



# **ELECTRONIC REPORT SUBMITTAL**

**Piedmont Regional Office**

**PC#: 2015-4105**

**Site Name: Old Oaks Neighborhood**

**Phase: Post SCR Monitoring**

**Case Manager Name: Valerie McGee**

**Date Submitted: 5/15/2017**



## POST-SITE CHARACTERIZATION MONITORING REPORT

**Old Oaks Neighborhood  
Crozier, Goochland County, Virginia  
PC # 2015-4105**

### Submitted To:

Ms. Valerie McGee  
Commonwealth of Virginia  
Department of Environmental Quality  
Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, Virginia 23060

### Prepared By:

Apex Companies, LLC  
203 Wylderose Court  
Midlothian, Virginia 23113

Apex Job Number: 757004.001  
State Lead Contract# 15-01-CP-01  
May 15, 2017

Prepared By:

Handwritten signature of Michael G. May Jr.

---

Michael G. May Jr.  
Assistant Project Manager

Reviewed By:

Handwritten signature of Mark V. Ryland.

---

Mark V. Ryland  
Project Manager

Reviewed By:

Handwritten signature of Christopher L. Cheatham.

---

Christopher L. Cheatham, PE  
Program Manager

## ***EXECUTIVE SUMMARY***

Apex Companies, LLC (Apex) has completed this Post-Site Characterization Monitoring Report (PSCMR) associated with a release of gasoline from an unknown source in the Old Oaks Neighborhood located in Crozier, Goochland County, Virginia (site). A release of gasoline was suspected following the detection of petroleum constituents in the supply well serving the Monger residence, addressed as 1489 Old Oaks Lane. The source of the release is currently unknown. The release was reported to the Commonwealth of Virginia Department of Environmental Quality (DEQ) Piedmont Regional Office (PRO) on September 19, 2014 and is being addressed under pollution complaint (PC) number 2015-4105.

In accordance with DEQ directives, Apex performed PSCMR activities including monitoring well gauging and free product recovery. Measureable free-phase petroleum was detected in three monitoring wells and at a maximum thickness of 0.09 feet in MW-12 during this phase. Approximately 0.03 gallons of free product was recovered via hand bailing and placed in a 55-gallon drum staged onsite.

Based on the current dissolved-phase petroleum concentrations and surrounding residences' sole dependence on groundwater for potable purposes, risk to additional private water supplies is considered possible. DEQ, in cooperation with Goochland County Public Utilities and Aqua-VA, is currently planning a proposed extension of the existing Aqua-VA public water line utility along River Road West to connect all at-risk and willing residents along Cardwell Road and Old Oaks Lane. At this time, Apex recommends a fracture trace analysis to identify potential migration pathways from the Keith property which may have impacted the Old Oaks neighborhood. Additionally, Apex recommends continued gauging and sampling of monitoring wells, supply well sampling, and free product recovery as necessary. Pending the results of the fracture trace analysis, Apex recommends the development of a Corrective Action Plan to address source area remediation on the Keith property. This PSCMR was prepared in accordance with DEQ PRO directives and the approved scope of work.

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	i
<b>1.0 INTRODUCTION</b> .....	1
<b>2.0 BACKGROUND</b> .....	1
<b>3.0 SITE DESCRIPTION</b> .....	5
<b>4.0 GROUNDWATER MONITORING</b> .....	6
4.1 Groundwater Gauging .....	6
4.2 Free Product Recovery .....	6
<b>5.0 SUMMARY</b> .....	7

### List of Figures

<i>Figure 1.</i>	<i>Site Location Map</i>
<i>Figure 2.</i>	<i>Site Plan</i>
<i>Figure 3.</i>	<i>Water Table Gradient Map (3/13/2017)</i>

### List of Tables

<i>Table 1.</i>	<i>Current and Historical Groundwater Elevation Data</i>
-----------------	--

### List of Appendices

<i>Appendix A</i>	<i>Apex Field Notes</i>
-------------------	-------------------------

## 1.0 INTRODUCTION

Apex Companies, LLC (Apex) has completed this Post-Site Characterization Monitoring Report (PSCMR) associated with a release of gasoline from an unknown source in the Old Oaks Neighborhood located in Crozier, Goochland County, Virginia (site). The site location is depicted on Figure 1. A release of gasoline was suspected following the detection of petroleum constituents in the supply well serving the Monger residence, addressed as 1489 Old Oaks Lane. The source of the release is currently unknown. The release was reported to the Commonwealth of Virginia Department of Environmental Quality (DEQ) Piedmont Regional Office (PRO) on September 19, 2014 and is being addressed under pollution complaint (PC) number 2015-4105.

PSCMR activities from November 2016 through March 2017 included monitoring well gauging and free product recovery. Copies of the field notes recorded during this investigation are included as Appendix A.

## 2.0 BACKGROUND

In February 2014, Mr. Chris Monger began detecting a petroleum odor in his supply well. Under the guidance of a friend who works for an environmental agency in California, Mr. Monger conducted his own sampling event on September 10, 2014. The analytical results from the onsite supply well indicated the presence of several gasoline constituents in groundwater above laboratory method detection limits. The release was reported to the DEQ PRO on September 19, 2014. Following the sampling event conducted by Mr. Monger, DEQ contracted with Stoner Quality Water, Inc. (Stoner) to resample the Monger residence on September 22, 2014 to verify the analytical results. Subsequently, the initial analytical results were verified and a carbon filtration system was installed on the Monger residence water supply at the direction of DEQ.

Following confirmation of gasoline constituents in the Monger residence supply well, DEQ requested that Stoner sample 16 private water supplies located at the remaining residences in the Old Oaks Lane neighborhood. Six residences (1463, 1476, 1482, 1490, 1498, and 1529 Old Oaks Lane) in addition to the Monger residence were confirmed to have supply wells impacted by gasoline constituents. The supply wells were subsequently connected to carbon filtration systems.

One active gasoline station, Taylor Country Store (1535 River Road West), was identified in the area. DEQ requested that a site check be completed for the Taylor Country Store property to assess soil and groundwater conditions at the site. The investigation was completed by Advanced Environmental Solutions, LLC (Advanced) and included the installation of four soil borings (SB-1A through SB-4A) and the conversion of the soil borings to groundwater monitoring wells (MW-1A through MW-4A). Additional information regarding work completed by Advanced is referenced under PC# 2015-4215. A site plan showing pertinent features of the Taylor's Market property as well as adjacent properties is provided as Figure 2.

According to available information, two additional properties were identified as potential sources of a petroleum release, the Keith property (1537 River Road West) and the former Briesmaster Motor Company (1543 River Road West). Based on historical records the former Briesmaster Motor Company and the Keith properties both operated with underground storage tanks (USTs) for an undetermined number of years since at least the 1930s. Additional information referencing the removal of a 1,000-gallon gasoline UST at the former Briesmaster Motor Company property is documented under PC# 2000-4557.

