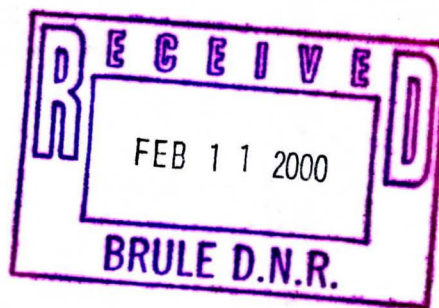


## Memorandum

**DATE:** February 8, 2000  
**TO:** Jim Aker  
**FROM:** Cheri P. Short  
**RE:** Analytical Data for Barksdale Works



Enclosed please find the explosive data report for the selected samples (December 14<sup>th</sup> collection date) from the Barksdale Works Groundwater Sampling event which occurred in December 1999. The explosive data has been validated by Environmental Standards, Inc (ESI). The Quality Assurance Report (QAR) was completed on January 28, 2000 and qualifiers/changes to the data in the CED have been modified. The particular changes to the data are highlighted in the attached letter dated January 28, 2000 from ESI.

If you have any questions, please do not hesitate to contact me.



Setting the Standards for Innovative  
Environmental Solutions

January 28, 2000

Ms. Cheri P. Short  
Woodward Clyde Diamond  
Barley Mill Plaza, Bldg. 27  
Rts. 141 and 48  
Wilmington, DE 19805

Dear Ms. Short:

Enclosed is the draft quality assurance review for the aqueous samples collected on December 14, 1999, for the DuPont Corporate Remediation Group 12/99 Groundwater Sampling Project at the Barksdale Explosives Manufacturing Facility in Barksdale, Wisconsin.

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

- the positive results for 2,4-dinitrotoluene in two samples were qualified due to a high continuing calibration verification response;
- the positive results for 2,6-dinitrotoluene in several samples were qualified due to a high laboratory control sample duplicate (LCSD) recovery;
- based on standard project reporting requirements, all positive explosives results reported with concentrations below the practical quantitation limits (PQLs) have been flagged "J".

The QA review identified several data reporting errors. All reporting errors were corrected by the data reviewer or the laboratory. Amended data package pages provided by the laboratory have been included in the attached Project Correspondence (Section 5).

The laboratory incorrectly reported the concentrations for 2,6-dinitrotoluene for samples BAR-G-CX533-INFLOW and BAR-G-CX533-DUP as "0.043 µg/L" and "0.040 µg/L", respectively, on the associated analysis reports included in the data package provided. Based on the raw data, the wrong peaks were integrated for 2,6-dinitrotoluene. Upon request, the laboratory corrected the concentrations of 2,6-dinitrotoluene for samples BAR-G-CX533-INFLOW and BAR-G-CX533-DUP (1.4 µg/L and 1.3 µg/L, respectively) in the associated raw data.

**ENVIRONMENTAL STANDARDS, INC.**

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Ms. Cheri P. Short  
Woodward Clyde Diamond  
January 28, 2000  
-page 2

If you have any questions or comments, please do not hesitate to call.

Sincerely,

*K. Vlahogiani*

Konstadina Vlahogiani  
Senior Quality Assurance Chemist II/  
Project Manager

*David R. Blye*

David R. Blye, CEAC  
Quality Assurance Specialist/  
Principal

KV:hm/hb

Enc.

cc: Dr. Harry Gearhart – DuPont Corporate Remediation Group (Sections 1 and 2 only)



Corporate Environmental Database  
 Lab Analysis Report  
 Summary of Positive Results

