



DuPont Corporate Remediation Group
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May 30, 2014

Ms. Ronda L. Blayer
Michigan Department of Natural Resources and Environment (MDEQ)
Remediation Division
Constitution Hall – Atrium North
525 West Allegan Street
Lansing, Michigan 48933

**Remedial Investigation Report - Addendum No. 3
Supplemental Investigation – Bury Pit Landfill
DuPont Montague Site, Montague, Michigan**

Dear Ms. Blayer:

E.I. du Pont de Nemours and Company (DuPont) is submitting three copies of this report, which presents the results of data collection from the Bury Pit Landfill at the DuPont Montague site in Montague, Michigan. Supplemental investigation results conducted at Pierson Creek Landfill, Former Neoprene Landfill, and Basin Sludge Storage Areas were previously submitted under separate cover.

If you have any questions, feel free to contact me at 302.999.6209 or George Gregory at 832.422.4423.

Sincerely,

A handwritten signature in blue ink, reading "Thomas E. Stilley". The signature is fluid and cursive, with the first name "Thomas" and last name "Stilley" clearly legible.

Thomas E. Stilley, PE
Project Director

cc: Mr. Dale Bridgford, MDEQ
Mr. Adam Rosema, Muskegon County Board of Health

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Thomas E. Stilley

Title: Project Director

Signature: 



Memorandum

Date: May 30, 2014

To: Tom Stilley, DuPont CRG Project Director

DuPont Project No.: 507756

From: George Gregory, URS

URS Project No.: 18984840

Subject: **Remedial Investigation Report - Addendum No. 3
Supplemental Investigation – Bury Pit Landfill
DuPont Montague Site, Montague, Michigan**

The DuPont Montague facility (site) is a former chemical manufacturing facility located in Muskegon County, Michigan (see Figure 1). This site is subject to corrective action under Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), and its administrative rules. To date, E.I. du Pont de Nemours and Company (DuPont) has been conducting corrective action at the facility on a voluntary basis with the Michigan Department of Environmental Quality (MDEQ), Waste and Hazardous Materials Division, providing oversight as necessary. The site investigations have been completed in accordance with the protection standards and relevant processes of MDEQ Part 201 to meet the corrective action obligations under Part 111.

A remedial investigation (RI) was conducted at the facility in October 2010 and in June and July 2011 (referred to here as the 2010/2011 RI). The purpose of the 2010/2011 RI was to address data gaps identified in the November 2006 Prioritization of Waste Management Units and Areas of Concern, DuPont Montague [DuPont Corporate Remediation Group (CRG), 2006]. Activities conducted during the 2010 and 2011 fieldwork were proposed in the Remedial Investigation Work Plan for Waste Management Units and Areas of Concern, DuPont Montague Site (2007 RI Work Plan) submitted in February 2007.

Findings from the 2010-2011 work were documented in the DRAFT 2010/2011 Remedial Investigation Report (RI Report), which was submitted to MDEQ in June 2012. The RI Report recommended additional investigations to address data gaps identified in four areas: Bury Pit Landfill, Pierson Creek Landfill, Waste Neoprene Landfill, and Pierson Creek. In a June 25, 2013 conference call, MDEQ requested additional information from the Bury Pit Landfill.

Purpose

This memorandum presents the information from fieldwork conducted at the Bury Pit Landfill in 2013. The purpose of the 2013 activities at the Bury Pit Landfill was to provide additional lithological and analytical data of the aquifer. Additional investigation results from the Pierson Creek Landfill, Former Waste Neoprene Landfill, and Former Basin Sludge Storage Area were presented under separate cover.

Bury Pit Landfill Background

The Bury Pit Landfill operated from 1968 to 1985. This landfill is approximately 2.1 acres and was constructed over native soils northwest of the Former Manufacturing Area (see Figures 1 and 2). The Bury Pit Landfill does not have a liner or leachate collection system. The Bury Pit Landfill has an existing soil cover consisting of native soils (CH2MHill, 1991); however, visual observations indicate debris on the surface. The debris present at this surface likely resulted from previous test-pitting activities.

Twelve groundwater monitoring wells are associated with the landfill (BP-001-070, BP-002-100, BP-003-070, BP-004-070, BP-005-070, BPL-006-058, BPL-006-090, BPL-007-065, BPL-007-093, BP-008-060, BPL-009-060, and BPL-009-085). Five of the 12 locations (BP-001-070, BP-002-100, BP-003-070, BPL-009-060, and BPL-009-085) were routinely sampled between 1990 and 2003. Groundwater monitoring data at these locations do not indicate that a release to groundwater has occurred. Based on the low constituent concentrations detected in the groundwater in the area of the landfill, the MDEQ allowed DuPont to stop groundwater monitoring activities in the area (MDEQ, 2004).

The 2010/2011 RI focused on the collection of surface soil data at the Bury Pit Landfill. Groundwater data were not collected at that time. However, during MDEQ's review of 2010/2011 RI data collected at the downgradient Pierson Creek Landfill, MDEQ requested additional hydrogeological data be collected at the Bury Pit Landfill.

