014	U
7-5	01/16/05	NA	0.001		NA		5420	11.1		34		<0.05		<0.05	11
V-5	01/25/05	NA	0.00		NA		4400	25		31.3		<0.00014		<0.00014	
N-6	01/17/05	NA	<0.002	U	NA.		122	2.5		3.1		<b>≺0.6</b> €	U	<0.05	U
N-5	01/25/05	NA	<0.0002	U	NA NA		459	1.1		3.37		<0.00014	U	<0.00014	U
W-7	01/15/05	NA	<0.002	U	NA NA		998	1.2	-			<0.05	U	<0.05	
W-7	01/25/05	NA	<0.0002	U	NA.	1	1400	<0.51	U	2.35		<0.00014	Ü	<0.00014	
V-5	01/16/05	NA	<0.002		NA.	eranning -	3830	1.1		4.2		<0.00050	U	<0.00050	U
V-9	01/25/05	NA.	<0.00003		NA.		5100	<0.51	U	3.19		<0.00014		<0.00014	
V-9	01/15/05	NA	<b>~0.002</b>		NA.		13E0	1.7		1.1		<0.0025	U	<0.0025	
V-9	01/25/05	NA	<0.0002		NA		2200	42.51		4.99		<0.0C014		<0.00014	
V-10	01/17/05	NA	<0.002		NA.		10400	9.2		24		<0.0010	U	<0.0010	
N-10	01/25/06	NA	<0.0002	U	NA	110	13300	61		10.5		<0.00014	U	-0.00014	U
armin ata							and the second second								
01-0711	07/14/11	<0.00019 U	<0.00011		40.00011		NA	N/A		NA.		NA		NA.	23.00
-01-1211	12/14/11	<0.00040 U	<0.0003		<0.00040		NA	NA.		NA.		NA		NA.	
1-01-0412	04/25/12	- Mary State -	<0.0003	U	40,00040	U	NA	NA.		NA		, NA		NA	
	- 1		Acres de la companya della companya de la companya de la companya della companya					Wildow III				10-1			
0-01-0211	02/24/11	<0.00019 U	<0.0001		<0.00011		144	N/A		NA		<0.000267		<0.000217	
0-01-0711	07/13/11	<0.00019 U	<0.0001		0.00187		NA	NA.		NA.		<0.000267		<0.000217	
0-01-1211	12/13/11	<0.00040 U	<0.0003		0.0031	JI-FD	NA	NA		NA		0.0037	JH-3UR	<0.00021	U
0-01-0412	04/25/12	<0.00040 U	<0.0003		<0.00040		NA	N.A		TLA		<0.00013	U	<0.00020	U
0-01-0113	01/23/13	<0.00045 U	<0.0004			U;UJL-PR	NA	NA.		NA		<0.00021		<0.00020	
0-01-0713	07/02/13	<0.00045 U	<0.00049			儿子说	NA	NA.		HA		<0.00022		<0.00021	
0-01-0114	01/17/14	<0.00045 U	<0.00049			U;UJL-PR	MA	NA.		NA.		<0.00021	U	-0.00020	U
0-01-0714	07/02/14	<0.00045 U	-0.00048		<0.00079	U;UJL-FR	NA.	NA.		NA.		<b>~0.00024</b>		<0.00022	
0-01-0115	01/03/15	<0.00045 U	<0.00049			いいした	NA	N.A		NA.		-0.00021		<0.00020	U
0-01-0115	01/03/15	<0.00053 U	<0.0384			JI-LOB	NA	N.A		HA		<0.00024		<0.00020	
D-01-1215	12/20/15	<0.00053 U	<0.00049		0,6034		NA.	NA.		NA			U;U-QDL		n:n-spr
D-01-0517	05/07/17	<0.00030 U	<0.00031	U	<0.00030	U	NA	N/A		NA.		<0.000062	U	<0.000099	U
		The second second					1000							A CONTRACTOR OF THE PARTY OF TH	
0-02-0211	02/26/11	0.0013 JL-0		U;WL-CUR		J;JL-GUR	NA	NA		11A		<0.00532		<0.00433	
0-02-0711	07/14/11	<0.00019 U	<0.00018		<0.00011		NA	NA.		MA		<0.00401		<0.00327	
0-02-1211	12/14/11	<0.00040 U	<0.0003		<0.00040		NA	NA.		NA		<0.00014		<0.00022	
3-02-0412	04/27/12	<0.00040 U	<0.00038		-<0.00040		NA	NA		NA		<0.00013		<0.00020	
0-02-0113	01/22/13	U 21000.0>	<0.00045		0.0012	JL-PR	NA	NA		NA		<0.00021		<0.00020	
0-02-0713	07/02/13	<0.00045 U	0.00099		0.0132		NA	NA		NA			U,UJL-GUR	<0.00029	
0-02-0114	01/17/14	<0.00045 U	<0.0004			JL-FR	NA ·	NA		NA.	£	<0.00021		<0.00020	
0-02-0714	07/07/14	<0.00045 U	<0.0004			U;UJL-FR	NA	NA		NA.		<0.00021		<0.0002	
0-02-0115	01/03/15	<0.00045 U	<0.00045			U;UJL#R	NA	NA		NA		<0.E011		<0.0010	
0-02-0115	01/03/15	<0.000£3 U	<0.00045		<0.00057		NA	NA.		HA		<0.00022		<0.00021	
0-02-1215	12/20/15	<0.00053 U	<0.00048		<b>&lt;</b> 0.00057		NA	N/A		HA		<0.00012		-0.00020	
0-02-0517	0507/17	<0.00030 U	<0.00030	U	<0.00030	U	NA	NA.		NA.	2	<0.000065	U	<0.00010	U
		-2.022.12	ALLE STATE	MAN TO THE	-				-						
-01-0211	02/26/14	<0.00019 U;UJ		U:UJL-CUR		אווס-זנטנט	MA	NA.	-	NA.		<0.00000EE	U;UUL-BUR	<0.000217	
-01-0711	07/14/11	<0.00019 U	<0.00018		<0.00011		NA	N/A		, NA		<0.000267	U	<0.000217	
-01-1211	12/14/11	-0,00040 U	<0.00016		40.00040		NA	NA		NA.			U.U.JL-CUR	€€000.0>	
-01-0412 -01-0413	04/92/12	<0.00040 U	<0.00031		<0.00040		NA	NA.		NA		<0.00013		<0.00020	
		<0.00045 U	<0.00049		<0.00079		HA	NA.		NA		<0.00021		<0.00020	U
-01-0713	07/03/13	<0.00045 U	<0.00045		<0.00079		NA	N/A		NA.		<0.00023		<0.00022	
-01-0114 -01-0714	07/17/14	<0.00045 U	<0.00049		<0.00079		NA	NA.		NA.		<0.00021		<0.00000	
-01-0714 -01-0115	07/01/14	<0.00045 U	<0.00045		<0.00079		HA	NA.	_	NA.		<0.00022		<0.00021	
		<0.00045 U	<0.00043		40,00079		NA	NA		. NA		<0.00021		<0.00020	
-01-0/16	01/07/15	<0.00003 U	<0.00049		<0.00057		NA NA	NA.		NA		<0.00021	U	<0.00030	U
-01-1216	12/20/15	<0.000£3 U	<0.00049		<0.00057		HA	NA	1	NA		<0.00012		≺0.00020	
-01-1216	. 12/20/15	+0.00053 U	<0.00049		+0.00057		NA	NA.		NA.	- 11	<0.00012		<0.00020	
-01-6617	05/05/17	∪ 0£cco.c>	<0.00000	U	<0.00030	U	NA	NA.		NA		<0.000066	U	-0.00011	U
				71			- E						M. Comment		
-02-0714	O7/02/14	<0.00045 U	<0.03843	U	40.00079	U	NA	N/A		, NA		<0.00023	U	0.00041	J
				100000	ALL AND DESCRIPTION OF THE PARTY OF THE PART		1000	1 2 2 1 2 2						4	
		<0.00045 U	<0.00049	111	<0.00079	U	145	NA.	1000	PLA.		<0.00021	11	<0.0002 l	U
	07/07/14														
-03-0714 -03-0714 -03-0714	07/07/14 07/07/14 07/07/14	<0.00045 U <0.00045 U	<0.00048 <0.00049	U	<0.00079 <0.00079	U	NA NA	NA NA		NA NA		<0.00021 <0.00031		+0.0002 (	