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99

February 8, 2000  
 Page 1

<u>Analyte/Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Method No.</u>
Sampling Point: BV-R4 C of C Sampleid: BAR-G-BV-R4 Date Sampled: Dec 14, 1999 Sample Type: GROUND WATER QC Level: VAL (Data validated using National Functional Guidelines)					
2,6-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
Sampling Point: BV-R8 C of C Sampleid: BAR-G-BV-R8 Date Sampled: Dec 14, 1999 Sample Type: GROUND WATER QC Level: VAL (Data validated using National Functional Guidelines)					
2,4-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
2,6-DINITROTOLUENE	< 0.50 J	UG/L		0.26	8321A
4-AMINO-2,6-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
Sampling Point: CX533 C of C Sampleid: BAR-G-CX533-DUP Date Sampled: Dec 14, 1999 Sample Type: GROUND WATER QC Level: VAL (Data validated using National Functional Guidelines)					
2,4-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
2,6-DINITROTOLUENE	1.3 J	UG/L		0.26	8321A
2-AMINO-4,6-DINITROTOLUENE	0.30	UG/L		0.26	8321A
4-AMINO-2,6-DINITROTOLUENE	0.32	UG/L		0.26	8321A
Sampling Point: CX533-INFLOW C of C Sampleid: BAR-G-CX533-INFLOW Date Sampled: Dec 14, 1999 Sample Type: GROUND WATER QC Level: VAL (Data validated using National Functional Guidelines)					
2,4-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
2,6-DINITROTOLUENE	1.4 J	UG/L		0.26	8321A
2-AMINO-4,6-DINITROTOLUENE	0.29	UG/L		0.26	8321A
4-AMINO-2,6-DINITROTOLUENE	0.33	UG/L		0.26	8321A
Sampling Point: IW-884 C of C Sampleid: BAR-G-IW-884 Date Sampled: Dec 14, 1999 Sample Type: GROUND WATER QC Level: VAL (Data validated using National Functional Guidelines)					
2,4-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
2,6-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
4-AMINO-2,6-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A
Sampling Point: IW-902 C of C Sampleid: BAR-G-IW-902 Date Sampled: Dec 14, 1999 Sample Type: GROUND WATER QC Level: VAL (Data validated using National Functional Guidelines)					
2,6-DINITROTOLUENE	< 0.26 J	UG/L		0.26	8321A

Qualifiers:  
 J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis Report

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99  
 C of C Sampleid: BAR-G-BV-R3  
 Sampling Point: BV-R3  
 Date Sampled: DECEMBER 14, 1999  
 Lab Sample ID: D6DKH-1 Analysis Lab: QES-SAC  
 Sample Type: GROUND WATER  
 QC Level: VAL (Data validated using National Functional Guidelines)

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<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000
<u>Surrogates:</u>						
NITROBENZENE-D5	1	107.0 RPR				Jan 4, 2000

Corporate Environmental Database  
Lab Analysis Report

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Location: BARKSDALE WORKS  
Job Name: GW SAMP 12/99  
C of C Sampleid: BAR-G-BV-R4  
Sampling Point: BV-R4  
Date Sampled: DECEMBER 14, 1999  
Lab Sample ID: D6DKR-1 Analysis Lab: QES-SAC  
Sample Type: GROUND WATER  
QC Level: VAL (Data validated using National Functional Guidelines)

<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	0.012 J	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000

Surrogates:

NITROBENZENE-D5	1	101.0 RPR				Jan 4, 2000
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Qualifiers:

J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis Report

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Location: BARKSDALE WORKS  
Job Name: GW SAMP 12/99  
C of C Sampleid: BAR-G-BV-R5  
Sampling Point: BV-R5  
Date Sampled: DECEMBER 14, 1999  
Lab Sample ID: D6DKX-1 Analysis Lab: QES-SAC  
Sample Type: GROUND WATER  
QC Level: VAL (Data validated using National Functional Guidelines)

<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000
<u>Surrogates:</u>						
NITROBENZENE-D5	1	101.0 RPR				Jan 4, 2000

Corporate Environmental Database  
Lab Analysis Report

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99  
 C of C Sampleid: BAR-G-BV-R6  
 Sampling Point: BV-R6  
 Date Sampled: DECEMBER 14, 1999  
 Lab Sample ID: D6DL1-1 Analysis Lab: QES-SAC  
 Sample Type: GROUND WATER  
 QC Level: VAL (Data validated using National Functional Guidelines)

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<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 5, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
HMX	1	<0.26	UG/L		0.26	Jan 5, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 5, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 5, 2000
PETN	1	<1.0	UG/L		1.0	Jan 5, 2000
RDX	1	<0.26	UG/L		0.26	Jan 5, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 5, 2000
<u>Surrogates:</u>						
NITROBENZENE-D5	1	90.0 RPR				Jan 5, 2000



Corporate Environmental Database  
Lab Analysis Report

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99  
 C of C Sampleid: BAR-G-BV-R8  
 Sampling Point: BV-R8  
 Date Sampled: DECEMBER 14, 1999  
 Lab Sample ID: D6DL2-1 Analysis Lab: QES-SAC  
 Sample Type: GROUND WATER  
 QC Level: VAL (Data validated using National Functional Guidelines)