2013 Supplemental Remedial Investigation Activities

The purpose of the 2013 supplemental RI activities at the Bury Pit Landfill was to provide additional lithological and analytical data of the aquifer. These data were requested by MDEQ during a July 9, 2013 webmeeting. The purpose of collecting these data was to help determine if the aquifer has the potential for significantly stratified groundwater flow. After the webmeeting, URS submitted a set of slides to MDEQ via email on July 9, 2013 describing the work that had already been completed and the agreed scope to be performed.

The scope of work included the following tasks:

- Measure groundwater elevations.
- Install one soil boring (2013SBBP-01) advanced through the complete thickness of the aquifer using a rotasonic rig.
- Use natural gamma logging of soil boring 2013SBBP-01 and eight monitoring wells.

These activities were completed in June 2013 and October 2013. This section provides a discussion of the methods used to complete these tasks, the analytical parameters, and any deviations to the intended scope of work.

Groundwater Elevation Measurements – June 2013

On June 17, 2013, groundwater elevations were measured in available monitoring wells at the Bury Pit Landfill coincident with measurements conducted at the Pierson

Creek area. Note that wells BPL-007-065, BPL-007-093, BPL-008-058, and BPL-008-090 could not be located in June due to vegetation. Results from the measurements are provided in Table 2 and posted on Figure 2.

As indicated by the groundwater potentiometric contour lines, the direction of groundwater flow is to the southwest. Monitoring well BP-008-060 is hydraulically upgradient of the Bury Pit Landfill, and there are several wells along the downgradient side of the landfill. As intended, soil boring 2013SBBP-01 is directly downgradient of the landfill.

Measurements from two well clusters (BPL-001-070/BPL-002-100 and BPL-009-060/BPL-009-085) indicated that there was little difference in the potentiometric surface between wells of different screen intervals. This would suggest that there is not a significant stratifying barrier to prevent vertical flow in the aquifer.

Soil Boring 2013SBBP-01 – October 2013

Deep soil boring 2013SBBP-01 (shown in Figure 2) was completed to a depth of 107 feet below ground surface (bgs) using a truck-mounted rotosonic rig. This boring was drilled at the southwest corner of the landfill, alongside an access road that passes to the south of the Bury Pit Landfill. The intent of this boring was to determine if there are low permeability intervals (silts or clays) that would cause vertical stratification of groundwater flow near the landfill. In addition, soil samples were collected to determine if site-related volatile organic compounds (VOCs) were present in particular intervals and provide data related to vertical extent of those VOCs.

Photographs taken during the drilling are included as Appendix A. Appendix B contains the completed boring log for 2013SBBP-01 along with all logs from monitoring wells near the Bury Pit Landfill.

During the drilling, measurements for organic vapors were made at various depths using a photoionization detector (PID) to screen for VOCs. Soil samples were collected by the URS field geologist for VOC analysis based on those field readings and visible lithological changes. Samples were collected using Encore sampling devices, sealed in dedicated foil baggies, labeled, preserved on ice, and shipped to Eurofins Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Lancaster analyzed the samples for site-related VOCs.

Results from the laboratory analyses are presented in Appendix C.

Gamma Logging – October 2013

Natural gamma logging differentiates between intervals of high and low natural gamma radioactivity. This differentiation indicates overall lithology because clays have a higher natural gamma activity than silica sand (chemically unweathered sands also can have high natural gamma activity). Therefore, gamma logging was performed to collect additional information about potential stratifying intervals that could impede vertical hydraulic communication in the aquifer. Eight monitoring wells and soil boring 2013SBBP-01 were logged for natural gamma activity by Geosphere Inc. during the same period that gamma logging was performed at

Pierson Creek Landfill. The Geosphere report (contained in Appendix D) references the well IDs that were present on the well labels. Geosphere misread one of the well IDs, but the table below shows the corrected designation. These wells are shown in Figure 2 along with other nearby monitoring wells.

Geosphere IDs correspond to the revised well IDs as follows.

Geosphere ID	Location ID	Total Depth of Well Log (feet from top of casing)
BP3-70	BP-003-070	66 feet
BP4-70	BP-004-070	60 feet
BP5-70	BP-005-070	65 feet
BP6-D	BPL-006-090	90 feet
BP7-D	BPL-007-093	94 feet
BP08-S	BP-008-058	62 feet
BPL9	BPL-009-085	87 feet
BP210-D	BP-002-100	97.5 feet
SBBP-01-2013	2013SBBP-01	107 feet bgs

Data Quality Assessment

Analytical data collected during the October 2013 supplemental investigation were reviewed in accordance with the DuPont In-House Data Review (DDR) process to determine data usability. The DDR process consisted of an evaluation of the data based on hold times, blank contamination, matrix spike (MS)/matrix spike duplicate (MSD) recoveries, MS/MSD relative percent differences, laboratory control spike/control spike duplicate (LCS/LCSD) recoveries, LCS/LCSD relative percent differences, and surrogate recoveries.

