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Quarterly Monitoring Report
4th Quarter 2002

L.E. Carpenter & Company
Wharton, New Jersey

USEPA ID No. NJD002168748

January 2003

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Section 1
Introduction

RMT, Inc. (RMT), on behalf of our client, has prepared this Quarterly Monitoring Report for the L.E. Carpenter and Company (LEC) ("site") located at 170 North Main Street, Wharton, New Jersey (Figure 1). Quarterly monitoring events are performed at the site to comply with paragraph 35 of the 1986 Administrative Consent Order (ACO) issued to LEC by the New Jersey Department of Environmental Protection (NJDEP). We provide a summary of activities completed during the fourth quarter of 2002, including routine quarterly groundwater monitoring, surface water monitoring, and monthly free product recovery activities. In addition, this report includes summaries of additional site activities performed during the fourth quarter of 2002, and activities scheduled for commencement during first quarter of 2003. We have certified this report in accordance with requirements outlined in N.J.A.C 7:26E-1.5 (Appendix A).

RMT conducted the following tasks during the fourth quarter of 2002:

- Monthly mobile free product recovery using enhanced fluid recovery (EFR) techniques in accordance with the NJDEP approval letter dated August 20, 1997 (Ref. Section 2).
- Quarterly groundwater monitoring as required under the ACO (Ref. Sections 3 and 4).
- Surface water sampling at the drainage ditch feature that separates the LEC site from the Air Products property as requested in the NJDEP letter dated May 31, 2002 (Ref. Section 5).
- Various follow-up activities associated with both the lead and free product investigations and proposed conceptual remediation plan. (Ref. Section 6).

We provide a discussion of these activities in the referenced sections.

NEW JERSEY

QUADRANGLE LOCATION

N

0 2000' 4000'

APPROXIMATE SCALE IN FEET

SOURCE

1. BASE MAP DEVELOPED FROM THE DOVER, NEW JERSEY 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP, DATED 1954, PHOTOREVISED 1981.

RMT INC.®

LE CARPENTER
WHARTON, NEW JERSEY

SITE LOCATION MAP
FOR 4th QUARTER 2002

DRAWN BY:	SJL
APPROVED BY:	JDD
PROJECT NUMBER:	3868.35
FILE NUMBER:	38683551.DWG
DATE:	JANUARY 2003

FIGURE 1

PLOT DATA
Drawing Name: J:\03868\35\38683551.dwg
Operator Name: lucidos
Scale: 1"=2000'
Dwg Size: 97278 Bytes
Plot Date: Wednesday, January 22, 2003
Plot Time: 4:37:28:56 PM
Attached Xref's: No xref's Attached.

Section 2
Monthly EFR Activities

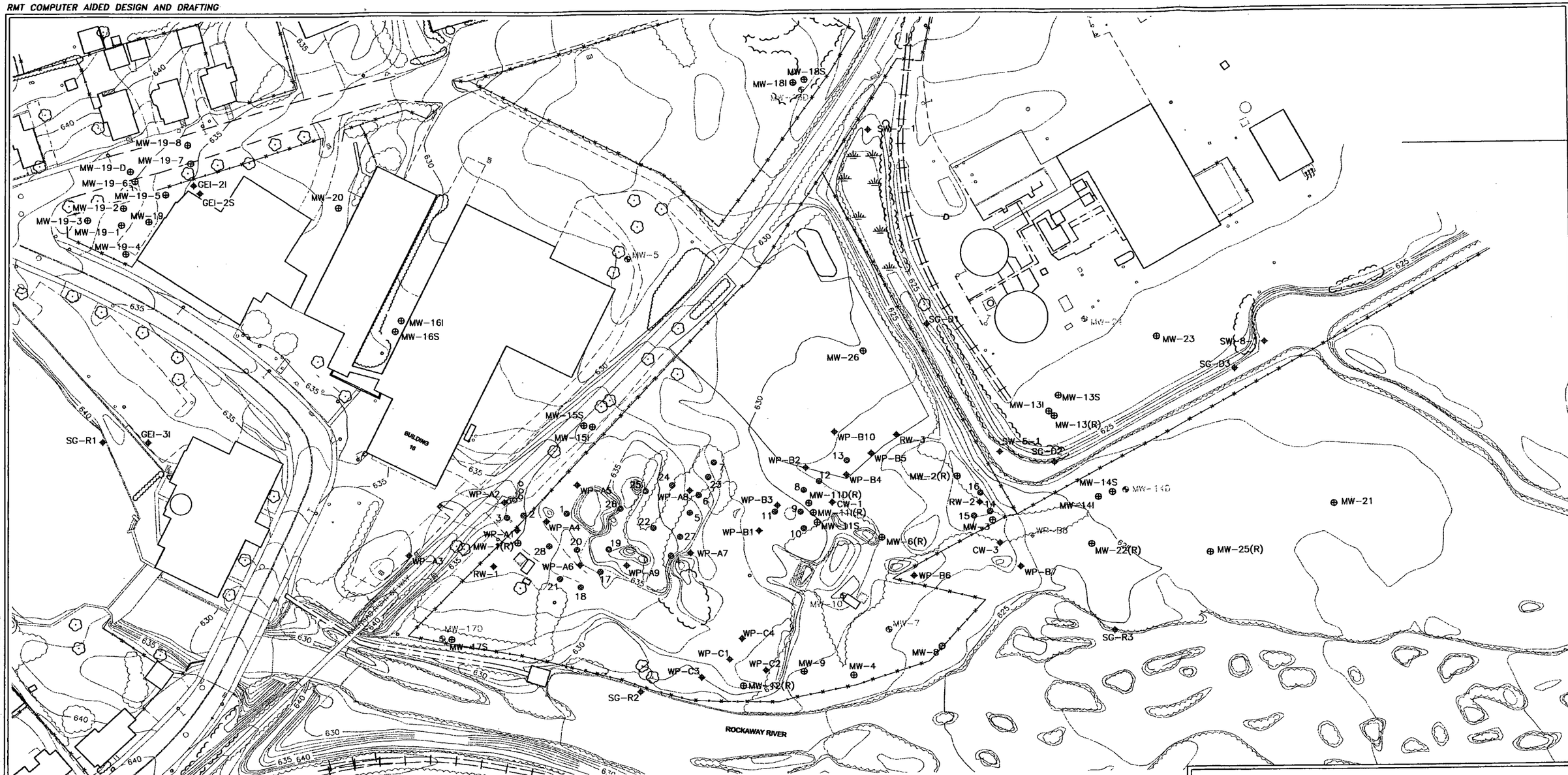
2.1 Introduction

In August 1997, the NJDEP approved the Remedial Action Plan (RAP), which described free product removal using enhanced fluid recovery (EFR) for the eastern portion of the subject site (east of the railroad right-of-way). EFR is conducted by applying a vacuum to product recovery wells to primarily remove free-phase product in addition to limited volumes of contaminated groundwater and contaminant vapors within vadose zone and capillary fringe soils. As the result of increased aeration, this procedure enhances any natural biodegradation that may be occurring in the soil and groundwater. The locations of the 28 EFR wells purged during each monthly EFR event and all groundwater monitoring wells are shown in Figure 2.

