THIRD FIVE-YEAR REVIEW REPORT FOR
ROWE INDUSTRIES SUPERFUND SITE
SUFFOLK COUNTY, NEW YORK

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

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Date

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LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
COC	Contaminant of Concern
DCA	Dichloroethane
DCE	Dichloroethene
EPA	United States Environmental Protection Agency
FDSA	Former Drum Storage Area
FRW	Focused Recovery Well
FYR	Five-Year Review
ICs	Institutional Controls
MCL	Maximum Contaminant Level
Mg/kg	Milligrams per Kilogram
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
PCE	Tetrachloroethylene
PCOR	Preliminary Close-Out Report
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objectives
RD	Remedial Design
ROD	Record of Decision
RPM	Remedial Project Manager
SVI	Soil Vapor Intrusion
TAGM	Technical and Administrative Guidance Memorandum
TBC	To be considereds
TCA	Trichloroethane
VOCs	Volatile Organic Compounds

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order 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 review 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 third FYR for the Rowe Industries Superfund Site. The triggering action for this **policy** review is the completion date of the previous FYR. The FYR has been prepared due to the fact that the remedial action will not leave hazardous substances, pollutants or contaminants on site above levels that allow for unlimited use and unrestricted exposure, but requires five or more years to complete.

The Rowe Industries Superfund Site FYR was led by Pamela Tames of EPA. Participants included Michael Scorca, EPA Hydrogeologist, Lora Smith, EPA risk assessor, Cecilia Echols, EPA community involvement coordinator, Mark Goldberg, WSP USA, Inc. formerly Leggette Brashears & Graham (LBG) (consultant to the potentially responsible parties) and Payson Long, New York State Department of Environmental Conservation’s (NYSDEC) representative. The PRP was notified of the initiation of the five-year review. The review began on 6/30/2017.

Site Background

The Rowe Industries site is situated on Sag Harbor-Bridgehampton Turnpike in the Village of Sag Harbor, Suffolk County, New York. It is located on the south fork of eastern Long Island, approximately 75 miles east of New York City. The major roadways in this area include Sag Harbor-Bridgehampton Turnpike and Noyack Road (see Figure 1).

The property is comprised of an eight-acre industrial facility. The most prominent feature of the property is a small factory covering one acre of the site with the remainder containing a small lawn area, parking lot, several acres of oak forest, and a small pond. A manufacturer of electronic devices (Sag Harbor Industries), an ice cream company, a landscaping company, and an awning manufacturer currently occupy the building on the property. The oak forest and pond are part of the Long Pond Greenbelt, a protected ecological sanctuary. Residences are located on the northern and southern sides of the facility.

History of Contamination

The Rowe Industries facility was constructed in 1953 to manufacture small electric motors and transformers. Chlorinated solvents were used to degrease oil-coated metals during the manufacturing process. Waste solvents were discharged into on-site dry wells and/or stored behind the facility, where they leaked into the soils below. The original building was completely destroyed by a fire in 1962, and was rebuilt that same year to twice the size of the original facility.

In November 1965, Aurora Plastics purchased the plant and its equipment from Rowe Industries. The manufacture of the motors continued and Nabisco acquired Aurora Plastics in the early 1970's. The facility remained active until 1974, when Nabisco relocated its operations and the building was closed. Nabisco, the potentially responsible party (PRP), is now owned by Kraft Foods.

The building remained empty until it was sold to Sag Harbor Industries in 1980. Solvents are no longer used in the manufacturing process.

The Rowe Industries site was placed on the National Priorities List on July 7, 1987.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Rowe Industries		
EPA ID: NYD981486954		
Region: 2	**State:** NY	**City/County:** Sag Harbor, Suffolk County
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA ***[If "Other Federal Agency", enter Agency name]*:**		
Author name (Federal or State Project Manager): Pamela Tames		
Author affiliation: EPA		
Review period: 2/19/2013 - 2/23/2018		
Date of site inspection: 10/17/2017		
Type of review: Policy		
Review number: 3		
Triggering action date: 2/19/2013		
Due date *(five years after triggering action date)*: 2/19/2018		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

During the remedial investigation (RI), 32 wells were sampled to evaluate groundwater conditions. The highest concentration of PCE found in the groundwater at that time was 12,000 micrograms per liter (µg/l). 1,1,1-trichloroethane (TCA), trichlorethylene (TCE), 1,1-dichloroethane (DCA) and dichloroethene (DCE) were also found in the groundwater. Their highest concentrations were 690 µg/l, 530 µg/l, 27 µg/l and 74 µg/l, respectively. The Maximum Contaminant Level (MCL) exceedances of these volatile organic compounds (VOCs) in groundwater and the conclusion of the risk assessment indicated that an unacceptable risk existed for on-site residents based on ingesting untreated groundwater containing PCE from the Upper Glacial aquifer in the vicinity of the site. Soils in the former drum storage area exhibited levels of PCE as high as 67 milligrams per kilogram (mg/kg). Three of the six dry wells had elevated levels of VOCs. The risk assessment concluded that soils on the site did not pose an unacceptable risk to human receptors, however, contamination in these areas, if not addressed, would likely continue to contribute to further contamination of groundwater at the site.

Response Actions

Groundwater contamination was first discovered by the Suffolk County Department of Health in 1983. Water from a private well near the site revealed contamination by three VOCs, TCA, TCE, and PCE. Further investigations determined that a groundwater contaminant plume extended from the former Rowe Industries facility northwest to Ligonee Brook. In 1985, twenty-five residences in the vicinity of the groundwater plume were hooked up to the public water supply.

Remedy Selection

Based upon the results of the RI and feasibility study, in September 1992, EPA signed a Record of Decision (ROD) selecting a remedy for the site. The remedial action objectives (RAOs) identified in the ROD include:

- the excavation of all contaminated soils which act as a contributor to the groundwater contamination; and
- the restoration of groundwater quality to drinking water standards.

The remedy includes:

- excavating and disposing of 365 cubic yards of soil at a Resource Conservation and Recovery Act-permitted facility (soil will be treated to meet land disposal restrictions, if necessary);
- monitoring to confirm that soils with concentrations above site cleanup objectives have been excavated;
- extraction and treatment of contaminated groundwater to meet federal and state drinking water MCLs in the aquifer (groundwater will be treated with air stripping with subsequent discharge to Sag Harbor Cove);
- long-term groundwater monitoring to track the migration and concentrations of the contaminants of concern; and

- re-evaluation of the site at least once every five years to determine if a modification to the selected alternative is necessary as long as contaminants remain on-site above health-based levels.

Subsequently, Nabisco, Inc.[1] and Sag Harbor Industries, Inc., potentially responsible parties (PRPs) signed a Consent Decree with EPA agreeing to design and implement the selected remedy for the site.

As part of the remedial design effort, the PRPs' contractor collected numerous soil and groundwater samples and performed a number of groundwater tests necessary to prepare the design of the selected remedy. As a result of this sampling effort, the estimated volume of contaminated soil requiring excavation increased from the ROD estimate of 360 cubic yards to approximately 1,700 cubic yards. It was also determined that approximately half of the excavated soils were more highly contaminated than originally believed, which would necessitate on-site pretreatment prior to off-site disposal in order to comply with the requirements of Resource Conservation and Recovery Act Land Disposal Restrictions. The selected remedy was modified via a July 1997 Explanation of Significant Differences (ESD) to include a partial excavation of the former drum storage area, the installation of in-situ Soil Vapor Extraction (SVE) wells to remediate the remaining unsaturated contaminated soils and air sparging wells to assist in the remediation of the saturated contaminated soils during extraction and treatment of the groundwater. In addition, the ESD called for the pretreatment of the excavated soils using ex-situ SVE.

The ROD also called for the treated groundwater to be discharged in Ligonee Creek/Inner Sag Harbor Cove. However, in response to public concerns about potential impacts resulting from the discharge of fresh water into a saline environment, the remedy was modified so as to allow for the discharge of the treated groundwater to a recharge basin (the Town of Southampton granted the PRPs access to the Town's property for the construction of a recharge basin)[2].

Status of Implementation

The contaminated soils associated with the former drum storage area spanned a portion of the parking lot behind the facility and two adjacent residential properties. Site construction work commenced in late 1997.

An ex-situ SVE treatment system was constructed adjacent to the excavation area behind the facility. The SVE system in the soil impoundment treated 230 cubic yards of excavated soils and operated from January 28, 1999 to March 11, 1999. The treated soils were disposed of at an off-site landfill in mid-1999 and the soil impoundment was subsequently dismantled.

The three dry wells were pumped out in June 1998 and their contents were disposed of off-site. Approximately 120 cubic yards of contaminated soil in the vicinity of a broken pipe leading to a fourth dry well (the contents were not contaminated) were excavated in February 2003 and disposed of off-site.

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[1] Kraft acquired Nabisco Inc. in 2000.

[2] This modification to the remedy was effected via two ESDs. In response to the public's concern regarding discharging the treated effluent into a saltwater environment, in May 2001, EPA issued an ESD documenting a decision to split the discharge between surface water and a recharge basin. However, since the public objected to having any surface water discharges, in December 2001, EPA issued another ESD documenting a decision to discharge all of the treated groundwater into a recharge basin.

The in-situ SVE system was started up in December 1998 and operated until January 2003. Following the conclusion that all of the soils within the unsaturated zone had been successfully remediated by the SVE system (approximately 690 pounds of VOCs were removed), a Remedial Action (RA) Report for the soil was approved in March 2005.

The groundwater extraction and treatment system construction began in 1996 and became operational in December 2002. The groundwater extraction system consists of nine recovery wells and an air stripping tower. The treated effluent is discharged to two recharge basins. Between December 2002 and December 2017, 1.4 billion gallons of water were treated removing 229.1 pounds of VOCs. The system continues to treat approximately 1.1 million gallons of water per month, removing about 0.01 pounds of VOCs per month.

Eleven air sparge wells to assist the removal of the VOCs from the contaminant plume were installed in the former drum storage area, activated in February 2003 and decommissioned in December 2004.

In October 2000, four small focused recovery wells (FRWs) and below grade piping were installed in order to perform "focused remediation" of the groundwater within the former drum storage area. From March 2001 through December 2003, the groundwater was sent through two 1,000-pound carbon units placed in series. The treated water was then piped into an existing on-site pond. The FRWs were connected to the full-scale pump and treatment system, eliminating the previously used carbon units and discharge to the on-site pond and restarted in September 2008. With the exception of a shutdown from July 2012 through June 2013 and very limited shutdowns for maintenance purposes, the FRW system continues to run.

A Preliminary Closeout Report (PCOR) was approved in February 2003. An interim RA Report for the groundwater was approved in September 2003.

Institutional Controls Implementation

Table 1: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Groundwater	Yes	No	Site	Restrict installation of ground water wells and ground water use.	Suffolk County Sanitary Codes, Article 4 – Water Supply regulations regarding private wells. 1992

Since the contaminated soils have been remediated to levels that protect human health and the groundwater, they are suitable for unlimited use and unrestricted exposure.

Systems Operations/Operation & Maintenance

The Operation and Maintenance (O&M) Manual for the site contains the procedures for operating, inspecting, and evaluating the groundwater extraction and treatment system along with the long-term monitoring of groundwater. Repairs are to be made, as necessary, to control the effect of any event that might interfere with the performance of the remedy.

Because the remedial system has been operating effectively and is reducing contaminant levels, monitoring and inspections have been able to be reduced from those in the original O&M plan. Scheduled O&M activities currently include monthly inspections of the overall site and the groundwater extraction, and treatment system (checking the bag filter for solids loading, gauging air flow through the stripper, and noting flow rates and totalized flow). Preventive maintenance items include monthly inspections of the air stripper blower and the well pumps for mineral deposits. The recovery wells and effluent water quality are sampled monthly. Pre- and post-carbon air are sampled quarterly.

In November 2004, the former drum storage area was treated using a bioremediation pilot. Several injections of EHC™, which contains zero-valent iron and an enriched carbon nutrient source, were performed at the site. Groundwater samples taken from the FRWs showed that while some degradation took place as a result of the injection, the main benefit of the treatment was accelerated loosening and partitioning of VOCs from the soil to the groundwater. The FRWs were restarted in September 2008. With the exception of a shutdown from July 2012 to June 2013 and intermittent shutdowns for maintenance, they continue to operate.

As a result of groundwater achieving cleanup standards in much of the area targeted for remediation, all but one of the recovery wells (RW-2) have been shut down. In addition to RW-2, the four FRWs continue to operate.

In December 2015, soil and groundwater samples were collected from 12 borings and temporary wells within the former drum storage area (FDSA). The objective of this investigation was to look for elevated levels of VOCs in the saturated soils which could be targeted for treatment and to update the characterization of the FDSA. The results did not locate any areas which would benefit from targeted treatment and additional borings were recommended.

To date, more than 1.4 billion gallons of groundwater have been treated and approximately 229 pounds of VOCs have been removed from the groundwater plume via this system. Potential site impacts from climate change have been assessed, and the performance of the remedy is currently not at risk due to the expected effects of climate change in the region and near the site.

