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DuPont Engineering

June 4, 2013

Mr. Christopher A. Saari
Hydrogeologist
Northern Region Remediation and Redevelopment
State of Wisconsin Department of Natural Resources
Ashland Service Center
2501 Golf Course Road
Ashland, Wisconsin 54806

Waste Management Progress Report No. 1
For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
FID No.: 804009140
EPA ID No.: WIR000133447
BRRTS No. 02-04-00156

Dear Mr. Saari:

This letter and the attached URS progress report comprise E. I. du Pont de Nemours and Company's (DuPont's) permit-required progress report as specified in Condition 8 of the Hazardous Waste Remediation Variance for Biodegradation of Residual Contaminants and Removal of Residual Product and Debris (HWRV), which was issued for the site on May 22, 2012. These reports are to be submitted annually until the variance ends on May 22, 2017 and are due on or before June 5th of each year.

If you have any questions or comments, please do not hesitate to contact me at (812) 923-1136.

Sincerely,

Bradley S. Nave

Bradley S. Nave
Senior Site Director
DuPont Corporate Remediation Group

cc: Mr. Steve Ashenbrucker, WDNR

Attachments: URS Waste Management Progress Report No. 1 (2 paper copies /1 CD)

URS

June 4, 2013

Mr. Bradley S. Nave
Senior Site Director
E. I. du Pont de Nemours and Company
7204 Overlook Cove
Georgetown, IN 47122

Re: Waste Management Progress Report No. 1
For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
FID No.: 804009140
EPA ID No.: WIR000133447
BRRTS No. 02-04-00156

Dear Mr. Nave:

This letter report provides a summary of waste management actions conducted in 2012 in conjunction with the ongoing Bioremediation Pilot Test Program (BPTP) at the Former E. I. du Pont de Nemours and Company (DuPont) Barksdale Works site (Figure 1). This letter and its attachments are provided for your communication to the Wisconsin Department of Natural Resources (WDNR) so that DuPont may fulfill Condition 8 of the Hazardous Waste Remediation Variance for Biodegradation of Residual Contaminants and Removal of Residual Product and Debris (HWRV), which was issued for the site on May 22, 2012. Condition 8 requires that annual progress reports be submitted to the department in accordance with s. NR 724.13(3), Wis. Adm. Code. These reports are to be submitted annually until the variance ends on May 22, 2017 and are due on or before June 5th of each year.

1.0 BACKGROUND INFORMATION

1.1 REQUIREMENTS OF THE VARIANCE

Condition 8 of the variance specifies that the progress reports shall be submitted in accordance with NR 724.13(3), and shall include:

a. *Documentation of the type and amount of product residuals and debris removed from biopilot cells. Documentation of any characterization and container storage of product residuals and debris removed from biopilot cells. Documentation and of disposal of any product residuals and debris removed from the biopilot cells including manifest copies.*

b. *Documentation of any management, including consolidation, of discrete areas where impacted soil is located within narrow locations such as former ditches or locations that are contorted by the layout of former building features. Documentation of the location of those areas and the amount of soil that is moved. Documentation of the location of areas where the soil combined from discrete source areas is managed.*

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c. *Documentation of any alternative treatment of large debris that facilitates management, including washing and physical resizing of large debris for off-site disposal. Documentation of management of all impacted waste streams generated by these activities, including amounts and volumes of waste treated and generated.*

In addition to the documentation required in the text of the variance, s. NR 724.13(3) requires the following be included in the progress report:

(a) A brief discussion of the progress of the remediation system, including:

1. *As applicable to the site or facility, total contaminant extraction and destruction to date in pounds of contaminant removed.*
2. *A discussion of any system operational problems, periods of shutdown, equipment malfunctions and any potential problems.*
3. *An overall evaluation of the effectiveness of the system, including an evaluation of whether or not any active remediation should be modified or turned off, based upon actual and projected contaminant destruction data, whether or not natural attenuation can be relied upon to effectively complete the remediation, whether or not natural attenuation monitoring will be required, and whether or not the site or facility is ready to apply for case closure under ch. NR 726.*
4. *Recommendations for future activities, if appropriate.*

(b) A site map that indicates the location of pertinent equipment and sampling points at the site or facility.

(c) Sufficient tables, graphs and figures to efficiently and concisely summarize and portray relevant data and pertinent field measurements.

(d) Laboratory reports and chain-of-custody for any laboratory data, unless otherwise directed by the department.

(e) A completed remediation system operation and maintenance reporting form supplied by the department, to be submitted semi–annually for those sites or facilities with active engineered remediation systems or annually for those sites or facilities with passive remediation systems.

It should be noted that only waste collection, management, and disposal work that was associated with construction and operation of the BPTP is addressed in this progress report. Details of the laboratory data collected to support the program in evaluating biodegradation as a site remedy are documented and evaluated separately.

1.2 BIOREMEDIATION PILOT TEST PROGRAM HISTORY

The Barksdale BPTP is focused on biodegradation of nitroaromatic and nitramine organic compounds (NNOCs) in soil. The BPTP began in 2007 with the construction of four in situ till areas (cells) intended to evaluate the effect of water, oxygen, and pH on the rate of in situ microbial degradation of 2,4- and 2,6-dinitrotoluene (DNT) in site soils as a possible alternative to conventional remedies. The 2007, cells are sited at location C01-C04 on Figure 2.

Early results indicated that degradation of the two primary DNT isomers was feasible however, the presence of various other NNOCs affected degradation rates; therefore, in 2008 the program was expanded to evaluate the extent of the observed effects with the addition of three more cells that contained less complex NNOC mixtures. After initiating tilling, several of the 2008 cells were found to contain solid pieces of residual product that adversely

effected cell heterogeneity and limited analysis of the test results from the new cells. As a result six additional cells within similar TNT/DNT ratios were constructed in 2009 at locations where the majority of such solids could be removed manually prior to tilling. Also in 2009 one of the 2008 cells was expanded to four times its original size with the construction of two contiguous new cells in order to evaluate potential economies of scale in cell operation. The 2008 through 2009 cells are sited at locations C05 through C15 on Figure 2.

In 2010, the investigation of new areas of the site discovered NNOC impacts in sandy soils whereas all cells prior to 2010 had been developed in fine grained clayey soils, therefore three additional cells were added in 2011 to evaluate degradation in the new soil types. These cells are sited at locations C16 through C18 on Figure 2.

All debris and product residues encountered during development of the first 18 cells had been collected, containerized and shipped to off-site incineration facilities. Up until 2010 product collection had been conducted either during bulk near surface debris removal prior to the initial tilling or by manually picking product solids from the till surface during later sampling events. In late 2010 significant layers of product were encountered at depth in proposed cell locations C16 and C17. Accessing these buried layers using excavation equipment required moving 48.5-tons of overburden soil impacted with low levels of DNT. RCRA regulations required off-site incineration of these soils that would otherwise have been amenable to biodegradation within the proposed cells at their sources.

Until 2012, all cells had been constructed in situ using the typical design shown on Figure 3. These in situ cells were necessarily situated at or below adjacent ground surface elevations. This limited the cells' ability to drain pore water. The requirement that cells be constructed in place, driven by hazardous waste land ban constraints, also prevented consolidation of small disjointed impacted areas into cells of sizes amenable to tiller operation, and segregation of non-native debris from soil being tested.

In July 2010 DuPont requested a hazardous waste remediation variance to address these constraints on the BPTP. Following DuPont's response to several sets of comments by the department, WDNR issued the May 22, 2012 HWRV for 5 years, which requires this report. A total of 10,000 cubic yards of soil may be treated as part of the operations permitted under the HWRV.

Table 1 lists cell by cell size, status, debris removal, product off-site disposal, and soil addition data for 2012. Since all pilot test activities prior to 2011 were conducted in situ and any debris or product removed from cells was handled in accordance with all RCRA rules, including land ban and Best Demonstrated Available Technology (BDAT) requirements. As such, actions taken prior to 2012 were not subject to the HWRV and are not addressed in this progress report.

2.0 REPORTING REQUIRED BY THE VARIANCE

This section provides the information stipulated in HWRV, which includes the information required by reference in NR 724.13(3).

2.1 PROGRESS OF THE BIOREMEDIATION PILOT TEST PROGRAM [NR 724.13(3) a]

As indicated in Section 1.1 above, Wisconsin NR 724.13(3)a has four reporting requirements. Each of these is discussed in the following sections.

2.1.1 NR 724.13(3)a 1): Contaminant Removal

The sited code requires: As applicable to the site or facility, total contaminant extraction and destruction to date in pounds of contaminant removed.

Table 1 includes estimates of contaminant mass removed (over the 2012 calendar year and to date) as well as estimated contaminant mass remaining for each cell and constituent of potential concern (COPC). The estimated masses indicated in Table 1 are based on averaged values for all samples collected in a given cell at the first sampling of a COPC (typically 8 to 12 samples per cell) and in the most recent event that included that COPC (typically 3 to 8 samples per cell). Because the distribution of COPCs in the soil in the cells is heterogeneous some of the most recent events show an apparent increase using these end-point averages; however, statistical analysis based on data collected across the full six years of the program show concentrations are actually decreasing. Such heterogeneity effects are more apparent in the single season 2012 removal estimates than in the long term to-date removal values.

Three COPCs (the two amino-dinitrotoluenes and 1,3,5-trinitrobenzene) show long-term increases, which is not unexpected, as these compounds are potential breakdown products associated with degradation pathways other than the aerobic processes intended to be fostered by the current bioremediation tests. In the case of nitrobenzene and the three nitrotoluene isomers, the overall concentrations of the COPCs are low enough on average that changes in laboratory detection limits and sample collection heterogeneity between events can account for much of the observed fluctuation in the reported mass trends. Most of the other COPCs being tracked have shown significant decreases over the life of the pilot program.

2.1.2 NR 724.13(3)a 2): Operational Issues

The sited code requires: A discussion of any system operational problems, periods of shutdown, equipment malfunctions and any potential problems.

Other than the on-going heterogeneity of the contaminant mixtures in the cells, no operational problems, periods of shutdown, or equipment malfunctions have occurred at the operational cells since the HWRV was issued.

2.1.3 NR 724.13(3)a 3): Evaluation of System Effectiveness

The sited code requires: An overall evaluation of the effectiveness of the system, including an evaluation of whether or not any active remediation should be modified or turned off, based upon actual and projected contaminant destruction data, whether or not natural attenuation can be relied upon to effectively complete the remediation, whether or not natural attenuation monitoring will be required, and whether or not the site or facility is ready to apply for case closure under ch. NR 726.

In general, the pilot test program results are showing promise for bioremediation of the site but continued evaluation is needed to determine if the process will be effective in reaching site-wide remedial goals.

Since this is a pilot test program the activities do not address all impacted areas on the site; therefore, discussion of site-wide monitored natural attenuation and case closure are not applicable.

The status of the cells active during the 2012 reporting period is as follows:

- Cells C01 through C07, C12, and C14 through C17 are actively undergoing monthly tilling and sampling throughout the May through September operational season.
- Cell C09 has reached calculated site-specific residual contaminant limits (SSRCLs) and has been planted with willow trees in order to evaluate the ability of the trees to control pore water. Drawing down pore water will maintain an aerobic environment that promotes continued degradation of potential residual soil contaminants. The trees will also consume nitrates evolved by the degradation process. Some problems with deer browsing the newly planted trees has occurred and various deterrents (scare crows, ground mesh, deer fences, and olfactory sprays) are being utilized at the cell.
- Cells C08, C10, C11, C13, and C18 have reached SSRCLs on average and have been allowed to sit fallow since spring 2012 in order to evaluate the soil for potential rebound effects. These cells will be resampled in spring 2014 and if all monitoring points remain below SSRCLs they may likely be planted to evaluate various vegetative covers (i.e., grasses, additional willows, or other tree varieties).
- Cell C19 was added to the program in 2012. This cell is intended to evaluate construction and operation of an above ground cell containing mixed DNT and TNT residues. The cell berms and base were completed in July 2012 and soil was loaded into them from adjacent investigation-sites under authority of the HWRV in August 2012. The configuration of the new cell is shown on Figure 4. Only one round of analytical data has been collected from the cell therefore, an estimate of removal was not available at the time of this report. Cell C21 was added to the program in 2012. This cell is intended to evaluate construction and operation of a narrow above ground cell containing mixed DNT and TNT residues collected from a regularly flooded ditch source area. The cell berms and base were completed in August 2012 and soil was loaded into them from the adjacent ditch under authority of the HWRV in September 2012 (as shown on Figure 6). Only one round of analytical data has been collected from the cell; therefore, an estimate of removal was not available at the time of this report.

2.1.4 NR 724.13(3)a 4) System Status and Recommended Future Work

The sited code requires: Recommendations for future activities, if appropriate. Activities proposed for the 2013 work season include:

- Initiation of C20, a cell proposed for construction in 2012 to evaluate above ground treatment of nitrotoluene (NT) impacted soils, was delayed due to the presence of asbestos containing materials (ACM) in the proposed impacted soil source areas. It is anticipated that this cell, which was constructed in 2012 (base and berms as shown on Figure 5), can be loaded with soil and begin operation in 2013 once ACM removal crews have completed their work in the source areas.
- Initiation of C22, a cell proposed for construction in 2012 to evaluate above ground treatment of di- and tri-nitroxylene (DNX/TNX) impacted soils, was postponed to allow additional off-site bench scale testing to further evaluate the potential for degradation of DNX/TNX impacted soils. At this time the data from the bench scale work is pending review and it is not known if C22 will be constructed in 2013.
- An additional cell, C23 is being will be constructed above ground and loaded with soil containing mixed DNT and TNT residues. It is proposed to be fitted with lysimeters and covers to be used in evaluating the movement and condition of pore water.

- An additional cell, C24, will be constructed for the evaluation of the effects of pH adjustment and natural soil amendments, as allowed within the HWRV, on soils solely containing percentage level concentrations of TNT, DNT and TNX, respectively. The new cell, which would contain separate sub cells to address each COPC, will allow evaluation of pH effects without the interference of COPC mixtures.

With these new cells, the total volume of soil that will be evaluated under the HWRV in 2013 is estimated to be 3,600 cubic yards, which is well under the permit limit of 10,000 cubic yards. Work beyond the 2013 season will be described in subsequent progress reports.

2.2 SITE MAPS [NR 724.13(3) b]

The sited code requires: A site map that indicates the location of pertinent equipment and sampling points at the site or facility. This information is provided in Figures 2 through 6. Figure 2 provides the locations of the test cells. Figures 3 through 6 provide details of the construction of the existing cells.

2.3 DATA PRESENTATION [NR 724.13(3) c]

The sited code requires: Sufficient tables, graphs and figures to efficiently and concisely summarize and portray relevant data and pertinent field measurements. This information is presented in Tables 1 through 3. Table 1 provides data regarding test cell dimensions and data indicating the progress of soil bioremediation. Table 2 lists debris and residuals removed for off-site disposal in 2012. Table 3 lists the source and quantities of soil moved to test cells in 2012.

2.4 DATA DOCUMENTATION [NR 724.13(3) d]

The sited code requires: Laboratory reports and chain–of–custody for any laboratory data, unless otherwise directed by the department. Most of the materials shipped off-site were declared hazardous and shipped to the chosen incinerator without confirmatory analyses. The exception was treated waste water generated by equipment decontamination. The reports documenting the analysis of this material are attached in Appendix C. With the approval of the department project manager, laboratory reports for trend monitoring will be submitted when the pilot test is complete.

2.5 REPORTING FORM [NR 724.13(3) e]

The sited code requires: A completed remediation system operation and maintenance reporting form supplied by the department, to be submitted semi–annually for those sites or facilities with active engineered remediation systems or annually for those sites or facilities with passive remediation systems. A completed copy of WDNR Form 4400-194: "Operation, Maintenance, Monitoring and Optimization Reporting of Soil and Groundwater Remediation Systems" is attached to this letter in Appendix A.

2.6 PRODUCT RESIDUALS AND DEBRIS REMOVED FROM BIOREMEDIATION PILOT CELLS [CONDITION 8a]

The sited variance condition requires:

- Documentation of the type and amount of product residuals and debris removed from biopilot cells.

- Documentation of any characterization and container storage of product residuals and debris removed from biopilot cells.
- Documentation and disposal of any product residuals and debris removed from the biopilot cells including manifest copies.

No product residuals or debris were removed from any of the existing Bioremediation Pilot Cells in 2012; however, product was recovered during site investigation work at locations in former production lines TNT07, TNT08 and TNT10 as well the TNX area (see Table 2 and Figure 7).

Product residues were identified by visual evidence and colorimetric test sprays (Expray®). No characterization testing was conducted since the residues were declared hazardous by process knowledge. All of the production residues recovered were containerized in 5-gallon plastic pails and wetted to more than 30% water by weight. One hundred pounds of the wetted block TNT from the TNT07 Graining House exterior was sized by crushing block TNT to 1-inch or less in diameter and bagging the resulting solids in 1-pound increments with about 0.5-lbs of water. Bagged pieces were stored in a 55-gallon steel drum in the on-site explosives storage magazine. The remaining product residuals were sized by slurrying with excess water before sieving to remove rocks and ensure all pieces were under 1-inch diameter. The sieved slurry was returned to the 5-gallon pails and stored in the magazine. All product residues were shipped under manifest 000712575VES to Trade Waste Incinerator in Sauget, IL for destruction by incineration. Some soils previously in contact with or surrounding the recovered product were later moved into new cells (see Section 2.7 below).

Debris managed in 2012, included wood, tile, scrap steel, and concrete from foundations in the source area investigation-sites.

Barksdale production buildings were typically wood frame structures on concrete foundations. Because explosives can absorb to wood exposed to production fumes, the standard practice for decommissioning of production structures was burning in place. This process destroyed almost all above grade wood but did not address buried components. Wood was typically present below grade in the Barksdale production buildings as flumes and catch boxes for process water management, and as forms from concrete pouring left on foundation walls and machine bases. Since wooden process water management components were in intimate contact with process residues, they tended to become heavily impacted. Rather than test all such items, DuPont opted to declare them as hazardous D001/D003 wastes when handled during investigation activities. Form boards generally are located 2 to 5 feet below floors and do not normally contact solid process residues, but they can become impacted when process water or leachate accumulates in the loose backfill placed around foundations, particularly when the adjacent native soils are low permeability clays. Since form boards are typically a small fraction of the total wood encountered, they have customarily been processed along with the process water management wood recovered.

Typically wood items are exposed mechanically, then scraped free of any solid product contained within or around them, broken up to under 12" in any dimension (this is generally done in place since the 75 to 100 year old wood is usually fairly rotted), loaded to lined roll-off boxes, and shipped off-site for incineration.

Impacted wood debris removed in 2012 was collected from three buildings and three ditches in the TNT07 line and one ditch in the TNT09 line as listed in Table 2 (see Figure 8). All

impacted wood debris removed in 2012 was shipped under manifest 000712578VES to Trade Waste Incinerator in Sauget, IL for destruction by incineration. Based on field screening and laboratory analyses, selected soil surrounding the recovered wood was later transferred into the new cells constructed in 2012.

The terra-cotta drainage tile used in buried drains and as stripper tower casings adsorbed process residues and has tested hazardous for DNT in the past. DuPont opted to declare the terra-cotta items as hazardous D030 waste when handled during investigation activities. Like wood items, drainage tiles are exposed mechanically, lifted to containment (typically a skid loader bucket), broken open, scraped free of any solid product contained within or around them, broken up to under 12" in any dimension, loaded to lined roll-off boxes, and shipped off-site for incineration.

In 2012 drain tile was recovered from two buildings in the TNT07 line and one building in the TNT10 line listed in Table 2. This material was shipped under manifest 000712578VES to Trade Waste Incinerator in Sauget, IL for destruction by incineration. Based on field screening and laboratory analyses, selected soil surrounding these debris items was later transferred into the new cells constructed in 2012.

