**Stephen Kehayes**
**<Stephen.Kehayes@dep.state.nj.us>**
05/17/2006 09:19 AM

To David Kaplan <David.Kaplan@dep.state.nj.us>, Jim Kealy <Jim.Kealy@dep.state.nj.us>, Joseph Cosentino/R2/USEPA/US@EPA, Sarah
cc
bcc
Subject Fwd: LNAPL Analytical results

I mistakenly sent the following email to Bill Lee without copying you...sorry.

Sarah, attached is the referenced May 4 submittal.

Stephen Kehayes
Office of Brownfield Reuse
New Jersey Department of Environmental Protection
Post Office Box 28
401 East State Street, 6th Floor
Trenton, New Jersey, 08625-0028

Stephen.Kehayes@dep.state.nj.us
(Telephone) 609-777-0649
(Fax) 609-777-1914

>>> Stephen Kehayes 5/17/2006 8:54 AM >>>
Bill, the hard copy of the May 4 LNAPL Analytical results for UST MW-1, submitted by Golder and forwarded electronically by you, finally made it to my desk. The envelope had no name on it.

I will not comment on this information until we get the chance to review a RIW for the LNAPL. When do you expect to submit this RIW?

I've sent an electronic copy to Joe Cosentino. In the future, please send Joe a copy of all submittals made to me. Thank you 2006-05-04 LNAPL results_1.pdf

444788

**Stephen Kehayes**
**<Stephen.Kehayes@dep.state.nj.us>**
05/17/2006 08:55 AM

To Joseph Cosentino/R2/USEPA/US@EPA
cc
bcc
Subject Fwd: BBD Groundwater

Joe, FYI (see below)

When will EPA RASR comment be forwarded to me? Thx

>>> "William Lee" <wjlee@demaximis.com> 5/4/2006 4:29 PM >>>
Steve/Dave:

Attached please find a letter addressed to Steve from our groundwater consultant, Golder Associates, transmitting the analytical results of the free product observed in UST-1, which I previously informed you about by email. We are developing a work plan to investigate this issue and will submit it for your review.

I will keep you posted on continued developments, and please let me know if you have any questions or comments.

Bill

William J. Lee
de maximis, inc.
186 Center Street, Suite 290
Clinton, NJ 08809
908-735-9315
Fax: 908-735-2132
Email: wjlee@demaximis.com

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electronic and/or paper. LNAPL results_1.pdf

**Golder Associates Inc.**

540 North Commercial Street, Suite 250
Manchester, NH 03101-1146
Tel: (603) 668-0880
Fax: (603) 668-1199

May 4, 2006

Our Ref.: 063-6907

New Jersey Department of Environmental Protection
401 East State Street
P.O. Box 028
Trenton, NJ 08625-0028

Attn: Mr. Stephen Kehayes

**RE: LNAPL ANALYTICAL RESULTS**
**BAYONNE BARREL AND DRUM SITE**
**NEWARK, NEW JERSEY**

Dear Mr. Kehayes:

On behalf of the Bayonne Barrel & Drum PRP Group and *de maximis, inc.*; Golder Associates Inc. is submitting the attached laboratory analytical results for samples of light non-aqueous phase liquid (LNAPL) observed in monitoring well UST-MW-1 at the Bayonne Barrel and Drum Site located in the Newark, New Jersey. Golder is currently working with the Group and *de maximis* to develop an approach for assessment of this issue. Please feel free to contact the undersigned if you have any questions.

Sincerely,

**GOLDER ASSOCIATES INC.**

Todd H. Rees, Ph.D., P.E.
Principal

Theresa A. Miller, P.G., LSP
Senior Hydrogeologist

Encl.

Client ID: USTMW1
Site: Bayonne Barrell

Lab Sample No: 713643
Lab Job No: 0223

Date Sampled: 03/06/06
Date Received: 03/06/06
Date Extracted: 03/14/06
Date Analyzed: 03/15/06
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r27095.d

Matrix: ORGANIC
Level: HIGH
Sample Weight: 1.0 g
Extract Final Volume: 10.0 ml
Dilution Factor: 2.0
% Moisture: 0