III. PROGRESS SINCE THE LAST REVIEW

The protectiveness determinations and statements from the **last** FYR are summarized in Table 2, below. While the previous FYR had no recommendations it did include a suggestion. The current status of the suggestions are summarized in Table 3, below.

Table 2: Protectiveness Determinations/Statements from the 2013 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Protective	The implemented actions at the Rowe Industries site protect human health and the environment. The unsaturated soil (above the water table) has been remediated and allows for unlimited use. The groundwater remedy has been constructed and is operational. The affected residents have all been connected to a public water supply.
Sitewide	Protective	The implemented actions at the Rowe Industries site protect human health and the environment. The unsaturated soil has been remediated and allows for unlimited use. The groundwater remedy has been constructed and is operational. The affected residents have all been connected to a public water supply.

Table 3: Suggestion from the 2013 FYR

Comment/ Suggestion	Status
Although the groundwater management system appears to be effectively addressing the contaminated groundwater plume, it will need to continue to operate as long as there is source material in the saturated zone in the vicinity of the FDSA. Despite efforts to remediate this source material in-situ, the levels of contaminants are still elevated. If the focused remediation system does not prove to be effective in addressing the source material, consideration should be given to alternative source remedial approaches.	In late December 2015, the PRPs initiated a soil investigation of the FDSA in order to gather additional information regarding its status. Soil borings were taken from 12 locations within the FDSA and analyzed for VOCs. A review of the data indicated that additional soil analysis was necessary. This additional work will be performed in 2018.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

On October 2, 2017, EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at 31 Superfund sites in New York and New Jersey, including the Rowe Industries site. The announcement can be found at the following web address: https://wcms.epa.gov/sites/production/files/2017-10/documents/five_year_reviews_fy2018_final.pdf. In addition to this notification, a public notice was made available on the Sag Harbor Town Hall website, on October 31, 2017. The purpose of the public notice was to inform the community about the FYR and to list where the final report will be posted. The notice also included the RPM and the CIC address and telephone numbers for questions or comments related to the FYR process or the site. Once the FYR is completed, the results will be made available on EPA's Rowe Industries site webpage and at the site repositories located at EPA, 290 Broadway, 18th Floor, New York, New York and at the John Jermaine Memorial Library, 201 Main Street, Sag Harbor, New York.

Data Review

The primary compounds of concern detected in the groundwater at the site are PCE, TCE, DCE, and TCA. The Maximum Contaminant Level (MCL) for all four compounds is 5 ug/1.

Selected wells in the monitoring network were sampled semi-annually during the past five years. Based upon a review of the chemical data, PCE, TCE, DCE, TCA, acetone and vinyl chloride concentrations in all of the downgradient off-property monitoring and extraction wells have been less than their MCL of 5 ug/1 from 2013 through 2017. Figure 3 shows plume maps from 2002, 2007 and 2014. See Figure 2 for the plume map from March 2017. Additional PCE, TCE, DCE, and TCA concentration data can be found in Tables 4, 5, 6 and 7. Pumping of recovery well RW-2, which is closest to the source area and has VOCs below MCLs, continues. The groundwater in all the extraction wells continues to be monitored for any changes in chemical conditions.

VOC concentrations in groundwater samples from wells beneath the FDSA remain above MCLs. Concentrations are fairly variable, and in general tend to increase during temporary interruptions of the pumping system. The highest concentrations of VOCs have been observed at FRW-1, with PCE concentrations ranging from a high of 1,100 µg/L in February 2013 to a low of 3.6 µg/L in July 2017. Although the lowest concentration of PCE occurred in FRW-1 in 2017, the concentration fluctuates throughout the year and in 2017 ranged from 460 µg/L to 3.6 µg/L, ending the year with 55 µg/L. FRW-4 has had the lowest VOCs of the four FDSA recovery wells, with PCE concentrations ranging from 82 µg/L in 2013 to 1.4 µg/L in 2015. Additional PCE, TCE, DCE, and TCA concentration data can be found in Tables 4, 5, 6 and 7. Plots of VOC concentrations over time in the four FDSA recovery wells are presented in Graphs 1, 2, 3, and 4. An investigation to further characterize the saturated zone in the FDSA was completed in February 2016. The work included collecting soil and groundwater samples from 12 borings and temporary wells in the FDSA and enhancing the monitor well network on the Sag Harbor Industries (SHI) property to improve detection of contaminant migration. The results of the investigation confirmed and refined the extent of one fairly continuous silty clay lens in the saturated zone of the FDSA, with smaller discontinuous silty clay lenses located above and below the continuous silty clay lens. The results of the geochemical analysis confirmed that anoxic to anaerobic conditions exist in certain areas of the saturated zone. The soil and groundwater results thus far do not identify elevated concentrations of PCE or "hot spots" in soil or groundwater that could act as source material. LBG intends to collect additional soil samples near FRW-1 and FRW-2 within the FDSA in 2018 to identify any remaining "hot spots" and investigate the possibility of targeted remediation.

In 2014, a review of the salinity, surface water, and piezometer data indicated that the pumping of the aquifer does not adversely affect the nearby ponds of the Long Pond Greenbelt, Ligonee Brook, and Ligonee Creek. Monitoring of these areas ended in 2015.

Site Inspection

The inspection of the Site was conducted on 10/17/2017. In attendance were Pamela Tames, EPA RPM, Jeff Trad and Payson Long, NYSDEC Project Managers, Mark Goldberg and William Beckman, WSP USA (LBG) (PRPs consultants), and Kevin Kyrias-Gann, Kraft Heinz Foods. The purpose of the inspection was to assess the protectiveness of the remedy.

There were no visible signs of trespassing or vandalism at the site. All of the well casings were found to be properly secured and locked. The treatment system building was found to be properly secured and locked. The recharge basin was functioning as designed and the fence surrounding the recharge basins was intact and its gate was secured.

V. TECHNICAL ASSESSMENT

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

The remedy identified in the ROD as modified by the 1997 ESD and the two 2001 ESDs, consisted of air sparging and SVE of saturated and unsaturated soils, respectively; and ex-situ SVE of soils prior to groundwater extraction and treatment. The soil excavation remedy was modified in the 1997 ESD to include the additional volume of soil and on-site treatment of soils prior to off-site disposal plus in-situ treatment of contaminated soils using air sparge wells and soil vapor extraction. The soils remedy has been completed.

Post-excavation and SVE sampling indicate that vadose zone sources of contamination have been effectively remediated. The implemented actions for the soils have effectively eliminated the exposure pathway for contact with contaminated soils.

The groundwater extraction remedy was modified in the May 2001 and December 2001 ESDs to change the discharge location from Ligonee Creek to a recharge basin. The groundwater extraction and treatment system has reduced the extent and magnitude of the downgradient groundwater plume such that the primary groundwater COCs, 1,1-DCA, PCE, and TCE have all been below cleanup goals in the last five years downgradient of the site. Vinyl chloride, TCA and acetone are also analyzed as part of the semi-annual groundwater sampling. None were detected above cleanup goals in the last five years. However, VOC concentrations in groundwater samples from wells beneath the FDSA remain above MCLs. Operation of the four FRW wells continues to effectively treat the groundwater and minimize migration of the contaminants of concern.

Institutional controls to restrict the construction and use of private wells for drinking water are in place via Suffolk County's Sanitary Codes, Article 4 – Water Supply regulations regarding private wells. All residents adjacent to and downgradient of the site are on public water.

For ecological receptors, the remedial action for the soil has effectively eliminated the exposure pathway for contact with contaminated soils and the potential for exposure to contaminated groundwater is also eliminated.

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

Human Health - The exposed populations evaluated as part of the 1992 ROD for the Site remain appropriate currently and for the next five years. These include: facility workers, trespassers, residents, utility workers and excavation workers. Exposure pathways also remain valid and include: ingestion of groundwater by residents (future use); inhalation of volatiles from groundwater during residential showering (future use); ingestion of surface soils by onsite residents (future use); incidental ingestion of subsurface soils by excavation workers (future use); incidental ingestion of subsurface soils by utility workers (present and future uses); ingestion of sediments from Ligonee Brook by local residents (present and future uses); and incidental ingestion of dry well sediments by utility workers (present use).

Subsequent to the remediation of site soils, New York State finalized soil cleanup objectives (SCOs) (6NYCRR Part 375) on December 14, 2006. The SCOs for several soil COCs were different than the cleanup numbers identified in the ROD. These changes have no impact on the determination that the soil remedy is protective since contaminated soils have been remediated and/or excavated and disposed off-site. For groundwater, all current federal (SDWA MCLs) and state (6NYCRR Part 703) standards are equal to or more stringent than standards at the time of the ROD.

Because contaminated soils and dry well sediments have been remediated and/or excavated as part of the remedy and the groundwater plume has been greatly reduced and is contained on property (i.e., no longer reaching Ligonee Brook), direct contact exposures are no longer a concern. Although a short-term health effect from consumption of TCE-contaminated groundwater has been identified since the last FYR, there is no current exposure to drinking water at the site since impacted homes were placed on a public drinking water supply. Further, local drinking water regulations prohibit the construction and use of drinking water wells unless properly tested and certified clean..

The RAO for soil is excavation of contaminated soil to the recommended soil cleanup objectives so that soil VOC contamination is not a source to groundwater. This RAO remains valid. Some additional investigation within the FDSA is being proposed for 2018 to better determine whether on-site soil and groundwater requires more focused remediation.

The RAO for groundwater is restoration of groundwater quality to its intended use of potential drinking water by reducing contaminant levels to State and Federal drinking water standards. This RAO remains valid.

The vapor intrusion pathway was not evaluated in the risk assessment. In 1997, indoor air samples were collected from six homes located over the plume and in February and March of 2008 a soil vapor intrusion (SVI) investigation (sub-slab and some indoor air) was conducted on properties downgradient of the site. All three investigations concluded that vapor intrusion was not a concern. Since the plume is contained on-site and much of the source has been removed, it is believed that this conclusion remains accurate. The on-site facility, Sag harbor Industries, was only partially evaluated for soil vapor intrusion in the remedial investigation. This study concluded the pathway was not a concern at that time. While on-site groundwater in the vicinity of the FDSA is not below cleanup goals, concentrations in the focused recovery wells have decreased and well MW-98-04 between the southeastern corner of the building and the FDSA has demonstrated PCE concentrations at or below 36 µg/L since June 2013. Further, additional monitoring wells between the building and the FDSA have been non detect (ND) (MW-98-04B, MW-98-05BR, MW-52A), less than 2.2 µg/L (MW-45A, MW-45B) or below a level of concern ($\leq$40 µg/L; MW-98-05-AR) for the last five years. All other VOCs were less of a SVI concern. It appears that residual contamination in the FDSA is being adequately contained and as a result, it is unlikely that a complete vapor intrusion pathway exists in the Sag harbor Industries building. If changes to the recovery well system occur in the future, it may be necessary to reevaluate this pathway.

The ROD summarizes the ecological assessment that was completed as follows: "Ecological Assessment Information from the Rl report, site visits and literature were used to characterize species present in the vicinity. Information on endangered, threatened, and special concern species was obtained from the New York Natural Heritage Program. The tiger salamander was the only identified, threatened, or rare animal that could potentially frequent the site vicinity. The species uses coastal plain ponds as breeding grounds. Exposure to arsenic, copper, chromium, lead, magnesium and zinc in soils can potentially cause sublethal effects in wildlife. Chromium is the only contaminant in Ligonee Brook surface water that may present a hazard to aquatic life. However, exposures will be limited since the streambed is frequently dry." The pathways and toxicity values used in previous investigations on the site could not be identified, however, given that the contaminated soil has been removed and untreated groundwater does not discharge to a surface water body, there are no completed pathways for ecological receptors, therefore the risk to ecological receptors is interrupted. Thus, based on the review of the data and past and current site characteristics, the cleanup goals and RAOs are protective for ecological receptors.

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

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

VI. ISSUES/RECOMMENDATIONS

OTHER FINDINGS

In addition, the following recommendations were identified during the FYR and may accelerate site close-out, but do not affect current and/or future protectiveness:

- Although the groundwater management system appears to be effectively addressing the contaminated groundwater plume, it will need to continue to operate as long as there is source material in the saturated zone in the vicinity of the former drum storage area. Despite efforts to remediate this source material in-situ, the levels of contaminants are still elevated. If the focused remediation system does not prove to be effective in addressing the source material, consideration should be given to alternative source remedial approaches.

