DuPont Engineering
Barley Mill Plaza - Bldg. 27
4417 Lancaster Pike
Wilmington, DE 19805

October 27, 2004

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

SEPTEMBER 2003 OFF-SITE GROUNDWATER SAMPLING RESULTS
June 2004 Follow-Up
Former DuPont Barksdale Works Site
(BRRTS #02-04-000156)
Barksdale, Wisconsin

Dear Mr. Saari:

This letter will serve as a follow-up to the September 2003 sampling event and report (issued on January 8, 2004). In that report, DuPont stated that:

"At FC No. 73115 Birch Grove Road, detections were found in the effluent sample but not in the inflow sample. Results of resampling confirmed the detections are present in the effluent and absent in the inflow port. It was believed that the sample ports are mislabeled (i.e., inflow should be correctly labeled effluent and effluent should be correctly labeled inflow). Since the home is occupied only during the summer months by the owner, DuPont has been unable to coordinate access to the home with a plumber to determine if the sampling ports have been mislabeled. This issue will be addressed when the homeowner returns in 2004. DuPont will notify WDNR once this issue is rectified."

This report will serve as DuPont's notification to Wisconsin Department of Natural Resources (WDNR) as to the results of the follow-up sample.

The follow-up sample from FC No. 73115 Birch Grove Road was collected on June 29, 2004. The analytical results (see Table 1 and Appendix A) verify that the September 2003 samples were mislabeled and confirmed that the detections are in the inflow sample (sample collected from the port prior to the carbon treatment system and closest to the well head) and not in the effluent sample (sample collected from the port after the carbon treatment system). The analytical results for the follow up sample found three nitroaromatic/nitramine compounds detected in the inflow sample. Only 2,6 Dinitrotolune was detected (0.27 ug/L) above the Wisconsin Enforcement standards of 0.05 ug/L. The other compounds detected were HMX (at 0.031J ug/L) and RDX (at 0.044J ug/L). All detected concentrations were within historical limits.

Results Summary/Conclusions

Further sampling at this location will be in conjunction with the WDNR approved *Private Well Monitoring Proposal*, dated November 6. 2002, and amended during telephone conversations in December 2002. The next sampling event is scheduled for December 2004.

If you have any questions regarding this data report, please call either me (502-569-2148) or Mr. Cary Pooler (502-569-2444).

Sincerely,

Bradley S. Nave
Project Director
DuPont Corporate Remediation Group

BSN:jhc

Enclosures:

Table 1	Summary of Analytical Results
Appendix A	Barksdale Works – 73115BG Well Resampling 6/04

cc: P. Bretting, C.G. Bretting Mfg., Inc.
H. Nehls-Lowe, Wisconsin DHFS
A. Lindsey, Bayfield County Health Dept.
C. Pooler, URSD
M. Turco, URSD
File (paper): 7355

TABLES

Table 1
Summary of Analytical Results

Analyte	units	Wisconsin Enforcement Standard	Sample ID Date Duplicate #	73115BG-INFLOW 6/29/04 1	73115BG-EFFLUENT 6/29/04 1
1,3,5-TRINITROBENZENE	ug/l	---		<0.018	<0.018
2,4,6-TRINITROTOLUENE	ug/l	---		<0.026	<0.026
2,4-DINITROTOLUENE	ug/l	0.05		<0.038	<0.038
2,6-DINITROTOLUENE	ug/l	0.05		0.27	<0.037
2-AMINO-4,6-DINITROTOLUENE	ug/l	---		<0.017	<0.017
2-NITROTOLUENE	ug/l	---		<0.057	<0.057
3-NITROTOLUENE	ug/l	---		<0.064	<0.064
4-AMINO-2,6-DINITROTOLUENE	ug/l	---		<0.022	<0.022
4-NITROTOLUENE	ug/l	---		<0.061	<0.061
HMX	ug/l	---		0.031 J	<0.017
M-DINITROBENZENE	ug/l	---		<0.019	<0.019
NITROBENZENE	ug/l	---		<0.036	<0.036
NITROGLYCERIN	ug/l	---		<0.042	<0.042
PETN	ug/l	---		<0.038	<0.038
RDX	ug/l	---		0.044 J	<0.013
TETRYL	ug/l	---		<0.017	<0.017

< and ND = Non detect at stated reporting limit

APPENDIX A

Memorandum

DATE: **SEPTEMBER 3, 2004**

TO: Cary A. Pooler, URS Diamond

FROM: Sharon A. Nordstrom

RE: **BARKSDALE 73115BG WELL SAMPLING 6/04**

Enclosed is the data report for the two residential well samples collected on 6/29/04 for the analyses listed below. The samples were received at the laboratory in excellent condition and within temperature requirements.