RMT arranged performance of three monthly EFR events during the fourth quarter of 2002 on October 8th, November 7th, and December 17th, 2002. RMT coordinated measurement of the free product thickness in each recovery well (where applicable), followed by EFR. RMT's subcontractor, CEMCO, used the recorded free product measurements to determine the placement of the drop pipe that maximized free product recovery volumes. Table 1 lists apparent free product thickness measurements recorded during fourth quarter 2002. RMT observed measurable free product within 13 of the 69 wells monitored on November 19, 2002 (Table 6). Table 1 also provides a cumulative breakdown of EFR specific information such as minimum and maximum free product thickness levels (in feet), associated waste management costs, and extracted product (liquid and vapor phase) and groundwater volumes (in gallons) to date.

During fourth quarter 2002, EFR activities were conducted utilizing a Nortech, Inc. 55B vacuum head apparatus capable of producing a vacuum of 17-inches of mercury (in Hg) at 100 cubic feet per minute (cfm). This unit is connected to a fitted 55-gallon drum, and braced to a mobile 4-wheel drive vehicle. When compared to the previously utilized vacuum trucks, use of this system has enabled CEMCO to get closer to each individual EFR well head, minimizing potential losses in the system previously experienced due to the use of greater lengths of extraction hose, while maximizing the maneuverability of the drop pipe. Use of this system has also resulted in a more efficient EFR event, minimizing the volume of groundwater extracted. The average ratio of extracted groundwater to free product during the fourth quarter of 2002 was approximately 0.14 gallons/gallon. Before use of this method (November 1997 to December 1999), the ratio of extracted groundwater to free product was 4.7 gallons/gallon.

RMT COMPUTER AIDED DESIGN AND DRAFTING



LEGEND

— — —	PROPERTY LINE	◆ WP-B7	WELL POINTS
—•—•—	FENCE	◆ SG-R1	RIVER POINT
⊕ MW-21	MONITORING WELL	◆ SG-D1	DRAINAGE CHANNEL POINT
⊕ MW-24	ABANDONED WELL	◆ GEI-2I	PIEZOMETERS
⊗ 13	ENHANCED FLUID RECOVERY WELL	⊠ SW-7-1	SURFACE WATER SAMPLE
◆ RW-2	RECOVERY WELL	◆	TREATMENT BUILDING
◆ CW-3	CAISSON WELLS		

N

0 100' 200'

SCALE IN FEET

LE. CARPENTER
WHARTON, NEW JERSEY

SITE PLAN WITH WELL LOCATIONS FOR 4th QUARTER 2002

DRAWN BY:	SJL	PROJECT NUMBER:	3868.35
CHECKED BY:	NC	FILE NUMBER:	38683552.DWG
APPROVED BY:	NC	DATE:	JANUARY 2003

RMT INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237
PHONE: 734-971-7080
FAX: 734-971-9022

FIGURE 2

PLOT DATA
Drawing Name: J:\03868\35\38683552.dwg
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Scale: 1"=50'
Dwg Size: 957454 Bytes
Plot Date: Thursday, January 23, 2003
Plot Time: 06:53:32 AM
Attached Xref's: No xref's Attached.

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date / Well No.	Development November 21, 1997 Feet of Product	EFR 01 December 9, 1997 Feet of Product	EFR 02 January 7, 1998 Feet of Product	EFR 03 January 22, 1998 Feet of Product	EFR 04 February 17, 1998 Feet of Product	EFR 05 March 13, 1998 Feet of Product	EFR 06 March 27, 1998 Feet of Product	EFR 07 April 24, 1998 Feet of Product	EFR 08 May 29, 1998 Feet of Product
EFR-1	1.64	1.53	1.94	0.36	2.48	0.93	0.94	1.42	1.55
EFR-2	1.55	1.50	1.86	0.06	2.20	2.96	2.92	2.65	2.44
EFR-3	0.85	1.02	1.27	–	1.58	1.19	0.03	0.24	0.19
EFR-4	1.03	2.27	0.54	0.07	0.30	–	–	–	–
EFR-5	4.03	3.74	4.25	0.32	3.29	3.39	1.71	2.71	2.02
EFR-6	0.72	1.00	1.24	–	2.27	1.71	1.17	2.23	1.55
EFR-7	0.17	0.09	0.16	–	–	–	–	–	–
EFR-8	0.00	0.00	0.00	–	0.08	–	–	–	–
EFR-9	0.00	1.10	1.79	1.15	0.16	3.08	0.08	0.07	0.11
EFR-10	5.20	5.80	6.42	2.34	7.47	7.06	6.05	6.71	5.47
EFR-11	3.07	4.04	4.28	5.64	4.47	4.32	4.67	5.91	5.73
EFR-12	0.04	0.03	0.00	–	0.07	–	–	–	0.02
EFR-13	0.48	0.56	1.33	0.05	1.28	1.07	1.07	0.67	–
EFR-14	0.10	0.16	0.00	–	–	–	–	–	–
EFR-15	0.09	0.12	0.27	–	0.06	–	–	–	–
EFR-16	0.00	0.00	0.00	–	–	–	–	–	–
EFR-17	0.04	0.17	1.56	0.39	0.17	0.08	–	0.09	–
EFR-18	0.10	0.10	0.09	–	–	–	–	–	–
EFR-19	0.54	2.80	1.89	0.49	1.95	1.63	1.44	0.88	0.65
EFR-20	0.40	0.34	0.95	0.47	0.27	–	–	0.04	0.24
EFR-21	2.36	2.40	2.71	2.74	2.74	4.14	3.97	4.23	3.98
EFR-22	3.78	4.10	0.05	4.81	3.40	4.69	3.42	1.82	1.22
EFR-23	0.00	0.06	0.06	–	0.02	–	–	–	–
EFR-24	0.00	0.00	0.00	–	–	–	–	–	–
EFR-25	2.95	3.00	3.55	0.26	4.15	3.11	0.72	0.82	0.79
EFR-26	2.20	2.05	2.66	0.29	2.30	2.12	1.43	1.32	1.95
EFR-27	0.15	0.02	2.71	0.02	0.74	–	–	0.03	–
EFR-28	2.20	2.30	1.78	0.48	2.60	3.20	3.48	4.40	3.16
MIN (ft)	0.00	0.00	0.00	0.02	0.02	0.08	0.03	0.03	0.02
MAX (ft)	5.20	5.80	6.42	5.64	7.47	7.06	6.05	6.71	5.73
Average (ft)	1.20	1.44	1.55	1.17	1.92	2.79	2.21	2.01	1.94
Total Free Product (ft)	33.69	40.30	43.36	19.94	44.05	44.68	33.10	36.24	31.07
Total Standing Free Product Volume (gal)	21.60	25.83	27.79	12.78	28.24	28.64	21.22	23.23	19.92
Estimated Total Free Product Removed (gal) (1) *(Liquid and Vapor Phase Free Product Volume)*	315.00	250.00	210.00	80.00	120.00	130.00	100.00	110.00	95.00
Estimated Total Fluids Removed (gal) *(Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000*									
Vapor Phase Free Product Extraction Volume (gal) *as of Jan 2000*									
Liquid Phase Free Product Extraction Volume (gal) *as of Jan 2000*									
Groundwater Extraction Volume (gal) per each EFR Event (7) *as of Jan 2000*									
Total EFR Extraction Volume (gal) (Total Volume: *free product + groundwater + product vapor)*	2350.00	1410.00	376.00	256.00	314.00	300.00	339.00	403.00	390.00
Estimated Volume Removed Resulting from Drum Purging (GW purge water) *if applicable* (9)	-	-	-	-	-	338	150	600	70
Total Volume Removed from Site (gal) *(Manifested volume)* (8)	2,350	1,410	376	256	314	638	489	1,003	460
Cumulative Total Free Product Removed (gal)	315	565	775	855	975	1,105	1,205	1,315	1,410
Extraction, Transportation & Disposal Cost (2)	$ 3,976.37	$ 2,742.62	$ 1,130.50	$ 1,130.50	$ 1,219.12	$ 1,431.87	$ 1,541.31	$ 2,038.43	$ 1,240.75
Unit Cost per gal (3)	$ 1.69	$ 1.95	$ 3.01	$ 4.42	$ 3.88	$ 2.24	$ 3.15	$ 2.03	$ 2.70
State Manifest Document Number	NJA2786096	NJA2786165	NJA2787308	NJA2785935	NJA2785830	NJA2785548	NJA2786541	NJA2787847	NJA2788596