VII. PROTECTIVENESS STATEMENT

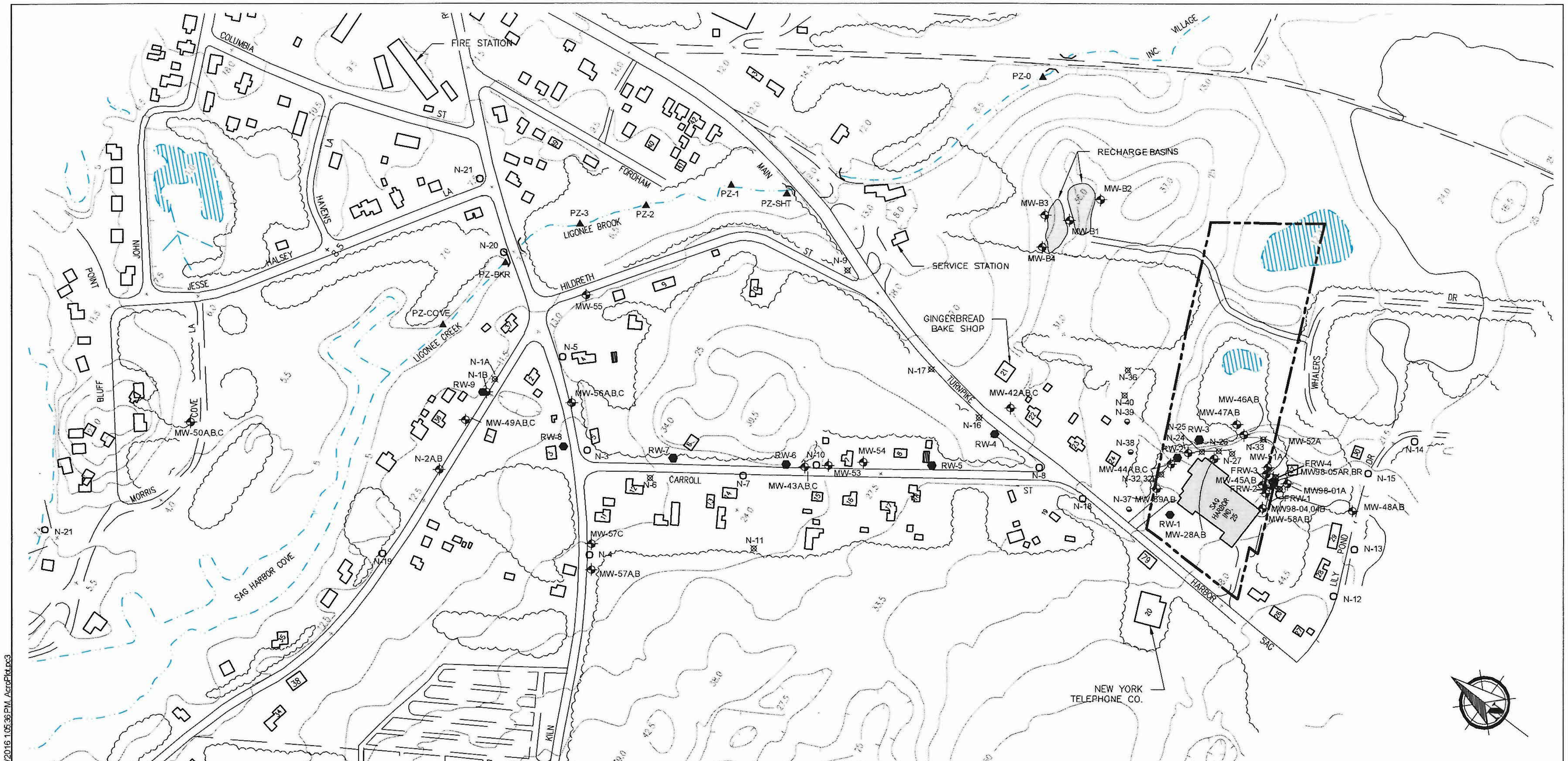
Protectiveness Statement(s)		
Operable Unit: 01	*Protectiveness Determination:* Protective	*Planned Addendum Completion Date:* Click here to enter a date

Protectiveness Statement: The implemented actions at the Rowe Industries site are protective of human health and the environment.

Sitewide Protectiveness Statement	
Protectiveness Determination: Protective	*Planned Addendum Completion Date:* Click here to enter a date
Protectiveness Statement: The implemented actions at the Rowe Industries site are protective of human health and the environment.	

VIII. NEXT REVIEW

The next FYR report for the Rowe Industries Superfund Site is required five years from the completion date of this review.



LEGEND

- PROPERTY BOUNDARY
- N-36 — LOCATED SCDHS WELL
- N-37 — REPAIRED SCDHS WELL
- N-13 — UNLOCATED SCDHS WELL
- PROPERTY OWNERS WELL
- PZ-2 — PIEZOMETER
- MW-43A — GROUNDWATER MONITOR WELL
- RW-1 — RECOVERY WELL
- FRW-1 — FOCUSED REMEDIATION RECOVERY WELL (APPROXIMATE LOCATION)

NOTE:
1. MW98 MONITOR WELL LOCATIONS ARE APPROXIMATE.

0 300
SCALE IN FEET

GROUNDWATER REMEDIAL ACTION
FORMER ROWE INDUSTRIES SUPERFUND SITE
SAG HARBOR, NEW YORK

AREA MAP

DATE	REVISED

PREPARED BY:
LBG ENGINEERING SERVICES, P.C.
Professional Environmental and Civil Engineers
4 Research Drive
Suite 204
Shelton, Connecticut 06484
(203) 929-8555

DRAWN:	RAC	CHECKED:	MG	DATE:	06/07/16	FIGURE:	1

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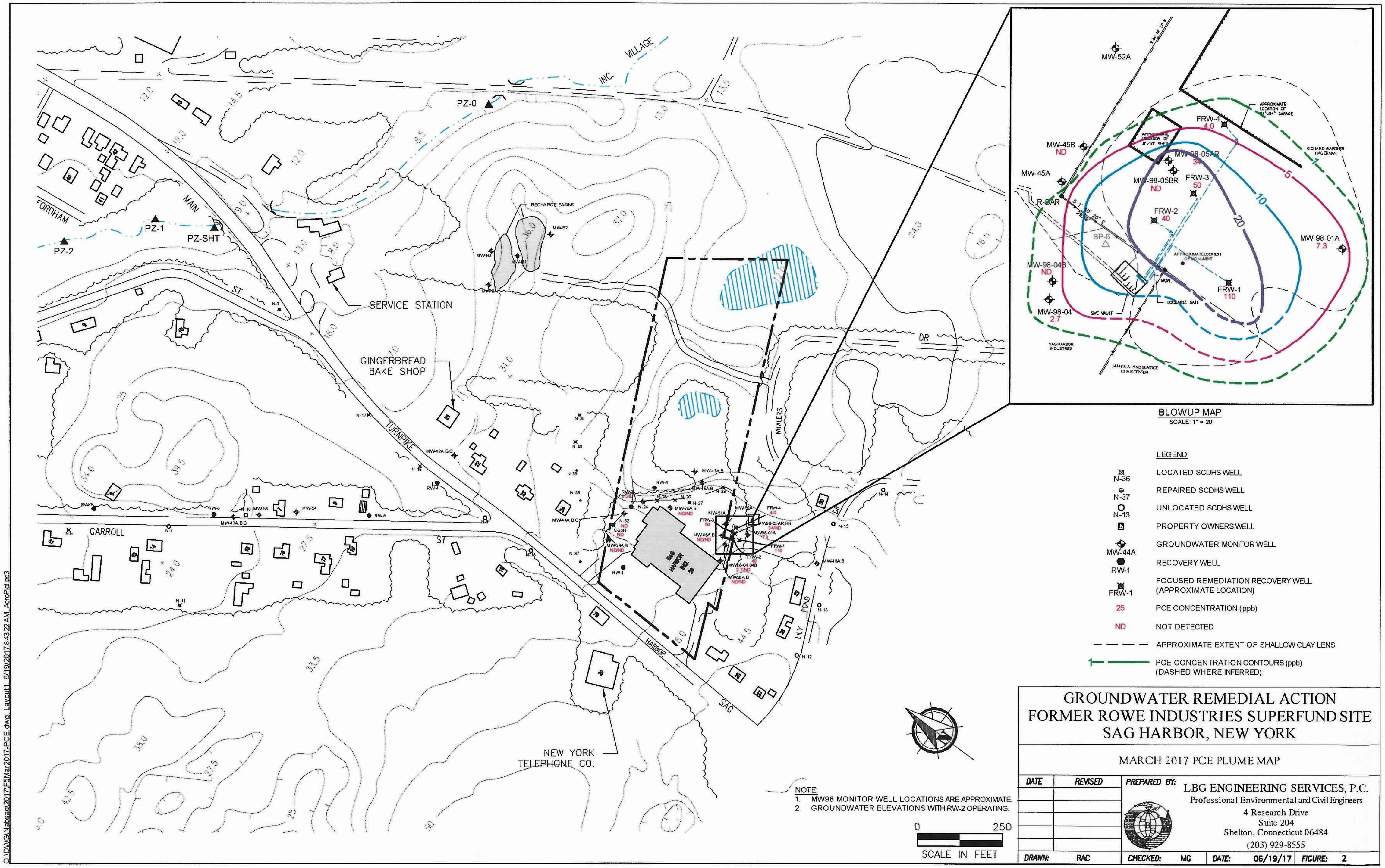
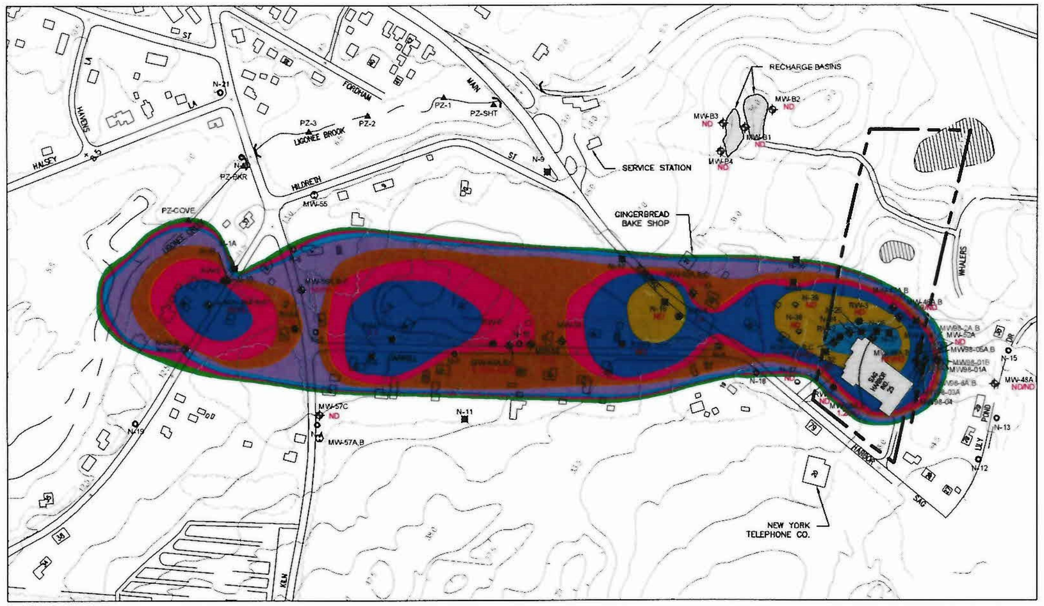
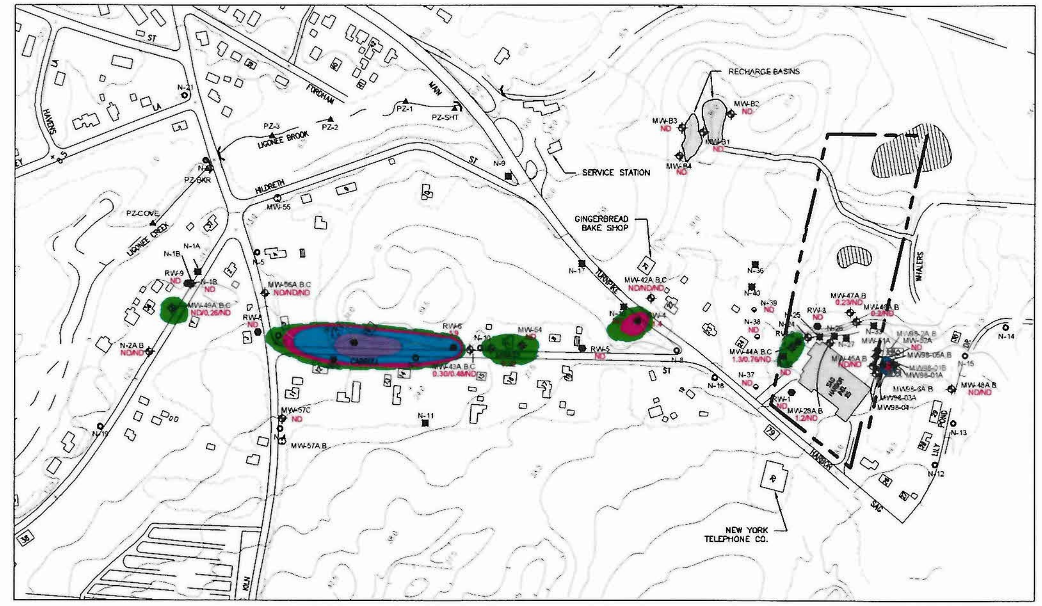