**SEMI-VOLATILE ORGANICS - GC/MS**
**METHOD 8270C**

| Parameter | Analytical Results Units: ug/kg | Quantitation Limit Units: ug/kg |
|---|---|---|
| Carbazole | ND | 100000 |
| Di-n-butylphthalate | ND | 100000 |
| Fluoranthene | ND | 100000 |
| Pyrene | ND | 100000 |
| Butylbenzylphthalate | ND | 100000 |
| 3,3'-Dichlorobenzidine | ND | 200000 |
| Benzo(a)anthracene | ND | 10000 |
| Chrysene | ND | 100000 |
| bis(2-Ethylhexyl)phthalate | 20000 J | 100000 |
| Di-n-octylphthalate | ND | 100000 |
| Benzo(b)fluoranthene | ND | 10000 |
| Benzo(k)fluoranthene | ND | 10000 |
| Benzo(a)pyrene | ND | 10000 |
| Indeno(1,2,3-cd)pyrene | ND | 10000 |
| Dibenz(a,h)anthracene | ND | 10000 |
| Benzo(g,h,i)perylene | ND | 100000 |

Site: **Bayonne Barrell**

Lab Job No: **0223**

Date Sampled: 3/6/2006
Date Received: 3/6/2006
Matrix: **ORGANIC**

Date Extracted: 3/14/2006
Date Analyzed: 3/14/2006

## GC/FID FINGERPRINT

| STL Edison Sample # | Client ID | Product I.D. |
|---|---|---|
| 713643 | USTMW1 | Most closely resembles a heavy Lube Oil/Mineral Oil. |

Client ID: USTMW1
Site: Bayonne Barrell

Lab Sample ID: 713643
Lab Job No: 0223

Date Sampled: 03/06/06
Date Received: 03/06/06
Date Extracted: 03/10/06
Date Analyzed: 03/10/06
GC Front Column: StxCLP2
GC Rear Column: StxCLP1
Instrument ID: PESTGC9.i
Front File ID: vf403998.d
Rear File ID: vr403998.d

Matrix: OIL
Level: HIGH
Sample Weight: 1 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0

**ORGANOCHLORINE PCBs - GC/ECD**
**METHOD 8082**

| Parameter | Analytical Results Units: ug/kg | Quantitation Limit Units: ug/kg | Column |
|---|---|---|---|
| Aroclor-1221 | ND | 1000 | R |
| Aroclor-1232 | ND | 1000 | R |
| Aroclor-1242 | ND | 1000 | R |
| Aroclor-1248 | ND | 1000 | R |
| Aroclor-1016 | ND | 1000 | R |
| Aroclor-1254 | ND | 1000 | R |
| Aroclor-1268 | ND | 1000 | R |
| Aroclor-1260 | 7500 | 1000 | F |
| Aroclor-1262 | ND | 1000 | R |

Client ID: **USTMW1**
Site: **Bayonne Barrell**

Lab Sample No: 713643
Lab Job No: 0223

Date Sampled: 03/06/06
Date Received: 03/06/06

Matrix: ORGANIC
Level: LOW

**METALS ANALYSIS**

| Analyte | Analytical Result Units: mg/kg | Instrument Detection Limit | Qual | M |
|---|---|---|---|---|
| Aluminum | 634 | 6.3 | | P |
| Antimony | 3.4 | 0.58 | | P |
| Arsenic | 13.7 | 0.32 | | P |
| Barium | 37.4 | 0.17 | | P |
| Beryllium | ND | 0.030 | | P |
| Cadmium | 1.1 | 0.040 | | P |
| Calcium | 298 | 4.3 | B | P |
| Chromium | 10.5 | 0.16 | | P |
| Cobalt | 1.3 | 0.17 | B | P |
| Copper | 82.5 | 0.37 | N | P |
| Iron | 511 | 3.9 | | P |
| Lead | 55.1 | 0.27 | | P |
| Magnesium | 6.9 | 4.2 | B | P |
| Manganese | 5.2 | 0.12 | | P |
| Mercury | 0.04 | 0.0091 | N | CV |
| Nickel | 4.3 | 0.24 | | P |
| Potassium | ND | 31.5 | | P |
| Selenium | 0.76 | 0.42 | | P |
| Silver | 0.51 | 0.14 | B | P |
| Sodium | ND | 39.5 | | P |
| Thallium | ND | 0.47 | | P |
| Vanadium | 16.8 | 0.47 | | P |
| Zinc | 70.6 | 0.58 | | P |

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)
* - Percent solids was not performed on this sample.