Based on the quality assurance (QA)/quality control (QC) data review, the sampling results presented in this memorandum are considered usable for the project objectives with some of the following data qualifiers applied as warranted:

- B – Not detected substantially above the level reported in the laboratory or field blanks.
- J – Analyte present; reported value may not be accurate or precise.
- U – Not detected at the stated reporting limit.
- UJ – Not detected. Reporting limit may not be accurate or precise.

Additional information regarding these qualifications is contained in the DDR narrative report(s) included with the analytical data in Appendix C.

Remedial Investigation Results – 2013 Bury Pit Landfill Results

Lithological Results

Lithological data collected during the October-November 2013 fieldwork found limited evidence of stratification of the aquifer in the vicinity of the Bury Pit Landfill.

Soil boring 2013SBBP-01 encountered predominantly medium sand to a depth of 91 feet bgs. A single interval of silty sand was observed during logging between 40

feet and 47 feet bgs. The presence and approximate depth of this interval was confirmed by the gamma log, which interpreted the unit to be clayey silt. That silty unit however is in the unsaturated zone just above the water table. For this reason, the silty unit may impede downward migration of rainfall infiltration, but it is unlikely that this interval would affect groundwater flow in the aquifer.

At the base of the aquifer, (between 91 feet and 105 feet bgs), the lithology consisted of interbedded clay, silt and sand in both the visual log and the gamma log. Based on this lithology, this interval is likely to exhibit stratified flow within the individual layers; however, the interval is at the base of the aquifer and only represents a few feet of flow zone out of an approximately 50-foot thick aquifer.

Of the ten monitoring wells that were installed near the Bury Pit Landfill, two of the wells (BP-002-100 and BP-007-093) are installed at a depth that screens across the base of the aquifer (where the potential stratified layers are present). The remaining eight wells were installed in the relatively unstratified sand aquifer. Six of the wells screen the upper portion of the aquifer, and the other two are screened in the middle of the aquifer. There are no intervals of the aquifer that are not being monitored.

Analytical Results

Results from PID screening and soil samples collected from soil boring 2013SBBP-01 did not indicate significant migration of VOCs from the Bury Pit.

During the logging of soil boring 2013SBBP-01, a PID was used to screen the soil cores from the sonic rig. One limitation to the PID readings was that the surface air temperatures were cold and some of the low PID readings might have been related to warm moist air from the soil core “fogging” the cold PID detector.

The highest PID screening results were observed in the 19-foot to 40-foot-bgs interval and ranged from 1 part per million (ppm) to 2.8 ppm. PID screening results below this interval were lower, ranging from 0.1 ppm to 0.5 ppm. Both the interval of relatively high PID detections and the silty sand just below it (40 to 47 feet bgs) are above the water table (at about 50 feet bgs).

Based on the PID readings collected and the lithology observed, four soil samples were collected. Two soil samples were collected in the unsaturated zone (12 and 20 feet bgs): one was collected just above the silty sand interval (at 35 feet bgs), and one soil sample was collected in the aquifer matrix (at 65 feet bgs). This distribution of soil samples was selected in an attempt to identify what might be the source of the low-level PID detections.

The soil samples were analyzed for site-related VOCs. Table 2 presents the results of the analysis. The sample depths and relevant PID detections are presented in the table below. Moisture content is shown to demonstrate which samples were collected from the saturated zone.

Sample Depth (feet bgs)	PID Detections	VOC Detections	Lithology Observed	Moisture Content (Laboratory Result)
12	0.1 ppm at 11 feet	Acetaldehyde 1200J µg/kg	tan; fine to medium grained sand; very loose; damp to moist	2.4%
20	2.5 ppm at 19 feet	Acetaldehyde 1100J µg/kg	tan; fine to medium grained sand; very loose; damp to moist	3.3%
35	2.2 ppm at 35 feet	Acetaldehyde 2000J µg/kg Acetone 23J µg/kg Benzene 2J µg/kg Methylene chloride 6J µg/kg Toluene 4J µg/kg	tan; fine to medium grained sand; very loose; moist, wet at 37 feet	15.8 %
65	0.2 ppm at 65 feet	Acetaldehyde 2000J µg/kg Benzene 2J µg/kg Toluene 5J µg/kg	tan; medium grained sand; wet; loose	18.6%

Five VOCs were detected in the 2013 soil samples: acetaldehyde, acetone, benzene, methylene chloride, and toluene, and all five were present at estimated concentrations (denoted with a “J” qualifier on the table indicating that the result was detected at a concentration above the method detection limit but below the practical quantification limit.).

Conclusions and Recommendations

All intervals of the aquifer are screened by at least one well. There are 12 monitoring wells installed near the Bury Pit Landfill. Two of the wells screen the base of the aquifer (where there are potentially stratifying layers). The remaining ten wells were installed in the relatively unstratified sand aquifer.

Lithological, hydrological, and analytical data collected found limited evidence of stratification in the aquifer and there was no indication of significant migration of VOCs from the Bury Pit Landfill. This result is consistent with the past findings from the semiannual groundwater monitoring that was conducted until 2003.