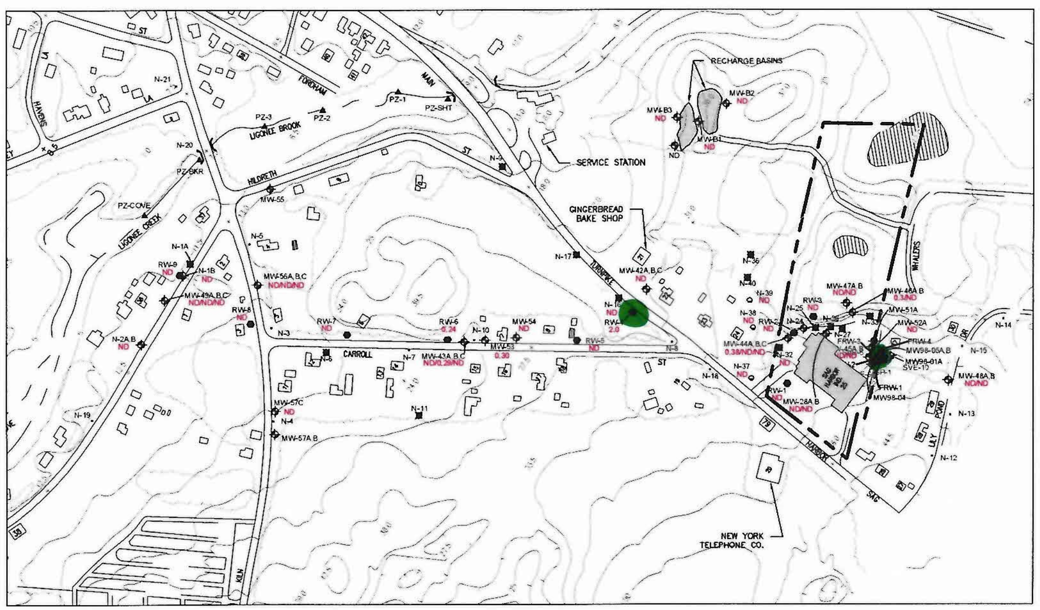
GROUNDWATER REMEDIAL ACTION
FORMER ROWE INDUSTRIES SUPERFUND SITE
SAG HARBOR, NEW YORK
MARCH 2017 PCE PLUME MAP
DATE
REVISED
PREPARED BY:
LBG ENGINEERING SERVICES, P.C.
Professional Environmental and Civil Engineers
4 Research Drive
Suite 204
Shelton, Connecticut 06484
(203) 929-8555
DRAWN: RAC
CHECKED: MG
DATE: 06/19/17
FIGURE: 2
BLOWUP MAP
SCALE: 1" = 20'
LEGEND
N-36 LOCATED SCDHS WELL
N-37 REPAIRED SCDHS WELL
N-13 UNLOCATED SCDHS WELL
PROPERTY OWNERS WELL
MW-44A GROUNDWATER MONITOR WELL
RW-1 RECOVERY WELL
FRW-1 FOCUSED REMEDIATION RECOVERY WELL (APPROXIMATE LOCATION)
25 PCE CONCENTRATION (ppb)
ND NOT DETECTED
APPROXIMATE EXTENT OF SHALLOW CLAY LENS
PCE CONCENTRATION CONTOURS (ppb) (DASHED WHERE INFERRED)
NOTE:
1. MW98 MONITOR WELL LOCATIONS ARE APPROXIMATE.
2. GROUNDWATER ELEVATIONS WITH RW-2 OPERATING.
0 250
SCALE IN FEET
SERVICE STATION
GINGERBREAD BAKE SHOP
NEW YORK TELEPHONE CO.
RECHARGE BASINS
MAIN
TURNPIKE
HARBOR
SAG
CARROLL
ST
WHALERS
DR
LILY
POND
FORDHAM
INC. VILLAGE
PZ-0
PZ-1
PZ-2
PZ-SHT
MW-52A
MW-45B
ND
MW-45A
FRW-4
4.0
MW-98-05AR
34
MW-98-05BR
ND
FRW-3
50
FRW-2
40
SP-6
MW-98-01A
7.3
MW-98-04B
ND
MW-98-04
2.7
FRW-1
110
R-5AR
SVE VAULT
LOCKABLE GATE
SAG HARBOR INDUSTRIES
JAMES A. AND BEATRICE CHRISTENSEN
RICHARD GARDNER HAGERMAN
O:\DWG\Nabsag\2017\F5Mar2017-PCE.dwg Layout1 6/19/2017 8:43:22 AM AcroPlot.pc3



PRE-REMEDIATION PCE PLUME MAP - 2002



OCTOBER 2007 PCE PLUME MAP



SEPTEMBER 2014 PCE PLUME MAP

LEGEND

- > 2000 ug/l
- 1000 - 2000 ug/l
- 200 - 1000 ug/l
- 100 - 200 ug/l
- 50 - 100 ug/l
- 20 - 50 ug/l
- 10 - 20 ug/l
- 5 - 10 ug/l
- 1 - 5 ug/l

NOTE: THE FSP&T SYSTEM BEGAN OPERATION ON DECEMBER 17, 2002.

0 500
SCALE IN FEET

GROUNDWATER REMEDIAL ACTION
FORMER ROWE INDUSTRIES SUPERFUND SITE
SAG HARBOR, NEW YORK

PRE-REMEDIATION AND OCTOBER 2007 AND SEPTEMBER 2014 PCE PLUME MAPS

DATE	REVISED

PREPARED BY: LBG ENGINEERING SERVICES, P.C.
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(203) 929-8555

DRAWN: RAC | CHECKED: TS | DATE: 05/05/15 | FIGURE: 3

O:\DWG\Nabsag\2014\F9PCE MAP.dwg, Layout1, 5/5/2015 4:20:56 PM, AcroPlot.pc3

TABLE 4

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWATER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF PCE DETECTED IN GROUNDWATER FROM MONITOR AND RECOVERY WELLS, ug/l

Monitor or Recovery Wells	Sample Dates																																			
	Mar-07	Oct-07	Mar-08	Sep-08	Mar-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	June-13 (6-12-2013)	Jun-13	Jul-13	Sep-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sep-15	Feb-16	Mar-16	Sep-16	Mar-17
MW-B1		ND		ND		ND		ND		ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-B2										ND	ND				ND				ND					ND				ND								
MW-B3										ND	ND				ND				ND					ND				ND								
MW-B4										ND	ND				ND				ND					ND				ND							ND	
FRW-1	**41**	**380**	**600**	**6.5**	**120**	**15**	**160**	**180**	**68**	**37**	**37**	**52**	**48**	**130**	**130**	**23**	**110**	**1100**	**510**	**360**	**100**	**310**	**77**	**42**	**63**	**74**	**37**	**24**	**120**	**210**	**23**	**15**	**67**	**290**	**25**	**110**
FRW-2	**5.7**	ND	**27**	**72**	**24**	**20**	**33**	**150**	**39**	**24**	**25**	**48**	**40**	**59**	**69**	**65**	**53**	**9.1**	**6.8**	4.0	**45**	**210**	**28**	**20**	**39**	**11**	**27**	**19**	**62**	**41**	**9.0**	**14**	**280**	**55**	**26**	**40**
FRW-3	**120**	1.9	**62**	**16**	**270**	**110**	**190**	**110**	**19**	**16**	**12**	**65**	**32**	**34**	**15**	**25**	**46**	**35**	**25**	1.3	**9.9**	**230**	**52**	**27**	**23**	**49**	**32**	**33**	**34**	**110**	**67**	**7.7**	**50**	**62**	**17**	**50**
FRW-4	ND	4.5	2.3	**18**	**17**	**5.3**	**5.3**	ND	4.5	**22**	**22**	**21**	**14**	**13**	**6.1**	2.3	0.36 J	**15**	**62**	**82**	**25**	**12**	**27**	**19**	4.1	**7.5**	**21**	**28**	2.6	**34**	3.0	1.4	**5.0**	**15**	2.2	4.0
RW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND		
RW-2	ND	1.4		3.4	4.0	1.8	1.0	ND	0.91 J	0.96 J	0.81	0.57	0.53		0.52	0.66	1.3	1.1	0.93	0.74		0.68	0.93	2.0	1.4	0.94	0.26 J	ND	0.56	ND	0.39 J		**0.40 J**	0.38 J	ND	0.28 J
RW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19 J	ND	ND		ND	ND	0.1 J		ND			ND		ND		ND		ND		ND	ND	ND		ND	ND	
RW-4	**7.3**	**9.4**	**6.5**	3.8	3.3	4.5	2.1	ND	0.82 J	1.1 J	1.4	0.13 J	0.90		0.95	0.75	0.96	1.5	0.83	1.1		0.62	0.93	1.4	0.88	0.36 J	2.0	2.0	ND	ND		ND		ND	ND	
RW-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16 J	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
RW-6	**29**	**14**	**19**	**13**	**10**	**11**	**7.0**	4.3	1.9	3.6 J	3.2	3.1	2.6		2.8	2.3	2.4	1.3	1.9	2.0		2.1	1.7	1.9	1.6	0.22 J	0.24 J	0.24 J	0.27 J	ND	0.25 J	0.25 J		0.24 J	ND	
RW-7	**23**	**25**	**11**	**5.4**	**5.5**	**9.5**	3.6	ND	1.8		2.2	1.0	ND		0.76	0.50	0.64	0.96	0.52	0.67		0.73	0.65	1.1	ND	ND	ND	ND	0.87	0.2 J	ND	ND		ND		
RW-8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11 J	0.11 J		0.1 J	ND	0.13 J		ND			ND		ND		ND		ND		ND		ND		ND		
RW-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-28A	ND	ND	ND	**21**	ND	ND	ND	ND	ND	ND	ND					ND	ND		ND					1.2		ND		ND		ND		ND		ND	ND	ND
MW-28B	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND					ND	ND		ND					ND		ND		ND		ND		ND		ND	ND	ND
MW-42B	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND							ND	
MW-43A	ND						ND			ND	2.3				1.2				ND					0.3 J		1.1	0.47 J	ND	ND	ND	0.71	ND			ND	
MW-43B	ND	ND	ND	ND	ND	ND	**12**	2.7	1.0	4.5 J	3.4				ND				0.62					0.48 J		0.39 J	0.34 J	0.29 J	ND	ND	ND	ND			ND	
MW-43C	**27**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-44A	ND	ND	ND	ND	ND	1.1	0.66 J	ND	ND	ND	ND				0.11 J				0.26 J					1.3		ND		0.38 J		ND		ND		ND	ND	
MW-44B	ND	**5.0**	ND	ND	ND	ND	3.1	ND	ND	ND	0.16 J				0.3 J				ND					0.76		ND		ND		ND		ND		ND	ND	
MW-44C		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-45A	ND	ND	ND	ND	ND	ND	3.3	ND	ND	ND					0.11 J	ND	ND		ND	ND				ND		ND		ND		ND		0.91		ND	2.1	ND
MW-45B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND	ND				ND				ND		ND		ND		0.25 J		ND		ND	ND	ND
MW-46A		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				0.23 J					0.2 J		0.2 J		0.31 J		ND		ND				
MW-46B						ND		ND		ND					ND				ND					ND		ND		ND		ND						
MW-47A	ND	0.81	3.5		ND	0.81	3.2	ND	ND	0.77 J	0.27 J								0.54					0.23 J		0.4 J		ND		ND				0.35 J	dry	
MW-47B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-48A								ND		ND														ND		ND		ND		ND		ND		ND		
MW-48B		ND		ND		ND		ND		ND	ND				ND									ND		ND		ND		ND		ND		ND		
MW-49A	ND		ND	ND		ND	ND	ND	ND	ND		ND			0.11 J		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49B	**6.8**	2.1	3.0	4.6	3.6	2.3	1.4	ND	ND	ND	0.60	0.89			0.43 J		0.87		0.51			0.55		0.26 J		0.24 J		ND		ND		ND		0.27 J		
MW-49C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39 J			ND		0.58		0.14 J			0.22 J		ND		ND		ND		ND		ND		ND		
MW-50A								ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50B		ND		ND		ND		ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50C								ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-52A		ND		ND		ND		ND	ND	ND	ND				0.32 J	ND	ND		ND					ND		ND		ND		ND		ND			ND	
MW-53		3.2	3.0	ND	ND	ND	0.71 J	0.4 J	ND	ND	0.72				0.31 J				0.35 J					0.32 J		0.37 J	0.42 J	0.3 J	0.3 J	ND	0.22 J	0.25 J			0.26 J	
MW-54		2.0	4.6	1.2	1.2	1.5	**5.1**	0.32 J	ND	0.80 J	0.42 J				0.44 J				0.35 J					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-55						ND		ND		ND					ND																					
MW-56A		ND		ND		ND		ND		ND					ND				ND					ND				ND								
MW-56B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND				ND				
MW-56C	ND	ND	ND	ND	ND	ND		ND		ND					ND									ND				ND								
MW-57C		ND		ND		ND		ND							ND									ND				ND								
MW-58A																																	ND	ND	ND	ND
MW-58B																																	ND	ND	ND	ND
MW-59A																																	ND	ND	dry	ND
MW-59B																																	0.61	0.35 J	ND	ND
MW-98-01A	ND	**11**	**9.5**	**38**	1.5	1.1	4.7	ND	1.5	4.9	0.55				2.2		1.8		**48**					**35**		3.0		3.8		**24**		4.9		2.6	0.91	**7.3**
MW-98-04	ND	ND	**18**	**20**	ND	**7.6**	0.68 J	ND	0.99 J	ND	0.36 J				**8.8**				**220**	**310**		**36**	2.7	**6.6**	1.6	2.1		**7.1**		**21**		2.3	**8.5**	1.6	2.4	2.7
MW-98-04B																																	ND	ND	ND	ND
MW-98-05A	**66**	**78**	**66**	**190**	**200**	**9.2**	**65**	ND	**37**	**190**	4.5		ND	**18**	**14**	0.16 J	**56**	**35**	**17**	**8.4**				**110**		**25**		**22**		**23**		**25**				
MW-98-05AR																																	**40**	**17**	**19**	**34**
MW-98-05B			1.4		ND	ND	ND	ND	ND	ND					ND			0.59	0.17 J	0.3 J				ND		ND		ND		ND		ND				
MW-98-05BR																																	ND	ND	ND	ND