Matrix	Laboratory	Analysis	Analytical Method
Groundwater	STL- Denver	Nitroaromatic/ nitramine organics	SW846 8321A

The STL-Denver data deliverable included both a hard-copy report and an electronic data file. The electronic data was reviewed via the automated DuPont Data Review (DDR) process, and the hard-copy report was submitted to Environmental Standards, Inc. for independent, third-party validation. A copy of the Environmental Standards Quality Assurance Review is included herein. As noted, no significant QC exceptions were identified either during the in-house review or the Environmental Standards evaluation.

As noted on the attached report, the Influent sample contained low levels of several nitroaromatic/nitramine compounds. No detections were reported in the post-carbon treatment (Effluent) sample.

Please do not hesitate to contact me if you have any questions regarding this report.

BARKSDALE WORKS
73115BG WELL SAMPLING 6/04

September 3, 2004

Prepared for

Cary A. Pooler (URS Diamond-Louisville)

Prepared by

URS Diamond
Laboratory Services – Sharon A. Nordstrom
Barley Mill Plaza, Building 27
Wilmington, DE 19805

DuPont In-House Review (DDR)

The DDR is an automated internal review process used by the ADQM group to determine if the data is usable. The data is run through this automated program where a series of checks are performed on the data. The data is evaluated against hold time criteria, checked for blank contamination, assessed against matrix spike(MS)/matrix spike duplicate (MSD) recoveries, assessed against relative percent differences (RPDs) between these samples, assessed against laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries, assessed against RPDs between these samples, assessed against RPDs between laboratory replicates, and assessed against surrogate spike recoveries. The DDR applies the following data qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

Laboratory Qualifiers

The laboratory may have applied one or more of the following data qualifiers to analysis results, as warranted:

DIL	The concentration is estimated or not reported due to dilution or to the presence of interfering analytes.
NC	The recovery and or RPD were not calculated.
J	Estimated value; result falls between method detection limit (mdl) and practical quantitation limit (pql).
U	Analyte was not detected at the specified reporting limit
B	Analyte concentration is not significantly greater than that detected in an associated method blank.

J	Estimated value; result falls between method detection limit (mdl) and practical quantitation limit (pql).
*	Surrogate recovery is outside stated control limits.
J	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
B	Estimated result. Result is less than reporting limit (RL)
Q	Elevated reporting limit. The reporting limit is elevated because sample dilution was required to bring target compounds within calibration range of the analytical system.
G	Elevated reporting limit. The reporting limit is elevated because sample dilution was required for analysis due to matrix interference.

These lab qualifiers are applied independent of DuPont In-House Data Review (DDR) qualifiers.

Sitename: **BARKSDALE WORKS**
Project: **73115BG SAMPLING 6/04**

DDR Standard Used: **LABSTATS**

The reported result is greater than/equal to the MDL and less than the PQL; it should be considered an estimated value.

Sampleno	Datesmpl	Lab Id	Method	Analyte	Rsltmod	Result	Unit	Mdl	Pql	Qual
BAR-G-73115BG-INFLOW	6/29/04	GKA0E1-AA FS	8321	RDX		0.044	UG/L	0.013	0.12	J
BAR-G-73115BG-INFLOW	6/29/04	GKA0E1-AA FS	8321	HMX		0.031	UG/L	0.017	0.12	J

Corporate Environmental Database
Lab Analysis Report
Summary of Positive Results
with In-House Qualifier and Review

Site: BAR - BARKSDALE WORKS
Project: 73115BG SAMPLING 6/04
Reporting Limit: MDL

9/3/2004 15:40:41

Analyte/Parameter	Result	Lab Qual	In-house Qual	Re-view	Unit	MDL	PQL	Method
Sampling Point: 73115BG-INFLOW	Sampleno:	BAR-G-73115BG-INFLOW						
Date sampled: Jun 29, 2004	Sample type:	Groundwater						
2,6-DINITROTOLUENE	0.27				UG/L	0.037	0.12	8321
HMX	0.031	J	J	J	UG/L	0.017	0.12	8321
RDX	0.044	J	J	J	UG/L	0.013	0.12	8321

