4 Neshaminy Interplex, Suite 300, Trevose, Pennsylvania 19053

23 April 2003

Glenn Cavanaugh
ELEMENTIS, Inc.
Wycoffs Mill Road
Hightstown, New Jersey 08520

Subject: Groundwater Monitoring Program – March 2003 Sampling
ELEMENTIS Pigments, Inc.
City of Easton, Northampton County, Pennsylvania
Earth Tech Project #47175

Dear Mr. Cavanaugh:

Telephone
215.244.7100
Facsimile
215.244.7178

Earth Tech, Inc. (Earth Tech) submits this report presenting the results of the groundwater monitoring program conducted at the ELEMENTIS Pigments facility located at 1525 Wood Street in Easton, Pennsylvania (Figure 1).

There are two distinct floating product plumes present at the site. Gasoline floating product attributable to a former gasoline underground storage tank (UST) has been historically detected in monitoring wells MW-11 and MW-22 and piezometers P-3 and GPI-1; however, no product has been detected in MW-11 since the September 2001 sampling event. Fuel oil floating product attributable to a former fuel oil UST system has historically been detected in monitoring wells MW-12, MW-29 and MW-31 and in piezometer FOP-2. An overall site plan depicting the area of discussion is included as Figure 2. This report provides a summary of activities conducted during the first quarter of 2003.

Groundwater Monitoring

On 11 and 12 March 2003, Earth Tech mobilized to the subject property to collect a round of samples from the groundwater monitoring wells in the vicinity of the plumes. Prior to sampling, depth to product (where applicable) and depth to groundwater measurements were obtained from all of the existing shallow wells to confirm groundwater flow direction. The measurements were obtained using a Solinst water level meter or an ORS Interface Probe, as appropriate. A summary of the recorded product and groundwater elevations is included in Table 1. A groundwater contour map is presented as Figure 3. A floating product isopleth of the two product plumes is presented as Figure 4.

Depth to groundwater measurements were used to calculate the volume of groundwater required to be purged from each well scheduled to be sampled. Either a Grundfos submersible pump or a disposable polyethylene bailer was used to purge each of the wells. During purging, field measurements were collected at one-volume intervals. In accordance with standard industry procedures, the temperature, pH, specific conductivity, and dissolved oxygen concentration of the recovered groundwater were recorded as part of the field

measurements. A summary of the field measurements has been presented on the sampling sheets included as Attachment 1.

Following well recovery, representative groundwater samples were collected from the following wells: MW-4, MW-6, MW-11, MW-20, MW-21, MW-23D, MW-24, MW-25D, MW-26, MW-27, MW-28, MW-30, MW-32 and MW-33 in accordance with the amended monitoring program approved by the Pennsylvania Department of Environmental Protection (PADEP). The groundwater samples collected were transferred directly into pre-labeled bottles from a two-inch disposable polyethylene bailer. It should be noted that the samples analyzed for lead were not field-filtered prior to transfer into unpreserved bottles.

After sample collection, the bottles were stored in a cooler at 4°C for later pickup and analysis by Lancaster Laboratories of Lancaster, Pennsylvania. All groundwater samples were analyzed for #2 – #6 fuel oil parameters. In addition, MW-11, MW-21, MW-24 and MW-28 were analyzed leaded gasoline parameters. Monitoring wells MW23D and MW-25D analyzed for #2 – #6 fuel oil parameters plus MTBE, xylenes, 1,2-dichloroethane, and ethylene dibromide. These analyses were conducted in accordance with Pennsylvania Department of Environmental Protection (PADEP) UST assessment requirements.

Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) samples were collected to ensure that the groundwater sampling equipment was properly decontaminated prior to use. One field blank sample was collected daily by pouring laboratory supplied deionized water over a section of a disposable bailer used to collect the groundwater samples. The rinse water was recollected in laboratory prepared sample bottles. The collected field blank samples, identified as FB-1 and FB-2, were immediately labeled and placed in the cooler with the groundwater samples.

For quality control purposes, one trip blank sample, identified as TB, was also included with each cooler from the laboratory and remained with the groundwater samples until they were returned to the laboratory for analysis.

Analytical Results

Review of the Groundwater Contour Map (Figure 3) prepared from the depth to groundwater measurements recorded during this sampling event revealed overall site groundwater flow is primarily toward the east-northeast. This is consistent with previous monitoring rounds.

During this round, the groundwater monitoring wells on site with no measurable floating product included MW-04, MW-06, MW-11, MW-20, MW-21, MW-23D, MW-24, MW-25D, MW-26, MW-27, MW-28, MW-30, MW-32, and MW-33. Measurable product was observed

in piezometers P-3, FOP-2 and GIP-1 and monitoring wells MW-12, MW-22, MW-29, and MW-31. Product thickness ranged from 0.02 feet in monitoring well MW-29 to 1.39 feet in monitoring well MW-31. The product isopleth (Figure 4) indicates that the gasoline plume continues to be reduced in size when compared to previous rounds, prior to implementation of the interim remedial action. The fuel oil product plume was of similar extent and thickness as previous rounds.

Product thickness measurements revealed the presence of floating product in only three monitoring points within the gasoline product plume, MW-22 (formerly used as an MPX extraction well), P-3, and GIP-1. These observations indicate that the MPX system effectively controlled migration of the gasoline plume. The product thicknesses are generally less than the measurements collected prior to the interim remedial action.

The product thickness in monitoring wells and piezometers associated with the fuel oil product plume are similar to previous monitoring events. The size and geometry of the fuel oil product plume was consistent with previous rounds and no significant migration of the plume was observed. A graph illustrating product thickness over time for key monitoring wells and piezometers within the gasoline and fuel oil plumes is included with Table 1.

Review of the analytical results revealed that two analytes were detected above applicable PADEP groundwater quality standards in MW-11, benzene and naphthalene. Benzene has only recently been detected in this well during the past two sampling events; however, it should be noted the detection limit for benzene was formerly elevated due to concentrations of other compounds. Historically, ethylbenzene, cumene, and lead were detected above applicable groundwater quality standards in this well; however, concentrations of those analytes have declined to below groundwater standards in this well. The analytical results also revealed concentrations of naphthalene in MW-28 slightly above PADEP groundwater quality standards. Historically, naphthalene concentrations fluctuate slightly above or below the groundwater quality standards. In addition, review of the QA/QC samples revealed no analytes were detected in the field blank samples or the trip blank sample. A summary of groundwater sample results is presented in Table 2. The analytical deliverable packages are included as Attachment 2.

A summary of individual well monitoring results since May 2001 is included as Attachment 3. The results of the groundwater monitoring program continue to indicate that the presence of floating product on groundwater has not migrated or significantly affected dissolved groundwater quality. Historically, although individual analytes (including ethylbenzene, cumene, naphthalene, and lead) have been detected above PADEP groundwater quality standards in monitoring wells near the product plume, no analytes were detected above standards in the downgradient wells (including MW-23D, MW-25D, MW-26, MW-27, and MW-32) with the exception of MW-24 in which lead was detected above the PADEP

groundwater quality standard in June 2002. This reduction in dissolved contaminants in groundwater is attributed to the effectiveness of the MPX remediation system.

Interim Remedial Action

In May 2002, Earth Tech initiated an interim remedial action (multiphase extraction– MPX) to aggressively recover floating product present in the gasoline plume area. Recovered groundwater and product was pumped through an oil/water separator, with recovered product contained for off-site disposal and recovered groundwater pumped through two 200-pound granulated activated carbon (GAC) units and discharged to the local POTW under a permit. The offgas from the MPX system was directed through GAC units in compliance with the air emissions approval from PADEP.

Operation of the MPX system was initiated on May 9, 2002. The slurp tubes were applied to monitor wells MW-22 and MW-11 and the system was operated as a total fluids system by lowering the slurp tubes near the bottom of the monitor wells. Effective recovery of product and groundwater was observed and this operating mode influenced the product present in surrounding wells. The MPX system was shut down and demobilized on October 30, 2002 due to weather conditions.

Since startup in May 2002, the MPX system recovered a total of 339,810 gallons of fluids. In addition, the recovered vapors from the system were monitored with a Photoionization Detector (PID) during operation. Concentrations of volatile organics ranging from 30 ppm to 82 ppm (as iosobutylene) were detected in the offgas from the MPX pre-separator. Spent vapor phase carbon units were changed out upon shutdown of the MPX. The observed volatile organics in the offgas indicated that soil vapor extraction of the gasoline plume was effectively recovering volatile organics from the plume area and aggressively remediating the smear zone.

During the March 2003 sampling event, product was bailed from each of the three monitoring wells within the fuel oil free product plume (MW-12, MW-29, and MW-31) using dedicated disposable polyethylene bailers. One gallon of product was recovered from MW-29, six gallons of product were recovered from MW-31, and four gallons of product were recovered from MW-12. The recovered product was placed in a 55-gallon drum, and staged onsite for removal at a later date. Since December 2002, ten gallons of product has been recovered from MW-31, seven gallons of product has been recovered from MW-12, and two gallons of product has been recovered from MW-29.

Summary

Based on the past year of groundwater monitoring across the gasoline and fuel oil plume areas, the dissolved groundwater contaminant plume has reduced organic concentrations in nearby wells, and the downgradient well concentrations remain below applicable groundwater quality standards. Continued monitoring of monitoring wells MW-4, MW-24, MW-32, and MW-33 should be conducted to confirm no migration of contaminants from the gasoline product at MW-12, P-3, and GIP-1, the fuel oil product at MW-12, MW-31, and FOP-2, and the contamination occasionally detected in MW-28; however, monitoring wells MW-6, MW-26, and MW-27 are downgradient of monitoring well MW-4 and need no be sampled quarterly. Earth Tech recommends that monitoring well MW-4 be sampled quarterly, that MW-6 continue to be sampled semiannually, and that sampling be reduced at MW-26 and MW-27 to a semiannual basis.

Monitor wells MW-23D and MW-25D have been sampled four times for the expanded analyte list. The historic tables verify that detectable concentrations have been below applicable standards in MW-23D. No analytes were detected in MW-25D. Earth Tech recommends that PADEP be requested to approve reduced monitoring in these wells (semiannual monitoring of MW-23D and no monitoring in MW-25D unless analytes are detected above standards in MW-23D). A summary of the proposed groundwater monitoring program is presented as Table 3.

The MPX system was effective at aggressively recovering floating product present in the gasoline product plume area and remediating the associated smear zone. Earth Tech recommends the MPX system be remobilized the site to resume aggressive product recovery and vapor extraction of the smear zone. Subsequent groundwater monitoring results will continue to be reviewed to evaluate the overall impact of the interim remedial action on the gasoline floating product plumes and dissolved concentrations of associated constituents. In addition, product recovery from piezometer P-3 should be included in future remedial actions. Bailing wells with fuel oil product will continue to be conducted in conjunction with groundwater monitoring. The next round of groundwater monitoring is scheduled for June 2003.

If you should have any questions or require additional information, please feel free to contact us at (215) 244-7100.

Sincerely,

Earth Tech, Inc.

Julie A. Pasternak
Staff Geoscientist

David J. Russell, P.E., DEE
Senior Program Director

cc: Dennis J. Libenson, P.G.
M. Motylewski
D. Leandri

Attachments

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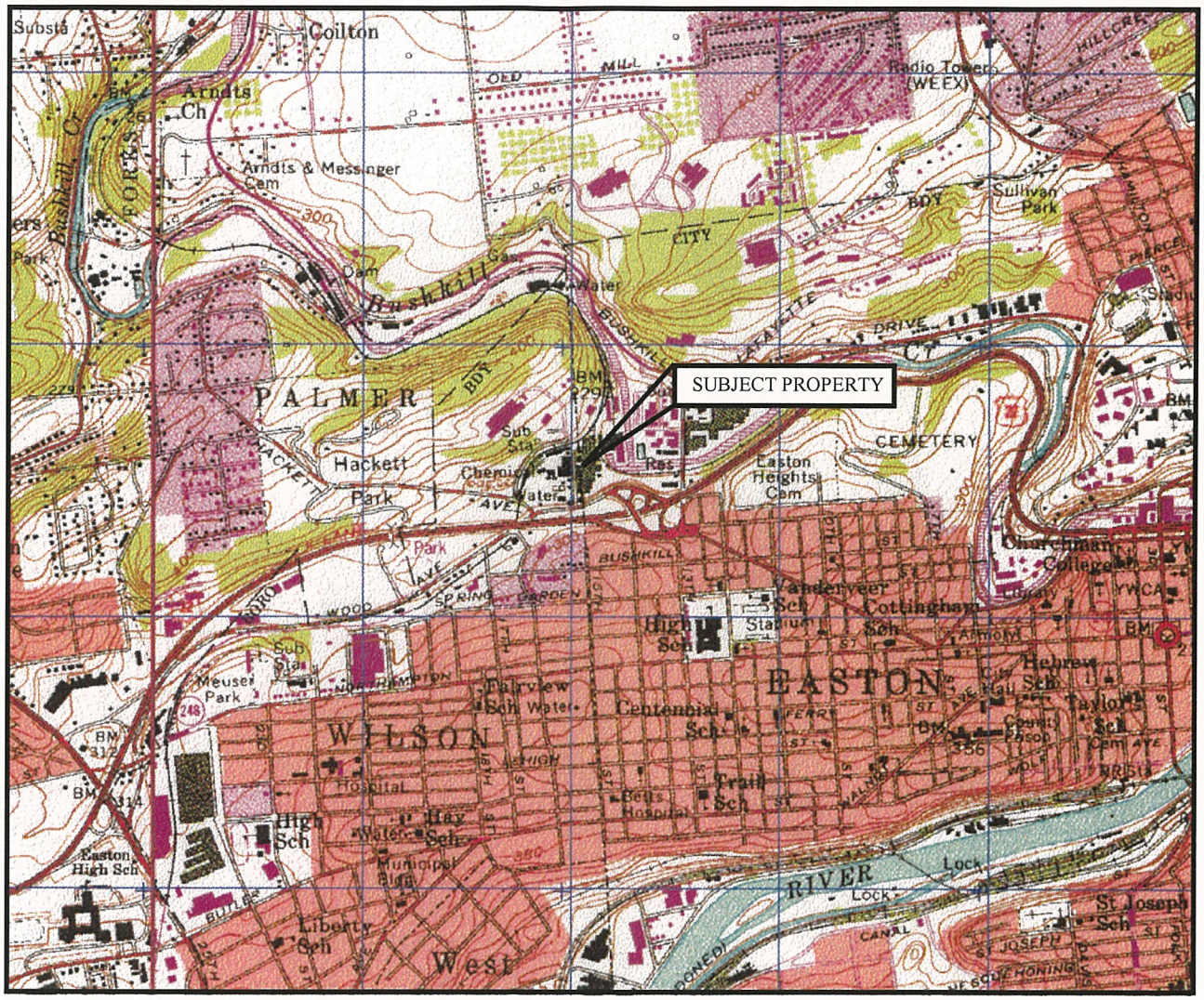
FIGURES