Aqua Virginia, Inc. operates a Class VI groundwater supply well that currently supplies potable water to 24 existing connections. The original supply well for Crozier waterworks was completed in 1947 but was permanently disconnected in 2004 due to inadequate supply. The current supply well was completed in 1955 to a depth of 79 feet below ground surface (BGS) and subsequently deepened to 465 feet in 1996. The waterworks consist of the well, a 5,000-gallon hydropneumatic tank, chlorination facilities, corrosion control facilities, and the distribution system, with related controls, piping, and appurtenances. The supply well is located approximately 1,500 feet west of the former Briesmaster Motor Company property on Issequenna Road. The Aqua Virginia well currently supplies potable water to residences and businesses located on Lee Road, Issequenna Road, and River Road West to include Taylor Country Store, the former Briesmaster Motor Company property, and the Keith property.

During site characterization activities from October through December 2014, Apex activities included bottled water delivery, supply well sampling, installation of 13 groundwater monitoring wells (MW-1 through MW-13), and the collection and analysis of soil and groundwater samples. Adsorbed-phase petroleum compounds were detected in six of the 13 soil samples collected during this investigation. Total petroleum hydrocarbon (TPH) gasoline range organics (GRO) was detected at a concentration of 499 parts per million (ppm) in soil sample SS-12-9 at a depth of 45 feet below ground surface. Free-phase petroleum was detected in MW-3 at a maximum thickness of 0.60 feet on January 21, 2015. Dissolved-phase petroleum compounds were detected in 11 of the 13 groundwater monitoring wells sampled. TPH GRO was detected at a maximum concentration of 137 milligrams per liter (mg/L) in MW-3. Methyl tertiary-butyl ether (MTBE) and benzene were detected at maximum concentrations of 28.6 micrograms per liter ( $\mu\text{g/L}$ ) and 30,500  $\mu\text{g/L}$ , in MW-4 and MW-12, respectively. Additionally, groundwater samples were collected from eight adjacent properties supply wells. Dissolved-phase petroleum compounds were not detected in any of the eight supply wells sampled. Trichlorofluoromethane was detected at a concentration of 49.5  $\mu\text{g/L}$  at the Micken's residence, supply well sample (DW-1491 Oaken Croft). No other volatile organic compounds were detected in the supply well sample. Trichlorofluoromethane, also known as freon-11, CFC-11, or R-11, is a chlorofluorocarbon typically used as a refrigerant. The presence of trichlorofluoromethane is likely attributed to the multiple refrigeration units located on the property which were located in the vicinity of the supply well and is not related to the petroleum release.

During SCRA activities from January through April 2015, Apex activities included a ground penetrating radar survey, the installation of three groundwater monitoring wells (MW-14 through MW-16), the collection and analysis of soil and groundwater samples, domestic supply well sampling, and an AF/VR event. Adsorbed-phase petroleum compounds were detected in one of the three soil samples collected during this investigation. TPH GRO was detected at a concentration of 771 ppm in soil sample SS-14-9 at a depth of 43 feet BGS. Free-phase petroleum was detected in MW-12 at a thickness of 0.55 feet on February 25, 2015. Dissolved-phase petroleum compounds were detected in 13 of the 16 groundwater monitoring wells sampled. TPH GRO was detected at a maximum concentration of 241 mg/L in MW-14. Benzene and MTBE were detected at maximum concentrations of 25,900 µg/L and 33.2 µg/L in monitoring wells MW-14 and MW-4, respectively. 1, 2-Dibromoethane (EDB) was detected at a maximum concentration of 837 µg/L in monitoring well MW-14.

Apex collected 19 supply well samples from adjacent properties during SCRA activities. Dissolved-phase petroleum compounds were not detected in any of the 19 supply wells sampled. Trichlorofluoromethane was detected at a concentration of 17.4 µg/L at the Mickens residence, supply well sample (DW-1491 Oaken Croft). Trichlorofluoromethane, also known as freon-11, CFC-11, or R-11, is a chlorofluorocarbon typically used as a refrigerant. The presence of trichlorofluoromethane is likely attributed to the multiple refrigeration units located on the property, in the vicinity of the supply well and is not related to the petroleum release.

During the AF/VR Event, a total of 189 gallons of gasoline/water mixture was recovered. The total recovery in the vapor stream for the AF/VR event is estimated to be between 2.6 and 5.0 gallons of gasoline. Approximately 0.01 gallons of free product were recovered via manual bailing during the SCRA investigation.

Additionally, a ground penetrating radar (GPR) survey was performed at the Taylor's Market, Keith, and former Briesmaster Motor Company properties during March 2015. The purpose of the survey was to evaluate the subsurface for potential historical water supply wells to determine if these structures may represent conduits for petroleum to impact the deep aquifer and to identify any potential abandoned USTs. Numerous linear features were observed at various depths across the study area, likely indicative of the septic drainfields associated with each property. Additionally, twelve isolated GPR anomalies were observed with the characteristics indicative of potential underground storage tanks, septic tanks, and/or a septic distribution boxes.

During SCRA II activities from November 2015 through January 2016, Apex activities included the collection and analysis of groundwater samples, domestic supply well sampling, free product recovery, and a five-day dual-phase extraction (DPE) event. Free-phase petroleum was detected in MW-14 at a maximum thickness of 1.95 feet on November 6, 2015. Dissolved-phase petroleum compounds were detected in seven of the 15 groundwater monitoring wells sampled. TPH-GRO was detected at a maximum concentration of 143 mg/L in MW-3. Benzene and MTBE were detected at maximum concentrations of 27,000 µg/L and 14.0 µg/L in monitoring wells MW-3 and MW-4,

respectively. EDB was detected at a maximum concentration of 360 µg/L in monitoring well MW-3.

Apex collected 21 supply well samples from properties located in the Crozier area. Dissolved-phase petroleum compounds were detected in one of the 21 supply wells sampled. Benzene, di-isopropyl ether, and 1,2-dichloroethane were detected at concentrations of 46.7 µg/L, 24.1 µg/L, and 4.25 µg/L, respectively, in the Haddon residence supply well (DW-1537 Old Oaks Lane). Trichlorofluoromethane was detected at a concentration of 17.3 µg/L in the Mickens residence supply well sample (DW-1491 Oaken Croft). Trichlorofluoromethane, also known as freon-11, CFC-11, or R-11, is a chlorofluorocarbon typically used as a refrigerant. The presence of trichlorofluoromethane is likely attributed to the multiple refrigeration units located on the Mickens property in the vicinity of the supply well and is not related to the petroleum release. Chloroform was detected at a concentration of 0.90 µg/L in the Yarbrough residence supply well sample (DW-1267 Cardwell), 1.63 µg/L in the Martin residence supply well sample (DW-1241 Cardwell), and 0.57 µg/L in the Bechter residence supply well sample (DW-1510 Old Oaks). The presence of chloroform is likely attributed to the chlorination and disinfection of the supply wells and is not related to the petroleum release. No other volatile organic compounds were detected in the supply well samples.