TABLE 4

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWATER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF PCE DETECTED IN GROUNDWATER FROM MONITOR AND RECOVERY WELLS, ug/l

Monitor or Recovery Wells	Sample Dates																																			
	Mar-07	Oct-07	Mar-08	Sep-08	Mar-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	June-13 (6-12-2013)	Jun-13	Jul-13	Sep-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sep-15	Feb-16	Mar-16	Sep-16	Mar-17
N-1A						ND		ND		ND					ND				ND																	
N-1B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND				
N-2A						ND		ND		ND					ND				ND																	
N-2B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND				
N-9								ND		ND					ND																					
N-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				
N-17		ND		ND		ND		ND		ND					ND				ND																	
N-32					ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND	ND	ND	ND	ND
N-32B																																	ND	ND	ND	ND
N-37	ND	ND	ND	ND	ND	ND	ND		ND		ND				ND				ND					ND		ND		ND		ND		ND				
N-38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				
N-39	ND	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				

TABLE 5

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWTER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF TCA DETECTED IN GROUNDWATER FROM MONITOR WELLS AND RECOVERY WELL, ug/l

Monitor or Recovery Well	Sample Dates																																		
	Mar-07	Oct-07	Mar-08	Sep-08	Mar-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	June-13 (6-12-2013)	Jun-13	Jul-13	Sept-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sep-15	Feb-16	Mar-16	Sep-16	Mar-17
MW-B1		ND		ND		ND		ND		ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-B2										ND	ND				ND				ND					ND				ND								
MW-B3										ND	ND				ND				ND					ND				ND								
MW-B4										ND	ND				ND				ND					ND				ND							ND	
FRW-1	ND	**14**	**13**	ND	ND	ND	4.6	**5.7**	0.58 J	ND	0.24 J	1.0	3.1	4.8	**5.8**	3.5	3.9	**17**	**7.1**	4.4	1.8	3.5	0.5	0.58	1.3	0.37 J	0.37 J	ND	1.8	2.6	0.47 J	ND	0.28 J	2.6	0.20 J	0.82
FRW-2	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	0.13 J	0.37 J	0.43 J	0.51	ND	0.50	0.37 J	0.27 J	0.16 J	0.35 J	1.7	ND	0.47 J	0.20 J	ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND	ND
FRW-3	**18**	ND	1.3	ND	ND	ND	ND	1.8	ND	ND	ND	0.30 J	0.39 J	0.35 J	0.29 J	0.36 J	0.43 J	0.47 J	0.71	0.56	1.3	3.6	0.42 J	0.23 J	ND	0.50	ND	0.28 J	0.26 J	1.2 J	0.58	ND	0.23 J	ND	ND	ND
FRW-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14 J	0.16 J	0.21 J	0.21 J	ND	ND	ND	0.72	2.4	2.7	0.99	0.22 J	0.69	0.34 J	ND	ND	ND	0.52	ND	ND	ND	ND	ND J	ND	ND	ND
RW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND		
RW-2	**31**	1.2		2.4	1.9	ND	1.7	ND	ND	ND	0.11 J	0.26 J	0.23 J		0.25 J	0.30 J	0.24 J	0.26 J	0.32 J	0.24 J		0.28 J	ND	ND	ND	0.26 J	ND	ND	ND	ND	ND		0.22 J	0.32	ND	ND
RW-3	ND	ND	0.8 J	ND	1.3	ND	ND	ND	ND	ND	0.27 J	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND	ND	
RW-4	2.1	**10**	3.0	**6.0**	ND	ND	4.2	1.9	ND	2.7 J	3.6	3.6	2.6		2.2	2.3	2.1	2.0	2.4	2.7		3.8	1.3	ND	0.22 J	ND	ND	ND	ND	ND	ND	ND		ND	ND	
RW-5	ND	ND	ND	2.6	2.0	ND	2.6	ND	ND	1.1 J	0.12 J	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
RW-6	**8.4**	**11**	**6.1**	**6.5**	**6.5**	4.1	4.2	2.8	0.93 J	2.7 J	2.7	2.0	1.6		1.5	1.1	1.0	0.45 J	0.58	0.56		0.63	0.50	0.89	0.78	0.79	1.3	1.1	0.76	ND	0.38 J	0.32 J		ND	ND	
RW-7	2.7	2.8	1.1	ND	ND	ND	0.77	0.67 J	ND	--	0.29 J	0.21 J	ND		0.21 J	0.14 J	0.18 J	0.34 J	0.17 J	0.16 J		0.20 J	ND	ND	ND	0.21 J	0.25 J	ND	ND	0.46 J	0.40 J	1.0		1.1		
RW-8		2.0	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		0.62		ND		ND		
RW-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-28A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND	1.0		ND					ND		ND		ND		ND		ND		ND	ND	ND
MW-28B	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND					0.49 J	0.48 J		0.23 J					ND		ND		ND		ND		ND		ND	ND	ND
MW-42B	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND							ND	
MW-43A	ND						ND			**5.3**	**7.6**				**5.7**				0.54					0.87		1.1	0.72	0.47 J	ND	ND	0.43 J	ND			ND	
MW-43B	ND	ND	ND	ND	ND	ND	3.8	0.69 J	ND	1.1	1.2				ND				1.2					1.6		0.76	0.58	ND	ND	ND	ND	ND			ND	
MW-43C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-44A	4.8	1.9	**41**	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-44B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-44C	ND	ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-45A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND	ND	ND		ND	ND				ND		ND		ND		ND		ND		ND	ND	ND
MW-45B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND	ND				ND				ND		ND		ND		ND		ND		ND	ND	ND
MW-46A		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				
MW-46B						ND		ND		ND					ND				ND					ND		ND		ND		ND						
MW-47A	ND	ND	**6.7**		ND	ND	ND	ND	ND	ND	0.15 J								0.40 J					ND		ND		ND		ND				0.24 J	dry	
MW-47B				ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-48A								ND		ND														ND		ND		ND		ND		ND		ND		
MW-48B		ND		ND		ND		ND		ND	ND				ND									ND		ND		ND		ND		ND		ND		
MW-49A	ND		ND	ND		ND	ND	ND	ND	ND		ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-50A								ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50B		ND		ND		ND		ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50C								ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-52A		ND		ND		ND		ND	ND	ND	ND				ND	ND	ND		ND					ND		ND		ND		ND		ND			ND	
MW-53		**15**	**16**	**24**	**20**	**5.8**	**18**	**9.9**	2.0	**7.3**	4.2				3.5				0.80					1.6		1.3	1.1	0.70	0.71	ND	0.37 J	0.33 J			ND	
MW-54		ND	ND	**5.1**	2.4	3.4	4.1	4.0	0.77 J	2.7	1.2				2.1				1.9					0.37 J		ND	ND	ND	ND	ND	ND	ND			ND	
MW-55						ND		ND		ND					ND																					
MW-56A		ND		ND		ND		ND		ND					ND				ND					ND				ND								
MW-56B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND				ND				
MW-56C	ND	ND	ND	ND	ND	ND		ND		ND					ND									ND				ND								
MW-57C		ND		ND		ND		ND							ND									ND				ND								
MW-58A																																	ND	ND	ND	ND
MW-58B																																	ND	ND	ND	ND
MW-59A																																	ND	ND	dry	ND
MW-59B																																	ND	ND	ND	ND
MW-98-01A	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND				ND	ND	ND		2.0					1.1		ND		ND		0.57		ND		ND	ND	ND
MW-98-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				3.8	4.2		0.45 J	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	ND
MW-98-04B																																	ND	ND	ND	ND
MW-98-05A	**6.6**	ND	4.4	ND	ND	ND	3.4	ND	ND	ND	ND		ND	ND	ND		0.51	0.69	0.54	0.67				1.4		ND		ND		ND		ND				
MW-98-05AR																																	0.22 J	ND	ND	ND
MW-98-05B			ND		ND	ND	ND	ND	ND	ND	ND				ND			ND	ND	ND				ND		ND		ND		ND		0.23 J				
MW-98-05BR																																	ND	ND	ND	ND

TABLE 5

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWTER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF TCA DETECTED IN GROUNDWATER FROM MONITOR WELLS AND RECOVERY WELL, ug/l

Monitor or Recovery Well	Sample Dates																																		
	Mar-07	Oct-07	Mar-08	Sep-08	Mar-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	June-13 (6-12-2013)	Jun-13	Jul-13	Sept-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sep-15	Feb-16	Mar-16	Sep-16	Mar-17
N-1A						ND		ND		ND					ND				ND																	
N-1B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND				
N-2A						ND		ND		ND					ND				ND																	
N-2B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND				
N-9								ND		ND					ND																					
N-16	ND	ND	2.8	ND	ND	ND	2.8	4.1	ND	ND	ND				ND				ND					ND		0.33 J		0.51		ND		0.26 J				
N-17		ND		ND		ND		ND		ND					ND				ND																	
N-32					ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND	ND	ND	ND	ND
N-32B																																	ND	ND	ND	ND
N-37	ND	ND	ND	ND	ND	ND	ND		ND						ND				ND					ND		ND		ND		ND		ND				
N-38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND				ND					ND		ND		ND		ND		ND				
N-39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND				ND					ND		ND		ND		ND		ND				

*
**DBS – Sample collected using diffusive bag sample method
*** Collected after 4 hours of pumping during execution of Initial Testing Plan

TABLE 6

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWATER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF TCE DETECTED IN GROUNDWATER FROM MONITOR WELLS AND RECOVERY WELLS, ug/l