U.S.G.S. 1:24,000 SCALE TOPOGRAPHIC MAP
SOURCE: DELORME 3-D TOPO QUADS, 1999

500 0 1000 2000 3000 METERS

1000 0 1000 2000 3000 7000 FEET

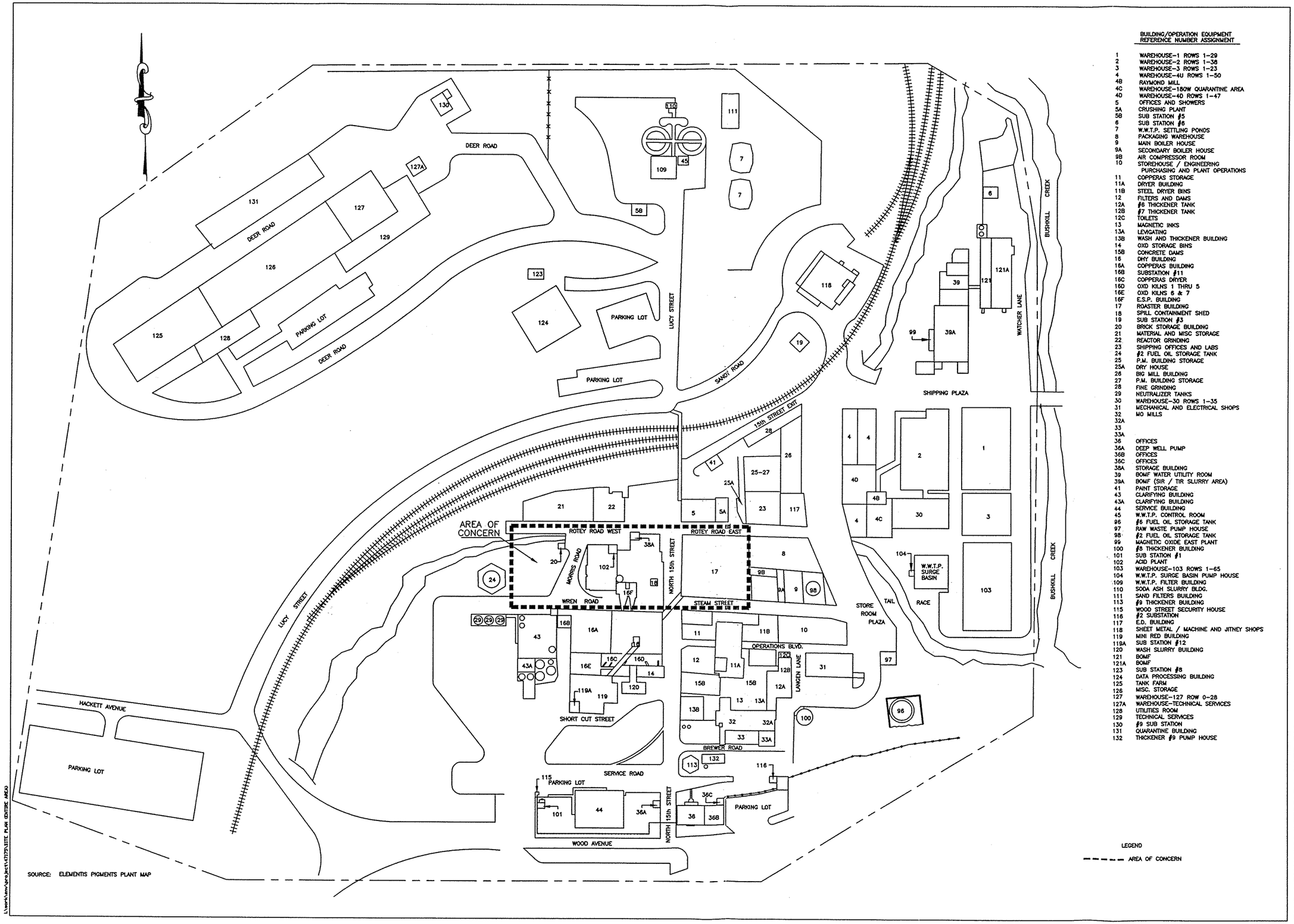
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

Four Neshaminy Interplex, Suite 300
Trevose, Pennsylvania 19053

ENVIRONMENTAL/CONSULTING ENGINEERS

EARTH TECH A tyco INTERNATIONAL LTD. COMPANY	PROJECT: **Remedial Investigation/Action** **Elementis Pigments** 1525 Wood Street Easton, Pennsylvania Lat. 40° 41' 46.92" Long. 75° 13' 57.36"	SITE LOCATION MAP Project No: 47175 Figure No: 1



BUILDING/OPERATION EQUIPMENT REFERENCE NUMBER ASSIGNMENT

1	WAREHOUSE-1 ROWS 1-29
2	WAREHOUSE-2 ROWS 1-38
3	WAREHOUSE-3 ROWS 1-23
4	WAREHOUSE-4U ROWS 1-50
4B	RAYMOND MILL
4C	WAREHOUSE-180W QUARANTINE AREA
4D	WAREHOUSE-4D ROWS 1-47
5	OFFICES AND SHOWERS
5A	CRUSHING PLANT
5B	SUB STATION #5
6	SUB STATION #6
7	W.W.T.P. SETTLING PONDS
8	PACKAGING WAREHOUSE
9	MAIN BOILER HOUSE
9A	SECONDARY BOILER HOUSE
9B	AIR COMPRESSOR ROOM
10	STOREHOUSE / ENGINEERING PURCHASING AND PLANT OPERATIONS
11	COPPERAS STORAGE
11A	DRYER BUILDING
11B	STEEL DRYER BINS
12	FILTERS AND DAMS
12A	#6 THICKENER TANK
12B	#7 THICKENER TANK
12C	TOILETS
13	MAGNETIC INKS
13A	LEVIGATING
13B	WASH AND THICKENER BUILDING
14	OXD STORAGE BINS
15B	CONCRETE DAMS
16	DRY BUILDING
16A	COPPERAS BUILDING
16B	SUBSTATION #11
16C	COPPERAS DRYER
16D	OXD KILNS 1 THRU 5
16E	OXD KILNS 6 & 7
16F	E.S.P. BUILDING
17	ROASTER BUILDING
18	SPILL CONTAINMENT SHED
19	SUB STATION #3
20	BRICK STORAGE BUILDING
21	MATERIAL AND MISC STORAGE
22	REACTOR GRINDING
23	SHIPPING OFFICES AND LABS
24	#2 FUEL OIL STORAGE TANK
25	P.M. BUILDING STORAGE
25A	DRY HOUSE
26	BIG MILL BUILDING
27	P.M. BUILDING STORAGE
28	FINE GRINDING
29	NEUTRALIZER TANKS
30	WAREHOUSE-30 ROWS 1-35
31	MECHANICAL AND ELECTRICAL SHOPS
32	MO MILLS
32A	
33	
33A	
36	OFFICES
36A	DEEP WELL PUMP
36B	OFFICES
36C	OFFICES
38A	STORAGE BUILDING
39	BOMF WATER UTILITY ROOM
39A	BOMF (SIR / TIR SLURRY AREA)
41	PAINT STORAGE
43	CLARIFYING BUILDING
43A	CLARIFYING BUILDING
44	SERVICE BUILDING
45	W.W.T.P. CONTROL ROOM
96	#6 FUEL OIL STORAGE TANK
97	RAW WASTE PUMP HOUSE
98	#2 FUEL OIL STORAGE TANK
99	MAGNETIC OXIDE EAST PLANT
100	#8 THICKENER BUILDING
101	SUB STATION #1
102	ACID PLANT
103	WAREHOUSE-103 ROWS 1-65
104	W.W.T.P. SURGE BASIN PUMP HOUSE
109	W.W.T.P. FILTER BUILDING
110	SODA ASH SLURRY BLDG.
111	SAND FILTERS BUILDING
113	#9 THICKENER BUILDING
115	WOOD STREET SECURITY HOUSE
116	#2 SUBSTATION
117	E.D. BUILDING
118	SHEET METAL / MACHINE AND JITNEY SHOPS
119	MINI RED BUILDING
119A	SUB STATION #12
120	WASH SLURRY BUILDING
121	BOMF
121A	BOMF
123	SUB STATION #8
124	DATA PROCESSING BUILDING
125	TANK FARM
126	MISC. STORAGE
127	WAREHOUSE-127 ROW 0-28
127A	WAREHOUSE-TECHNICAL SERVICES
128	UTILITIES ROOM
129	TECHNICAL SERVICES
130	#9 SUB STATION
131	QUARANTINE BUILDING
132	THICKENER #9 PUMP HOUSE

ENVIRONMENTAL / CONSULTING ENGINEERS

FOUR NESHAMINY INTERPLEX, SUITE 300
TREVOSE, PENNSYLVANIA 19053

EARTH TECH

REVISIONS

NO.	DATE	DESCRIPTION

PROJECT:
ELEMENTIS PIGMENTS, INC.
1525 WOOD AVENUE
EASTON, PENNSYLVANIA 18042-3186

CLIENT:
ELEMENTIS, INC.
WYCOFFS MILL ROAD
HIGHTSTOWN, NEW JERSEY 08520

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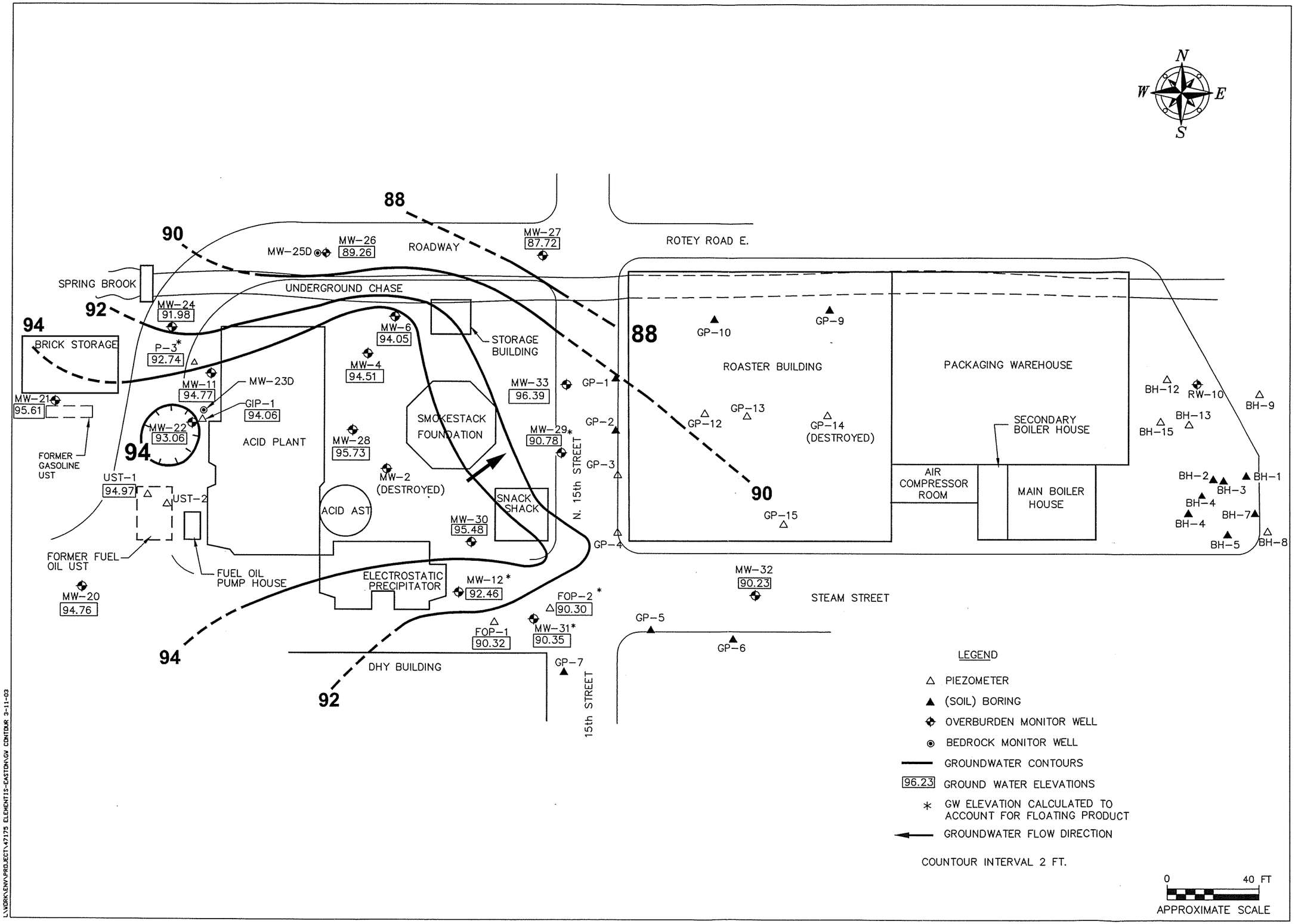
ALL DIMENSIONS MUST BE FIELD VERIFIED BY CONTRACTOR AND NOTIFY OWNER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