EFR Event Date / Well No.	EFR 09 June 30, 1998 Feet of Product	EFR 010 July 31, 1998 Feet of Product	EFR 011 (4) August 26, 1998 Feet of Product	EFR 012 September 17, 1998 Feet of Product	EFR 013 October 22, 1998 Feet of Product	EFR 014 November 20, 1998 Feet of Product	EFR 015 December 18, 1998 Feet of Product	EFR 016 January 13, 1999 Feet of Product	EFR 017 February 10, 1999 Feet of Product
EFR-1	2.11	1.28	1.22*	1.71	1.59	1.71	1.57	0.53	1.79
EFR-2	1.78	1.12	1.09	1.21	1.29	1.51	1.41	0.95	1.40
EFR-3	0.77	0.72	0.93	1.03	1.01	1.19	1.18	1.14	1.01
EFR-4	0.03	0.38	1.23	2.40	2.17	1.73	1.79	0.73	0.10
EFR-5	1.86	2.38	2.52	2.33	2.52	2.19	2.28	2.68	3.47
EFR-6	1.56	1.96	1.36	1.42	1.25	1.29	1.38	0.49	0.84
EFR-7	0.02	0.02	0.03	0.07	0.05	0.20	0.16	0.02	0.04
EFR-8	0.03	0.04	0.08	0.13	0.09	0.07	0.03	0.12	0.00
EFR-9	0.29	0.61	0.98	1.23	1.31	1.26	1.86	0.74	0.49
EFR-10	5.68	4.94	4.52	4.34	4.38	3.98	3.99	3.68	5.79
EFR-11	6.08	4.73	4.47	3.95	4.06	3.65	3.52	2.42	4.69
EFR-12	0.28	0.22	0.28	0.24	0.15	0.29	0.17	0.04	0.11
EFR-13	0.90	0.56	0.48	0.66	0.82	1.13	1.30	0.22	1.19
EFR-14	–	-	–	0.00	0.00	0.00	0.00	0.00	0.00
EFR-15	0.03	0.02	0.03	0.03	0.12	0.12	0.32	0.11	0.07
EFR-16	–	-	–	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.02	0.37	0.29	0.46	0.56	0.71	0.53	0.26	0.08
EFR-18	0.01	0.08	0.14	0.48	0.68	0.98	1.08	0.56	0.11
EFR-19	0.42	0.90	1.26	1.68	1.93	2.31	2.44	1.83	1.68
EFR-20	0.37	0.63	0.63	0.79	1.24	1.85	2.11	0.65	1.33
EFR-21	3.29	1.97	1.87	1.86	1.77	1.67	1.62	1.21	1.43
EFR-22	0.96	2.86	2.87	2.97	2.83	2.38	2.27	2.06	0.84
EFR-23	0.05	0.11	0.08	0.27	1.03	3.07	2.29	1.55	0.91
EFR-24	–	-	–	0.00	0.03	0.12	0.14	0.38	0.06
EFR-25	0.78	0.60	0.41	0.29	0.41	1.33	1.58	1.05	1.75
EFR-26	1.21	2.06	1.38	1.17	1.24	1.08	1.09	0.73	0.55
EFR-27	0.02	0.33	0.45	1.49	0.54	0.47	0.51	0.09	0.12
EFR-28	2.61	1.47	1.73	1.69	1.83	1.79	1.74	1.03	1.29
MIN (ft)	0.01	0.02	0.03	0.03	0.03	0.07	0.03	0.02	0.04
MAX (ft)	6.08	4.94	4.52	4.34	4.38	3.98	3.99	3.68	5.79
Average (ft)	1.25	1.22	1.23	1.36	1.34	1.47	1.48	0.97	1.25
Total Free Product (ft)	31.16	30.38	30.73	33.90	34.92	38.30	38.36	25.27	31.14
Total Standing Free Product Volume (gal)	19.97	19.47	19.70	22.04	22.70	24.90	24.93	16.43	20.24
Estimated Total Free Product Removed (gal) (1) *(Liquid and Vapor Phase Free Product Volume)*	105.00	76.00	55.00	60.00	15.00	25.00	51.00	23.00	74.00
Estimated Total Fluids Removed (gal) *(Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000*									
Vapor Phase Free Product Extraction Volume (gal) *as of Jan 2000*									
Liquid Phase Free Product Extraction Volume (gal) *as of Jan 2000*									
Groundwater Extraction Volume (gal) per each EFR Event (7) *as of Jan 2000*									
Total EFR Extraction Volume (gal) (Total Volume: *free product + groundwater + product vapor)*	561.00	211.00	220.00	329.00	212.00	120.00	256.00	234.00	498.00
Estimated Volume Removed Resulting from Drum Purging (GW purge water) *if applicable* (9)	110	71	-	110	-	-	110	-	235
Total Volume Removed from Site (gal) *(Manifested volume)* (8)	671	282	220	439	212	120	256	234	733
Cumulative Total Free Product Removed (gal)	1,515	1,591	1,646	1,706	1,721	1,746	1,797	1,820	1,894
Extraction, Transportation & Disposal Cost (2)	$ 1,347.68	$ 1,324.62	$ 1,838.93	$ 1,383.18	$ 915.25	$ 863.25	$ 973.00	$ 1,156.62	$ 1,641.56
Unit Cost per gal (3)	$ 2.01	$ 4.70	$ 8.36	$ 3.15	$ 4.32	$ 7.19	$ 3.80	$ 4.94	$ 2.24
State Manifest Document Number	NJA2970479	NJA2988712	NJA2988448	NJA2988517	NJA2989962	NJA2986073	NJA2986996	NJA3017471	NJA3030488