	Chemical	1,1-Dichicrosthriene	Trickipmethylene	Vingi	Total Dissolved		1			220
	CAS No.	75-35-4 0.007	79-01-6 0.005	75-01-4 0.002	Octds	QB And Greace →	Total Organic Carbon	Arccor 1016 12674-11-2	Arocior 17 11104-28	
Sample ID	Date	Val Qual	Val Qual	Val Gual	Val Cual	Val Qual	Val Qual	Val Quel	Val Qua	1
WT-01-0711	07/14/11	<0.00019 U	<0.00018 U	<0.00011fu	NA ·	NA NA	NA	NA .	NA NA	
NT-01-1211	12/12/11	<0.00040 U	<0.00036 U	<0.00040 U	NA	NA NA	NA	210	NA	_
WT-01-0412	04/25/12	<0.00040 U	<0.00035 U	<0.00040 U	IVA	NA.	NA	NA	NA.	_
VT-01-0113	01/23/13	<0.00045 U	<0.00045 U	<0.00079 U	NA	NA NA	NA	No	NA	
VT-01-0713	05/28/13	<0.00045 U	<0.00049 U	<0.00079 U	NA.	NA NA	NA	NA	NA	
VT-01-0114	01/16/14	<0.00045 U	<0.00049 U	<0.00079 U	NA	NA NA	NA	NA	NA.	
NT-01-0714	07/02/14	<0.00045 U	<0.00049 U	<0.00079 U	HA	NA NA	NA ·	No	NA.	
NT-01-0115	D1/07/15	<0.00045 U	<0.00049 U	C00079 U	NA	NA.	NA	NA	NA	
WT-01-1215	12/20/15	<0.00063 U	<0.00048 U	<0.00057 U	NA	NA	NA	No	NA.	
WT-01-0517	05/05/17	<0.00030 U	<0.00030 U	<0.00030 U	NA	NA	NA	NA	NA.	_
" - Not metected:			d above the level of the associa				9	2	583	
Not detected: rotective Concent	ration Level (FCL) va		Reduction Program (TRRP) Tie					8	iw.	
<" - Not rietected: Protective Concent Proundwater Inges	ration Level (FCL) va tion ( <sup>GN</sup> GW <sub>ing</sub> <sup>2</sup> ) for (	lues taken from Texas Risk F	Reduction Program (TRRP) Tie 012.		47			8	587	
Frotective Concent Sroundwater Inges	ration Level (FCL) va tion ( <sup>GN</sup> GW <sub>ing</sub> <sup>2</sup> ) for (	alues taken from Texas Risk F 0.5-acre, effective June 29, 2	Reduction Program (TRRP) Tie 1012. dential Groundwaler FCL.		- Sel			2 1	583	
"- Not detected: Frotective Concent Broundwafer Inges Bold, yellow-high U - Not detected.	ration Level (FCL) va tion ( <sup>GN</sup> G/V <sub>ing</sub> <sup>2</sup> ) for ( light Indicates camp	alues taken from Texas Risk P 25-acre, effective June 29, 2 ole above TRRP Tier 1 Resk	Reduction Program (TRRP) Tie 1012. decilia) Groundwaler FCL. L - Blas in Sam	r 1 Table 3 - Residential  rple result likely to be low	evaluation orderts not me			8	191	
- Not detected: Frotective Concent Frotective Concent Frotendwater Inges Fold, yestow-high J - Not detected. I - Result or detect	ration Level (FCL) va tion ( <sup>GH</sup> G/V <sub>erg</sub> <sup>2</sup> ) for ( light Indicates camp ion (mit is an eximal	sues taken from Texas Risk P 0.5-acre, effective June 19, 2 ole above TRRP Tier 1 Resk ed value	Reduction Program (TRRP) Tile 1912. dential Groundwater FCL. L - Bias in san LCO - Laboral	r 1 Table 3 - Residental  rple result thely to be low  ory control sample recovery o	valuation criteria not me			8	5W!	
" - Not detected: Frotective Concent aroundwater inges sold, yealow-high J - Not detected. I - Result or detect - Result or detect.	ration Level (FCL) va tion ( <sup>GN</sup> GVi <sub>ng</sub> <sup>2</sup> ) for ( light Indicates samp ion limit is an estimat on limit blas was inde	aves taken from Texas Risk P 25-acre, effective June 19, 2 ple abovo TRRP Tler 1 Resk ed value eterminate	Reduction Program (TRRP) Tie 1912. dential Groundwafer FCL. L-Bias in san LOS-Laborat MS- <i>Ha</i> tra Sp	r 1 Table 3 - Residental  ciple result thely to be low ony control sample recovery o	valuation criteria not me				1W1	
- Not rietected: Frotective Concent froundwater types old, yestow-high J - Not detected. I - Result or detect - Result or detect I - Analyte was de	ration Level (FCL) va tion ( <sup>6M</sup> G/V <sub>ing</sub> <sup>2</sup> ) for ( light Indicates camp ion limit is an estimat on limit bias was inde tected in an associate	aves taken from Texas Risk P 25-acre, effective June 19, 2 ple abovo TRRP Tler 1 Resk ed value eterminate	Reduction Program (TRRP) TIE 1912. dentia) Groundwaler FCL L-Blas In san LOS - Laboral MS - Matra O PR - Fresena	r 1 Table 3 - Residential  rple result tikely to be low cory control sample recovery e  ble  Uon requirement not met	-valuation criteria not me			8	1W1	
<ul> <li>Not rietected:</li> <li>rotective Concentificundwater trops</li> <li>old, yealow-high</li> <li>Not detected.</li> <li>Result or detect</li> <li>Result or detect</li> <li>Analyte was de</li> <li>D - Field Dupicat</li> </ul>	ration Level (FCL) va tion ( <sup>6M</sup> G/V <sub>inc</sub> <sup>2</sup> ) for ( light Indicates camp ion limit is an estimat on limit bias was inde- tected in an associate	elues taken from Texas Rich F 15-acre, effective June 19, 2 ple above TRRP Tier 1 Resti ed value eleminate ed blank cample	Reduction Program (TRRP) Tie 1912. dentia) Groundwaier FCL. L-Blas in sam LCG - Laboral MS - Matra Ch PR - Frescha RB - Rhealte E	r 1 Table 3 - Residential  spie result thely to be low ony control sample recovery on  the  tion requirement not met	evaluation criteria nat me		-	*	(W)	
- Not metected: rotective Concent froundwater inges old, yellow-high I - Not detected. I - Result or detect - Result or detect - Analyte was de D - Field Duplicat I - Result or detect	ration Level (FCL) va tion ( <sup>PM</sup> GV <sub>an</sub> <sup>2</sup> ) for to light Indicates camp ion limit bias was inde tected in an associate to tion (mit was biased in	elues taken from Texas Risk P 15-acre, effective June 19, 2 pole abovo TRRP Tier 1 Resh ed value eterminate ed blank sample high	Reduction Program (TRAP) Tie 1912. derdial Croundwaler FCL. L. Blas in som LCG - Laboral MG - Materia C PR - Fresena RB - Rhoable 3DL - Sample	r 1 Table 3 - Recidential  pie result likely to be low cry control sample recovery e pike for requirement not met flank Detection Limit	avaluation criteria not me			* "	1921 20	
"- Not detected: Frotetive Concent Strundnater Inges Bold, yellow-high U - Not detected. U - Result or detect Result or detect Analyte was de FD - Field Duplicat H - Result or detect	ration Level (FCL) value of the first of the	elues taken from Texas Risk P 15-acre, effective June 19, 2 pole abovo TRRP Tier 1 Resh ed value eterminate ed blank sample high	Reduction Program (TRRP) Tie 1912. dentia) Groundwaier FCL. L-Blas in sam LCG - Laboral MS - Matra Ch PR - Frescha RB - Rhealte E	r1 Table 3 - Residential  opie result tikely to be low ony control sample recovery opine tion requirement not met slank Debection Limit side	valuation criteria not me				es:	

	Chemical CAS No. Tier 1 PCL	Arodor 1223 11141-16-5	Arocor 1242 53459-21-9	Arocier 1248 -12872-29-6	400001 1254 11097-55-1	Arockr 1250 11095-82-5	Total FCBs 1336-35-3 0.0005
Sample ID	Date	Val Qual	Val Qual	Val Qual	Val Qual	Va) Qual	Val Qual
F/V-8	01/13/05	0.00051 U	<0.00050	<0.00050 U	+6.00050 U	<0.00050 U	0.000.0 U 6900.0
W-S	01/25/06	<0.60012 U	0.0069 J <0.00017	<0.00014 U <0.00034 U	<0.00011 U <0.0000 U	<0.00013 U	<0.00034 U
///-B ///-9	01/05/07	<0.00012 U <0.00034 U;UJL-BUR,ICAL	<0.0001/ <0.00016 U;UJL-SUR.ICAL	<0.00037 U;UJL-CUR,ICAL	<0.00017 U;UJL-QUR,ICAL	<0.00023 U;UUL-BUR,ICAL	<0.00051 U;U,IL-SUR,ICAL
W-9	07/92/07	<0.0034 U	<0.0016	<0.00037 U	<0.00017 U	<0.00023 U	-0.00050 U
W-S	10/05/07	<0.0034 U	<0.00016	<0.00037 U	<0.00017 U	<0.00023 U	<0.000£0 U
W-E-010B	01/07/08	<0.00034 U,UJL-SUR	<0.00016 U;UJL-3UR	<0.00037 U;UJL-GUR	<0.00017 U;UJL-0UR	<0.00023 U;UUL-SUR	<0.000€0 U;UJL-SUR
W-9-0408	04/29/08	<0.00034 U.U.L-CUR	<0.00016 U;UJL-SUR	<0.00037 U;UJL-QUR	<0.00017 U;UJL-GUR	<0.00023 U;UJL-SUR	<0.000ED U:UJL-SUR
W-8-0708	07/02/08	<0.00034 U;UJL-BUR	<0.0001€ U;UJL-BUR	<0.00037 U;UJL-DUR	<0.00017 U;UJL-0UR	<0.00023 U;UJL-8UR	<0.00050 U;UJL-BUR
W-8-0109	01/08/09	<0.00034 U	<0.00016 U	<0.00037 U	<0.00017 U	<0.00023 U	<0.00050 U
W-8-0509	CENDINGS	<0.00037 U	<0.00017 U	<0.00040 U	<0.000.00 U	<0.00025 U	<0.00054 U <0.00022 U:UUL-BUR
W-08-0710	07/25/10	<0.00011 U;UJL-SUR	<0.00011 U;UJL-SUR	<0.00015 U;UJL-BUR	<0.000011 U;UJL-QUR <0.0000692 U	<0.00012 U;UJL-BUR <0.000168 U	<0.0000593 U
NV-8-0211	02/24/11	<0.0000553 U	-0.0000751 U	<0.0000988 U <0.0000983 U	40.0000692 U	<0.000169 U	0.000214 J
W-09-0711	07/13/11	<0.000593 U	0.000214 J <0.00012 U	<0.000988 U	<0.000050 U	<0.00012 U	<0.000214/3 <0.00012/U
W-8-1211 W-8-0412	12/14/11 04/26/12	<0.00011 U	<0.00012 U	<0.00014 U	U 6€0000.0>	<0.00011 U	<0.00020 U
W-9-0113	01/23/13	<0.00010 U <0.00017 U	<0.00012 U	<0.00010 U	<0.00000U	<0.00012 U	<0.00021 U
W-6-0713	07/02/13	<0.0002 U	<0.00014 U	<0.00011 U	<0.00011 U	<0.00014 U	<0.00024 U
W-9-0114	01/16/14	<0.00017 U	<0.0012 U	<0.00010 U	<0.00010 U	<0.00012 U	<0.00021 U
W-8-0714	07/03/14	<0.0014 U-RB	<0.00013 U	<0.00011 U	<0.00011 U	≺0.00013 U	<0.0014 U-RB
W-8-0115	01/08/15	0.0011	<0.00012 U	<0.00010 U	<0.00010 U	<0.00012 U	0.0011
W-9-0116	01/05/16	<0.00018 U	D.00071	0.00037 J	40,00011 U	<0.00013 U	0.0010a J
W-8-1216	12/21/16	<0.00022 U	<0.00014 U	<0.00027 U	<0.00013 U	<0.000075 U	<0.00027 U
W-9-0617	DE/07/17	0.00036	<0.000067 U	<0.00013 U	<0.000052 U	<0.000035 U	0.0036
			1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				
W-10	01/14/05	<0.00050 U	<0.00050 U	<0.00050 U	<0.00050 U	<0.00050 U	<0.00050 U
W-10	01/26/05	<0.00012 U	0.0054 J	<0.00014 U	<0.00011 U	<0.00050 U <0.00013 U	0.0064 J <0.00034 U
W-10	01/09/07	<0.00012 U	<0.00017 U	<0.00034 U <0.00038 U:UJ, ICAL, I	<0.00010 U <0.00017 U;UJ, IGAL, I	<0.00013 U <0.00023 U;UJ, ICAL, I	<0.00034 U
W-10	05/30/07	<0.00035 U;U≥, ICAL, I	<0.00016 U;UJ, KOAL, I <0.00016 U;UJL-SUR	<0.00038 U;UU, IGAL, I <0.00037 U;UJL-EUR	<0.00017 U;UJL-QUR	<0.00023 U;UJL-SUR	<0.00050 U;UJL-GUR
W-10	07/12/07	<0.00034 U,UJL-GUR	<0.00016 U	<0.00037 U	<0.00017 U	<0.00023 U	<0.00000 U
W-10	10/09/07	<0.00034 U;UJL-GUR	<0.00016 U;UJL-SUR	<0.00037 U;UJL-SUR	<0.00017 U;UJL-GUR	<0.00023 U;UJL-BUR	<0.00050 U;UJL-GUR
W-10-0109 W-10-0409	04/29/08	<0.0034 U	<0.00016 U	<0.00037 U	<0.00017 U	<0.000231U	<0.00050 U
W-10-0709	07/02/03	<0.00034 U:UJL-QUR	<0.00016 U:U:U-SUR	<0.00037 U;UJL-SUR	<0.00017 U;UJL-GUR	<0.00023 U;UJL-SUR .	<0.00050 U:UJL-SUR
W-10-0109	01/02/03	<0.00034 U	<0.00016 U	<0.00037 U	<0.00017 U	<0.00023 U	<0.00050 U
W-10-0509	60/10/03	<0.00037 U	≺0.00017 U	<0.00000 U	<0.00018 U	<0.00025 U	<0.00054 U
W-10-0710	07/26/10	<0.00010 U;UJL-GUR	<0.00011 U;UJL-SUR	<0.00014 U;UJL-2UR	<0.00010 U;UJL-0UR	<0.00011 U;UJL-2UR	<0.00020 U;UJL-SUR
FW-10-0211	02/24/11	<0.0000593 U	<0.0000791 U	<0.0000988 U	<0.0000592 U	<0.000168 U	-0.0000593 U
W-10-0711	07/13/11	<0.0000£93 U	<0.0000791 U	<0.0000988 U	<0.0000692 U	<0.000169 U	-0.00000000000000000000000000000000000
W-10-1211	12/14/11	<0.00011 U;U;L-8UR	<0.00011 U;UJL-SUR	<0.00014 U;UJL-GUR	40 55010 U;UJL-CUR	~0.00011 U;UJL-SUR	<0.00021 U;UJL-GUR
KW-10-0412	04/25/12	<0.00010 U	<0.00010 U	<0.00014 U	<0.00000.0>	<0.00011 U	<0.00010 U
W-10-0113	01/22/13	<0.00017 U	<0.00012 U	<0.00010	+0.00010 U	<0.00012 U <0.00013 U	<0.00021 U <0.00023 U
NW-10-0713	07/02/13	<0.00019 U	<0.00013 U <0.00012 U	<0.00011 U <0.00010 U	<0.00011 U <0.00010 U	<0.00012 U	<0.00021 U
SW-10-0114	01/16/14 07/02/14	<0.00017 U <0.00016 U	<0.00012 U	<0.00010 U	*0.0001U	<0.00012 U	<0.00022 U
W-10-0714	01/07/15	<0.00017 U	<0.00012 U	U01000.0>	V000000	<0.00012 U	<0.0021 U
KW-10-0115 KW-10-0116	01/06/16	<0.00011U	0.00034 J	0.000131J	<0.00010 U	<0.00013 U	D.00047 J
KW-10-1216	12/20/15	0.00051 J	<0.00014 U	<0.00027 U	40,00013 U	<0.000074 U	0.00061 J
W-10-1216 W-10-0517	DE/07/17	<0.00011 U	V 690000.0>	<0.00013 U	<0.000053 U	-0.000037 U	U £1000.0>
The strain	Sale III						
886-11	01/13/05	<0.00050 U	<0.00050 U	<0.000.00 U 02000.0>	+0,00050 U	<0.00050 U	<0.00050 U
500-11	DIZETE	<0.00012 U	D.0062 J	<0.00014 U	<0.00011 U	<0.00050 U	0.0062 J
W-11	700000	<0.00012 U	<0.00017 U	<0.00034 U	<0.00010 U	<0.00013 U	<0.00034 U
W-11 .	05/31/07	<0.00034 U3UJ, 0GAL, 1	<0.00016 U;UJ, ICAL, I	<0.00037 U;UJ, IGAL, I	<0.00017 U;UJ, ICAL, I	~0.00023 U;UU, (CAL, I	<0.00050 U;UJ, ICAL, I
W-11	07/12/07	<0.00034 U	<0.0001€ U	<0.00037 U	<0.00017 U	<0.00023 U	<0.00050 U
W-11	10/10/07	<0.00034 U	<0.00016 U	· <0.00037 U	+0.00017 U	<0.00023 U	<0.00050 U
W-11-0109	01/07/08	<0.00034 U;U,U,L-SUR	<0.00016 U:UJL-BUR	<0.00037 U;UJL-CUR	<0.00017 U;UJL-GUR -<0.00017 U	<0.00023 U;UUL-SUR <0.00023 U	<0.00050 U;UJL-GUR <0.00050 U
W-11-0408	04/25/08	<0.00034 U	<0.00016 U	<0.00037 U		<0.00023 U:UJL-BUR	<0.00050 U;UJL-BUR
W-11-0708	07/04/08	<0.00034 U;UJL-SUR <0.00034 U	<0.00016 U:UUL-SUR <0.00016 U	<0.00037 U;UJL-GUR <0.00037 U	<0.00017 U;UJL-QUR <0.00017 U	<0.00023 0;000-80H	<0.0005DU
W-11-0109 W-11-0609	01/05/09	<0.00034 U . <0.00037 U	<0.0017 U	<0.00037 U	<0.00018 U	<0.00025 U	<0.0054 U
W-11-0509 W-11-0710	DAZEND	<0.00010 U:U.UDUR	<0.00017 U OL000.09.	<0.00014 U;UJL-GUR	<0.000099 U:UJL-QUR	<0.00011 U;UUL-BUR	<0.00020 U;UJL-GUR
N-41-0211	07/25/51	<0.000593 U	<0.CCC0751U	<0.000098 U	<0.0000592 U	<0.000158 U	-p.tedeesa U
W-11-0711	07/93/11	<0.0000593 U	<0.000791 U	₩ 6660000 0>	<0.0000592 U	<0.000168 U	<0.0000593 U
8-11-1211	12/13/11	40.00011 U,UJL-OUR	<0.00011 U;UUL-BUR	<0.00014 U;UJL-GUR	+0.00010 U;UJL-GUR	<0.00011 U;UUL-BUR	<0.00021 U;UUL-SUR
W-11-0412	84/25/12	<0.00010 U	<0.00010 U	<0.00014 U	<0.000099 U	<0.00011 U	<0.00020 U
W-11-D113	01/22/13	<0.00017 U	<0.00012 U	<0.00010 U	40 D0CCQ C>	<0.00012 U	<0.00021 U
W-10-0713	07/02/13	<0.00019 U	<0.00013 U	<0.00011 U	*0 D00011	<0.00013 U	<0.00023 U
W-11-0114	01/17/14	<0.00017 U	<0.00012 U	<0.000000 U	<0.00010 U	<0.00012 U	<0.00021 U
W-11-0714	07/00/14	<p.cco18 p="" u<=""></p.cco18>	<0.00013 U	<0.00011 U	+0 D00111 U	<0.00013 U	<0.00022 U
W-11-0115	01/07/15	<0.0017 U	<0.00612 U	<0.0000.0>	-0E0010 U	<0.00012 U	<0.00021 U 0.00050 J
W-11-0115	01/05/15	<0.00017 U	0.0003 J	. 0.0002 J	40.0000 U	<0.00012 U	0.000€0 J <0.00027 U
W-11-1215	12/20/16	<0.00022 U	<0.00014 U	<0.00027 U	<0.00013 U	-0.000074 U	
W-11-0517	26/07/17	<0.00011 U	<0.000071 U	<0.00014 U	<0.000055 U ·	<0.000035 U	<0.00014 U