Monitor or Recovery Wells	Sample Dates																																		
	Mar-07	Oct-07	Mar-08	Sep-08	Mar-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	Jun-13 (6-12-2013)	Jun-13	Jul-13	Sep-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sept-15	Feb-16	Mar-16	Sep-16	Mar-17
MW-B1		ND		ND		ND		ND		ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-B2										ND	ND				ND				ND					ND				ND								
MW-B3										ND	ND				ND				ND					ND				ND								
MW-B4										ND	ND				ND				ND					ND				ND							ND	
FRW-1	ND	**7.8**	**110**	ND	2.4	ND	1.2	3.1	ND	ND	1.0	3.7	**15**	**38**	**39**	**10**	**29**	**25**	**48**	**42**	3.1	4.8	**6.2**	4.1	4.4	2.1	**6.3**	1.5	3.4	1.3	0.89	0.54	**5.3**	3.8	0.81	3.9
FRW-2	ND	ND	**10**	**19**	ND	ND	1.7	**18**	ND	1.4 J	1.8	0.83	**8.5**	**9.8**	**13**	**11**	**13**	1.7	1.2	1.4	2.7	**9.8**	3.1	2.2	**6.0**	1.9	0.86	2.8	2.1	2.6	ND	1.1	3.3	1.8	1.2	1.0
FRW-3	**16**	**20**	**23**	**6.6**	**10**	**12**	3.2	**12**	2.6	1.5 J	1.1	2.5	**8.2**	**6.6**	4.6	**8.8**	**10**	**7.7**	**7.8**	0.31 J	**6.9**	**18**	**10**	3.1	3.6	**8.0**	**7.9**	**5.6**	2.5	**13**	3.2	2.5	4.1	**7.1**	1.4	**5.7**
FRW-4	ND	ND	**0.99J**	ND	ND	ND	ND	4.5	ND	0.99 J	1.2	1.6	0.86	0.64	0.33 J	ND	0.13 J	1.9	**8.8**	**11**	**7.5**	2.1	4.9	2.7	1.6	1.7	1.7	1.2	0.36 J	2.1	ND	ND	0.68	1.1	0.48 J	0.60
RW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND		
RW-2	ND	ND		ND	ND	ND	ND	ND	ND	ND	0.16 J	0.21 J	0.21 J		0.25 J	0.34 J	0.66	0.71	0.54	0.45 J		0.51	0.54	1.0	0.79	0.63	0.24 J	ND	0.31 J	ND	ND		0.63	0.67	ND	0.47 J
RW-3	ND	ND	2.2	ND	2.5	ND	1.4	0.63 J	ND	0.93 J	0.81	ND	ND		ND	ND	0.18 J		ND			ND		ND		ND		ND		0.21 J		ND		ND	ND	
RW-4	ND	1.1	**0.57J**	ND	ND	ND	ND	ND	ND	ND	0.18 J	0.13 J	0.11 J		0.15 J	0.11 J	0.14 J	0.25 J	ND	0.15 J		ND	ND	0.25 J	ND	ND	0.69	ND	ND	ND	2.6	0.90		0.27 J	ND	
RW-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
RW-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12 J	0.13 J	0.11 J		0.13 J	0.12 J	0.1 J	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	
RW-7	ND	0.73	ND	ND	ND	ND	ND	ND	ND		0.12 J	ND	ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		
RW-8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
RW-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-28A	ND	ND	ND	**13**	ND	ND	ND	ND	ND	ND	ND					ND	ND		0.34 J					2.8		ND		ND		ND		ND		ND	ND	ND
MW-28B	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND					0.49 J	0.49 J		0.19 J					ND		0.22 J		ND		ND		ND		ND	ND	ND
MW-42B	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND							ND	
MW-43A	ND						ND			ND	0.16 J				0.22 J				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-43B	ND	ND	ND	ND	ND	ND	2.8	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-43C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-44A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-44B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-44C	ND	ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-45A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND	ND	ND		ND	ND				ND		ND		ND		ND		ND		ND	ND	ND
MW-45B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND	ND				ND				ND		ND		ND		ND		ND		ND	ND	ND
MW-46A		0.59	ND	ND	ND	ND	ND	ND	ND	ND	0.24 J				ND				0.15 J					0.27 J		ND		ND		ND		ND				
MW-46B						ND		ND		ND					ND				ND					ND		ND		ND		ND						
MW-47A		0.97	**14**		ND	ND	2.8	ND	ND	1.7 J	0.77								1.4					0.44 J		0.76		ND		ND				0.52	dry	
MW-47B				ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-48A								ND		ND														ND		ND		ND		ND		ND		ND		
MW-48B		ND		ND		ND		ND		ND	ND				ND									ND		ND		ND		ND		ND		ND		
MW-49A	ND		ND	ND		ND	ND	ND	ND	ND		ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND		0.1 J		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND				ND			ND		ND		ND		ND		ND		ND		ND		
MW-50A								ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50B		ND		ND		ND		ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50C								ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-52A		ND		ND		ND		ND	ND	ND	ND				ND	ND	ND		ND					ND		ND		ND		ND		ND			ND	
MW-53		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND		ND			ND	
MW-54		ND	ND	ND	ND	ND	2.6	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND		ND			ND	
MW-55						ND		ND		ND					ND																					
MW-56A		ND		ND		ND		ND		ND					ND				ND					ND				ND								
MW-56B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND				ND				
MW-56C	ND	ND	ND	ND	ND	ND		ND		ND					ND				ND					ND				ND								
MW-57C		ND		ND		ND		ND							ND									ND				ND								
MW-58A																																	ND	ND	ND	ND
MW-58B																																	ND	ND	ND	ND
MW-59A																																	ND	ND	dry	ND
MW-59B																																	ND	ND	ND	ND
MW-98-01A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND		0.11 J		0.85					0.27 J		ND		ND		ND		ND		ND	ND	ND
MW-98-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				0.13 J				**31**	**8.5**		0.85	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	ND
MW-98-04B																																	ND		ND	ND
MW-98-05A	**15**	**26**	**9.5**	**11**	1.8	1.1	**6.2**	ND	3.1	3.8 J	0.48 J		ND	2.6	2.4	0.33 J	**5.7**	**8.5**	2.0	3.7				**23**		3.9		1.9		**6.1**		ND				
MW-98-05AR																																	0.33 J	0.53	0.75	ND
MW-98-05B			ND		ND	ND	ND	ND	ND	ND					0.21 J			0.48 J	0.26 J	0.75				ND		ND		ND		ND		2.0				
MW-98-05BR																																	ND	ND	ND	ND

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TABLE 6

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWATER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF TCE DETECTED IN GROUNDWATER FROM MONITOR WELLS AND RECOVERY WELLS, ug/l

Monitor or Recovery Wells	Sample Dates																																		
	Mar-07	Oct-07	Mar-08	Sep-08	Mar-09	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	Jun-13 (6-12-2013)	Jun-13	Jul-13	Sep-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sept-15	Feb-16	Mar-16	Sep-16	Mar-17
N-1A						ND		ND		ND					ND				ND																	
N-1B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND				
N-2A						ND		ND		ND					ND				ND																	
N-2B		ND		ND		ND		ND		ND					ND				ND					ND		ND		ND		ND		ND				
N-9								ND		ND					ND																					
N-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				
N-17		ND		ND		ND		ND		ND					ND				ND																	
N-32					ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND	ND	ND	ND	ND
N-32B																																	ND	ND	ND	ND
N-37	ND	ND	ND	ND	ND	ND	ND		ND		ND				ND				ND					ND		ND		ND		ND		ND				
N-38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				
N-39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					ND				0.12 J					ND		ND		0.49 J		0.47 J		0.77				

TABLE 7

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWATER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

CURRENT AND HISTORIC CONCENTRATIONS OF cisDCE ~~DETECTED IN GROUNDWATER~~ FROM MONITOR AND RECOVERY WELLS, ug/l

Monitor or Recovery Wells	Sample Dates																																		
	Mar-07	Oct-07	Mar-08	Sep-08	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13	June-13 (6-12-2013)	Jun-13	Jul-13	Sep-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sep-15	Feb-16	Mar-16	Sep-16	Mar-17
MW-B1				ND	ND		ND		ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-B2									ND	ND				ND				ND					ND				ND								
MW-B3									ND	ND				ND				ND					ND				ND								
MW-B4										ND				ND				ND					ND				ND							ND	
FRW-1	**620**	**10**	**43**	ND	ND	**8.3**	**79**	ND	ND	3.0	**10**	**150**	**130**	**170**	**190**	**60**	**15**	**110**	**290**	**6.1**	**8.7**	**27**	**110**	**11**	**8.6**	4.5	**12**	**5.8**	1.2	1.9	1.6	**5.9**	**7.9**	1.6	**6.3**
FRW-2	**180**	**12**	**73**	**110**	0.62	**14**	**34**	2.9	1.4	4.6	0.32 J	**87**	**68**	**42**	**25**	**51**	**70**	**69**	**47**	**22**	**14**	**17**	**160**	**16**	**15**	0.34 J	**15**	0.77	**13**	ND	0.35 J	**5.2**	1.2	0.39 J	0.52
FRW-3	**110**	**11**	**160**	**8.4**	**50**	**19**	**62**	**17**	2.4	4.0	2.9	**41**	**34**	**45**	**37**	**25**	**69**	**120**	**370**	**46**	**70**	**35**	**21**	**10**	**37**	**13**	**27**	2.0	**81**	**5.1**	**10**	**23**	**29**	2.2	**20**
FRW-4	ND	ND	ND	ND	ND	ND	0.52	ND	3.1	**6.8**	2.4	**19**	**21**	**25**	**14**	1.1	2.4	**43**	**39**	**9.3**	3.0	4.9	4.1	**7.5**	1.2	4.3	**11**	2.9	3.1	ND	0.61	4.4	**5.4**	3.8	2.2
RW-1	ND		ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND		
RW-2	ND	0.65		ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	0.70	0.57	0.81	0.59		0.39 J	0.61	2.1	1.8	0.70	0.54	0.51	ND	ND	ND		ND	ND	ND	ND
RW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND	ND	
RW-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28 J	1.7		ND	ND	
RW-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
RW-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	0.28 J	0.54	ND	ND	ND	ND	ND		ND	ND	
RW-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		
RW-8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
RW-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-28A	ND	ND	ND	**24**	ND	ND	ND	ND	ND	ND					ND	ND		1.7					**34**		ND		ND		ND		ND		ND	ND	0.73
MW-28B	ND		ND	ND	ND	ND	ND	ND	ND	ND					ND	ND		ND					ND		ND		ND		ND		ND		ND	ND	ND
MW-42B	ND	ND		ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND							ND	
MW-43A	ND					ND			ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-43B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-43C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-44A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-44B	ND		ND	ND	ND		ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-44C	ND	ND		ND	ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-45A	ND		ND	ND	ND	ND	ND	ND	ND					ND	ND	ND		ND	ND				ND		ND		ND		ND		ND		ND	ND	ND
MW-45B	ND		ND	ND	ND	ND	ND	ND	ND	ND				ND	ND	ND			ND				ND		ND		ND		ND		ND		ND	ND	ND
MW-46A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND		ND				
MW-46B					ND		ND		ND					ND				ND					ND		ND		ND		ND						
MW-47A		ND	ND		ND	ND	ND	ND	ND	ND				ND				ND					ND		ND		ND		ND				ND	dry	
MW-47B				ND	ND		ND		ND					ND				ND					ND		ND		ND		ND		ND		ND	ND	
MW-48A							ND		ND														ND		ND		ND		ND		ND		ND		
MW-48B		ND		ND	ND		ND		ND	ND				ND									ND		ND		ND		ND		ND		ND		
MW-49A	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-49C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND		ND		ND			ND		ND		ND		ND		ND		ND		ND		
MW-50A							ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50B		ND		ND	ND		ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-50C							ND		ND					ND									ND		ND		ND		ND		ND		ND		
MW-52A		ND		ND	ND		ND	ND	ND	ND				ND	ND	ND		ND					ND		ND		ND		ND		ND			ND	
MW-53		ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-54		ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND					ND		ND	ND	ND	ND	ND	ND	ND			ND	
MW-55					ND		ND		ND					ND																					
MW-56A		ND		ND	ND		ND		ND					ND				ND					ND				ND								
MW-56B	ND	ND		ND	ND	ND	ND	ND	ND	ND				ND				ND					ND				ND				ND				
MW-56C	ND	ND	ND	ND	ND	ND	ND		ND					ND				ND					ND				ND								
MW-57A					ND																														
MW-57B		ND		ND	ND		ND																												
MW-57C		ND		ND	ND		ND							ND									ND				ND								
MW-58A																																	ND	ND	ND
MW-58B																																	ND	ND	ND
MW-59A																																	ND	dry	ND
MW-59B																																	ND	ND	ND

TABLE 7

SUMMARY REPORT FOR SEPTEMBER 2016 SEMI-ANNUAL GROUNDWATER SAMPLING
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

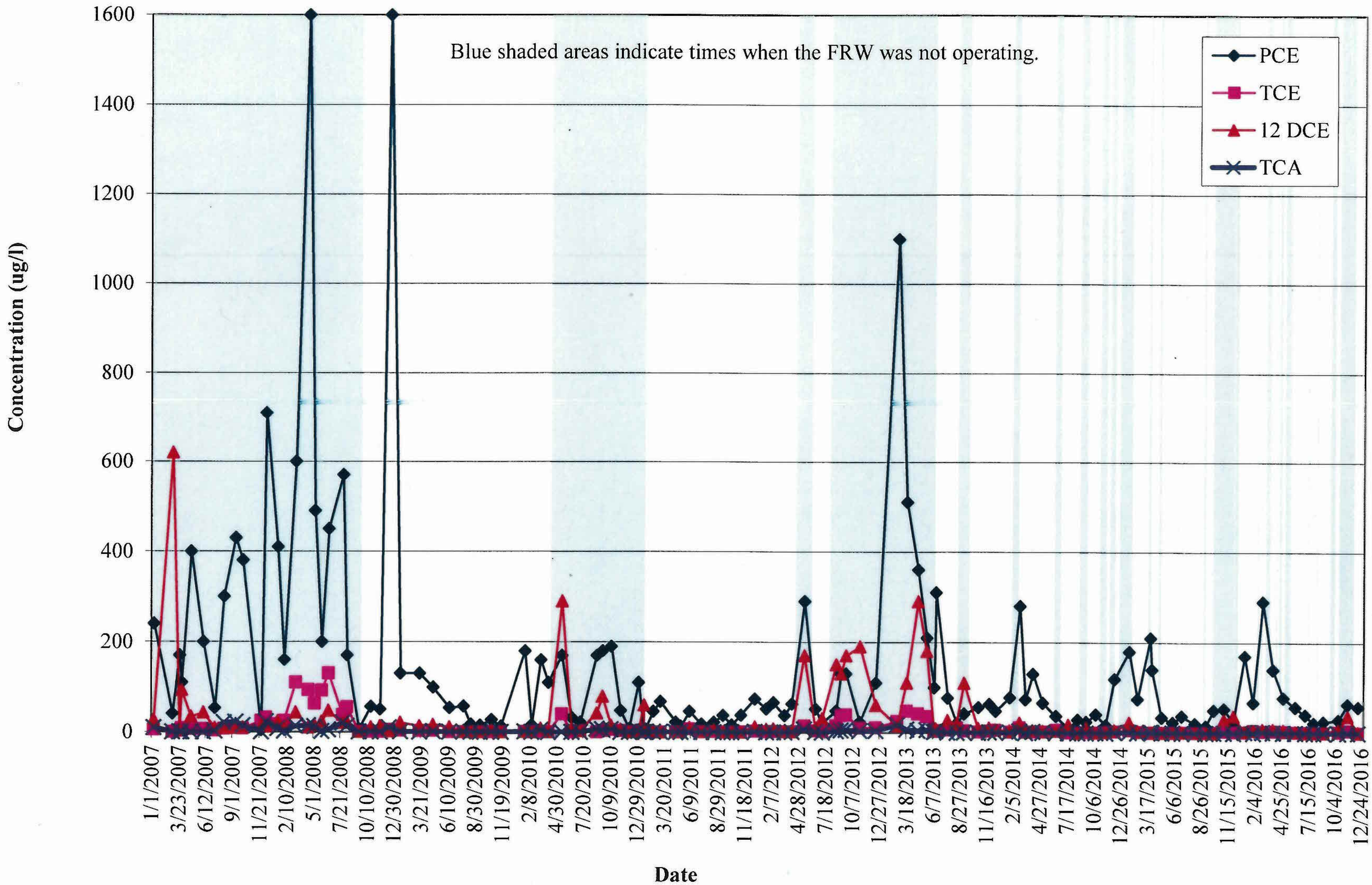
CURRENT AND HISTORIC CONCENTRATIONS OF cisDCE ~~DETECTED IN GROUNDWATER~~ FROM MONITOR AND RECOVERY WELLS, ug/l

