



*The miracles of science*

October 13, 2010

Mr. Clifford Ng  
USEPA Region II  
290 Broadway, 22nd Floor  
New York, NY 10007-1866

**RE: Results of Soil Sampling Below Pompton Dam**

Dear Mr. Ng:

At the request of the USEPA/NJDEP, DuPont agreed to collect samples along the Ramapo River to evaluate whether sediment from the Acid Brook Delta (ABD) area was being transported downstream as a result of recent flood events and deposited in overbank areas below the Pompton Dam. A field reconnaissance was conducted in an area that is commonly inundated during high water events immediately below the Pompton Dam to identify areas of potential deposition which would yield adequate data to meet the project objective.

A total of five areas were identified where recent fluvial deposits of soil material were observed. This material was characterized by the field geologist using the Unified Soil Classification System as a light brown fine grained silt and sand mixture (ML). Deposits varied in thicknesses with depths ranging from 0.75 to 1.75 feet. Based on field observations, these areas were selected for sampling and analysis of lead and mercury; which are the primary site-related constituents detected in the sediments within the ABD area.

Each area was labeled with a unique sample identification number and located using a global positioning system measuring device. The samples were collected on September 8, 2010 using the following procedure:

1. A clean trowel was used to expose a cross-sectional surface through the mid-point of the deposit.
2. Soil material was collected from along the entire vertical length of the newly exposed surface into a dedicated sample container.
3. The soil material was mixed to ensure complete homogenization of the sample.
4. An aliquot of the material was put into laboratory supplied containers and sealed.
5. Chain of custody forms were completed and samples were shipped to a certified laboratory for analysis.

October 13, 2010

Laboratory results are provided in Attachment 1. A summary of the analysis is provided in the table below and shown in the figure provided as Attachment 2.

Sample ID:			POM-E-537-991 (0.0 - 0.75)	POM-E-537-992 (0.0 - 1.5)	POM-E-537-993 (0.0 - 1.75)	POM-E-537-994 (0.0 - 1.25)	POM-E-537-994 (0.0 - 1.25) DUP	POM-E-537-995 (0.0 - 1.0)
Date:			9/8/10	9/8/10	9/8/10	9/8/10	9/8/10	9/8/10
Analyte	Units	NJ RDC SRS						
LEAD	mg/kg	400	8.31	3.86	5.70	9.99	13.3	80.0
MERCURY	mg/kg	23	ND (0.011)	ND (0.0114)	1.39	0.0141 J	0.0158 J	0.509
PERCENT MOISTURE	%	--	3.3	2.7	3.2	3.7	3.8	30.7

**Notes:**

DUP= Duplicate sample

ND () = undetected at the specified method detection limit.

J = Estimated value-result is between the Method Detection Limit and Limit of Quantitation.

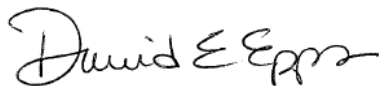
mg/kg= milligrams per kilogram

NJ RDC SRS= New Jersey Residential Direct Contact Soil Remediation Standards.

-- = No Criteria

An evaluation of the results shows that lead and mercury concentrations for all the samples were below the New Jersey Residential Direct Contact Soil Remediation Standards. Given these results it does not appear that material from the ABD area is being transported below the Pompton Dam. Should you have any questions, please feel free to contact me at (973) 492-7733.

Sincerely,



David E. Epps, P.G.

Project Director, Pompton Lakes Works

DuPont Corporate Remediation Group

cc: Frank Faranca, NJDEP  
Borough of Pompton Lakes  
Office of Congressman Bill Pascrell  
PLW Central File

ATTACHMENT 1

LABORATORY ANALYTICAL RESULTS

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## ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

Prepared for:

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

September 27, 2010

Project: POM - ABD RAMAPO SEDIMENT BELOW DAM

Submittal Date: 09/09/2010

Group Number: 1211021

SDG: PAB01

PO Number: LBIO-66380

Release Number: LA30436

State of Sample Origin: NJ

Client Sample DescriptionPOM-E-537-991(0.0-0.75) Grab Sediment Sample  
POM-E-537-992(0.0-1.5) Grab Sediment Sample  
POM-E-537-993(0.0-1.75) Grab Sediment Sample  
POM-E-537-994(0.0-1.25) Unspiked Grab Sediment  
POM-E-537-994(0.0-1.25)-MS Matrix Spike Grab  
POM-E-537-994(0.0-1.25)-MSD Matrix Spike Dup Grab  
POM-E-537-994(0.0-1.25) Duplicate Grab  
POM-E-537-995(0.0-1.0) Grab Sediment Sample  
POM-E-537-994(0.0-1.25)-DUP Grab Sediment Sample  
POM-K-EQBLK Blank Water SampleLancaster Labs (LLI) #6080254  
6080255  
6080256  
6080257  
6080258  
6080259  
6080260  
6080261  
6080262  
6080263

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC LLI  
COPY TO  
1 COPY TO Data Package Group

Attn: EDD Group

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Questions? Contact your Client Services Representative  
Nancy J Bornholm at (717) 656-2300 Ext. 1310

Respectfully Submitted,



Max E. Snavely  
Senior Specialist



# Analysis Report

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**Sample Description:** POM-E-537-991(0.0-0.75) Grab Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080254  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 11:15 by DY

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

Submitted: 09/09/2010 09:15  
Reported: 09/27/2010 11:56  
Discard: 10/28/2010

PO991 SDG#: PAB01-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 8.31	mg/kg 0.0105	mg/kg 0.203	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg N.D.	mg/kg 0.0111	mg/kg 0.0964	1
<b>Wet Chemistry</b>						
00111	Moisture	SM20 2540 G n.a.	% 3.3	% 0.50	% 0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:20	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:23	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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**Sample Description:** POM-E-537-992(0.0-1.5) Grab Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080255  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 12:11 by DY

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

Submitted: 09/09/2010 09:15  
Reported: 09/27/2010 11:56  
Discard: 10/28/2010

PO992 SDG#: PAB01-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 3.86	mg/kg 0.0104	mg/kg 0.200	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg N.D.	mg/kg 0.0114	mg/kg 0.0997	1
<b>Wet Chemistry</b>						
00111	Moisture	SM20 2540 G n.a.	% 2.7	% 0.50	% 0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:25	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:24	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result



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**Sample Description:** POM-E-537-993(0.0-1.75) Grab Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080256  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 12:40 by DY

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

Submitted: 09/09/2010 09:15  
Reported: 09/27/2010 11:56  
Discard: 10/28/2010

PO993 SDG#: PAB01-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 5.70	mg/kg 0.0105	mg/kg 0.203	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 1.39	mg/kg 0.0575	mg/kg 0.501	5
<b>Wet Chemistry</b>						
00111	Moisture	SM20 2540 G n.a.	% 3.2	% 0.50	% 0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:27	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:39	Nelli S Markaryan	5
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result





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**Sample Description:** POM-E-537-994(0.0-1.25) Unspiked Grab Sediment  
Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080257  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 13:10 by DY

CRG-E.I.DuPont de Nemours & Co

Submitted: 09/09/2010 09:15

URS Corporation

Reported: 09/27/2010 11:56

Iron Hill Corporate Center

Discard: 10/28/2010

4051 Ogletown Road, Suite 300

Newark DE 19713

PO994 SDG#: PAB01-04BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 9.99	mg/kg 0.0108	mg/kg 0.208	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 0.0141 J	mg/kg 0.0114	mg/kg 0.0993	1
<b>Wet Chemistry</b>						
00111	Moisture	SM20 2540 G n.a.	% 3.7	% 0.50	% 0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:05	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:29	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result



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**Sample Description:** POM-E-537-994(0.0-1.25)-MS Matrix Spike Grab  
Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080258  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 13:10 by DY

CRG-E.I.DuPont de Nemours & Co

Submitted: 09/09/2010 09:15

URS Corporation

Reported: 09/27/2010 11:56

Iron Hill Corporate Center

Discard: 10/28/2010

4051 Ogletown Road, Suite 300

Newark DE 19713

PO994 SDG#: PAB01-04MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 12.9	mg/kg 0.0108	mg/kg 0.208	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 0.189	mg/kg 0.0116	mg/kg 0.101	1
<b>Wet Chemistry</b>						
00118	Moisture	SM20 2540 G n.a.	% 3.7	% 0.50	% 0.50	1

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:11	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:32	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00118	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result



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**Sample Description:** POM-E-537-994(0.0-1.25)-MSD Matrix Spike Dup Grab  
Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