DRAWING TITLE:
SITE PLAN

DRAWN BY:	SEW
CHECKED BY:	DL
SCALE:	NS
DATE:	8/02
PROJECT NO.	47175
DRAWING NO.	*FIGURE 2*



L:\WORK\ENV\PROJECT\47175 ELEMENTIS-EASTON\GW CONTOUR 3-11-03

ENVIRONMENTAL / CONSULTING ENGINEERS

EARTH TECH

REVISIONS

NO.	DATE	DESCRIPTION

PROJECT:
IN-SITU REMEDIATION PILOT STUDY
ELEMENTIS PIGMENTS, INC.
1525 WOOD AVENUE
EASTON, PENNSYLVANIA 18042-3186

CLIENT:
ELEMENTIS, INC
WYCOFFS MILL ROAD
HIGHTSTOWN, NEW JERSEY 08520

FOUR NESHAMINY INTERPLEX, SUITE 300
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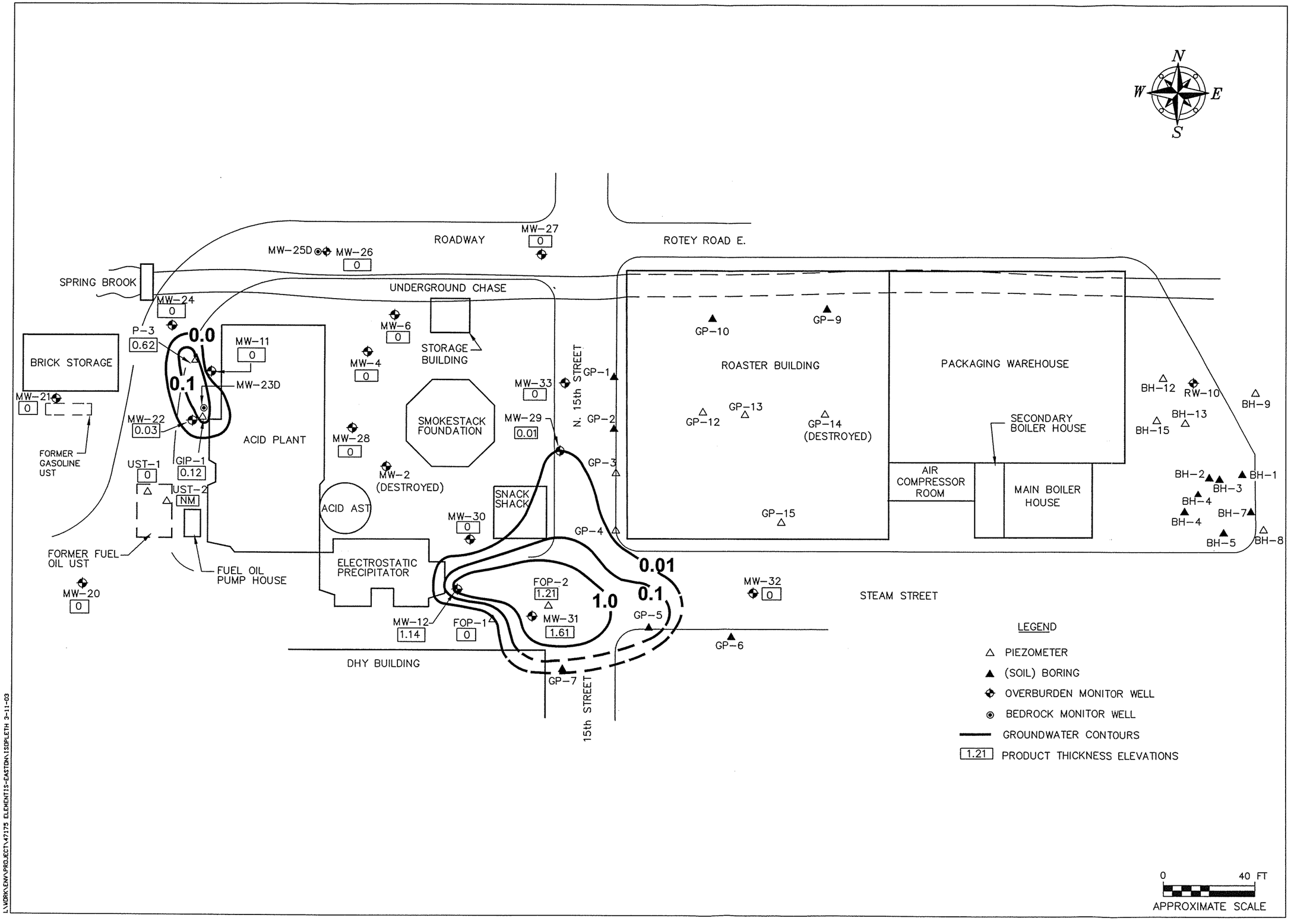
DRAWING TITLE:
GROUNDWATER CONTOUR MAP
MARCH 11, 2003

DRAWN BY:	SEW
CHECKED BY:	DL
SCALE:	1"= 40'
DATE:	04/07/03
PROJECT NO.	47175
DRAWING NO.	*FIGURE 3*



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ENVIRONMENTAL / CONSULTING ENGINEERS

FOUR NESHAMINY INTERPLEX, SUITE 300
TREVOSE, PENNSYLVANIA 19053

EARTH TECH

REVISIONS

NO.	DATE	DESCRIPTION

PROJECT:
IN-SITU REMEDIATION PILOT STUDY
ELEMENTIS PIGMENTS, INC.
1525 WOOD AVENUE
EASTON, PENNSYLVANIA 18042-3186

CLIENT:
ELEMENTIS, INC
WYCOFFS MILL ROAD
HIGHTSTOWN, NEW JERSEY 08520

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DRAWING TITLE:
PRODUCT ISOPLETH SITE MAP SHALLOW WELLS
MARCH 11, 2003

DRAWN BY:	SEW
CHECKED BY:	DL
SCALE:	1"= 40'
DATE:	04/07/03
PROJECT NO.	47175
DRAWING NO.	*FIGURE 4*

TABLES

TABLE 1
WATER LEVEL MEASUREMENTS - MARCH 11, 2003
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

Well	TOC[1] Elevation	Depth to Product[2]	Depth to Water[3]	Product Thickness	Corrected Depth to Water[4]	Groundwater Elevation[4]
MW-4	101.04		6.53	No Product	NA	94.51
MW-6	98.65		4.60	No Product	NA	94.05
MW-11	100.00		5.23	No Product	NA	94.77
MW-12	104.16	11.64	12.78	1.14	11.70	92.46
MW-20	105.96		11.20	No Product	NA	94.76
MW-21	103.32		7.71	No Product	NA	95.61
MW-22	99.62	6.56	6.59	0.03	6.56	93.06
MW-23D	98.30		5.60	No Product	NA	92.70
MW-24	96.62		4.64	No Product	NA	91.98
MW-25D	95.67		5.00	No Product	NA	90.67
MW-26	95.74		6.48	No Product	NA	89.26
MW-27	95.15		7.43	No Product	NA	87.72
MW-28	101.61		5.88	No Product	NA	95.73
MW-29	98.39	7.61	7.62	0.01	7.61	90.78
MW-30	104.63		9.15	No Product	NA	95.48
MW-31	101.97	11.54	13.15	1.61	11.62	90.35
MW-32	102.09		11.86	No Product	NA	90.23
MW-33	96.28		5.89	No Product	NA	90.39
P-3	97.54	4.77	5.39	0.62	4.80	92.74
FOP-1	100.66		10.34	No Product	NA	90.32
FOP-2	99.90	9.54	10.75	1.21	9.60	90.30
GIP-1	99.59	5.52	5.64	0.12	5.53	94.06
UST-1	101.37		6.40	No Product	NA	94.97
UST-2	101.97	NM	NM	NM	NM	NM

Notes:

NA Not applicable
NM Not measured
* Well dry, groundwater elevation could not be calculated
[1] Top of inner casing in feet
[2] Depth to water in feet from TOC
[3] Depth to product in feet from TOC
[4] Groundwater elevation in feet

Product Thickness
Elementis Site
Easton, Pennsylvania

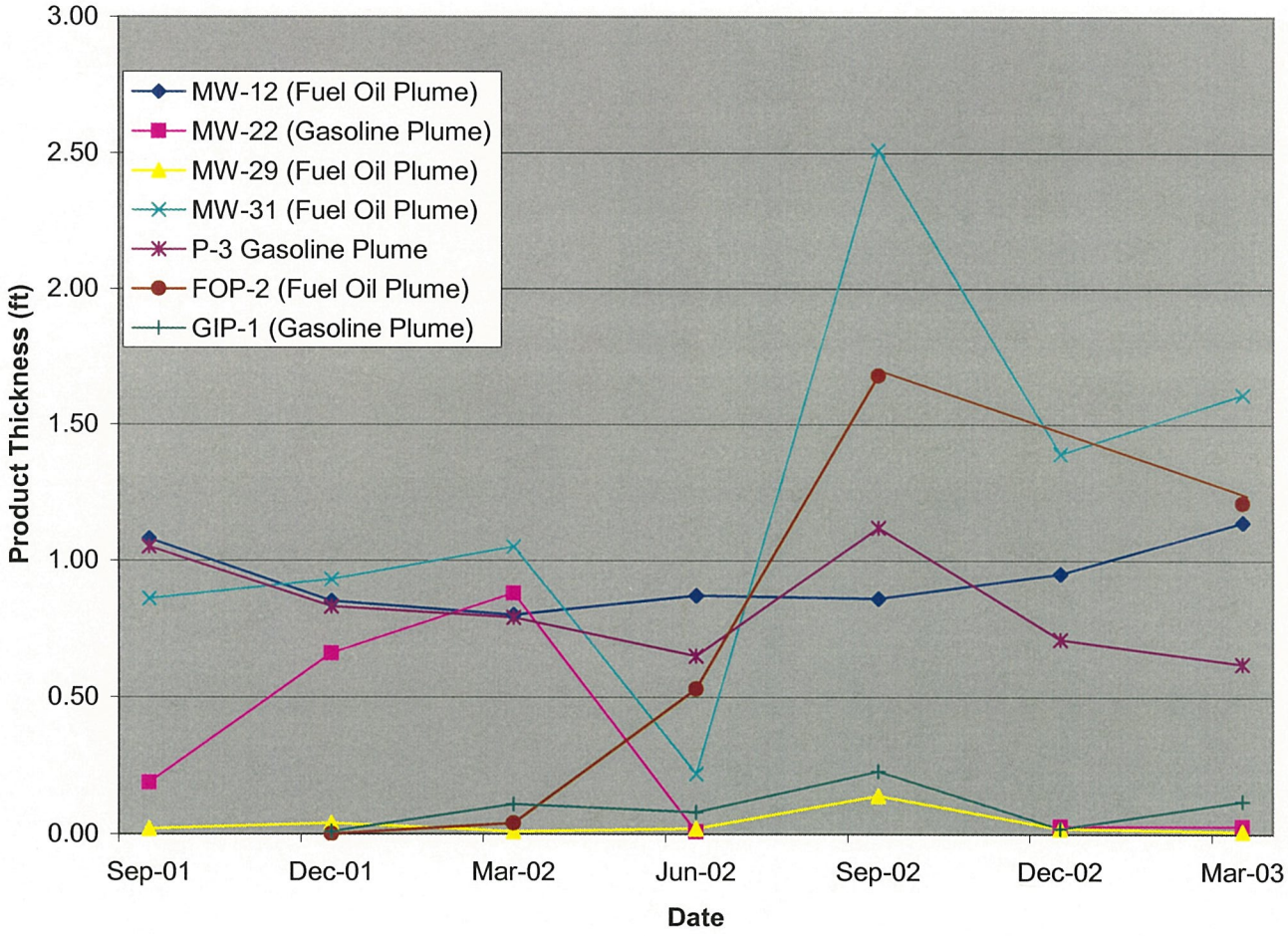

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
ELEMENTIS PROPERTY SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-4 4011543 03/12/03 Water	MW-6 4011556 03/11/03 Water	MW-11 4011545 03/12/03 Water	MW-20 4011555 03/11/03 Water	MW-21 4011546 03/12/03 Water	MW-23D 4011549 03/12/03 Water	MW-24 4011544 03/12/03 Water
UST Volatile Organic Compounds									
1,2-Dichloroethane	ug/L	5	<5.0	NT	<5.0	NT	<5.0	<5.0	<5.0
Benzene	ug/L	5	<5.0	5	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	<5.0	<5.0	<5.0	<5.0	14	<5.0	<5.0
Ethylbenzene	ug/L	700	38	<5.0	**770**	<5.0	170	180	12
Total Xylenes	ug/L	10,000	13	NT	310	NT	540	61	<5.0
Methyl tert-Butyl Ether	ug/L	20	<5.0	NT	<5.0	NT	<5.0	<5.0	<5.0
Naphthalene	ug/L	100	27	<5.0	**220**	<5.0	58	30	<5.0
Isopropylbenzene (cumene)	ug/L	52	13	5	44	<5.0	33	14	<5.0
Ethylene dibromide	ug/L	0.05	<0.027	NT	<0.028	NT	<0.028	<0.028	<0.027
UST Polynuclear Aromatic Hydrocarbons									
Fluorene	ug/L	190	6.2	4.3	6.1	<0.80	<0.90	1.2	<4.0
Phenanthrene	ug/L	1,200	8.0	2.3	4.3	<0.40	<0.40	<0.40	<2.0
Pyrene	ug/L	13	<11	<9.5	<7.5	<0.80	<0.90	<0.80	<4.0
Chrysene	ug/L	1.8	<0.40	<0.40	<2.0	<0.40	<0.40	<0.40	<2.0
UST Metals									
Lead	mg/L	0.005	<0.0030	NT	<0.0030	NT	<0.0030	NT	<0.0030