Based on the findings of this investigation, no further investigation is warranted, and the Bury Pit Landfill will be evaluated as part of the remedial action plan (RAP). As noted in the 2012 RI Report, based on the unit history (reported use as a former burning ground), additional analysis of the complete dioxin/furan analyte list (17 dioxin and furan congeners) in surface soil will be conducted as part of RAP planning activities.

References

- DERS. 1997. *Pre-Remedial Action Plan Investigation*, DuPont Montague Facility, Montague Michigan. June.
- DuPont CRG. 2006. *Prioritization of Waste Management Units and Areas of Concern at the DuPont Montague Site*, Montague Michigan. November 2006.
- DuPont CRG. 2007. *Remedial Investigation Work Plan for Waste Management Units and Areas of Concern*. DuPont Montague Site, Montague, Michigan. February 2007.
- DuPont. 1989. *Facility Assessment of E.I. du Pont de Nemours and Co., Montague Plant, Montague Michigan*. Engineering Services Division, Solid Waste and Geologic Engineering. June.
- NTP. 2011. *Report on Carcinogens*, Twelfth Edition. Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. 499 pp. Available on-line at: <http://ntp.niehs.nih.gov/?objectid=03C9AF75-E1BF-FF40-DBA9EC0928DF8B15>.
- URS. 2012. *DRAFT 2010/2011 Remedial Investigation Report*, DuPont Montague Works, Montague, Michigan. June.

Tables

Table 1
Groundwater Elevation Measurements - June 17, 2013
Remedial Investigation Report
Addendum No. 3 - Bury Pit Landfill
DuPont Montague Works
Montague, Michigan

Well ID	X-Coord	Y-Coord	Date Measured	Time Measured	Water Level (ft TOC)	Top of casing elevation (ft MSL)	June 17, 2013 Potentiometric Surface Elevation (ft MSL)
BP-001-070	12579851.81	699131.37	6/17/2013	16:00	51.59	657.36	605.77
BP-002-100	12579837.75	699124.78	6/17/2013	15:55	53.39	659.05	605.66
BP-003-070	12579406.89	699041.88	6/17/2013	16:15	55.10	659.81	604.71
BP-004-070	12579670.61	699594.55	6/17/2013	16:24	49.01	655.39	606.38
BP-005-070	12580019.71	699136.09	6/17/2013	15:55	52.98	658.85	605.87
BP-008-060	12580001.56	699674.11	6/17/2013	16:20	46.02	655.47	609.45
BPL-009-060	12579588.00	699261.23	6/17/2013	16:05	52.94	658.38	605.44
BPL-009-085	12579587.32	699266.69	6/17/2013	16:07	53.02	658.46	605.44

Table 2
Soil Results from 2013SBBP-01 - October 2013
Addendum No. 3 - Bury Pit Landfill
DuPont Montague Site
Montague, Michigan

Parameter Name	Location ID	2013SBBP-01	2013SBBP-01	2013SBBP-01	2013SBBP-01	2013SBBP-01
	Sample Depth (ft BGS)	12	20	35	65	
	Sample Date	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013
	Units	Regular Sample	Regular Sample	Regular Sample	Regular Sample	Regular Sample
Volatile Organic Compounds (VOCs)						
1,1,1-TRICHLORO ETHANE	UG/KG	<1U	<1U	<1U	<1U	<1U
1,1,2-TRICHLOROTRIFLUOROETHANE	UG/KG	<2U	<2U	<2U	<2U	<2U
1,1-DICHLORO ETHANE	UG/KG	<1U	<1U	<1U	<1U	<1U
ACETALDEHYDE	UG/KG	1200J	1100J	2000J	2000J	2000J
ACETONE	UG/KG	<8U	<8U	23J	<9U	<9U
BENZENE	UG/KG	<0.5U	<0.6U	2J	2J	2J
CARBON TETRACHLORIDE	UG/KG	<1U	<1U	<1U	<1U	<1U
CHLOROFORM	UG/KG	<1U	<1U	<1U	<1U	<1U
CIS-1,2-DICHLOROETHENE	UG/KG	<1U	<1U	<1U	<1U	<1U
DICHLORODIFLUOROMETHANE	UG/KG	<2U	<2U	<2U	<2U	<2U
METHYLENE CHLORIDE	UG/KG	<2U	<2U	6J	<2U	<2U
TETRACHLOROETHENE	UG/KG	<1U	<1U	<1U	<1U	<1U
TETRAHYDROFURAN	UG/KG	<4U	<5U	<5U	<5U	<5U
TOLUENE	UG/KG	<1U	<1U	4J	5J	5J
TRANS-1,2-DICHLOROETHENE	UG/KG	<1U	<1U	<1U	<1U	<1U
TRICHLOROETHENE	UG/KG	<1U	<1U	<1U	<1U	<1U
TRICHLOROFLUOROMETHANE	UG/KG	<2U	<2U	<2U	<2U	<2U
PERCENT MOISTURE	%	2.4	3.3	15.8	18.6	18.6

NOTES:

U: Analyte not detected above reporting limit

J: Estimated result detected above reporting limit but below practical quantitation limit