Corporate Environmental Database
Lab Analysis Report
With Inhouse Qualifier and Review

Site: BARKSDALE WORKS 9/3/2004
Project: 73115BG SAMPLING 6/04
Reporting Limit: MDL

Sampling Point:	73115BG-EFFLUENT	Sampleno:	BAR-G-73115BG-EFFLUENT
Date Sampled:	6/29/04	Sample Type:	Groundwater
Lab Sample ID:	GKA0J1-AA FS	Lab:	QES-DEN

Analyte/Parameter	Dilution		Result	Lab Qual	In-House Qual	Review	Unit	MDL	PQL	Date Analyzed
Method No: 8321	Prep Method:		SW3535			Pre Prep Method:				
Analytes										
1,3,5-trinitrobenzene	1	<	0.018				UG/L	0.018	0.12	Jul 17, 2004
1,3-dinitrobenzene	1	<	0.019				UG/L	0.019	0.12	Jul 17, 2004
2,4,6-trinitrotoluene	1	<	0.026				UG/L	0.026	0.12	Jul 17, 2004
2,4-dinitrotoluene	1	<	0.038				UG/L	0.038	0.12	Jul 17, 2004
2,6-dinitrotoluene	1	<	0.037				UG/L	0.037	0.12	Jul 17, 2004
2-amino-4,6-dinitrotoluene	1	<	0.017				UG/L	0.017	0.12	Jul 17, 2004
2-nitrotoluene	1	<	0.057				UG/L	0.057	0.12	Jul 17, 2004
3-nitrotoluene	1	<	0.064				UG/L	0.064	0.12	Jul 17, 2004
4-amino-2,6-dinitrotoluene	1	<	0.022				UG/L	0.022	0.12	Jul 17, 2004
4-nitrotoluene	1	<	0.061				UG/L	0.061	0.12	Jul 17, 2004
Hmx	1	<	0.017				UG/L	0.017	0.12	Jul 17, 2004
Nitrobenzene	1	<	0.036				UG/L	0.036	0.12	Jul 17, 2004
Nitroglycerin	1	<	0.042				UG/L	0.042	0.12	Jul 17, 2004
Petn	1	<	0.038				UG/L	0.038	0.12	Jul 17, 2004
Rdx	1	<	0.013				UG/L	0.013	0.12	Jul 17, 2004
Tetryl	1	<	0.017				UG/L	0.017	0.12	Jul 17, 2004
Surrogates										
Nitrobenzene-d5	1		97 RPR				UG/L			Jul 17, 2004

Corporate Environmental Database
Lab Analysis Report
With Inhouse Qualifier and Review

Site: BARKSDALE WORKS 9/3/2004
Project: 73115BG SAMPLING 6/04
Reporting Limit: MDL

Sampling Point:	73115BG-INFLOW	Sampleno:	BAR-G-73115BG-INFLOW
Date Sampled:	6/29/04	Sample Type:	Groundwater
Lab Sample ID:	GKA0E1-AA FS	Lab:	QES-DEN

Analyte/Parameter	Dilution		Result	Lab Qual	In-House Qual	Review	Unit	MDL	PQL	Date Analyzed
Method No: 8321	Prep Method:		SW3535			Pre Prep Method:				
Analytes										
1,3,5-trinitrobenzene	1	<	0.018				UG/L	0.018	0.12	Jul 17, 2004
1,3-dinitrobenzene	1	<	0.019				UG/L	0.019	0.12	Jul 17, 2004
2,4,6-trinitrotoluene	1	<	0.026				UG/L	0.026	0.12	Jul 17, 2004
2,4-dinitrotoluene	1	<	0.038				UG/L	0.038	0.12	Jul 17, 2004
2,6-dinitrotoluene	1		0.27				UG/L	0.037	0.12	Jul 17, 2004
2-amino-4,6-dinitrotoluene	1	<	0.017				UG/L	0.017	0.12	Jul 17, 2004
2-nitrotoluene	1	<	0.057				UG/L	0.057	0.12	Jul 17, 2004
3-nitrotoluene	1	<	0.064				UG/L	0.064	0.12	Jul 17, 2004
4-amino-2,6-dinitrotoluene	1	<	0.022				UG/L	0.022	0.12	Jul 17, 2004
4-nitrotoluene	1	<	0.061				UG/L	0.061	0.12	Jul 17, 2004
Hmx	1		0.031	J	J	J	UG/L	0.017	0.12	Jul 17, 2004
Nitrobenzene	1	<	0.036				UG/L	0.036	0.12	Jul 17, 2004
Nitroglycerin	1	<	0.042				UG/L	0.042	0.12	Jul 17, 2004
Petn	1	<	0.038				UG/L	0.038	0.12	Jul 17, 2004
Rdx	1		0.044	J	J	J	UG/L	0.013	0.12	Jul 17, 2004
Tetryl	1	<	0.017				UG/L	0.017	0.12	Jul 17, 2004
Surrogates										
Nitrobenzene-d5	1		95 RPR				UG/L			Jul 17, 2004