	CAS No. Tier 1 PCL	11	141-16-5	534	69-21-9		72-25-5		dar 1254 097-65-1		cer 1250 095-82-5	13:	a) FCBs 05-35-3 .0005
Sample ID	Date	Val	Qual	Val	Qual	Val	Qual	Val	Cual	Val	Crust	Val	Qual
W-17 W-17	D1/12/05	<b>→0.0008</b>		<0.000€		<0.0005		<0.000g	U	<0.0005	U	<b>→0.00050</b>	
V-17	D1/25/06 D1/10/07	<0.0001		<0.0001		<0.00014		<0.0001	1 0	<0.000E		<0.000E0	
7-17				<0.0001		<0.0003		<0.0001		<0.0001		<0.00034	U
V-17	05/30/07 07/12/07		UUJUJL-SUR	<0.0001	U;UUL-BUR	<0.0003	7 U;UJL-QUR		7 U:UJL-GUR		3 U:UNL-SUR		U,UUL-SUR
V-17	10/11/07	<0.0003		<0.0001	U;UJL-BUR	<0.0003	U;UJL-SUR	<0.0001	7 U;UJL-GUR	<0.0002	U;UJL-GUR		U.UUL-SUR
V-17-D1D8	80/70/08		U:U:L-SUR		U,UJL-BUR		U;UJL-QUR	<0.0001		<0.0002		<0.000E0	
V-17-0409	B4/25/08		U:U3L-SUR		U,UJL-SUR		U:UJL-SUR	40,0001	U;UJL-SUR	<0.0802	U;UJL-SUR		U;UUL-BUR
V-17-0708	07/01/03		U;UJL-SUR	<0.0001	U;UJL-QUR		U;UJL-DUR	40.0001	UUJL-SUR	<0.0002	U;UUL-SUR		U,UUL-SUR
1-17-0109	01/09/09	<0.00034	Ü	<0.0001		<0.00037		<0.0001		<0.0002 <0.0002		<0.00050	U,UUL-BUR
¥-17-0509	EE/11/09	<0.00031		<0.0001		<0.00040		<0.0001		<0.0002		<0.00054	
V17-0710	01/25/10	+0.0001		<0.0001	U	<0.00019	S U	<0.0001	ıU	<0.0001		<0.00022	
7-17-0211	02/25/11	<0.000055		<0.000079		<0.00000988		<b>40,000059</b>	ט	<0.00015		<0.0000593	
V-17-0711 V-17-1211	07/13/11	<0.000059		<0.000075		*0.0000988		<0.D000693	U	<0.00015		<0.0000593	U
V-17-0412	1243/11 B475/12	<0.0001°		<0.0001		<0.00019		<0.0001		<0.000t	1 U	≺0.00021	
V-17-0412	D1/22/13	<0.00010		<0.00010	U	<0.00014		<b>+0.00009</b>		-0.0001	U	<0.00020	U
V-17-0713	07/03/13	<0.00017		<0.0001	U	<0.00010		<0.00010		<0.0001		<0.00021	
V-17-0114	D1/17/14	<0.0004*		<0.00013		<0.0001		<0.0001		<0.0001		<0.00044	
7-17-0714	07/01/14	0.00017		<0.0001		<0.00010		<0.00010		<0.0001		<b>≺0.00021</b>	
V-17-0115	01/07/15	<0.00017		<0.00012		<0.00010		<0.0001 <0.00010	U	<0.0001		0.00042	
V-17-0116	D1/06/15	~0.0001E		0.00022		<0.00011		<0.0001		<0.00012		<0.00021	
W-17-1216	12/20/15	<0.00022		<0.00014		<0.00011 <0.00027		<0.0001		<0.00007-		0.00022 <0.00027	
V-17-0517	DE/D7/17	<0.00011		<0.000071		<0.00014		<0.00005		<0.000074 <0.0000039		<0.00027 <0.00014	
										-5,6,5003		-0.00014	-
V-22	01/13/05	0.0011		<0.00050	U	<0.00050	U	<0.00050	U	- CD.00050	U	0.0011	
V-22	B1/26/05	<0.00012		0.0013		<0.00014	U	<0.00011	U	<0.00050		0.0013	J
V-22	01/10/07	<0.00012		<0.00017		<0.00034		<0.00010	U	<0.0001		<0.00034	u
V-22	05/20/07		U;UJ, ICAL, I		U;UJ, ICAL, I	-0,0003	U;UJ, IGAL, I	<0.00017	U;UJ, ICAL, I	<0.0002	U;UJ, ICAL, I		UJUJ, ICAL,
V-22 V-22	07/12/07	<b>&lt;0.00034</b>	U	<0.00016	U	<0.00037		<0.00017	U	<0.00023	U	<0.000€0	
V-22-0108	10/08/07	<0.00034		<0.00016		<0.00037		<0.00017		<0.0002		<0.00050	
V-22-0409	D4/29/08		U;UJL-SUR		U;UJL-BUR		U;UJL-SUR	<0.00017	U;UJL-GUR		U;UNL-SUR	<0.00050	U;U,L-CUR
V-22-0709	07/01/08		U;UJL-SUR U;UJL-SUR		UMUL-SUR UMUL-SUR		U;UJL-2UR	<0.00017	U,UJL-GUR		U:UJL-SUR		U,UUL-GUR
V-22-0109	D1/08/09	<0.00034	U,DOL-SUK	<0.00016		-0.00037	U;UJL-EUR	<0.00017 <0.00017	U;UJL-GUR		U;UJL-EUR		UJUJL-GUR
V-22-0589	DE/11/09	<0.00036		<0.00017		<0.00039				<0.00023		<0.000€0	
V-22-0710	67/20/10		U;UJL-OUR	< 00011	U;UJL-BUR		U;UJL-GUR	**0.00016	U;UJL-GUR	<0.00024		<0.00053	
V-22-0211	02/25/11	<0.0000653		<0.0000791		<0.0000388		<0.0000592		<0.00011	U;UVL-BUR		U/UJL-SUR
V-22-0711	07/12/11	<0.0000553		<0.0000751		<0.0000988		<0.0000692	11	<0.000168		<0.0000693 <0.0000593	
V-22-1211	12/14/11	0.00053	J	<0.00011	U	<0.00015	U	<0.00011		<0.00012		0.00063	1
V-22-0412	04/26/12	<0.00010	U	<0.00010	U	<0.00014	U	<0.000099		<d.00011< td=""><td></td><td>&lt;0.00020</td><td></td></d.00011<>		<0.00020	
V-22-0113	D1/23/13	0.00020		<0.00012		<0.00010	U	<0.00010		<0.00012		0.0002	3
V-22-0713	07/02/13	<0.00019		<0.00014		<0.00011	U	<0.00011	U	<0.00014	U	<0.00024	U
V-22-0114 V-22-0714	01/16/14 07/01/14	0.00044		<0.00012		<0.00010		<0.00010		<0.00012		0.00044	J
1-22-0115	D1/01/14 D1/02/15	0.00060		<0.00013 <0.00012		+0.00011		<0.00011		<0.00013		0.00000	
7-22-0116	D1/E/15	<0.00018		0.00047		<0.00010 0.00025		-0.00010		<0.00012		0.0012	
922-1215	12/20/15	<0.00072		<0.00047		*0.00025		01000.0>		<0.00013		0.00072	J
V-22-0517	06/07/17	0.00068		<0.000070		<0.00014		<0.000013 <0.000055	U	<0.000074		<0.00027	U
		5.0000		-0.000010	o .	40,00014	U	*0.D00055	U	<0.000038	U	0.00088	
1-23	D1/14/05	<0.00050	U	<0.000€0	U .	<0.00050	et.	<0.000050	M.	en appre		-0.000	100
-23	DAZERDS	<0.00012		0.0065		+0.00014		<0.000011		<0.00050 <0.00050		40.00000	1
-23	D1/ES/D7	-0.00012	U	<0.00017	U	<0.00034		<0.00010		≪D.00013		0.0086 <0.00034	11
-23	05/30/07		UJUJ, ICAL, I	<b>&lt;0.00016</b>	U;U3, DDAL, I	<0.00037	U;UJ, ICAL, I		U;UJ, ICAL, I		U;UJ, ICAL, I		UJUJ, IGAL,
-23	07/13/07	<0.00068		<0.00022		<0.00074	U	<0.00034		<0.00045		-0.001D	U
-23	10/05/07	<0.00034	U	<0.00016		<0.00037		<0.00017		<0,00023	U	<0.000s0	
-23-0109 -23-0408	01/07/05		U:UJL-GUR	<0.00016	UUUL-BUR		U:UJL-GUR		U;UJL-GUR	<d.00023< td=""><td>U;UVL-BUR</td><td></td><td>UULL-GUR</td></d.00023<>	U;UVL-BUR		UULL-GUR
-23-0408	84/25/83 87/82/83	<0.00034	U:U.L-SUR		U:UUL-OUR	<0.00037	U:UJL-GUR		U;UJL-GUR		U:WL-BUR	<0.00050	UJUUL-BUR
-23-0109	DUDENDS		U;UUL-GUR U;UUL-GUR	<0.0001E	U;UUL-BUR U;UUL-BUR		U;UJL-GUR	<0.00017	U;UJL-GUR		U;UUL-SUR	<0.00050	UJUL-EUR
-23-0503	CENTRAD CONTRACT	<0.00034 <0.00035		<0.00016 <0.00016			U:UJL-EUR		U;UJL-GUR		U;WL-SUR		UUUL-SUR
-23-0710	ETIZENO		U:UJL-BUR		U,UJL-BUR	<0.00038	U;UJL-EUR	<b>≪0.00017</b>		<d.00023< td=""><td></td><td>≺0.00051</td><td></td></d.00023<>		≺0.00051	
-23-0211	02/24/11	<0.0000€93	U	<0.0000791	U	<0.0000988	U, OBL-COR	<0.000011 <0.0000552	U;UJL-GUR	<0.00011 <0.000169	U;UUL-BUR	<0.00021	UJUL-BUR
-23-0711	D7/13/11	<0.000€53	Ü	<0.0000751		<0.D000988		<0.0000592 <0.0000592		<0.000169 <0.000169		<0.0000693	
-25-1211	12/14/11		U,U,IL-SUR	<0.00011	U.U.JL-GUR		U;UJL-EUR	*DD0010	D:UJL-CUR		U;WL-2UR	0.0000593	U/UJL-BUR
-23-0412	84/25/12	<0.00010		<0.00010		<0.D0014	U	<0.000099		<d.d0011< td=""><td></td><td>&lt;0.00000 0.000000</td><td></td></d.d0011<>		<0.00000 0.000000	
-29-0113	DA(23/13	<b>₹0.00017</b>	U	<0.00012	U	<0.00010		*0,00010		<0.00011 <0.00012		<0.00021 <0.00021	
-29-0713	07/02/13	<0.000te	UUUL-BUR	<0.00013	U.UJL-GUR	+0.00011	U;UJL-EUR		U;UJL-GUR		U:UIL-EUR		U.UUL-OUR
-29-0114	D3/97/14	≺0.00017		<0.00012	Ų	<b>+0,00010</b>	U	<0.000010		<0.00012		0.00067	- lear and
-23-0714	E7/E7/14 '	<0.00017		<0.00012		-0.00010	U	<0.00001	ע	<0.00012	U	0.00026	J
-29-0115	D1/07/15	<b>≺0.00017</b>		<0.00012	U	0) CCQ,D>		+0.000010	Ü	≪B.00012	U	<0.00021	
-29-0116	E4/87/15	+0.00017	U	0.00078		0.00027		<0.00010		<0.00012	U	0.00326	3
23-1215	12/28/96		JL-GUR		UJUJE-SUR		U;UJL-GUR		U;UJL-GUR		U:UUL-SUR	0.001	
-23-0517	EE/EM7	<0.00011	U	<0.00007D	U	<0.00014	U	<0.000055	ע	<0.000038		<0.00014	U