Most of the concrete handled in 2012 was from floors of process buildings which were being investigated by trenching to locate potentially explosive concentrations of NNOCs. It was necessary to remove all floor slab concrete in the lines under investigation this season since past experience had indicated the potential for molten explosives to have seeped through cracks in process room floors and pool in voids within subfloor fill materials. Subsurface concrete in foundation walls was typically left in place unless the walls obstructed investigation trenching. Concrete encountered was field screened using an NNOC vapor detector (FIDO) and Expray. Concrete which screened without detections was centrally stockpiled for crushing and reuse as on-site construction aggregate. The stockpiled concrete was sampled at a rate of one analytical sample for NNOC testing every 50-cubic yards. No significant NNOCs were detected by this testing in 2012. Concrete with screening results above background was only encountered at the Bi/Tri-nitration Houses in TNT lines 7 and 8 and the floor trench bases in the Neutralization Houses. The majority of the concrete reacting to screening (about 1 to 2 cy at each production line) was kept at the source buildings. At TNT07 the material was left inside the former foundation walls where investigation sampling had detected impacted soil requiring future remediation. The soil and the concrete were covered with clean soil which was crowned and then tarped to prevent contact with storm water. At TNT08, the suspect concrete was broken up and used as aggregate inside the C19 sediment trap where it will become part of the test to see if it can be treated by microbes in the cell's storm water run-off. The small amount of concrete removed from the Neutralization Houses (under 2-cf per line) was also added to the C19 trap (see Table 3). No concrete was shipped off-site in 2012.

Only a small amount of scrap steel was discovered during the 2012 investigation and pilot projects (under 4-cy). Steel which could be adequately screened (steel without inaccessible internal channels that could have collected product) was screened using FIDO and Expray. Clean scrap was added to a tarped stockpile on a concrete slab. This material is slated for future recycling. Although no steel found in 2012 reacted to screening, any steel with voids (half a dozen 1 to 3-inch diameter pipes under 15-ft length) was added to a separate contained stockpile. The materials will be internally screened and appropriately processed once a safe method to open them is developed. No steel was shipped off-site in 2012.

Soil adhered to excavation equipment and site vehicles, was removed by power washing at the central site decontamination facility. Wash water from the process (1050 gallons) was passed through a series of baffle tanks then pumped into a 2000-gallon sedimentation tank to stand for 1 to 2 weeks. Clear water from the sedimentation tank was skimmed off and pumped through carbon canisters before being collected in a 2500-gallon storage tank pending characterization for shipment to the City of Superior Publicly Owned Treatment Works for disposal under manifest CRGM00171. Baffle tanks were scraped out after each day's use and the soil removed was accumulated in a containment pallet adjacent to the sump until the end of the field season. Soil collected in the baffle and sediment tanks (648-lbs) was added to the wood/tile roll-off and shipped under manifest 000712578VES to Trade Waste Incinerator in Sauget, IL for destruction by incineration. Carbon canisters, characterized as non-hazardous based on prior TCLP analyses, are annually exchanged and disposed by North American Aqua of Vandalia, MI.

2.7 MOVEMENT OF SOIL INTO PILOT CELLS [CONDITION 8b]

The sited variance condition requires:

- Documentation of any management, including consolidation, of discrete areas where impacted soil is located within narrow locations such as former ditches or locations that are contorted by the layout of former building features.
- Documentation of the location of those areas and the amount of soil that is moved.
- Documentation of the location of areas where the soil combined from discrete source areas is managed.

Crews moved 99-cy of soil and 2.8-cy of concrete from investigation-sites (see Figure 9) to bioremediation pilot cells during the 2012 field season as listed in Table 3. This material was selected based on FIDO screening after visible product residues had been removed. Soil from TNT07 was loaded via tracked excavator to an ATV dump truck and hauled to cell C19 where it was dumped then spread by tracked excavator prior to tilling. Soil from TNT09 was loaded directly into cell C21 from the adjacent ditches then tilled. The locations of these sources and the destination cells are shown on Figure 9.

2.8 ALTERNATIVE TREATMENT OF LARGE DEBRIS [CONDITION 8c]

The sited variance condition requires:

- Documentation of any alternative treatment of large debris that facilitates management, including washing and physical resizing of large debris for off-site disposal.
- Documentation of management of all impacted waste streams generated by these activities, including amounts and volumes of waste treated and generated.

Although waste management in 2012 included resizing of debris, the process was intended either to facilitate reuse of non-hazardous materials on-site or to prepare wastes sent off-site to meet treatment facility acceptance requirements. No alternative debris treatment was conducted in 2012 to de-characterize waste streams to support their disposal as non-hazardous materials.

3.0 SUMMARY

The information contained within this report will allow DuPont to comply with the reporting requirements of the May 22, 2012 Hazardous Waste Remediation Variance issued for the Former DuPont Barksdale Works site and this report should be included with DuPont's filing.

Should you have any questions or comments, please do not hesitate to contact us.

Sincerely,

Jon Hammerberg
Project Engineer
URS Corporation
(608) 770-4433

C. E. "Cary" Pooler, PG
Senior Project Manager
URS Corporation
(502) 217-1534

Attachments:

Table 1: 2012 Progress of Soil Bioremediation Pilot Test
Table 2: 2012 Debris and Residuals Removed for Off-site Disposal
Table 3: 2012 Soil and Debris Moved to Test Cells

Figure 1: Regional Site Location
Figure 2: Site Layout and Bio-Cell Locations
Figure 3: Typical Biopilot Sites Operational Stage 2007 - 2010
Figure 4: C19 TNT08 Bi-Tri House
Figure 5: C20 TNT09 Mono House
Figure 6: C21 TNT09 Neutralizing House Ditch
Figure 7: 2012 Product Recovery Locations
Figure 8: 2012 Debris Recovery Locations
Figure 9: 2012 Impacted Soil Recovery Locations

Appendix A: WDNR Remediation System Operation and Maintenance Reporting Form
Appendix B: Waste Manifests
- State of Wisconsin 2012 Hazardous Waste Report
- 000712575VES
- 000712578VES
- CRGM00171

Appendix C: Waste Characterization Lab Data
- Test America J280-33407-1 Barksdale Waste water Analytical Report

TABLES

Table 1
2012 Progress of Bioremediation Pilot Test Cells
Waste Management Progress Report No. 1
For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
Bayfield County, Wisconsin

Cell	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	Total for All Cells
Status	control	active	active	active	active	active	active	rest	phyto	rest	rest	rebuilt	rest	active	active	active	active	rest	new	set-up	new	set-up	
Tilling Events in 2012	0	3	3	3	3	3	3	1	0	1	1	1	1	3	3	3	3	1	1	0	1	0	38.0
Debris Removed 2012 (lbs.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Product Removed 2012 (lbs.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Soil Added to Cell 2012 (cy)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	41.1	0.0	103.6
Size (cy)	13.6	13.6	13.6	13.6	432.9	68.4	189.4	115.4	229.2	392.5	244.4	157.5	369.4	189.4	468.5	169.8	135.8	57.0	62.5	---	41.1	---	3377.7
Lbs. Removed by Bioremediation to Date																							
2,4,6-TNT	12.5	2.4	0.6	0.4	2.6	618.2	89.2	0.0	0.1	3.8	0.3	0.0	3.8	54.4	627.1	51.1	42.7	(0.1)	0.0	0.0	0.0	0.0	1509.0
2,4,6-TNX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2,4-DNT	0.8	1.0	0.5	0.4	817.3	126.0	31.0	4.7	0.1	188.5	0.1	0.0	24.5	6.0	16.1	0.0	135.6	0.1	0.0	0.0	0.0	0.0	1352.6
2,6-DNT	0.6	0.9	0.6	0.8	466.7	19.0	28.1	0.5	0.0	64.7	0.0	0.0	9.1	33.3	0.4	0.0	98.6	0.1	0.0	0.0	0.0	0.0	723.4
2,3-DNT	0.0	0.0	0.0	0.0	15.2	(0.9)	0.0	0.0	0.0	4.5	0.0	0.0	4.1	(4.2)	(0.7)	0.0	7.2	0.0	0.0	0.0	0.0	0.0	25.2
3,4-DNT	0.1	0.0	0.0	0.0	17.1	(0.3)	0.5	0.0	0.0	6.4	0.0	0.0	5.9	(1.8)	(0.8)	0.0	14.6	0.0	0.0	0.0	0.0	0.0	41.6
3,5-DNT	0.0	0.0	0.0	0.0	(0.2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0	(0.3)	0.0	0.0	0.0	0.0	0.0	0.1
Total DNT	1.3	1.9	1.0	1.0	1279.2	142.8	57.3	5.3	0.1	264.1	0.1	0.0	43.8	32.9	15.1	0.0	255.7	0.2	0.0	0.0	0.0	0.0	2101.6
1,2-DM-3,4-DNB	16.3	13.8	6.0	14.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	63.8
1,2-DM-3,5-DNB	16.0	13.5	6.2	14.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	64.5
1,2-DM-3,6-DNB	0.0	(0.1)	0.0	(0.5)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	4.6
1,2-DM-4,5-DNB	4.7	4.0	1.7	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	19.0
1,3-DM-2,4-DNB	51.9	38.9	17.1	40.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	34.3	0.1	0.0	0.0	0.0	0.0	183.1
1,3-DM-2,5-DNB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,4-DM-2,3-DNB	28.0	23.8	10.6	26.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0	0.0	104.9
1,4-DM-2,6-DNB	4.4	3.6	1.5	3.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	17.3
1,5-DM-2,3-DNB	1.0	0.8	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	3.8
1,5-DM-2,4-DNB	76.0	56.2	23.3	54.8	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	42.9	0.1	0.0	0.0	0.0	0.0	254.1
Total DNX	198.4	154.5	66.7	158.5	2.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	134.3	0.3	0.0	0.0	0.0	0.0	715.3
2-A-4,6-DNT	(0.2)	(0.1)	0.0	0.0	0.0	(0.4)	2.6	0.0	0.0	0.0	0.0	0.0	0.1	(0.4)	(0.9)	(3.2)	0.6	0.0	0.0	0.0	0.0	0.0	(1.8)
4-A-2,6-DNT	0.1	0.0	0.0	0.0	(0.2)	(4.6)	0.8	0.0	0.0	0.1	0.0	0.0	0.0	(1.3)	(9.0)	(5.6)	0.3	0.0	0.0	0.0	0.0	0.0	(19.5)
1,3,5-TNB	0.0	0.0	0.0	0.0	0.0	(0.5)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	(1.4)	(0.1)	1.2	0.0	0.0	0.0	0.0	0.0	(0.6)
1,3-DNB	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	3.2	0.0	0.0	0.0	0.0	0.0	4.1
NB	0.0	0.0	0.0	0.0	(0.1)	(0.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	(0.7)
2-NT	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.6
3-NT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-NT	0.0	0.0	0.0	0.0	(0.1)	(0.1)	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.1
NG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HMX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RDX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 1
2012 Progress of Bioremediation Pilot Test Cells
Waste Management Progress Report No. 1
For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
Bayfield County, Wisconsin

Cell	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	Total for All Cells
Lbs. Removed by Bioremediation in 2012																							
2,4,6-TNT	4.8	(2.0)	0.0	0.0	0.0	(11.9)	0.2	(0.1)	0.0	0.0	0.0	0.0	0.0	5.1	150.9	161.0	3.2	(0.1)	0.0	0.0	0.0	0.0	311.2
2,4,6-TNX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2,4-DNT	0.1	0.0	0.0	0.0	(2.9)	(2.4)	(0.7)	(0.3)	0.0	(0.3)	(0.1)	0.0	(0.2)	(0.2)	(0.6)	0.1	3.4	(0.1)	0.0	0.0	0.0	0.0	(4.1)
2,6-DNT	0.3	0.0	0.0	0.0	0.4	(0.6)	0.0	0.0	0.0	(0.4)	0.0	0.0	(0.4)	(2.1)	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	5.3
2,3-DNT	0.0	0.0	0.0	0.0	0.0	(0.3)	(0.4)	0.0	0.0	(1.7)	0.0	0.0	0.3	(2.9)	0.1	0.0	(1.4)	0.0	0.0	0.0	0.0	0.0	(6.3)
3,4-DNT	0.1	0.0	0.0	0.0	1.1	0.3	(0.1)	0.0	0.0	(2.6)	0.0	0.0	0.3	0.3	0.3	0.0	1.5	0.0	0.0	0.0	0.0	0.0	1.2
3,5-DNT	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	(0.1)	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.7
Total DNT	0.5	0.0	0.0	0.0	(1.1)	(3.0)	(1.2)	(0.3)	0.0	(5.2)	(0.1)	0.0	0.2	(5.3)	(0.2)	0.1	11.8	(0.1)	0.0	0.0	0.0	0.0	(4.0)
1,2-DM-3,4-DNB	1.5	1.4	1.3	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.4)	0.0	0.0	0.0	0.0	0.0	6.2
1,2-DM-3,5-DNB	1.4	1.3	1.3	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	7.3
1,2-DM-3,6-DNB	0.8	0.3	0.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	2.5
1,2-DM-4,5-DNB	0.4	0.4	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.3)	0.0	0.0	0.0	0.0	0.0	1.6
1,3-DM-2,4-DNB	4.0	3.4	3.1	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	19.7
1,3-DM-2,5-DNB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,4-DM-2,3-DNB	1.7	1.9	2.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(1.8)	0.0	0.0	0.0	0.0	0.0	7.1
1,4-DM-2,6-DNB	0.2	0.3	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.7
1,5-DM-2,3-DNB	0.2	0.1	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
1,5-DM-2,4-DNB	3.7	5.8	7.1	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(1.4)	0.0	0.0	0.0	0.0	0.0	23.5
Total DNX	13.9	14.9	15.8	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(2.5)	(0.2)	0.0	0.0	0.0	0.0	70.3
2-A-4,6-DNT	(0.1)	0.0	0.0	0.0	0.1	(0.4)	0.0	0.0	0.0	(0.1)	0.0	0.0	0.1	(0.2)	0.4	20.0	(0.3)	0.0	0.0	0.0	0.0	0.0	19.5
4-A-2,6-DNT	(0.1)	0.0	0.0	0.0	0.0	(0.6)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.0	8.4	(0.3)	0.0	0.0	0.0	0.0	0.0	9.2
1,3,5-TNB	0.0	0.0	0.0	0.0	0.0	(0.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.2)	(1.2)	(0.1)	0.2	0.0	0.0	0.0	0.0	0.0	(1.8)
1,3-DNB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.3
NB	0.0	0.0	0.0	0.0	0.0	(0.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	(0.1)	(0.1)	0.0	0.0	0.0	0.0	0.0	(0.7)
2-NT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	(0.1)
3-NT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-NT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)
NG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HMX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RDX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
Bayfield County, Wisconsin

Cell	C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	Total for All Cells
Lbs. Remaining																							
2,4,6-TNT	3.3	3.1	0.0	0.2	0.3	372.8	4.9	0.2	0.0	0.3	0.0	1120.0	0.4	12.7	69.7	231.6	5.7	0.1	222.2	0.0	640.4	0.0	2687.7
2,4,6-TNX	0.7	0.4	0.2	0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.1	1.4	0.0	0.0	0.0	0.2	0.0	6.4
2,4-DNT	0.1	0.1	0.1	0.1	6.8	3.9	2.3	0.9	0.0	1.6	0.1	284.6	0.5	2.1	1.5	0.4	4.2	0.2	1.2	0.0	0.5	0.0	311.4
2,6-DNT	0.2	0.1	0.0	0.1	1.6	1.9	1.6	0.2	0.0	0.8	0.0	45.1	0.6	3.5	0.3	0.0	4.4	0.1	0.1	0.0	0.0	0.0	60.3
2,3-DNT	0.1	0.0	0.0	0.1	2.4	1.2	0.9	0.0	0.0	2.2	0.0	5.9	0.3	7.9	0.8	0.0	5.3	0.0	0.0	0.0	0.0	0.0	27.0
3,4-DNT	0.1	0.0	0.0	0.1	2.2	1.0	0.9	0.0	0.0	3.1	0.0	6.2	0.4	8.2	0.9	0.0	4.6	0.0	0.0	0.0	0.0	0.0	27.6
3,5-DNT	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.0
Total DNT	0.4	0.2	0.1	0.3	13.2	7.9	5.6	1.2	0.0	7.9	0.2	341.8	2.0	22.5	3.6	0.4	18.8	0.3	1.3	0.0	0.6	0.0	428.4
1,2-DM-3,4-DNB	1.9	0.8	0.5	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	12.3
1,2-DM-3,5-DNB	1.8	0.7	0.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	10.9
1,2-DM-3,6-DNB	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	2.3
1,2-DM-4,5-DNB	0.7	0.3	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	4.4
1,3-DM-2,4-DNB	4.6	1.0	0.8	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	17.4	0.1	0.0	0.0	0.0	0.0	27.9
1,3-DM-2,5-DNB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,4-DM-2,3-DNB	2.9	1.0	0.7	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	10.5	0.1	0.0	0.0	0.0	0.0	18.2
1,4-DM-2,6-DNB	0.6	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	2.9
1,5-DM-2,3-DNB	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.8
1,5-DM-2,4-DNB	8.3	2.5	1.7	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	21.6	0.1	0.0	0.0	0.0	0.0	40.8
Total DNX	21.0	6.7	4.3	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	68.7	0.3	0.0	0.0	0.0	0.0	120.6
2-A-4,6-DNT	0.3	0.1	0.0	0.0	0.0	2.1	0.8	0.0	0.0	0.2	0.0	2.5	0.3	0.7	3.6	17.5	1.2	0.0	1.3	0.0	1.3	0.0	31.9
4-A-2,6-DNT	0.2	0.1	0.0	0.0	0.2	5.0	2.4	0.1	0.0	0.2	0.1	1.9	0.2	1.6	12.6	16.6	0.9	0.0	3.3	0.0	3.0	0.0	48.4
1,3,5-TNB	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	6.2	0.0	0.3	1.9	0.1	0.0	0.0	0.4	0.0	0.1	0.0	9.5
1,3-DNB	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	1.4
NB	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.2	0.0	1.7
2-NT	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5
3-NT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-NT	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4
NG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HMX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RDX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes:
TNX first analyzed in fall 2012 - no trend data available yet.
Cells C12, C19 and C21 first sampled in fall 2012 - no trend data available yet.
Cells C20 and C22 not yet loaded with soil for treatment
Lbs. = pounds
cy = cubic yards
Red numbers in parenthesis denotes negative data amounts

Table 2
2012 Debris and Residuals Removed for Off-site Disposal
Waste Management Progress Report No. 1
For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
Bayfield County, Wisconsin

2012 Off-site Disposal Summary				
Media	**Manifest**	**Amount Recovered (lbs.)**	**Amount Disposed (lbs.)**	
Tile Debris	000712578VES	12300		
Wood Debris	000712578VES	7360	19660	combined wood and tile
Product Residue	000712575VES	1975.2	2000	includes weight of 1 empty drum

2012 Off-site Disposal Detail					
Media	**Source**	**Material Description**	**Waste - Lbs.**	**Destination**	**Manifest**
Tile Debris	TNT10 Neutralizing House (Absorber Ho Column Casings)	42” diam. terra cotta tile	9600	TWI	000712578VES
	TNT07 Graining House Drain	8” diam. terra cotta tile	1800	TWI	000712578VES
	TNT07 Bi/Tri-Nitration House Drain	6” diam. terra cotta tile	900	TWI	000712578VES
Wood Debris	TNT07 Mono-Nitration House	form boards	100	TWI	000712578VES
	TNT07 Fortifying House	form boards	350	TWI	000712578VES
	TNT07 Neutralizing House	form boards	150	TWI	000712578VES
	TNT07 Neutralizing House Catch Box Overflow Ditch	process wood	1920	TWI	000712578VES
	TNT07 Neutralizing House Catch Box Drain	process wood	1220	TWI	000712578VES
	TNT07 Neutralizing House Catch Box	process wood	420	TWI	000712578VES
	TNT09 Neutralizing House Catch Box Drain	process wood	3200	TWI	000712578VES
Product Residue	TNT07: Graining Ho: Floor Drain Tile	TNT	95.9	TWI	000712575VES
	TNT07: Graining Ho: Kettle Basin	TNT	14.9	TWI	000712575VES
	TNT07: Graining Ho: N Wall Exterior	TNT	230.4	TWI	000712575VES
	TNT07: Graining Ho: N Wall Exterior - Block	TNT - bagged	148	TWI	000712575VES
	TNT07: Neutralizing Ho: CB Overflow Ditch	TNT	648.1	TWI	000712575VES
	TNT07: Neutralizing Ho: CB Drain Flume	TNT	396.1	TWI	000712575VES
	TNT07: Neutralizing Ho: E Rail Ditch	TNT	137.2	TWI	000712575VES
	TNT08: Area Ditch: Adjacent to TNT07 CB Overflow	TNT	29.4	TWI	000712575VES
	TNT10: Neutralizing Ho: Floor Subgrade	TNT	154	TWI	000712575VES
	TNX: TNX Ditch Sta. 030-045	TNX	108.1	TWI	000712575VES
	TNX: TNX Ditch Sta. 230	TNX	13.1	TWI	000712575VES

