



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Molly Joseph Ward  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-400  
1-800-592-5482

May 2, 2017

Tom Stilley  
DuPont CRG  
3700 Sandpiper Road, Unit A123  
Virginia Beach, VA 23456

### VIA ELECTRONIC MAIL

RE: **Long Term Stewardship Report**  
**DuPont Martinsville site**  
EPA ID VAD003114865

Dear Mr. Stilley:

The Department of Environmental Quality, Office of Remediation Programs (Department) has prepared the attached report following the Long Term Stewardship inspection performed on April 25, 2017 at the DuPont Martinsville site located in Henry County, Virginia. The inspection found no outstanding items with compliance of engineering and institutional controls.

You may contact me to discuss any questions. I can be reached at 804-698-4218 or by email at [tara.mason@deq.virginia.gov](mailto:tara.mason@deq.virginia.gov)

Respectfully,

A handwritten signature in blue ink that reads 'Tara D. Mason'.

Tara D. Mason  
Corrective Action Project Manager

cc: Herman Cook, Dupont  
Brett Fisher, Leslie Romanchik - DEQ-CO  
Cassie McGoldrick, EPA Region III (3LC50)  
Beth Lohman, DEQ-BRRO

Attachment



**Long-Term Stewardship Assessment Report**  
**DuPont Martinsville Site**  
**EPA ID VAD003114865**

Prepared by: Tara Mason

Date: May 2, 2017

**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 observed. 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 two fold, 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:** Located on DuPont Road in Henry County, Martinsville, Virginia, the DuPont facility has been part of this Piedmont region community since the early 1940s. The DuPont Martinsville site occupies approximately 465 acres on a large bend of the Smith River immediately adjacent to the City of Martinsville, Virginia. The Martinsville Plant began operating in 1941, producing primarily nylon fiber along with spinnerettes for the manufacturing of nylon and other fibers. Nylon manufacturing ceased in June 1998. Spinnerettes continued to be produced by DuPont Precision Concepts until the facilities were sold to INVISTA S. a r. l. (Invista), a subsidiary of Koch Industries, Inc., on April 30, 2004. Invista Precision Concepts continues spinnerette manufacture at the site.

**Current Site Status:** EPA issued the Final Decision and Response to Comment (FDRTC) on November 16, 2012, for the Martinsville site. The FDRTC incorporated the remedy detailed in the Statement of Basis, which restricts the Facility to industrial use through compliance with and maintenance of institutional controls, restriction on groundwater use, continued maintenance of existing soil capping over ash piles, and recovery of trichloroethylene (TCE) from groundwater. Virginia DEQ issued a Corrective Action Permit in 2013 to implement the selected remedy. In June 2014, the Corrective Measures Implementation Work Plan was approved. The CMI WP provided a general description of the proposed remedial measures and presented an implementation schedule for the design and construction of the proposed soil and groundwater remedies. The final remedial measures selected are as follows:

- Implement zero-valent iron clay treatment and installation, maintenance, and monitoring of a soil cap at SWMU H1.

- Install, maintain, and monitor an asphalt cap at AOC Fire Training Area (FTA).
- Implement soil vapor extraction treatment for source soils and enhanced biological stimulation of groundwater at AOC DuPont Precision Concepts (DPC).
- Conduct the required inspection and maintenance of the existing soil and vegetative caps at nine SWMUs and AOCs.
- Continue long-term groundwater and surface-water monitoring as necessary to evaluate remedial effectiveness until clean-up goals are met.
- Implement additional institutional and engineering controls (ICs and ECs) as necessary to prevent current and potential future exposure to contamination.

In addition, inspection and maintenance of the asphalt cap at SWMU I, the Former Lab Disposal Pits, will be included in the final remedy for the site although this activity is not specifically required by the RCRA Permit.

An Environmental Covenant was finalized on July 22, 2014.