NOTES

ug/L Micrograms per liter
mg/L Milligrams per liter
< Not detected at reporting limit shown
NA Not applicable
NT Parameter not analyzed for
PADEP Standard listed is for Used Aquifer, Non-Residential Site, TDS <2,500 mg/l
36 Concentration exceeds PADEP Standard

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
ELEMENTIS PROPERTY SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-25D 4011548 03/12/2003 Water	MW-26 4011554 03/11/03 Water	MW-27 4011553 03/11/03 Water	MW-28 4011542 03/12/03 Water	MW-30 4011541 03/11/03 Water	MW-32 4011551 03/11/03 Water	MW-33 4011552 03/11/03 Water
UST Volatile Organic Compounds									
1,2-Dichloroethane	ug/L	5	<5.0	NT	NT	<5.0	NT	NT	NT
Benzene	ug/L	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	700	<5.0	<5.0	<5.0	24	<5.0	<5.0	<5.0
Total Xylenes	ug/L	10,000	<5.0	NT	NT	51	NT	NT	NT
Methyl tert-Butyl Ether	ug/L	20	<5.0	NT	NT	<5.0	NT	NT	NT
Naphthalene	ug/L	100	<5.0	<5.0	<5.0	**110**	29	<5.0	<5.0
Isopropylbenzene (cumene)	ug/L	52	<5.0	<5.0	<5.0	8	<5.0	<5.0	<5.0
Ethylene dibromide	ug/L	0.05	<0.028	NT	NT	<0.027	NT	NT	NT
UST Polynuclear Aromatic Hydrocarbons									
Fluorene	ug/L	190	<0.80	<0.80	<0.80	3.5	0.83	<0.80	<0.80
Phenanthrene	ug/L	1,200	<0.40	<0.40	<0.40	3.1	0.86	<0.40	<0.40
Pyrene	ug/L	13	<0.80	<0.80	<0.80	<1.5	<0.80	<0.80	<0.80
Chrysene	ug/L	1.8	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
UST Metals									
Lead	mg/L	0.005	NT	NT	NT	0.0041	NT	NT	NT

NOTES

ug/L Micrograms per liter
mg/L Milligrams per liter
< Not detected at reporting limit shown
NA Not applicable
NT Parameter not analyzed for
PADEP Standard listed is for Used Aquifer, Non-Residential Site, TD
36 Concentration exceeds PADEP Standard

Table 3
Summary of Recommended Sampling Program - Elementis Site, Easton, Pennsylvania

			Monitoring Program - 2003-2004			
Well	Location	Parameters	Sep-03	Dec-03	Mar-04	Jun-04
MW-4	plume	leaded gasoline, 2-4-6 fuel oil	1	1	1	1
MW-6	plume	2-4-6 fuel oil	1		1	
MW-11	leaded gasoline source	leaded gasoline, 2-4-6 fuel oil	1	1	1	1
MW-12	oil NAPL	2-4-6 fuel oil	0	0	0	0
MW-20	upgradient	2-4-6 fuel oil			1	
MW-21	leaded gasoline source	leaded gasoline, 2-4-6 fuel oil	1	1	1	1
MW-22	oil NAPL	2-4-6 fuel oil	0	0	0	0
MW-23D	sentinel	2-4-6 fuel oil plus MTBE, xylene, 1,2-DCA, and EDB	1		1	
MW-24	sentinel	leaded gasoline, 2-4-6 fuel oil	1	1	1	1
MW-25D	sentinel	2-4-6 fuel oil plus MTBE, xylene, 1,2-DCA, and EDB				
MW-26	sentinel	2-4-6 fuel oil	1		1	
MW-27	sentinel	2-4-6 fuel oil	1		1	
MW-28	plume	leaded gasoline, 2-4-6 fuel oil	1		1	
MW-29	oil NAPL	2-4-6 fuel oil	0	0	0	0
MW-30	plume	2-4-6 fuel oil	1		1	
MW-31	oil NAPL	2-4-6 fuel oil	0	0	0	0
MW-32	sentinel	2-4-6 fuel oil	1	1	1	1
MW-33	plume	2-4-6 fuel oil	1		1	
P-3	oil NAPL	NA - piezometer				
FOP-1	oil source	NA - piezometer				
FOP-2	oil source	NA - piezometer				
GIP-1	leaded gasoline source	NA - piezometer				
UST-1	oil source	NA - piezometer				
UST-2	oil source	NA - piezometer				
		Number of samples	12	5	13	5

Blank denotes "measure only, do not sample".
0 denotes "not likely to be sampled due to product".
1 denotes "measure and sample"; note that some wells (especially MW-11) may contain product.

ATTACHMENT 1

WELL SAMPLING SUMMARY SHEETS

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis
JOB NO.: 47175 DATE: 3/12/03
WELL NUMBER: MW-4
WELL LOCATION: onsite
WEATHER CONDITIONS: Overcast
AMBIENT TEMP.: 30° TESTER'S INITIALS: P/DS

PURGING DEVICE

Type Device: 2" polyethylene bailer
How was the device decontaminated? disposable
How was the line decontaminated? disposable
Which well was previously purged? MW-28

SAMPLING DEVICE

Type Device: 2" polyethylene bailer
How was the device decontaminated? disposable
How was the line decontaminated? disposable
Which well was previously sampled? MW-28

WELL VOLUME CALCULATION

Well diameter (in.) 4"
Stickup (ft.) yes
Depth to bottom of well (ft.) 17.32'
Depth to water surface (ft.) 6.53'
Length of water column (ft.) 11.79'
Well volume (gal.) (see notes) 7.5gal
Amount of sediment at bottom of well (ft.) —
Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 0942 Time finished: 0951
Volume purged (gal.) 11 gal
Comments on well recovery poor
Additional comments (purge rate, etc.) ~1gpm
very slight sheen, slight petroleum odor
Sample parameters: Time sampled: 0953
VOC, EDB, PAH, Pb
leaded gasoline, 2-4-6 fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	7.5						
Turbidity	422						
Odor	very slight						
MicroTip (ppm)	—						
pH (units)	5.21						
Water Temperature (°C)	7.7						
Conductivity (m mhos)	3.96						
DO (mg/L)	5.67						
ORP (millivolts)	39						

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.
Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/11/03

WELL NUMBER: MW-6 WELL LOCATION: onsite

WEATHER CONDITIONS: mostly cloudy AMBIENT TEMP.: 30° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-20

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-20

WELL VOLUME CALCULATION

Well diameter (in.) 2"

Stickup (ft.) yes

Depth to bottom of well (ft.) 17.15'

Depth to water surface (ft.) 4.60'

Length of water column (ft.) 12.55'

Well volume (gal.) (see notes) 8gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1528 Time finished: 1546

Volume purged (gal.) 24gal

Comments on well recovery good

Additional comments (purge rate, etc.) ~1gpm

slight sheen, slight petroleum odor, well damaged

Sample parameters: Time sampled: 1549

2-4-6 fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	8	16	24				
Turbidity	999+	999+	999+				
Odor	slight	slight	slight				
MicroTip (ppm)	—	—	—				
pH (units)	4.51	4.34	4.35				
Water Temperature (°C)	4.3	4.4	4.6				
Conductivity (m mhos)	3.01	3.90	4.03				
DO (mg/L)	4.93	4.64	4.06				
ORP (millivolts)	162	150	123				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/12/03

WELL NUMBER: MW-11 WELL LOCATION: onsite

WEATHER CONDITIONS: Overcast AMBIENT TEMP.: 40° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-24

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-24

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) flush

Depth to bottom of well (ft.) 13.75'

Depth to water surface (ft.) 5.23'

Length of water column (ft.) 8.52'

Well volume (gal.) (see notes) 5.5 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1137 Time finished: 1157

Volume purged (gal.) 24 gal

Comments on well recovery good

Additional comments (purge rate, etc.) 4 gpm

sheen, strong petroleum odor

Sample parameters: Time sampled: 1200

leaded gasoline, 2-4-6-fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	6	12	24				
Turbidity	999+	259	941				
Odor	strong	strong	strong				
MicroTip (ppm)							
pH (units)	5.61	5.80	5.93				
Water Temperature (°C)	8.5	9.2	9.3				
Conductivity (m mhos)	3.23	3.34	2.97				
DO (mg/L)	2.45	1.81	1.53				
ORP (millivolts)	5	-36	-28				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47125 DATE: 3/11/03

WELL NUMBER: MW-20 WELL LOCATION: onsite

WEATHER CONDITIONS: mostly cloudy AMBIENT TEMP.: 30° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-26

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-26

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) yes

Depth to bottom of well (ft.) 21.25'

Depth to water surface (ft.) 11.20'

Length of water column (ft.) 10.05'

Well volume (gal.) (see notes) 6.6 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1453 Time finished: 1507

Volume purged (gal.) 21 gal

Comments on well recovery good

Additional comments (purge rate, etc.) 1.5 gpm

Sample parameters: 2-4-6 fuel oil Time sampled: 1510

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	7	14	21				
Turbidity	999+	999+	999+				
Odor	none	none	none				
MicroTip (ppm)	—	—	—				
pH (units)	4.86	5.30	5.43				
Water Temperature (°C)	9.5	11.4	11.8				
Conductivity (m mhos)	1.95	2.10	2.14				
DO (mg/L)	4.87	4.83	4.28				
ORP (millivolts)	151	84	64				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/12/03

WELL NUMBER: MW-21 WELL LOCATION: onsite

WEATHER CONDITIONS: overcast AMBIENT TEMP.: ~70° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-11

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-11

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) yes

Depth to bottom of well (ft.) 15.12'

Depth to water surface (ft.) 7.96'

Length of water column (ft.) 7.16'

Well volume (gal.) (see notes) 4.5 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1220 Time finished: 1234

Volume purged (gal.) 11 gal

Comments on well recovery poor

Additional comments (purge rate, etc.) ~1 gpm

Very slight sheen, slight petroleum odor

Sample parameters: Time sampled: 1236

leaded gasoline, 2-4-6 fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	5	10					
Turbidity	208	999+					
Odor	Slight	Slight					
MicroTip (ppm)	—	—					
pH (units)	5.46	5.43					
Water Temperature (°C)	8.4	8.5					
Conductivity (m mhos)	2.09	2.03					
DO (mg/L)	3.42	3.49					
ORP (millivolts)	131	132					

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/2/03

WELL NUMBER: MW-23D WELL LOCATION: onsite

WEATHER CONDITIONS: overcast AMBIENT TEMP.: ~40° TESTER'S INITIALS: P/DS

PURGING DEVICE

Type Device: 2" grundfos pump

How was the device decontaminated? Alconox & water

How was the line decontaminated? disposable tubing

Which well was previously purged? MW-25D

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-25D

WELL VOLUME CALCULATION

Well diameter (in.) 6"

Stickup (ft.) flush

Depth to bottom of well (ft.) 41.1'

Depth to water surface (ft.) 5.60'

Length of water column (ft.) 35.5'

Well volume (gal.) (see notes) 51.4 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1437 Time finished: 1522

Volume purged (gal.) ~~162 gal~~ JP 156 gal

Comments on well recovery good

Additional comments (purge rate, etc.) ~4 gpm

Slight petroleum odor

Sample parameters: Time sampled: 1525

2-4-6 fuel oil plus MTBE, xylene, 1,2-DCA and EDB

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	52 ~~54~~ JP	104 ~~108~~ JP	156 ~~162~~ JP				
Turbidity	496	539	761				
Odor	Slight	Slight	Slight				
MicroTip (ppm)	—	—	—				
pH (units)	6.32	6.18	6.22				
Water Temperature (°C)	12.2	12.3	12.2				
Conductivity (m mhos)	2.10	2.32	2.40				
DO (mg/L)	3.42	3.16	3.18				
ORP (millivolts)	-49	-43	-39				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/12/03

WELL NUMBER: MW-24 WELL LOCATION: onsite

WEATHER CONDITIONS: overcast AMBIENT TEMP.: ~30° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-4

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-4

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) flush

Depth to bottom of well (ft.) 9.93'

Depth to water surface (ft.) 4.64'

Length of water column (ft.) 5.29'

Well volume (gal.) (see notes) 3.5gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1024 Time finished: 1030

Volume purged (gal.) 3.5gal

Comments on well recovery poor

Additional comments (purge rate, etc.) ~0.5gpm very strong petroleum odor, slight sheen

Sample parameters: Time sampled: 1033

leaded gasoline, 2-4-6 fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	3.5						
Turbidity	999+						
Odor	strong						
MicroTip (ppm)							
pH (units)	5.76						
Water Temperature (°C)	4.7						
Conductivity (m mhos)	1.81						
DO (mg/L)	4.59						
ORP (millivolts)	12						

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis | JOB NO.: 47175 | DATE: 3/12/03

WELL NUMBER: MW-25D | WELL LOCATION: onsite

WEATHER CONDITIONS: overcast | AMBIENT TEMP.: ~40° | TESTER'S INITIALS: P/DS

PURGING DEVICE

Type Device: 2" grundfos pump

How was the device decontaminated? Alconox + water

How was the line decontaminated? disposable tubing

Which well was previously purged? MW-21

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-21

WELL VOLUME CALCULATION

Well diameter (in.) 6"