During the DPE Event, a total of 905 gallons of gasoline/water mixture was recovered. The total recovery in the vapor stream for the DPE event is estimated to be between 10 and 35 gallons of gasoline. Approximately one gallon of free product was recovered via manual bailing during this investigation.

During SCRA III activities from February 2016 through October 2016, Apex activities included the collection and analysis of soil and groundwater samples, domestic supply well sampling, free product recovery, a subsurface investigation, and two aggressive fluid/vapor recovery (AF/VR) events. Free-phase petroleum was detected in MW-14 at a maximum thickness of 0.62 feet on July 25, 2016. Dissolved-phase petroleum compounds were detected in seven of the 16 groundwater monitoring wells sampled. Total petroleum hydrocarbon gasoline range organics was detected at a maximum concentration of 145 milligrams per liter (mg/L) in MW-12. Benzene and methyl tertiary-butyl ether were detected at maximum concentrations of 19,000 micrograms per liter (µg/L) and 14.8 µg/L in monitoring wells MW-14 and MW-4, respectively. 1, 2-Dibromoethane was detected at a maximum concentration of 388 µg/L in monitoring well MW-3.

Apex collected supply well samples from 21 properties located in the Crozier area. Dissolved-phase petroleum compounds were not detected in any of the 21 supply wells sampled. Trichlorofluoromethane was detected at a concentration of 10.9 µg/L in the Mickens residence supply well sample (DW-1491 Oaken Croft). Trichlorofluoromethane, also known as freon-11, CFC-11, or R-11, is a chlorofluorocarbon typically used as a refrigerant. The presence of trichlorofluoromethane is likely attributed to the multiple refrigeration units formerly located on the property, in the vicinity of the supply well and is not related to the

petroleum release. Chloroform was detected at a concentration of 0.73 µg/L at the Yarbrough residence supply well sample (DW-1267 Cardwell), 0.82 µg/L at the Martin residence supply well sample (DW-1241 Cardwell), 0.63 µg/L at the Alexander residence supply well sample (DW-1226 Cardwell), and 0.66 µg/L at the Bechter residence supply well sample (DW-1510 Old Oaks). The presence of chloroform is likely attributed to the chlorination and disinfection of the supply well and is not related to the petroleum release. No other volatile organic compounds were detected in the supply well samples.

Apex performed two eight-hour AF/VR events on August 17, 2016 and October 5, 2016, recovering a total of 256 gallons of free-phase petroleum/water from monitoring wells MW-3 and MW-14. The liquids were recovered via a vacuum truck and transported offsite for disposal at Atlantic Industrial Services, Inc. in Chester, Virginia.

On October 6, 2016, Apex mobilized to the site to perform a subsurface investigation to identify the location of a suspected underground storage tank (UST) on the Keith property, addressed as 1537 River Road West Crozier, Virginia. On October 11, 2016, Apex returned to the site to uncover the UST and collect a water sample from the interior of the UST and a soil sample adjacent to the UST exterior. Total petroleum hydrocarbon (TPH) diesel range organics (DRO) was detected at a concentration of 1.67 mg/L in the water sample. No other dissolved-phase petroleum compounds were detected in the water sample. TPH-DRO was detected at a concentration of 2,020 parts per million in the soil sample collected adjacent to the UST. Ethylbenzene and naphthalene were detected at concentrations of 632 parts per billion (ppb) and 2,510 ppb, respectively in the soil sample collected. Based on the data collected, petroleum impact to the surrounding soil and water contained within the UST did not appear related to the impacted supply wells in the Old Oaks Neighborhood. Mr. Jeff Keith, the property owner, was notified of the findings and a new PC number was issued in conjunction with a “No Further Action” letter.

### **3.0 SITE DESCRIPTION**

The site is located in a rural and residential area of Crozier, Goochland County, Virginia with properties in the vicinity consisting of residential dwellings and wooded land. The specific areas of concern consist of a current service station (Taylor Country Store) and two former service stations (former Briesmaster Motor Company and the Keith property). All three sites are supplied potable water by Aqua Virginia from a public water supply well located approximately 1,500 feet west of the site. A site plan showing pertinent features of the site is included as Figure 2.

According to the U.S. Geological Survey 7.5-minute topographic map of the Perkinsville Quadrangle, Virginia (1987), the approximate site elevation is 325 feet above mean sea level. Site topography generally decreases to the northeast. The nearest surface water body is an unnamed intermittent tributary to Genito Creek, located approximately 1,350 feet northeast of the site.

Based on a review of the *Geologic Map and Generalized Cross Sections of the Eastern Piedmont, Virginia* published by the U.S. Geological Survey, 1989, the site lies within the State Farm Gneiss, primarily consisting of granodiorite pluton, light-gray, medium-grained, locally migmatitic, exhibits considerable textural variation, quartz + amphibole + pyroxene + clinozoisite + garnet + sphene (titanite) + zircon + magnetite. High titanium content is indicated by ubiquitous clusters of sphene (titanite) crystals.

According to the *Soil Survey of Goochland County, Virginia* (USDA, 1975), area soils consist of the Madison-Pacolet association; deep, well drained, gently sloping to moderately steep soils that have a subsoil dominantly of clay or clay loam. During previous investigations, Apex observed saprolite and gneiss deposits in soil borings.

## **4.0 GROUNDWATER MONITORING**

In accordance with the DEQ-approved scope of work, Apex conducted manual bailing at the site on three occasions in conjunction with monitoring well gauging. During PSCMR activities, free-phase gasoline was detected at a maximum thickness of 0.09 feet in MW-12 on March 13, 2017. Details of the recovery efforts are presented in the following sections.

### **4.1 Groundwater Gauging**

Apex used a Solinst™ electronic interface probe to measure the depth to groundwater and investigate for the presence of free-phase gasoline in the site monitoring wells. Free-phase petroleum was detected in three monitoring wells (MW-3, MW-12, and MW-14) and at a maximum thickness of 0.09 feet in monitoring well MW-12 during PSCMR activities. The water table gradient at the site was determined by the triangulation method of the relative groundwater elevations within the monitoring wells. Based on the relative groundwater elevations calculated during this investigation, the estimated groundwater flow direction is generally to the south. A tabular summary of current and historical groundwater elevation data is presented in Table 1. A water table gradient map of the site based on groundwater elevations as measured on March 13, 2017 is included as Figure 3.

### **4.2 Free Product Recovery**

As a supplement to gauging activities, free product was recovered from monitoring wells when observed. Free product was detected at a maximum thickness of 0.09 feet in monitoring well MW-12 on March 13, 2017. Approximately 0.03 gallon of free product was recovered via hand bailing and placed in a 55-gallon steel drum staged onsite.