	CAS No. Ties 1 PCL		der 1232 141-16-3		ter 1242 59-21-9		lor 1248 72-29-6 —		COT 1254 197-69-1		er 1259 95-82-5	133	31FGEs 36-35-3 .0005
Cample 10	Date	Val	Qual	Val	Qual	Val	Qual	Val .	Qual	V/all	Crimi	Val	Qual
N-24	01/12/05	D.DODE:		40.000€	U	<0.000E	U	<0.000sc	U	<0.00051	lu	0.00028	
7-24	DIVERTS	<0.0001		0.0005		<0.00014	U	<b>≺0.00011</b>	U	<0.00050		0.00083	
-24	D1/05/07	<0.0001		<0.00010		<0.0003-	U	<0.00010	U	<0.00013	U	<0.00034	U
1-24	E5/31/07		UHU, IDAL, I		U:UJ. ICAL, I		U;UJ, ICAL, I		U;UJ, ICAL, I	<0.00023	U,UU, ICAL, I	<0.000EC	U:UJ, ICAL.
-24	07/11/07	<0.0003-		<0.0001s		<0.0003		+0.00017		<0.00023		<0.000€0	
-24 -24-0109	10/05/07	<0.0003-		*D.0001		<0.0003		<0.00017		<0.00023		<0.000050	
(-24-8488	DAMESTS		U JUJL-OUR		U:UUL-BUR		U;UJL-SUR	+0.00017	U;UJL-GUR		U;UUL-OUR		U-UJL-BUR
-24-0709	D7/DAES	0.0003	U,UJL-BUR	<0.00016	บ,นมน-ชนส		U;UJL-OUR		U;UJL-GUR	<0.00023	U;UNL-EUR		U;UJL-BUR
-24-0109	CONTENTS	<0.0034		<0.00016		<0.00037		+0.00017		<0.00023		0.0011	
-24-0509	EE/(D/E9		U:UJL-SUR		U:UIL-DUR		U;UJL-QUR	<0.00017		<0.00023		<0.00050	
I-24-0710	87/26/10		UJUJL-SUR		U;UA-SUR		U;UJL-SUR		U;UJL-QUR U;UJL-QUR		U;UUL-EUR U;UUL-EUR		U;U&L-BUR
-24-0211	82/24/11	<0.0000593		≺0.000075°		<0.0000988		<0.0000593		<0.000169		<0.0000593	U.UUL-SUR
7-24-0711	07/13/11	<0.000055	U	0.00545		<0.0000988		<0.0000593		<0.000169 <0.000169		0.00648	U
-24-1211	12/14/11	<0.00011	U	<0.0001	U	<0.00014		<0.00010		<0.00011		<0.00021	11
1-24-0412	64/26/12	0.0125		<0.00011	U	<0.00014	U	<0.00010		<0.00011		0.0136	
1-24-0113	01/23/13	<0.00017	U	<0.00012	U	<0.00010	U	<0.000010		<0.90012		<0.00010	LF.
1-24-0713	07/02/13	0.0076		*0.00012		<0.00011	U	<0.00011		- <0.00013		0.0076	
-24-0114	04/57/14	0.034		<0.00012	U	<0.00010	U	<0.00010	U	<0.00012	U	0.034	
1-24-0714	07/03/14	14.3			U,U-SDL	<0.31	U;U-SDL		U;U-SDL	<0.39	U;U-BDL	14.3	
-24-0115	01/07/15	0.017			U;U-ODL	<0.0010	U;U-EDL	+0.0010	U;U-eDL	→D.DD12	U;U-ODL	0.017	
1-24-0116 1-24-1216	12/20/16	+0.0017 D.00091	U;U-30L	0.0316		0.0086			U;U-SDL		U;U-BDL	0.0404	
1-24-1216 1-24-0517	12/20/16	<0.00010		*0.00014		<0.00027		<0.00013		<0.0000075		-0.00081	
-24-021/	EGUTALA.	<0.00010		<0.000067	U	<0.00013	U	<0.000052	U	<0.000039	U	<0.00013	U
-25	B1/26/65	<0.00012		D.C022		<0.00014							
-25	D1/E9/07	<0.00012						<0.00011		<0.00050		0.0032	J
-25	CS/20/07		UJUJ, IGAL, I	<0.00017	U;UJ, ICAL, I	<0.00034	U,UJ, ICAL, I	<0.00010 →0.00010	U;UJ, IGAL, I	<0.00013		<0.00034	
-25	07/13/07	<0.00034	U,U,JL-QUR		U:UJL-SUR		U;UJL-SUR	*0.00017	U;UJL-QUR	<0.00023	U:UU, ICAL, I U:UUL-EUR		U;UJ, ICAL,
-25	10/19/07	<0.E0034	11	<0.00016		-0.00037		<0.00017		<0.00023			U;UJL-BUR
-25-0108	OM/D7/E3		U,UJL-BUR	*D.CC016	U;UJL-SUR		U;UJL-OUR		U;UJL-CUR		U;UUL-SUR	<0.000£0	U:UJL-SUR
-25-0409	D4/25/08	<0.00034	U.U.L.OUR	<0.00016	U:UJL-SUR	<b>+0.00037</b>	U;UJL-SUR	40.00017	U;UJL-BUR	#0.00023	U;UUL-CUR		U.UJL-SUR
-25-0709	67/02/03	<0.00034	U,UJL-DUR		U:UJL-GUR		U;UJL-SUR		U;UJL-BUR	ברחחח מיי	U;UUL-SUR		U.UJL-SUR
-25-0109	63.32/10	<0.00034	U	<0.00016		<0.00037		<0.00017		<0.00023		<0.00050	
-25-0609	EEWID/G3	-c0.00011		<0.00011		<0.00014	U	<0.00010	Ü	<0.00011		<0.00021	
-25-07t0	07/26/10	<0.0001D	U,UJL-BUR	<0.00010	U;UUL-SUR	<0.00014	U;UJL-QUR	<0.000098	U;UJL-GUR		U;UUL-OUR		UUJL-SUR
-25-0211	BD/04M1 -	<d.000693< td=""><td></td><td>&lt;0.0000791</td><td>U</td><td>&lt;0.0000988</td><td></td><td>&lt;0.0000592</td><td></td><td>&lt;0.000159</td><td></td><td>&lt;0.0000593</td><td></td></d.000693<>		<0.0000791	U	<0.0000988		<0.0000592		<0.000159		<0.0000593	
-25-0711	07/12/11	<0.0000593		<0.0000791		<0.0000938		<0.0000592	U	<0.000168	U	<0.0000593	
-25-1211	12/54/41	0.00031		<0.00011		<0.00015		+0.00011		<0.00011	U	0.00031	
-25-0412 -25-0113	E4/26/12	<0.00010		<0.00010		<0.00014		<0.000099		<0.00011	U	<0.00020	U
-25-0113	04/23/13 67/03/13	<0.00017		<0.00012		<0.00010		<0.00010		<0.00012		<0.00020	
-25-0114	DIMEN4	<0.00037 <0.00017	J;U-RB	<0.00013 <0.00012		<0.00011		<0.00011		<0.00013		<0.00037	
-25-0714	57/52/14	<0.00053	UII.DD	≺0.00012 ≺0.00014		<0.00010		<0.00010		<0.00012		<0.00021	
-25-0115	D107/15	<0.00017		<0.00014 <0.00012		<0.00010		<0.00010		*D.DDD14		<0.00053	
-25-0115	DWEENS	<0.00018		0.00065		0.00051		. <0.00010		<0.00012		<0.00021	U
-25-1215	12/21/16	0.0025		<0.0005 <0.00014		<0.00027		-CD00013		<0.000013 <0.000073	0	0.00116	J.
-25-0517	E6/07/17	<b>₹0.00011</b>	U	<0.000068		<0.00013		<0.000053		<0.000073 <0.000035		0.0026 <0.00013	11
					TV.	-422013		-2,000,000		-5.000035	_	>0.00013	•
-25	D1/13/E5	0.0073	U	<0.0025	U	<0.0025	U	<0.0025	U	<0.0025	11	0.043	-
26	DNZERE	<b>≺0.00012</b>		0.0077	J	<0.00014	U	<0.00011		<0.00050		0.0077	J
25	DW1107	<0,E0012		*0.EC017		<0.00034		<0.00010	IJ	<0.00013		<0.00034	U
25	CE/31/07		USUL BOAL, I		U;UJ. ICAL, I		U;UJ, ICAL I	<0.00017	U;UJ, ICAL I	<0.00023	U;UU, ICAL, I		U;UJ. IDAL, I
26	07/12/07		U.M.AL-BUR	<0.00016	U,UJL-SUR	<0.00037	บ;บมะอบส	<0.00017	U;UJL-CUR	<0.00023	U;UUL-BUR	0.168	JL-SUR
26	10/05/07	<0.00034			U.U.L-SUR	<0.00037	U;UJL-SUR	<b>₹0,000,17</b>	U;UJL-CUR		U;UNL-BUR		U:UJL-BUR
25-0109 DS-0408	04/29/03		JL-GUR		U;UJL-SUR		U;UJL-SUR	<0.00035	D;UJL-GUR	<0.0012	U;UJL-BUR		JL-SUR,FD
25-0709	07/02/03		UNL-SUR,FD		U;UJL-SUR		U;UJL-QUR	<0.00017	U;UJL-GUR	<0.00023	U;UUL-SUR		U;UJL-BUR
25-0109	DWDWES		JL-GUR U:UJL-SUR		U,UJL-SUR U,UJL-SUR		U;UJL-SUR	<0.00017	U;UJL-GUR U;UJL-GUR	<0.00023	U;UJL-SUR		JL-EUR,FD
26-0509	632693	<0.00034 <0.00011	U. COLLOCK	<0.00016 <0.00011	O'OTEROK	<0.00037 <0.00014	U;UJL-EUR	<0.00017	W,UJL-GUR		U;UNL-EUR		JL-EUR
25-0710	07/20/10	≺D ECC11	U-UJL-SUR		U.U.JL-SUR			40.00010		<0.00011		0.0288	
25-0211	03/24/11	<d.0000593< td=""><td></td><td>&lt;0.0000791</td><td></td><td>&lt;0.000088</td><td>U;UJL-CUR</td><td>*0.0000592</td><td>D;UJL-GUR</td><td></td><td>U;UNL-EUR</td><td></td><td>JL-EUR</td></d.0000593<>		<0.0000791		<0.000088	U;UJL-CUR	*0.0000592	D;UJL-GUR		U;UNL-EUR		JL-EUR
25-0711	E7593/91	**D.0000693		0.00637		<0.0000388		<0.0000692	ū.	<0.000169 <0.000169	11	<0.0000592	
26-1211	1293/11	<0.00011		<0.00012		<0.00015		<0.00011		<0.000100 <0.00010		0.00637	JH-SUR, MS
25-0412	E4/25/12	<0.0001D	U	<0.ECQ10		<0.00014		<0.000039		< 2.00011		<0.00000 <0.00000	
25-0113	04/23/13	- <0.00017	U	<0.0001Z	U	<0.00010		<0.000010		<b.d0012< td=""><td></td><td>&lt;0.00021</td><td></td></b.d0012<>		<0.00021	
26-0713	E/N09/N3	0.0075	JL-GUR	<b>≺0.00013</b>	U;UJL-SUR	<0.00011	U;UJL-EUR		D'OTF-GRIS		U;UNL-BUR	0.00021	
05-0114	D5/117/144	<0.00017	U	<0.00012	U	<0.00010		<b>+0.00010</b>	U	<0.00012		<0.00021	
16-0714	世界世世24年	E-0063		€10000.0×	U	<0.00011		<b>*0.00011</b>	U	<0.00013		0,0063	
26-0115	D1/07/115	<0.00017		<0.00012	U	<b>+0.00010</b>		<0.000010		<0.00012	U	<0.00021	U
26-0116	DWEENS	<0.00017	U	0.0022		<0.00010	U;UJ-FD	<0.00010	U	<0.00010		0.0002	
25-1215	1375/15	E.0034	ben and the	40.00014		<0.00027	U	<0.00013	U	~0.000074		0.0034	
25-0517	ESET/97	<0.00011		<0.000070		40.00014							