February 8, 2000  
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<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 5, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
2,4-DINITROTOLUENE	1	0.15 J	UG/L		0.26	Jan 5, 2000
2,6-DINITROTOLUENE	1	0.50 J	UG/L		0.26	Jan 5, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 5, 2000
4-AMINO-2,6-DINITROTOLUENE	1	0.023 J	UG/L		0.26	Jan 5, 2000
HMX	1	<0.26	UG/L		0.26	Jan 5, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 5, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 5, 2000
PETN	1	<1.0	UG/L		1.0	Jan 5, 2000
RDX	1	<0.26	UG/L		0.26	Jan 5, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 5, 2000

Surrogates:

NITROBENZENE-D5	1	93.0 RPR				Jan 5, 2000
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Qualifiers:

J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis Report

February 8, 2000  
Page 6

Location: BARKSDALE WORKS  
Job Name: GW SAMP 12/99  
C of C Sampleid: BAR-G-CX533-DUP  
Sampling Point: CX533  
Date Sampled: DECEMBER 14, 1999  
Lab Sample ID: D6DL3-1 Analysis Lab: QES-SAC  
Sample Type: GROUND WATER  
QC Level: VAL (Data validated using National Functional Guidelines)

<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 6, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 6, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 6, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 6, 2000
2,4-DINITROTOLUENE	1	0.042 J	UG/L		0.26	Jan 6, 2000
2,6-DINITROTOLUENE	1	1.3 J	UG/L		0.26	Jan 6, 2000
2-AMINO-4,6-DINITROTOLUENE	1	0.30	UG/L		0.26	Jan 6, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 6, 2000
4-AMINO-2,6-DINITROTOLUENE	1	0.32	UG/L		0.26	Jan 6, 2000
HMX	1	<0.26	UG/L		0.26	Jan 6, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 6, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 6, 2000
PETN	1	<1.0	UG/L		1.0	Jan 6, 2000
RDX	1	<0.26	UG/L		0.26	Jan 6, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 6, 2000

Surrogates:

NITROBENZENE-D5	1	85.0 RPR				Jan 6, 2000
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Qualifiers:

J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis Report

February 8, 2000  
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Location: BARKSDALE WORKS  
Job Name: GW SAMP 12/99  
C of C Sampleid: BAR-G-CX533-INFLOW  
Sampling Point: CX533-INFLOW  
Date Sampled: DECEMBER 14, 1999  
Lab Sample ID: D6DLO-1 Analysis Lab: QES-SAC  
Sample Type: GROUND WATER  
QC Level: VAL (Data validated using National Functional Guidelines)

Analyte/Parameter	Dilution	Result	Unit	MDL	PQL	Date Analyzed
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 6, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 6, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 6, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 6, 2000
2,4-DINITROTOLUENE	1	0.041 J	UG/L		0.26	Jan 6, 2000
2,6-DINITROTOLUENE	1	1.4 J	UG/L		0.26	Jan 6, 2000
2-AMINO-4,6-DINITROTOLUENE	1	0.29	UG/L		0.26	Jan 6, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 6, 2000
4-AMINO-2,6-DINITROTOLUENE	1	0.33	UG/L		0.26	Jan 6, 2000
HMX	1	<0.26	UG/L		0.26	Jan 6, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 6, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 6, 2000
PETN	1	<1.0	UG/L		1.0	Jan 6, 2000
RDX	1	<0.26	UG/L		0.26	Jan 6, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 6, 2000

Surrogates:

NITROBENZENE-D5	1	93.0 RPR				Jan 6, 2000
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Qualifiers:

J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis Report

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99  
 C of C Sampleid: BAR-G-IW-711  
 Sampling Point: IW-711  
 Date Sampled: DECEMBER 14, 1999  
 Lab Sample ID: D6DK9-1 Analysis Lab: QES-SAC  
 Sample Type: GROUND WATER  
 QC Level: VAL (Data validated using National Functional Guidelines)

February 8, 2000  
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<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000
<u>Surrogates:</u>						
NITROBENZENE-D5	1	102.0 RPR				Jan 4, 2000