## 5.0 SUMMARY

In accordance with DEQ directives, Apex performed PSCMR activities including monitoring well gauging and free product recovery.

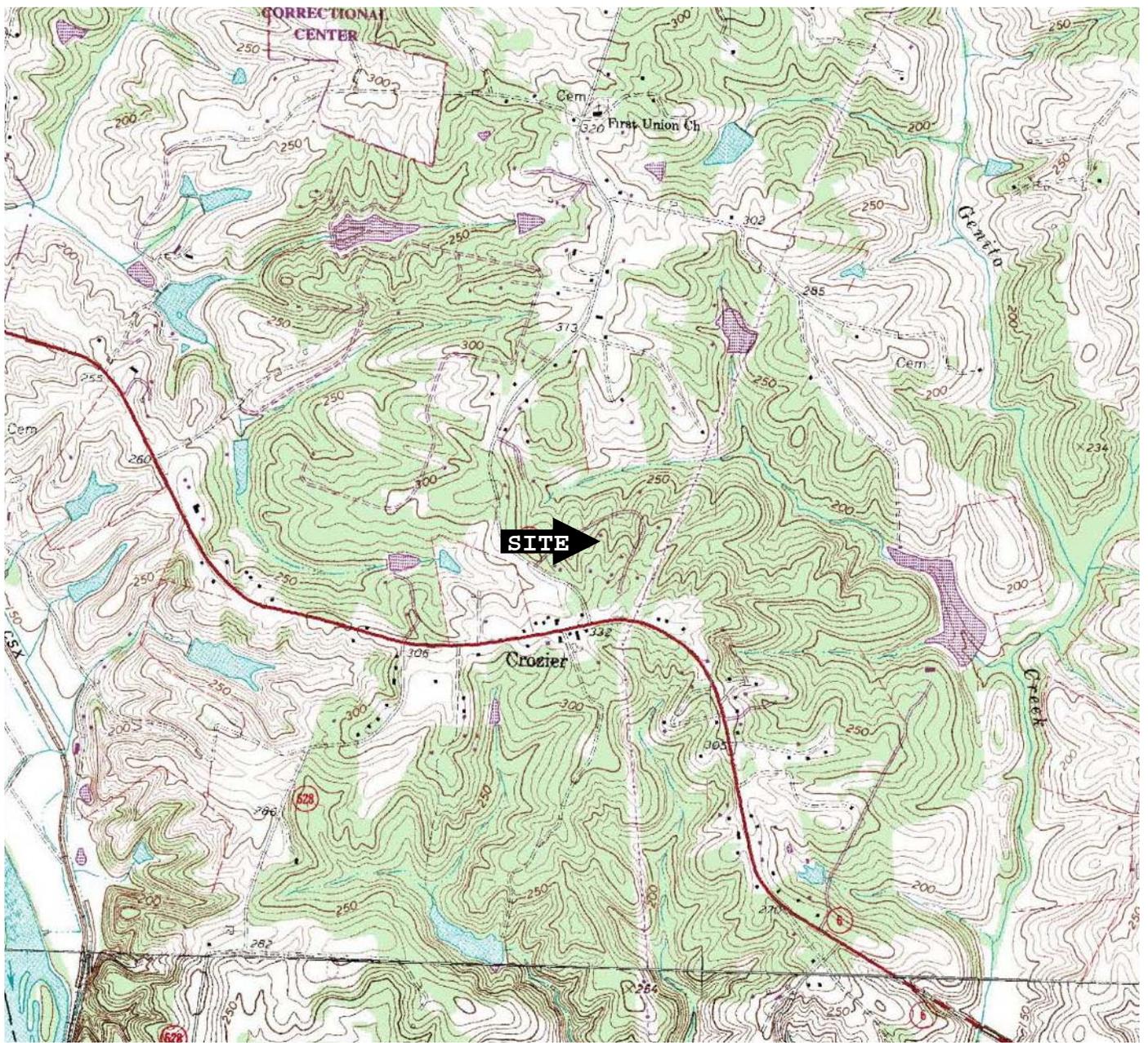
Measureable free-phase petroleum was detected in three monitoring wells and at a maximum thickness of 0.09 feet in MW-12 during this phase. Approximately 0.03 gallons of free product was recovered via hand bailing and placed in a 55-gallon drum staged onsite.

Based on the current dissolved-phase petroleum concentrations and surrounding residences' sole dependence on groundwater for potable purposes, risk to additional private water supplies is considered possible. DEQ, in cooperation with Goochland County Public Utilities and Aqua-VA, is currently planning a proposed extension of the existing Aqua-VA public water line utility along River Road West to connect all at-risk and willing residents along Cardwell Road and Old Oaks Lane. At this time, Apex recommends a fracture trace analysis to identify potential migration pathways from the Keith property which may have impacted the Old Oaks neighborhood. Additionally, Apex recommends continued gauging and sampling of monitoring wells, supply well sampling, and free product recovery as necessary. Pending the results of the fracture trace analysis, Apex recommends the development of a Corrective Action Plan to address source area remediation on the Keith property. This PSCMR was prepared in accordance with DEQ PRO directives and the approved scope of work.

## Figures

**Figure 1  
Site Location Map**

**Old Oaks Neighborhood  
Crozier, Goochland County, Virginia**



APEX COMPANIES, LLC.  
203 WYLDEROSE COURT  
MIDLOTHIAN, VIRGINIA 23113  
(804) 897-2718

*(Perkinsville, Virginia)*

United States Department of the Interior  
Geological Survey  
7.5 Minute Series Topographic Map  
Contour Interval: 10 feet  
Scale: 1 inch = 2000 feet  
Date: 1987