**Long-term Stewardship Site Visit:** On April 25, 2017, DEQ conducted a long-term stewardship site visit to discuss and assess the status of the implemented remedies at the site. The attendees were:

<b>Name</b>	<b>Organization</b>	<b>Email Address</b>	<b>Phone No.</b>
Tara Mason	VADEQ – Central Office	<a href="mailto:tara.mason@deq.virginia.gov">tara.mason@deq.virginia.gov</a>	804-698-4218
Erich Weissbart	USEPA-Region III	<a href="mailto:Weissbart.erich@epa.gov">Weissbart.erich@epa.gov</a>	410-305-2779
Tom Stilley	DuPont	<a href="mailto:Thomas.E.Stilley@dupont.com">Thomas.E.Stilley@dupont.com</a>	757-301-3592
Herman Cook	DuPont	<a href="mailto:Herman.W.Cook@DuPont.com">Herman.W.Cook@DuPont.com</a>	276-656-0560
Joe Miles	DuPont	<a href="#">NA</a>	NA

**Institutional Controls (ICs) (Entire Facility):**

**Groundwater:** Groundwater at the Facility shall not be used for any purpose other than 1) industrial use as non-contact cooling water and 2) the operation, maintenance, and monitoring activities required by DEQ, unless it is demonstrated to DEQ that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy; and DEQ provides prior written approval for such use

No new groundwater extraction wells shall be installed at the Facility unless it is demonstrated to DEQ that such wells are necessary to implement the Final Remedy, and DEQ provides prior written approval to install such wells, or DEQ determines that the groundwater cleanup levels specified in the final remedy have been achieved.

**Use Restrictions:** Uses of all or any portion of the property shall, at a minimum, be restricted to uses that do not impair the efficacy of the remedial action.

**Residential Use Restriction:** The Facility property shall not be used for residential purposes unless it is demonstrated to DEQ that such use will not pose a threat to human health or the environment or adversely affect or interfere with the Final Remedy, and DEQ provides prior written approval for such use. The actions needed in order to meet those residential standards are the responsibility of the owner or developer that is proposing such use.

**Access:** DEQ and their authorized agents and representatives will be provided access to the Facility to inspect and evaluate the continued effectiveness of the final remedy

**Notification:** DEQ shall be notified at least thirty (30) calendar days prior to the sale of any interest in the Facility property or any portion thereof

**Engineering Controls (ECs):**

**Cap Maintenance:** Conduct inspections and perform necessary maintenance on the cap for the units below.

- SWMU B
- SWMU C
- SWMU D
- SWMU F
- SWMU G
- SWMU H1, H2, and H3
- AOC-Construction Landfill
- AOC-Former Incinerator Area
- Former Closed Conoco Pond-Flyash
- AOC Fire Training Area

In addition, inspection and maintenance of the asphalt cap at SWMU I, the Former Lab Disposal Pits, is being performed although not specifically required by the RCRA Permit.

***Earth Moving Activities:*** All earth moving activities, including excavation, drilling, and construction activities, in the SWMUs and AOCs listed below shall be conducted in accordance with a Materials Management Plan approved by DEQ and in such a manner that such activity will not pose a threat to human health and the environment or adversely affect or interfere with the Final Remedy

SWMU B  
SWMU C  
SWMU D  
SWMU F  
SWMU G  
SWMU H1, H2, and H3  
SWMU I  
AOC-Fire Training Area  
AOC-DuPont Precision Concepts  
AOC-Construction Landfill  
AOC-Former Incinerator Area  
Former Closed Conoco Pond-Flyash

**Financial Assurance:** Financial Assurance is up to date for corrective action activities at the Facility.

**Reporting Requirements/Compliance:** By March 1 of each year following the Agency's approval of the covenant, the Facility is required to submit written documentation stating whether or not the activity and use limitations in the covenant are being observed. There are no compliance issues identified with reporting. The Department received the documentation for 2017 in a letter dated February 14, 2017.

In addition, within one (1) month of after any of the following events, the then current owner of the Property shall submit, to the Agency and any Holder listed, written documentation describing the following: noncompliance with the activity and use limitations in the covenant; transfer of the Property; changes in use of the Property; or filing of applications for building permits for the Property and any proposals for any site work, if such building or proposed site work will affect the contamination on the Property subject to the covenant. The Department did not identify any non compliance issues with this requirement.