Monitor or Recovery Wells	Sample Dates																		
	Mar-07	Oct-07	Mar-08	Sep-08	Sep-09	Mar-10	Sep-10	Mar-11	Sep-11	Mar-12	Jun-12	Aug-12	Sep 4, 2012	Sep-12	Oct-12	Dec-12	Feb-13	Mar-13	Apr-13
MW-98-01A	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND				ND		0.11 J		0.57	
MW-98-04	ND	ND	ND	3.2	ND	ND	ND	ND	ND	ND				ND				**68**	**7.0**
MW-98-04B																			
MW-98-05A	**72**	**140**	**59**	**63**	3.8	**9.8**	**41**	4.8	1.0	0.4 J		ND	**5.0**	4.8	0.15 J	**11**	**56**	**59**	**160**
MW-98-05AR																			
MW-98-05B			. ND		ND	ND	ND	ND	ND	0.19 J				0.13 J			0.42 J	0.59	0.49 J
MW-98-05BR																			
N-1A					ND		ND		ND					ND				ND	
N-1B		ND		ND	ND		ND		ND					ND				ND	
N-2A					ND		ND		ND					ND				ND	
N-2B		ND		ND	ND		ND		ND					ND				ND	
N-9							ND		ND					ND					
N-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND	
N-17		ND		ND	ND		ND		ND					ND				ND	
N-32					ND	ND	ND	ND	ND	ND				ND				ND	
N-32B																			
N-37	ND	ND	ND		ND	ND		ND		ND				ND				ND	
N-38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				ND				ND	
N-39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				0.13 J				ND	

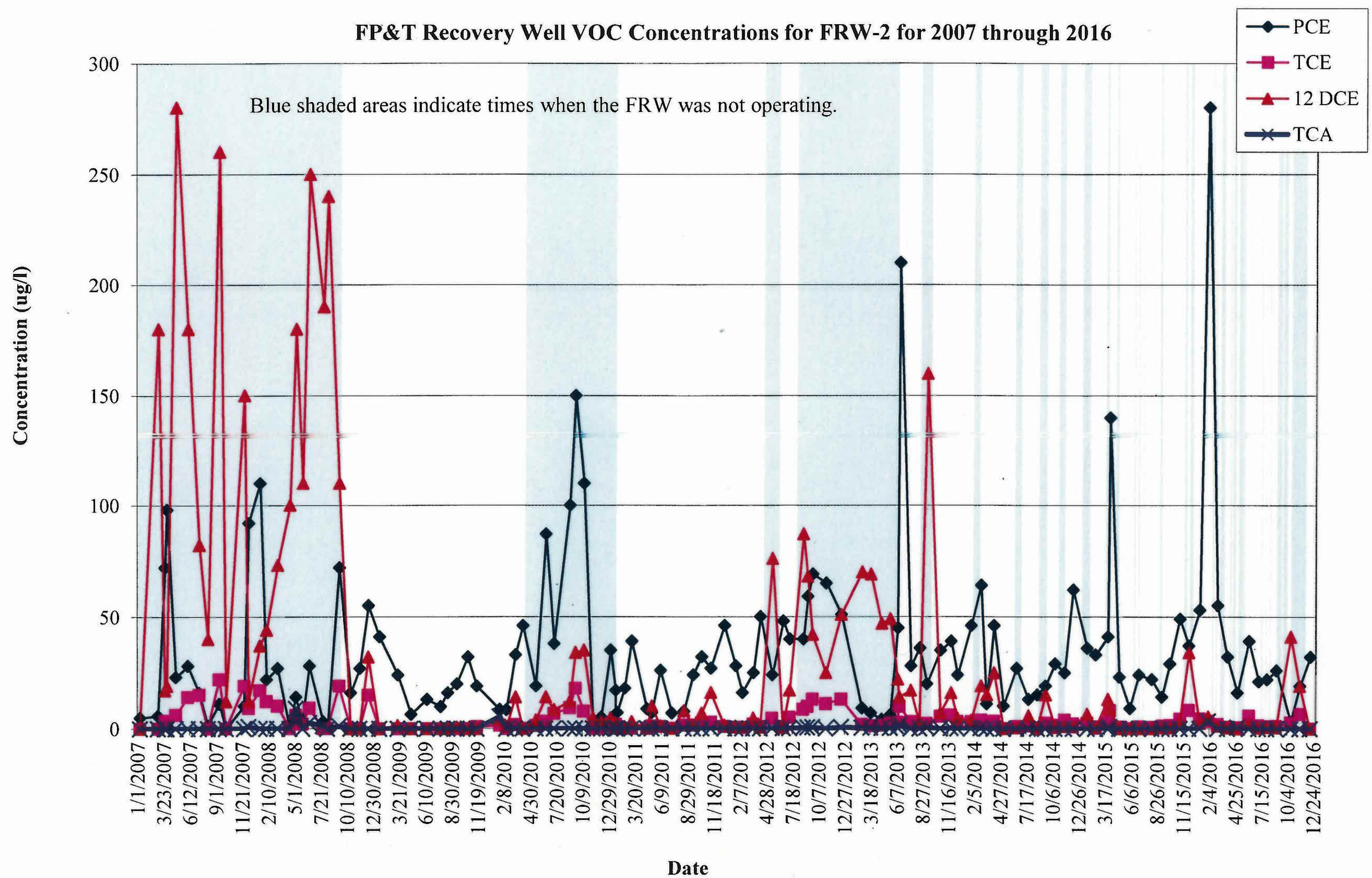
Monitor or Recovery Wells	Sample Dates															
	June-13 (6-12-2013)	Jun-13	Jul-13	Sep-13	Nov-13	Mar-14	Jun-14	Sept-14	Dec-14	Mar-15	Jun-15	Sep-15	Feb-16	Mar-16	Sep-16	Mar-17
MW-98-01A				0.79		ND		ND		ND		ND		ND	ND	ND
MW-98-04		1.1	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	ND
MW-98-04B													ND	ND	ND	ND
MW-98-05A				**120**		**32**		2.0		**28**		ND				
MW-98-05AR													ND	0.32 J	ND	ND
MW-98-05B				0.43 J		ND		ND		ND		1.1	ND	ND		
MW-98-05BR														ND	ND	ND
N-1A																
N-1B				ND		ND		ND		ND		ND				
N-2A																
N-2B				ND		ND		ND		ND		ND				
N-9																
N-16				ND		ND		ND		ND		ND				
N-17																
N-32				ND		ND		ND		ND		ND	ND	ND	ND	ND
N-32B													ND	ND	ND	ND
N-37				ND		ND		ND		ND		ND				
N-38				ND		ND		ND		ND		ND				
N-39				ND		ND		ND		ND		ND				

GRAPH #1
2016 ANNUAL SUMMARY REPORT
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

FP&T Recovery Well VOC Concentrations for FRW-1 for 2007 through 2016



GRAPH 12
2016 ANNUAL SUMMARY REPORT
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

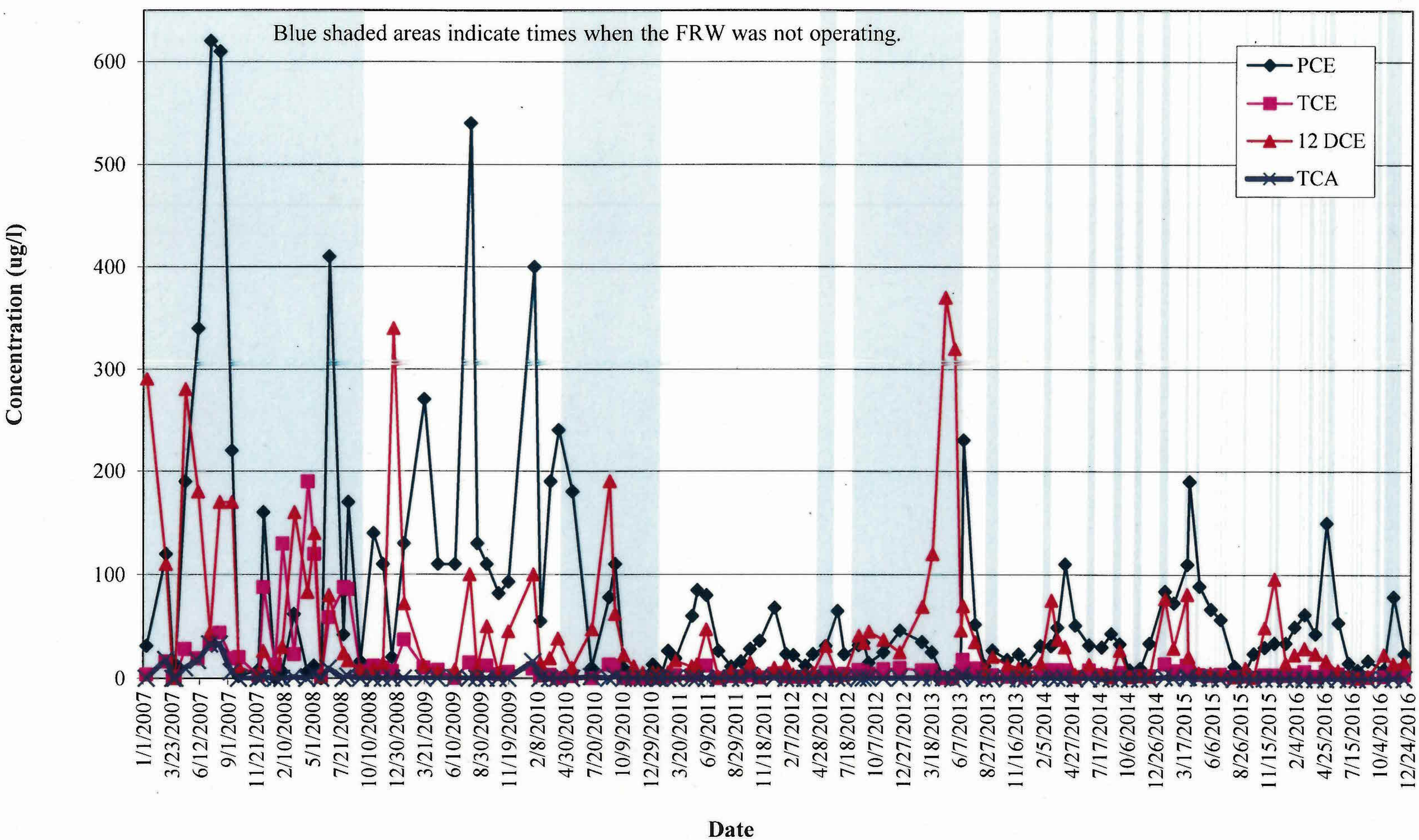


K:\Jobs\Kraft Foods Global, Inc\ROWE Industries\Ground Water\O&M\FSP&T\Annual Reports\2016 Annual Report\Graphs\
FP&T Graphs 5,7,9,11.xlsx
Graph 7 FRW-2 (Hist)

LBG ENGINEERING SERVICES, P.C.