Project: Post-SCR

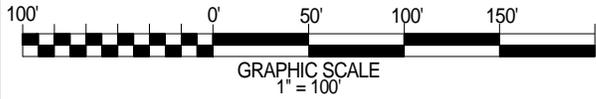
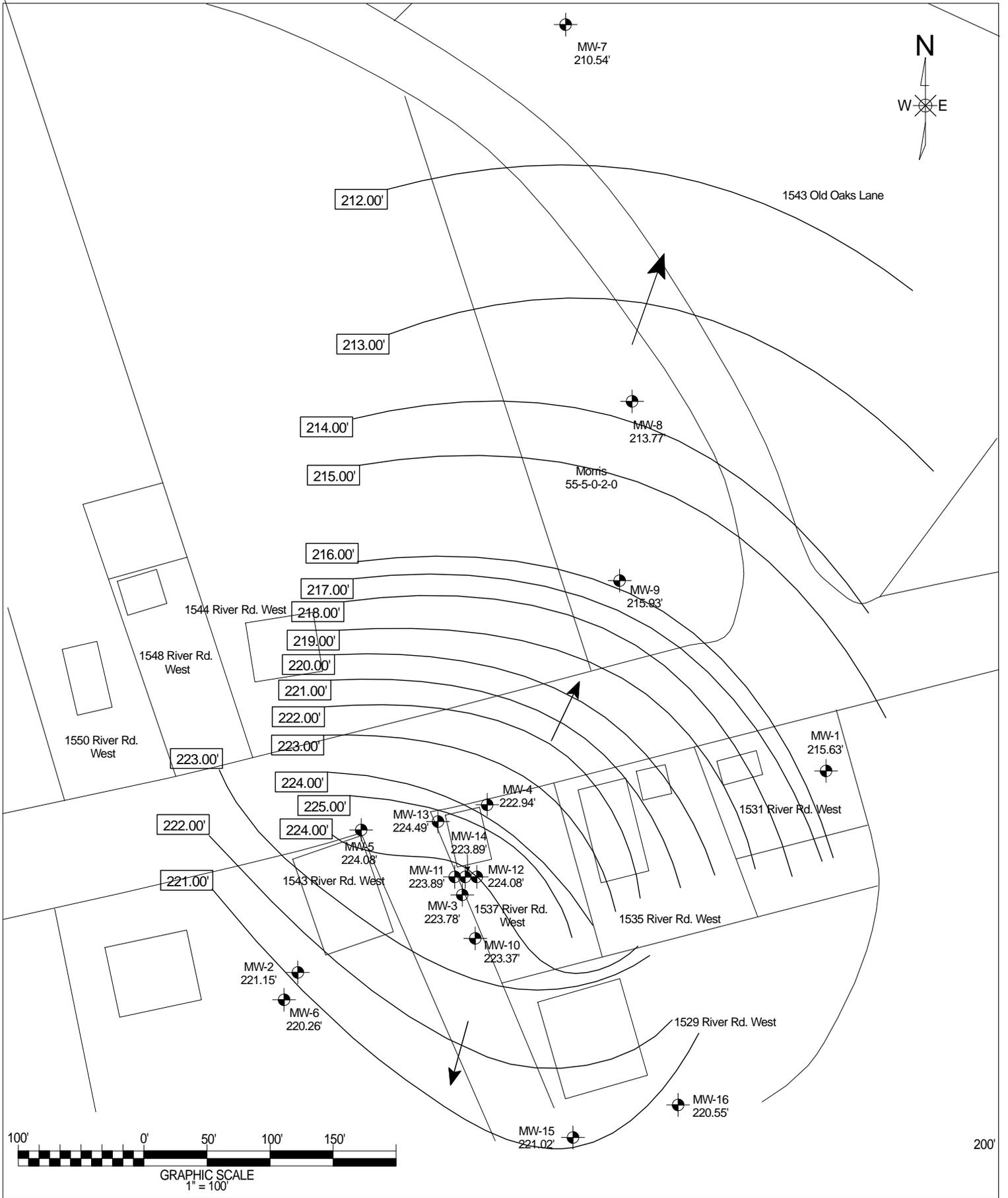
Client: DEQ PRO

Apex Job #: 757004-001

Date: May 2017







DR.: SJT		DATE: Nov 2016	 <b>APEX COMPANIES, LLC.</b> 203 WYLDERGESS COURT MIDLOTHIAN, VIRGINIA 23113 (804) 897-2718		DRAWING TITLE	
CK:					Water Table Gradient Map (3/13/2017)	
APPD.:					Old Oaks Neighborhood	
SCALE: 1" = 100'					Crozier, Virginia	
APEX PROJ. NO.: 757004.001					DRAWING NUMBER	
www.apexcos.com		PC# 2015-4105			FIGURE No. 3	
REV	BY	DATE			REV	
					0	

## **Tables**

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-1	269.53	10/28/2014	53.91	ND <sup>2</sup>	ND	215.62
		1/21/2015	54.16	ND	ND	215.37
		3/10/2015	54.33	ND	ND	215.20
		4/17/2015	54.11	ND	ND	215.42
		11/6/2015	54.56	ND	ND	214.97
		11/30/2015	42.87	ND	ND	226.66
		12/1/2015	44.79	ND	ND	224.74
		12/2/2015	52.18	ND	ND	217.35
		12/3/2015	54.76	ND	ND	214.77
		1/20/2016	54.83	ND	ND	214.70
		7/25/2016	53.61	ND	ND	215.92
		8/17/2016	53.51	ND	ND	216.02
		10/5/2016	53.58	ND	ND	215.95
		10/12/2016	53.57	ND	ND	215.96
		2/2/2017	53.77	ND	ND	215.76
		2/14/2017	53.61	ND	ND	215.92
		3/13/2017	53.90	ND	ND	215.63

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

<b>Well I.D.</b>	<b>Top of Casing Elevation (feet)<sup>1</sup></b>	<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Product (feet)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation (feet)</b>
MW-2	260.63	10/28/2014	38.81	ND	ND	221.82
		1/21/2015	39.80	ND	ND	220.83
		3/10/2015	40.25	ND	ND	220.38
		4/17/2015	40.21	ND	ND	220.42
		11/6/2015	39.99	ND	ND	220.64
		11/30/2015	42.03	ND	ND	218.60
		12/1/2015	40.23	ND	ND	220.40
		12/2/2015	40.34	ND	ND	220.29
		12/3/2015	40.31	ND	ND	220.32
		1/20/2016	40.44	ND	ND	220.19
		7/25/2016	38.06	ND	ND	222.57
		8/17/2016	37.98	ND	ND	222.65
		10/5/2016	38.31	ND	ND	222.32
		10/12/2016	38.34	ND	ND	222.29
		2/2/2017	39.23	ND	ND	221.40
		2/14/2017	39.20	ND	ND	221.43
		3/13/2017	39.48	ND	ND	221.15

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)	
MW-3	267.30	10/28/2014	43.35	<b>43.14</b>	<b>0.21</b>	223.79	
		12/17/2014	43.89	<b>43.63</b>	<b>0.26</b>	223.22	
		1/21/2015	44.57	<b>43.97</b>	<b>0.60</b>	222.28	
		2/25/2015 (Pre-AFVR)	44.60	<b>44.15</b>	<b>0.45</b>	222.36	
		2/25/2015 (Post-AFVR)	46.80	ND	ND	220.50	
		3/10/2015	44.56	<b>44.55</b>	<b>0.01</b>	222.73	
		4/17/2015	44.36	<b>44.34</b>	<b>0.02</b>	222.96	
		11/6/2015	44.33	<b>44.09</b>	<b>0.24</b>	223.15	
		11/30/2015	44.51	<b>44.33</b>	<b>0.18</b>	222.93	
		12/1/2015	44.82	<b>44.71</b>	<b>0.11</b>	222.56	
		12/2/2015	44.72	<b>44.64</b>	<b>0.08</b>	222.64	
		12/3/2015	Recovery Well Location				
		12/4/2015	46.55	<b>46.54</b>	<b>0.01</b>	220.76	
		1/20/2016	44.31	ND	ND	222.99	
		7/25/2016	42.84	<b>42.77</b>	<b>0.07</b>	224.51	
		8/17/2016	42.75	<b>42.67</b>	<b>0.08</b>	224.61	
		10/5/2016	42.88	<b>42.85</b>	<b>0.03</b>	224.44	
		10/12/2016	42.84	<b>42.84</b>	<b>Sheen</b>	224.46	
		2/2/2017	43.25	<b>43.23</b>	<b>0.02</b>	224.07	
		2/14/2017	43.08	<b>43.06</b>	<b>0.02</b>	224.24	
3/13/2017	43.54	<b>43.51</b>	<b>0.03</b>	223.78			