UG/KG: micrograms per kilogram

Table 3
Groundwater Results from Bury Pit Monitoring Wells - 2003
Addendum No. 3 - Bury Pit Landfill
DuPont Montague Site
Montague, Michigan

Parameter Name	Nonresidential Drinking Water Criteria	Units	Location Sample Date	BP-001-070 06/19/2003 Field Sample	BP-002-100 06/19/2003 Field Sample	BP-003-070 06/19/2003 Field Sample	BP-003-070 06/19/2003 Duplicate	BP-009-085 06/19/2003 Field Sample	BP-009-060 06/19/2003 Field Sample	BP-001-070 12/11/2003 Field Sample
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	200	UG/L	Unfiltered	5J	5	15	15	4J	15	7
1,1,2-Trichlorotrifluoroethane	170,000	UG/L	Unfiltered	<2U	<2U	<2U	<2U	<2U	<2U	<2U
1,1-Dichloroethane	2,500	UG/L	Unfiltered	3J	<1U	3J	3J	2J	4J	5J
Acetaldehyde	2,700	UG/L	Unfiltered	NR	NR	NR	NR	NR	NR	NR
Acetone	2,100	UG/L	Unfiltered	NR	NR	NR	NR	NR	NR	NR
Benzene	5	UG/L	Unfiltered	<0.5U	<0.5U	<0.5U	<0.5U	<0.5U	<0.5U	<0.5U
Carbon Tetrachloride	5	UG/L	Unfiltered	<1U	<1U	<1U	<1U	<1U	<1U	<1U
Chloroform	80	UG/L	Unfiltered	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U
cis-1,2 Dichloroethene	70	UG/L	Unfiltered	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U
Dichlorodifluoromethane	4,800	UG/L	Unfiltered	<2U	<2U	<2U	<2U	<2U	<2U	<2U
Methylene Chloride	5	UG/L	Unfiltered	<2U	<2U	<2U	<2U	<2U	<2U	<2U
Tetrachloroethene	5	UG/L	Unfiltered	0.9J	<0.8U	1J	1J	<0.8U	1J	<0.8U
Toluene	790	UG/L	Unfiltered	<0.7U	<0.7U	<0.7U	<0.7U	<0.7U	<0.7U	<0.7U
trans-1,2-Dichloroethene	100	UG/L	Unfiltered	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U	<0.8U
Trichloroethene	5	UG/L	Unfiltered	<1U	<1U	<1U	<1U	<1U	<1U	<1U
Trichlorofluoromethane	7,300	UG/L	Unfiltered	<2U	<2U	2J	2J	<2U	<2U	<2U

NOTES:

From: Table 1. Groundwater: Residential and Non-Residential Part 201
Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based
Screening Levels (December 30, 2013):

U: Analyte not detected above reporting limit

J: Estimated result detected above reporting limit but below practical
quantitation limit

UG/L: micrograms per liter

Table 3
Groundwater Results from Bury Pit Monitoring Wells - 2003
Addendum No. 3 - Bury Pit Landfill
DuPont Montague Site
Montague, Michigan

Parameter Name	Nonresidential Drinking Water Criteria	Units	Location Sample Date	BP-002-100 12/11/2003 Field Sample	BP-003-070 12/11/2003 Field Sample	BP-009-085 12/11/2003 Field Sample	BPL-009-060 12/11/2003 Field Sample
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	200	UG/L	Unfiltered	<0.8U	36	<0.8U	47
1,1,2-Trichlorotrifluoroethane	170,000	UG/L	Unfiltered	<2U	4J	<2U	2J
1,1-Dichloroethane	2,500	UG/L	Unfiltered	<1U	5J	<1U	9
Acetaldehyde	2,700	UG/L	Unfiltered	NR	NR	NR	NR
Acetone	2,100	UG/L	Unfiltered	NR	NR	NR	NR
Benzene	5	UG/L	Unfiltered	<0.5U	<0.5U	<0.5U	<0.5U
Carbon Tetrachloride	5	UG/L	Unfiltered	<1U	<1U	<1U	<1U
Chloroform	80	UG/L	Unfiltered	<0.8U	1J	<0.8U	1J
cis-1,2 Dichloroethene	70	UG/L	Unfiltered	<0.8U	<0.8U	<0.8U	<0.8U
Dichlorodifluoromethane	4,800	UG/L	Unfiltered	<2U	<2U	<2U	<2U
Methylene Chloride	5	UG/L	Unfiltered	<2U	<2U	<2U	<2U
Tetrachloroethene	5	UG/L	Unfiltered	<0.8U	2J	<0.8U	1J
Toluene	790	UG/L	Unfiltered	<0.7U	<0.7U	<0.7U	<0.7U
trans-1,2-Dichloroethene	100	UG/L	Unfiltered	<0.8U	<0.8U	<0.8U	<0.8U
Trichloroethene	5	UG/L	Unfiltered	<1U	<1U	<1U	<1U
Trichlorofluoromethane	7,300	UG/L	Unfiltered	<2U	5J	<2U	4J

NOTES:

From: Table 1. Groundwater: Residential and Non-Residential Part 201
Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based
Screening Levels (December 30, 2013):