Corporate Environmental Database
Lab Analysis QAQC Report

Site: BARKSDALE WORKS 9/3/2004
Project: 73115BG SAMPLING 6/04

Batch Identifier 129570 SW3535 8321 05-JUL-04 4187014 LCMS2

Method Number: 8321 Prep Method: SW3535 Pre-prep:
Batch Start Date: 07/05/2004 Intrument: LCMS2 Batch Number:

Analyte/Parameter	Result	Unit	MDL	PQL	RPR	RPR Limits Min	RPR Limits Max	RPD	RPD Max
Sample Type LCS	Lab Sample ID: GKH9X1-AC LCS			Lab: QES-DEN					
1,3,5-TRINITROBENZENE	0.494	UG/L	0.018	NS	99	54	138		
1,3-DINITROBENZENE	0.515	UG/L	0.019	NS	103	62	127		
2,4,6-TRINITROTOLUENE	0.441	UG/L	0.026	NS	88	43	133		
2,4-DINITROTOLUENE	0.530	UG/L	0.038	NS	106	58	130		
2,6-DINITROTOLUENE	0.488	UG/L	0.037	NS	98	59	126		
2-AMINO-4,6-DINITROTOLUENE	0.490	UG/L	0.017	NS	98	61	131		
2-NITROTOLUENE	0.441	UG/L	0.057	NS	88	20	129		
3-NITROTOLUENE	0.431	UG/L	0.064	NS	86	20	120		
4-AMINO-2,6-DINITROTOLUENE	0.495	UG/L	0.022	NS	99	57	132		
4-NITROTOLUENE	0.435	UG/L	0.061	NS	87	20	129		
HMX	0.477	UG/L	0.017	NS	95	46	174		
NITROBENZENE	0.480	UG/L	0.036	NS	96	22	129		
NITROGLYCERIN	0.492	UG/L	0.042	NS	98	31	141		
PETN	0.436	UG/L	0.038	NS	87	52	143		
RDX	0.511	UG/L	0.013	NS	102	61	131		
TETRYL	0.415	UG/L	0.017	NS	83	40	152		
NITROBENZENE-D5	91 RPR	UG/L		NS	91	37	121		
Sample Type MB	Lab Sample ID: GKH9X1-AA MB			Lab: QES-DEN					
1,3,5-TRINITROBENZENE	< 0.018	UG/L	0.018	0.12					
1,3-DINITROBENZENE	< 0.019	UG/L	0.019	0.12					
2,4,6-TRINITROTOLUENE	< 0.026	UG/L	0.026	0.12					
2,4-DINITROTOLUENE	< 0.038	UG/L	0.038	0.12					
2,6-DINITROTOLUENE	< 0.037	UG/L	0.037	0.12					
2-AMINO-4,6-DINITROTOLUENE	< 0.017	UG/L	0.017	0.12					
2-NITROTOLUENE	< 0.057	UG/L	0.057	0.12					
3-NITROTOLUENE	< 0.064	UG/L	0.064	0.12					
4-AMINO-2,6-DINITROTOLUENE	< 0.022	UG/L	0.022	0.12					
4-NITROTOLUENE	< 0.061	UG/L	0.061	0.12					
HMX	< 0.017	UG/L	0.017	0.12					
NITROBENZENE	< 0.036	UG/L	0.036	0.12					
NITROGLYCERIN	< 0.042	UG/L	0.042	0.12					
PETN	< 0.038	UG/L	0.038	0.12					
RDX	< 0.013	UG/L	0.013	0.12					
TETRYL	< 0.017	UG/L	0.017	0.12					
NITROBENZENE-D5	93 RPR	UG/L			93	37	121		
Sample Type MS	Lab Sample ID: GKA0J1-AC MS			Lab: QES-DEN					
1,3,5-TRINITROBENZENE	0.472	UG/L	0.018	NS	94	48	135		
1,3-DINITROBENZENE	0.512	UG/L	0.019	NS	102	62	127		
2,4,6-TRINITROTOLUENE	0.454	UG/L	0.026	NS	91	59	129		
2,4-DINITROTOLUENE	0.497	UG/L	0.038	NS	99	58	130		
2,6-DINITROTOLUENE	0.480	UG/L	0.037	NS	96	59	126		
2-AMINO-4,6-DINITROTOLUENE	0.461	UG/L	0.017	NS	92	61	131		
2-NITROTOLUENE	0.430	UG/L	0.057	NS	86	20	134		
3-NITROTOLUENE	0.440	UG/L	0.064	NS	88	20	123		
4-AMINO-2,6-DINITROTOLUENE	0.454	UG/L	0.022	NS	91	57	132		
4-NITROTOLUENE	0.429	UG/L	0.061	NS	86	21	131		
HMX	0.489	UG/L	0.017	NS	98	20	156		
NITROBENZENE	0.493	UG/L	0.036	NS	99	22	129		
NITROGLYCERIN	0.475	UG/L	0.042	NS	95	19	126		
PETN	0.356	UG/L	0.038	NS	71	35	154		
RDX	0.487	UG/L	0.013	NS	97	55	141		
TETRYL	0.365	UG/L	0.017	NS	73	20	126		
NITROBENZENE-D5	94 RPR	UG/L		NS	94	37	121		
Sample Type MSD	Lab Sample ID: GKA0J1-AD MSD			Lab: QES-DEN					
1,3,5-TRINITROBENZENE	0.483	UG/L	0.018	NS	97	48	135	2.2	40
1,3-DINITROBENZENE	0.495	UG/L	0.019	NS	99	62	127	3.5	40
2,4,6-TRINITROTOLUENE	0.437	UG/L	0.026	NS	87	59	129	3.9	40