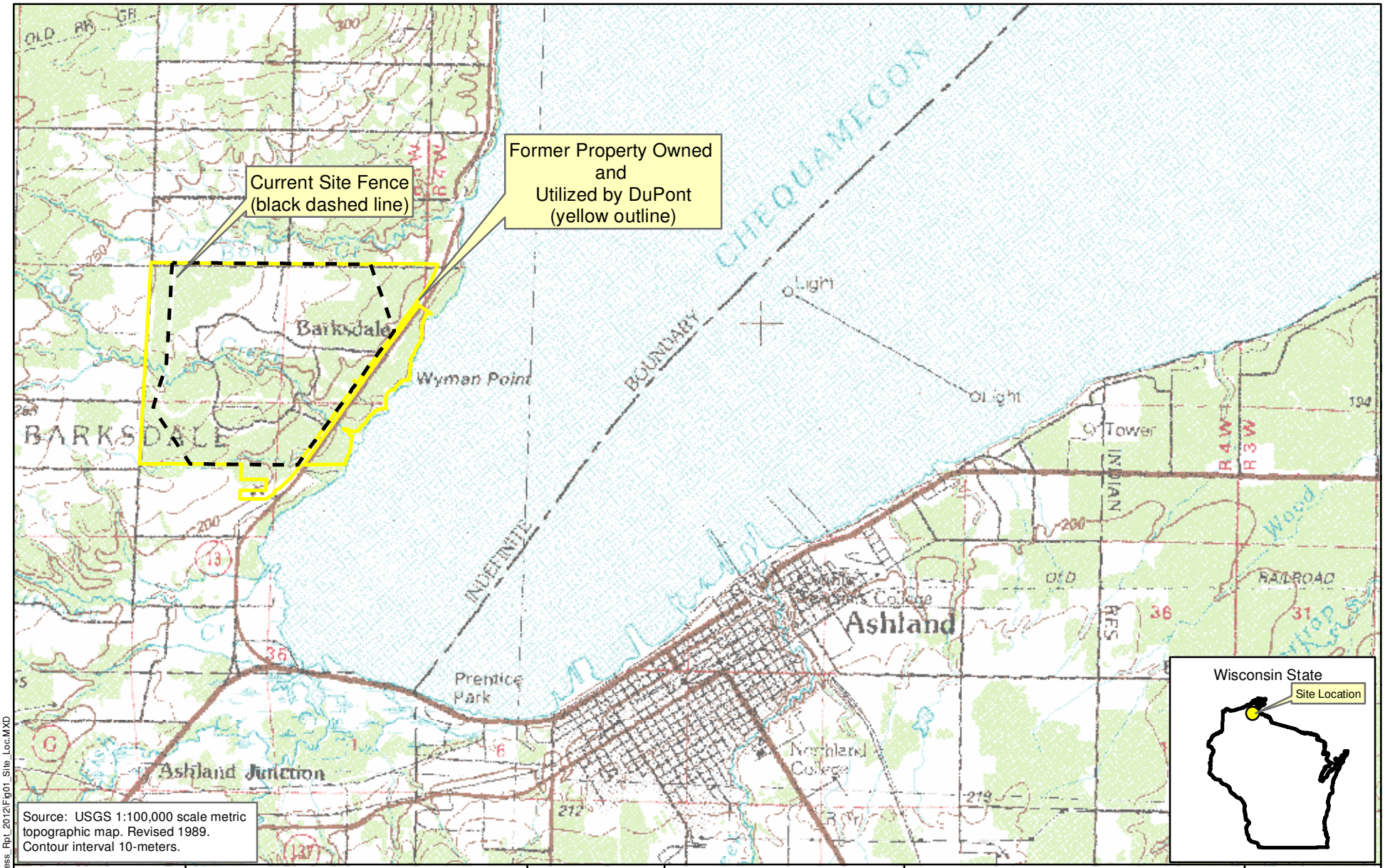
Notes:
Lbs. = pounds
diam. - diameter

Table 3
2012 Soil and Debris Moved to Test Cells
Waste Management Progress Report No. 1
For Period May 22, 2012 to May 22, 2013
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Explosives Plant
Remediation Variance Approval of May 22, 2012
Bayfield County, Wisconsin

Source	Destination Cell	Volume (cy)
TNT07 Graining Ho: soil within 6” of floor drain tile	C19	0.83
TNT07 Graining Ho: soil 12” below kettle basin concrete	C19	5.33
TNT07 Graining Ho: soil 6” around block TNT found outside north wall	C19	0.5
TNT07 Neutralizing Ho: soil within 6” of flume in CB Overflow Ditch	C19	3.26
TNT07 Neutralizing Ho: soil within 6” of flume in Catch Box Drain	C19	1.63
TNT07 Neutralizing Ho: soil within 12” of Catch Box walls	C19	3.11
TNT09 Fortifying Ho: soil screening above BG at floor drain ditch	C19	0.15
TNT08 Bi/Tri-Nitration Ho: soil inside foundation wall identified in 2011	C19	47.67
Total 2012		62.48
Source	**Destination Cell**	**Volume (cy)**
Refined Triton Ditch: stations 090-125	C21	4.83
TNT09 Neutralizing Ho: CB Drain Ditch	C21	6.67
TNT09 Neutralizing Ho: CB Drain Ditch	C21	14.81
TNT09 Neutralizing Ho: Rail Ditch soil within 12” of flow line	C21	14.81
Total 2012		41.12
Source	**Destination Cell**	**Volume (cy)**
TNT07 Neutralizing Ho: concrete from the base of floor drain trenches	C19	0.03
TNT10 Neutralizing Ho: concrete from the base of floor drain trenches	C19	0.06
TNT08 Bi/Tri-Nitration Ho: foundation wall concrete	C19	2.81
Total 2012		2.91

Notes:
cy = cubic yards

FIGURES



Area Map (Optional)

0 0.5 1 2

Miles

1:63,360

MAP FORMATED FOR "A" (8.5" X 11") SIZE SHEET.
SCALE NOT VALID FOR DIFFERENT PAGE SIZE.

FILE NUMBER:	
DESIGNED BY:	JH
DRAWN BY:	KJB
DATA QUALITY CHECK BY:	JH

URS Corporation
325 West Main Street
Suite 1202
Louisville, Kentucky 40202

Regional Site Location

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER:	18986218
DATE:	June 2013
FIGURE NUMBER:	1

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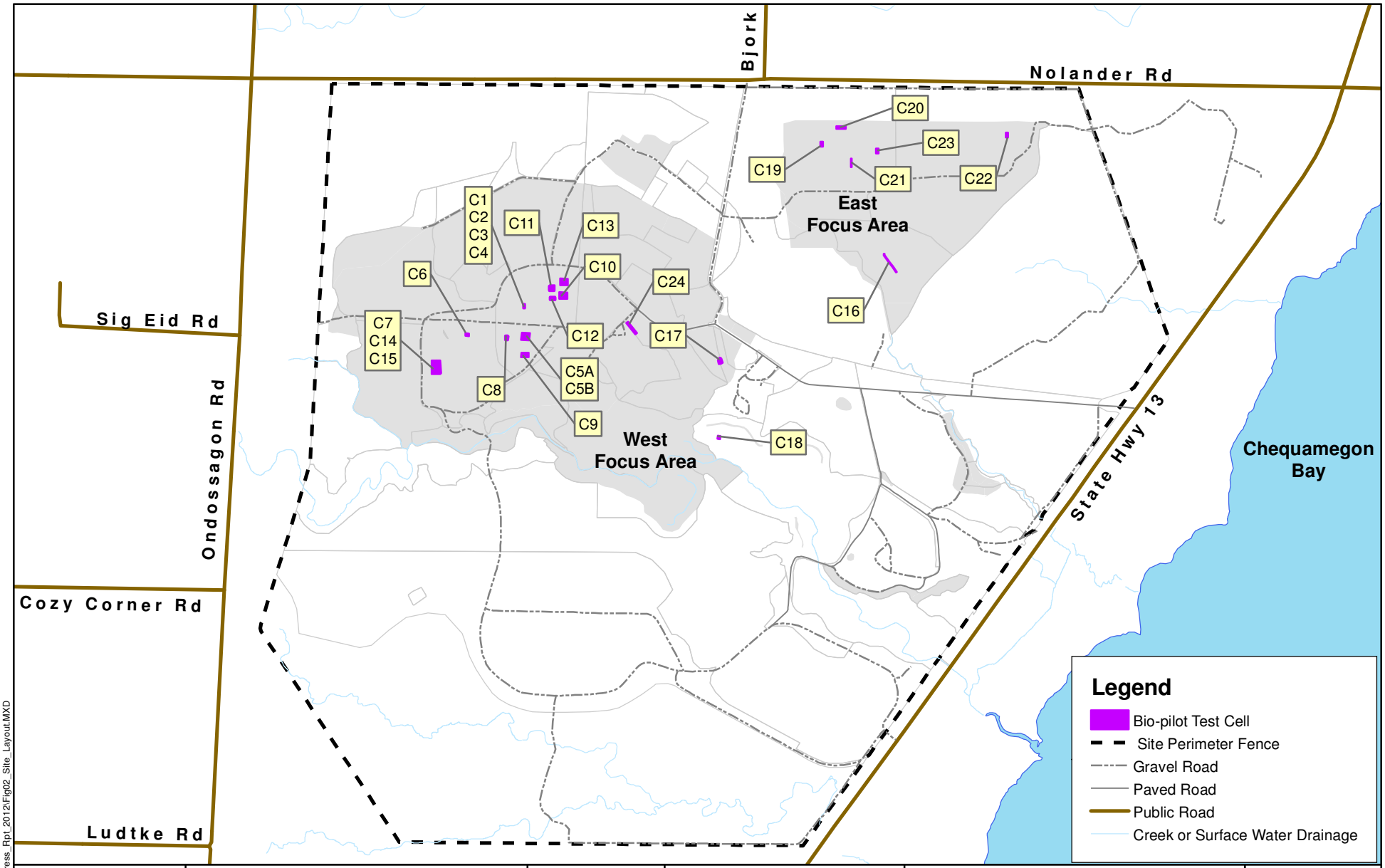

Area Map (Optional)

0 700 1,400 2,800

Feet

1:16,800

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FILE NUMBER:

DESIGNED BY: JH

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DATA QUALITY CHECK BY: JH

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Louisville, Kentucky 40202

Site Layout and Bio-cell Locations

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER: 18986218

DATE: June 2013

FIGURE NUMBER: 2

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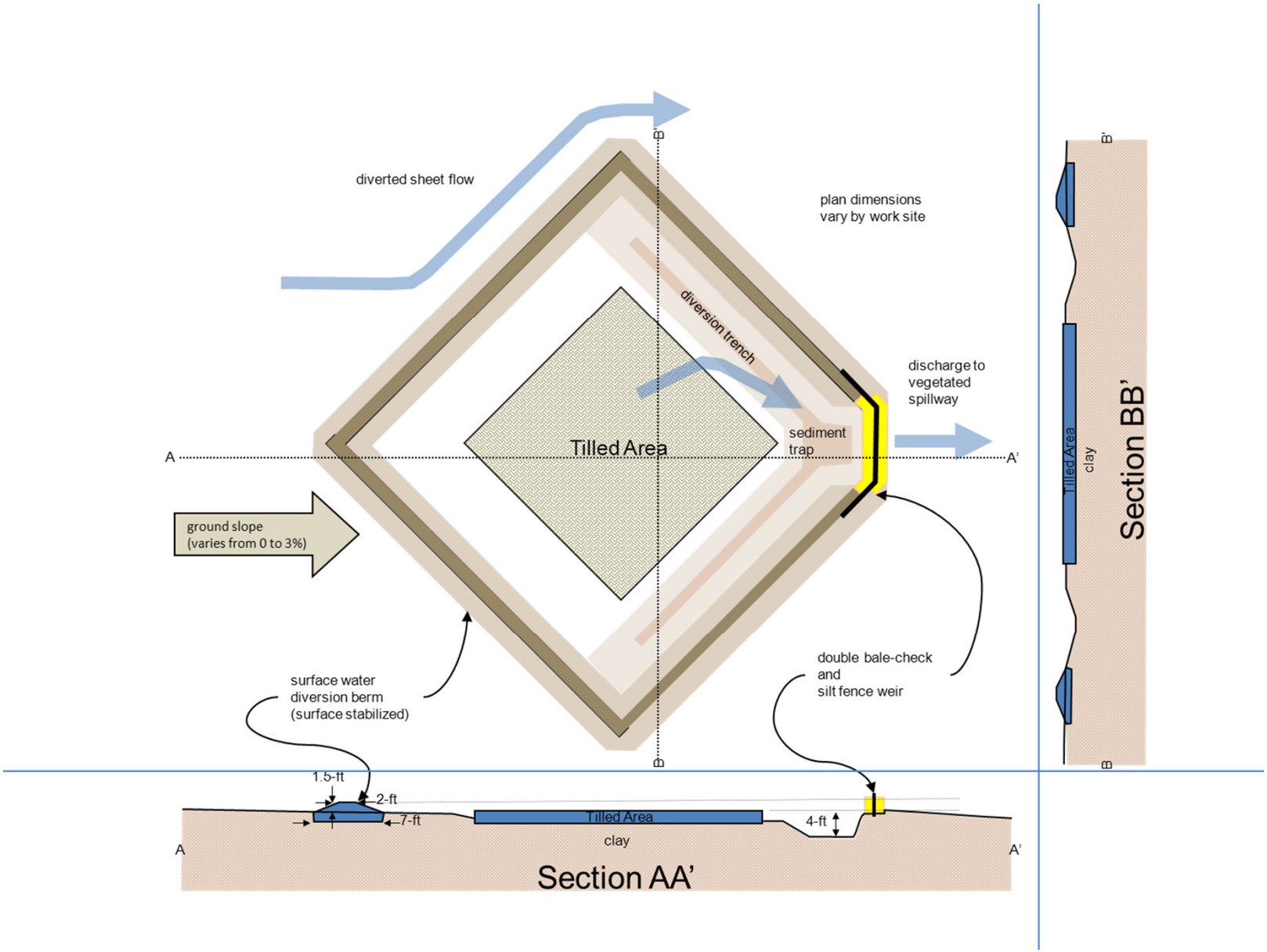

Area Map (Optional)

FILE NUMBER:	
DESIGNED BY:	JH
DRAWN BY:	KJB
DATA QUALITY CHECK BY:	JH

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Suite 1202
Louisville, Kentucky 40202

Typical Biopilot Sites Operational Stage 2007-2010

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER:	18986218
DATE:	June 2013
FIGURE NUMBER:	3

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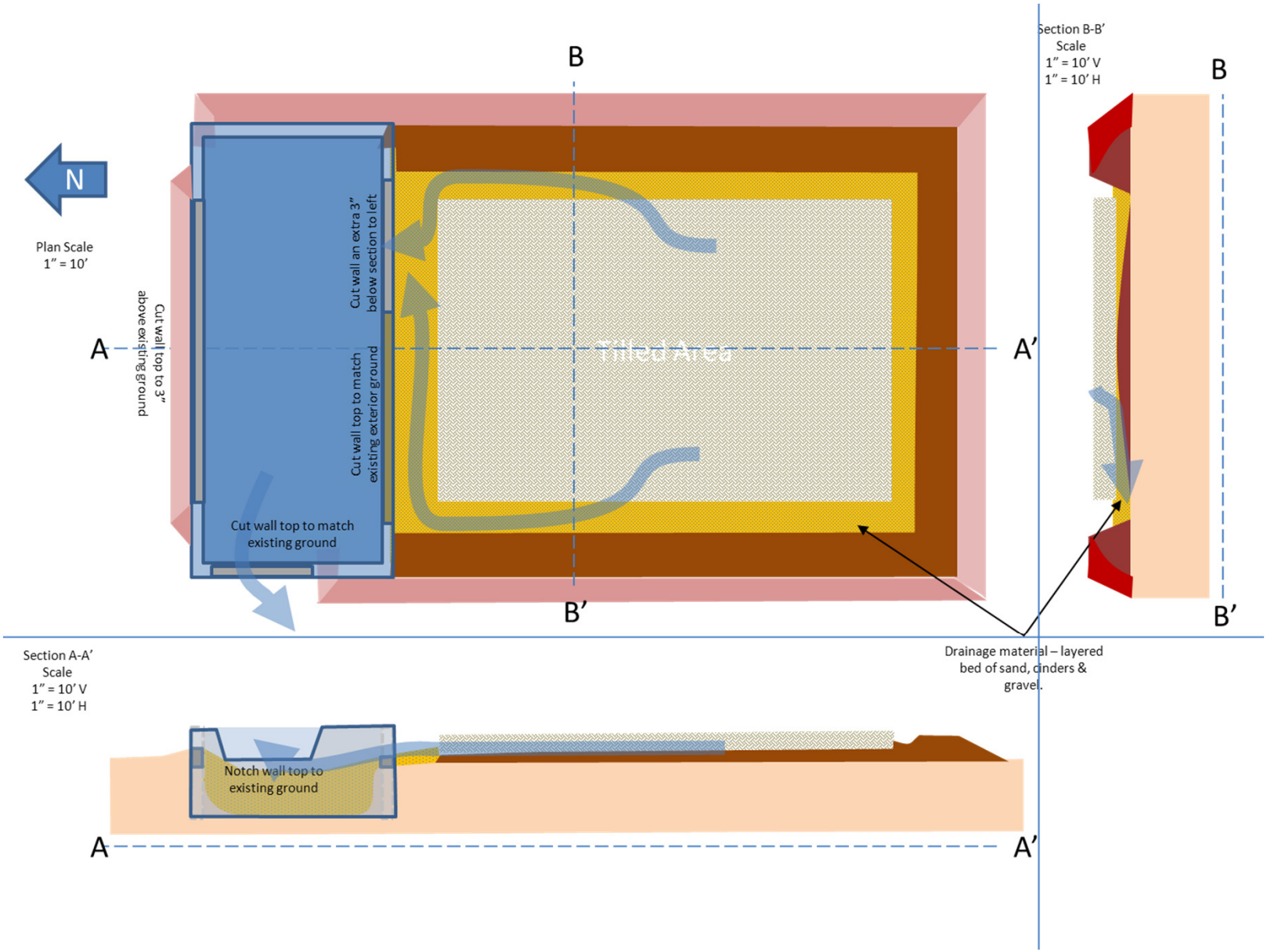

Area Map (Optional)

FILE NUMBER:	
DESIGNED BY:	JH
DRAWN BY:	KJB
DATA QUALITY CHECK BY:	JH

URS Corporation
325 West Main Street
Suite 1202
Louisville, Kentucky 40202

Cell C19
TNT08 Bi-Tri House

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER:	18986218
DATE:	June 2013
FIGURE NUMBER:	4