**LLI Sample #** SW 6080259  
**LLI Group #** 1211021  
**Account #** 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

**Collected:** 09/08/2010 13:10 by DY

CRG-E.I.DuPont de Nemours & Co

**Submitted:** 09/09/2010 09:15

URS Corporation

**Reported:** 09/27/2010 11:56

Iron Hill Corporate Center

**Discard:** 10/28/2010

4051 Ogletown Road, Suite 300

Newark DE 19713

PO994 SDG#: PAB01-04MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 14.5	mg/kg 0.0108	mg/kg 0.208	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 0.184	mg/kg 0.0116	mg/kg 0.101	1
<b>Wet Chemistry</b>						
00118	Moisture	SM20 2540 G n.a.	% 3.7	% 0.50	% 0.50	1

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:12	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:33	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00118	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** POM-E-537-994(0.0-1.25) Duplicate Grab  
 Sediment Sample  
 ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080260  
 LLI Group # 1211021  
 Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 13:10 by DY

CRG-E.I.DuPont de Nemours & Co

Submitted: 09/09/2010 09:15

URS Corporation

Reported: 09/27/2010 11:56

Iron Hill Corporate Center

Discard: 10/28/2010

4051 Ogletown Road, Suite 300

Newark DE 19713

PO994 SDG#: PAB01-04DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 9.41	mg/kg 0.0108	mg/kg 0.208	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 0.0195 J	mg/kg 0.0115	mg/kg 0.100	1
<b>Wet Chemistry</b>						
00118	Moisture	SM20 2540 G n.a.	% 3.7	% 0.50	% 0.50	1
00121	Moisture Duplicate	n.a.	3.9	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:09	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:31	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00118	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1
00121	Moisture Duplicate	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1



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**Sample Description:** POM-E-537-995(0.0-1.0) Grab Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080261  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 13:45 by DY

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

Submitted: 09/09/2010 09:15  
Reported: 09/27/2010 11:56  
Discard: 10/28/2010

PO995 SDG#: PAB01-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 80.0	mg/kg 0.0147	mg/kg 0.283	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 0.509	mg/kg 0.0158	mg/kg 0.138	1
<b>Wet Chemistry</b>						
00111	Moisture	SM20 2540 G n.a.	% 30.7	% 0.50	% 0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:29	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:35	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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**Sample Description:** POM-E-537-994(0.0-1.25)-DUP Grab Sediment Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # SW 6080262  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 13:10 by DY

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

Submitted: 09/09/2010 09:15  
Reported: 09/27/2010 11:56  
Discard: 10/28/2010

P995D SDG#: PAB01-06FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06135	Lead	SW-846 6020 7439-92-1	mg/kg 13.3	mg/kg 0.0105	mg/kg 0.202	2
00159	Mercury	SW-846 7471A 7439-97-6	mg/kg 0.0158 J	mg/kg 0.0116	mg/kg 0.101	1
<b>Wet Chemistry</b>						
00111	Moisture	SM20 2540 G n.a.	% 3.8	% 0.50	% 0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06135	Lead	SW-846 6020	1	102646150001A	09/22/2010 11:31	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	102525711002	09/10/2010 20:36	Nelli S Markaryan	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102646150001	09/21/2010 20:25	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	102525711002	09/10/2010 00:25	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	10253820002B	09/10/2010 16:35	Scott W Freisher	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1  
REVISED

**Sample Description:** POM-K-EQBLK Blank Water Sample  
ABD RAMAPO SEDIMENT BELOW DAM

LLI Sample # WW 6080263  
LLI Group # 1211021  
Account # 07032

**Project Name:** POM - ABD RAMAPO SEDIMENT BELOW DAM

Collected: 09/08/2010 16:35 by DY

CRG-E.I.DuPont de Nemours & Co  
URS Corporation  
Iron Hill Corporate Center  
4051 Ogletown Road, Suite 300  
Newark DE 19713

Submitted: 09/09/2010 09:15  
Reported: 09/27/2010 11:56  
Discard: 10/28/2010

POEQB SDG#: PAB01-07EB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals</b>						
06035	Lead	SW-846 6020 7439-92-1	mg/l N.D.	mg/l 0.000052	mg/l 0.0010	1
00259	Mercury	SW-846 7470A 7439-97-6	mg/l N.D.	mg/l 0.000056	mg/l 0.00020	1