Notes:
Product thickness was determined prior to the EFR event.
gal = gallon
All EFR Wells are 4 inch in diameter
EFR events 13 and 14 product removal was low due to significant quantities of product remaining emulsified

as the result of a short vac truck standing time prior to gauging

Product removal estimate does not take into account a % of product remaining emulsified do to high agitation
[shaded box] Indicates that this data will be known once the next EFR waste T&D event is performed

(1) Estimated free product (gal) based on Vacuum Truck gauging (interface probe) directly after each EFR Event and vapor monitoring during extraction (See Table 3)
(2) Total invoiced disposal cost for EFR event (product and groundwater) and monitoring well purge water from 1/4ly well development and monitoring activities *(if applicable)*
(3) Total Cost per gallon includes product transportation & disposal, manifest prep, & regulatory admin. fee for combined EFR and GW purge water volumes *(if applicable)*
(4) EFR # 11 free product volume was 55 gal and contained PCBs (approx. weight 450lbs total @ specific gravity of 8.18 lbs./gal). Disposal costs were significantly higher due to PCB content
(5) EFR # 23 cost and unit cost higher than normal due to additional vac truck trans and mob time. As the vac truck was broken when it reached the site, a 3 hour credit will be applied to next months EFR T&D bill.
(6) Free product stored in an on-site 550-gallon AST equipped with secondary containment. AST contents, along with groundwater resulting from well purge activities are drained and transported by CycleChem/CleanVenture every 90 days.
(7) Volume of ground water collected during each EFR event. Volume estimated using an oil/water interface probe on the 55-gal extraction drum. On-Site measurement began 1st quarter of 2000.
(8) These volumes that are totaled over a specific period (beginning 1st quarter 2000) is that volume specific to each of the EFR event it represents.
(9) Estimated by subtracting the free product aqueous volume and extracted groundwater volume for each of the representative EFR event from the total removal volume manifested for a specific disposal event
(10) EFR events did not take place in January or February 2001 due to access issues caused by inclement weather.