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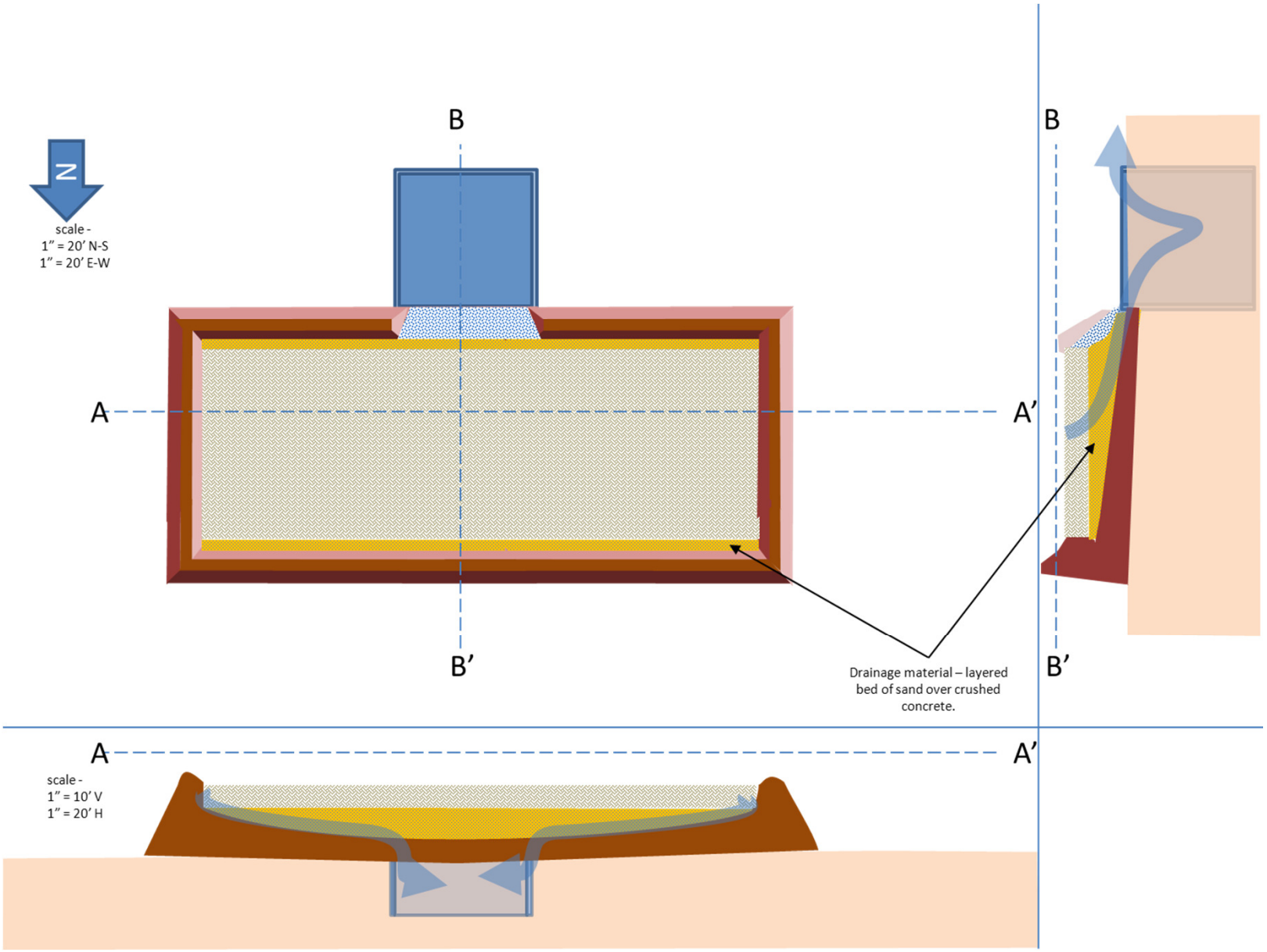

Area Map (Optional)

FILE NUMBER:	
DESIGNED BY:	JH
DRAWN BY:	KJB
DATA QUALITY CHECK BY:	JH

URS Corporation
325 West Main Street
Suite 1202
Louisville, Kentucky 40202

Cell C20
TNT09 Mono House
(using Fortifying House as trap)

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER:	18986218
DATE:	June 2013
FIGURE NUMBER:	5

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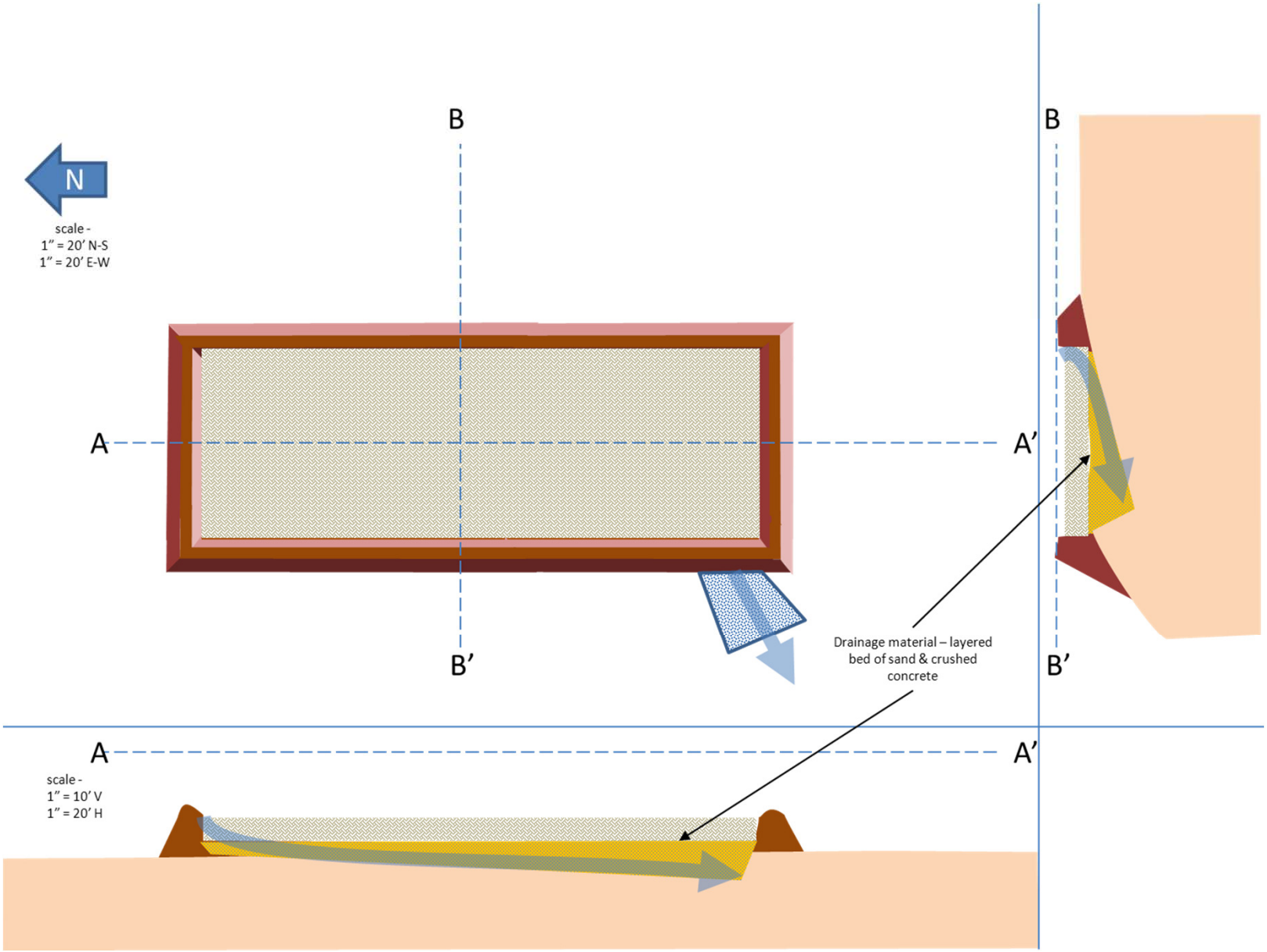

Area Map (Optional)

FILE NUMBER:	
DESIGNED BY:	JH
DRAWN BY:	KJB
DATA QUALITY CHECK BY:	JH

URS Corporation
325 West Main Street
Suite 1202
Louisville, Kentucky 40202

Cell C21
TNT09 Neutralizing House Ditch

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER:	18986218
DATE:	June 2013
FIGURE NUMBER:	6

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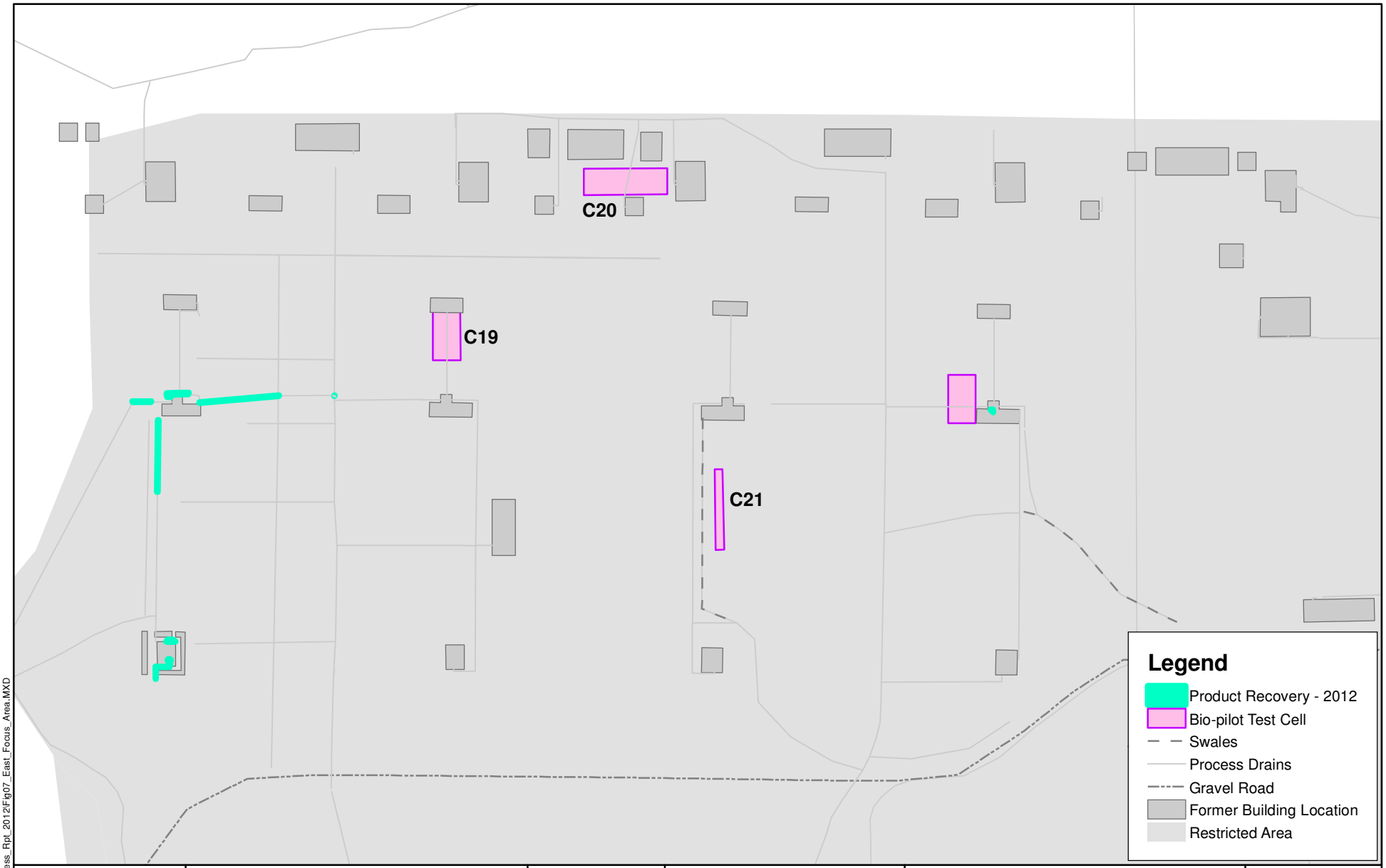

Area Map (Optional)

N
W E
S

0 150 300

Feet

1:1,800

MAP FORMATED FOR "A" (8.5" X 11") SIZE SHEET.
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Louisville, Kentucky 40202

2012 Product Recovery Locations

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER: 18986218

DATE: June 2013

FIGURE NUMBER: 7

O:\GIS\BAR_GIS\Map_Files\WM_Progress_Rpt_2012\Fig07_East_Focus_Area.MXD

Area Map (Optional)

N
W E
S

0 150 300

Feet

1:1,800

MAP FORMATED FOR "A" (8.5" X 11") SIZE SHEET.
SCALE NOT VALID FOR DIFFERENT PAGE SIZE.

FILE NUMBER:

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DRAWN BY: KJB

DATA QUALITY CHECK BY: JH

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325 West Main Street
Suite 1202
Louisville, Kentucky 40202

2012 Debris Recovery Locations

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER: 18986218

DATE: June 2013

FIGURE NUMBER: 8

O:\GIS\BAR_GIS\Map_Files\WM_Progress_Rpt_2012\Fig08_Debris_Recovery.MXD

Area Map (Optional)

N
W
E
S

0 150 300

Feet

1:1,800

MAP FORMATED FOR "A" (8.5" X 11") SIZE SHEET.
SCALE NOT VALID FOR DIFFERENT PAGE SIZE.

FILE NUMBER:

DESIGNED BY: JH

DRAWN BY: KJB

DATA QUALITY CHECK BY: JH

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325 West Main Street
Suite 1202
Louisville, Kentucky 40202

2012 Impacted Soil Recovery Locations

Waste Management Progress Report No. 1
Bioremediation Pilot Test – 2012 Field Season
Former DuPont Barksdale Works
Barksdale, Wisconsin 54806

PROJECT NUMBER: 18986218

DATE: May 2013

FIGURE NUMBER: 9

O:\GIS\BAR_GIS\Map_Files\WM_Progress_Rpt_2012\Fig09_Soil_Recovery.MXD

APPENDIX A

State of Wisconsin
Department of
Natural Resources

OPERATION, MAINTENANCE, MONITORING AND OPTIMIZATION REPORTING OF SOIL AND GROUNDWATER REMEDIATION SYSTEMS

PURPOSE AND APPLICABILITY OF THIS FORM: Completion of this form is required under s. NR 724.13(e), Wis. Adm. Code. Use of this form is mandatory. Failure to submit this form as require is a violation of s. NR 724.13, Wis. Adm. Code, and is subject to the penalties in s. 144.99, Wis. Stats. This form must be submitted every six months for active soil and groundwater remediation projects and every twelve months for passive (natural attenuation) remediation projects that are regulated under the NR 700 series of Wis. Adm. Code. Specifically, for sites meeting any of the following criteria:

- Soil or groundwater remediation projects that report progress in accordance with s. NR 700.11(1), Wis. Adm. Code.
- Soil or groundwater remediation projects that report progress in accordance with s. NR 724.13(3), Wis. Adm. Code. (Note: s. NR 724.13(3) requires progress reports for operation and maintenance of active systems to be submitted every three months however the Department considers submittal of this form every six months to satisfy the requirements of the rules, unless otherwise directed by the Department on a site specific basis.)
- Soil or groundwater remediation projects that report progress in accordance with s. NR 724.17(3), Wis. Adm. Code. (Note: s. NR 724.17(3) requires progress reports every time that samples are collected however the Department considers submittal of this form every twelve months to satisfy the requirements of the rules for monitoring natural attenuation, unless otherwise directed by the Department on a site specific basis.)

Submittal of this form is not a substitute for reporting required by Department programs such as Wastewater or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Please refer to the instructions that are attached to the back of these forms starting on page INS-1. In all cases, when asked to "explain," those explanations are to be included on separate sheets of paper. Explanations must include a title that refers to the page and item number, for example: Page GI-2, C.1.a.

A. GENERAL INFORMATION:

1. Site name: Former DuPont Barksdale Works
2. Reporting period from: May 22, 2012 To: May 21, 2013 Days in period: 365
3. Regulatory agency (enter DNR, DCOM, DATCP and/or other): DNR
4. DNR issued site number: BRRTS# 02-04-000156
5. State reimbursement fund claim number and fund name (if not applicable, enter NA): NA
6. Site location:
   a. DNR region and county: Northern / Bayfield
   b. Street address and municipality: 72315 State Highway 13, Town of Barksdale, Bayfield County, WI
   c. Township, range, section and quarter quarter section: NW Sec 24; SENW, NESW, S half NE; and N half SE Sec 23 T48N R05W
7. Responsible party:
   a. Name: E I DuPont de Nemours & Company
   b. Mailing address: Mr. Bradley Nave, Project Director
      7204 Overlook Cove, Georgetown, IN 47122
   c. Phone number: 1-812-923-1136
8. Consultant:
   a. Company name: URS Corporation
   b. Mailing address: Mr. Carroll E. Pooler, III, Project Manager
      325 W. Main St., Suite 1202, Louisville, KY 40202
   c. Phone number: 1-502-217-1534
9. Contaminants: Nitramine and Nitroaromatic Organic Compounds (NNOCs): TNT, DNT, DNX, TNX, NT
10. Soil types (USCS or USDA): CL / SM-ML / SC
11. Hydraulic conductivity (cm/sec): NA 12. Average linear velocity of groundwater (ft/yr): NA

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: Former DuPont Barksdale Works

Reporting period from: May 22, 2012 To: May 21, 2013 Days in period: 365

A. GENERAL INFORMATION (CONTINUED):

13. If soil is treated ex situ, is the treatment location off site? (Y/N) If yes, give location: No

    a. DNR region and county: NA

    b. Township, range, section and quarter quarter section: NA

B. REMEDIATION METHOD: Only submit pages that apply to an individual site. Check all that apply:

- ____ Groundwater extraction (submit a completed page GW-1).
- ____ Free product recovery (submit a completed page GW-1).
- ____ In situ air sparging (submit a completed page GW-2).
- ____ Groundwater natural attenuation (submit a completed page GW-3).
- ____ Other groundwater remediation method (submit a completed page GW-4).
- ____ Soil venting (including soil vapor extraction and bioventing, submit a completed page IS-1).
- X Soil natural attenuation (submit a completed page IS-2).
- ____ Other in situ soil remediation method (submit a completed page IS-3).
- ____ Biopiles (submit a completed page ES-1).
- ____ Landspreading/thinspreading of petroleum contaminated soil (submit a completed page ES-2).
- X Other ex situ soil remediation method (submit a completed page ES-3).

C. GENERAL EFFECTIVENESS EVALUATION FOR ALL ACTIVE SYSTEMS: If the remediation is active (not natural attenuation), complete this subsection.

1. Is the system operating at design rates and specifications? (Y/N): NA
   If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design.
2. Are modifications to the system warranted to improve effectiveness? (Y/N) If yes, explain: No
3. Is natural attenuation an effective low cost option at this time? (Y/N): No
4. Is closure sampling warranted at this time? (Y/N): No
5. Are there any modifications that can be made to the remediation to improve cost effectiveness? (Y/N) If yes, explain: NA

D. ECONOMIC AND COST DATA TO DATE:

1. Total investigation costs ($): This section is NA per conversation with Chris Saari with WDNR on May 3, 2013.
2. Implementation costs (design, capital and installation costs, excluding investigation costs) ($): NA
3. Total costs during the previous reporting period ($): NA
4. Total costs during this reporting period ($): NA
5. Total anticipated costs for the next reporting period ($): NA
6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above? (Y/N) If yes explain: No
7. If close out is anticipated within 12 months, estimated costs for project closeout ($): NA

GENERAL SITE INFORMATION, CONTINUED

SITE NAME AND REPORTING PERIOD:

Site name: Former DuPont Barksdale Works

Reporting period from: May 22, 2012 To: May 21, 2013 Days in period: 365

E. NAME(S), SIGNATURE(S) AND DATE OF PERSON(S) SUBMITTING FORM: Legibly print name, date and sign. Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form.