### General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	102636050003A	09/23/2010 09:25	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	102535713001	09/13/2010 09:25	Damary Valentin	1
06050	ICP/MS SW-846 Water Digest	SW-846 3010A modified	1	102636050003	09/20/2010 20:30	Mirit S Shenouda	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	102535713001	09/10/2010 15:40	Nelli S Markaryan	1

\*=This limit was used in the evaluation of the final result

## Quality Control Summary

 Client Name: CRG-E.I.DuPont de Nemours & Co  
 Reported: 09/27/10 at 11:56 AM

Group Number: 1211021

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 102525711002 Mercury	Sample number(s): 6080254-6080262 N.D.	0.0110	0.0954	mg/kg	91		68-133		
Batch number: 102535713001 Mercury	Sample number(s): 6080263 N.D.	0.00005 6	0.00020	mg/l	104		80-120		
Batch number: 102636050003A Lead	Sample number(s): 6080263 N.D.	0.00005 2	0.0010	mg/l	104		90-115		
Batch number: 102646150001A Lead	Sample number(s): 6080254-6080262 0.0166 J	0.0104	0.200	mg/kg	106		80-120		
Batch number: 10253820002B Moisture Moisture Moisture Duplicate	Sample number(s): 6080254-6080262				100 100 100		99-101 99-101 99-101		

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 102525711002 Mercury	Sample number(s): 6080254-6080262 104	101	80-120	3	20	UNSPK: 6080257 0.0135 J	BKG: 6080257 0.0188 J	32* (1)	20
Batch number: 102535713001 Mercury	Sample number(s): 6080263 100	96	80-120	4	20	UNSPK: P080592 N.D.	BKG: P080592 N.D.	0 (1)	20
Batch number: 102636050003A Lead	Sample number(s): 6080263 106	106	75-125	0	20	UNSPK: P085555 0.0123	BKG: P085555 0.0120	3	20
Batch number: 102646150001A Lead	Sample number(s): 6080254-6080262 92	143*	75-125	12	20	UNSPK: 6080257 9.62	BKG: 6080257 9.06	6	20
Batch number: 10253820002B Moisture Moisture Moisture Duplicate	Sample number(s): 6080254-6080262					BKG: 6080257 3.7 3.7 3.7	3.9 3.9 3.9	6 6 6	15 15 15

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.



## Quality Control Summary

Client Name: CRG-E.I.DuPont de Nemours & Co  
Reported: 09/27/10 at 11:56 AM

Group Number: 1211021

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.



# Analysis Request / Environmental Services Chain of Custody

For Lancaster Laboratories Use Only

Group No.: 1211021 Sample Nos.: 6080 254-63  
 Acc't: 07032 SCR No.: 95260 Cooler No.: 20401 **17450**  
 Cooler Temperature upon receipt: 16 °C Container No.: 1

Facility Name: Pompton Lakes	Project Manager: Marj Vetter	<b>Analyses Required</b>	Comments: 3 DAY TAT
Facility Contact: Dan Youngblood	Facility Contact Phone No.: 908-507-6618		
Facility Address: Pompton Lakes Works	Job No.: 9267-7720100C-WH06-507906		
2000 Cannonball Road	Release No.: LA30436		
Pompton Lakes NJ 07442	PO Number: LBIO-66380		
Sampler(s): <u>Dan Youngblood, George Nameth</u>			
Project Name: ABD RAMAPO SEDIMENT BELOW DAM			

Sample Identification	Date Collected	Time Collected	Matrix	Containers			Hg (7471A/7470A)	Moisture (SM20 2540 G)												Condition upon receipt:
				Volume (ml)	Preserv	No.														
POM-E-537-991( <u>0.0 - 0.75</u> )	<u>9/8/10</u>	<u>1115</u>	SW	125	None	1	X	X												<u>Intact</u>
POM-E-537-992( <u>0.0 - 1.5</u> )		<u>1211</u>	SW	125	None	1	X	X												
POM-E-537-993( <u>0.0 - 1.75</u> )		<u>1240</u>	SW	125	None	1	X	X												
POM-E-537-994( <u>0.0 - 1.25</u> )		<u>1310</u>	SW	125	None	1	X	X												
POM-E-537-995( <u>0.0 - 1.0</u> )		<u>1345</u>	SW	125	None	1	X	X												
POM-E-537-994( <u>0.0 - 1.25</u> ) )-MS		<u>1310</u>	SW	125	None	1	X	X												
POM-E-537-994( <u>0.0 - 1.25</u> ) )-MSD		<u>1310</u>	SW	125	None	1	X	X												
POM-E-537-994( <u>0.0 - 1.25</u> ) )-DUP		<u>1310</u>	SW	125	None	1	X	X												
POM-K-EQBLK		<u>1635</u>	WW	500	HNO3	1	X													