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date / Well No.	EFR 018 March 24, 1999 Feet of Product	EFR 019 April 19, 1999 Feet of Product	EFR 020 May 10, 1999 Feet of Product	EFR 021 June 22, 1999 Feet of Product	EFR 022 July 23, 1999 Feet of Product	EFR 023 (5) August 27, 1999 Feet of Product	EFR 024 September 22, 1999 Feet of Product	EFR 025 October 27, 1999 Feet of Product	EFR 026 November 30, 1999 Feet of Product	EFR 027 December 14, 1999 Feet of Product	EFR 028 January 21, 2000 Feet of Product	EFR 029 February 18, 2000 Feet of Product	EFR 030 March 24, 2000 Feet of Product	EFR 031 April 19, 2000 Feet of Product	EFR 032 May 18, 2000 Feet of Product	EFR 033 June 16, 2000 Feet of Product	EFR 034 July 18, 2000 Feet of Product	EFR 035 August 17, 2000 Feet of Product
EFR-1	3.68	1.13	1.09	1.15	1.49	1.27	1.94	1.63	1.47	1.20	1.22	0.85	1.86	1.39	1.54	2.10	1.51	1.26
EFR-2	2.42	1.66	1.22	0.92	1.21	1.00	0.63	1.35	1.28	1.40	0.06	1.04	2.23	2.00	1.64	1.89	1.40	0.36
EFR-3	1.63	0.36	0.25	0.86	0.88	1.03	0.74	0.69	0.47	0.02	0.51	0.07	0.08	0.09	0.62	1.02	0.25	0.02
EFR-4	0.14	0.00	0.05	0.03	0.44	0.99	0.51	0.11	0.03	0.58	0.51	0.48	0.11	0.11	0.41	0.22	0.05	0.02
EFR-5	6.15	2.65	2.61	2.66	2.66	1.37	1.77	3.23	2.99	1.27	2.95	2.46	2.91	2.54	1.84	2.34	1.99	1.69
EFR-6	0.88	0.61	1.07	1.16	1.51	0.91	0.15	0.86	0.63	0.33	1.07	0.77	0.29	0.31	0.49	0.27	0.34	0.29
EFR-7	0.04	0.07	0.02	0.08	0.28	0.03	0.01	0.07	0.04	0.47	0.15	0.02	0.35	0.01	0.02	0.00	0.00	0.01
EFR-8	0.03	0.03	0.03	0.09	0.39	0.27	0.09	0.13	0.05	0.11	0.05	0.06	0.08	0.03	0.05	0.03	0.02	0.01
EFR-9	0.06	0.11	0.32	0.49	1.16	0.56	0.41	0.28	0.10	0.15	0.15	0.08	0.19	0.02	0.06	0.06	0.12	0.16
EFR-10	5.52	4.97	4.23	3.71	3.63	2.47	3.02	5.18	3.95	3.07	4.50	3.55	3.50	4.50	1.36	2.50	3.09	0.75
EFR-11	2.84	2.02	2.48	3.28	2.78	1.37	1.93	3.20	3.11	1.07	3.64	4.95	2.41	2.95	2.93	2.49	4.12	0.79
EFR-12	0.05	0.02	0.02	0.10	0.30	0.20	0.03	0.09	0.67	0.01	0.03	0.49	0.46	0.10	0.19	0.01	0.01	0.00
EFR-13	0.15	0.49	0.50	0.44	1.33	1.01	0.74	0.78	0.57	0.26	0.34	0.34	0.48	0.47	0.69	0.55	0.73	0.49
EFR-14	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-15	0.01	0.01	0.00	0.00	0.00	0.13	0.04	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.06	0.06	0.08	0.12	0.39	0.36	0.10	0.06	0.24	0.25	0.11	0.32	0.04	0.16	0.63	0.04	0.01	0.02
EFR-18	-	0.06	0.16	0.46	0.96	1.37	0.61	0.36	0.77	0.05	0.20	0.05	0.12	0.04	0.32	0.01	0.06	0.16
EFR-19	0.32	0.44	0.32	1.10	2.05	2.02	0.51	1.54	0.84	0.69	1.67	1.73	0.25	0.60	0.98	0.17	0.63	0.34
EFR-20	0.88	0.45	0.89	0.87	1.59	1.86	0.47	1.92	1.36	0.75	1.08	2.58	0.64	0.42	0.54	0.33	0.30	0.39
EFR-21	2.62	2.35	1.49	1.46	1.57	1.04	1.01	2.32	1.40	1.70	1.92	1.34	3.04	2.86	2.47	3.02	2.09	1.62
EFR-22	0.34	0.95	1.39	1.93	1.47	1.41	0.17	2.22	1.76	0.53	0.82	0.58	0.09	0.16	0.03	0.05	0.01	0.18
EFR-23	0.47	0.22	0.25	0.45	2.13	1.03	0.12	0.53	0.64	0.24	0.23	0.31	0.46	0.06	0.06	0.01	0.13	0.03
EFR-24	0.00	0.00	0.00	0.08	0.08	0.03	0.00	0.00	0.04	0.13	0.11	0.07	0.58	0.02	0.03	0.00	0.00	0.00
EFR-25	1.19	1.08	0.76	0.54	1.74	1.48	0.21	0.39	0.19	0.05	0.31	0.39	0.58	0.21	0.10	0.03	0.10	0.03
EFR-26	0.45	0.73	1.29	1.28	1.23	0.72	0.29	0.52	0.94	0.59	1.54	1.10	1.33	1.68	2.02	1.44	2.25	1.38
EFR-27	0.00	0.00	0.02	0.03	0.17	0.21	0.06	0.01	0.01	0.01	0.02	0.14	0.20	0.01	0.03	0.04	0.01	0.01
EFR-28	1.71	1.65	1.46	1.25	1.67	1.78	0.38	2.19	0.96	1.42	1.33	1.00	2.30	2.42	1.81	2.68	1.72	2.48
MIN (ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAX (ft)	6.15	4.97	4.23	3.71	3.63	2.47	3.02	5.18	3.95	3.07	4.50	4.95	3.50	4.50	2.93	3.02	4.12	2.48
Average (ft)	1.22	0.79	0.79	0.88	1.18	0.94	0.57	1.06	0.88	0.58	0.87	0.89	0.88	0.84	0.73	0.76	0.76	0.45
Total Free Product (ft)	31.84	22.00	22.20	24.54	33.11	26.36	15.94	29.68	24.59	16.37	24.34	24.79	24.62	23.38	20.91	21.30	21.14	12.49
Total Standing Free Product Volume (gal)	20.70	14.30	14.43	15.95	21.52	17.13	10.36	19.29	15.98	10.64	15.82	16.11	16.00	15.20	13.59	13.85	13.74	8.12
Estimated Total Free Product Removed (gal) (1) *(Liquid and Vapor Phase Free Product Volume)*	40.00	39.24	47.20	38.51	34.48	36.00	44.00	54.73	44.79	49.34	43.52	51.66	48.14	45.46	45.50	43.66	46.38	22.03
Estimated Total Fluids Removed (gal) *(Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000*											40.93	46.21	52.80	41.26	40.18	39.44	40.43	20.13
Vapor Phase Free Product Extraction Volume (gal) *as of Jan 2000*											6.53	7.93	10.19	5.83	6.31	5.05	7.60	5.22
Liquid Phase Free Product Extraction Volume (gal) *as of Jan 2000*											36.97	43.73	37.95	39.61	39.19	38.61	38.78	16.83
Groundwater Extraction Volume (gal) per each EFR Event (7) *as of Jan 2000*											3.96	2.48	14.85	1.65	0.99	0.83	1.65	3.30
Total EFR Extraction Volume (gal) (Total Volume: *free product + groundwater + product vapor*)	683.00	904.76	360.00	564.26	725.54	298.00	239.00	263.00	249.07	350.00	47.48	54.14	62.99	47.11	46.49	44.49	48.03	25.35
Estimated Volume Removed Resulting from Drum Purging (GW purge water) *if applicable* (8)	-	139	-	-	374	-	-	199	82	-	357				110			
Total Volume Removed from Site (gal) *(Manifested volume)* (9)	683	1,044	353	538	1,100	292	241	464	331	350	538				250			
Cumulative Total Free Product Removed (gal)	1,934	1,993	2,040	2,079	2,133	2,169	2,213	2,268	2,313	2,362	2,406	2,457	2,506	2,551	2,597	2,640	2,687	2,709
Extraction, Transportation & Disposal Cost(2)	$ 1,703.44	$ 2,049.75	$ 930.31	$ 1,598.13	$ 2,165.75	$ 2,162.12	$ 995.81	$ 1,288.50	$ 1,028.93	$ 968.87	$ 1,045.62				$ 795.13			
Unit Cost per gal(3)	$ 2.49	$ 1.96	$ 2.64	$ 2.97	$ 1.97	$ 7.40	$ 4.13	$ 2.78	$ 3.11	$ 2.77	$ 1.94				$ 3.18			
State Manifest Document Number	NJA3016902	NJA3015330	NJA3031178	NJA3016209	NJA3016343	NJA3022956	NJA2986932	NJA313018	NJA3030027	NJA3074974	NJA3114860				NJA3115887			