Section   Double   Val		CAS No. Ther 1 PCL		r 1232 I-16-5		r 1342 9-21-9		or 1249 2-29-6		or \$254 7-65-1 .		or 1260 15-52-5	1336	PCBs 5-35-3 DDS
PROPERTY	Sample ID		Val C	Oural .	Val	Ouvi	Val	Ciral	Val	Gual	Val	Qual	Val	Qual
150-1511   150-2611						11:12 - E11E					<0.00012	U:UJL-BUR	<0.00022	U:UUL-SUR
Company   Comp									<0.000069	U;UJL-SUR			<0.0000591	
SECRET   SELECT   DESTINATION   SECRET   DE						Jul-SUR	<0.0000988		<0.0000693	U;UJL-GUR	<0.050168	U;UJL-BUR	0.000329	JUL-SUR
					<0.00011	U:UJE-SUR	< 0.00015	U;UJL-SUR	<0.00011	U;UJL-SUR	<0.00011	U;UJL-GUR		JL-BUR
60-9713   67-9718   -62-0719	101-0412					U	<0.00014	U	<0.000098	U	<0.00011	U		
15-25				)	<0.00012	U		U		U	<0.00012	U		U
Colonia   Colo	101-0713	07/05/13	<0.00018 U	HUL-DUR	<0.00013	UHUL-SUR	<0.00011	U;UJL-BUR		U;UJL-BUR		U;UJL-BUR		U'UNL-SUR
Charles   Color   Co	101-0114			J				0		0	< 0.00012	U	<0.00021	U
16/1971   16/1971   1.394	re July 2014 this shown above thi	well was thought to s entry is for NIW.	e MW-101. How	ever, gauging w	th a string and well W-101.	pht confirmed a to	otal depth of 860 f	eet, Inclosting th	e well was actual	ly WW-104.				
103-115				a Carponia L	<0.013	U;U-SDL	<0.011	U;U-SDL					0.283	
100-1161   100-1162	101-3115	01/07/15	0.394		<0.0061	U;U-CDL	<0.0051	U;U-SDL	<0.0051	U:U-SDL				
1019115   ESSETT   0.00	101-0116	01/07/16	<0.018 U	J;U-BDL		OF CONTRACTOR		CONCERNOUS CONTRACTOR	<0.011	U;U-EDL				
1002   1011266	101-0115	12/20/16	1.91											
10   10   10   10   10   10   10   10	101-0115	DEIDE/17	D.204	T I	<0.0067	Din-GDF	<0.013	U;U-BDL	<b>&lt;0.0052</b>	U,U-2DL	<0.0036	U;U-SDL	0.204	1000
100   100		4.0							12					
182				)		U		0		0		0	0.578	4 2
						J		UMIT ICAL		CHAIL ICAL I		WILL ICAL	40 00054	UUJ, ICAL,
100-000   10-0000   10-0000   10-0000   10-0000   10-0000   10-000000   10-000000   10-000000   10-000000   10-000000   10-000000   10-000000   10-0000000   10-0000000   10-00000000   10-0000000000				ru, ICAL, I		U, UJ, KAL, I		O'GO, ICAL,		er and room,		H		U:UU. (CAL,
1000000000000000000000000000000000000				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<0.00016	DATE THE		CHILD ALIE		Unit it colle		H-11 II -91 ID		Marie Corting
CONTROL   CONT				L-SUR				U,DUL-SUR		U.DOC-GUR		II		-
10.000								11410-0110		210.010.010		11-11-II -0112R	0.0538	
10.00000000000000000000000000000000000								D DOC SUR		D.DOL-SOR		II	0.0033	
1879-716   1879-716   -0.0021   DUAL-SUR								Ta .				U		
185-511				ALLE DAM	-0.00014	(M) IT - CTIES		0410-000		SHO-BIR		UNLIL-BUR	0.0000	JL-GURLFD
CESTIF   CT-14-11				PUIL-BUR		D:GAC-SOR		U,UZE-GOR		II II	<0.00335	U COLUCIA		2012
100-111   101-111   101-111   10.1011   10.1						iu.nra				Ü		U	0.0450	JH-QUR
1875-117   D07713   D17713   D17713-PP				LES				11		II.		U	0.107	
1025113								Mark Control		ū		U	0.747	JI-FD
15:39115   07:3913   1.87   3-70   40.00013   U				are.				14		11		U	1.10	
102-11   2016/14   0.525   40.0015   U				LET.				ti)		U		U	1,87	JI-FD
Ter July 2014 Ente well was inought to be MW-102. However, gauging with a ctring and weight conformed a total depth of 113 feet, indicating the well was advantly MW-101.  **COCCUPY 4				170				U		e e		U	0.628	
100-1016   010-1017	re July 2014 this shown above thi	well was thought to is entry is for MW	o be MW-102. H	lowever, gauging his erdry is for W	with a string and w W-102.	eight confirmed	The second second				No. of Control of Control			
		07/07/14									<0.00012	U		U
105-1216		01/08/15	0.0225											
	102-0115													
Control   Cont														
103-0715	102-1215	12/19/16	<0.00022 L	JUJL-SUR										USUL-BUR
CONTROL   CONT	102-0517	06/06/17	<0.00011 U		<0.000067	Ų	· <0.00013	U	<0.D00052	U	<0.000036	U		man and a second
	103-0710	07/07/00	<0.000111	HUII-BUR	<0.00011	UMUL-DUR	<0.00014	U:UJL-QUR	<b>40,00010</b>	U;UJL-GUR	<0.00011	U;UJL-EUR	<0.00021	UUUL-BUR
103-071											<0.000157	U	<0.0000591	U
105-1211   1274/11   40.00011									<0.0000592	U			<0.0000593	
103-9113		12/14/11	<0.00011	)	<0.00011	U							<0.00021	U
100-0113	103-0412	64/36/12	0.00021										0.00021	1
No.     No.     No.     No.     No.     No.     No.	103-3113								<0.00010	U			<0.00021	
1039115   G100215   4.00017   V	103-0713	G7/05/13	<0.00039 J	I;U-RB				U	<0.00011	U	<0.00014	U	<0.00039	J;U-RB
1039115   G100215   4.00017   V								internal and						
Control   Cont	103-0115	01/08/15	<0.00017 U	1	<0.00012	U	<0.00010							
164-959   C60110														
103-9617   CCC0917   CLCC49	103-1215			JUX-SUR										UHUL-SUR
	109-0517	DE/DE/17	0.0049		<0.00021	U					7	The day of the		
164-9710	104-0509	06/11/09	<0.00036	HUL-SUR									<0.00056	U.U.L-SUR
0.0031					<0.00011									U:UJL-SUR
104-0711			<0.0000591	FUUL-SUR	<0.0000788	U:UJE-EUR	<0.0000988	U;UJL-SUR		U;UJL-OUR			<0.0000591	U:UIL-SUR
C4-2412   C4-2012   C.0.0033	104-0711						<0.0000988	U		U		U	0.0307	
Control   Cont	104-1211	12/14/11				U		U		U		U		
164-9713 07/30313 <-0.00011;U-RS <-0.00013U <-0.00011U	104-3412					U		U		U				J
164-3114 0115/14 <0.00017 U <0.00012 U <0.00012 U <0.00012 U <0.00012 U <0.00012 U <0.00012 U	104-0113	01/24/13	<0.00017		<0.00012	U		U		U		U	<0.00021	U
10-2119 03/70/19 -0.00017 0				LU-RS		U		U		U		U		U
				J		U		U		U	<0.00012	U	<0.00021	U
re July 2014 this well was thought to be MW-104. However, video inspection of the well confirmed a total depth of 298 feet, inclinating the well was adjustly MW-102.	re July 2014 this	well was thought t	o be MW-104. H	lowaver, video in	spection of the wel	confirmed a total	al depth of 298 fee	f, Indicating the s	vell was actually	MW-102				