Stickup (ft.) flush

Depth to bottom of well (ft.) 41.95'

Depth to water surface (ft.) 5.00'

Length of water column (ft.) 36.95'

Well volume (gal.) (see notes) 54 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1320 Time finished: 1407

Volume purged (gal.) 162 gal

Comments on well recovery good

Additional comments (purge rate, etc.) ~24 gpm

Sample parameters: Time sampled: 1410

2-4-6 fuel oil plus MTBE, xylenes, 1,2-DCA, EDB

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	54	108	162				
Turbidity	872	953	690				
Odor	none	none	none				
MicroTip (ppm)	—	—	—				
pH (units)	6.67	6.80	6.88				
Water Temperature (°C)	11.8	12.4	12.3				
Conductivity (m mhos)	0.782	0.776	0.93				
DO (mg/L)	3.86	4.38	3.37				
ORP (millivolts)	94	90	100				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47125 DATE: 3/11/03

WELL NUMBER: MW-26 WELL LOCATION: onsite

WEATHER CONDITIONS: mostly cloudy AMBIENT TEMP.: ~30° TESTER'S INITIALS: JP/DS

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-27

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-27

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) flush

Depth to bottom of well (ft.) 16.75'

Depth to water surface (ft.) 6.48'

Length of water column (ft.) 10.27'

Well volume (gal.) (see notes) 7 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1421 Time finished: 1435

Volume purged (gal.) 21 gal

Comments on well recovery good

Additional comments (purge rate, etc.) 1.5 gpm

Sample parameters: Time sampled: 1437

2-4-6 fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	7	14	21				
Turbidity	999+	999+	999+				
Odor	none	none	none				
MicroTip (ppm)	—	—	—				
pH (units)	6.72	6.76	6.75				
Water Temperature (°C)	7.9	9.3	9.5				
Conductivity (m mhos)	1.15	0.871	0.855				
DO (mg/L)	7.13	6.25	6.03				
ORP (millivolts)	120	117	130				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/11/03

WELL NUMBER: MW-27 WELL LOCATION: onsite

WEATHER CONDITIONS: partly cloudy AMBIENT TEMP.: 35° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-33

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-33

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) flush

Depth to bottom of well (ft.) 16.79'

Depth to water surface (ft.) 7.43'

Length of water column (ft.) 9.24'

Well volume (gal.) (see notes) 6.1 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1325 Time finished: 1343

Volume purged (gal.) 18 gal

Comments on well recovery good

Additional comments (purge rate, etc.) 1 gpm

Sample parameters: 2-4-6 fuel oil Time sampled: 1345

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	6	12	18				
Turbidity	999+	999+	999+				
Odor	none	none	none				
MicroTip (ppm)	—	—	—				
pH (units)	6.55	6.71	6.81				
Water Temperature (°C)	10.3	10.8	11.0				
Conductivity (m mhos)	0.831	0.820	0.808				
DO (mg/L)	5.68	5.96	5.77				
ORP (millivolts)	145	124	122				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/12/03

WELL NUMBER: MW-30 WELL LOCATION: onsite

WEATHER CONDITIONS: Overcast AMBIENT TEMP.: ~40° TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 3" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? —

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? —

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) yes

Depth to bottom of well (ft.) 20.75'

Depth to water surface (ft.) 9.15'

Length of water column (ft.) 11.60'

Well volume (gal.) (see notes) 7.5 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 0820 Time finished: 0838

Volume purged (gal.) ~23 gal

Comments on well recovery good

Additional comments (purge rate, etc.) ~1 gpm

heavy sheen, moderate petroleum odor

Sample parameters: Time sampled: 0840

2-4-6 fuel oil

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	7.5	15	23				
Turbidity	403	999+	999+				
Odor	moderate	moderate	moderate				
MicroTip (ppm)	—	—	—				
pH (units)	2.70	1.80	1.26				
Water Temperature (°C)	6.5	6.5 8.7	10.5				
Conductivity (m mhos)	4.55	20.1	45.8				
DO (mg/L)	4.79	3.29	2.77				
ORP (millivolts)	455	440	437				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis JOB NO.: 47175 DATE: 3/11/03

WELL NUMBER: MW-32 WELL LOCATION: onsite

WEATHER CONDITIONS: partly cloudy AMBIENT TEMP.: 35° TESTER'S INITIALS: JP/DS

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? —

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? —

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) flush

Depth to bottom of well (ft.) 21.20'

Depth to water surface (ft.) 11.86'

Length of water column (ft.) 9.34'

Well volume (gal.) (see notes) 6.2 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1224 Time finished: 1240

Volume purged (gal.) 19 gal

Comments on well recovery good

Additional comments (purge rate, etc.) ~1 gpm

Sample parameters: 2-4-6 fuel oil Time sampled: 1242

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	6.2	12.4	18.6				
Turbidity	843	589	426				
Odor	none	none	none				
MicroTip (ppm)	—	—	—				
pH (units)	5.77	5.69	5.69				
Water Temperature (°C)	12.6	13.0	12.8				
Conductivity (m mhos)	1.70	1.79	1.86				
DO (mg/L)	5.24	4.34	4.68				
ORP (millivolts)	71	78	77				

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

SUMMARY SHEET FOR WELL SAMPLING

PROJECT NAME: Elementis | JOB NO.: 47175 | DATE: 3/11/03

WELL NUMBER: MW-33 | WELL LOCATION: onsite

WEATHER CONDITIONS: partly cloudy | AMBIENT TEMP.: ~35° | TESTER'S INITIALS: DS/JP

PURGING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously purged? MW-32

SAMPLING DEVICE

Type Device: 2" polyethylene bailer

How was the device decontaminated? disposable

How was the line decontaminated? disposable

Which well was previously sampled? MW-32

WELL VOLUME CALCULATION

Well diameter (in.) 4"

Stickup (ft.) flush

Depth to bottom of well (ft.) 12.23'

Depth to water surface (ft.) 5.89'

Length of water column (ft.) 6.34'

Well volume (gal.) (see notes) 4.2 gal

Amount of sediment at bottom of well (ft.) —

Initial MicroTip reading (ppm) —

PURGING AND SAMPLING INFORMATION

Time started: 1300 Time finished: 1308

Volume purged (gal.) 8 gal

Comments on well recovery poor

Additional comments (purge rate, etc.) 1 gpm

Sample parameters: 2-4-6 fuel oil Time sampled: 1310

IN-SITU TESTING

	1	2	3	4	5	6	7
Well Volume Purged (gal.)	4	8					
Turbidity	999+	999+					
Odor	none	none					
MicroTip (ppm)	—	—					
pH (units)	4.02	3.97					
Water Temperature (°C)	6.0	6.5					
Conductivity (m mhos)	3.36	3.75					
DO (mg/L)	7.95	7.22					
ORP (millivolts)	327	270					

NOTES: 1 ft. length of 2" well = 0.022 ft^3 = 0.16 gal.
1 ft. length of 4" well = 0.087 ft^3 = 0.65 gal.

Turbidity choices: clear, turbid, opaque
Convert conductivity from μ mhos if using YSI meter

Analysis Report

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053
215-244-7139

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 844702. Samples arrived at the laboratory on Thursday, March 13, 2003. The PO# for this group is 47175.

Client Description	Lancaster Labs Number
MW-30 Grab Water Sample	4011541
MW-28 Grab Water Sample	4011542
MW-4 Grab Water Sample	4011543
MW-24 Grab Water Sample	4011544
MW-11 Grab Water Sample	4011545
MW-21 Grab Water Sample	4011546
FB-2 Field Blank Grab Water Sample	4011547
MW-25D Grab Water Sample	4011548
MW-23D Grab Water Sample	4011549
Trip Blank Water Sample	4011550
MW-32 Grab Water Sample	4011551
MW-33 Grab Water Sample	4011552
MW-27 Grab Water Sample	4011553
MW-26 Grab Water Sample	4011554
MW-20 Grab Water Sample	4011555
MW-6 Grab Water Sample	4011556
FB-1 Field Blank Grab Water Sample	4011557

1 COPY TO Earth Tech Inc. Attn: Mr. Dave Russell

Lancaster Laboratories

Questions? Contact your Client Services Representative
Danette S Blystone at (717) 656-2300.

Respectfully Submitted,

Charles J. Neslund
Group Leader

MEMBER ACIL

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011541

Collected:03/12/2003 08:40 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:32
Discard: 04/05/2003
MW-30 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT30

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	0.83	0.80	ug/l	1
00785	Phenanthrene	85-01-8	0.86	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Surrogate recoveries were outside of QC limits for the HPLC compounds. The analysis was repeated outside of the required hold time and surrogate recoveries met requirements. The data reported is from the initial extraction of the sample.

02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	29.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 14:27	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/21/2003 18:20	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 18:20	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011542

Collected:03/12/2003 09:20 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:32
Discard: 04/05/2003
MW-28 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT28

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01055	Lead by SW-846 7421	7439-92-1	0.0041	0.0030	mg/l	1
07879	EDB by SW-846 8011					
01087	Ethylene dibromide	106-93-4	< 0.027	0.027	ug/l	1
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	3.5	0.80	ug/l	1
00785	Phenanthrene	85-01-8	3.1	0.40	ug/l	1
00811	Pyrene	129-00-0	< 1.5	1.5	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for pyrene. The reporting limit for this compound was raised accordingly.

02302	UST-Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	24.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	8.	5.	ug/l	1
05439	Naphthalene	91-20-3	110.	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	51.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Commonwealth of Pennsylvania Lab Certification No. 36-037
This sample was filtered in the lab for dissolved metals.

Laboratory Chronicle

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011542

Collected:03/12/2003 09:20 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:32
Discard: 04/05/2003
MW-28 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT28

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01055	Lead by SW-846 7421	SW-846 7421	1	03/20/2003 13:42	Jessica L Boyd	1
07879	EDB by SW-846 8011	SW-846 8011	1	03/21/2003 20:36	Richard A Shober	1
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 15:06	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	03/20/2003 19:59	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/20/2003 19:59	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1
05704	WW/TL SW 846 GFAA Digest tot	SW-846 3020A	1	03/19/2003 08:56	Denise K Conners	1
07786	EDB Extraction	SW-846 8011	1	03/15/2003 08:00	Mai T Nguyen	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011543

Collected:03/12/2003 09:53 by DS

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:32
Discard: 04/05/2003
MW-4 Grab Water Sample
Elementis-PA/47175

Account Number: 06424

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMTS4

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01055	Lead by SW-846 7421	SW-846 7421	1	03/20/2003 13:46	Jessica L Boyd	1
07879	EDB by SW-846 8011	SW-846 8011	1	03/21/2003 21:32	Richard A Shober	1
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 15:45	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	03/20/2003 20:25	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/20/2003 20:25	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1
05704	WW/TL SW 846 GFAA Digest tot	SW-846 3020A	1	03/19/2003 08:56	Denise K Conners	1
07786	EDB Extraction	SW-846 8011	1	03/15/2003 08:00	Mai T Nguyen	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011546

Collected:03/12/2003 12:36 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-21 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT21

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01055	Lead by SW-846 7421	7439-92-1	< 0.0030	0.0030	mg/l	1
07879	EDB by SW-846 8011					
01087	Ethylene dibromide	106-93-4	< 0.028	0.028	ug/l	1
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.90	0.90	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.90	0.90	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

02302	UST-Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	14.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	170.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	33.	5.	ug/l	1
05439	Naphthalene	91-20-3	58.	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	540.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Commonwealth of Pennsylvania Lab Certification No. 36-037
This sample was filtered in the lab for dissolved metals.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor

MEMBER ACIL

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011547

Collected:03/12/2003 13:40 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
FB-2 Field Blank Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMFB2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
01055	Lead by SW-846 7421	7439-92-1	0.0031	0.0030	mg/l	1
07879	EDB by SW-846 8011					
01087	Ethylene dibromide	106-93-4	< 0.028	0.028	ug/l	1
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

02302	UST-Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Commonwealth of Pennsylvania Lab Certification No. 36-037
This sample was filtered in the lab for dissolved metals.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01055	Lead by SW-846 7421	SW-846 7421	1	03/20/2003 14:06	Jessica L Boyd	1
07879	EDB by SW-846 8011	SW-846 8011	1	03/22/2003 00:21	Richard A Shober	1
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 18:26	Mark A Clark	1

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011547

Collected:03/12/2003 13:40 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
FB-2 Field Blank Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMFB2

02302	UST-Waters by 8260B	SW-846 8260B	1	03/20/2003 22:07	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/20/2003 22:07	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1
05704	WW/TL SW 846 GFAA Digest tot	SW-846 3020A	1	03/19/2003 08:56	Denise K Conners	1
07786	EDB Extraction	SW-846 8011	1	03/15/2003 08:00	Mai T Nguyen	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011548

Collected:03/12/2003 14:10 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-25D Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EM25D

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
07879	EDB by SW-846 8011					
01087	Ethylene dibromide	106-93-4	< 0.028	0.028	ug/l	1
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
02302	UST-Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07879	EDB by SW-846 8011	SW-846 8011	1	03/22/2003 00:49	Richard A Shober	1
00774	PAH's in Water by HPLC	SW-846 8310	1	03/26/2003 13:58	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	03/19/2003 09:20	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2003 09:20	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/19/2003 10:15	Felix C Arroyo	1
07786	EDB Extraction	SW-846 8011	1	03/15/2003 08:00	Mai T Nguyen	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011548

Collected:03/12/2003 14:10 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-25D Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EM25D

MEMBER ACIL

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011549

Collected:03/12/2003 15:25 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-23D Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EM23D

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
07879	EDB by SW-846 8011					
01087	Ethylene dibromide	106-93-4	< 0.028	0.028	ug/l	1
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	1.2	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
02302	UST-Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	180.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	14.	5.	ug/l	1
05439	Naphthalene	91-20-3	30.	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	61.	5.	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07879	EDB by SW-846 8011	SW-846 8011	1	03/22/2003 01:17	Richard A Shober	1
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 19:43	Mark A Clark	1
02302	UST-Waters by 8260B	SW-846 8260B	1	03/19/2003 09:46	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/19/2003 09:46	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1
07786	EDB Extraction	SW-846 8011	1	03/15/2003 08:00	Mai T Nguyen	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011549

Collected:03/12/2003 15:25 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-23D Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EM23D

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011550

Collected: n.a.