Corporate Environmental Database
Lab Analysis QAQC Report

Site: BARKSDALE WORKS 9/3/2004
Project: 73115BG SAMPLING 6/04

Analyte/Parameter	Result	Unit	MDL	PQL	RPR	RPR Limits Min	RPR Limits Max	RPD	RPD Max
Sample Type MSD	Lab Sample ID: GKA0J1-AD MSD			Lab: QES-DEN					
2,4-DINITROTOLUENE	0.500	UG/L	0.038	NS	100	58	130	0.56	40
2,6-DINITROTOLUENE	0.469	UG/L	0.037	NS	94	59	126	2.2	40
2-AMINO-4,6-DINITROTOLUENE	0.444	UG/L	0.017	NS	89	61	131	3.6	40
2-NITROTOLUENE	0.414	UG/L	0.057	NS	83	20	134	3.8	40
3-NITROTOLUENE	0.426	UG/L	0.064	NS	85	20	123	3.2	40
4-AMINO-2,6-DINITROTOLUENE	0.470	UG/L	0.022	NS	94	57	132	3.5	40
4-NITROTOLUENE	0.429	UG/L	0.061	NS	86	21	131	0.15	40
HMX	0.489	UG/L	0.017	NS	98	20	156	0.010	40
NITROBENZENE	0.441	UG/L	0.036	NS	88	22	129	11	40
NITROGLYCERIN	0.447	UG/L	0.042	NS	89	19	126	6.3	40
PETN	0.368	UG/L	0.038	NS	74	35	154	3.5	40
RDX	0.493	UG/L	0.013	NS	99	55	141	1.2	40
TETRYL	0.353	UG/L	0.017	NS	71	20	126	3.3	40
NITROBENZENE-D5	83 RPR	UG/L		NS	83	37	121		

The following field samples are included in this batch:

Sampleno	Datesmpl	Lab Id	Lab
BAR-G-73115BG-EFFLUENT	6/29/2004	GKA0J1-AA FS	QES-DEN
BAR-G-73115BG-INFLOW	6/29/2004	GKA0E1-AA FS	QES-DEN

Chain of Custody Record

STL Denver

STL4149 (1202)

CHAIN OF CUSTODY NUMBER 020603

2.0 6/30/04

SEVERN TRENT STL

Severn Trent Laboratories, Inc.