U: Analyte not detected above reporting limit

J: Estimated result detected above reporting limit but below practical
quantitation limit

UG/L: micrograms per liter

Figures

Legend

- DuPont Property Line (from DuPont Real Estate)
- Road Centerline
- Pierison Creek - Main
- Pierison Creek - Tributary
- Waste Water Ditch
- Former Manufacturing Area
- Waste Management Unit (WMU) or Area of Concern (AOC)

2005 Aerial Credit: Remote Sensing & GIS Research and Outreach Services (RS&GIS), USDA-FSA Aerial Photography Field Office



1 inch = 1,200 feet
 MAP FORMATTED FOR 36" X 17" X 17" SIZE SHEET.
 THIS SHEET IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

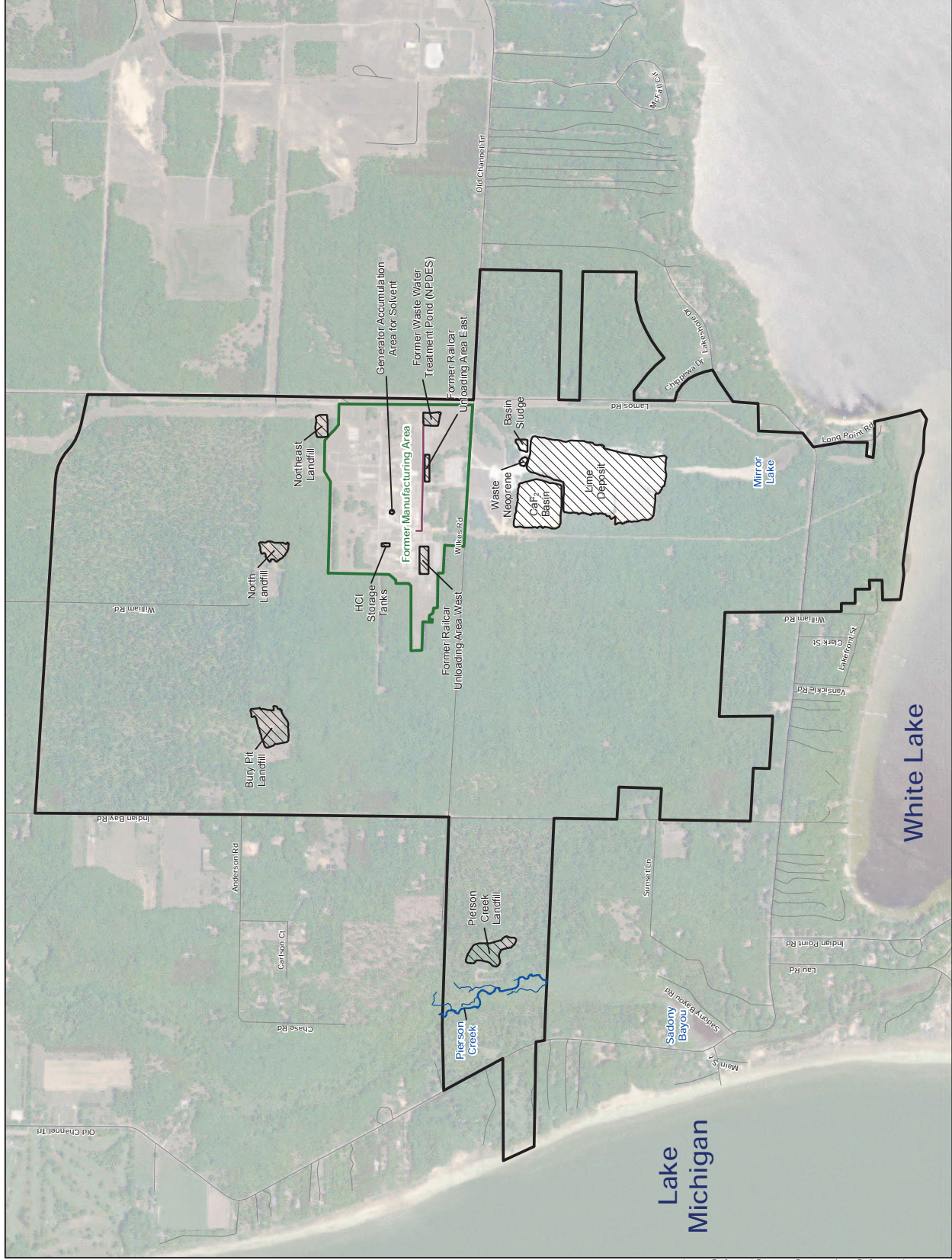
URS
 URS Corporation
 Iron Hill Corporate Center
 4051 Oglethorpe Road, Suite 300
 Newark, DE 19713