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
Trip Blank Water Sample
Elementis-PA/47175

Account Number: 06424

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMTTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
07879	EDB by SW-846 8011					
01087	Ethylene dibromide	106-93-4	< 0.027	0.027	ug/l	1
02302	UST-Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07879	EDB by SW-846 8011	SW-846 8011	1	03/22/2003 01:45	Richard A Shober	1
02302	UST-Waters by 8260B	SW-846 8260B	1	03/21/2003 17:06	Marc S Neal	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 17:06	Marc S Neal	n.a.
07786	EDB Extraction	SW-846 8011	1	03/15/2003 08:00	Mai T Nguyen	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011551

Collected:03/11/2003 12:42 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-32 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT32

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 20:21	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/21/2003 18:47	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 18:47	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011552

Collected:03/11/2003 13:10 by DS

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-33 Grab Water Sample
Elementis-PA/47175

Account Number: 06424

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT33

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 21:00	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/21/2003 22:41	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 22:41	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011553

Collected:03/11/2003 13:45 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-27 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT27

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 21:39	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/21/2003 23:06	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 23:06	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011554

Collected:03/11/2003 14:37 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-26 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT26

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 22:17	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/21/2003 23:32	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 23:32	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011555

Collected:03/11/2003 15:10 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:33
Discard: 04/05/2003
MW-20 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT20

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 22:56	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/21/2003 23:58	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/21/2003 23:58	Clifford I Stains	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011556

Collected:03/11/2003 15:49 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:34
Discard: 04/05/2003
MW-6 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT-6

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	4.3	0.80	ug/l	1
00785	Phenanthrene	85-01-8	2.3	0.40	ug/l	1
00811	Pyrene	129-00-0	< 9.5	9.5	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for pyrene. The reporting limit for this compound was raised accordingly.

02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/25/2003 23:34	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/22/2003 00:24	Clifford I Stains	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/22/2003 00:24	Clifford I Stains	n.a.

MEMBER ACIL

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011556

Collected:03/11/2003 15:49 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:34
Discard: 04/05/2003
MW-6 Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMT-6

03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4011557

Collected:03/11/2003 16:30 by DS

Account Number: 06424

Submitted: 03/13/2003 16:15
Reported: 03/28/2003 at 13:34
Discard: 04/05/2003
FB-1 Field Blank Grab Water Sample
Elementis-PA/47175

Earth Tech Inc.
4 Neshaminy Interplex Ste. 300

Trevose PA 19053

EMFB1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00784	Fluorene	86-73-7	< 0.80	0.80	ug/l	1
00785	Phenanthrene	85-01-8	< 0.40	0.40	ug/l	1
00811	Pyrene	129-00-0	< 0.80	0.80	ug/l	1
07409	Chrysene	218-01-9	< 0.40	0.40	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
02300	UST Volatiles by SW-846 8260B					
05401	Benzene	71-43-2	< 5.	5.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	ug/l	1
05439	Naphthalene	91-20-3	< 5.	5.	ug/l	1
	A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	03/26/2003 00:13	Mark A Clark	1
02300	UST Volatiles by SW-846 8260B	SW-846 8260B	1	03/14/2003 23:25	Marc S Neal	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/14/2003 23:25	Marc S Neal	n.a.
03337	PAH Water Extraction	SW-846 3510C	1	03/17/2003 12:00	Felix C Arroyo	1

Lancaster Laboratories

Quality Control Summary

Client Name: Earth Tech Inc. Group Number: 844702
Reported: 03/28/03 at 01:34 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 030730023A	Sample number(s): 4011542-4011550							
Ethylene dibromide	< 0.03	.03	ug/l	117	117	60-140	0	20
Batch number: 03074WAF026	Sample number(s): 4011541-4011547,4011549,4011551-4011557							
Fluorene	< 0.8	.8	ug/l	78	91	67-110	15	30
Phenanthrene	< 0.4	.4	ug/l	83	95	70-113	14	30
Pyrene	< 0.8	.8	ug/l	85	103	73-114	19	30
Chrysene	< 0.4	.4	ug/l	85	104	74-116	20	30
Batch number: 030785704001	Sample number(s): 4011542-4011547							
Lead by SW-846 7421	< 0.003	.003	mg/l	110		80-120		
Batch number: 03078WAA026	Sample number(s): 4011548							
Fluorene	< 0.8	.8	ug/l	92	94	67-110	3	30
Phenanthrene	< 0.4	.4	ug/l	95	97	70-113	2	30
Pyrene	< 0.8	.8	ug/l	105	105	73-114	0	30
Chrysene	< 0.4	.4	ug/l	108	107	74-116	1	30
Batch number: M030731AA	Sample number(s): 4011557							
Benzene	< 5.	5.	ug/l	95	96	85-117	1	30
Toluene	< 5.	5.	ug/l	98	97	85-115	1	30
Ethylbenzene	< 5.	5.	ug/l	96	96	82-119	0	30
Isopropylbenzene	< 5.	5.	ug/l	94	94	80-120	0	30
Naphthalene	< 5.	5.	ug/l	96	99	64-121	4	30
Batch number: M030772AA	Sample number(s): 4011548-4011549							
Methyl Tertiary Butyl Ether	< 5.	5.	ug/l	102	103	77-127	1	30
Benzene	< 5.	5.	ug/l	101	99	85-117	2	30
1,2-Dichloroethane	< 5.	5.	ug/l	107	106	77-132	2	30
Toluene	< 5.	5.	ug/l	99	95	85-115	4	30
Ethylbenzene	< 5.	5.	ug/l	97	92	82-119	5	30
Isopropylbenzene	< 5.	5.	ug/l	96	92	80-120	5	30
Naphthalene	< 5.	5.	ug/l	91	94	64-121	3	30
Xylene (Total)	< 5.	5.	ug/l	100	96	84-120	4	30
Batch number: M030801AA	Sample number(s): 4011550							
Methyl Tertiary Butyl Ether	< 5.	5.	ug/l	98	99	77-127	1	30
Benzene	< 5.	5.	ug/l	98	96	85-117	2	30
1,2-Dichloroethane	< 5.	5.	ug/l	104	102	77-132	2	30
Toluene	< 5.	5.	ug/l	95	98	85-115	2	30
Ethylbenzene	< 5.	5.	ug/l	94	93	82-119	1	30
Isopropylbenzene	< 5.	5.	ug/l	94	92	80-120	2	30
Naphthalene	< 5.	5.	ug/l	92	96	64-121	4	30
Xylene (Total)	< 5.	5.	ug/l	98	97	84-120	1	30
Batch number: T030791AA	Sample number(s): 4011542-4011545,4011547							
Methyl Tertiary Butyl Ether	< 5.	5.	ug/l	78	81	77-127	4	30
Benzene	< 5.	5.	ug/l	95	101	85-117	7	30
1,2-Dichloroethane	< 5.	5.	ug/l	107	109	77-132	2	30
Toluene	< 5.	5.	ug/l	97	106	85-115	10	30
Ethylbenzene	< 5.	5.	ug/l	97	108	82-119	11	30
Isopropylbenzene	< 5.	5.	ug/l	88	101	80-120	13	30
Naphthalene	< 5.	5.	ug/l	67	72	64-121	7	30
Xylene (Total)	< 5.	5.	ug/l	91	101	84-120	11	30

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

Lancaster Laboratories

Quality Control Summary

Client Name: Earth Tech Inc. Group Number: 844702
Reported: 03/28/03 at 01:34 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: T030791AB	Sample number(s): 4011545-4011546							
Methyl Tertiary Butyl Ether	< 5.	5.	ug/l	78	81	77-127	4	30
Benzene	< 5.	5.	ug/l	95	101	85-117	7	30
1,2-Dichloroethane	< 5.	5.	ug/l	107	109	77-132	2	30
Toluene	< 5.	5.	ug/l	97	106	85-115	10	30
Ethylbenzene	< 5.	5.	ug/l	97	108	82-119	11	30
Isopropylbenzene	< 5.	5.	ug/l	88	101	80-120	13	30
Naphthalene	< 5.	5.	ug/l	67	72	64-121	7	30
Xylene (Total)	< 5.	5.	ug/l	91	101	84-120	11	30
Batch number: T030801AA	Sample number(s): 4011541,4011551							
Benzene	< 5.	5.	ug/l	101	105	85-117	4	30
Toluene	< 5.	5.	ug/l	109	115	85-115	5	30
Ethylbenzene	< 5.	5.	ug/l	110	114	82-119	3	30
Isopropylbenzene	< 5.	5.	ug/l	104	106	80-120	2	30
Naphthalene	< 5.	5.	ug/l	74	76	64-121	3	30
Batch number: T030801AB	Sample number(s): 4011552-4011556							
Benzene	< 5.	5.	ug/l	101	105	85-117	4	30
Toluene	< 5.	5.	ug/l	109	115	85-115	5	30
Ethylbenzene	< 5.	5.	ug/l	110	114	82-119	3	30
Isopropylbenzene	< 5.	5.	ug/l	104	106	80-120	2	30
Naphthalene	< 5.	5.	ug/l	74	76	64-121	3	30

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 030730023A	Sample number(s): 4011542-4011550								
Ethylene dibromide	132		65-135			< 0.02748	< 0.027603	0 (1)	30
Batch number: 030785704001	Sample number(s): 4011542-4011547								
Lead by SW-846 7421	118	109	80-120	8	20	< 0.0030	< 0.0030	0 (1)	20
Batch number: M030731AA	Sample number(s): 4011557								
Benzene	102		83-128						
Toluene	102		83-127						
Ethylbenzene	103		82-134						
Isopropylbenzene	98		81-130						
Naphthalene	98		59-124						
Batch number: M030772AA	Sample number(s): 4011548-4011549								
Methyl Tertiary Butyl Ether	98		69-134						
Benzene	99		83-128						
1,2-Dichloroethane	106		73-136						
Toluene	96		83-127						
Ethylbenzene	95		82-134						
Isopropylbenzene	94		81-130						
Naphthalene	86		59-124						
Xylene (Total)	98		82-130						

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

Lancaster Laboratories

Quality Control Summary

Client Name: Earth Tech Inc. Group Number: 844702
Reported: 03/28/03 at 01:34 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: M030801AA	Sample number(s): 4011550								
Methyl Tertiary Butyl Ether	107		69-134						
Benzene	105		83-128						
1,2-Dichloroethane	104		73-136						
Toluene	106		83-127						
Ethylbenzene	103		82-134						
Isopropylbenzene	109		81-130						
Naphthalene	109		59-124						
Xylene (Total)	106		82-130						
Batch number: T030791AA	Sample number(s): 4011542-4011545,4011547								
Methyl Tertiary Butyl Ether	81		69-134						
Benzene	107		83-128						
1,2-Dichloroethane	112		73-136						
Toluene	108		83-127						
Ethylbenzene	110		82-134						
Isopropylbenzene	105		81-130						
Naphthalene	68		59-124						
Xylene (Total)	104		82-130						
Batch number: T030791AB	Sample number(s): 4011545-4011546								
Methyl Tertiary Butyl Ether	81		69-134						
Benzene	107		83-128						
1,2-Dichloroethane	112		73-136						
Toluene	108		83-127						
Ethylbenzene	110		82-134						
Isopropylbenzene	105		81-130						
Naphthalene	68		59-124						
Xylene (Total)	104		82-130						
Batch number: T030801AA	Sample number(s): 4011541,4011551								
Benzene	105		83-128						
Toluene	108		83-127						
Ethylbenzene	114		82-134						
Isopropylbenzene	107		81-130						
Naphthalene	79		59-124						
Batch number: T030801AB	Sample number(s): 4011552-4011556								
Benzene	105		83-128						
Toluene	108		83-127						
Ethylbenzene	114		82-134						
Isopropylbenzene	107		81-130						
Naphthalene	79		59-124						

Surrogate Quality Control

Analysis Name: EDB in Wastewater
Batch number: 030730023A
1,1,2,2-Tetrachloroethane

---

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

Lancaster Laboratories

Quality Control Summary

Client Name: Earth Tech Inc. Group Number: 844702
Reported: 03/28/03 at 01:34 PM

Surrogate Quality Control

4011542	117
4011543	111
4011544	110
4011545	120
4011546	106
4011547	103
4011548	107
4011549	114
4011550	107
Blank	109
LCS	106
LCSD	109
MS	132*
Limits:	30-130

Analysis Name: PAH's in Water by HPLC
Batch number: 03074WAF026

	Nitrobenzene	Triphenylene
4011541	40*	46*
4011542	87	71
4011543	101	115
4011544	96	84
4011545	195*	104
4011546	96	91
4011547	103	97
4011549	117	96
4011551	88	83
4011552	105	72
4011553	117	100
4011554	98	91
4011555	119	104
4011556	87	96
4011557	99	94
Blank	128	110
LCS	97	93
LCSD	127	114
Limits:	74-151	66-131

Analysis Name: PAH's in Water by HPLC
Batch number: 03078WAA026

	Nitrobenzene	Triphenylene
4011548	124	99
Blank	131	113
LCS	134	117
LCSD	138	117
Limits:	74-151	66-131

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: M030731AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011557	100	96	94	88
Blank	98	93	95	89
LCS	99	92	96	92