5%	Chemical CAS No. Tist 1 FCL	Arozior 1232 11141-16-5	Arodor 1342 53459-21-9	Aroclar 1248 12572-28-6	Arozior 1254 11097-69-1	Aracler 1250 11095-82-5	Total FCBs 1336-36-3 0.0005
Sample ID	Date	Val Qual	Val Qual	Val Qual	Val Qual	Val Quel	Val Qual
V-1	DIMITIES	0.116	<0.06 U	≺oos u	<0.05 U	<0.05 U	811.0
-1	01/24/05	<0.00012 U	0.28 J	<0.00014 U	<0.00011 U	<0.000£0 U	0.22 J
-1	62/20/26	NA	NA ·	, NA	NA NA	NA	NA NA
-2	DWINES	0.132	<0.0€ U	<0.05 U	<0.05 U	<0.05 U	0.132
-2	00/24/05	<0.00012 U	1.3 J	<0.00014 U	<0.00011 U	<0.000FD U	1.0 J
-3	D1/16/05	0.33	<b>₹0.05</b>	<0.05 U	<0.05 U	<0.05 U	0.33
3	01/24/05	<0.00012 U	0.49 J	<0.00014 U	<0.00011 U	<0.00050 U	0.49 J
4	01/17/05	0.214	<0.05 U	<0.05 U	<0.05 U	<0.05 U	0.214
4	G#124/G#	<0.00012 U	0.40 J	<0.00014 U	√0.00011 U	<0.00050 U	0.4 J
1-5	Dame/CS	0.379	<0.05 U	<0.05 U	<0.05 U	<0.05 U	0,379
1-5	01/25/05	<0.00012 U	D.55 J	<0.00014 U	40.000.00 U 110000.0⊳	<0.000£0 U	0.85 J
1-5	03/17/05	0.0847	<0.05 U	<0.05 U	<0.05 U	<0.05 U	0.0247
1-5	01/25/05	<0.00012 U	D.D44 J	. <0.00014 U	+0.00011 U	<0.00050 U	0.044 J
1-7	DMMERCS .	0.127	<0.05 U	<0.05 U	<0.05 U	<0.05 U	0.127
1-7	C1/15/05	<0.00012 U	0.14 J	<0.00014 U	<0.00011 U	<0.00050 U	0.14 J
1-3	COMERCE	0.00092	<0.000€0 U	<0.00000 U	<0.00050 U	<0.00050 U	0.08082
-8	01/25/06	≺0.00012 U	D.CC88 J	<0.00014 U	U 11600.0>	<0.00050 U	0.0082 J
1-9	DIMERUS	0.0139	<0.0025 U	<0.0025 U	-0.0025 U	≪D.0025 U	0.0138
-9	01/25/05	<0.00012 U	0.005 J	<0.00014 U	<0.00011 U	<0.00050 U	0,00E J
-10	01/17/05	0.0112	<0.0010 U	40.0010 U	<0.0010 U .	<0.0010 U	2000000
-10	D1/25/06	<0.0012 U	0.G12 J	<0,00014 U	<b>40,000,11</b> U	<0.800ED U	0.012 J
					100	NA	NA NA
01-0711	07/14/11	NA	NA NA	NA	NA.	NA NA	NA NA
01-1211	12/14/11	NA	NA NA	NA	NA.	NA NA	NA NA
01-0412	04/26/12	NA	NA NA	NA NA	NA	NA.	NA .
					-0.000000001	<0.000169 U	<0.0000593 U
-01-0211	D2/24/11	<0.0000€93 U	<0.0000751 U	<0.0000000 U	<0.0000592 U <0.0000592 U	<0.00169 U	0.00412
-01-0711	07/12/11	<0.0000593 U		<0.0003888 U	40,0000592 U 40,00011 U	<0.000168 U	0.0037 JH-SUR
01-1211	12/13/11	<0.00011 U	VI1002.0>		<0.0000000 U 860000000	<0.00011 U	. <0.00010 U
-01-0412	04/25/12	<0.00010 U	<0.00010 U	<0.00014 U	<0.000098 U	<0.000111U	<0.00021 U
-01-0113	D1/23/13	<0.00017 U	<0.00012 U	. <0.00010 U	<0.00011 U	<0.00012 U	2.97 JI-FD
0-01-0713	E1\2070	2.57 JHFD	<0.00013 U	<0.00010 U	<0.000000 U010000.0	<0.00013 U	<0.00021 U
0-01-0114	05957/14	<0.00017 U	<0.00012 U <0.00013 U	<0.00010 U	<0.00011 U	<0.00012 U	0.0067
0-01-0714	67/82/14 61/06/15	0.0067 <0.00017 U	<0.00013 U	<0.00010 U 01000.0>	<0.00010 U	<0.00013 U	<0.0001 U
0-01-0115				0.033 JN-FD	· <0.00010 U	<0.00012 U	0.0067
0-01-0116	BREDER	<0.00017 U	0.0027 <0.070 U:U-GDL	<0.14 U:U-0DL	<0.055 U;U-0.DL	<0.039 U;U-CDL	1.78
0-01-1216	12/20/16	1.78 <0.00011 U	<0.00070 U	<0.00014 U	<0.000065 U	<0.00039U	<0.00014 U
0-01-0617	Termin.	*D.CC031 D	-0.00007010	400014 0	10.00.000	-0.000000	
0-02-0211	62/2E/11	0.10	<0.00158 U	<0.00197 U	<0.00138 U	<0.00335 U	0.10
0-02-0711	D7/14/11	<0.000691 U	0.0716	<0.03149 U	<0.00104 U	<0.000252 U	0.0716
0-02-1211	12/14/11	D.16 JIFD	<0.00011U	<0.00015 U	<0.00011 U	<0.00012 U	0.18 JI-FD
0-02-0412	04/27/12	0.503 J1=0	<0.00010 U	<0.00014 U	<0.000099 U	<0.00011 U	0.E00 JI-FD
>02-0113	05/23/13	0.557	<0.00012 U	√0.000.00 U	<0.00010 U	<0.00012 U	0,887
0-02-0713	07/02/13	0.0069 JL-CUR	<0.00012 U:U:U:D-DUR	<0.00011 U;UJL-EUR	-0.000H U;UJL-CUR	<0.00014 U;UJL-SUR	0.0088 JL-GUR
0-02-0114	D3/17/14	0.446	<0.00012 U	<0.00010 U	√0.000.00U	<8.00012 U	0.418
1-02-0714	27/27/14	<0.00017 U	<0.00012 U	√0.00010 U	<0.0001 U	<0.00012 U	<0.00024 U
0-02-0115	DWIENS	0.0245	*0.00061 U.U-QDL	40,00051 U;U-00L	<0.00051 U;U-SDL	<0.00051 U;U-20L	0.0246
-02-0116	DARENE	<0.00018 U	<0.00013 U	<0.00011 U	U 11000.0>	<0.00013 U	<0.00022 U
-02-1216	12/20/16	0.00055	<0.00014 U	<0.00027 U	V €1000.0>	≺D,D00074 U	0.00066
-02-0617	CE/07/17	<0.00012 V	<0.000074 U	-0.00015 U	<0.000038 U	<9.000040 U	<0.0001E U
					1 1		
01-0211	E2/25/11	<0.0000591 U.U.JL-2UR	<0.0000768 U±UJL-3UR	<0.0000995 U;UJL-GUR	<0.000069 U;UJL-QUR	-D.DDD167 U;U/L-BUR	≺0.0000591 U.U.JGUR
-01-0711	27/14/11	<0.0000593 U	<0.0000751 U	<b>+0.0000933 U</b>	<0.0000592 U	<0.000169 U	<0.0000£93 U
01-1211	12/14/11	<0.00017 U.D.JSUR	<0.00017 U;UJL-SUR	<0.000222 U;UJL-GUR	<0.00015 U;UJL-8UR	<0.00017 U;UUL-DUR.	<0.00033 U;UJL-5UR
-01-0412	E4/2E/12	<0.00010 U	<0.00011 U	<0.00014 U	<0.00010 U	<0.00011 U	<0.00020 U
	01/23/13	<0.00017 U	<0.00012 U	ע פו נכמ נ⊳	√0.000.00 U 01000.00	<0.00012 U	<0.00021 U
-D1-D113	07/02/13	D.CC034 J	<0.00013 U	ש וונככונ⊳	<0.00011 U	<0.00013 U	0.00034 J
		0.00029 J	<0.00012 U	40.000 to U	<0.00010 U	<0.00012 U	0.00029 J
-01-0713	D3/17/84		<0.00013 U	ע סובכם.ם>	<0.0001 U	<0.00013 U	<0.00021 U
Q1-0713 Q1-0114	03/17/84 07/04/84	<0.00018 U			<0.00010 U	<0.00012 U	<0.00021 U
01-0713 01-0114 01-0714			<0.00012 U	40.00010 U			
-01-0713 -01-0114 -01-0714 -01-0115	07/01/14	<0.00018 U		<0.000.00 ft	<0.00000 U	<0.00012 U	<0.00021 U
-01-0113 -01-0713 -01-0114 -01-0714 -01-0115 -01-1216	0%04/4 0%06/15	<0.00018 U <0.00017 U	<0.0012 U <0.0012 U <0.0014 U	<0.00000 U <0.00027 U	V €1000.0×	<0.00012 U <0.000074 U	<0.00027 U
-01-0713 -01-0114 -01-0714 -01-0115 -01-0116 -01-1216	07/01/14 01/06/15 01/07/15	<0.00018 U <0.00017 U <0.00017 U	<0.0012 U <0.0012 U <0.0014 U <0.0014 U	<0.00010 U <0.00027 U <0.00027 U	U €1000.0> U €1000.0>	<0.00012 U <0.00074 U <0.00074 U	<0.00027 U <0.00027 U
-01-0713 -01-0114 -01-0714 -01-0115 -01-0115	07/04/14 07/06/15 07/07/15 12/20/16	<0.00018 U <0.00017 U <0.00017 U <0.00022 U	<0.0012 U <0.0012 U <0.0014 U	<0.00000 U <0.00027 U	V €1000.0×	<0.00012 U <0.000074 U	<0.00027 U
-01-0713 -01-0114 -01-0714 -01-0715 -01-0115 -01-1216 -01-1216 -01-0517	07/04/14 01/06/15 01/07/16 12/20/15 12/20/16 06/06/17	<0.00018 U <0.00017 U <0.00017 U <0.00017 U <0.00022 U <0.00022 U <0.00022 U	<0.00012 U <0.00012 U <0.00014 U <0.00014 U <0.00014 U <0.00014 U	<0.00010 U <0.00027 U <0.00027 U <0.00027 U	<0.00013 U <0.00013 U <0.000000 U	<0.00012 U <0.000074 U <0.000074 U <0.000074 U	<0.00015 U
01-0713 -01-0114 -01-0714 -01-0115 -01-1216 -01-1216	07/04/14 07/06/15 07/07/15 12/20/16 12/20/16	<0.00018 U <0.00017 U <0.00017 U <0.00022 U <0.00022 U	<0.0012 U <0.0012 U <0.0014 U <0.0014 U	<0.00010 U <0.00027 U <0.00027 U	U €1000.0> U €1000.0>	<0.00012 U <0.00074 U <0.00074 U	<0.00027 U <0.00027 U
-01-0713 -01-0114 -01-0714 -01-0115 -01-0116 -01-1216 -01-1216 -01-0617	07/04/14 07/06/15 07/07/15 12/20/15 12/20/16 06/06/14	<0.00019 U <0.00017 U <0.00017 U <0.00017 U <0.00022 U <0.00022 U <0.00020 U <0.00019 U	<0.0013 U <0.0012 U <0.0012 U <0.0014 U <0.0014 U <0.00014 U <0.00016 U <0.00017 U	<0.00010 U <0.00027 U <0.00027 U <0.00015 U <0.00011 U	U 810000> U 0700000> U 07000000> U 110000>	<0.00012 U <0.000074 U <0.000041 U <0.00041 U	<0.0027 U <0.0027 U <0.0005 U 0.00041 J
01-0713 01-0114 01-0714 01-0715 01-0115 01-1216 01-1216 01-0617	07/04/14 01/06/15 01/07/16 12/20/16 12/20/16 06/06/17	<0.00018 U <0.00017 U <0.00017 U <0.00017 U <0.00022 U <0.00022 U <0.00022 U	<0.00012 U <0.00012 U <0.00014 U <0.00014 U <0.00014 U <0.000076 U <0.000076 U <0.000013 U <0.000012 U	<0.00010 U <0.00027 U <0.00027 U <0.00015 U <0.00011 U <0.00011 U	<0.00013 U <0.00013 U <0.00010 U <0.00010 U	<0.00012 U <0.000074 U <0.000074 U <0.000014 U <0.00013 U <0.00012 U	<0.00027 U <0.00027 U <0.00015 U 0.00041 J <0.00034 U
-01-0713 -01-0114 -01-0714 -01-0715 -01-0115 -01-1216 -01-1216 -01-0517	07/04/14 07/06/15 07/07/15 12/20/15 12/20/16 06/06/14	<0.00019 U <0.00017 U <0.00017 U <0.00017 U <0.00022 U <0.00022 U <0.00020 U <0.00019 U	<0.0013 U <0.0012 U <0.0012 U <0.0014 U <0.0014 U <0.00014 U <0.00016 U <0.00017 U	<0.00010 U <0.00027 U <0.00027 U <0.00015 U <0.00011 U	U 810000> U 0700000> U 07000000> U 110000>	<0.00012 U <0.000074 U <0.000041 U <0.00041 U	<0.0027 U <0.0027 U <0.0005 U 0.00041 J