UNIT LOCATION MAP

DuPont Montague Facility
 Montague, Michigan

FILE NUMBER	PROJECT NUMBER
DESIGNED BY	DATE
DRAWN BY	FIGURE NUMBER
DATA QUALITY CHECK BY	

18984940
 GEG
 06/11/2012
 CAA
 1
 GEG

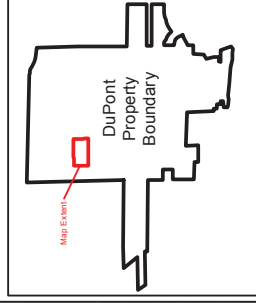


Legend

- Monitoring Well Location with ID and Surface Elevation (ft)
- Soil Boring Location with ID
- Potentiometric Surface Contour
- Cross-Section Location
- Waste Management Unit (WMU) or Area of Concern (AOC)

Potentiometric Surface Elevation measurements (ft MSL) taken June 17, 2013

2005 Aerial Credit: Remote Sensing & GIS Research and Outreach Services (RS&GIS), USDA-FSA Aerial Photography Field Office



0 40 80 160
Feet

1 inch = 80 feet

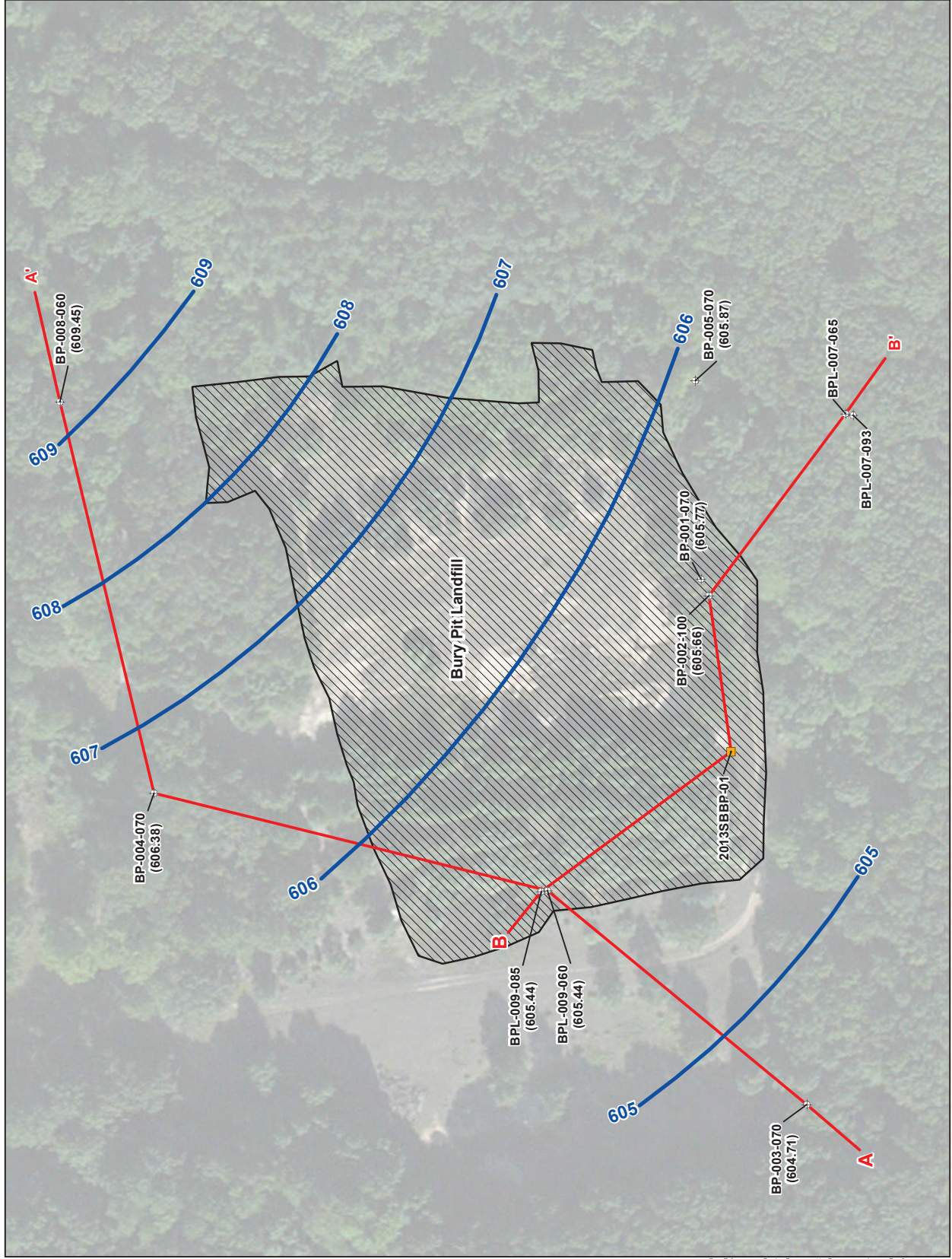
AWP FORMATTED FOR 9" (11" x 17") SIZE SHEET.
THIS DOCUMENT IS NOT FOR CONSTRUCTION PURPOSES.