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

Lancaster Laboratories

Quality Control Summary

Client Name: Earth Tech Inc.
Reported: 03/28/03 at 01:34 PM

Group Number: 844702

Surrogate Quality Control

LCSD	99	93	94	93
MS	97	93	95	92
Limits:	81-120	82-112	85-112	83-113

Analysis Name: UST-Waters by 8260B
Batch number: M030772AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011548	103	95	92	86
4011549	103	96	92	93
Blank	103	95	94	87
LCS	102	96	96	93
LCSD	100	96	94	92
MS	100	95	95	92
Limits:	81-120	82-112	85-112	83-113

Analysis Name: UST-Waters by 8260B
Batch number: M030801AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011550	101	97	93	86
Blank	98	94	93	85
LCS	99	99	96	92
LCSD	99	96	97	91
MS	97	94	96	92
Limits:	81-120	82-112	85-112	83-113

Analysis Name: UST-Waters by 8260B
Batch number: T030791AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011542	103	97	96	106
4011543	106	99	96	106
4011544	98	95	96	103
4011547	101	99	97	95
Blank	106	100	95	94
LCS	100	97	102	103
LCSD	99	99	103	104
MS	100	96	101	105
Limits:	81-120	82-112	85-112	83-113

Analysis Name: UST-Waters by 8260B
Batch number: T030791AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011545	98	93	94	105
4011546	92	91	101	99
Blank	102	98	99	92
LCS	100	97	102	103
LCSD	99	99	103	104
MS	100	96	101	105
Limits:	81-120	82-112	85-112	83-113

Analysis Name: UST-Unleaded Waters by 8260B

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

Lancaster Laboratories

Quality Control Summary

Client Name: Earth Tech Inc. Group Number: 844702
Reported: 03/28/03 at 01:34 PM

Surrogate Quality Control

Batch number: T030801AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011541	107	101	97	99
4011551	104	98	98	93
Blank	102	98	99	92
LCS	98	93	104	103
LCSD	98	97	104	105
MS	98	95	101	102
Limits:	81-120	82-112	85-112	83-113

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: T030801AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4011552	105	98	98	94
4011553	107	100	99	94
4011554	107	101	98	92
4011555	107	102	97	92
4011556	106	98	96	103
Blank	105	101	96	93
LCS	98	93	104	103
LCSD	98	97	104	105
MS	98	95	101	102
Limits:	81-120	82-112	85-112	83-113

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

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. # 6424 Group# 844702 Sample # 4011541-57

COC # 0015057

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Earth Tech, Inc. Acct. #:
Project Name/#: Elementis PWSID #:
Project Manager: Dave Russell P.O.#: 47175
Sampler: Julie Pasternak / Dave Sherman Quote #:
Name of state where samples were collected: PA

For Lab Use Only
FSC:
SCR #: 1175858

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4): Soil	Water (☐ Potable ☐ NPDES Check if Applicable)	Other	Total # of Containers	(5) 2,4,6 fuel oil	Remarks	(6) Temperature of samples upon receipt (if requested)
MW-32	3/11/03	1242	X			X		5	X		
MW-33	3/11/03	1310	X			X		5	X		
MW-27	3/11/03	1345	X			X		5	X		
MW-26	3/11/03	1437	X			X		5	X		
MW-20	3/11/03	1510	X			X		5	X		
MW-6	3/11/03	1549	X			X		5	X		
FB-1	3/11/03	1630	X			X	4	~~5~~ 3	X		

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: 215-244-7100 Fax #: 215-244-7178
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	3-10-03	1500	Julie A Pasternak	3-11-03	0900
[signature]	3/13/03	1242	[signature]	3/13/03	1242
[signature]	3/13/03	1615	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: [signature]	3/13/03	1615

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. # 6424 Group# 844702 Sample # 401154L-57

COC # 0015058

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Karin Tech, Inc. Acct. #:
Project Name/#: Elementis PWSID #:
Project Manager: Dave Russell P.O.#: 47175
Sampler: Dave Sherman/Julie Pasternak Quote #:
Name of state where samples were collected: PA

For Lab Use Only
FSC:
SCR #: 1175838

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES Check if Applicable)	Other	Total # of Containers	2-4-6 fuel oil	Leaded gasoline	2-4-6 fuel oil plus MTBE, xylene, 1,2-DCA and EDB								Remarks
MW-30	3/12/03	0840	X			X		5	X										~~Leaded gasoline needs to~~ be lab filtered + preserved in ALL wells sampled for Pb.
MW-28	3/12/03	0920	X			X		8		X									
MW-4	3/12/03	0953	X			X		8		X									
MW-24	3/12/03	1033	X			X		8		X									
MW-11	3/12/03	1200	X			X		8		X									
MW-21	3/12/03	1236	X			X		8		X									
FB-2	3/12/03	1340	X			X		8		X									
MW-25D	3/12/03	1410	X			X		7			X								
MW-23D	3/12/03	1525	X			X		7			X								
TB	—	—						4		X	X								

(7)
Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: 215-244-7100 Fax #: 215-244-7178
E-mail address:

(8)
Data Package Options (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	3-10-03	1500	[signature] Pasternak	3-11-03	0900
[signature]	3/13/03	1240	[signature]	3/13/03	1242
[signature]	3/13/03	1615			

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102 Rev. 10/27/02

ATTACHMENT 3

HISTORICAL RESULTS TABLES

MW-4
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-4 05/30/2001 Water	MW-4 3695059 09/25/2001 Water	MW-4 3749876 12/19/2001 Water	MW-4 3788608 03/12/2002 Water	MW-4 06/27/2002 Water	MW-4 3908695 09/26/2002 Water	MW-4 12/19/2002 Water	MW-4 4011543 03/12/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	NS	<5.0	NS	<5.0
Benzene	ug/L	5	4.28 J	3.3	3.2	3.3	NS	<5.0	NS	<5.0
Toluene	ug/L	1,000	8.18	6.9	2.8	<1.0	NS	<5.0	NS	<5.0
Ethylbenzene	ug/L	700	60.1	51	42	36	NS	23	NS	38
Total Xylenes	ug/L	10,000	60.5	54	NT	NT	NS	<5.0	NS	13
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	NS	NT	NS	<5.0
Naphthalene	ug/L	100	85.2	91	59	<10	NS	13	NS	27
Isopropylbenzene (cumene)	ug/L	52	20.5	19	17	19	NS	11	NS	13
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	NT	NT	NS	NT	NS	<0.027
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	5.18	<10	<10	<12	NS	5.8	NS	6.2
Phenanthrene	ug/L	1,200	5.91	10	10	<12	NS	7.2	NS	8.0
Pyrene	ug/L	13	<2.0	<10	<10	<12	NS	<1.0	NS	<11
Chrysene	ug/L	1.8	<2.0	<10	<10	<12	NS	<0.50	NS	<0.40
UST Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	<0.0030	NT	NS	<0.0030	NS	<0.0030
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS	denotes "Not Sampled"
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-6
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-6 05/30/2001 Water	MW-6 3695058 09/25/2001 Water	MW-6 3749878 12/19/2001 Water	MW-6 3788606 03/12/2002 Water	MW-6 06/27/2002 Water	MW-6 3908696 09/26/2002 Water	MW-6 12/19/2002 Water	MW-6 4011556 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	NS	NT	NS	NT
Benzene	ug/L	5	1.63 J	1.4	2.4	8.4	NS	<5.0	NS	5
Toluene	ug/L	1,000	<5.0	<1.0	<1.0	<1.0	NS	<5.0	NS	<5.0
Ethylbenzene	ug/L	700	8.86	3.2	4.7	8.1	NS	<5.0	NS	<5.0
Total Xylenes	ug/L	10,000	<2.0	<3.0	NT	NT	NS	NT	NS	NT
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	NS	NT	NS	NT
Naphthalene	ug/L	100	1.56 J	<5.0	<2.0	<5.0	NS	<5.0	NS	<5.0
Isopropylbenzene (cumene)	ug/L	52	10	7.6	9.9	12	NS	8	NS	5
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	NT	NT	NS	NT	NS	NT
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	2.03 J	<10	<10	<10	NS	8.4	NS	4.3
Phenanthrene	ug/L	1,200	<2.0	<10	<10	<10	NS	2.5	NS	2.3
Pyrene	ug/L	13	<2.0	<10	<10	<10	NS	<0.90	NS	<9.5
Chrysene	ug/L	1.8	<2.0	<10	<10	<10	NS	<0.40	NS	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	NT	NT	NS	NT	NS	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS	denotes "Not Sampled"
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-11
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-11 5/31/2001 Water	MW-11 9/25/2001 Water	MW-11 3749883 12/19/2001 Water	MW-11 3788617 3/13/2002 Water	MW-11 3844669 6/27/2002 Water	MW-11 9/26/2002 Water	MW-11 3967475 12/19/2002 Water	MW-11 4011545 3/12/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	NS-P	NS-P	<50	<50	<10.0	NS	<5.0	<5.0
Benzene	ug/L	5	NS-P	NS-P	<50	<50	<10.0	NS	**6**	<5.0
Toluene	ug/L	1,000	NS-P	NS-P	<50	57	39	NS	<5.0	<5.0
Ethylbenzene	ug/L	700	NS-P	NS-P	**1,800**	**2,400**	**1,200**	NS	520	**770**
Total Xylenes	ug/L	10,000	NS-P	NS-P	2,200	3,200	2,500	NS	290	310
Methyl tert-Butyl Ether	ug/L	20	NS-P	NS-P	NT	NT	<10.0	NS	NT	<5.0
Naphthalene	ug/L	100	NS-P	NS-P	**660**	**830**	**1200**	NS	180	**220**
Isopropylbenzene (cumene)	ug/L	52	NS-P	NS-P	**95**	**120**	**68**	NS	37	44
Ethylene dibromide	ug/L	0.05	NS-P	NS-P	<0.028	<0.028	<0.027	NS	<0.028	<0.028
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	NS-P	NS-P	27	<10	<10.0	NS	3.8	6.1
Phenanthrene	ug/L	1,200	NS-P	NS-P	52	<10	<10.0	NS	1.5	4.3
Pyrene	ug/L	13	NS-P	NS-P	10	<10	<10.0	NS	<0.80	<7.5
Chrysene	ug/L	1.8	NS-P	NS-P	<10	<10	<10.0	NS	<0.40	<2.0
Metals										
Lead	mg/L	0.005	NS-P	NS-P	<0.0030	<0.0030	<0.0030	NS	<0.0030	<0.0030
Product Thickness	ft	NA	0.75	0.03	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-12
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-12 05/31/2001 Water	MW-12 09/25/2001 Water	MW-12 12/19/2001 Water	MW-12 03/12/2002 Water	MW-12 06/27/2002 Water	MW-12 09/26/2002 Water	MW-12 12/19/2002 Water	MW-12 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Benzene	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Toluene	ug/L	1,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Ethylbenzene	ug/L	700	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Total Xylenes	ug/L	10,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Methyl tert-Butyl Ether	ug/L	20	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Naphthalene	ug/L	100	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Isopropylbenzene (cumene)	ug/L	52	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Ethylene dibromide	ug/L	0.05	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Phenanthrene	ug/L	1,200	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Pyrene	ug/L	13	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Chrysene	ug/L	1.8	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Metals										
Lead	mg/L	0.005	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Product Thickness	ft	NA	0.78	0.08	0.85	0.20	0.87	0.86	0.95	1.14

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-20
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-20 05/31/2001 Water	MW-20 3695066 09/26/2001 Water	MW-20 3749880 12/19/2001 Water	MW-20 3788614 03/13/2002 Water	MW-20 06/27/2002 Water	MW-20 09/26/2002 Water	MW-20 12/19/2002 Water	MW-20 4011555 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	NS	NS	NS	NT
Benzene	ug/L	5	<1.0	<1.0	<1.0	<1.0	NS	NS	NS	<5.0
Toluene	ug/L	1,000	<5.0	<1.0	<1.0	<1.0	NS	NS	NS	<5.0
Ethylbenzene	ug/L	700	<5.0	<1.0	<1.0	<1.0	NS	NS	NS	<5.0
Total Xylenes	ug/L	10,000	<3.0	<3.0	NT	NT	NS	NS	NS	NT
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	NS	NS	NS	NT
Naphthalene	ug/L	100	<5.0	<1.0	<1.0	<5.0	NS	NS	NS	<5.0
Isopropylbenzene (cumene)	ug/L	52	<5.0	<1.0	<1.0	<1.0	NS	NS	NS	<5.0
Ethylene dibromide	ug/L	0.05	<0.5	<0.027	NT	NT	NS	NS	NS	NT
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<2.20	<10	<10	<10	NS	NS	NS	<0.80
Phenanthrene	ug/L	1,200	<2.20	<10	<10	<10	NS	NS	NS	<0.40
Pyrene	ug/L	13	<2.20	<10	<10	<10	NS	NS	NS	<0.80
Chrysene	ug/L	1.8	<2.20	<10	<10	<10	NS	NS	NS	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	NT	NT	NS	NS	NS	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS	denotes "Not Sampled"
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-21
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-21 05/31/2001 Water	MW-21 3695063 09/25/2001 Water	MW-21 3749881 12/19/2001 Water	MW-21 3788615 03/13/2002 Water	MW-21 3844668 06/27/2002 Water	MW-21 3908706 09/25/2002 Water	MW-21 3967476 12/19/2002 Water	MW-21 4011546 03/12/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<20	<10	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	ug/L	5	<5.0	<20	<10	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	61.3	34	17	15	21	<5.0	22	14
Ethylbenzene	ug/L	700	257	170	120	120	140	<5.0	180	170
Total Xylenes	ug/L	10,000	2,669	1500	710	380	700	<5.0	650	540
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	<5.0	NT	NT	<5.0
Naphthalene	ug/L	100	184	**140**	93	88	76	<5.0	71	58
Isopropylbenzene (cumene)	ug/L	52	49.7	42	31	29	25	<5.0	35	33
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	<0.027	<0.028	<0.027	<5.0	<0.028	<0.028
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<2.20	<9.	<10	<10	<9.0	<0.80	1.7	<0.90
Phenanthrene	ug/L	1,200	<2.20	<9.	<10	<10	<9.0	<0.40	0.75	<0.40
Pyrene	ug/L	13	<2.20	<9.	<10	<10	<9.0	<0.80	<0.80	<0.90
Chrysene	ug/L	1.8	<2.20	<9.	<10	<10	<9.0	<0.40	<0.40	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	**0.0147**	**0.0106**	**<0.0030**	<0.0030	<0.0030	<0.0030
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-22
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-22 05/31/2001 Water	MW-22 09/25/2001 Water	MW-22 12/19/2001 Water	MW-22 12/19/2001 Water	MW-22 06/27/2002 Water	MW-22 09/26/2002 Water	MW-22 12/19/2002 Water	MW-22 12/19/2002 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Benzene	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Toluene	ug/L	1,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Ethylbenzene	ug/L	700	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Total Xylenes	ug/L	10,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Methyl tert-Butyl Ether	ug/L	20	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Naphthalene	ug/L	100	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Isopropylbenzene (cumene)	ug/L	52	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Ethylene dibromide	ug/L	0.05	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Phenanthrene	ug/L	1,200	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Pyrene	ug/L	13	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Chrysene	ug/L	1.8	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Metals										
Lead	mg/L	0.005	NS-P	NS-P	NS-P	NS-P	NS-P	NS	NS-P	NS-P
Product Thickness	ft	NA	2.04	0.19	0.76	0.88	0.01	NA	0.03	0.03