Client	Project Manager	Date	Page 1 of 1
E. I. Dupont De Nemours	Cary Pooler	06/23/2004	
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Location**	**Analysis**
Barley Mill Plaza Building 27	(000) / (000)	STL Denver	
City / **State** / **Zip Code**	**Site Contact**		
Wilmington / DE / 19805	JON HAMMERBERG		
Project Number/Name	**Carrier/Waybill Number**		
AR			

Contract/Purchase Order/Quote Number

CONTRACT / PURCHASE ORDER # : 7035-507355-772000/LBIO-65011 QUOTE: 39097

Sample I.D. Number and Description	Date	Time	Sample Type	Containers: Volume	Containers: Type	Containers: No.	Preservative	Condition on Receipt/Comments	EXP 8321 L
BAR-G-7311SBG-INFLOW	6-29-04	1230	WATER	1L	AMBER	2	None		X
BAR-G-7311SBG-EFFLUENT	↑	1225	WATER	1L	AMBER	2	None		X
BAR-G-7311SBG-EFFLUENT-MS	↓	1225	WATER	1L	AMBER	2	None		X
BAR-G-7311SBG-EFFLUENT-MSD	6-29-04	1225	WATER	1L	AMBER	2	None		X

Special Instructions: Protocol C

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [X] Disposal By Lab [ ] Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: [X] Normal [ ] Rush [ ] Other ____

QC Level: [ ] I. [ ] II. [ ] III.

Project Specific Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By			1. Received By	6/24/04	1330
2. Relinquished By	6/29/04	1330	2. Received By	6/30/04	0915
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

ITL

ENVIRONMENTAL STANDARDS

Setting the Standards for Innovative Environmental Solutions

QUALITY ASSURANCE REVIEW OF THE AQUEOUS SAMPLES COLLECTED ON JUNE 29, 2004 FOR THE DUPONT CORPORATE REMEDIATION GROUP 6/04 GROUNDWATER SAMPLING PROJECT AT THE BARKSDALE, WISCONSIN FACILITY

September 2, 2004

Prepared for:

DUPONT CORPORATE REMEDIATION GROUP
Barley Mill Plaza, Bldg. 27
Rts. 141 and 48
Wilmington, DE 19805

Prepared by:

ENVIRONMENTAL STANDARDS, INC.
1140 Valley Forge Road
P.O. Box 810
Valley Forge, PA 19482-0810

TABLE OF CONTENTS

Executive Summary

An analytical quality assurance review was performed on data for the four aqueous samples (including quality control samples) collected in association with the DuPont Corporate Remediation Group 6/04 Groundwater Sampling Project at the Barksdale Facility in Barksdale, Wisconsin. The organic analyses were performed by an SW-846 method. A comprehensive Contract Laboratory Program (CLP)-like raw data package was prepared by the laboratory and was reviewed by Environmental Standards.

The quality of the data is acceptable; however, the following qualifications were made.

- Based on standard project reporting requirements, the positive nitroaromatics and nitroamines results reported with concentrations between the laboratory's associated method detection limits and practical quantitation limits have been flagged "J".

Reporting errors were not identified during the quality assurance review.

Introduction

This quality assurance (QA) review is based upon a rigorous examination of data generated from the four aqueous samples (including quality control [QC] samples) that were collected on June 29, 2004, as part of the DuPont Corporate Remediation Group 6/04 Groundwater Sampling Project at the Barksdale Facility in Barksdale, Wisconsin. The samples that have undergone a QA review are listed on Table 1. Table 1 also presents the field sample number, laboratory sample number, laboratory project number, collection date, and parameter analyzed and reviewed for each sample.

This review has been performed with guidance from the "National Functional Guidelines for Organic Data Review" (US EPA, 2/94).

The reported analytical results are presented on the laboratory analysis reports included in Section 2, "Target Analyte Summary." Data were examined to determine the usability of the analytical results and compliance relative to requirements specified by "Test Methods for Evaluating Solid Waste" (SW-846, Third Revision, 1986, and updates as applicable). In addition, the deliverables prepared according to a Contract Laboratory Program-like data package were evaluated. Details of this QA review are presented in Section 1 of this report.