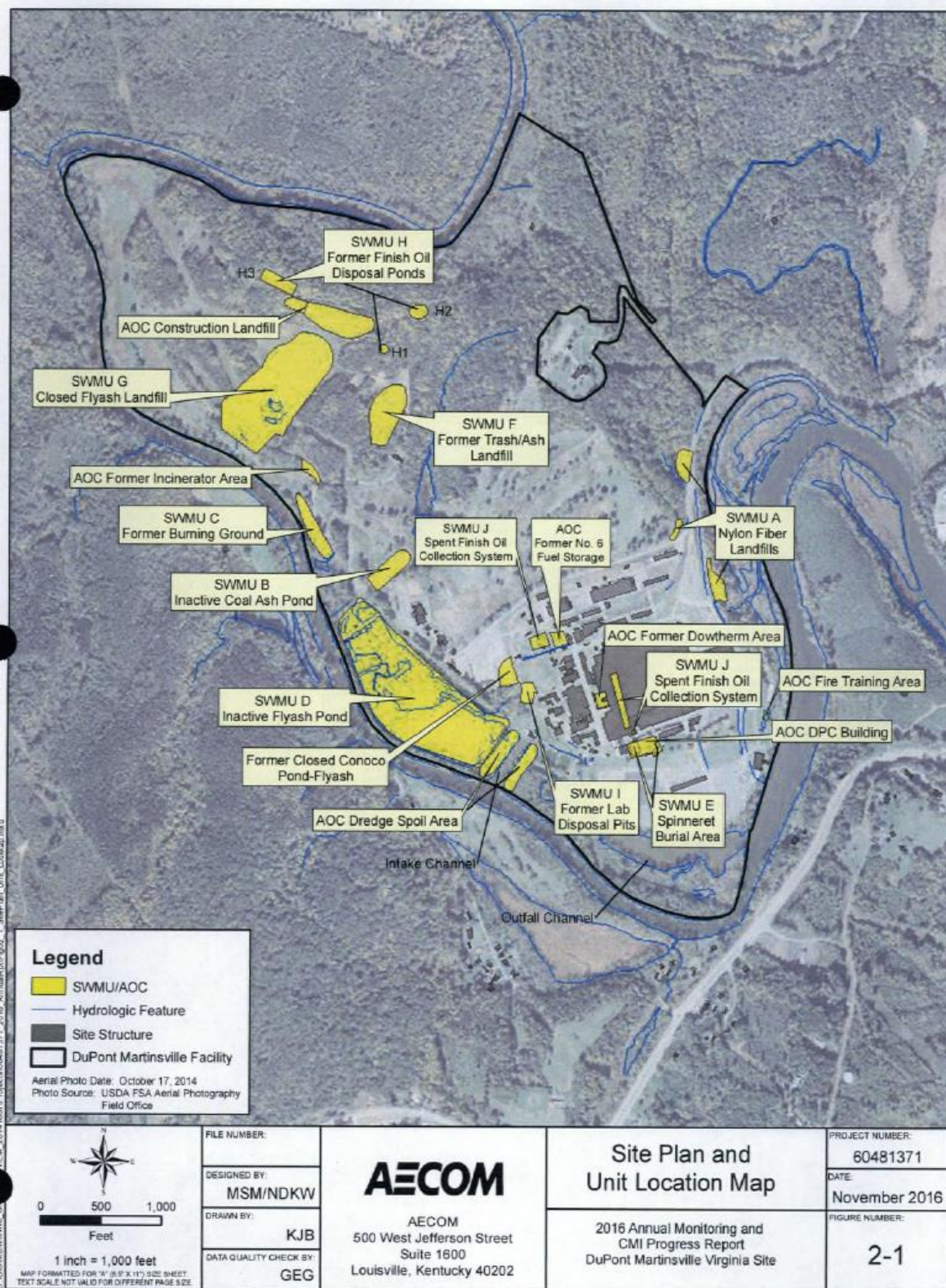
**Mapping:** The EPA Facility website figure has being updated with a Geospatial PDF showing the use restriction boundaries. The map was field-verified and no issues were noted other than the absence for the boundaries of Unit I which were not mapped in the UECA. The final remedy

selected for this unit was ongoing groundwater monitoring to assess effectiveness of the remedy; therefore no changes are required to the geospatial PDF as a result.

