



Long-Term Stewardship Assessment Report

Former ExxonMobil Manassas Terminal

EPA ID #: VAD048565279

Manassas, Virginia 20109

Assessment Date: September 9, 2019

Introduction: Long-term potential stewardship (LTS) refers to the activities necessary to ensure that engineering controls (ECs) are maintained and that institutional controls (ICs) continue to be enforced. The purpose of the Environmental Protection Agency (EPA) Region 3 LTS program is to periodically assess the efficacy of the implemented remedies (i.e. ECs and ICs) and to update the community on the status of Resource Conservation and Recovery Act (RCRA) Corrective Action facilities. The assessment is conducted in twofold, which consists of a record review and a field inspection, to ensure that the remedies are implemented and maintained in accordance to the final decision.

Facility Background: The Former Exxon Mobile Manassas Terminal facility occupies an approximate 11-acre parcel located at 10315 Balls Ford Road Manassas, Virginia (Facility). The Facility was purchased in 1965 by Mobil Oil Corporation (Mobil). From 1965 to 2000, the Facility was owned and operated by Mobil. In 1999, Mobil changed its name to ExxonMobil Oil Corporation (ExxonMobil). From 2000 to 2004, Tosco/ConocoPhillips (Tosco) owned and operated the Facility. From 2004 through the present, Sunoco Marketing & Terminals, LP owned and operates the Facility for bulk storage and distribution of gasoline.

The Facility is located within an industrial park located approximately 2.5 miles north of downtown Manassas. The Facility is bordered to the north by Pomeroy Company facility, to the south by a commercial building, to the east by the Transcontinental Gas Pipeline Company facility, and to the west by the Interstate 66 Industrial Park and a private warehousing company. Security for the Facility is provided by a chain-link fence and electronically operated gate.

Facility investigations began in 1990 to delineate groundwater contamination related to historical gasoline releases. Based on sampling results benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl (MTBE) are the Facility-related Contaminants of Concern (COCs) in groundwater. On October 11, 2000, a Facility Lead Agreement (FLA) between EPA and ExxonMobil was executed in which the Facility acknowledged its understanding and acceptance of corrective action goals. Interim measures were performed from 2004 – 2012. Remedial technologies included Vacuum Truck Extraction (VTE) events and implementation of an in-situ Submerged Oxygen Curtain (iSOC®) system at select groundwater monitoring wells.

Current Site Status: On January 28, 2014, Virginia Department of Environmental Quality (VADEQ) issued the Statement of Basis (SB) in which the final remedy was selected. The remedy consists of VTE, monitored natural attenuation (MNA) until drinking water standards are met and compliance with and maintenance of institutional controls. A Special Warrant Deed dated May 3, 2000 (Deed) in placed on Facility property restricting land and groundwater use. Currently, the gasoline terminal is operated by Sunoco LP.

Long-term Stewardship Site Visit: On September 9, 2019, EPA conducted a long-term stewardship site visit with VADEQ and Facility representatives to discuss and assess the status of the implemented remedies at the site.

The attendees were:

Name	Organization	Email Address
John Hopkins	EPA Region 3	hopkins.john@epa.gov
Kurt Kochan	Virginia Department of Environmental Quality	kurt.kochan@deq.virginia.gov
Allyson Lackey	Virginia Department of Environmental Quality	kari.lackey@deq.virginia.gov
Christina Archambeault	Virginia Department of Environmental Quality	christina.archambeault@deq.virginia.gov
Regan O'Brien	ExxonMobil	regan.obrien1@exxonmobil.com
Mark Steele	Kleinfelder	mcsteele@kleinfelder.com

Institutional Controls (ICs) Status:

Consent Order: The selected remedy is being implemented and enforced by a Remedy Consent Order agreed to by VADEQ and the Facility on September 9, 2014. The following ICs apply to the Former ExxonMobil facility, shown on Figure 1:

Residential Use Restriction: Facility property shall not be used for any residential use, child care facility, nursery school, preschool, playground, hotel, motel, inn, bed and breakfast, rooming house, nursing home, rehabilitation center, hospital or community center.

Well Installation Restriction: Installation of any water wells for drinking or irrigation purposes is prohibited.