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-4	267.31	10/28/2014	44.19	ND	ND	223.12
		1/21/2015	45.39	ND	ND	221.92
		3/10/2015	45.69	<b>45.69</b>	<b>Sheen</b>	221.62
		4/17/2015	45.30	ND	ND	222.01
		11/6/2015	45.19	ND	ND	222.12
		11/30/2015	45.24	ND	ND	222.07
		12/1/2015	45.13	ND	ND	222.18
		12/2/2015	45.04	ND	ND	222.27
		12/3/2015	45.39	ND	ND	221.92
		1/20/2016	45.08	ND	ND	222.23
		7/25/2016	43.23	ND	ND	224.08
		8/17/2016	43.30	ND	ND	224.01
		10/5/2016	43.71	ND	ND	223.60
		10/12/2016	43.72	ND	ND	223.59
		2/2/2017	44.13	ND	ND	223.18
		2/14/2017	44.08	ND	ND	223.23
		3/13/2017	44.37	ND	ND	222.94

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

<b>Well I.D.</b>	<b>Top of Casing Elevation (feet)<sup>1</sup></b>	<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Product (feet)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation (feet)</b>
MW-5	266.01	10/28/2014	41.42	ND	ND	224.59
		1/21/2015	42.52	ND	ND	223.49
		3/10/2015	42.96	ND	ND	223.05
		4/17/2015	42.37	ND	ND	223.64
		11/6/2015	42.52	ND	ND	223.49
		11/30/2015	45.63	ND	ND	220.38
		12/1/2015	42.51	ND	ND	223.50
		12/2/2015	41.93	ND	ND	224.08
		12/3/2015	42.72	ND	ND	223.29
		1/20/2016	42.76	ND	ND	223.25
		7/25/2016	40.77	ND	ND	225.24
		8/17/2016	40.67	ND	ND	225.34
		10/5/2016	40.33	ND	ND	225.68
		10/12/2016	40.75	ND	ND	225.26
		2/2/2017	41.69	ND	ND	224.32
		2/14/2017	41.65	ND	ND	224.36
		3/13/2017	41.93	ND	ND	224.08

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

<b>Well I.D.</b>	<b>Top of Casing Elevation (feet)<sup>1</sup></b>	<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Product (feet)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation (feet)</b>
MW-6	259.48	10/28/2014	38.55	ND	ND	220.93
		1/21/2015	39.58	ND	ND	219.90
		3/10/2015	39.99	ND	ND	219.49
		4/17/2015	39.82	ND	ND	219.66
		11/6/2015	39.79	ND	ND	219.69
		11/30/2015	41.29	ND	ND	218.19
		12/1/2015	39.93	ND	ND	219.55
		12/2/2015	39.89	ND	ND	219.59
		12/3/2015	40.07	ND	ND	219.41
		1/20/2016	40.21	ND	ND	219.27
		7/25/2016	37.62	ND	ND	221.86
		8/17/2016	37.59	ND	ND	221.89
		10/5/2016	38.04	ND	ND	221.44
		10/12/2016	38.09	ND	ND	221.39
		2/2/2017	38.99	ND	ND	220.49
		2/14/2017	38.97	ND	ND	220.51
		3/13/2017	39.22	ND	ND	220.26

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

<b>Well I.D.</b>	<b>Top of Casing Elevation (feet)<sup>1</sup></b>	<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Product (feet)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation (feet)</b>
MW-7	259.99	12/16/2014	49.35	ND	ND	210.64
		1/21/2015	49.57	ND	ND	210.42
		3/10/2015	49.81	ND	ND	210.18
		4/17/2015	49.32	ND	ND	210.67
		11/6/2015	49.07	ND	ND	210.92
		1/20/2016	49.83	ND	ND	210.16
		7/25/2016	48.67	ND	ND	211.32
		8/17/2016	48.85	ND	ND	211.14
		10/5/2016	48.55	ND	ND	211.44
		10/12/2016	48.95	ND	ND	211.04
		2/2/2017	49.32	ND	ND	210.67
		2/14/2017	49.28	ND	ND	210.71
		3/13/2017	49.45	ND	ND	210.54

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)	
MW-8	273.19	12/16/2014	59.35	ND	ND	213.84	
		12/17/2014	59.42	ND	ND	213.77	
		1/21/2015	59.28	ND	ND	213.91	
		3/10/2015	59.84	ND	ND	213.35	
		4/17/2015	59.67	ND	ND	213.52	
		11/6/2015	Not located due to overgrown vegetation				
		1/20/2016	60.43	ND	ND	212.76	
		7/25/2016	58.98	ND	ND	214.21	
		8/17/2016	58.82	ND	ND	214.37	
		10/5/2016	58.79	ND	ND	214.40	
		10/12/2016	58.91	ND	ND	214.28	
		2/2/2017	59.29	ND	ND	213.90	
		2/14/2017	59.21	ND	ND	213.98	
		3/13/2017	59.42	ND	ND	213.77	

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)	
MW-9	271.04	12/16/2014	55.24	ND	ND	215.80	
		1/21/2015	55.46	ND	ND	215.58	
		3/10/2015	55.55	ND	ND	215.49	
		4/17/2015	55.34	ND	ND	215.70	
		11/6/2015	Not located due to overgrown vegetation				
		1/20/2016	55.69	ND	ND	215.35	
		7/25/2016	54.63	ND	ND	216.41	
		8/17/2016	54.68	ND	ND	216.36	
		10/5/2016	54.33	ND	ND	216.71	
		10/12/2016	54.34	ND	ND	216.70	
		2/2/2017	55.01	ND	ND	216.03	
		2/14/2017	54.89	ND	ND	216.15	
		3/13/2017	55.11	NN	ND	215.93	