**Follow-up Activities:** No follow up activities are required.

**Conclusion:** The engineering and institutional controls selected are implemented and remain intact and undamaged. No EC/IC deficiencies have been identified.

**VDEQ Long Term Stewardship Inspection Site Map**  
 DuPont Martinsville Site – Milford, Virginia



**Select Site Photos**  
Photos by: Tara D. Mason  
April 25, 2017

**SWMU I - Asphalt Cap Under Repair**



**SWMU H1 – Final Remedy Constructed**





VADEQ - Long Term Stewardship Checklist  
 DuPont Martinsville site  
 VAD003114865

April 25, 2017  
 Tara D. Mason

Selected Remedies:

- Implement zero-valent iron clay treatment and installation, maintenance, and monitoring of a soil cap at SWMU H1. *Complete*
- Install, maintain, and monitor an asphalt cap at AOC Fire Training Area (FTA). *Complete -*
- Implement soil vapor extraction treatment for source soils and enhanced biological stimulation of groundwater at AOC DuPont Precision Concepts (DPC). *ongoing*
- Conduct the required inspection and maintenance of the existing soil and vegetative caps at nine SWMUs and AOCs: ✓
- Continue long-term groundwater and surface-water monitoring as necessary to evaluate remedial effectiveness until clean-up goals are met. ✓
- Implement additional institutional and engineering controls (ICs and ECs) as necessary to prevent current and potential future exposure to contamination. ✓ *2014*
- In addition, inspection and maintenance of the asphalt cap at SWMU I, the Former Lab Disposal Pits, will be included in the final remedy for the site although this activity is not specifically required by the RCRA Permit. ✓

AULs:

Restriction	Applies to Polygon
Conduct inspections and perform necessary maintenance on the cap.	SWMU B SWMU C SWMU D SWMU F SWMU G SWMU H1, H2, and H3 AOC-Construction Landfill AOC-Former Incinerator Area Former Closed Conoco Pond-Flyash <i>Unit 1 - not on map - or NECA - but being monitored.</i>
Inspection and maintenance following cap installation	AOC-Fire Training Area <i>- installation complete -</i>
Uses of all or any portion of the property shall, at a minimum, be restricted to uses that do not impair the efficacy of the remedial action.	Entire Facility
Groundwater at the Facility shall not be used for any purpose other than 1) industrial use as non-contact cooling water and 2) the operation, maintenance, and monitoring activities required by DEQ, unless it is demonstrated to DEQ that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy; and DEQ provides prior written approval for such use	Entire Facility ✓

Restriction	Applies to Polygon
<p>The Facility property shall not be used for residential purposes unless it is demonstrated to DEQ that such use will not pose a threat to human health or the environment or adversely affect or interfere with the Final Remedy, and DEQ provides prior written approval for such use. The actions needed in order to meet those residential standards are the responsibility of the owner or developer that is proposing such use. ✓</p>	<p>Entire Facility          - Potential transfer of 30 acres to County for use of prison. Have discussed w/ County and due diligence is underway.</p>
<p>No new groundwater extraction wells shall be installed at the Facility unless it is demonstrated to DEQ that such wells are necessary to implement the Final Remedy, and DEQ provides prior written approval to install such wells, or DEQ determines that the groundwater cleanup levels specified in the final remedy have been achieved. ✓</p>	<p>Entire Facility</p>
<p>All earth moving activities, including excavation, drilling, and construction activities, in the SWMUs and AOCs listed in Section VIII.A of the Statement of Basis (excluding those SWMUs and AOCs for which No Action is proposed) at the Facility shall be conducted in accordance with a Materials Management Plan approved by DEQ and in such a manner that such activity will not pose a threat to human health and the environment or adversely affect or interfere with the Final Remedy</p>	<p>SWMU B ✓          SWMU C ✓          SWMU D ✓          SWMU F ✓          SWMU G ✓          SWMU H1, H2, and H3 ✓          SWMU I ✓          AOC-Fire Training Area ✓          AOC-DuPont Precision Concepts ✓          AOC-Construction Landfill ✓          AOC-Former Incinerator Area ✓          Former Closed Conoco Pond-Flyash ✓</p>
<p>DEQ and their authorized agents and representatives will be provided access to the Facility to inspect and evaluate the continued effectiveness of the final remedy. ✓</p>	<p>Entire Facility</p>
<p>DEQ shall be notified at least thirty (30) calendar days prior to the sale of any interest in the Facility property or any portion thereof ✓</p>	<p>Entire Facility</p>

