



Long-Term Stewardship Assessment Report

DuPont Teijin Films

EPA ID #: VAD000019273

Chester, Virginia 23435

Assessment Date: March 23, 2018

Report Date: April 17, 2018

Introduction: Long-term 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 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 the 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.

Site Background: DuPont Teijin Films (DuPont Teijin) is an active polymer film manufacturing facility located at 1 Discovery Drive Chester, Virginia (Property) and is fifteen miles southeast of the City of Richmond. The Property consists of approximately 147 acres and is surrounded by water on three sides. The property is relatively flat with a slight rise in topography from west to east. The James River lies to the north, the Appomattox River, a major tributary of the James River, lies about one mile to the east, and some undeveloped land including a wildlife refuge with a 30-acre pond to the west with sporadic wetlands on the northern and western perimeters. An aerial map is attached as **Figure 1**.

The facility was constructed by ICI Polyester in the early 1970s and was purchased by E.I. du Pont de Nemours and Company (DuPont) in 1998. DuPont entered into a joint venture with Teijin Films in 2000. Manufacturing activities have consisted of various polymer film materials with over 50 polyester film types and 8,000 products. The primary chemicals used in the manufacturing process include ethylene glycol, dimethyl terephthalate, and terephthalic acid, and historically phenolic compounds. The facility manufactures methanol as a byproduct of the polyester process.

Current Site Status: In August 2012, EPA issued the Final Decision and Response to Comments (FDRTC). The final remedy determination is Corrective Action Complete with Controls. Controls include a Corrective Measures Implementation Plan (CMI Plan), groundwater use restrictions and land use restrictions. The final remedy detailed in the FDRTC is implemented through an Administrative Order on Consent between USEPA and DuPont dated September 25, 2012 (Order). The facility currently remains active. DuPont Teijin is currently seeking to sell the property.

Long-term Stewardship Site Visit: On March 23, 2018, EPA conducted a long-term stewardship site visit with DuPont Teijin representatives and its contractor to discuss and assess the status of the implemented remedies at the site.

The attendees were:

Name	Organization	Email Address	Phone No.
John Hopkins	EPA Region 3	hopkins.john@epa.gov	(215)814-3437
Ed Hotham	EPA Region 3	hotham.leonard@epa.gov	(215)814-5788
Jane Ulrich	DuPont Teijin Films	jayne.ulrich@usa.dupont.com	(804)530-9378
Thomas Stilley	DuPont Corporate Remediation Group	thomas.e.stilley@dupont.com	(757)301-3592
Gregg Donahue	AECOM	gregg.donahue@aecom.com	

Institutional Controls (ICs) Status:

Administrative Order on Consent: The Order is the method for implementing institutional controls required as a condition of the Statement of Basis and Final Decision. The following ICs apply to the DuPont Teijin facility, shown on Figure 1:

Land Use Restriction: The Property shall not be used for residential purposes. There were no residential structures observed at the time of the visit.

Groundwater Use Restriction: Groundwater at the facility shall not be used for any purpose other than industrial use as non-contact cooling water and monitoring activities required by VADEQ and/or EPA. DuPont representatives mentioned that potable water from the facility is supplied by the County of Chesterfield.

Well Installation Restriction: No new wells have been drilled or installed at the Property.

Materials Management Plan: The Materials Management Plan (MMP) details how all excavated soils will be handled and disposed in areas of known contamination at Solid Waste Management Units (SWMUs) 3 and 5 as well as Area of Concern (AOC) D. Sludge holding and drying basins are found at SWMU #5 while the other two areas are currently grass or asphalt. Soils removed from MMP areas must be sampled, characterized and handled accordingly. There were no signs of construction or other earth-moving activities.

Engineering Controls (ECs) Status:

Security Fencing: DuPont Teijin is secured with a perimeter fence, guard house and surveillance cameras. The fencing was observed intact at the time of the visit.