Groundwater Use Restriction: Groundwater at the Facility property shall not be used for any purpose other than the monitoring or remediation activities required by VADEQ and EPA.

Vapor Intrusion Restriction: A vapor intrusion control system, the design of which shall be approved by VADEQ, shall be installed in each new structure constructed above the contaminated groundwater plume or within 100-foot around the perimeter of the contaminated groundwater plume.

Engineering Controls (ECs) Status:

Vacuum Truck Extraction: Enhanced fluid recovery events are performed via vacuum truck extraction annually over the course of 32 hours at monitoring wells MW-11, MW-33, MW-34 and MW-35. During the latest 2018 event, approximately 1,065 gallons of impacted water and 14.71 pounds of total petroleum hydrocarbons (TPH) vapor were recovered. The 2019 extraction event was observed by VDEQ and EPA during the long-term stewardship site visit. Approximately 100 lbs of TPH have been removed cumulatively over nine events.

Monitored Natural Attenuation: Currently, there are sixteen (16) active groundwater monitoring wells sampled annually at the Facility. All wells sampled are analyzed for Volatile Organic Compounds (VOCs) while subsets are sampled for Semi-volatile Organic Compounds (SVOCs) and total Lead. Groundwater results are screened in comparison to EPA Maximum Contaminant Levels (MCLs) where applicable.

During the latest sampling events in 2018, Benzene concentrations in groundwater observed at six (6) monitoring wells exceeded the MCL of 5 ug/L, with detected concentrations ranging from 36 ug/L to 810 ug/L. MTBE concentrations in groundwater observed at three (3) monitoring wells exceeded the EPA's Site Specific Proposed Remediation Standard of 40 ug/L, with detected concentrations ranging from 41 ug/L to 5,100 ug/L. All wells with elevated Benzene and MTBE concentrations in groundwater are located near the southwest quadrant of the Facility adjacent to the tank truck loading rack and oil/water separator. The highest contaminant concentrations were observed at monitoring wells MW-11 and MW-33, which consistent with historical data. ExxonMobil will continue to monitor Facility groundwater on an annual basis.

Reporting Requirements/Compliance: ExxonMobil submits annual Groundwater Monitoring and Sampling reports summarizing groundwater and VTE results. The latest report was received on February 28, 2019. No transfer of property, change in use of the property, or work that will affect contamination at the property has been reported. Currently, the Facility is in compliance with the Consent Order.

Mapping: The EPA facility website map displays the entire Facility boundary of the approximate 10-acre Former ExxonMobil Manassas Terminal. A downloadable geospatial PDF map is available on EPA's corrective action facility webpage under the "Reports, Documents and Photographs" section, found [here](#).

Conclusions and Recommendations: No institutional or engineering control deficiencies were identified. EPA has determined that the remedy institutional and engineering controls have been fully implemented. EPA suggested minor maintenance of groundwater monitoring well pads. The remedy remains effective in being protective of human health and the environment.

<u>Remedy Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Are ICs eliminating or reducing exposure of all potential receptors to known contamination?	X		
• Do the ICs provide control for the entire extent of contamination?	X		
• Have any new wells been installed at the facility?		X	
• Is the current groundwater elevation and direction similar as mentioned in the previous studies?	X		
• Groundwater contaminants (VOCs) stable or decreasing in concentration?	X		
• Are groundwater monitoring wells intact and secured?		X	Screws were missing from monitoring well caps at multiple locations
• Any suggested changes the number and location of monitoring points and/or monitoring frequency?		X	
• Have there been construction of new structures within the vapor intrusion restriction zone?		X	

Attachments:

Figure 1: Aerial Map of the Former ExxonMobil Facility

Picture 1: Loading Rack and Vacuum Truck

Picture 2: Vacuum Truck Extraction of Groundwater at Monitoring Well MW-34

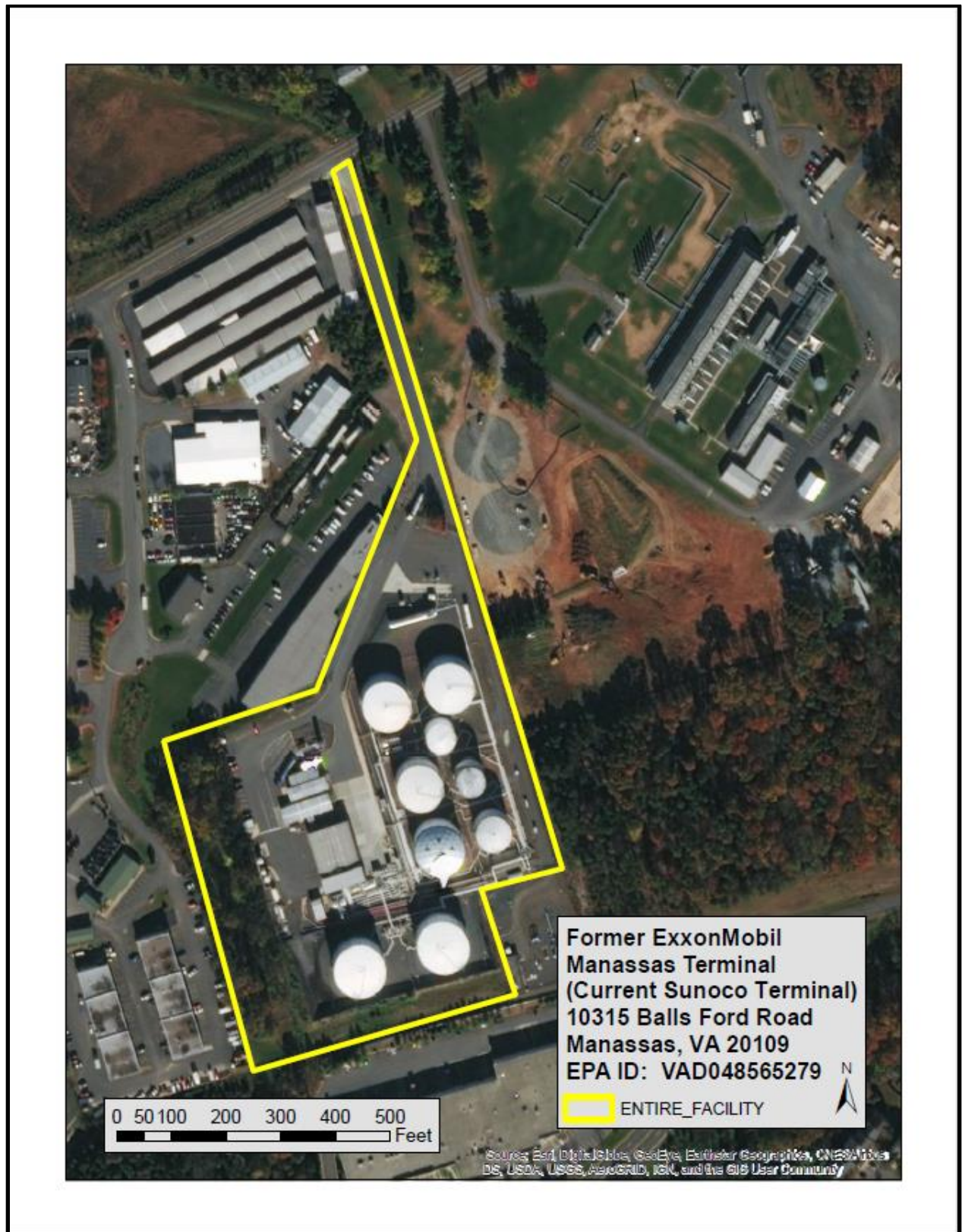
Picture 3: Vacuum Truck Extraction of Groundwater at Monitoring Well MW-35

Picture 4: Monitoring Well MW-32

Picture 5: Monitoring Well MW-33

Picture 6: Monitoring Well MW-11

Figure 1: Aerial Map of the Former ExxonMobil Facility



Picture 1: Loading Rack and Vacuum Truck



Picture 2: Vacuum Truck Extraction of Groundwater at Monitoring Well MW-34



Picture 3: Vacuum Truck Extraction of Groundwater at Monitoring Well MW-35



Picture 4: Monitoring Well MW-32



Picture 5: Monitoring Well MW-33



Picture 6: Monitoring Well MW-11