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-10	268.22	12/16/2014	44.95	<b>44.94</b>	<b>0.01</b>	223.26
		12/17/2014	45.03	<b>45.03</b>	<b>Sheen</b>	223.19
		1/21/2015	45.38	<b>45.38</b>	<b>Sheen</b>	222.84
		3/10/2015	45.79	ND	ND	222.43
		4/17/2015	45.80	ND	ND	222.42
		11/6/2015	45.63	ND	ND	222.59
		11/30/2015	45.74	ND	ND	222.48
		12/1/2015	45.87	ND	ND	222.35
		12/2/2015	45.70	ND	ND	222.52
		12/3/2015	45.93	ND	ND	222.29
		12/4/2015	46.26	ND	ND	221.96
		1/20/2016	45.91	ND	ND	222.31
		7/25/2016	44.24	ND	ND	223.98
		8/17/2016	44.12	ND	ND	224.10
		10/5/2016	44.21	ND	ND	224.01
		10/12/2016	44.22	ND	ND	224.00
		2/2/2017	44.56	ND	ND	223.66
		2/14/2017	44.46	ND	ND	223.76
		3/13/2017	44.85	ND	ND	223.37

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-11	266.83	12/16/2014	43.30	<b>43.30</b>	<b>Sheen</b>	223.53
		12/17/2014	43.10	<b>43.10</b>	<b>Sheen</b>	223.73
		1/21/2015	43.55	<b>43.55</b>	<b>Sheen</b>	223.28
		2/25/2015 (Pre-AFVR)	43.70	ND	ND	223.13
		2/25/2015 (Post-AFVR)	43.66	ND	ND	223.17
		3/10/2015	43.95	ND	ND	222.88
		4/17/2015	43.81	ND	ND	223.02
		11/6/2015	43.62	ND	ND	223.21
		11/30/2015	43.78	ND	ND	223.05
		12/1/2015	44.10	ND	ND	222.73
		12/2/2015	43.96	ND	ND	222.87
		12/3/2015	43.80	ND	ND	223.03
		12/4/2015	44.69	ND	ND	222.14
		1/20/2016	43.89	ND	ND	222.94
		7/25/2016	42.12	ND	ND	224.71
		8/17/2016	42.09	ND	ND	224.74
		10/5/2016	42.07	ND	ND	224.76
		10/12/2016	42.21	<b>42.21</b>	<b>Sheen</b>	224.62
		2/2/2017	42.64	<b>42.64</b>	<b>Sheen</b>	224.19
		2/14/2017	42.50	<b>42.50</b>	<b>Sheen</b>	224.33
3/13/2017	42.94	<b>42.94</b>	<b>Sheen</b>	223.89		

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)	
MW-12	267.18	12/16/2014	43.32	<b>43.19</b>	<b>0.13</b>	223.76	
		12/17/2014	43.30	<b>43.30</b>	<b>Sheen</b>	223.88	
		1/21/2015	43.97	<b>43.68</b>	<b>0.29</b>	222.99	
		2/25/2015 (Pre-AFVR)	43.80	<b>43.25</b>	<b>0.55</b>	222.97	
		2/25/2015 (Post-AFVR)	46.96	ND	ND	220.22	
		3/10/2015	44.20	<b>44.19</b>	<b>0.01</b>	222.97	
		4/17/2015	43.90	<b>43.76</b>	<b>0.14</b>	223.39	
		11/6/2015	44.18	<b>43.62</b>	<b>0.56</b>	223.42	
		11/30/2015	44.14	<b>43.79</b>	<b>0.35</b>	223.30	
		12/1/2015	Recovery Well Location				
		12/2/2015	Recovery Well Location				
		12/3/2015	Recovery Well Location				
		12/4/2015	45.68	<b>45.66</b>	<b>0.02</b>	221.52	
		1/20/2016	43.97	<b>43.94</b>	<b>0.03</b>	223.23	
		7/25/2016	42.21	<b>42.21</b>	<b>Sheen</b>	224.97	
		8/17/2016	42.16	<b>42.16</b>	<b>Sheen</b>	225.02	
		10/5/2016	42.37	<b>42.36</b>	<b>0.01</b>	224.82	
		10/12/2016	42.39	<b>42.37</b>	<b>0.02</b>	224.81	
		2/2/2017	42.84	<b>42.76</b>	<b>0.08</b>	224.40	
		2/14/2017	42.74	<b>42.69</b>	<b>0.05</b>	224.48	
3/13/2017	43.17	<b>43.08</b>	<b>0.09</b>	224.08			

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

<b>Well I.D.</b>	<b>Top of Casing Elevation (feet)<sup>1</sup></b>	<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Product (feet)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation (feet)</b>
MW-13	266.76	12/16/2014	42.41	ND	ND	224.35
		12/17/2014	42.50	ND	ND	224.26
		1/21/2015	43.02	ND	ND	223.74
		2/25/2015 (Pre-AFVR)	43.21	ND	ND	223.55
		2/25/2015 (Post-AFVR)	43.15	ND	ND	223.61
		3/10/2015	43.45	ND	ND	223.31
		4/17/2015	43.18	ND	ND	223.58
		11/6/2015	42.43	ND	ND	224.33
		11/30/2015	42.99	ND	ND	223.77
		12/1/2015	42.97	ND	ND	223.79
		12/2/2015	42.91	ND	ND	223.85
		12/3/2015	43.28	ND	ND	223.48
		1/20/2016	43.04	ND	ND	223.72
		7/25/2016	41.09	ND	ND	225.67
		8/17/2016	40.95	ND	ND	225.81
		10/5/2016	41.03	ND	ND	225.73
		10/12/2016	41.19	ND	ND	225.57
		2/2/2017	41.97	ND	ND	224.79
		2/14/2017	41.89	ND	ND	224.87
3/13/2017	42.27	ND	ND	224.49		

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)	
MW-14	267.22	3/10/2015	44.33	ND	ND	222.89	
		4/17/2015	44.28	<b>44.02</b>	<b>0.26</b>	223.14	
		11/6/2015	45.26	<b>43.31</b>	<b>1.95</b>	223.42	
		11/30/2015	43.79	<b>43.46</b>	<b>0.33</b>	223.68	
		12/1/2015	Recovery Well Location				
		12/2/2015	Recovery Well Location				
		12/3/2015	Recovery Well Location				
		12/4/2015	45.61	ND	ND	221.61	
		1/20/2016	44.35	<b>44.13</b>	<b>0.22</b>	223.04	
		7/25/2016	42.93	<b>42.31</b>	<b>0.62</b>	224.76	
		8/17/2016	42.22	<b>42.08</b>	<b>0.14</b>	225.11	
		10/5/2016	42.06	<b>42.00</b>	<b>0.06</b>	225.21	
		10/12/2016	42.60	<b>42.58</b>	<b>0.02</b>	224.64	
		2/2/2017	43.05	<b>43.00</b>	<b>0.05</b>	224.21	
		2/14/2017	42.93	<b>42.88</b>	<b>0.05</b>	224.33	
		3/13/2017	43.36	<b>43.32</b>	<b>0.04</b>	223.89	