Groundwater Monitoring: DuPont Teijin conducts annual groundwater monitoring at seventeen wells. Constituents of potential concern (COPCs) in groundwater are total phenols, Dowtherm components (1,1-biphenyl and diphenyl ether), 1,4-dioxane and chlorinated solvents (primarily PCE, TCE, and DCE). Six wells are located along the northern part of the site to monitor migration towards the James River (MW-11, MW-100A, MW-100B, MW-100C, MW-101A and MW-200B). Seven wells are in

the interior of the site to monitor concentrations over time (MW-04, MW-08, MW-102A, MW-105A, MW-106A, MW-203A and North Well).

The latest 2017 groundwater sampling results suggest that COPCs concentrations are within historical range at most wells. However, diphenyl ether concentrations increased from 9,100 ug/L in 2016 to 13,000 ug/L at MW-4. DuPont Teijin will continue to monitor until COPC concentrations reach their respective Maximum Contaminant Levels (MCLs) or EPA Region III Regional Screening Levels (RSLs) in groundwater.

Groundwater flow direction beneath the Property is to the north/northeast. Some wells not sampled remain intact and are used to measure groundwater elevation levels. There is believed to be off-site source of chlorinated solvents in the deeper aquifer. Three wells along the eastern perimeter of the site are used to monitor the PCE plume.

Financial Assurance: Financial Assurance is not required for this site.

Reporting Requirements/Compliance: Pursuant to the Order, Dupont Teijin is required to submit annual groundwater monitoring reports. There are no issues of noncompliance regarding reporting requirements as DuPont has submitted an “Annual Groundwater Monitoring Report” each year, the last of which was received July 17, 2018. No transfer of property, change in use of the property, or work that will affect contamination at the property has been reported.

Mapping: The EPA facility website map is accurate and includes the 147-acre Dupont Teijin Property. The map was field verified and no issues were noted. 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 EC/IC deficiencies were identified. EPA has determined that the remedy institutional controls have been fully implemented.

Attachments:

Appendix A: Field Checklist

Figure 1: Aerial Map of DuPont Teijin Films

Picture 1: Vicinity of AOC D and MW-08

Picture 2: MW-101A

Picture 3: MW-100 series wells along James River

Picture 4: MW-200B and MW-101A

Current Groundwater Monitoring Network

Monitoring Well	Location	Condition	Notes
MW-100A	Along James River	Good	
MW-11	Along James River	Good	
MW-04	Interior		
MW-106A	Interior	Good	
MW-100B	Along James River	Good	
MW-200B	Along James River	Good	
MW-08	Interior	Good	
MW-203A	Interior		
MW-100C	Along James River	Good	
MW-101A	Along James River	Good	
MW-105A	Interior	Good	
MW-102A	Interior	OK	needs replacement label
North Well	Interior	Good	
DMW-6	Eastern Perimeter		
MW-103B	Eastern Perimeter	Good	
MW-202B	Eastern Perimeter		
DMW-1	Western Perimeter		