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date / Well No.	EFR 035 September 18, 2000 Feet of Product	EFR 037 October 25, 2000 Feet of Product	EFR 038 November 17, 2000 Feet of Product	EFR 039 December 18, 2000 Feet of Product	EFR 040[8] March 15, 2001 Feet of Product	EFR 041 April 23, 2001 Feet of Product	EFR 042 May 25, 2001 Feet of Product	EFR 043 June 13, 2001 Feet of Product	EFR 044 July 27, 2001 Feet of Product	EFR 045 August 24, 2001 Feet of Product	EFR 046 September 25, 2001 Feet of Product	EFR 047 October 25, 2001 Feet of Product	EFR 048 November 23, 2001 Feet of Product	EFR 049 December 31, 2001 Feet of Product	EFR 050 January 29, 2002 Feet of Product	EFR 051 February 21, 2002 Feet of Product	EFR 052 March 21, 2002 Feet of Product	EFR 053 April 10, 2002 Feet of Product
EFR-1	1.33	1.00	1.07	1.14	2.91	1.25	1.02	1.14	0.57	0.80	1.29	1.60	1.51	1.57	2.07	1.93	0.90	0.77
EFR-2	1.00	0.97	1.09	0.76	2.92	2.66	1.75	2.26	1.22	1.17	1.22	1.14	1.15	1.19	1.37	1.33	1.40	1.20
EFR-3	0.03	0.44	0.43	0.46	0.33	0.29	0.49	0.70	0.40	0.66	0.51	0.81	0.76	0.80	0.70	0.78	1.05	1.09
EFR-4	0.02	0.02	0.05	0.21	0.59	1.65	0.01	0.44	0.02	1.86	0.11	0.57	0.68	0.54	0.26	1.13	0.37	0.89
EFR-5	1.57	2.74	2.47	2.76	3.95	1.73	1.90	0.62	2.24	2.05	2.23	2.53	2.10	2.67	2.66	2.68	3.50	3.07
EFR-6	0.55	0.83	0.79	0.96	2.05	0.32	0.43	0.16	0.46	0.49	0.37	1.13	1.56	1.23	0.71	2.21	2.30	0.77
EFR-7	0.00	0.01	0.01	0.01	0.28	0.02	0.02	0.00	0.00	0.16	0.00	0.03	0.08	0.24	0.00	0.00	0.00	0.00
EFR-8	0.01	4.26	0.02	0.06	0.03	0.05	0.04	0.03	0.01	0.18	0.00	0.18	0.16	0.22	0.01	0.04	0.07	0.10
EFR-9	0.00	0.02	0.50	0.77	0.57	0.07	0.56	0.07	0.14	0.27	0.39	0.56	0.85	0.32	0.29	0.45	0.32	0.32
EFR-10	2.76	3.88	3.27	4.05	5.64	3.17	3.52	3.32	3.73	2.30	2.62	2.70	2.61	2.91	2.02	3.32	3.48	2.77
EFR-11	4.73	0.16	4.00	3.73	2.82	2.41	3.56	2.60	3.91	2.37	3.86	3.22	2.44	2.90	2.09	2.58	2.12	0.99
EFR-12	0.03	0.11	0.04	0.02	0.07	0.02	0.23	0.01	0.01	0.23	0.00	0.00	0.54	0.21	0.26	0.11	0.10	0.15
EFR-13	0.22	0.25	0.09	0.15	1.14	0.27	0.78	0.26	0.59	0.47	0.38	0.46	0.88	0.44	0.84	0.44	0.87	0.68
EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-15	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.05	0.00
EFR-16	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.09	0.06	0.36	0.01	0.41	0.31	0.51	0.28	0.02	0.69	0.34	0.83	0.97	1.57	1.43	2.23	1.90	0.77
EFR-18	0.08	0.31	0.31	0.20	3.27	1.35	0.43	0.31	0.01	0.13	0.41	0.69	0.75	1.22	1.90	1.00	1.07	0.81
EFR-19	0.22	0.87	0.59	1.42	2.32	0.65	1.98	1.01	0.44	1.19	0.54	2.15	2.36	2.38	2.26	3.22	2.90	2.69
EFR-20	0.45	0.54	0.11	0.37	0.24	0.97	0.52	0.31	0.08	0.32	0.24	0.73	1.10	1.29	1.78	0.46	1.24	1.24
EFR-21	2.75	1.79	1.65	1.37	4.09	3.51	2.96	2.61	1.98	1.61	1.87	1.58	1.38	1.54	1.51	1.50	2.25	1.65
EFR-22	0.06	0.33	2.14	1.50	0.81	0.06	0.43	0.00	0.00	0.47	0.57	1.22	1.53	1.93	0.98	0.63	0.80	0.39
EFR-23	0.07	0.07	0.08	0.39	0.07	0.03	0.88	0.28	0.03	0.34	0.07	0.85	2.67	0.75	0.98	1.13	0.01	0.70
EFR-24	0.01	0.01	0.01	0.04	2.27	0.05	0.34	0.01	0.01	0.27	0.14	0.35	0.58	0.34	0.47	2.63	0.60	1.35
EFR-25	0.10	0.19	0.12	0.10	0.04	0.59	0.28	0.14	0.03	0.47	0.09	0.43	0.63	0.64	0.82	0.99	0.75	1.21
EFR-26	2.01	2.05	1.78	1.10	2.64	2.56	2.68	1.48	2.24	1.07	1.20	1.45	1.22	1.13	1.14	0.87	1.55	1.67
EFR-27	0.15	0.01	0.01	0.01	0.48	0.05	0.04	0.00	0.01	0.04	0.00	0.32	0.49	0.13	0.53	0.32	0.00	0.00
EFR-28	2.02	1.39	1.36	0.64	2.81	2.75	1.86	2.94	1.36	1.67	1.05	1.30	1.38	1.51	1.67	1.86	0.21	0.63
MIN (ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAX (ft)	4.73	4.26	4.00	4.05	5.95	3.51	3.56	3.32	3.91	2.37	3.86	3.22	2.67	2.91	2.89	3.32	3.50	3.07
Average (ft)	0.74	0.80	0.80	0.79	1.60	0.95	0.97	0.73	0.69	0.73	0.70	0.97	1.07	1.06	1.06	1.21	1.06	0.93
Total Free Product (ft)	20.67	22.51	22.33	22.23	44.76	26.62	27.24	20.38	19.33	21.08	19.32	27.29	30.01	29.67	29.55	33.86	29.81	25.91
Total Standing Free Product Volume (gal)	13.44	14.63	14.53	14.45	29.09	17.30	17.71	13.25	12.56	13.70	12.69	17.74	19.51	19.29	19.21	22.01	19.38	16.84
Estimated Total Free Product Removed (gal) [1] *(Liquid and Vapor Phase Free Product Volume)*	25.07	44.12	35.36	49.32	79.06	46.44	56.75	37.50	40.36	37.70	27.86	28.54	31.09	29.36	32.48	33.28	29.73	31.72
Estimated Total Fluids Removed (gal) *(Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000*	21.03	38.78	31.36	43.73	74.01	40.01	51.15	31.23	36.30	33.00	25.58	25.16	26.40	23.93	24.75	26.40	25.16	28.05
Vapor Phase Free Product Extraction Volume (gal) *as of Jan 2000*	5.26	6.58	5.65	6.42	11.06	8.49	8.90	7.50	6.53	6.35	4.76	6.26	7.99	7.91	9.38	8.53	6.63	6.15
Liquid Phase Free Product Extraction Volume (gal) *as of Jan 2000*	19.81	37.54	29.71	42.90	68.00	37.93	47.85	30.00	33.83	31.35	23.10	22.28	23.10	21.45	23.10	24.75	23.10	23.58
Groundwater Extraction Volume (gal) per each EFR Event [7] *as of Jan 2000*	1.24	1.24	1.65	0.83	6.01	2.06	3.30	1.24	2.48	1.65	2.48	2.89	3.30	2.48	1.65	1.65	2.06	2.48
Total EFR Extraction Volume (gal) *(Total Volume: free product + groundwater + product vapor)*	26.31	45.36	37.01	50.15	85.07	48.50	60.05	38.73	42.84	39.35	30.34	31.42	34.39	31.84	34.13	34.93	31.79	34.21
Estimated Volume Removed Resulting from Drum Purging (GW purge water) *if applicable* [9]	134			148			296			90				0				
Total Volume Removed from Site (gal) *(Manifested volume)* [9]	225			306			415			200				100				
Cumulative Total Free Product Removed (gal)	2,734	2,778	2,813	2,863	2,942	2,988	3,045	3,082	3,123	3,160	3,188	3,217	3,248	3,277	3,310	3,343	3,373	3,404
Extraction, Transportation & Disposal Cost[2]	$ 762.31			$ 996.13			$ 1,173.19			$ 1,069.50				$ 768.25				$
Unit Cost per gal[3]	$ 3.39			$ 3.26			$ 2.83			$ 3.35				$ 7.68				$
State Manifest Document Number	NJA3101136			NJA3239138			NJA3288383			NJA4036630				NJA4035384				