<u>IC Review and Inspection Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Have the ICs specified in the CA remedy been fully implemented in accordance with any applicable schedule?	✓		
• Do the ICs provide control for the entire extent of contamination (entire site or a specific portion)?	✓		
• Are the ICs eliminating or reducing exposure of all potential receptors to known contamination?	✓		
• Are the ICs sufficiently meeting the risk goals and applicable standards specified in the CA remedy?	✓		
• Are the ICs effective and reliable for the activities (current and future) at the property to which the controls are applied?	✓		
• Are the ICs suitable for the period/length of time which the controls are intended to be used as specified in the CA remedy?	✓		
• Are the ICs being maintained as required by the CA remedy in order to ensure that the controls remain effective?	✓		
• Are additional ICs necessary to achieve the intended goals of the CA remedy?		✓	
• Are modifications to the ICs needed?		✓	
<u>EC Review and Inspection Questions:</u>			
• Have the ECs specified in the CA remedy been fully implemented and constructed in accordance with any applicable plans and schedule?	✓		
• Are the ECs fully intact? Any damage visible? Have any repairs been necessary?	✓		Currently repairing #1 Unit I
• Do the ECs provide control for the entire extent of contamination (lateral and vertical)?	✓		
• Are the ECs effective at reducing contaminant migration? Is data available to provide supporting evidence?	✓		
• Are the ECs eliminating or mitigating exposures to all potential receptors?	✓		
• Are the ECs sufficiently meeting the risk goals and applicable standards specified in the CA remedy?	✓		
• Are the ECs effective and reliable for the activities (current and future) and climatic conditions at the property to which the controls are applied?	✓		

IC Review and Inspection Questions:	Yes	No	Notes
• Are the ECs reliable during the period/length of time which the controls are used to achieve and maintain applicable standards specified in the CA remedy?	✓		
• Are the ECs being monitored and maintained as required by the O&M plan or agreement developed in accordance with the CA remedy in order to ensure that the controls remain effective?	✓		Unit 1 repair
• Are additional ECs necessary to achieve the intended goals of the CA remedy?		✓	
• Are modifications to the ECs needed?		✓	

Notes: 4-25-2017- 10 am - 11:30 am -

Visual inspection of swamps - No issues identified.
Present - Tom Mason - DECD 804-698-9218
Tom Stilly - DuPont 757-301-3592
Herman Luck - DuPont - 276-656-0560
Joe Miles - DuPont - NA
Erin Weisbart - EPA - 410-305-2779
- Drove to each unit where accessible. Unit 1 undergoing repairs to cracks.
- Heavy rainfall limited observations of some areas - (H3) (Western edge of swamp D) - Facility confirmed no issues have been encountered in those areas -
- Observed final FTA cap, DPC horizontal well, cap on H1 - newly completed ZVE mix cap - vegetation has established
- Field verified Geospatial PDF - Unit 1 not on map, however not mapped in UECA.

- (consider if UECA is amended in future.)
- Local Govt present (leases, owns) buildings onsite.
- Potential property transfer / due diligence being performed by Henry Co.
- Soil gas/geotechnical borings were performed. DuPont <sup>has</sup> not seen results. Will update as appropriate.
- Solar use/has potentially on horizon.