Registered Professional Engineers:

I (print name) Jon R Hammerberg, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title, P.E. number and date: E-3026 - May 15, 2013

Hydrogeologists:

I (print name) Carroll E Pooler, III, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title and date: Project Manager, P.G. 1265 - May 15, 2013

Scientists:

I (print name) _____, hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature, title and date: _____

Professional Seal(s), if applicable:

OTHER IN SITU SOIL REMEDIATION METHODS

SITE NAME AND REPORTING PERIOD:

Site name: Former DuPont Barksdale Works

Reporting period from: May 22, 2012 To: May 21, 2013 Days in period: 365

Date that the system was first started up: June 16, 2007

A. EFFECTIVENESS EVALUATION:

1. Describe the method used to remediate soil at the site. The Bioremediation Pilot Test program is a preliminary evaluation of the efficacy of enhanced attenuation of NNOCs using periodic soil tilling with moisture and pH adjustment. The test program is currently evaluating alternate till bed configurations, tilling frequencies, and cell construction methods. Analytical data is currently being collected to evaluate the effects of soil moisture, pH and various NNOC mixtures on degradation pathways and is anticipated to provide information needed to implement a full scale program within several years.

2. List all information required by the DNR for this remediation method for this site:

This progress report was required to support the Remediation Variance issued by WDNR for the Bioremediation Pilot Test program. Methods to achieve remediation are currently not fully evaluated and will not be available until the test program is completed. Until such time, annual progress reports attached to this form will provide waste tracking data requested by the Remediation Variance for the following topics:

1) Product Residuals and Debris Removed from Bioremediation Pilot Cells

2) Movement of Impacted Soils into Bioremediation Pilot Cells

3) Alternative Treatment of Large Debris

This page IS-3 covers the test cells constructed in-situ: cells C01 through C18.

B. ADDITIONAL ATTACHMENTS: Attach the following to this form:

- Any other attachments required by the DNR for this remediation method.

OTHER EX SITU SOIL REMEDIATION METHODS

SITE NAME AND REPORTING PERIOD:

Site name: Former DuPont Barksdale Works

Reporting period from: May 22, 2012 To: May 21, 2013 Days in period: 365

Date that the system was first started up: June 16, 2007

A. EFFECTIVENESS EVALUATION:

1. Describe the method used to remediate soil at the site. The Bioremediation Pilot Test program is a preliminary evaluation of the efficacy of enhanced attenuation of NNOCs using periodic soil tilling with moisture and pH adjustment. The test program is currently evaluating alternate till bed configurations, tilling frequencies, and cell construction methods. Analytical data is currently being collected to evaluate the effects of soil moisture, pH and various NNOC mixtures on degradation pathways and is anticipated to provide information needed to implement a full scale program within several years.

2. List all information required by the DNR for this remediation method for this site:

This progress report was required to support the Remediation Variance issued by WDNR for the Bioremediation Pilot Test program. Methods to achieve remediation are currently not fully evaluated and will not be available until the test program is completed. Until such time, annual progress reports attached to this form will provide waste tracking data requested by the Remediation Variance for the following topics:

1) Product Residuals and Debris Removed from Bioremediation Pilot Cells

2) Movement of Impacted Soils into Bioremediation Pilot Cells

3) Alternative Treatment of Large Debris

This page ES-3 covers the test cells constructed above ground: cells C19 and C21.

B. ADDITIONAL ATTACHMENTS: Attach the following to this form:

- Any other attachments required by the DNR for this remediation method.

Explanations

- Page GI-2 items A.13 (a) and (b): Two ex-situ cells were constructed in 2012. These cells are located within the site boundaries.
- Page GI-2 items C.1 and C.5: The current system is a field pilot intended to determine design rates and specifications.
- Page GI-2 items D.1 through D.7: Per telephone correspondence with WDNR Project Manager, Chris Saari, on April 26, 2013 the current system is a field pilot intended to determine design rates and specifications economic evaluation of operating costs is not appropriate at this time.

APPENDIX B

State of Wisconsin
Department of Natural Resources
Bureau of Waste and Materials Management

Hazardous Waste Report **2012**

Hazardous Waste Report Certification

Hazardous Waste Reporting-WA/5
WI DNR
PO BOX 7921
Madison, WI 53707-7921

Site Name and Location

EPA ID : WIR000133447
Facility ID : 804009140
Site Name : DUPONT BARKSDALE EXPLOSIVES PLT (FORMER)
Site Location: 72315 STH 13
BARKSDALE, WI 54806

Primary NAICS Code : 56291

Mail Address :
325 W MAIN STE 1202
LOUISVILLE, KY 40202

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 assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the 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: ELIZABETH BISHOP

Title: WASTE CONSULTANT

Signature: (On behalf of DuPont)

Date of Signature: 2-12-2013

2/12/2013 11:40:33 AM

State of Wisconsin

Department of Natural Resources

Bureau of Waste and Materials Management

Hazardous Waste Report 2012

Identification (IC Form)

Site Name and Location

EPA ID : WIR000133447
Facility ID : 804009140
Site Name : DUPONT BARKSDALE EXPLOSIVES PLT (FORMER)
Site Location: 72315 STH 13
BARKSDALE, WI 54806

Primary NAICS Code : 56291

Mail Address :
325 W MAIN STE 1202
LOUISVILLE, KY 40202

FACILITY OWNER INFORMATION

Facility Owner Name:	BRETTING DEVELOPMENT CORP
Owner Start Date	1/1/1986
Facility Owner Type:	PRIVATE
Address	3401 LAKE PARK RD
City,State Zip:	ASHLAND, WI 54806
Country	UNITED STATES
Telephone # and Ext.:	715-373-1124

Waste Report Certifier Information

Name/Title	ELIZABETH BISHOP WASTE CONSULTANT
Phone and Ext. /FAX	303-216-2558
Email Address	elizabeth.bishop@urs.com
Address	17221 W. 17TH PLACE GOLDEN CO 80401

Waste Contact Information

Name/Title	BRADLEY NAVE SR SITE DIRECTOR
Phone and Ext. /FAX	812-923-1136 none
Email Address	Bradley.S.Nave@USA.DuPont.com
Address	325 WEST MAIN SUITE 1202 LOUISVILLE KY 40202

Waste Report Preparer Information

Name/Title	ELIZABETH BISHOP WASTE CONSULTANT
Phone and Ext. /FAX	303-216-2558
Email Address	elizabeth.bishop@urs.com
Address	17221 W. 17TH PLACE GOLDEN CO 80401

Hazardous Waste Activity

During 2012	Currently in 2013	Generator of Hazardous Waste	
X	X	Large Quantity Generator	Generate in any calendar month 1,000 kg (2,205 lbs) or more of hazardous waste; or Generate in any calendar month, or Accumulate at any time, more than 1 kg (2.2 lbs) of acute hazardous waste or more than 100 kg (220 lbs) of acute hazardous waste spill cleanup material.
		Small Quantity Generator	Generate in every calendar month less than 1,000 kg (2,205 lbs) of hazardous waste; and Accumulate at all times no more than 6,000 kg (13,320 lbs) of hazardous waste; and Generate in every calendar month, and Accumulate at all times, no more than 1 kg (2.2 lbs) of acute hazardous waste and no more than 100 kg (220 lbs) of acute hazardous waste spill cleanup material.
		Very Small Quantity Generator	Generate in every calendar month no more than 100 kg (220 lbs) of hazardous waste; and Accumulate at all times no more than 1,000 kg (2,205 lbs) of hazardous waste; and Generate in every calendar month, and Accumulate at all times, no more than 1 kg (2.2 lbs) of acute hazardous waste and no more than 100 kg (220 lbs) of acute hazardous waste spill cleanup material.
		Non generator	Generate no hazardous waste.
Yes X No	Yes X No	**Treater, Storer, or Disposer of Hazardous Waste at your site AND a Receiver of Hazardous Waste from Off-site** **OR** **Treater, Storer or Disposer of Hazardous Waste at your site AND NOT a Receiver of Hazardous Waste from Off-site**	
Yes X No	Yes X No		
Yes X No	Yes X No	**Publicly Owned (Wastewater) Treatment Works (POTW) that accepts hazardous waste (via truck, rail, or dedicated pipe) for treatment, and complies with s. NR 670.001(3)(b)9.**	
Yes X No	Yes X No	**Permanent Household and Very Small Quantity Generator Hazardous Waste Collection Facility that ships hazardous waste off-site to a licensed or permitted hazardous waste treatment, storage or disposal facility, or to a recycling facility**	

Other Regulated Waste Activities Currently Involved In:

Hazardous Waste Activities

1. Generator

a. Short-Term Generator (generate from a short-term or one-time event and not from on-going process). if Yes, provide an explanation in the Comments section ---------- **Yes**

b. United States Importer of Hazardous Waste ---------- **No**

c. Mixed Waste (hazardous and radioactive) Generator ---------- **No**

2. Transporter of Hazardous Waste

a. Transporter ---------- **No**

b. Transfer Facility (at your site) ---------- **No**

3. Recycler of Hazardous Waste (at your site) ---------- **No**

4. Exempt Boiler or Industrial Furnace

a. Small Quantity On-Site Burner Exemption ---------- **No**

b. Smelting, Melting, and Refining Furnace Exemption ---------- **No**

Universal Waste Activities

1. Universal Waste Large Quantity Handler (accumulate 5,000 kg (11,025 lbs) or more at any time)

Universal Waste managed at your site (accumulate 5,000 kg (11,025 lbs) or more) ---------- **No**

	Managed
a. Batteries	**No**
b. Pesticides	**No**
c. Mercury Thermostats	**No**
d. Fluorescent Lamps	**No**
e. Antifreeze	**No**
f. Other (specify)	**No**

2. Universal Waste Destination Facility ---------- **No**

Used Oil Activities:

1. Used Oil Transporter

a. Transporter ---------- **No**

b. Transfer Facility (at your site) ---------- **No**

2. Used Oil Processor or Re-Refiner

a. Processor ---------- **No**

b. Re-Refiner ---------- **No**

3. Off-Specification Used Oil Burner ---------- **No**

4. Used Oil Fuel Marketer

a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner ---- **No**

b. Marketer Who First Claims the Used Oil Meets the Specifications ---------- **No**

Eligible Academic Entities with Laboratories-Notification for opting into or withdrawing from managing laboratory hazardous wastes per 40 CFR Part 262 SubpartK (select all that apply):

1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

a. College or University ---------- **No**

b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university ---------- **No**

c. Non-Profit Institute that is owned by or has a formal written affiliation agreement with a college or university ---------- **No**

2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories ---------- **No**

Comments

Seasonal investigation and remedial activities generatre waste only in June- August each year.

State of Wisconsin
Department of Natural Resources
Bureau of Waste and Materials Management

Hazardous Waste Report **2012**

Fee Worksheet (FW Form)

Site Name and Location

EPA ID : WIR000133447
Facility ID : 804009140
Site Name : DUPONT BARKSDALE EXPLOSIVES PLT (FORMER)
Site Location: 72315 STH 13
BARKSDALE, WI 54806

Primary NAICS Code : 56291

Mail Address :
325 W MAIN STE 1202
LOUISVILLE, KY 40202

A. Generator status during report year: Large Quantity Generator

Base fee for generator status reported $470.00

B. Amounts Generated and Tonnage Fee Exempted

1. Amount of waste generated (in lbs)		**21,660**
2. Please answer the following:		
2a. Was the waste recovered for recycling or reuse (including hazardous waste burned for the purpose of energy recovery) ?	**No**	
Amount of waste recovered/recycled (in lbs)		
2b. Was the waste leachate (which contained hazardous waste) transported to a wastewater treatment plant or discharged directly to a sewer ? (Note: Leachate is commonly generated by land disposal facilities)	**No**	
Amount of waste leachate transported to a WWTP (in lbs)		
2c. Was the hazardous waste removed from the site to repair environmental pollution ?	**Yes**	
Amount of waste removed through environmental repair (in lbs)		**21,660**
2d. Was the hazardous waste collected by a municipality under a program for the collection and disposal of either household or agricultural hazardous waste ?	**No**	
Amount of waste collected under clean sweep (in lbs)		
Net Waste (calculated from above) :		
Tonnage Fee estimate (based on net waste) :		**$.00**
Total Fee Estimate (Base Fee + Tonnage Fee):		**$470.00**
(Maximum Total Fee $17,500)		

This is only an estimate. Please do not pay this fee now.

Comments

2/12/2013 11:40:34 AM

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: W I R 0 0 0 1 3 3 4 4 7
2. Page 1 of: 1
3. Emergency Response Phone: (877) 818-0087
4. Manifest Tracking Number: 000712575 VES

5. Generator's Name and Mailing Address:
ROSA LAMB, URS
WATERFRONT PLAZA TOWER ONE
325 W. MAIN STREET SUITE 1202
LOUISVILLE, KY 40202

Generator's Site Address (if different than mailing address):
DUPONT BARKSDALE WORKS
EI DUPONT C/O URS CORP
72315 HIGHWAY 13
WASHBURN, WI 54891

Generator's Phone: 502 569-7093

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: N J D 0 8 0 6 3 1 3 6 9

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
VEOLIA ES TECHNICAL SOLUTIONS
7 MOBILE AVENUE
SAUGET, IL 62201-1069

Facility's Phone: 618 271-2804 — U.S. EPA ID Number: I L D 0 9 8 6 4 2 4 2 4

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN1356, WASTE TRINITROTOLUENE, WETTED WITH NOT LESS THAN 30 PERCENT WATER, BY MASS, 4.1, I, RQ (D001)	1	D M	148	P	D003 D001
X	2. UN1356, WASTE TRINITROTOLUENE, WETTED WITH NOT LESS THAN 30 PERCENT WATER, BY MASS, 4.1, I, RQ (D001)	2	C F	1827	P	D003 D001
	3. ~~TARE – Pallet & Gaylord Boxes~~ EBB 9-20-12	~~[illegible]~~	~~[illegible]~~	~~129~~ ~~[illegible]~~ 9-21-12	~~P~~	
	4.					

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS +- 1) 541569 - TWI541569 2) 95799 - TWI095799
CW 55224
charge code: 9267 7720100C WH06 507911
Tare wt on Pallet & Gaylords = 122p

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ELIZABETH BISHOP — Signature: [signature] (on behalf of DuPont) — Month 9 Day 17 Year 12

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Pat Felix — Signature: [signature] — Month 09 Day 17 Year 12
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

CUSTOMER INVOICE	
INVOICE DATE	INVOICE NUMBER
10/08/2012	224316133
Net 30 Days	

For Billing Inquiries
Call CHERYL KAKER at 1(262) 255-6655
Customer No. 486507

BILL TO: E.I. DUPONT DE NEMOURS & CO
NASHVILLE PAYMENT CENTER
20 OLD HICKORY BLVD
OLD HICKORY, TN 37138-3159
FAX: 615/301-9883

Generator No. 486508

JOB SITE: DUPONT BARKSDALE WORKS
EI DUPONT C/O URS CORP
72315 HIGHWAY 13
WASHBURN, WI 54891
JON HAMMERBERG

MANIFEST NUMBERS:
A 000712575VES

CUSTOMER P.O. NUMBER	SERVICE DATE RANGE	TERR.
LAS600698	09/17/2012	CB2

	DESCRIPTION		UOM	QTY	UNIT PRICE	EXTENSION
541569	WETTED TRINITROTOLUENE (IN BAGS)	TWI	LB	195.00	$5.75	$1,121.25
Dsp.Fee	ILLINOIS WASTE DISPOSAL FEE		GAL	55.00	$0.03	$1.65
95799	WETTED TRINITROTOLUENE (IN PAILS)	TWI	LB	1,805.00	$5.75	$10,378.75
Dsp.Fee	ILLINOIS WASTE DISPOSAL FEE		CUYD	1.00	$6.06	$6.06
Material	CYD11G-CUBIC YARD BOX		EACH	1.00	$106.00	$106.00
Misc.	SERVICES FEE		EACH	1,805.00	$2.70	$4,873.50
Misc.	TRANSP. MINIMUM (FLAT FEE)		EACH	1.00	$300.00	$300.00
Misc.	FUEL SURCHARGE		PERCNT	300.00	$0.25	$75.00
					TOTAL	$16,862.21

Veolia ES Technical Solutions LLC is permitted for and has capacity to accept waste listed above in container quantities.
ALL PAST DUE AMOUNTS WILL BEAR INTEREST AT 1.5% PER MONTH OR THE MAXIMUM RATE ALLOWED BY LAW, WHICHEVER IS LESS.

OFFICE COPY

PLEASE REMIT TO: PO BOX 73709, CHICAGO, IL 60673-7709

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	WIR000113447
2. Page 1 of	1
3. Emergency Response Phone	(877) 244-0887
4. Manifest Tracking Number	000712578 VES

5. Generator's Name and Mailing Address

ROBA LAMB, URS
WATERFRONT PLAZA TOWER ONE
325 W. MAIN STREET SUITE 1202
LOUISVILLE, KY 40202

Generator's Phone: 502 569-7093

Generator's Site Address (if different than mailing address)

DUPONT BARKSDALE WORKS
EI DUPONT C/O URS CORP
72315 HIGHWAY 13
WASHBURN, WI 54891

6. Transporter 1 Company Name: HAZMAT ENVIRONMENTAL GROUP INC — U.S. EPA ID Number: NYD980769947

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

VEOLIA ES TECHNICAL SOLUTIONS
7 MOBILE AVENUE
SAUGET, IL 62201-1069

Facility's Phone: 618 271-2804 — U.S. EPA ID Number: ILD098642424

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3077, HAZARDOUS WASTE, SOLID, n.o.s. (DINITROTOLUENE (TRACE) IN SOIL, LEAD), 9, III, RQ (D030, D008)	01	[illegible]	[illegible] (19,400 at TWI)	P	D030 D008 Lead
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

ER Service Contract No. [illegible]

CW 55224

CC: 1207 7720006 WHO# 507971

ER0171

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ELIZABETH BISHOP — Signature: [signature] (on behalf of DuPont) — Month 09 Day 18 Year 12

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Robert A Dobrich — Signature: [signature] — Month 09 Day 18 Year 12

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: — Signature: — Month Day Year

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

CUSTOMER INVOICE	
INVOICE DATE	INVOICE NUMBER
9/27/2012	223289647
Net 30 Days	

For Billing Inquiries
Call CHERYL KAKER at 1(262) 255-6655
Customer No. 486507

BILL TO: E.I. DUPONT DE NEMOURS & CO
NASHVILLE PAYMENT CENTER
20 OLD HICKORY BLVD
OLD HICKORY, TN 37138-3159
FAX: 615/301-9883

Generator No. 486508

JOB SITE: DUPONT BARKSDALE WORKS
EI DUPONT C/O URS CORP
72315 HIGHWAY 13
WASHBURN, WI 54891
JON HAMMERBERG

MANIFEST NUMBERS:
A 000712578VES

CUSTOMER P.O. NUMBER	SERVICE DATE RANGE	TERR.
LAS600698	09/19/2012	CB2

DESCRIPTION	UOM	QTY	UNIT PRICE	EXTENSION
374340 SOIL AND DEBRIS W/TRACE DINITROTOLUENE TWI	LB	19,660.00	$0.48	$9,436.80
Dsp.Fee ILLINOIS WASTE DISPOSAL FEE	CUYD	23.00	$6.06	$139.38
			TOTAL	$9,576.18

Veolia ES Technical Solutions LLC is permitted for and has capacity to accept waste listed above in container quantities.
ALL PAST DUE AMOUNTS WILL BEAR INTEREST AT 1.5% PER MONTH OR THE MAXIMUM RATE ALLOWED BY LAW, WHICHEVER IS LESS.

OFFICE COPY

PLEASE REMIT TO: PO BOX 73709, CHICAGO, IL 60673-7709

APPENDIX C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-33407-1

Job Description: BAR - Watewater Sampling 9/12

For:
E.I. du Pont de Nemours and Company ADQM
c/o URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark, DE 19713

Attention: Ms. Sharon Nordstrom

Approved for release.
Michelle Johnston
Project Manager I
9/28/2012 5:17 PM

Michelle Johnston
Project Manager I
michelle.johnston@testamericainc.com
09/28/2012

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.
TestAmerica Denver's State of Wisconsin certification number is 999615430.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

CASE NARRATIVE
Client: E. I. DuPont
Project: BAR - Wastewater Sampling 9/12
Report Number: 280-33407-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Sample Arrival and Receipt

The two water samples presented in this report were received at the TestAmerica Denver laboratory at a temperature of 1.2°C on September 19, 2012. The sample containers were received in an acceptable condition. No anomalies were observed during sample receipt.