# Certificate of Analysis

SINCE 1985

*Quality Controlled Through Analysis*

10630 FALLSTONE RD. HOUSTON, TEXAS 77099
P.O. BOX 741905, HOUSTON, TEXAS 77274

TEL: (281) 495-2400
FAX: (281) 495-2410

| | | | |
|---|---|---|---|
| CLIENT: | STL Severn Trent Environmental (NJ) | REQUESTED BY: | Ms. Janet Gutierrez-Helders |
| SAMPLE: | O223-713643 | REPORT DATE: | March 22, 2006 |
| LABORATORY NO: | 40659 R | PURCHASE ORDER NO: | Pending |

| TEST | RESULTS |
|---|---|
| Viscosity Kinematics, @ 15 °C, ASTM D 445, cSt | 1,184 |
| Specific Gravity @ 60 °F , ASTM D 1298 | 0.9531 |
| Flash Point, E.P.A. 1020A, °F | 424 |
| Total Organic Halogens (TOX), E.P.A. 9020B, ppm | 61.33 |
| Water and Sediment, ASTM D 4007, wt% | 90.5 |
| Sulfur Content by X-ray Method, ASTM D 4294, wt% | 0.174 |
| Gross Heat of Combustion by Bomb Method (HHV), ASTM D 240, Btu/lb | 16,046 |
| Surface Tension, ASTM D 971, @ 15 °C dynes/cm | 34.0 |
| Interfacial Tension, ASTM D 971, @ 15 °C dynes/cm | 23.6 |

Please note that the sample consisted of two layers. All analyses were performed on the top (oil) phase of the samples.

| QA/QC DATA |
|---|
| Date: 3/22/06 |
| Analyst: J.M. |
| Time: 13:53 |

Respectfully submitted
For Texas OilTech Laboratories, L.P.

A. Phil Sorurbakhsh
Director of Laboratory Operations

These analyses, opinions or interpretations are based on material supplied by the client to whom, and for whose exclusive and confidential use this report is made. Texas Oiltech Laboratories, Inc. and its officers assume no responsibility and make no warranty for proper operations of any petroleum, oil, gas or any other material in connection with which this report is used or relied on.

Cert. No. 5085

Client ID: **USTMW1**
Site: Bayonne Barrell

Lab Sample No: **713643**
Lab Job No: 0223

Date Sampled: 03/06/06
Date Received: 03/06/06
Date Analyzed: 03/08/06
GC Column: DB624
Instrument ID: VOAMS4.i
Lab File ID: d52170.d

Matrix: ORGANIC
Level: HIGH
Sample Weight: 0.1 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0

**VOLATILE ORGANICS - GC/MS**
**METHOD 8260B**

| Parameter | Analytical Results Units: ug/kg | Quantitation Limit Units: ug/kg |
|---|---|---|
| Chloromethane | ND | 23000 |
| Bromomethane | ND | 23000 |
| Vinyl Chloride | ND | 23000 |
| Chloroethane | ND | 23000 |
| Methylene Chloride | ND | 14000 |
| Acetone | ND | 23000 |
| Carbon Disulfide | ND | 23000 |
| 1,1-Dichloroethene | ND | 9100 |
| 1,1-Dichloroethane | ND | 23000 |
| trans-1,2-Dichloroethene | ND | 23000 |
| cis-1,2-Dichloroethene | ND | 23000 |
| Chloroform | ND | 23000 |
| 1,2-Dichloroethane | ND | 9100 |
| 2-Butanone | ND | 23000 |
| 1,1,1-Trichloroethane | ND | 23000 |
| Carbon Tetrachloride | ND | 9100 |
| Bromodichloromethane | ND | 4500 |
| 1,2-Dichloropropane | ND | 4500 |
| cis-1,3-Dichloropropene | ND | 23000 |
| Trichloroethene | ND | 4500 |
| Dibromochloromethane | ND | 23000 |
| 1,1,2-Trichloroethane | ND | 14000 |
| Benzene | ND | 4500 |
| trans-1,3-Dichloropropene | ND | 23000 |
| Bromoform | ND | 18000 |
| 4-Methyl-2-Pentanone | ND | 23000 |
| 2-Hexanone | ND | 23000 |
| Tetrachloroethene | ND | 4500 |
| 1,1,2,2-Tetrachloroethane | ND | 4500 |
| Toluene | ND | 23000 |
| Chlorobenzene | ND | 23000 |
| Ethylbenzene | ND | 18000 |
| Styrene | ND | 23000 |
| Xylene (Total) | ND | 23000 |