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date / Well No.	EFR 054 May 4, 2000 Feet of Product	EFR 055 June 13, 2000 Feet of Product	EFR 056 July 13, 2000 Feet of Product	EFR 057 August 9, 2000 Feet of Product	EFR 058 September 13, 2000 Feet of Product	EFR 059 October 8, 2000 Feet of Product	EFR 060 November 7, 2000 Feet of Product	EFR 061 December 17, 2000 Feet of Product	EFR AVERAGES	EFR TOTALS
EFR-1	1.60	1.92	0.65	0.81	1.14	0.83	1.62	1.33		
EFR-2	2.39	2.15	1.33	1.02	0.09	1.27	2.86	3.07		
EFR-3	1.20	1.53	0.25	0.09	0.81	0.91	0.98	0.88		
EFR-4	0.98	1.07	1	0.26	0.11	0.43	2.86	0.52		
EFR-5	3.25	2.17	2.01	2.00	2.05	1.67	1.68	0.37		
EFR-6	0.43	0.27	0.54	0.45	0.62	0.38	3.14	1.65		
EFR-7	0.00	0.00	0.00	0.11	0.01	0.00	0.00	0.00		
EFR-8	0.05	0.07	0	0.14	0.28	0.18	0.1	0.25		
EFR-9	0.28	0.11	0.35	0.30	0.19	0.32	0.33	0.25		
EFR-10	2.64	3.39	3.16	2.31	2.83	1.95	2.70	2.76		
EFR-11	0.87	1.01	1.54	2.08	3.91	2.06	1.88	1.87		
EFR-12	0.00	0.06	0.30	0.06	0.33	0.25	0.24	0.64		
EFR-13	1.71	1.11	0.55	0.26	0.61	0.30	0.55	0.68		
EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EFR-15	0.00	0.00	0.20	0.00	0.09	0.00	0.28	0.00		
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EFR-17	0.75	0.60	0.43	0.67	1.30	0.71	1.10	1.07		
EFR-18	0.80	0.05	0.32	0.02	1.56	0.21	0.04	0.84		
EFR-19	1.34	0.95	1.82	1.55	2.55	0.35	1.30	1.03		
EFR-20	1.74	2.03	1.62	1.58	1.85	1.47	1.77	2.45		
EFR-21	2.11	2.51	1.98	1.46	0.02	0.44	0.00	0.00		
EFR-22	0.16	0.19	0.32	0.11	0.22	1.39	1.09	0.76		
EFR-23	0.57	0.52	0.60	0.38	0.77	0.53	0.81	0.67		
EFR-24	0.33	0.24	1.18	0.19	0.13	0.16	0.01	0.00		
EFR-25	0.33	0.29	0.56	0.25	0.35	0.28	0.33	0.69		
EFR-26	1.63	1.92	2.42	1.69	1.24	0.59	0.28	0.48		
EFR-27	0.38	1.31	1.10	0.04	1.43	2.53	1.77	3.10		
EFR-28	0.29	0.35	1.08	0.38	1.22	0.22	0.14	0.28		
MIN (ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MAX (ft)	3.25	3.39	3.16	2.31	3.91	2.53	3.14	3.10		
Average (ft)	0.93	0.92	0.90	0.68	0.93	0.69	1.00	0.91		
Total Free Product (ft)	26.11	25.82	25.11	19.01	25.91	19.43	27.86	25.54		
Total Standing Free Product Volume (gal)	16.97	16.78	16.32	12.36	16.84	12.63	18.11	16.60		
Estimated Total Free Product Removed (gal) (1) *(Liquid and Vapor Phase Free Product Volume)*	28.10	29.15	25.59	26.19	39.55	28.67	25.66	27.22	59	3,635
Estimated Total Fluids Removed (gal) *(Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000*	26.40	28.05	23.58	24.75	37.13	31.02	28.05	28.05	34	1,156
Vapor Phase Free Product Extraction Volume (gal) *as of Jan 2000*	5.00	6.05	2.49	3.51	6.55	1.93	1.74	1.64	6	214
Liquid Phase Free Product Extraction Volume (gal) *as of Jan 2000*	23.10	23.10	23.10	22.69	33.00	26.73	23.93	23.58	31	1,058
Groundwater Extraction Volume (gal) per each EFR Event (7) *as of Jan 2000*	3.30	4.95	2.48	2.06	4.13	4.29	4.13	2.48	3	98
Total EFR Extraction Volume (gal) (Total Volume: *free product + groundwater + product vapor)*	31.40	34.10	28.07	28.26	43.68	32.95	29.80	29.70	239	14,788
Estimated Volume Removed Resulting from Drum Purging (GW purge water) *if applicable* (8)	142								184	3,865
Total Volume Removed from Site (gal) *(Manifested volume)* (9)	250								504	18,143
Cumulative Total Free Product Removed (gal)	3,433	3,462	3,487	3,513	3,553	3,582	3,607	3,635	N/A	3,635
Extraction, Transportation & Disposal Cost(2)	965.12								$ 1,399.01	$ 50,364.42
Unit Cost per gal(2)	3.86								$ 3.60	N/A
State Manifest Document Number	NJA4035962								N/A	N/A

Once the extraction apparatus is full (approximately 55-gallons), the free product and limited volume of groundwater are transferred to the on-site 550-gallon aboveground storage tank (AST) equipped with secondary containment for satellite storage. The fluids generated during EFR events, including purged groundwater generated during groundwater monitoring activities, are transported off-site by Clean Venture, Inc. (US EPA ID No. NJ0000027193) and managed by Cycle Chem, Inc. (USEPA ID No. NJD002200046) at their facility located in Elizabeth, New Jersey. No waste fluids were transported off-site during fourth quarter 2002.