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

<b>Well I.D.</b>	<b>Top of Casing Elevation (feet)<sup>1</sup></b>	<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Product (feet)</b>	<b>Product Thickness (feet)</b>	<b>Groundwater Elevation (feet)</b>
MW-15	268.68	3/10/2015	48.46	ND	ND	220.22
		4/17/2015	48.66	ND	ND	220.02
		11/6/2015	48.69	ND	ND	219.99
		11/30/2015	44.12	ND	ND	224.56
		12/1/2015	48.71	ND	ND	219.97
		12/2/2015	48.66	ND	ND	220.02
		12/3/2015	48.68	ND	ND	220.00
		1/20/2016	49.05	ND	ND	219.63
		7/25/2016	47.68	ND	ND	221.00
		8/17/2016	47.49	ND	ND	221.19
		10/5/2016	47.36	ND	ND	221.32
		10/12/2016	47.34	ND	ND	221.34
		2/2/2017	47.45	ND	ND	221.23
		2/14/2017	47.31	ND	ND	221.37
		3/13/2017	47.66	ND	ND	221.02

**Table 1**  
**Old Oaks Neighborhood**  
**Current and Historical Groundwater Elevation Data**

Well I.D.	Top of Casing Elevation (feet) <sup>1</sup>	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-16	269.28	3/10/2015	49.53	ND	ND	219.75
		4/17/2015	49.59	ND	ND	219.69
		11/6/2015	49.97	ND	ND	219.31
		11/30/2015	44.37	ND	ND	224.91
		12/1/2015	49.23	ND	ND	220.05
		12/2/2015	49.87	ND	ND	219.41
		12/3/2015	49.94	ND	ND	219.34
		1/20/2016	50.14	ND	ND	219.14
		7/25/2016	48.67	ND	ND	220.61
		8/17/2016	48.47	ND	ND	220.81
		10/5/2016	48.47	ND	ND	220.81
		10/12/2016	48.53	ND	ND	220.75
		2/2/2017	48.54	ND	ND	220.74
		2/14/2017	48.53	ND	ND	220.75
		3/13/2017	48.73	ND	ND	220.55

<sup>1</sup> Elevations measured by Apex Companies, LLC relative to arbitrary site datum of 270 feet.

<sup>2</sup> ND = Free product not detected.

## **Appendix A**

Apex Field Notes

Job Name: Old Oaks Neighborhood Date: 3/13/17

PC# 2015-4105 Apex Job # 757004-001

Time onsite/offsite: 8:30/14:00 Mileage: 34

Apex Personnel: Richard Jones

Weather Conditions: 29°, Sunny

Scope of Work: Gauge all wells

Field Equipment & Calibration: ~~solinst probe~~ Solinst probe

Personal Protective Equipment: rubber gloves, boots, safety vest

**Additional Notes:**

- approximately  $7/16$ " of product bailed out of MW-3 with a 2" bailer
- approximately  $1/4$ " of product bailed out of MW-14 with a 2" bailer
- approximately  $7/8$ " of product bailed out of MW-12 with a 2" bailer
- approximately  $1/6$  liter of product total bailed out and disposed of into drum on site

**Groundwater Gauging and Sampling**

Monitoring Well ID	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Sample Time
MW-1	53.90	-	-	-
MW-2	39.48	-	-	-
MW-3	43.54	43.51	.03	-
MW-4	44.37	-	-	-
MW-5	41.93	-	-	-
MW-6	39.22	-	-	-
MW-7	49.45	-	-	-
MW-8	59.42	-	-	-
MW-9	55.11	-	-	-
MW-10	44.85	-	-	-
MW-11	42.94	42.94	Sheen	-
MW-12	43.17	43.08	.09	-
MW-13	42.27	-	-	-
MW-14	43.36	43.32	.04	-
MW-15	47.66	-	-	-
MW-16	48.73	-	-	-

Rinsate blank collected: YES / NO

Sample Time: \_\_\_\_\_

Trip blank collected: YES / NO

Sample Time: \_\_\_\_\_

Job Name: Old Oaks Neighborhood

Date: 2-14-2017

PC# 2015-4105

Apex Job # 757004-001

Time onsite/offsite: 1030/1600

Mileage: 34

Apex Personnel: Sam Tolton

Weather Conditions: Cloudy, 47°

Scope of Work: Gauge all monitoring wells onsite

Field Equipment & Calibration: Salinst probe, bailer

Personal Protective Equipment: Gloves, steel toe boots, high visibility vest, safety glasses

**Additional Notes:**

- Bailed (7) 2" bailer volumes in total from MW-3, MW-12, and MW-14 into drum onsite. About 1/20 of liter of free product.
- About 7-8 gallons of total liquids in drum onsite now.
- Confirmed screen in MW-11 with bailer.

**Groundwater Gauging and Sampling**

Monitoring Well ID	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Sample Time
MW-1	53.61	-	-	NA
MW-2	39.20	-	-	↓
MW-3	43.08	43.06	0.02	
MW-4	44.08	-	-	
MW-5	41.65	-	-	
MW-6	38.97	-	-	
MW-7	49.28	-	-	
MW-8	59.21	-	-	
MW-9	54.89	-	-	
MW-10	44.46	-	-	
MW-11	42.50	42.50	sheen	
MW-12	42.74	42.69	0.05	
MW-13	41.89	-	-	
MW-14	42.93	42.88	0.05	
MW-15	47.31	-	-	
MW-16	48.53	-	-	

Rinsate blank collected: YES  NO

Sample Time: NA

Job Name: Old Oaks Neighborhood Date: 2/2/17

PC# 2615-4105 Apex Job # 757004-001

Time onsite/offsite: 9<sup>00</sup>/15<sup>00</sup> Mileage: 34

Apex Personnel: Richard Jones

Weather Conditions: 38°, partly cloudy

Scope of Work: Gauge all wells

Field Equipment & Calibration: Solinst probe, metal detector

Personal Protective Equipment: Gloves, boots, safety vest

**Additional Notes:**

- approximately  $\frac{1}{4}$ " of product bailed out of MW-3
- approximately  $\frac{1}{4}$ " of product bailed out of MW-14
- approximately  $\frac{1}{2}$ " of product bailed out of MW-12
- approximately  $\frac{1}{32}$  of a liter of product bailed out total
- all product was disposed of into drum on site

PC# 2015-4105

Date 2/2/17

**Groundwater Gauging and Sampling**

Monitoring Well ID	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Sample Time
MW-1	53.77	-	-	-
MW-2	39.23	-	-	-
MW-3	43.25	43.23	.02	-
MW-4	44.13	-	-	-
MW-5	41.09	-	-	-
MW-6	38.49	-	-	-
MW-7	44.32	-	-	-
MW-8	54.29	-	-	-
MW-9	55.01	-	-	-
MW-10	44.56	-	-	-
MW-11	42.64	42.64	Sheen	-
MW-12	42.84	42.76	.08	-
MW-13	41.97	-	-	-
MW-14	43.05	43.00	.05	-
MW-15	47.45	-	-	-
MW-16	48.54	-	-	-

Rinsate blank collected: YES / NO

Sample Time: —