This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. Data not qualified in this report should be considered valid based on the QC criteria that have been reviewed.

TABLE 1

SUMMARY OF GROUNDWATER SAMPLE DATA REVIEWED

DUPONT BARKSDALE, WISCONSIN FACILITY

DuPont Corporate Remediation Group Sample Identification	Laboratory Sample Number	Project Number	Date of Sample Collection	Parameter Analyzed and Reviewed
BAR-G-73115BG-INFLOW	GKA0E	D4F300312	6/29/04	E
BAR-G-73115BG-EFFLUENT	GKA0J	D4F300312	6/29/04	E
BAR-G-73115BG-EFFLUENT MS (Matrix Spike)	GKA0JMS	D4F300312	6/29/04	E
BAR-G-73115BG-EFFLUENT MSD (Matrix Spike Duplicate)	GKA0JMSD	D4F300312	6/29/04	E

NOTE:

E - Nitroaromatics and Nitroamines by SW-846 Method 8321A (Modified per STL SOP No. DEN-LC-0010, Revision No. 3). (4 analyses)

Section 1 Quality Assurance Review

A. Organic Data

The organic analyses of four aqueous samples (including QC samples) collected as part of the DuPont Corporate Remediation Group (DuPont) 6/04 Groundwater Sampling Project at the Barksdale, Wisconsin, Facility on June 29, 2004, were performed by Severn Trent Laboratories, Inc. (STL) in Denver, Colorado. The samples were collectively analyzed for nitroaromatics and nitroamines according to SW-846 Method 8321A, as specified in "Test Methods for Evaluating Solid Waste" (SW-846, Third Edition, Final Update II, September, 1994) and modified as specified in STL proprietary Standard Operating Procedure (SOP) No. DEN-LC-0010 (Revision No. 3). This modified method uses liquid chromatography with a thermospray interfaced to a mass spectrometer (LC/TSP/MS). These analyses are identified on Table 1. The data were presented in one Contract Laboratory Program (CLP)-like data package.

The findings offered in this report are based upon a rigorous review of the following:

- sample holding times
- sample condition upon laboratory receipt
- blank analysis results
- initial and continuing calibrations
- surrogate recoveries
- analytical sequence
- matrix spike (MS) and MS duplicate (MSD) recoveries and precision
- laboratory control sample (LCS) recoveries
- quantitation of results
- qualitative identification

The analytical results for the organic compounds are provided as a summary of the data in Section 2 of this report.

Data Package Deliverables

Overall, the organic data quality is good. Reporting errors were not identified during the quality assurance review. The following comments do not affect data usability. Usability is addressed in the Data Evaluation section.

Comments

1. According to the Laboratory Case Narrative, the high point of the HMX calibration curve was not used to generate the calibration curve because it was obviously out-of-line. The HMX calibration curve still contained the six points necessary for a quadratic curve fit and the curve fit was acceptable without the calibration point. The upper calibration range for HMX was reduced from 1.5 µg/L to 1.0 µg/L. Data qualification was not necessary due to this issue because HMX was not detected at or above the 1.0-µg/L calibration standard.

2. As noted in the Laboratory Case Narrative, a sample cooler temperature of "2.6°C" was recorded upon laboratory receipt for the project cooler. Samples collected for nitroaromatics and nitroamines analyses are required to be preserved at a temperature of 4°C (STL SOP No. DEN-LC-0010 [Section 8.2., pg. 10 of 33]). The data reviewer, however, does not consider the data to have been impacted because it is customary for the acceptable preservation temperature to be 4±2°C

Data Evaluation

With respect to data usability, the principal area of concern is quantitation below the practical quantitation limit (PQL). Based on a rigorous review of the data provided, the following organic data qualifier is offered. The following data usability issue represents an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issue should not be construed as an indication of laboratory performance.

Organic Data Qualifier

- Based on standard project reporting requirements, the positive results reported with concentrations between the laboratory's associated method detection limits (MDLs) and PQLs have been flagged "J" by the laboratory. Environmental Standards concurs that these positive results should be considered quantitative estimates and has also flagged the results "J" on the qualified analysis reports.

A complete support documentation of this organic QA review is provided in Section 3 of this report.