Corporate Environmental Database  
Lab Analysis Report

February 8, 2000  
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Location: BARKSDALE WORKS  
Job Name: GW SAMP 12/99  
C of C Sampleid: BAR-G-IW-882  
Sampling Point: IW-882  
Date Sampled: DECEMBER 14, 1999  
Lab Sample ID: D6DKC-1 Analysis Lab: QES-SAC  
Sample Type: GROUND WATER  
QC Level: VAL (Data validated using National Functional Guidelines)

<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000
<u>Surrogates:</u>						
NITROBENZENE-D5	1	102.0 RPR				Jan 4, 2000

Corporate Environmental Database  
Lab Analysis Report

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99  
 C of C Sampleid: BAR-G-IW-884  
 Sampling Point: IW-884  
 Date Sampled: DECEMBER 14, 1999  
 Lab Sample ID: D6DKD-1 Analysis Lab: QES-SAC  
 Sample Type: GROUND WATER  
 QC Level: VAL (Data validated using National Functional Guidelines)

February 8, 2000  
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<u>Analyte/Parameter</u>	<u>Dilution</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>PQL</u>	<u>Date Analyzed</u>
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	0.022 J	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	0.056 J	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	0.017 J	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000

Surrogates:

NITROBENZENE-D5	1	98.0 RPR				Jan 4, 2000
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Qualifiers:

J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis Report

Location: BARKSDALE WORKS  
 Job Name: GW SAMP 12/99  
 C of C Sampleid: BAR-G-IW-902  
 Sampling Point: IW-902  
 Date Sampled: DECEMBER 14, 1999  
 Lab Sample ID: D6DKE-1 Analysis Lab: QES-SAC  
 Sample Type: GROUND WATER  
 QC Level: VAL (Data validated using National Functional Guidelines)

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Analyte/Parameter	Dilution	Result	Unit	MDL	PQL	Date Analyzed
<u>Prep/Method: 3510/8321A</u>						
1,3,5-TRINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
1,3-DINITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2&4-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4,6-TRINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,4-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
2,6-DINITROTOLUENE	1	0.034 J	UG/L		0.26	Jan 4, 2000
2-AMINO-4,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
3-NITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
4-AMINO-2,6-DINITROTOLUENE	1	<0.26	UG/L		0.26	Jan 4, 2000
HMX	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROBENZENE	1	<0.26	UG/L		0.26	Jan 4, 2000
NITROGLYCERIN	1	<1.0	UG/L		1.0	Jan 4, 2000
PETN	1	<1.0	UG/L		1.0	Jan 4, 2000
RDX	1	<0.26	UG/L		0.26	Jan 4, 2000
TETRYL	1	<0.26	UG/L		0.26	Jan 4, 2000
<b>Surrogates:</b>						
NITROBENZENE-D5	1	97.0 RPR				Jan 4, 2000

**Qualifiers:**

J The result should be considered an estimate.

Corporate Environmental Database  
Lab Analysis QA/QC Report

Location: BARKSDALE WORKS  
Project Name: GW SAMP 12/99  
Date Range: 14-DEC-99 to 14-DEC-99

February 8, 2000  
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Batch Identifier

Method Number: 8321A      Prep Method: 3510      Pre-prep:  
Batch Start Date: 17DEC99  
Instrument: T1A  
Batch Number: 90

The following field samples are included in this batch:

Sample Name	Date	Sampled	Lab Sample ID	QC Level
BAR-G-BV-R3	14DEC99	D6DKH-1	QES-SAC	VAL
BAR-G-BV-R4	14DEC99	D6DKR-1	QES-SAC	VAL
BAR-G-BV-R5	14DEC99	D6DKX-1	QES-SAC	VAL
BAR-G-BV-R6	14DEC99	D6DL1-1	QES-SAC	VAL
BAR-G-BV-R8	14DEC99	D6DL2-1	QES-SAC	VAL
BAR-G-CX533-DUP	14DEC99	D6DL3-1	QES-SAC	VAL
BAR-G-CX533-INFLOW	14DEC99	D6DL0-1	QES-SAC	VAL
BAR-G-IW-711	14DEC99	D6DK9-1	QES-SAC	VAL
BAR-G-IW-882	14DEC99	D6DKC-1	QES-SAC	VAL
BAR-G-IW-884	14DEC99	D6DKD-1	QES-SAC	VAL
BAR-G-IW-902	14DEC99	D6DKE-1	QES-SAC	VAL