Sample ID	CAS No. Tier 1 PCL Date	Arozor 1232 11141-16-5 	Aracler 1242 53459-21-9 	Aroctor 1248 12572-29-5 Val Qual	Aracter 1254 11097-69-1 	Aracter 1250 11095-82-5 Val Qual	Total FCBs 1336-36-3 0.0005 Val Qual
WT-01-0711	E7/14/11	NA	NA .	NA	NA	NA NA	NA
WT-01-1211	12/12/11	NA ,	NA	NA	NA	NA	NA NA
WT-01-0412	04/25/12	NA	NA .	NA	NA NA	NA	NA NA
WT-01-0113	01/23/13	NA NA	NA NA	· NA	NA.	NA	NA NA
WT-01-0713	EE/28/13	NA	NA	NA.	NA.	NA	NA NA
WT-01-0114	01/16/14	NA	NA	NA	NA.	NA NA	NA NA
WT-01-0714	07/02/14	NA	NA NA	NA	NA	NA NA	NA NA
WT-01-0115	01/07/15	NA	NA	NA.	NA NA	NA.	NA NA
NT-01-1216	12/20/16	NA	NA NA	NA	NA	NA	NA.
WT-01-0617	DEIDE/17	NA	NA	NA	NA NA	NA.	NA NA

Notes:

Note:

N

L - Eas in sample result itsely to be low
LCG - Laboratory control sample recovery evaluation orderia not met
MG - Matrix Opite
FR. - Preservation requirement not met
RB - Rincate Blank
QDL - Sample Detection Limit
QDL - Sample Detection Limit
QNA - Surgood
NA - Not Analyzed

F-20

Figure F-3: August 2017 DNAPL Plume STORE THE WALLET Legend Shallow Monitor Wells; depth range 35" to 37" Shallow Recovery Wells: depth range 34" to 44" Former Shallow Recovery Wells New Used As Piezometers; depth range 42' to 47' Deep Monitor Wells; depth range 107' to 139' Deep Recovery Well; 119' Monitor Wells Completed in Underlying Crinking Water Acquisers: depths shown on map Treefed Groundwater Effluent Discharge Lat: 29° 39' 38.21", Long: 95" 14' 58.24" Slurry Wall -X- Fence Estimated DNAPL Plume (895) DMAPL Thickness (fl) RW-6 was not gauged due to limited well access (6)75') RW-5R RWT RWTR Houston RW1 (3.95) THE RESERVE Sugar Land Pearland RW-1R RW-2R (5.89") RW-2R MW:22 Groundwale: RW/3 RW/3R (0.45') RW4R ANA RW-4 RW/30R RW-6 200 Slerage Tanks 0 25 50 75 100 (3:251) RW-10 realed ... (12/450 REFERENCE: Petamory Orlea (1/19/2015) GENEVA INDUSTRIES FEDERAL SUPERFUND SITE 9334 CANNIFF ROAD, HOUSTON, TEXAS Ethio, - Hamis County Placel Germal District CUMPTERLY GALCING REPORT FIGURE NUMBER ESTIMATED DNAPL PLUME (AUGUST 2017)

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## APPENDIX G – INTERVIEW FORMS

Geneva Industries/Fuhrmann Energy

Five-Year Review Interview Form

Superfund Site

Site Name:

Geneva Industries/Fuhrmann

EPA ID No.:

TXD980748453

Energy

Interviewer Name:

**Treat Suomi** 

Affiliation:

Skeo

Subject Name:

Midori Campbell

Affiliation:

TCEO

**Subject Contact Information:** 

Interview Format (circle one):

Midori.campbell@tceq.texas.gov, 512-239-2077

Time: 11:00 a.m. Date:

10/24/2017

**Interview Location:** 

**TCEQ Office** 

In Person

Phone

Mail

Other: Email

**Interview Category:** 

State Agency

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

TCEQ's overall impression of the Site is that more work will be necessary to ensure that the site is protective of human health and the environment. Currently, operations and maintenance (O&M) activities at the site are being performed routinely and are documented in monthly O&M Reports.

What is your assessment of the current performance of the remedy in place at the Site?

The remedy for eliminating on-site exposure of the constituents of concern (COCs) in the capped soil and waste material appears to be performing as designed. The migration pathway for COCs in the soil is rendered incomplete by the engineered cap, and site security measures restrict unauthorized entry to the site.

The slurry wall, in conjunction with pumping of groundwater the 30-foot sands, maintains an inward hydraulic gradient of the shallow groundwater bearing unit (GWBU). The naturally-occurring clay layer underlying the capped waste materials serves as a low-permeability barrier separating the 30-foot sands from the deeper 100-foot sands. The Waste Management Unit does not have an engineered liner system beneath capped waste materials. Beginning in March 2016, a different method of gauging the thickness of dense, nonaqueous phase liquid (DNAPL) was employed, revealing measurable thicknesses of DNAPL accumulation in several wells. The greatest thickness of DNAPL at 12+ feet was measured in RW-10, which is located adjacent to the northeast corner of the slurry wall. The volume of DNAPL in the contained materials beneath the cap is estimated to be greater than 600,000 gallons based on the DNAPL thicknesses measured in the recovery wells. TCEQ is concerned about the potential for DNAPL and its constituents to migrate vertically to the lower GWBUs, as well as to break through the slurry wall and migrate horizontally off-site.

PCBs and vinyl chloride continue to be detected in the groundwater in the 100-foot sands beneath and adjacent to the site. Wells drilled through the cap, waste material, and contaminated soils into the 100-foot sands may be serving as conduits for vertical migration of COCs from the 30-foots sands. Pumping of deep well RW-6 was discontinued in 2016, as there was concern that DNAPL was being drawn down from the 30foots sands through pumping of RW-6. Based on the detections of PCBs and vinyl chloride in the deeper water bearing unit, TCEQ believes that the groundwater remedy is not performing as designed and is not protective of groundwater.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?

On March 14, 2016, TCEQ received an inquiry from Ayan Zeng, the project assistant in the Environmental Public Health Department of Harris County Public Health and Environmental Service. As part of their review on the Health Impact Assessment of the Health Planning in Pasadena, Ms. Zeng requested information relating to the current concentration of PCBs in the soil and groundwater at Geneva. Ms. Zeng also inquired about the minimum safe radius for surrounding residents. TCEQ and EPA provided Ms. Zeng with an electronic copy of the 2015 Final Annual O&M Summary Report which summarized concentrations of vinyl chloride and PCBs in the groundwater and explained that the extent of off-site concentrations of PCBs and vinyl chloride exceeding levels protective of human health have not been delineated.

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 conducts routine groundwater monitoring at the site. TCEQ performs the operations and maintenance of the 30-foot sands groundwater recovery and treatment system. O&M of the system consists of activities associated with the pumping contaminated water from the 30-foot sands beneath the containment cap, treating and testing the recovered groundwater, and discharging the treated effluent into the adjacent Harris County drainage ditch. TCEQ also maintains the landfill cover and site security. In March 2016, the presence of DNAPL was observed in several wells, and TCEQ added DNAPL gauging to its groundwater monitoring activities. Upgrades and repairs to the groundwater treatment system since the Fourth Five Year Review include the following:

- 2014: Retrofits to the treatment system included repairs and/or replacement of leaking pipelines, inoperable pumps, check valves, and electrical components, as well as cleaning of the drain in the treatment building.
- 2015: Extensive retrofits were performed to enable the process treatment system (PTS) to process and store greater volumes of groundwater. Two 30,000 gallon clean water storage tanks were replaced with six 31,757 gallon storage tanks. Other retrofits included repair and/or replacement of recovery well pumps, piping, the PTS building entrance door, lights and ventilation fans, front gate and fencing, switches, a transfer pump, and spent GAC from one of the GAC tanks.
- 2016: A telemetry system was installed inside the PTS building to send automated messages for unscheduled system shutdowns. Maintenance of the recovery wells was conducted to gauge any silt accumulation inside the wells. Repairs were made to tanks, pipes, and fittings.
- 2017: In January, faulty check valves and float switches caused water to overflow inside the PTS building, flooding the floor to a depth of six inches. All of the standing water was contained, and no release of water occurred. The standing water was pumped to holding tanks and subsequently treated and discharged. Many repairs were conducted on the system, including replacement of check valves, float switches, and a transfer pump, and repairs to the settling tank and leaks in pipes. Additionally, repairs were made to the Oil/Water Separator (OWS), which included replacement of the media filters and skimmer pipe.
- 5. Are you aware of any changes to state laws that might affect the protectiveness of the Site's remedy?

The criteria for assessing the protectiveness of the remedy have been affected by changes in laboratory detection limits and changes to state laws. During the 1984 Remedial Investigation (RI), concentrations of PCBs were measured at below laboratory detection limits in all but one groundwater sample. Hence, PCBs were not selected as a site groundwater COC. Since the RI, PCBs have been detected in groundwater samples at concentrations lower than the 1984 detection limits. Similarly, vinyl chloride, which is a daughter product of trichloroethylene (TCE), was not listed as a site groundwater COC. Like PCBs, vinyl chloride has been detected in the groundwater since the RI at concentrations exceeding levels protective of human health. While neither PCB or vinyl chloride are recognized in the Record of Decision (ROD) as site COCs for groundwater, continued analysis for these constituents are necessary to evaluate the protectiveness of the groundwater remedy.