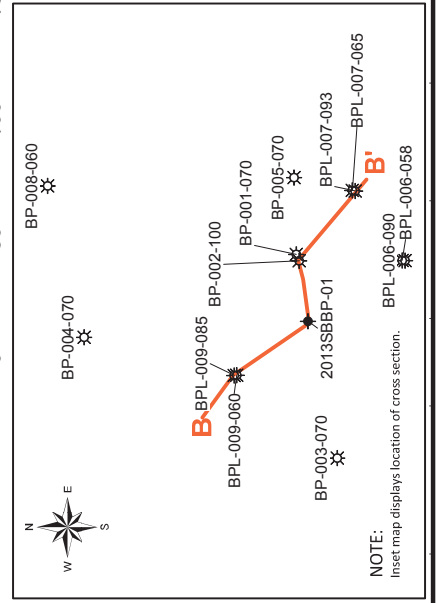
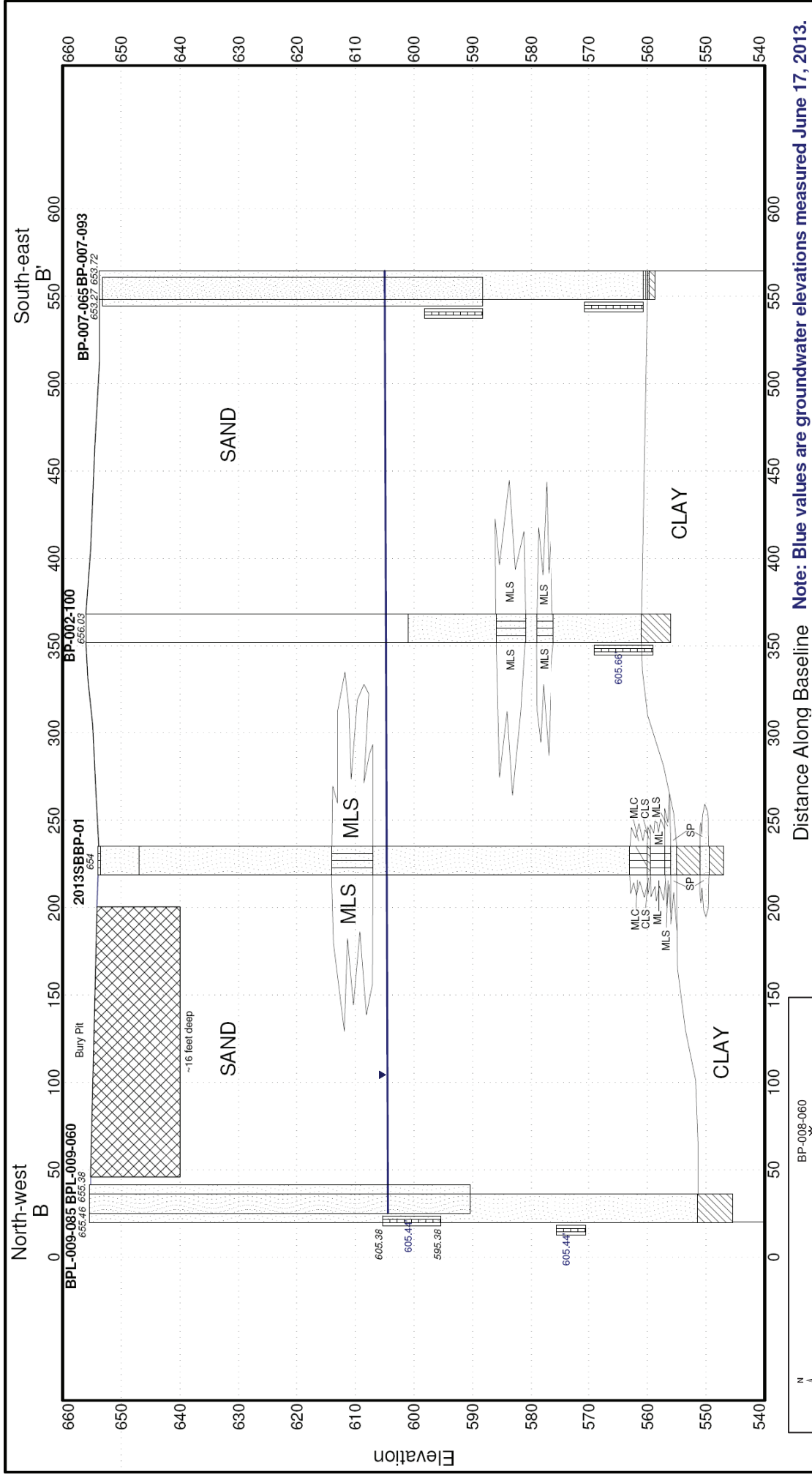
URS
URS Corporation
Sabre Building, Suite 300
4051 Ogletown Road
Newark, DE 19713

GROUNDWATER POTENTIOMETRIC SURFACE - JUNE 2013

Remedial Investigation Report - Addendum No. 3
Supplemental Investigation - Bury Pit
DuPont Montague Facility
Montague, Michigan

FILE NUMBER:	PROJECT NUMBER:
DESIGNED BY:	DATE:
DRAWN BY:	FIGURE NUMBER:
DATA QUALITY CHECK BY:	





Cross Section Bury Pit B - B'

DuPont - Montague

Montague, MI

PROJECT #

DATE

FIGURE

4

18984840

May 2014