Analyte/Parameter	Result	Unit	MDL	RPR	RPD	Lab Sample ID
Lab Control Spike:						
1,3,5-TRINITROBENZENE				111		D6GR5-1 QES-SAC
1,3-DINITROBENZENE				111		D6GR5-1 QES-SAC
2&4-NITROTOLUENE				116		D6GR5-1 QES-SAC
2,4,6-TRINITROTOLUENE				123		D6GR5-1 QES-SAC
2,4-DINITROTOLUENE				106		D6GR5-1 QES-SAC
2,6-DINITROTOLUENE				122		D6GR5-1 QES-SAC
2-AMINO-4,6-DINITROTOLUENE				125		D6GR5-1 QES-SAC
3-NITROTOLUENE				114		D6GR5-1 QES-SAC
4-AMINO-2,6-DINITROTOLUENE				120		D6GR5-1 QES-SAC
HMX				111		D6GR5-1 QES-SAC
NITROBENZENE				98		D6GR5-1 QES-SAC
NITROGLYCERIN				98		D6GR5-1 QES-SAC
PETN				102		D6GR5-1 QES-SAC
RDX				120		D6GR5-1 QES-SAC
TETRYL				125		D6GR5-1 QES-SAC

Surrogates:

NITROBENZENE-D5				98		D6GR5-1 QES-SAC
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Lab Control Spike Duplicate:

1,3,5-TRINITROBENZENE				117	4.5	D6GR5-1 QES-SAC
1,3-DINITROBENZENE				97	13	D6GR5-1 QES-SAC
2&4-NITROTOLUENE				120	3.5	D6GR5-1 QES-SAC
2,4,6-TRINITROTOLUENE				126	2.3	D6GR5-1 QES-SAC
2,4-DINITROTOLUENE				108	1.9	D6GR5-1 QES-SAC
2,6-DINITROTOLUENE				125	2.8	D6GR5-1 QES-SAC
2-AMINO-4,6-DINITROTOLUENE				121	3.2	D6GR5-1 QES-SAC
3-NITROTOLUENE				119	4.1	D6GR5-1 QES-SAC
4-AMINO-2,6-DINITROTOLUENE				118	2.3	D6GR5-1 QES-SAC
HMX				111	.48	D6GR5-1 QES-SAC
NITROBENZENE				86	12	D6GR5-1 QES-SAC
NITROGLYCERIN				103	4.4	D6GR5-1 QES-SAC
PETN				102	.33	D6GR5-1 QES-SAC
RDX				127	5.5	D6GR5-1 QES-SAC
TETRYL				123	1.6	D6GR5-1 QES-SAC

Surrogates:

NITROBENZENE-D5				102		D6GR5-1 QES-SAC
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Corporate Environmental Database  
Lab Analysis QAQC Report

Location: BARKSDALE WORKS  
Project Name: GW SAMP 12/99  
Date Range: 14-DEC-99 to 14-DEC-99

February 8, 2000  
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(Batch continued from previous page)

Analyte/Parameter	Result	Unit	MDL	RPR	RPD	Lab Sample ID
Method Blank:						
1,3,5-TRINITROBENZENE	< 0.26	UG/L				D6GR5-1 QES-SAC
1,3-DINITROBENZENE	< 0.26	UG/L				D6GR5-1 QES-SAC
2&4-NITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
2,4,6-TRINITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
2,4-DINITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
2,6-DINITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
2-AMINO-4,6-DINITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
3-NITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
4-AMINO-2,6-DINITROTOLUENE	< 0.26	UG/L				D6GR5-1 QES-SAC
HMX	< 0.26	UG/L				D6GR5-1 QES-SAC
NITROBENZENE	< 0.26	UG/L				D6GR5-1 QES-SAC
NITROGLYCERIN	< 1.0	UG/L				D6GR5-1 QES-SAC
PETN	< 1.0	UG/L				D6GR5-1 QES-SAC
RDX	< 0.26	UG/L				D6GR5-1 QES-SAC
TETRYL	< 0.26	UG/L				D6GR5-1 QES-SAC

Surrogates:

NITROBENZENE-D5				98		D6GR5-1 QES-SAC
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Batch Identifier

Method Number: 8321A      Prep Method: 3510      Pre-prep:  
Batch Start Date: 21DEC99  
Instrument: T1A  
Batch Number: 52

The following field samples are included in this batch:

Sample Name	Date Sampled	Lab Sample ID	QC Level
BAR-G-PZ-3D	14DEC99	D6FQJ-1 QES-SAC	VAL
BAR-G-PZ-3S	14DEC99	D6FQH-1 QES-SAC	VAL

Analyte/Parameter	Result	Unit	MDL	RPR	RPD	Lab Sample ID
Lab Control Spike:						
1,3,5-TRINITROBENZENE				103		D6MMV-1 QES-SAC
1,3-DINITROBENZENE				91		D6MMV-1 QES-SAC
2&4-NITROTOLUENE				111		D6MMV-1 QES-SAC
2,4,6-TRINITROTOLUENE				106		D6MMV-1 QES-SAC
2,4-DINITROTOLUENE				92		D6MMV-1 QES-SAC
2,6-DINITROTOLUENE				97		D6MMV-1 QES-SAC
2-AMINO-4,6-DINITROTOLUENE				96		D6MMV-1 QES-SAC
3-NITROTOLUENE				108		D6MMV-1 QES-SAC
4-AMINO-2,6-DINITROTOLUENE				113		D6MMV-1 QES-SAC
HMX				94		D6MMV-1 QES-SAC
NITROBENZENE				83		D6MMV-1 QES-SAC
NITROGLYCERIN				92		D6MMV-1 QES-SAC
PETN				93		D6MMV-1 QES-SAC
RDX				149		D6MMV-1 QES-SAC
TETRYL				107		D6MMV-1 QES-SAC

Surrogates:

NITROBENZENE-D5				81		D6MMV-1 QES-SAC
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Lab Control Spike Duplicate:

1,3,5-TRINITROBENZENE				99	4.4	D6MMV-1 QES-SAC
1,3-DINITROBENZENE				97	6.4	D6MMV-1 QES-SAC
2&4-NITROTOLUENE				119	7.1	D6MMV-1 QES-SAC
2,4,6-TRINITROTOLUENE				113	7	D6MMV-1 QES-SAC
2,4-DINITROTOLUENE				96	4.8	D6MMV-1 QES-SAC
2,6-DINITROTOLUENE				104	6.4	D6MMV-1 QES-SAC
2-AMINO-4,6-DINITROTOLUENE				96	.33	D6MMV-1 QES-SAC
3-NITROTOLUENE				118	8.5	D6MMV-1 QES-SAC
4-AMINO-2,6-DINITROTOLUENE				96	16	D6MMV-1 QES-SAC
HMX				101	7.1	D6MMV-1 QES-SAC
NITROBENZENE				89	7.3	D6MMV-1 QES-SAC

Corporate Environmental Database  
Lab Analysis QA/QC Report

Location: BARKSDALE WORKS  
Project Name: GW SAMP 12/99  
Date Range: 14-DEC-99 to 14-DEC-99

February 8, 2000  
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(Batch continued from previous page)

<u>Analyte/Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>RPR</u>	<u>RPD</u>	<u>Lab Sample ID</u>	
Lab Control Spike Duplicate:							
NITROGLYCERIN				98	6.5	D6MMV-1	QES-SAC
PETN				100	7	D6MMV-1	QES-SAC
RDX				144	3.7	D6MMV-1	QES-SAC
TETRYL				111	3.8	D6MMV-1	QES-SAC

Surrogates:

NITROBENZENE-D5				88		D6MMV-1	QES-SAC
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Method Blank:

1,3,5-TRINITROBENZENE	< 0.26	UG/L				D6MMV-1	QES-SAC
1,3-DINITROBENZENE	< 0.26	UG/L				D6MMV-1	QES-SAC
2&4-NITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
2,4,6-TRINITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
2,4-DINITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
2,6-DINITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
2-AMINO-4,6-DINITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
3-NITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
4-AMINO-2,6-DINITROTOLUENE	< 0.26	UG/L				D6MMV-1	QES-SAC
HMX	< 0.26	UG/L				D6MMV-1	QES-SAC
NITROBENZENE	< 0.26	UG/L				D6MMV-1	QES-SAC
NITROGLYCERIN	< 1.0	UG/L				D6MMV-1	QES-SAC
PETN	< 1.0	UG/L				D6MMV-1	QES-SAC
RDX	< 0.26	UG/L				D6MMV-1	QES-SAC
TETRYL	< 0.26	UG/L				D6MMV-1	QES-SAC

Surrogates:

NITROBENZENE-D5				94		D6MMV-1	QES-SAC
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