Since the issuance of the ROD, levels of PCBs which are protective of human health have become more stringent. Protective Concentration Limits (PCLs) under the current TCEQ Texas Risk Reduction Program (TRRP) are lower than the limits which were previously established. The original action level for removal of PCB-contaminated soil was 100 mg/Kg or greater for on-site soil and 50 mg/Kg or greater for off-site soil. The current TotSoilComb and GWSoiling PCLs for PCBs are 1.1 mg/Kg and 11 mg/Kg for residential exposure and 7.7 mg/Kg and 11 mg/Kg for commercial exposure, respectively. Given these PCLs, TCEQ believes that, soils with PCB concentrations exceeding human health protective levels may still be present at the site. Because of the changes resulting from TRRP and laboratory detection limits, contamination in soils and in groundwater have not been fully delineated at the site. Based on the current groundwater sampling data and DNAPL measurements, TCEQ believes that the soil and groundwater remedies may not be protective of human health or the environment.

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

Deed notices were filed with the Harris County clerk's office in 2015 for each affected property at the site. The institutional controls limit land use to commercial/industrial and provide notification of the permanent physical controls on soil and groundwater to prevent exposure to contaminated soil and groundwater, as appropriate to each parcel. The institutional controls require the property owner to notify and get approval from the TCEQ if the owner wishes to change the property's land use or modify the controls on the property. The TCEQ attempted to obtain restrictive covenants for all properties and owners; however, for properties whose owners were unresponsive or unwilling to sign restrictive covenants, the TCEQ place deed notices as the institutional control, as allowed under TRRP.

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

I am unaware of any changes in projected land use at the Site.

8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

TCEQ will continue to operate and monitor the groundwater treatment system to maintain the inward hydraulic gradient, maintain the cap to prevent human exposure to contaminated materials, and keep the site secure to restrict unauthorized access to the site. However, the current remedy of extracting and treating contaminated groundwater from the 30-foot sands has not demonstrated protectiveness of groundwater in the 100-foot sands. To fully address protectiveness of the remedy, TCEQ recommends that EPA:

- characterize the DNAPL observed in the 30-foot sands;
- conduct an investigation to delineate the horizontal and vertical extent of groundwater contamination;
- conduct an investigation to delineate the horizontal and vertical extent of soil contamination;
- inspect all of the wells which were installed through the contaminated materials into the deeper GWBUs to determine whether they are serving as conduits for vertical migration of DNAPL and constituents;
- · plug and abandon deep wells;
- conduct another feasibility study if warranted based on the findings of the DNAPL characterization and groundwater/soil investigation;
- · select a new remedy;
- · amend the ROD as appropriate; and
- · implement the alternate remedy.
- 9. Do you give permission for the following to be included in the Five-Year Review Report and appendices, which becomes a public document? Please initial below.

a. Your name? Yes X No
b. Your affiliation? Yes X No
c. Your responses? Yes X No

Geneva Industries/Fuhrmann Energy

Five-Year Review Interview Form

Superfund Site

Site Name:

Geneva Industries/Fuhrmann

EPA ID No.:

TXD980748453

Energy

**Interviewer Name:** Subject Name:

Treat Suomi Marc Viola

Affiliation:

**Subject Contact Information:** 

Affiliation:

Aptim

Marc.viola@aptim.com, 281-531-3141

Time: 11:00 a.m.

Date:

12/28/2017

**Interview Location: Aptim Office** 

Interview Format (circle one):

In Person Phone Mail

Other: Email

Interview Category:

**O&M** Contractor

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

Aptim's overall impression is that current O&M of the PTS is effective at treating the pumped groundwater to below the discharge standards and that the pumping of the shallow groundwater continues to maintain an inward gradient towards the cap.

What is your assessment of the current performance of the remedy in place at the Site?

The clay cap has prevented surface runoff of COC's and any potential exposure at the surface. The security measures in place include: barbed wire topped chain linked perimeter fence, signage, and locked PTS building have been effective at keeping the general public from entering the facility. The groundwater recovery pumps are capable and continue to keep an inward hydraulic gradient within the slurry wall. PCB's and vinyl chloride are detected above their PCL's from the 100ft sands, thus the current remedy does not appear to be effective at controlling the vertical migration of PCBs. The recently measured thickness of DNAPL's across the site appear to support that vertical migration to the underlying aquifer has taken place.

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?

Over the last two years, concentrations of PCB's and Vinyl Chloride (VC) above their respective PCL's have been detected from both shallow and deep wells located outside of the slurry wall and also from the deep wells inside the slurry wall. Since 2005, the overall trends show concentrations of PCB's and VC decreasing in the shallow wells and concentrations of PCBs increasing in the deep wells.

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.

Currently site visits are scheduled every two weeks and more frequent if repairs made to the PTS require additional monitoring. Site visits typically include sampling the effluent and treated water in between processing tanks, inspection and minor repairs of the PTS, cap inspection and documentation. A basic telemetry system was installed at the site in 2016 to automatically notify staff when an unscheduled shutdown of the system has occurred.

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.

O&M time has increased over the last five years due to the age of the PTS. Storage tanks have been replaced or repaired, pipes (above and below grade) have been replaced (or need to be replaced), limited telemetry has been installed and the procedure for measuring DNAPL's has been changed. All of the changes and repairs that have been made do not adversely affect the remedy.

6. 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.

Numerous repairs and upgrades have been performed including the installation of six 32,000 gallon storage tanks, GAC replacement, transfer pumps installed, cleaning and repair of the settling tank, installation of limited telemetry, replacement of the front gate, installation of a rear access gate, and the repair of numerous valves, fittings and pipes. The interior of the PTS was flooded with groundwater in January 2017, requiring extensive O&M activates to repair electrical components. All of the floodwater was contained inside the building and there was no release to the environment. All of the floodwater was recovered, treated, and discharged.

7. 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.

A limited telemetry system was installed in 2016 to inform the operator (via cell phone alert) if the system shut down, thus enabling the PTS to be restarted within a short period of time (usually one day). Silt was removed from the settling tank and OWS to help prolong the life of the filters thus resulting in fewer filter changes.

8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?

Replace the PTS control panel with an upgraded panel that would allow the adjustment of individual recovery pumps and the monitoring of critical functions to keep the system operational for maintaining the hydraulic control of the groundwater in the 30-foot sands inside of the slurry wall.

9. Do you give permission for the following to be included in the Five-Year Review Report and appendices, which becomes a public document? Please initial below.

a.	Your name? Yes	X	No	
b.	Your affiliation? Yes	X	No	,
c.	Your responses? Yes	X	No _	

Five-Year Review Interview Form Geneva Industries/Fuhrmann Energy Superfund Site TXD980748453 Site Name: Geneva Industries/Fuhrmann EPA ID No.: Energy Interviewer Name: Affiliation: **Brice Robertson** <u>Skeo</u> Subject Name: Nearby Business 1 Affiliation: **Subject Contact Information:** N/A Time: 11:30 a.m. Date: 10/03/2017 **Interview Location: Business facility** 

**Interview Category:** 

Interview Format (circle one):

Residents

In Person

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

Phone

Mail

Other:

No.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

It's pretty nice.

3. What have been the effects of the Site on the surrounding community, if any?

None, been here five years, too.

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

No.

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?

No. A brochure or paper would be fine.

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. We collect rainwater.

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

Geneva Industries/Fuhrmann Energy Five-Year Review Interview Form **Superfund Site** Site Name: Geneva Industries/Fuhrmann EPA ID No.: TXD980748453 Energy Interviewer Name: **Brice Robertson** Affiliation: Skeo Subject Name: **Nearby Business 2** Affiliation: N/A **Subject Contact Information:** N/A Time: 11:45 a.m. Date: 10/02/2017 Interview Location: Business facility In Person Interview Format (circle one): Phone Mail Other:

**Interview Category:** Residents

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

No.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

It's ok.

3. What have been the effects of the Site on the surrounding community, if any?

None.

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

No.

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?

No. A fact sheet is fine.

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. City water.

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

Five-Year Review Interview Form Geneva Industries/Fuhrmann Energy Superfund Site Site Name: Geneva Industries/Fuhrmann EPA ID No.: TXD980748453 Energy Interviewer Name: **Brice Robertson** Affiliation: Skeo Subject Name: Nearby Church Affiliation: N/A **Subject Contact Information:** Time: 12:30 p.m. Date: 10/02/2017 Interview Location: Church

Interview Format (circle one):

In Person Phone

Mail

Other:

**Interview Category:** Residents

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

No.

What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

I know there was construction, but no real knowledge.

3. What have been the effects of this Site on the surrounding community, if any?

None.

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

No.

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?

No. A fact sheet.

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, we use city water.

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

Geneva Industries/Fuhrmann Energy Five-Year Review Interview Form **Superfund Site** Site Name: Geneva Industries/Fuhrmann EPA ID No.: TXD980748453 Energy Interviewer Name: **Brice Robertson** Affiliation: Skeo **Subject Name:** Resident 1 Affiliation: <u>N/A</u> **Subject Contact Information:** Time: 12:15 p.m. Date: 10/02/2017 Interview Location: Resident's front porch Interview Format (circle one): In Person Phone Mail Other:

**Interview Category:** Residents

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

No.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Nothing.

3. What have been the effects of the Site on the surrounding community, if any?

Nothing.

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

No.

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?

No. Email or knock on our door.

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, we're on city water.

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

Geneva Industries/Fuhrmann Energy

Five-Year Review Interview Form

Superfund Site

Geneva Industries/Fuhrmann Site Name:

EPA ID No.:

TXD980748453

Energy

**Interviewer Name:** Subject Name:

**Brice Robertson** Resident 2

Affiliation:

Skeo

Subject Contact Information: N/A

Affiliation:

N/A

In Person

Date:

10/02/2017

Time: 12:00 p.m. Interview Location:

**Interview Category:** 

Resident's front yard

Phone

Mail

Other:

Interview Format (circle one):

Residents (translated from Spanish)

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

No.

What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Nothing.

What have been the effects of the Site on the surrounding community, if any?

None.

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

No.

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?

No. Like this (in person).

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, we have city water.

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

Geneva Industries/Fuhrmann Energy **Five-Year Review Interview Form Superfund Site** 

Site Name:

Geneva Industries/Fuhrmann

EPA ID No.:

TXD980748453

Energy

**Interviewer Name:** 

**Brice Robertson** 

Affiliation:

Skeo

**Subject Name:** 

Resident 3

Affiliation:

**Subject Contact Information:** 

Interview Format (circle one):

N/A

Time: 12:10 p.m.

Date:

10/02/2017

**Interview Location:** 

Resident's front yard

In Person

Phone

Mail

Other:

**Interview Category:** 

Residents

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

No.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

Nothing.

3. What have been the effects of the Site on the surrounding community, if any?

None.

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

No.

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?

No. Like this (in person).

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, we have city water.

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

## APPENDIX H - SCREENING LEVEL RISK ASSESSMENT

The soil cleanup goal for total PCBs was based on the cancer risk of 1 x 10<sup>-4</sup> for residential use. However, residential use is prohibited at the Site. The soil cleanup goal was compared to the current EPA RSL for Aroclor 1260 because there is no RSL for total PCBs (Table H-1). The cleanup goal is still valid for industrial use.

Table H-1: Soil Cleanup Goal - Screening Level Risk Assessment

Soil Contaminant	ROD Cleanup		strial RSL <sup>a</sup> g/kg)	Industrial Risk Level		
Contaminant	Goal (mg/kg)	1 x 10 <sup>-6</sup> Risk	HQ = 1	1 x 10 <sup>-6</sup> Risk <sup>b</sup>	Noncancer HQ	
Total PCBs	100	0.99°	NA	1 x 10 <sup>-4</sup>	NA	

Note:

mg/kg = milligram per kilogram

NA = Not available

HQ = Hazard Quotient

- a. Current RSLs, dated November 2017, are available at <a href="https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017">https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017</a> (accessed 12/21/2017).
- b. Cancer risks were calculated using the following equation, based on the fact that RSLs are derived based on  $1 \times 10^{-6}$  risk:
  - Cancer risk = (remedial goal  $\div$  cancer RSL)  $\times$  10<sup>-6</sup>
- c. Based on Aroclor 1260 RSL