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
NS	denotes "Not Sampled"
DNE	denotes sample point "Did Not Exist"

MW-23D
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-23D 05/31/2001 Water	MW-23D 3695065 09/26/2001 Water	MW-23D 3749884 12/20/2001 Water	MW-23D 3788613 03/13/2002 Water	MW-23D 3844670 06/27/2002 Water	MW-23D 3908697 09/26/2002 Water	MW-23D 3967474 12/19/2002 Water	MW-23D 4011549 03/12/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<10.0	<10	NT	NT	<5.0	<5.0	<5.0	<5.0
Benzene	ug/L	5	7.55 J	<10	<2.0	4.1	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	12.1 J	17	3.3	1	10	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	700	620	460	140	49	520	78	5	180
Total Xylenes	ug/L	10,000	253.2	450	NT	NT	170	29	<5.0	61
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	<5.0	NT	<5.0	<5.0
Naphthalene	ug/L	100	<5.0	46	13	<5.0	100	13	<5.0	30
Isopropylbenzene (cumene)	ug/L	52	47.4	30	9.9	4.4	38	6	<5.0	14
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	NT	NT	<0.028	<0.028	<0.028	<0.028
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<2.22	69	<10	<10	<9.0	<0.90	<1.5	1.2
Phenanthrene	ug/L	1,200	<2.22	<10	<10	<10	<9.0	<0.40	<0.40	<0.40
Pyrene	ug/L	13	<2.22	<10	<10	<10	<9.0	<0.90	<0.80	<0.80
Chrysene	ug/L	1.8	<2.22	<10	<10	<10	<9.0	<0.40	<0.40	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	NT	NT	NT	NT	NT	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-24
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-24 05/31/2001 Water	MW-24 3695062 09/25/2001 Water	MW-24 3749882 12/19/2001 Water	MW-24 3788616 03/13/2002 Water	MW-24 3844667 06/27/2002 Water	MW-24 3908705 09/25/2002 Water	MW-24 3967471 12/19/2002 Water	MW-24 4011544 03/12/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	<2.0	<1.0	<5.0	<5.0	<5.0	<5.0
Benzene	ug/L	5	<1.0	5.0	<2.0	7.3	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	<5.0	1.5	<2.0	1.5	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	700	47.2	7.4	8.4	10	27	<5.0	15	12
Total Xylenes	ug/L	10,000	1.19 J	4.3	<6.0	5.4	<5.0	<5.0	<5.0	<5.0
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	<5.0	NT	NT	<5.0
Naphthalene	ug/L	100	1.46 J	<2.0	3.1	5.1	<5.0	<5.0	<5.0	<5.0
Isopropylbenzene (cumene)	ug/L	52	49.3	12	6.3	8.2	15	<5.0	<5.0	<5.0
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	<0.028	<0.028	<0.027	<5.0	<0.028	<0.027
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<2.22	<9.	<10	<100	<10.0	<0.80	1.6	<4.0
Phenanthrene	ug/L	1,200	<2.22	<9.	<10	<100	<10.0	<0.40	<0.40	<2.0
Pyrene	ug/L	13	<2.22	<9.	<10	<100	<10.0	<0.80	<1.5	<4.0
Chrysene	ug/L	1.8	<2.22	<9.	<10	<100	<10.0	<0.40	<0.40	<2.0
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	<0.0030	<0.0030	0.154	<0.0030	<0.0030	<0.0030
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-25D
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-25D 05/31/2001 Water	MW-25D 3695067 09/26/2001 Water	MW-25D 3749885 12/20/2001 Water	MW-25D 3788611 03/13/2002 Water	MW-25D 3844671 06/27/2002 Water	MW-25D 3908700 09/26/2002 Water	MW-25D 3967472 12/19/2002 Water	MW-25D 4011548 03/12/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	<5.0	<5.0	<5.0	<5.0
Benzene	ug/L	5	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	700	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Total Xylenes	ug/L	10,000	<3.0	<3.0	NT	NT	<5.0	<5.0	<5.0	<5.0
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	<5.0	<5.0	<5.0	<5.0
Naphthalene	ug/L	100	<5.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropylbenzene (cumene)	ug/L	52	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	NT	NT	<0.028	<0.028	<0.028	<0.028
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<2.22	<10	<10	<100	<10.0	<0.80	<0.80	<0.80
Phenanthrene	ug/L	1,200	<2.22	<10	<10	<100	<10.0	<0.40	<0.40	<0.40
Pyrene	ug/L	13	<2.22	<10	<10	<100	<10.0	<0.80	<0.80	<0.80
Chrysene	ug/L	1.8	<2.22	<10	<10	<100	<10.0	<0.40	<0.40	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	NT	NT	NT	NT	NT	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-29
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-29 05/30/2001 Water	MW-29 09/25/2001 Water	MW-29 12/19/2001 Water	MW-29 03/12/2002 Water	MW-29 06/27/2002 Water	MW-29 09/26/2002 Water	MW-29 12/19/2002 Water	MW-29 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Benzene	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Toluene	ug/L	1,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Ethylbenzene	ug/L	700	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Total Xylenes	ug/L	10,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Methyl tert-Butyl Ether	ug/L	20	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Naphthalene	ug/L	100	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Isopropylbenzene (cumene)	ug/L	52	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Ethylene dibromide	ug/L	0.05	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Phenanthrene	ug/L	1,200	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Pyrene	ug/L	13	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Chrysene	ug/L	1.8	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Metals										
Lead	mg/L	0.005	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Product Thickness	ft	NA	0.01	0.02	0.04	0.01	0.02	0.14	0.02	0.01

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-30
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-30 05/30/2001 Water	MW-30 3695061 09/25/2001 Water	MW-30 3749877 12/19/2001 Water	MW-30 3788612 03/13/2002 Water	MW-30 06/27/2002 Water	MW-30 3908693 09/26/2002 Water	MW-30 12/19/2002 Water	MW-30 4011541 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	NS	NT	NS	NT
Benzene	ug/L	5	<1.0	1.1	1.1	<5.0	NS	<50	NS	<5.0
Toluene	ug/L	1,000	3.89 J	8.0	7.7	7.7	NS	<50	NS	<5.0
Ethylbenzene	ug/L	700	4.16 J	6.0	5.9	6.3	NS	<50	NS	<5.0
Total Xylenes	ug/L	10,000	15.95 J	26	NT	NT	NS	NT	NS	NT
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	NS	NT	NS	NT
Naphthalene	ug/L	100	37.4	70	73	41	NS	<50	NS	29
Isopropylbenzene (cumene)	ug/L	52	1.74 J	1.8	1.8	<5.0	NS	<50	NS	<5.0
Ethylene dibromide	ug/L	0.05	<0.5	<0.026	NT	NT	NS	NT	NS	NT
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	1.22 J	29	<9	<10	NS	<4.0	NS	0.83
Phenanthrene	ug/L	1,200	<2.13	<10	<9	<10	NS	<2.0	NS	0.86
Pyrene	ug/L	13	<2.13	<10	<9	<10	NS	<4.0	NS	<0.80
Chrysene	ug/L	1.8	<2.13	<10	<9	<10	NS	<2.0	NS	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	**0.0269**	NT	NT	NS	NT	NS	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS	denotes "Not Sampled"
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-31
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-31 05/30/2001 Water	MW-31 09/25/2001 Water	MW-31 12/19/2001 Water	MW-31 03/12/2002 Water	MW-31 06/27/2002 Water	MW-31 09/26/2002 Water	MW-31 12/19/2002 Water	MW-31 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Benzene	ug/L	5	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Toluene	ug/L	1,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Ethylbenzene	ug/L	700	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Total Xylenes	ug/L	10,000	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Methyl tert-Butyl Ether	ug/L	20	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Naphthalene	ug/L	100	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Isopropylbenzene (cumene)	ug/L	52	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Ethylene dibromide	ug/L	0.05	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Phenanthrene	ug/L	1,200	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Pyrene	ug/L	13	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Chrysene	ug/L	1.8	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Metals										
Lead	mg/L	0.005	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P	NS-P
Product Thickness	ft	NA	0.65	0.86	0.93	1.05	0.22	2.51	1.39	1.61

NOTES

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<	Not detected at reporting limit shown
NA	denotes "Not Applicable"
NT	Parameter not analyzed for
NS-P	denotes "Not Sampled due to Product"
DNE	denotes sample point "Did Not Exist"

MW-32
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-32 05/30/2001 Water	MW-32 3695054 09/25/2001 Water	MW-32 3749889 12/20/2001 Water	MW-32 3788603 03/12/2002 Water	MW-32 3844664 06/27/2002 Water	MW-32 3908702 09/25/2002 Water	MW-32 3967468 12/19/2002 Water	MW-32 4011551 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	NT	NT	NT	NT
Benzene	ug/L	5	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	1,000	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	700	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Total Xylenes	ug/L	10,000	<3.0	<3.0	NT	NT	NT	NT	NT	NT
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	ug/L	100	<5.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropylbenzene (cumene)	ug/L	52	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Ethylene dibromide	ug/L	0.05	<0.5	<0.028	NT	NT	NT	NT	NT	NT
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<2.17	<10	<10	<12	<10.0	<0.80	<0.80	<0.80
Phenanthrene	ug/L	1,200	<2.17	<10	<10	<12	<10.0	<0.40	<0.40	<0.40
Pyrene	ug/L	13	<2.17	<10	<10	<12	<10.0	<0.80	<0.80	<0.80
Chrysene	ug/L	1.8	<2.17	<10	<10	<12	<10.0	<0.40	<0.40	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.003	NT	NT	NT	NT	NT	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

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MW-33
HISTORICAL GROUNDWATER RESULTS
ELEMENTIS PIGMENTS SITE
EASTON, PENNSYLVANIA

SAMPLE NAME: LABORATORY ID: SAMPLING DATE: SAMPLE DESCRIPTION: PARAMETER	UNITS	DEP STANDARDS	MW-33 05/30/2001 Water	MW-33 3695055 09/25/2001 Water	MW-33 3749879 12/19/2001 Water	MW-33 3788604 03/12/2002 Water	MW-33 06/27/2002 Water	MW-33 3908703 09/25/2002 Water	MW-33 12/19/2002 Water	MW-33 4011552 03/11/2003 Water
UST Volatile Organic Compounds										
1,2-Dichloroethane	ug/L	5	<2.0	<1.0	NT	NT	NS	NT	NS	NT
Benzene	ug/L	5	<1.0	<1.0	<1.0	<1.0	NS	<5.0	NS	<5.0
Toluene	ug/L	1,000	<5.0	<1.0	<1.0	<1.0	NS	<5.0	NS	<5.0
Ethylbenzene	ug/L	700	1.04 J	<1.0	<1.0	<1.0	NS	<5.0	NS	<5.0
Total Xylenes	ug/L	10,000	2.24 J	<3.0	NT	NT	NS	NT	NS	NT
Methyl tert-Butyl Ether	ug/L	20	NT	NT	NT	NT	NS	NT	NS	NT
Naphthalene	ug/L	100	2.57 J	1.1	<1.0	<5.0	NS	<5.0	NS	<5.0
Isopropylbenzene (cumene)	ug/L	52	<5.0	<1.0	<1.0	<1.0	NS	<5.0	NS	<5.0
Ethylene dibromide	ug/L	0.05	<0.5	<0.027	NT	NT	NS	NT	NS	NT
UST Polynuclear Aromatic Hydrocarbons										
Fluorene	ug/L	190	<21.5	<10	<9	<100	NS	<0.80	NS	<0.80
Phenanthrene	ug/L	1,200	13.4 J	<10	<9	<100	NS	2	NS	<0.40
Pyrene	ug/L	13	14.0 J	<10	<9	<100	NS	1.4	NS	<0.80
Chrysene	ug/L	1.8	<21.5	<10	<9	<100	NS	<0.40	NS	<0.40
Metals										
Lead	mg/L	0.005	<0.0020	<0.0030	NT	NT	NS	NT	NS	NT
Product Thickness	ft	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES

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