GRAPH #3
2016 ANNUAL SUMMARY REPORT
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK

FP&T Recovery Well VOC Concentrations for FRW-3 for 2007 through 2016



K:\Jobs\Kraft Foods Global, Inc\ROWE Industries\Ground Water\O&M\FSP&T\Annual Reports\2016 Annual Report\Graphs\
FP&T Graphs 5,7,9,11.xlsx
Graph 9 FRW-3 (Hist)

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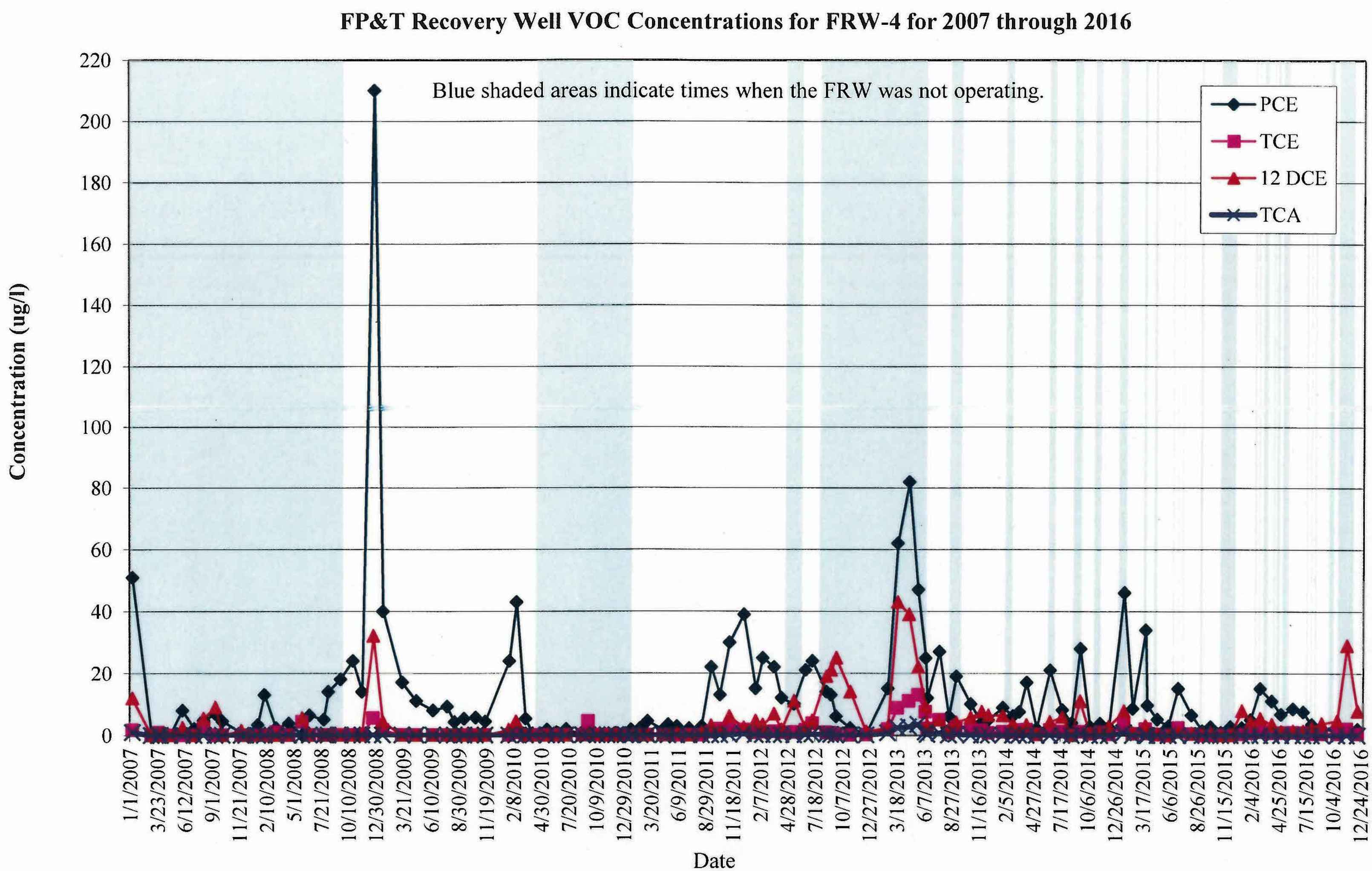
GRAPH 4
2016 ANNUAL SUMMARY REPORT
FORMER ROWE INDUSTRIES SUPERFUND SITE
1668 SAG HARBOR TURNPIKE
SAG HARBOR, NEW YORK



K:\Jobs\Kraft Foods Global, Inc\ROWE Industries\Ground Water\O&M\FSP&T\Annual Reports\2016 Annual Report\Graphs\
FP&T Graphs 5,7,9,11.xlsx
Graph 11 FRW-4 (Hist)

LBG ENGINEERING SERVICES, P.C.

APPENDIX A – REFERENCE LIST

Documents, Data, and Information Reviewed in Completing the Five-Year Review	
Document Title, Author	**Submittal Date**
Remedial Investigation/Feasibility Study, Leggette, Brashears & Graham, Inc.	1992
Record of Decision, EPA	1992
Final Design Reports for Soil and Groundwater, Leggette, Brashears & Graham Inc.	1997 and 2001
Occurrence and Significance of a Clay Lens Beneath the Water Table in the Vicinity of the Former Drum Storage Area, Leggette, Brashears & Graham, Inc.	1999
Recovery Well Installation Report, Leggette, Brashears & Graham, Inc.	2000
Operation and Maintenance Monitoring Manual, Leggette, Brashears & Graham, Inc.	2001
Focused Pump & Treat Operation Summary, Leggette, Brashears & Graham, Inc.	2001
Preliminary Close-Out Report, EPA	2003
Post-Closure Monthly Groundwater Quality Monitoring Reports, Leggette, Brashears & Graham, Inc.	2012 - 2017
2012 Annual Summary Report, Leggette, Brashears & Graham, Inc	2012
2013 Annual Summary Report, Leggette, Brashears & Graham, Inc	2013
2014 Annual Summary Report, Leggette, Brashears & Graham, Inc	2014
2015 Annual Summary Report, Leggette, Brashears & Graham, Inc	2015
2016 Annual Summary Report, Leggette, Brashears & Graham, Inc	2016
Characterization of the Saturated Zone in the Former Drum Storage Area, Leggette, Brashears & Graham, Inc.	2017
Semi-Annual/ Annual Groundwater Quality Update, Leggette, Brashears & Graham, Inc.	2017
Work Plan for Proposed FDSA Monitoring	2018
EPA guidance for conducting five-year reviews and other guidance and regulations to determine if any new Applicable or Relevant and Appropriate Requirements relating to the protectiveness of the remedy have been developed since EPA issued the ROD.	2012

APPENDIX B – Chronology of Site Events

Chronology of Site Events	
Event	**Date(s)**
Discovery of contaminated groundwater	1983
EPA action to connect residences to the public water supply	1985
Site added to the National Priorities List	1987
Administrative Order on Consent to Potentially Responsible Parties by EPA	1988
Remedial Investigation/ Feasibility Study	1988-1992
Record of Decision	1992
Consent Decree supersedes Administrative Order on consent	1994
Remedial Design	1994-2001
Explanation of Significant Differences	1997
Explanation of Significant Differences (May)	2001
Explanation of Significant Differences (December)	2001
Groundwater Remedial Action Commences	2000
Soil Remedial Action	1997-2003
Preliminary Close-Out Report	2003
Groundwater Remedial Action Report	2003
Soil Remedial Action Report	2005
First Five-Year Review	2008
Second Five-Year Review	2013

APPENDIX C - Remedy Implementation History

Remedy Implementation

Beginning in late 1997, Leggette, Brashears & Graham, Inc., the PRPs' contractor, oversaw the implementation of the soil and groundwater remedies.

Contaminated Soils and Dry Wells

The contaminated soils associated with the former drum storage area spanned a portion of the parking lot behind the facility and two adjacent residential properties. Site construction work commenced in late 1997, with the installation of six SVE wells (10-foot-long screens starting at depths ranging from 4-17 feet below the surface) into the unsaturated soils and associated piping beneath the parking lot. In April 1998, 230 cubic yards of VOC-contaminated soils located on the adjacent residential properties were excavated to a depth of four feet. In May 1998, 9 SVE wells and associated piping were installed on the adjacent residential properties within the former drum storage area[3]. Subsequently, a 40-mil high density polyethylene vapor barrier was installed at the bottom of the four-foot excavation, followed by clean fill and top soil. Disturbed areas of the site were subsequently seeded and a number of pine trees were planted to provide a privacy hedge between the two affected residents' properties and the plant grounds.

An ex-situ treatment system, consisting of a soil impoundment containing SVE-piping underlain with a 40-mil high density polyethylene liner was constructed adjacent to the excavation area behind the facility. The excavated soil was placed within the treatment system and sealed with high density polyethylene. Soil vapors were extracted from the system and piped through two 1,250-pound carbon units in series. The SVE system in the soil impoundment operated from January 28, 1999 to March 11, 1999. On April 8, 1999, 22 soil samples were collected from the excavated soils within the soil impoundment and analyzed to determine if sufficient VOCs had been removed prior to off-site disposal. The soils were disposed of at an off-site landfill in mid-1999 and the soil impoundment was subsequently dismantled.

The three dry wells were pumped out in June 1998 and their contents were disposed of off-site. Approximately 120 cubic yards of contaminated soil in the vicinity of a broken pipe leading to a fourth dry well (the contents were not contaminated) were excavated in February 2003 and disposed of off-site.

The in-situ SVE system was started up in December 1998. Various pairs of SVE wells were run in cycles so that the VOC vapors in the unsaturated soils were extracted from all directions and pumped through the two carbon units. In October 2000, twenty-eight soil borings were drilled to collect 38 soil samples from the treated soils. Soil analyses revealed that while the majority of the soil had been remediated, seven samples within a 300-square-foot section of the former drum storage area remained contaminated above the New York State Technical and Administrative Guidance Memorandum (TAGM) objectives ranging from 3,100 micrograms per kilogram (µg/kg) to 4,200,000 µg/kg for PCE. The SVE system was restarted using a single SVE well which was run in a pulsed fashion (two weeks on and one week off) from mid-

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[3] Air sparge wells to assist the removal of the VOCs from the contaminant plume were installed into the saturated soils under the parking lot behind the facility and the two adjacent residential properties concurrently with the installation of the SVE wells in the unsaturated soils. Details related to this effort are discussed in the "Groundwater Remediation" section, below.

December 2000 to April 2002 in order to address the remaining hot spot. A second round of soil confirmation samples was collected in April 2002. Analyses of twenty-three soil samples revealed that the SVE system continued to remediate the unsaturated soils, with only five samples containing VOC concentrations that exceeded the TAGM objectives, ranging from 3,400 µg/kg to 5,300 µg/kg PCE. The SVE system was restarted in June 2002 to complete the remediation of the unsaturated soils within the former drum storage area. A third round of confirmation samples was collected in January 2003. Analyses of nine soil samples revealed that the SVE system continued to remediate the unsaturated soils, with only three samples containing VOC concentrations exceeding the TAGM objectives, ranging from 1,800 µg/kg to 21,000 µg/kg PCE. It was determined that these three soil samples were located within the saturated zone much of the year due to the seasonal fluctuation of the groundwater table. A bioremediation pilot (see the “System Operations/Operation and Maintenance” section, below) was used in an attempt to address the contamination in this area in November 2004. This area is being addressed by the continued operation of the full-scale groundwater extraction and treatment system. Following the conclusion that all of the soils within the unsaturated zone had been successfully remediated by the SVE system (approximately 690 pounds of VOCs were removed), a Remedial Action (RA) Report for the soil was approved in March 2005.

Groundwater Remediation

The groundwater extraction and treatment system construction began in 1996. The groundwater extraction system consists of nine recovery wells. The groundwater treatment system consists of influent equalization, pre-filtration using a series of three stations of eight bag filters, and air stripping with discharge of the treated effluent to two 50- by 150-foot recharge basins. The VOC-contaminated air stream generated by the air stripping is being treated with activated carbon before being released to the atmosphere. The air stripper tower has been equipped with an acid backwash system for maintenance associated with tower fouling. The design flow is 535 gallons per minute. The system became operational on December 17, 2002.

Eleven air sparge wells to assist the removal of the VOCs from the contaminant plume were installed in the former drum storage area; two on the plant grounds and nine on the adjacent residential yards. The air sparge wells, which had two-foot screens, ranged in depth from 30 to 50 feet into the saturated soils. The air sparge wells were activated in February 2003 and decommissioned in December 2004.

Prior to the installation of the SVE and air sparge wells within the former drum storage area, four geoprobe borings were drilled to determine the bottom elevation of the plume for proper placement of the air sparge wells. This investigation revealed the existence of a clay lens located approximately seven feet below the water table. The clay locally impedes vertical groundwater flow and contaminant transport. An order-of-magnitude difference between the analytical results of groundwater samples collected above and below the clay lens near the top of the saturated soils indicated that the clay lens was retaining VOCs, possibly due to its concave shape. In October 2000, four small focused recovery wells (FRWs) and below grade piping were installed in this area in order to perform “focused remediation” of the groundwater within the former drum storage area. The four wells were designed to pump at a variable flow rate averaging about 47 gallons per minute. The groundwater was pumped into a 425-gallon equalization tank before being sent through two 1,000-pound carbon units placed in series. The treated water was then piped into an existing on-site pond. The system began operation in March 2001, operated until December 2003. The FRWs were connected to the full-scale pump and treatment system, eliminating the previously used carbon units and discharge to the on-site pond and restarted in September 2008. With the exception of a shutdown from July 2012 through June 2013 and very limited shutdowns for maintenance purposes, the FRW system continues to run.

A Preliminary Closeout Report (PCOR) was approved in February 2003. An interim RA Report for the groundwater was approved in September 2003.