GC/MS Volatiles - Method 8260B

Samples BAR-V-T001-2 (280-33407-1) and TRIP BLANK (280-33407-2) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/25/2012.

No difficulties were encountered during the volatiles analyses.

All quality control parameters were within the acceptance limits.

Polycyclic Aromatic Hydrocarbons - 8270C SIM

Sample BAR-V-T001-2 (280-33407-1) was analyzed for polycyclic aromatic hydrocarbons (PAHs) in accordance with EPA SW-846 Method 8270C SIM. The sample was prepared on 09/19/2012 and analyzed on 09/27/2012.

Sample BAR-V-T001-2 (280-33407-1) formed emulsions during the extraction procedure that were broken up using pour backs.

Benzo[a]anthracene, Chrysene and Pyrene were detected in method blank MB 280-138074/1-A at levels exceeding the reporting limit. As no detectable concentrations of Benzo[a]anthracene, Chrysene and Pyrene are present in the associated sample greater than the reporting limit, corrective action is deemed unnecessary. Usability of the sample data is not compromised. If the associated sample reported a result above the MDL and/or RL, the result has been “B” flagged.

The Method Blank associated with prep batch 280-138074 exhibited a surrogate recovery above the QC control limits for Terphenyl-d14. The associated sample surrogates are 100% in control indicating that laboratory contamination is not an issue; therefore, corrective action is deemed unnecessary.

The LCS/LCSD associated with prep batch 280-138074 exhibited percent recoveries, RPD data and a surrogate recovery outside the QC control limits for several analytes. The spiking solution was inadvertently omitted during the extraction procedure for the LCSD. As the LCS recoveries were in control, corrective action is deemed unnecessary.

No other difficulties were encountered during the PAH analysis.

All other quality control parameters were within the acceptance limits.

Explosives - Method 8321A

Sample BAR-V-T001-2 (280-33407-1) was analyzed for explosives in accordance with EPA SW-846 Method 8321A. The sample was prepared on 09/24/2012 and analyzed on 09/26/2012.

The method required MS/MSD analyses could not be performed for prep batch 280-138628, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analyses data.

The Continuing Calibration Verification (CCV) standard associated analytical batch 280-138943 exhibited %Difference (%D) values out of range, biased high, for Nitrobenzene and Nitroglycerin. This is an indicator that data may be biased high. As no detectable concentrations are present in the associated sample, corrective action is deemed unnecessary.

No other difficulties were encountered during the 8321A analysis.

All other quality control parameters were within the acceptance limits.

Anions - 300.0

Sample BAR-V-T001-2 (280-33407-1) was analyzed for anions (48 hours) in accordance with EPA Method 300.0. The sample was analyzed on 09/20/2012.

No difficulties were encountered during the anions analysis.

All quality control parameters were within the acceptance limits.

Total Organic Halides - 9020B
Sample BAR-V-T001-2 (280-33407-1) was analyzed for total organic halides in accordance with EPA SW846 Method 9020B. The sample was analyzed on 09/24/2012.

No difficulties were encountered during the TOX analysis.

All quality control parameters were within the acceptance limits.

Total Dissolved Solids - 2540C
Sample BAR-V-T001-2 (280-33407-1) was analyzed for total dissolved solids in accordance with SM20 2540C. The sample was analyzed on 09/20/2012.

No difficulties were encountered during the TDS analysis.

All quality control parameters were within the acceptance limits.

Total Suspended Solids - 2540D
Sample BAR-V-T001-2 (280-33407-1) was analyzed for total suspended solids in accordance with SM20 2540D. The sample was analyzed on 09/21/2012.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

Corrosivity (pH) - 4500 H+B
Sample BAR-V-T001-2 (280-33407-1) was analyzed for corrosivity (pH) in accordance with SM20 4500 H+ B. The sample was analyzed on 09/19/2012.

No difficulties were encountered during the pH analysis.

All quality control parameters were within the acceptance limits.

Total Organic Carbon - 5310B
Sample BAR-V-T001-2 (280-33407-1) was analyzed for total organic carbon in accordance with SM20 5310B. The sample was analyzed on 09/21/2012.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

EXECUTIVE SUMMARY - Detections

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-33407-1	**BAR-V-T001-2**					
Naphthalene		110	*	94	ng/L	8270C SIM
2,4,6-Trinitrotoluene		1.3		0.095	ug/L	8321A
2-Amino-4,6-dinitrotoluene		0.17		0.095	ug/L	8321A
4-Amino-2,6-dinitrotoluene		0.85		0.095	ug/L	8321A
Total Dissolved Solids		300		10	mg/L	SM 2540C
Total Suspended Solids		150		50	mg/L	SM 2540D
pH adj. to 25 deg C		9.28		0.100	SU	SM 4500 H+ B
Total Organic Carbon - Quad		4.3		1.0	mg/L	SM 5310B

DATA REPORTING QUALIFIERS

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
	*	RPD of the LCS and LCSD exceeds the control limits
	X	Surrogate is outside control limits
LCMS		
	^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

METHOD SUMMARY

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL DEN	SW846 8260B	
Purge and Trap	TAL DEN		SW846 5030B
Semivolatile Organic Compounds (GC/MS SIM)	TAL DEN	SW846 8270C SIM	
Liquid-Liquid Extraction (Separatory Funnel)	TAL DEN		SW846 3510C
Nitroaromatic and Nitramine Compounds (Explosives) (LC/MS)	TAL DEN	SW846 8321A	
Solid-Phase Extraction (SPE)	TAL DEN		SW846 3535
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Organic Halides, Total (TOX)	TAL DEN	SW846 9020B	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
pH	TAL DEN	SM SM 4500 H+ B	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method	Analyst	Analyst ID
SW846 8260B	Tinkham, Sarah A	SAT
SW846 8270C SIM	Vasquez, Karla G	KGV
SW846 8321A	Meyer, Andrew GC	AGCM
MCAWW 300.0	Phan, Thu L	TLP
SW846 9020B	Elkin, David	DE
SM SM 2540C	Krinsky, Aaron	AK
SM SM 2540D	Hostetler, Jeffrey M	JMH
SM SM 4500 H+ B	Kilker, Lorelei M	LMK
SM SM 5310B	Bandy, Darlene F	DFB

SAMPLE SUMMARY

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-33407-1	BAR-V-T001-2	Water	09/18/2012 1200	09/19/2012 0900
280-33407-2TB	TRIP BLANK	Water	09/18/2012 1200	09/19/2012 0900

SAMPLE RESULTS

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Client Sample ID: **BAR-V-T001-2**

Lab Sample ID: 280-33407-1
Client Matrix: Water

Date Sampled: 09/18/2012 1200
Date Received: 09/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	R9149.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2012 0258			Final Weight/Volume:	20 mL
Prep Date:	09/25/2012 0258				

Analyte	Result (ug/L)	Qualifier	RL
Acetone	ND		10
Benzene	ND		1.0
Bromodichloromethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		2.0
2-Butanone (MEK)	ND		6.0
Carbon disulfide	ND		2.0
Carbon tetrachloride	ND		1.0
Chlorobenzene	ND		1.0
Dibromochloromethane	ND		1.0
Chloroethane	ND		2.0
Chloroform	ND		1.0
Chloromethane	ND		2.0
1,2-Dibromo-3-Chloropropane	ND		5.0
1,2-Dibromoethane	ND		1.0
Dichlorodifluoromethane	ND		2.0
1,1-Dichloroethane	ND		1.0
1,2-Dichloroethane	ND		1.0
1,1-Dichloroethene	ND		1.0
1,2-Dichloropropane	ND		1.0
Ethylbenzene	ND		1.0
1,2-Dichlorobenzene	ND		1.0
1,4-Dichlorobenzene	ND		1.0
Methylene Chloride	ND		2.0
4-Methyl-2-pentanone (MIBK)	ND		5.0
Styrene	ND		1.0
1,1,1,2-Tetrachloroethane	ND		1.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,2-Dichloroethene, Total	ND		1.0
Tetrachloroethene	ND		1.0
Toluene	ND		1.0
1,1,1-Trichloroethane	ND		1.0
1,1,2-Trichloroethane	ND		1.0
1,3-Dichloropropane	ND		1.0
Trichloroethene	ND		1.0
Trichlorofluoromethane	ND		2.0
1,2,3-Trichloropropane	ND		2.5
Vinyl chloride	ND		1.0
Xylenes, Total	ND		2.0
1,3-Dichlorobenzene	ND		1.0
Hexane	ND		2.0
Methyl tert-butyl ether	ND		5.0
Naphthalene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,2,4-Trimethylbenzene	ND		1.0
1,3,5-Trimethylbenzene	ND		1.0

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Client Sample ID: **BAR-V-T001-2**

Lab Sample ID: 280-33407-1
Client Matrix: Water

Date Sampled: 09/18/2012 1200
Date Received: 09/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	R9149.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2012 0258			Final Weight/Volume:	20 mL
Prep Date:	09/25/2012 0258				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	74		70 - 127
Toluene-d8 (Surr)	97		80 - 125
4-Bromofluorobenzene (Surr)	86		78 - 120
Dibromofluoromethane (Surr)	81		77 - 120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-33407-2TB
Client Matrix: Water

Date Sampled: 09/18/2012 1200
Date Received: 09/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	R9150.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2012 0319			Final Weight/Volume:	20 mL
Prep Date:	09/25/2012 0319				

Analyte	Result (ug/L)	Qualifier	RL
Acetone	ND		10
Benzene	ND		1.0
Bromodichloromethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		2.0
2-Butanone (MEK)	ND		6.0
Carbon disulfide	ND		2.0
Carbon tetrachloride	ND		1.0
Chlorobenzene	ND		1.0
Dibromochloromethane	ND		1.0
Chloroethane	ND		2.0
Chloroform	ND		1.0
Chloromethane	ND		2.0
1,2-Dibromo-3-Chloropropane	ND		5.0
1,2-Dibromoethane	ND		1.0
Dichlorodifluoromethane	ND		2.0
1,1-Dichloroethane	ND		1.0
1,2-Dichloroethane	ND		1.0
1,1-Dichloroethene	ND		1.0
1,2-Dichloropropane	ND		1.0
Ethylbenzene	ND		1.0
1,2-Dichlorobenzene	ND		1.0
1,4-Dichlorobenzene	ND		1.0
Methylene Chloride	ND		2.0
4-Methyl-2-pentanone (MIBK)	ND		5.0
Styrene	ND		1.0
1,1,1,2-Tetrachloroethane	ND		1.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,2-Dichloroethene, Total	ND		1.0
Tetrachloroethene	ND		1.0
Toluene	ND		1.0
1,1,1-Trichloroethane	ND		1.0
1,1,2-Trichloroethane	ND		1.0
1,3-Dichloropropane	ND		1.0
Trichloroethene	ND		1.0
Trichlorofluoromethane	ND		2.0
1,2,3-Trichloropropane	ND		2.5
Vinyl chloride	ND		1.0
Xylenes, Total	ND		2.0
1,3-Dichlorobenzene	ND		1.0
Hexane	ND		2.0
Methyl tert-butyl ether	ND		5.0
Naphthalene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,2,4-Trimethylbenzene	ND		1.0
1,3,5-Trimethylbenzene	ND		1.0

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-33407-2TB Date Sampled: 09/18/2012 1200
Client Matrix: Water Date Received: 09/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	R9150.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	09/25/2012 0319			Final Weight/Volume:	20 mL
Prep Date:	09/25/2012 0319				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	75		70 - 127
Toluene-d8 (Surr)	96		80 - 125
4-Bromofluorobenzene (Surr)	90		78 - 120
Dibromofluoromethane (Surr)	84		77 - 120

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Client Sample ID: **BAR-V-T001-2**

Lab Sample ID: 280-33407-1 Date Sampled: 09/18/2012 1200
Client Matrix: Water Date Received: 09/19/2012 0900

8270C SIM Semivolatile Organic Compounds (GC/MS SIM)

Analysis Method:	8270C SIM	Analysis Batch:	280-139337	Instrument ID:	SMS_G5
Prep Method:	3510C	Prep Batch:	280-138074	Lab File ID:	G5_7828.D
Dilution:	1.0			Initial Weight/Volume:	1060.0 mL
Analysis Date:	09/27/2012 1932			Final Weight/Volume:	1000 uL
Prep Date:	09/19/2012 1800			Injection Volume:	1 uL

Analyte	Result (ng/L)	Qualifier	RL
Benzo[b]fluoranthene	ND	*	94
Benzo[a]pyrene	ND	*	94
Benzo[a]anthracene	ND	*	94
Benzo[k]fluoranthene	ND	*	94
Benzo[g,h,i]perylene	ND	*	94
Phenanthrene	ND	*	94
Anthracene	ND	*	94
Dibenz(a,h)anthracene	ND	*	94
Chrysene	ND	*	94
Acenaphthene	ND	*	94
Acenaphthylene	ND	*	94
Fluoranthene	ND	*	94
Fluorene	ND	*	94
Pyrene	ND	*	94
Indeno[1,2,3-cd]pyrene	ND	*	94
1-Methylnaphthalene	ND	*	94
2-Methylnaphthalene	ND	*	94
Naphthalene	110	*	94
Dibenzofuran	ND		94

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	74		42 - 120
Nitrobenzene-d5	69		43 - 120
Terphenyl-d14	117		47 - 120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Client Sample ID: **BAR-V-T001-2**

Lab Sample ID: 280-33407-1
Client Matrix: Water

Date Sampled: 09/18/2012 1200
Date Received: 09/19/2012 0900

8321A Nitroaromatic and Nitramine Compounds (Explosives) (LC/MS)

Analysis Method:	8321A	Analysis Batch:	280-138943	Instrument ID:	LC_LCMS4
Prep Method:	3535	Prep Batch:	280-138628	Lab File ID:	ex42l25072.d
Dilution:	1.0			Initial Weight/Volume:	1050 mL
Analysis Date:	09/26/2012 0911			Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 0950			Injection Volume:	40 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,3,5-Trinitrobenzene	ND		0.016	0.095
1,3-Dinitrobenzene	ND		0.013	0.095
2,4,6-Trinitrotoluene	1.3		0.021	0.095
2,4-Dinitrotoluene	ND		0.018	0.095
2,6-Dinitrotoluene	ND		0.021	0.095
2-Amino-4,6-dinitrotoluene	0.17		0.020	0.095
4-Amino-2,6-dinitrotoluene	0.85		0.018	0.095
RDX	ND		0.020	0.095
3-Nitrotoluene	ND		0.024	0.095
Tetryl	ND		0.020	0.095
Nitrobenzene	ND	^	0.031	0.095
2-Nitrotoluene	ND		0.021	0.095
HMX	ND		0.018	0.095
Nitroglycerin	ND	^	0.043	0.13
4-Nitrotoluene	ND		0.025	0.095
PETN	ND		0.017	0.095
3,4-Dinitrotoluene	ND		0.019	0.095
2,3-Dinitrotoluene	ND		0.014	0.095
3,5-Dinitrotoluene	ND		0.032	0.095
2,4,6-Trinitro-3-xylene	ND		0.095	0.095

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	113		48 - 130

General Chemistry

Client Sample ID: **BAR-V-T001-2**

Lab Sample ID: 280-33407-1 Date Sampled: 09/18/2012 1200
Client Matrix: Water Date Received: 09/19/2012 0900

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-138323	Analysis Date: 09/20/2012 0306					
Total Organic Halogens	ND		ug/L	60	1.0	9020B
Analysis Batch: 280-138821	Analysis Date: 09/24/2012 1252					
Total Dissolved Solids	300		mg/L	10	1.0	SM 2540C
Analysis Batch: 280-138140	Analysis Date: 09/20/2012 0748					
Total Suspended Solids	150		mg/L	50	1.0	SM 2540D
Analysis Batch: 280-138534	Analysis Date: 09/21/2012 1752					
pH adj. to 25 deg C	9.28		SU	0.100	1.0	SM 4500 H+ B
Analysis Batch: 280-138009	Analysis Date: 09/19/2012 1102					
Total Organic Carbon - Quad	4.3		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-138510	Analysis Date: 09/21/2012 1314					

QUALITY CONTROL RESULTS

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:280-138811					
LCS 280-138811/4	Lab Control Sample	T	Water	8260B	
MB 280-138811/5	Method Blank	T	Water	8260B	
280-33407-1	BAR-V-T001-2	T	Water	8260B	
280-33407-2TB	TRIP BLANK	T	Water	8260B	
280-33514-C-2 MS	Matrix Spike	T	Water	8260B	
280-33514-C-2 MSD	Matrix Spike Duplicate	T	Water	8260B	

Report Basis
T = Total

GC/MS Semi VOA					
Prep Batch: 280-138074					
LCS 280-138074/2-A	Lab Control Sample	T	Water	3510C	
LCSD 280-138074/3-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 280-138074/1-A	Method Blank	T	Water	3510C	
280-33360-L-10-A MS	Matrix Spike	T	Water	3510C	
280-33360-H-10-A MSD	Matrix Spike Duplicate	T	Water	3510C	
280-33407-1	BAR-V-T001-2	T	Water	3510C	
Analysis Batch:280-138697					
LCS 280-138074/2-A	Lab Control Sample	T	Water	8270C SIM	280-138074
LCSD 280-138074/3-A	Lab Control Sample Duplicate	T	Water	8270C SIM	280-138074
Analysis Batch:280-139241					
280-33360-L-10-A MS	Matrix Spike	T	Water	8270C SIM	280-138074
280-33360-H-10-A MSD	Matrix Spike Duplicate	T	Water	8270C SIM	280-138074
Analysis Batch:280-139337					
MB 280-138074/1-A	Method Blank	T	Water	8270C SIM	280-138074
280-33407-1	BAR-V-T001-2	T	Water	8270C SIM	280-138074

Report Basis
T = Total

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
LCMS					
Prep Batch: 280-138628					
LCS 280-138628/2-A	Lab Control Sample	T	Water	3535	
LCSD 280-138628/3-A	Lab Control Sample Duplicate	T	Water	3535	
MB 280-138628/1-A	Method Blank	T	Water	3535	
280-33407-1	BAR-V-T001-2	T	Water	3535	
Analysis Batch:280-138943					
LCS 280-138628/2-A	Lab Control Sample	T	Water	8321A	280-138628
LCSD 280-138628/3-A	Lab Control Sample Duplicate	T	Water	8321A	280-138628
MB 280-138628/1-A	Method Blank	T	Water	8321A	280-138628
280-33407-1	BAR-V-T001-2	T	Water	8321A	280-138628

Report Basis

T = Total

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-138009					
LCS 280-138009/4	Lab Control Sample	T	Water	SM 4500 H+ B	
LCSD 280-138009/5	Lab Control Sample Duplicate	T	Water	SM 4500 H+ B	
280-33379-C-1 DU	Duplicate	T	Water	SM 4500 H+ B	
280-33407-1	BAR-V-T001-2	T	Water	SM 4500 H+ B	
Analysis Batch:280-138140					
LCS 280-138140/2	Lab Control Sample	T	Water	SM 2540C	
LCSD 280-138140/3	Lab Control Sample Duplicate	T	Water	SM 2540C	
MB 280-138140/1	Method Blank	T	Water	SM 2540C	
280-33407-1	BAR-V-T001-2	T	Water	SM 2540C	
280-33418-A-2 DU	Duplicate	T	Water	SM 2540C	
Analysis Batch:280-138323					
LCS 280-138323/6	Lab Control Sample	T	Water	300.0	
LCSD 280-138323/7	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-138323/8	Method Blank	T	Water	300.0	
280-33407-1	BAR-V-T001-2	T	Water	300.0	
280-33414-A-1 DU	Duplicate	T	Water	300.0	
280-33414-A-1 MS	Matrix Spike	T	Water	300.0	
280-33414-A-1 MSD	Matrix Spike Duplicate	T	Water	300.0	
Analysis Batch:280-138510					
LCS 280-138510/34	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-138510/35	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-138510/36	Method Blank	T	Water	SM 5310B	
280-33407-1	BAR-V-T001-2	T	Water	SM 5310B	
280-33407-1MS	Matrix Spike	T	Water	SM 5310B	
280-33407-1MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
Analysis Batch:280-138534					
LCS 280-138534/2	Lab Control Sample	T	Water	SM 2540D	
LCSD 280-138534/3	Lab Control Sample Duplicate	T	Water	SM 2540D	
MB 280-138534/1	Method Blank	T	Water	SM 2540D	
280-33326-A-2 DU	Duplicate	T	Water	SM 2540D	
280-33407-1	BAR-V-T001-2	T	Water	SM 2540D	
Analysis Batch:280-138821					
LCS 280-138821/4	Lab Control Sample	T	Water	9020B	
LCSD 280-138821/5	Lab Control Sample Duplicate	T	Water	9020B	
MB 280-138821/2	Method Blank	T	Water	9020B	
280-33407-1	BAR-V-T001-2	T	Water	9020B	
280-33407-1MS	Matrix Spike	T	Water	9020B	
280-33407-1MSD	Matrix Spike Duplicate	T	Water	9020B	