Turnaround Time Requested (please circle): Normal <u>Rush</u> Number of days: <u>3</u>	Special Instructions: <u>Full Deliverables needed</u>
Bottles Relinquished by: <u>[Signature]</u> Date: <u>9/7/10</u> Time: <u>9:20</u>	Bottles Received by: <u>[Signature]</u> Date: <u>9/8/10</u> Time: <u>1040</u>
Bottles Relinquished by: <u>[Signature]</u> Date: <u>9/8/10</u> Time: <u>1640</u>	Bottles Received by: <u>[Signature]</u> Date: <u>9/10/10</u> Time: <u>1115</u>

## Environmental Sample Administration Receipt Documentation Log

Client/Project: Pompton Lakes  
 Date of Receipt: 9/9/10  
 Time of Receipt: 915  
 Source Code: 501  
 Unpacker Emp. No.: 2316

Shipping Container Sealed:  YES NO  
 Custody Seal Present \* :  YES NO  
 \* Custody seal was intact unless otherwise noted in the discrepancy section  
 Package:  Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9493	1.6°C	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

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Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<i>[Signature]</i>	9/9/10	1145	Unpacking to storage
Kristin Lugh	9-9-10	1222	Place in Storage or <input checked="" type="radio"/> Entry
			Entry
			Entry

# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>RL</b>	Reporting Limit	<b>BMQL</b>	Below Minimum Quantitation Level
<b>N.D.</b>	none detected	<b>MPN</b>	Most Probable Number
<b>TNTC</b>	Too Numerous To Count	<b>CP Units</b>	cobalt-chloroplatinate units
<b>IU</b>	International Units	<b>NTU</b>	nephelometric turbidity units
<b>umhos/cm</b>	micromhos/cm	<b>ng</b>	nanogram(s)
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>ug</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>ml</b>	milliliter(s)	<b>l</b>	liter(s)
<b>m3</b>	cubic meter(s)	<b>ul</b>	microliter(s)
<b>&lt;</b>	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>J</b>	estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

## U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
<b>A</b> TIC is a possible aldol-condensation product	<b>B</b> Value is $<$ CRDL, but $\geq$ IDL
<b>B</b> Analyte was also detected in the blank	<b>E</b> Estimated due to interference
<b>C</b> Pesticide result confirmed by GC/MS	<b>M</b> Duplicate injection precision not met
<b>D</b> Compound quantitated on a diluted sample	<b>N</b> Spike sample not within control limits
<b>E</b> Concentration exceeds the calibration range of the instrument	<b>S</b> Method of standard additions (MSA) used for calculation
<b>N</b> Presumptive evidence of a compound (TICs only)	<b>U</b> Compound was not detected
<b>P</b> Concentration difference between primary and confirmation columns $>$ 25%	<b>W</b> Post digestion spike out of control limits
<b>U</b> Compound was not detected	<b>*</b> Duplicate analysis not within control limits
<b>X,Y,Z</b> Defined in case narrative	<b>+</b> Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ATTACHMENT 2  
SAMPLE SUMMARY MAP



**LEGEND:**

**Boring-Id**

+ — Boring Location

**Lead (mg/kg)** **Mercury (mg/kg)**

- ND ▪ Not detected at value shown
- J ▪ Estimate value below MDL
- MDL ▪ Method detection limit

SCALE: 1-inch = 130-feet  
BelowDam.dgn 30-Sep-10

**PARSONS**

200 Cottontail Lane  
Somerset, NJ 08873

**SEDIMENT SAMPLES COLLECTED  
BELOW THE RAMAPO RIVER DAM**

DUPONT POMPTON LAKES WORKS  
2000 Cannonball Road  
Pompton Lakes, New Jersey

**FIGURE 1**