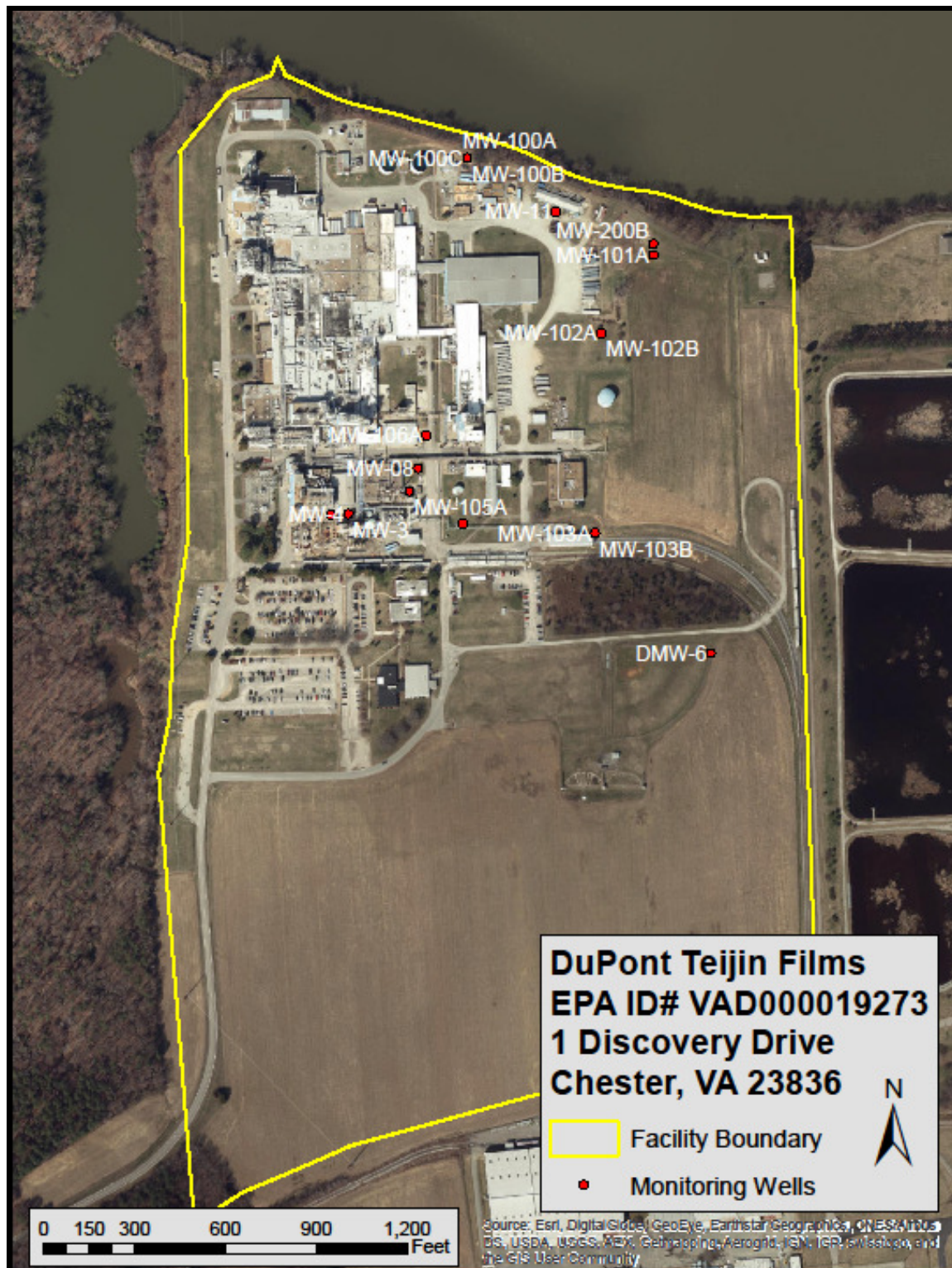
C. Document the Review in Report:

1. Document what was reviewed, photos, findings, and recommendations. Once approved by management, send Report to Facility and upload to EPA Facility website and update RCRA Info with applicable code(s).

<u>IC Review and Inspection Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
Any new wells installed at the facility?		X	
Is the facility being used for residential purposes?		X	
Groundwater monitoring wells still in place (17 wells)?	X		
Any new construction or earth-moving activities?		X	
Groundwater contaminant concentrations stable or decreasing in concentration?	X		Except in 2 wells MW-4 and MW-100A
Any evidence or reason to re-evaluate the number and location of monitoring points and/or monitoring frequency?		X	Annual
Have the ICs specified in the remedy been fully implemented?	X		

	Yes	No	Notes
Are the Consent Order limitations eliminating or reducing exposure of all potential receptors to known contamination?	X		
Are the ICs effective and reliable for the activities (current and future) at the property to which the controls are applied?	X		
Is the Facility connected to a public water supply?	X		
Is groundwater on-site used as a potable water supply?		X	
For wells where groundwater monitoring is no longer required, have the wells be decommissioned?		X	Some wells are used to measure groundwater elevation
Are there plans to develop or sell the property?		X	However DuPont is seeking to sell the property
Are all parts of the Consent Order being followed in order to ensure that the Covenant remains effective?	X		
Are modifications to the Consent Order needed?		X	
Have all reporting requirements been met? (transfer of property, annual activity and use limitations compliance)	X		Annual G-W Report recieved Jan '18

Figure 1: Aerial Map of DuPont Teijin Films



Picture 1: Vicinity of AOC D and MW-08



Picture 2: MW-101A



Picture 3: MW-100 series wells along James River



Picture 4: MW-200B and MW-101A