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch

Report Basis

T = Total

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec	DBFM %Rec
280-33407-1	BAR-V-T001-2	74	97	86	81
280-33407-2	TRIP BLANK	75	96	90	84
MB 280-138811/5		77	94	84	82
LCS 280-138811/4		78	93	86	82
280-33514-C-2 MS		75	99	91	80
280-33514-C-2 MSD		75	101	97	80

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
TOL = Toluene-d8 (Surr)	80-125
BFB = 4-Bromofluorobenzene (Surr)	78-120
DBFM = Dibromofluoromethane (Surr)	77-120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Surrogate Recovery Report

8270C SIM Semivolatile Organic Compounds (GC/MS SIM)

Client Matrix: Water

Lab Sample ID	Client Sample ID	FBP %Rec	NBZ %Rec	TPH %Rec
280-33407-1	BAR-V-T001-2	74	69	117
MB 280-138074/1-A		85	90	129X
LCS 280-138074/2-A		92	95	106
LCSD 280-138074/3-A		95	94	126X
280-33360-L-10-A MS		81	89	114
280-33360-H-10-A MSD		77	74	114

Surrogate	Acceptance Limits
FBP = 2-Fluorobiphenyl	42-120
NBZ = Nitrobenzene-d5	43-120
TPH = Terphenyl-d14	47-120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Surrogate Recovery Report

8321A Nitroaromatic and Nitramine Compounds (Explosives) (LC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	NBZ %Rec
280-33407-1	BAR-V-T001-2	113
MB 280-138628/1-A		79
LCS 280-138628/2-A		88
LCSD 280-138628/3-A		94

Surrogate	Acceptance Limits
NBZ = Nitrobenzene-d5	48-130

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method Blank - Batch: 280-138811

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-138811/5	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	R9135.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/24/2012 2152	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	09/24/2012 2152				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Acetone	ND		10
Benzene	ND		1.0
Bromodichloromethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		2.0
2-Butanone (MEK)	ND		6.0
Carbon disulfide	ND		2.0
Carbon tetrachloride	ND		1.0
Chlorobenzene	ND		1.0
Dibromochloromethane	ND		1.0
Chloroethane	ND		2.0
Chloroform	ND		1.0
Chloromethane	ND		2.0
1,2-Dibromo-3-Chloropropane	ND		5.0
1,2-Dibromoethane	ND		1.0
Dichlorodifluoromethane	ND		2.0
1,1-Dichloroethane	ND		1.0
1,2-Dichloroethane	ND		1.0
1,1-Dichloroethene	ND		1.0
1,2-Dichloropropane	ND		1.0
Ethylbenzene	ND		1.0
1,2-Dichlorobenzene	ND		1.0
1,4-Dichlorobenzene	ND		1.0
Methylene Chloride	ND		2.0
4-Methyl-2-pentanone (MIBK)	ND		5.0
Styrene	ND		1.0
1,1,1,2-Tetrachloroethane	ND		1.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,2-Dichloroethene, Total	ND		1.0
Tetrachloroethene	ND		1.0
Toluene	ND		1.0
1,1,1-Trichloroethane	ND		1.0
1,1,2-Trichloroethane	ND		1.0
1,3-Dichloropropane	ND		1.0
Trichloroethene	ND		1.0
Trichlorofluoromethane	ND		2.0
1,2,3-Trichloropropane	ND		2.5
Vinyl chloride	ND		1.0
Xylenes, Total	ND		2.0
1,3-Dichlorobenzene	ND		1.0
Hexane	ND		2.0
Methyl tert-butyl ether	ND		5.0
Naphthalene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,2,4-Trimethylbenzene	ND		1.0

Method Blank - Batch: 280-138811

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-138811/5	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	R9135.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/24/2012 2152	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	09/24/2012 2152				
Leach Date:	N/A				

Analyte	Result	Qual	RL
1,3,5-Trimethylbenzene	ND		1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	77	70 - 127
Toluene-d8 (Surr)	94	80 - 125
4-Bromofluorobenzene (Surr)	84	78 - 120
Dibromofluoromethane (Surr)	82	77 - 120

Lab Control Sample - Batch: 280-138811

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 280-138811/4	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	R9134.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/24/2012 2130	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	09/24/2012 2130				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	5.00	4.74	95	74 - 135	
Bromodichloromethane	5.00	4.27	85	73 - 135	
Carbon tetrachloride	5.00	4.41	88	67 - 135	
Chlorobenzene	5.00	4.69	94	76 - 135	
Chloroform	5.00	4.19	84	76 - 120	
1,1-Dichloroethane	5.00	4.33	87	75 - 135	
1,1-Dichloroethene	5.00	4.97	99	71 - 136	
1,2-Dichloropropane	5.00	4.42	88	71 - 120	
Ethylbenzene	5.00	5.04	101	72 - 120	
Methylene Chloride	5.00	4.62	92	54 - 141	
Tetrachloroethene	5.00	4.81	96	70 - 135	
Toluene	5.00	4.88	98	73 - 120	
1,1,1-Trichloroethane	5.00	4.30	86	70 - 135	
Trichloroethene	5.00	4.42	88	73 - 135	
1,3-Dichlorobenzene	5.00	4.74	95	74 - 135	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78	70 - 127
Toluene-d8 (Surr)	93	80 - 125
4-Bromofluorobenzene (Surr)	86	78 - 120
Dibromofluoromethane (Surr)	82	77 - 120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138811

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-33514-C-2 MS	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	R9139.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/24/2012 2327			Final Weight/Volume:	20 mL
Prep Date:	09/24/2012 2327				
Leach Date:	N/A				

MSD Lab Sample ID:	280-33514-C-2 MSD	Analysis Batch:	280-138811	Instrument ID:	VMS_R1
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	R9140.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	09/24/2012 2348			Final Weight/Volume:	20 mL
Prep Date:	09/24/2012 2348				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	97	99	74 - 135	1	20		
Bromodichloromethane	85	88	73 - 135	3	20		
Carbon tetrachloride	77	78	67 - 135	1	21		
Chlorobenzene	93	97	76 - 135	3	20		
Chloroform	82	85	76 - 120	3	20		
1,1-Dichloroethane	86	88	75 - 135	2	21		
1,1-Dichloroethene	99	99	71 - 136	0	20		
1,2-Dichloropropane	99	101	71 - 120	2	20		
Ethylbenzene	101	103	72 - 120	2	26		
Methylene Chloride	87	90	54 - 141	4	20		
Tetrachloroethene	97	98	70 - 135	1	20		
Toluene	99	100	73 - 120	1	20		
1,1,1-Trichloroethane	79	80	70 - 135	1	20		
Trichloroethene	93	94	73 - 135	1	20		
1,3-Dichlorobenzene	99	100	74 - 135	1	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	75	75	70 - 127
Toluene-d8 (Surr)	99	101	80 - 125
4-Bromofluorobenzene (Surr)	91	97	78 - 120
Dibromofluoromethane (Surr)	80	80	77 - 120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138811

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-33514-C-2 MS	Units: ug/L	MSD Lab Sample ID:	280-33514-C-2 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	09/24/2012 2327		Analysis Date:	09/24/2012 2348	
Prep Date:	09/24/2012 2327		Prep Date:	09/24/2012 2348	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Benzene	ND	5.00	5.00	5.44	5.50
Bromodichloromethane	ND	5.00	5.00	4.25	4.38
Carbon tetrachloride	ND	5.00	5.00	3.85	3.89
Chlorobenzene	1.3	5.00	5.00	5.97	6.18
Chloroform	ND	5.00	5.00	4.12	4.24
1,1-Dichloroethane	1.5	5.00	5.00	5.73	5.83
1,1-Dichloroethene	ND	5.00	5.00	4.94	4.96
1,2-Dichloropropane	ND	5.00	5.00	4.97	5.05
Ethylbenzene	ND	5.00	5.00	5.39	5.49
Methylene Chloride	ND	5.00	5.00	4.33	4.49
Tetrachloroethene	ND	5.00	5.00	4.85	4.92
Toluene	ND	5.00	5.00	4.97	5.01
1,1,1-Trichloroethane	ND	5.00	5.00	3.94	3.98
Trichloroethene	ND	5.00	5.00	4.91	4.96
1,3-Dichlorobenzene	ND	5.00	5.00	4.93	5.00

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Method Blank - Batch: 280-138074

Method: 8270C SIM
Preparation: 3510C

Lab Sample ID:	MB 280-138074/1-A	Analysis Batch:	280-139337	Instrument ID:	SMS_G5
Client Matrix:	Water	Prep Batch:	280-138074	Lab File ID:	G5_7818.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	09/27/2012 1430	Units:	ng/L	Final Weight/Volume:	1000 uL
Prep Date:	09/19/2012 1800			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	RL
Benzo[b]fluoranthene	ND		100
Benzo[a]pyrene	ND		100
Benzo[a]anthracene	122		100
Benzo[k]fluoranthene	ND		100
Benzo[g,h,i]perylene	ND		100
Phenanthrene	ND		100
Anthracene	ND		100
Dibenz(a,h)anthracene	ND		100
Chrysene	141		100
Acenaphthene	ND		100
Acenaphthylene	ND		100
Fluoranthene	ND		100
Fluorene	ND		100
Pyrene	121		100
Indeno[1,2,3-cd]pyrene	ND		100
1-Methylnaphthalene	ND		100
2-Methylnaphthalene	ND		100
Naphthalene	ND		100
Dibenzofuran	ND		100

Surrogate	% Rec		Acceptance Limits
2-Fluorobiphenyl	85		42 - 120
Nitrobenzene-d5	90		43 - 120
Terphenyl-d14	129	X	47 - 120

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138074

Method: 8270C SIM
Preparation: 3510C

LCS Lab Sample ID:	LCS 280-138074/2-A	Analysis Batch:	280-138697	Instrument ID:	SMS_G5
Client Matrix:	Water	Prep Batch:	280-138074	Lab File ID:	G5_7707.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	09/24/2012 1312	Units:	ng/L	Final Weight/Volume:	1000 uL
Prep Date:	09/19/2012 1800			Injection Volume:	1 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138074/3-A	Analysis Batch:	280-138697	Instrument ID:	SMS_G5
Client Matrix:	Water	Prep Batch:	280-138074	Lab File ID:	G5_7708.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	09/24/2012 1342	Units:	ng/L	Final Weight/Volume:	1000 uL
Prep Date:	09/19/2012 1800			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[b]fluoranthene	87	0.3	44 - 120	198	28		*
Benzo[a]pyrene	79	1	38 - 120	194	21		*
Benzo[a]anthracene	90	3	42 - 120	189	40		*
Benzo[k]fluoranthene	100	0.3	43 - 120	199	28		*
Benzo[g,h,i]perylene	87	0.6	39 - 120	197	23		*
Phenanthrene	97	1	46 - 120	194	42		*
Anthracene	96	0.7	28 - 120	197	50		*
Dibenz(a,h)anthracene	80	0.2	27 - 126	199	25		*
Chrysene	99	3	35 - 120	188	41		*
Acenaphthene	93	0	47 - 120	200	50		*
Acenaphthylene	89	0	39 - 120	200	50		*
Fluoranthene	93	3	46 - 120	188	24		*
Fluorene	89	0	49 - 120	200	50		*
Pyrene	99	4	49 - 120	186	22		*
Indeno[1,2,3-cd]pyrene	79	0.9	38 - 120	196	25		*
Naphthalene	91	0.4	37 - 120	198	50		*

Surrogate	LCS % Rec	LCSD % Rec		Acceptance Limits
2-Fluorobiphenyl	92	95		42 - 120
Nitrobenzene-d5	95	94		43 - 120
Terphenyl-d14	106	126	X	47 - 120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138074

Method: 8270C SIM
Preparation: 3510C

LCS Lab Sample ID:	LCS 280-138074/2-A	Units: ng/L		LCSD Lab Sample ID:	LCSD 280-138074/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/24/2012 1312			Analysis Date:	09/24/2012 1342
Prep Date:	09/19/2012 1800			Prep Date:	09/19/2012 1800
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual	
Benzo[b]fluoranthene	900	900	785	ND	*
Benzo[a]pyrene	900	900	710	ND	*
Benzo[a]anthracene	900	900	814	ND	*
Benzo[k]fluoranthene	900	900	897	ND	*
Benzo[g,h,i]perylene	900	900	785	ND	*
Phenanthrene	900	900	872	ND	*
Anthracene	900	900	865	ND	*
Dibenz(a,h)anthracene	900	900	718	ND	*
Chrysene	900	900	890	ND	*
Acenaphthene	900	900	837	ND	*
Acenaphthylene	900	900	798	ND	*
Fluoranthene	900	900	837	ND	*
Fluorene	900	900	800	ND	*
Pyrene	900	900	889	ND	*
Indeno[1,2,3-cd]pyrene	900	900	715	ND	*
Naphthalene	900	900	819	ND	*

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138074

Method: 8270C SIM
Preparation: 3510C

MS Lab Sample ID:	280-33360-L-10-A MS	Analysis Batch:	280-139241	Instrument ID:	SMS_G5
Client Matrix:	Water	Prep Batch:	280-138074	Lab File ID:	G5_7789.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1035.3 mL
Analysis Date:	09/26/2012 2337			Final Weight/Volume:	1000 uL
Prep Date:	09/19/2012 1800			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-33360-H-10-A MSD	Analysis Batch:	280-139241	Instrument ID:	SMS_G5
Client Matrix:	Water	Prep Batch:	280-138074	Lab File ID:	G5_7790.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1040.4 mL
Analysis Date:	09/27/2012 0007			Final Weight/Volume:	1000 uL
Prep Date:	09/19/2012 1800			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[b]fluoranthene	85	80	44 - 120	7	28		
Benzo[a]pyrene	84	81	38 - 120	5	21		
Benzo[a]anthracene	91	89	42 - 120	3	40		
Benzo[k]fluoranthene	88	82	43 - 120	8	28		
Benzo[g,h,i]perylene	70	75	39 - 120	7	23		
Phenanthrene	90	102	46 - 120	11	42		
Anthracene	97	108	28 - 120	10	50		
Dibenz(a,h)anthracene	66	71	27 - 126	6	25		
Chrysene	84	83	35 - 120	2	41		
Acenaphthene	91	88	47 - 120	4	50		
Acenaphthylene	93	88	39 - 120	6	50		
Fluoranthene	101	108	46 - 120	6	24		
Fluorene	96	90	49 - 120	7	50		
Pyrene	103	106	49 - 120	2	22		
Indeno[1,2,3-cd]pyrene	68	72	38 - 120	5	25		
Naphthalene	83	80	37 - 120	5	50		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	81	77	42 - 120
Nitrobenzene-d5	89	74	43 - 120
Terphenyl-d14	114	114	47 - 120

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138074

Method: 8270C SIM
Preparation: 3510C

MS Lab Sample ID:	280-33360-L-10-A MS	Units:	ng/L	MSD Lab Sample ID:	280-33360-H-10-A MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/26/2012 2337			Analysis Date:	09/27/2012 0007
Prep Date:	09/19/2012 1800			Prep Date:	09/19/2012 1800
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Benzo[b]fluoranthene	ND		869	865	743	695
Benzo[a]pyrene	ND		869	865	733	699
Benzo[a]anthracene	ND		869	865	793	769
Benzo[k]fluoranthene	ND		869	865	763	707
Benzo[g,h,i]perylene	17	J	869	865	622	666
Phenanthrene	ND		869	865	786	880
Anthracene	ND		869	865	845	937
Dibenz(a,h)anthracene	ND		869	865	576	610
Chrysene	ND		869	865	733	717
Acenaphthene	ND		869	865	787	758
Acenaphthylene	ND		869	865	808	765
Fluoranthene	8.1	J	869	865	890	942
Fluorene	ND		869	865	837	781
Pyrene	11	J	869	865	907	929
Indeno[1,2,3-cd]pyrene	21	J	869	865	609	642
Naphthalene	6.5	J	869	865	732	698

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Method Blank - Batch: 280-138628

Method: 8321A
Preparation: 3535

Lab Sample ID:	MB 280-138628/1-A	Analysis Batch:	280-138943	Instrument ID:	LC_LCMS4
Client Matrix:	Water	Prep Batch:	280-138628	Lab File ID:	ex42l25054.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	09/26/2012 0328	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 0950			Injection Volume:	40 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,3,5-Trinitrobenzene	ND		0.017	0.10
1,3-Dinitrobenzene	ND		0.014	0.10
2,4,6-Trinitrotoluene	ND		0.022	0.10
2,4-Dinitrotoluene	ND		0.019	0.10
2,6-Dinitrotoluene	ND		0.022	0.10
2-Amino-4,6-dinitrotoluene	ND		0.021	0.10
4-Amino-2,6-dinitrotoluene	ND		0.019	0.10
RDX	ND		0.021	0.10
3-Nitrotoluene	ND		0.025	0.10
Tetryl	ND		0.021	0.10
Nitrobenzene	ND		0.033	0.10
2-Nitrotoluene	ND		0.022	0.10
HMX	ND		0.019	0.10
Nitroglycerin	ND		0.045	0.14
4-Nitrotoluene	ND		0.026	0.10
PETN	ND		0.018	0.10
3,4-Dinitrotoluene	ND		0.020	0.10
2,3-Dinitrotoluene	ND		0.015	0.10
3,5-Dinitrotoluene	ND		0.034	0.10
2,4,6-Trinitro-3-xylene	ND		0.10	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	79	48 - 130

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138628

Method: 8321A
Preparation: 3535

LCS Lab Sample ID:	LCS 280-138628/2-A	Analysis Batch:	280-138943	Instrument ID:	LC_LCMS4
Client Matrix:	Water	Prep Batch:	280-138628	Lab File ID:	ex42I25055.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	09/26/2012 0347	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 0950			Injection Volume:	40 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138628/3-A	Analysis Batch:	280-138943	Instrument ID:	LC_LCMS4
Client Matrix:	Water	Prep Batch:	280-138628	Lab File ID:	ex42I25056.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	09/26/2012 0406	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 0950			Injection Volume:	40 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,3,5-Trinitrobenzene	92	79	54 - 145	16	57		
1,3-Dinitrobenzene	86	105	68 - 131	20	39		
2,4,6-Trinitrotoluene	118	104	20 - 147	12	68		
2,4-Dinitrotoluene	106	97	66 - 130	9	46		
2,6-Dinitrotoluene	101	89	64 - 133	13	44		
2-Amino-4,6-dinitrotoluene	115	115	64 - 138	1	41		
4-Amino-2,6-dinitrotoluene	114	106	65 - 131	7	36		
RDX	112	99	72 - 130	12	25		
3-Nitrotoluene	97	89	36 - 133	9	89		
Tetryl	114	133	15 - 134	15	51		
Nitrobenzene	104	122	42 - 141	16	58		
2-Nitrotoluene	104	94	34 - 131	10	68		
HMX	102	99	56 - 134	3	34		
Nitroglycerin	104	90	37 - 147	14	71		
4-Nitrotoluene	97	88	40 - 137	10	72		
PETN	106	89	10 - 198	18	50		
3,4-Dinitrotoluene	108	91	50 - 150	16	30		
2,3-Dinitrotoluene	133	125	50 - 150	7	30		
3,5-Dinitrotoluene	140	107	50 - 150	26	30		
2,4,6-Trinitro-3-xylene	92	89	50 - 150	3	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	88	94	48 - 130