Client ID: USTMW1
Site: Bayonne Barrell

Lab Sample No: 713643
Lab Job No: 0223

Date Sampled: 03/06/06
Date Received: 03/06/06
Date Extracted: 03/14/06
Date Analyzed: 03/15/06
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r27095.d

Matrix: ORGANIC
Level: HIGH
Sample Weight: 1.0 g
Extract Final Volume: 10.0 ml
Dilution Factor: 2.0
% Moisture: 0

**SEMI-VOLATILE ORGANICS - GC/MS**
**METHOD 8270C**

| Parameter | Analytical Results Units: ug/kg | Quantitation Limit Units: ug/kg |
|---|---|---|
| Phenol | ND | 100000 |
| 2-Chlorophenol | ND | 100000 |
| 2-Methylphenol | ND | 100000 |
| 4-Methylphenol | ND | 100000 |
| 2-Nitrophenol | ND | 100000 |
| 2,4-Dimethylphenol | ND | 100000 |
| 2,4-Dichlorophenol | ND | 100000 |
| 4-Chloro-3-methylphenol | ND | 100000 |
| 2,4,6-Trichlorophenol | ND | 100000 |
| 2,4,5-Trichlorophenol | ND | 100000 |
| 2,4-Dinitrophenol | ND | 100000 |
| 4-Nitrophenol | ND | 400000 |
| 4,6-Dinitro-2-methylphenol | ND | 400000 |
| Pentachlorophenol | ND | 400000 |

Client ID: USTMW1
Site: Bayonne Barrell

Lab Sample No: 713643
Lab Job No: 0223

Date Sampled: 03/06/06
Date Received: 03/06/06
Date Extracted: 03/14/06
Date Analyzed: 03/15/06
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r27095.d

Matrix: ORGANIC
Level: HIGH
Sample Weight: 1.0 g
Extract Final Volume: 10.0 ml
Dilution Factor: 2.0
% Moisture: 0

**SEMI-VOLATILE ORGANICS - GC/MS**
**METHOD 8270C**

| Parameter | Analytical Results Units: ug/kg | Quantitation Limit Units: ug/kg |
|---|---|---|
| bis(2-Chloroethyl)ether | ND | 10000 |
| 1,3-Dichlorobenzene | ND | 100000 |
| 1,4-Dichlorobenzene | ND | 100000 |
| 1,2-Dichlorobenzene | ND | 100000 |
| bis(2-chloroisopropyl)ether | ND | 100000 |
| N-Nitroso-di-n-propylamine | ND | 100000 |
| Hexachloroethane | ND | 10000 |
| Nitrobenzene | ND | 10000 |
| Isophorone | ND | 10000 |
| bis(2-Chloroethoxy)methane | ND | 100000 |
| 1,2,4-Trichlorobenzene | ND | 100000 |
| Naphthalene | ND | 10000 |
| 4-Chloroaniline | ND | 100000 |
| Hexachlorobutadiene | ND | 100000 |
| 2-Methylnaphthalene | ND | 20000 |
| Hexachlorocyclopentadiene | ND | 100000 |
| 2-Chloronaphthalene | ND | 100000 |
| 2-Nitroaniline | ND | 100000 |
| Dimethylphthalate | ND | 200000 |
| Acenaphthylene | ND | 100000 |
| 2,6-Dinitrotoluene | ND | 100000 |
| 3-Nitroaniline | ND | 20000 |
| Acenaphthene | ND | 200000 |
| Dibenzofuran | ND | 100000 |
| 2,4-Dinitrotoluene | ND | 100000 |
| Diethylphthalate | ND | 20000 |
| 4-Chlorophenyl-phenylether | ND | 100000 |
| Fluorene | ND | 100000 |
| 4-Nitroaniline | ND | 100000 |
| N-Nitrosodiphenylamine | ND | 200000 |
| 4-Bromophenyl-phenylether | ND | 100000 |
| Hexachlorobenzene | ND | 100000 |
| Phenanthrene | ND | 10000 |
| Anthracene | ND | 100000 |
| | ND | 100000 |