B. Conclusions

Based on this QA review, a few organic compounds results were qualified due to quantitation below the PQL. In order to use any of the data, the data user should understand the qualifications and limitations as specified in this QA review. The Laboratory Case Narrative and Project Chain-of-Custody Record are presented in Section 4 of this report.

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SECTION 2

TARGET ANALYTE SUMMARY

ORGANIC DATA QUALIFIERS

ND	The compound was not detected at or above the associated numerical value.
U	This compound should be considered "not detected" because it was detected in a blank at a similar level.
J	Quantitation is approximate due to limitations identified during the quality assurance review (data validation).
R	Unusable result; compound may or may not be present in this sample.
UJ	This compound was not detected, but the detection limit is probably higher due to a low bias identified during the quality assurance review.

E.I. DUPONT DE NEMOURS AND CO

Client Sample ID: BAR-G-73115BG-INFLOW

HPLC

Lot-Sample #...: D4F300312-001 Work Order #...: GKA0E1AA Matrix.....: WATER
Date Sampled...: 06/29/04 12:30 Date Received..: 06/30/04
Prep Date.....: 07/05/04 Analysis Date..: 07/17/04
Prep Batch #...: 4187014 Analysis Time..: 21:10
Dilution Factor: 1
Method.....: SW846 8321A

PARAMETER	RESULT		REPORTING LIMIT	UNITS	MDL
4-Amino-2,6-dinitrotoluene	ND		0.12	ug/L	0.022
2-Amino-4,6-dinitrotoluene	ND		0.12	ug/L	0.017
1,3-Dinitrobenzene	ND		0.12	ug/L	0.019
2,4-Dinitrotoluene	ND		0.12	ug/L	0.038
2,6-Dinitrotoluene	**0.27**		**0.12**	**ug/L**	**0.037**
HMX	**0.031 J**	J	**0.12**	**ug/L**	**0.017**
Nitrobenzene	ND		0.12	ug/L	0.036
Nitroglycerin	ND		0.12	ug/L	0.042
3-Nitrotoluene	ND		0.12	ug/L	0.064
2-Nitrotoluene	ND		0.12	ug/L	0.057
4-Nitrotoluene	ND		0.12	ug/L	0.061
PETN	ND		0.12	ug/L	0.038
RDX	**0.044 J**	J	**0.12**	**ug/L**	**0.013**
Tetryl	ND		0.12	ug/L	0.017
1,3,5-Trinitrobenzene	ND		0.12	ug/L	0.018
2,4,6-Trinitrotoluene	ND		0.12	ug/L	0.026

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	95	(37 - 121)

NOTE(S):

J Estimated result. Result is less than RL.

kw 9/2/04

E.I. DUPONT DE NEMOURS AND CO

Client Sample ID: BAR-G-73115BG-EFFLUENT

HPLC

Lot-Sample #...: D4F300312-002 Work Order #...: GKA0J1AA Matrix.....: WATER
Date Sampled...: 06/29/04 12:25 Date Received..: 06/30/04
Prep Date.....: 07/05/04 Analysis Date..: 07/17/04
Prep Batch #...: 4187014 Analysis Time..: 21:42
Dilution Factor: 1
Method.....: SW846 8321A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
4-Amino-2,6-dinitrotoluene	ND	0.12	ug/L	0.022
2-Amino-4,6-dinitrotoluene	ND	0.12	ug/L	0.017
1,3-Dinitrobenzene	ND	0.12	ug/L	0.019
2,4-Dinitrotoluene	ND	0.12	ug/L	0.038
2,6-Dinitrotoluene	ND	0.12	ug/L	0.037
HMX	ND	0.12	ug/L	0.017
Nitrobenzene	ND	0.12	ug/L	0.036
Nitroglycerin	ND	0.12	ug/L	0.042
3-Nitrotoluene	ND	0.12	ug/L	0.064
2-Nitrotoluene	ND	0.12	ug/L	0.057
4-Nitrotoluene	ND	0.12	ug/L	0.061
PETN	ND	0.12	ug/L	0.038
RDX	ND	0.12	ug/L	0.013
Tetryl	ND	0.12	ug/L	0.017
1,3,5-Trinitrobenzene	ND	0.12	ug/L	0.018
2,4,6-Trinitrotoluene	ND	0.12	ug/L	0.026

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	97	(37 - 121)