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138628

Method: 8321A
Preparation: 3535

LCS Lab Sample ID:	LCS 280-138628/2-A	Units: ug/L		LCSD Lab Sample ID:	LCSD 280-138628/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/26/2012 0347			Analysis Date:	09/26/2012 0406
Prep Date:	09/24/2012 0950			Prep Date:	09/24/2012 0950
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
1,3,5-Trinitrobenzene	0.500	0.500	0.460	0.394
1,3-Dinitrobenzene	0.500	0.500	0.430	0.526
2,4,6-Trinitrotoluene	0.500	0.500	0.589	0.522
2,4-Dinitrotoluene	0.500	0.500	0.532	0.484
2,6-Dinitrotoluene	0.500	0.500	0.507	0.444
2-Amino-4,6-dinitrotoluene	0.500	0.500	0.577	0.574
4-Amino-2,6-dinitrotoluene	0.500	0.500	0.568	0.528
RDX	0.500	0.500	0.560	0.497
3-Nitrotoluene	0.500	0.500	0.487	0.445
Tetryl	0.500	0.500	0.568	0.664
Nitrobenzene	0.500	0.500	0.522	0.611
2-Nitrotoluene	0.500	0.500	0.520	0.471
HMX	0.500	0.500	0.512	0.494
Nitroglycerin	0.500	0.500	0.518	0.451
4-Nitrotoluene	0.500	0.500	0.487	0.441
PETN	0.500	0.500	0.532	0.446
3,4-Dinitrotoluene	0.501	0.501	0.538	0.458
2,3-Dinitrotoluene	0.501	0.501	0.669	0.624
3,5-Dinitrotoluene	0.500	0.500	0.700	0.537
2,4,6-Trinitro-3-xylene	0.500	0.500	0.459	0.446

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method Blank - Batch: 280-138323

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-138323/8	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	118.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1156	Units:	mg/L	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Nitrate as N	ND		0.50

Method Reporting Limit Check - Batch: 280-138323

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-138323/5	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	115.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1040	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	0.200	ND	118	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138323

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138323/6	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1056	Units:	mg/L	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138323/7	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	117.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1113	Units:	mg/L	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Nitrate as N	103	103	90 - 110	0	10		

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138323

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138323/6	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-138323/7
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/19/2012 1056			Analysis Date:	09/19/2012 1113
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Nitrate as N	5.00	5.00	5.14	5.15

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138323

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-33414-A-1 MS	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	143.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1931			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-33414-A-1 MSD	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	144.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1948			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate as N	102	103	80 - 120	1	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138323

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-33414-A-1 MS	Units:	mg/L	MSD Lab Sample ID:	280-33414-A-1 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/19/2012 1931			Analysis Date:	09/19/2012 1948
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Nitrate as N	ND	5.00	5.00	5.15	5.22

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Duplicate - Batch: 280-138323

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-33414-A-1 DU	Analysis Batch:	280-138323	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	142.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/19/2012 1914	Units:	mg/L	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate as N	ND	ND	NC	15	

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method Blank - Batch: 280-138821

Method: 9020B
Preparation: N/A

Lab Sample ID:	MB 280-138821/2	Analysis Batch:	280-138821	Instrument ID:	WC_Thermo3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/24/2012 1252	Units:	ug/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Organic Halogens	ND		30

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138821

Method: 9020B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138821/4	Analysis Batch:	280-138821	Instrument ID:	WC_Thermo3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/24/2012 1252	Units:	ug/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138821/5	Analysis Batch:	280-138821	Instrument ID:	WC_Thermo3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/24/2012 1252	Units:	ug/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
TOX Result 1	99	92	78 - 114	8	23		
Total Organic Halogens	99	92	78 - 114	8	23		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138821

Method: 9020B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138821/4	Units:	ug/L	LCSD Lab Sample ID:	LCSD 280-138821/5
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/24/2012 1252			Analysis Date:	09/24/2012 1252
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
TOX Result 1	100	100	99.4	91.6
Total Organic Halogens	100	100	99.4	91.6

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138821

Method: 9020B
Preparation: N/A

MS Lab Sample ID:	280-33407-1	Analysis Batch:	280-138821	Instrument ID:	WC_Thermo3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/24/2012 1252			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-33407-1	Analysis Batch:	280-138821	Instrument ID:	WC_Thermo3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/24/2012 1252			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
TOX Result 1	92	91	78 - 114	1	23		
Total Organic Halogens	92	91	78 - 114	1	23		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138821

Method: 9020B
Preparation: N/A

MS Lab Sample ID:	280-33407-1	Units:	ug/L	MSD Lab Sample ID:	280-33407-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/24/2012 1252			Analysis Date:	09/24/2012 1252
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
TOX Result 1	ND	100	100	92.1	91.0
Total Organic Halogens	ND	100	100	92.1	91.0

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method Blank - Batch: 280-138140

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-138140/1	Analysis Batch:	280-138140	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/20/2012 0748	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Dissolved Solids	ND		10

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138140

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138140/2	Analysis Batch:	280-138140	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/20/2012 0748	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138140/3	Analysis Batch:	280-138140	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/20/2012 0748	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Dissolved Solids	98	96	86 - 110	2	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138140

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138140/2	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-138140/3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/20/2012 0748			Analysis Date:	09/20/2012 0748
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Dissolved Solids	500	500	488	478

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Duplicate - Batch: 280-138140

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-33418-A-2 DU	Analysis Batch:	280-138140	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/20/2012 0748	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids	47	46.0	2	10	

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method Blank - Batch: 280-138534

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	MB 280-138534/1	Analysis Batch:	280-138534	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	09/21/2012 1752	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Suspended Solids	ND		4.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138534

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138534/2	Analysis Batch:	280-138534	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/21/2012 1752	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138534/3	Analysis Batch:	280-138534	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	09/21/2012 1752	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Suspended Solids	90	98	86 - 114	9	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138534

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138534/2	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-138534/3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/21/2012 1752			Analysis Date:	09/21/2012 1752
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Suspended Solids	100	100	90.0	98.0

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Duplicate - Batch: 280-138534

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	280-33326-A-2 DU	Analysis Batch:	280-138534	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	09/21/2012 1752	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	5.2	4.80	8	10	

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138009

Method: SM 4500 H+ B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138009/4	Analysis Batch:	280-138009	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	09/19/2012 1050	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138009/5	Analysis Batch:	280-138009	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	09/19/2012 1051	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C	100	100	99 - 101	0	5		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138009

Method: SM 4500 H+ B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138009/4	Units:	SU	LCSD Lab Sample ID:	LCSD 280-138009/5
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/19/2012 1050			Analysis Date:	09/19/2012 1051
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
pH adj. to 25 deg C	7.00	7.00	6.990	7.000

Duplicate - Batch: 280-138009

Method: SM 4500 H+ B
Preparation: N/A

Lab Sample ID:	280-33379-C-1 DU	Analysis Batch:	280-138009	Instrument ID:	No Equipment
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	09/19/2012 1054	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C	8.07	8.070	0	5	

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Method Blank - Batch: 280-138510

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-138510/36	Analysis Batch:	280-138510	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	092012.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/21/2012 0603	Units:	mg/L	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Organic Carbon - Quad	ND		1.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-138510

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138510/34	Analysis Batch:	280-138510	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	092012.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/21/2012 0527	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-138510/35	Analysis Batch:	280-138510	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	092012.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/21/2012 0545	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
TOC Result 1	103	99	88 - 112	4	15		
TOC Result 2	101	102	88 - 112	1	15		
TOC Result 3	99	100	88 - 112	0	15		
TOC Result 4	100	98	88 - 112	2	15		
Total Organic Carbon - Quad	101	100	88 - 112	1	15		

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-138510

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-138510/34	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-138510/35
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	09/21/2012 0527			Analysis Date:	09/21/2012 0545
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
TOC Result 1	25.0	25.0	25.8	24.8
TOC Result 2	25.0	25.0	25.3	25.6
TOC Result 3	25.0	25.0	24.8	24.9
TOC Result 4	25.0	25.0	25.0	24.5
Total Organic Carbon - Quad	25.0	25.0	25.2	24.9

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138510

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-33407-1	Analysis Batch:	280-138510	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	092012.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/21/2012 1336			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-33407-1	Analysis Batch:	280-138510	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	092012.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	09/21/2012 1356			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
TOC Result 1	93	95	88 - 112	2	15		
TOC Result 2	97	95	88 - 112	2	15		
TOC Result 3	95	92	88 - 112	3	15		
TOC Result 4	94	93	88 - 112	1	15		
Total Organic Carbon - Quad	95	94	88 - 112	1	15		

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-138510

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-33407-1	Units: mg/L	MSD Lab Sample ID:	280-33407-1	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	09/21/2012 1336		Analysis Date:	09/21/2012 1356	
Prep Date:	N/A		Prep Date:	N/A	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
TOC Result 1	4.4	25.0	25.0	27.7	28.2
TOC Result 2	4.4	25.0	25.0	28.6	28.1
TOC Result 3	4.2	25.0	25.0	28.0	27.3
TOC Result 4	4.2	25.0	25.0	27.8	27.4
Total Organic Carbon - Quad	4.3	25.0	25.0	28.0	27.7

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Laboratory Chronicle

Lab ID: 280-33407-1 **Client ID: BAR-V-T001-2**

Sample Date/Time: 09/18/2012 12:00 Received Date/Time: 09/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-33407-P-1		280-138811		09/25/2012 02:58	1	TAL DEN	SAT
A:8260B	280-33407-P-1		280-138811		09/25/2012 02:58	1	TAL DEN	SAT
P:3510C	280-33407-D-1-B		280-139337	280-138074	09/19/2012 18:00	1	TAL DEN	SPF
A:8270C SIM	280-33407-D-1-B		280-139337	280-138074	09/27/2012 19:32	1	TAL DEN	KGV
P:3535	280-33407-E-1-A		280-138943	280-138628	09/24/2012 09:50	1	TAL DEN	LC
A:8321A	280-33407-E-1-A		280-138943	280-138628	09/26/2012 09:11	1	TAL DEN	AGCM
A:300.0	280-33407-F-1		280-138323		09/20/2012 03:06	1	TAL DEN	TLP
A:9020B	280-33407-H-1		280-138821		09/24/2012 12:52	1	TAL DEN	DE
A:SM 2540C	280-33407-F-1		280-138140		09/20/2012 07:48	1	TAL DEN	AK
A:SM 2540D	280-33407-F-1		280-138534		09/21/2012 17:52	1	TAL DEN	JMH
A:SM 4500 H+ B	280-33407-F-1		280-138009		09/19/2012 11:02	1	TAL DEN	LMK
A:SM 5310B	280-33407-G-1		280-138510		09/21/2012 13:14	1	TAL DEN	DFB

Lab ID: 280-33407-1 MS **Client ID: BAR-V-T001-2**

Sample Date/Time: 09/18/2012 12:00 Received Date/Time: 09/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:9020B	280-33407-H-1 MS		280-138821		09/24/2012 12:52	1	TAL DEN	DE
A:SM 5310B	280-33407-G-1 MS		280-138510		09/21/2012 13:36	1	TAL DEN	DFB

Lab ID: 280-33407-1 MSD **Client ID: BAR-V-T001-2**

Sample Date/Time: 09/18/2012 12:00 Received Date/Time: 09/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:9020B	280-33407-H-1 MSD		280-138821		09/24/2012 12:52	1	TAL DEN	DE
A:SM 5310B	280-33407-G-1 MSD		280-138510		09/21/2012 13:56	1	TAL DEN	DFB

Lab ID: 280-33407-2 **Client ID: TRIP BLANK**

Sample Date/Time: 09/18/2012 12:00 Received Date/Time: 09/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-33407-A-2		280-138811		09/25/2012 03:19	1	TAL DEN	SAT
A:8260B	280-33407-A-2		280-138811		09/25/2012 03:19	1	TAL DEN	SAT

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Laboratory Chronicle

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	MB 280-138811/5		280-138811		09/24/2012 21:52	1	TAL DEN	SAT
A:8260B	MB 280-138811/5		280-138811		09/24/2012 21:52	1	TAL DEN	SAT
P:3510C	MB 280-138074/1-A		280-139337	280-138074	09/19/2012 18:00	1	TAL DEN	SPF
A:8270C SIM	MB 280-138074/1-A		280-139337	280-138074	09/27/2012 14:30	1	TAL DEN	KGV
P:3535	MB 280-138628/1-A		280-138943	280-138628	09/24/2012 09:50	1	TAL DEN	LC
A:8321A	MB 280-138628/1-A		280-138943	280-138628	09/26/2012 03:28	1	TAL DEN	AGCM
A:300.0	MB 280-138323/8		280-138323		09/19/2012 11:56	1	TAL DEN	TLP
A:9020B	MB 280-138821/2		280-138821		09/24/2012 12:52	1	TAL DEN	DE
A:SM 2540C	MB 280-138140/1		280-138140		09/20/2012 07:48	1	TAL DEN	AK
A:SM 2540D	MB 280-138534/1		280-138534		09/21/2012 17:52	1	TAL DEN	JMH
A:SM 5310B	MB 280-138510/36		280-138510		09/21/2012 06:03	1	TAL DEN	DFB

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCS 280-138811/4		280-138811		09/24/2012 21:30	1	TAL DEN	SAT
A:8260B	LCS 280-138811/4		280-138811		09/24/2012 21:30	1	TAL DEN	SAT
P:3510C	LCS 280-138074/2-A		280-138697	280-138074	09/19/2012 18:00	1	TAL DEN	SPF
A:8270C SIM	LCS 280-138074/2-A		280-138697	280-138074	09/24/2012 13:12	1	TAL DEN	KGV
P:3535	LCS 280-138628/2-A		280-138943	280-138628	09/24/2012 09:50	1	TAL DEN	LC
A:8321A	LCS 280-138628/2-A		280-138943	280-138628	09/26/2012 03:47	1	TAL DEN	AGCM
A:300.0	LCS 280-138323/6		280-138323		09/19/2012 10:56	1	TAL DEN	TLP
A:9020B	LCS 280-138821/4		280-138821		09/24/2012 12:52	1	TAL DEN	DE
A:SM 2540C	LCS 280-138140/2		280-138140		09/20/2012 07:48	1	TAL DEN	AK
A:SM 2540D	LCS 280-138534/2		280-138534		09/21/2012 17:52	1	TAL DEN	JMH
A:SM 4500 H+ B	LCS 280-138009/4		280-138009		09/19/2012 10:50	1	TAL DEN	LMK
A:SM 5310B	LCS 280-138510/34		280-138510		09/21/2012 05:27	1	TAL DEN	DFB

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Laboratory Chronicle

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3510C	LCSD 280-138074/3-A		280-138697	280-138074	09/19/2012 18:00	1	TAL DEN	SPF
A:8270C SIM	LCSD 280-138074/3-A		280-138697	280-138074	09/24/2012 13:42	1	TAL DEN	KGV
P:3535	LCSD 280-138628/3-A		280-138943	280-138628	09/24/2012 09:50	1	TAL DEN	LC
A:8321A	LCSD 280-138628/3-A		280-138943	280-138628	09/26/2012 04:06	1	TAL DEN	AGCM
A:300.0	LCSD 280-138323/7		280-138323		09/19/2012 11:13	1	TAL DEN	TLP
A:9020B	LCSD 280-138821/5		280-138821		09/24/2012 12:52	1	TAL DEN	DE
A:SM 2540C	LCSD 280-138140/3		280-138140		09/20/2012 07:48	1	TAL DEN	AK
A:SM 2540D	LCSD 280-138534/3		280-138534		09/21/2012 17:52	1	TAL DEN	JMH
A:SM 4500 H+ B	LCSD 280-138009/5		280-138009		09/19/2012 10:51	1	TAL DEN	LMK
A:SM 5310B	LCSD 280-138510/35		280-138510		09/21/2012 05:45	1	TAL DEN	DFB

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-138323/5		280-138323		09/19/2012 10:40	1	TAL DEN	TLP

Lab ID: MS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-33514-C-2 MS		280-138811		09/24/2012 23:27	1	TAL DEN	SAT
A:8260B	280-33514-C-2 MS		280-138811		09/24/2012 23:27	1	TAL DEN	SAT
P:3510C	280-33360-L-10-A MS		280-139241	280-138074	09/19/2012 18:00	1	TAL DEN	SPF
A:8270C SIM	280-33360-L-10-A MS		280-139241	280-138074	09/26/2012 23:37	1	TAL DEN	KGV
A:300.0	280-33414-A-1 MS		280-138323		09/19/2012 19:31	1	TAL DEN	TLP

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-33514-C-2 MSD		280-138811		09/24/2012 23:48	1	TAL DEN	SAT
A:8260B	280-33514-C-2 MSD		280-138811		09/24/2012 23:48	1	TAL DEN	SAT
P:3510C	280-33360-H-10-A MSD		280-139241	280-138074	09/19/2012 18:00	1	TAL DEN	SPF
A:8270C SIM	280-33360-H-10-A MSD		280-139241	280-138074	09/27/2012 00:07	1	TAL DEN	KGV
A:300.0	280-33414-A-1 MSD		280-138323		09/19/2012 19:48	1	TAL DEN	TLP

Client: E.I. du Pont de Nemours and Company ADQM Job Number: 280-33407-1

Laboratory Chronicle

Lab ID: DU **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-33414-A-1 DU		280-138323		09/19/2012 19:14	1	TAL DEN	TLP
A:SM 2540C	280-33418-A-2 DU		280-138140		09/20/2012 07:48	1	TAL DEN	AK
A:SM 2540D	280-33326-A-2 DU		280-138534		09/21/2012 17:52	1	TAL DEN	JMH
A:SM 4500 H+ B	280-33379-C-1 DU		280-138009		09/19/2012 10:54	1	TAL DEN	LMK

Lab References:
TAL DEN = TestAmerica Denver

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Jon Flammerberg	Lab PM: Johnston, Michelle	Carrier Tracking No(s):	COC No: 280-10377-5029.1
Client Contact: Ms. Sharon Nordstrom	Phone: 302.781.5936	E-Mail: michelle.johnston@testamericainc.com		Page: Page 1 of 1
Company: URS Corporation				Job #:
Address: C/O Dupont Iron Hill Corporate Center 4051 Ogletown Road, Su	Due Date Requested:	Analysis Requested		
City: Newark	TAT Requested (days):			
State, Zip: DE, 19713				
Phone: 302-781-5900(Tel)	PO #: LBIO-66421/92677720100CWH			
Email: Sharon_Nordstrom@URSCorp.com	WO #: TAL			
Project Name: BAR - Barksdale Biopilot Sampling	Project #: 28003388			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH 8021+DNT	VOC (WISCONSIN LIST)	TOC	TOX	PAH (Sim)	TSS	TDS	NITRATE N	PH				Total Number of containers	Special Instructions/Note:
Preservation Code:																				
~~BAR-S-PILOT-~~																				
BAR-W-TOO1-Z	09/08/2012	1200	G	W	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓					5	
TRIP BLANK	↓	↓	↓	↓				✓												
TEMP BLANK	↓	↓	↓	↓																

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Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

	Date: 9/14/12	Time: 1300	Method of Shipment:
Relinquished by:	Date/Time: 9/18/12 1600	Company: URS	Received by: Date/Time: 9-19-12 CCC Company: TAL
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: TA 1 cf 1.1°C 9-19-12

Login Sample Receipt Checklist

Client: E.I. du Pont de Nemours and Company ADQM

Job Number: 280-33407-1

Login Number: 33407

List Source: TestAmerica Denver

List Number: 1

Creator: Underwood, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	