2.2 Apparent Free Product Trends

The following sections describe apparent product trends in the western, west-central, east-central, and eastern portions of the free product area. Apparent product refers to a volume (in gallons) of free product occupying the casings of each EFR well. As described in the following sections, "total volume of apparent free product" represents the sum of product volumes from each EFR well within each of the four segregated regions.

The apparent product thickness is not representative of the actual free product thickness or volume that exists within the formation outside of the well casing. RMT previously evaluated actual free product thickness and volume in our report entitled Free Product Volume Analysis (May 2000). That report estimated a total volume of recoverable free product actually present in the subsurface to be between at 8,000 and 13,000 gallons. To facilitate description of the current distribution of free product, the zone of free product occurrence has been divided into four sub areas. These four areas discussed from west to east are:

2.2.1 Western Region of Free Product

In the western portion of the free product area (EFR wells 1, 2, 3, 17, 18, 20, 21, and 28), there was an increase in the total volume of apparent free product measured during the fourth quarter of 2002. The total combined apparent free product volume from all of the western region wells increased from 3.94 gallons in October 2002 to 6.45 gallons in December 2002. Free product thickness decreased at EFR wells 3 and 21 and increased at EFR wells 1, 2, 17, 18, 20 and 28. Despite these short-term increases, the overall apparent free product volume in the western region appears to be decreasing since LEC initiated EFR in November 1997 (Appendix B).

2.2.2 West-Central Region of Free Product

In the western-central portion of the free product area (EFR wells 4, 5, 6, 7, 19, 22, 23, 24, 25, 26, and 27), there was an increase in the total volume of apparent free product measured during the fourth quarter of 2002. The total combined apparent free product

volume from all of the west-central region wells increased from 5.40 gallons in October 2002 to 5.96 gallons in December 2002. Free product thickness decreased at EFR wells 5, 22, 24, and 26, increased at EFR wells 4, 6, 19, 23, 25, and 27, and remained the same at EFR well 7 during fourth quarter 2002. Overall, the apparent free product volume in the west-central region appears to be decreasing since LEC initiated EFR in November 1997 (Appendix B).

2.2.3 East-Central Region of Free Product

The total volume of apparent free product increased in the east-central portion of the free product area (EFR wells 8, 9, 10, 11, 12, and 13) during fourth quarter 2002. The total combined apparent free product volume from all of the east-central region wells increased from 3.29 gallons in October 2002 to 4.19 gallons in December 2002. Free product thickness decreased at EFR wells 9 and 11, and increased at EFR wells 8, 10, 12, and 13. Despite these short-term gains, the apparent free product volume in the eastern-central region appears to be decreasing since LEC initiated EFR in November 1997 (Appendix B).

2.2.4 Eastern Region of Free Product

During fourth quarter 2002, a very small volume (0.18 gallons) of free product was measured in the eastern portion of the free product area at EFR well 15, and a free product thickness of 0.01 ft was noted in the nearby monitoring well MW-3. However, no free product was detected in EFR wells 14 and 16.

2.2.5 Site Total Apparent Free Product Area

The total volume of apparent free product on the site, accounting for all 28 EFR wells, increased over the course of fourth quarter 2002 from 12.63 gallons in October 2002 to 16.60 gallons in December 2002. These volumes are consistent with the volumes calculated for third quarter 2002. In general, the total apparent free product trend chart indicates a steady decrease in the volume of apparent free product existing on-site. A cumulative breakdown of free product thickness and apparent free product volumes specific to each region is presented in Table 2. Additionally, trend charts for each of the four free product regions, and for the site as a whole, that graphically display apparent free product volume fluctuations over time are presented in Appendix B. Figure 3 shows iso-thickness contours and the lateral extent of apparent free product on-site during fourth quarter 2002. This figure incorporates the apparent free product thickness measurements from the groundwater monitoring event conducted by RMT on November 19, 2002, and the pre-EFR event measurements obtained by CEMCO on November 7, 2002.

TABLE 2

THROUGH 4TH QUARTER 2002

L.E. CARPENTER - WHARTON, NEW JERSEY

REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	21-Nov-97	9-Dec-97	7-Jan-98	16-Feb-98	16-Mar-98	27-Mar-98	24-Apr-98	29-May-98	30-Jun-98	31-Jul-98	24-Aug-98	17-Sep-98	22-Oct-98	20-Nov-98	18-Dec-98	13-Jan-99	17-Feb-99
Western Region of Free Product	EFR-1	1.64	1.53	1.94	2.48	0.93	0.94	1.42	1.55	2.11	1.28	1.22	1.71	1.59	1.71	1.57	0.53	1.79
	EFR-2	1.55	1.50	1.86	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21	1.29	1.51	1.41	0.95	1.40
	EFR-3	0.85	1.02	1.27	1.58	1.19	0.03	0.24	0.19	0.77	0.72	0.93	1.03	1.01	1.19	1.18	1.14	1.01
	EFR-17	0.04	0.17	1.56	0.17	0.08	0.00	0.09	0.00	0.02	0.37	0.29	0.46	0.56	0.71	0.53	0.26	0.08
	EFR-18	0.10	0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.14	0.48	0.68	0.98	1.08	0.56	0.11
	EFR-20	0.40	0.34	0.95	0.27	0.00	0.00	0.04	0.24	0.37	0.65	0.63	0.79	1.24	1.85	2.11	0.65	1.33
	EFR-21	2.36	2.40	2.71	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86	1.77	1.67	1.62	1.21	1.43
	EFR-28	2.20	2.30	1.78	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69	1.83	1.79	1.74	1.03	1.29
	Total Free Product (ft)	9.14	9.36	12.16	12.04	12.50	11.34	13.07	11.56	10.96	7.66	7.90	9.23	9.97	11.41	11.24	6.33	8.44
	Total Free Product (gal)	5.86	6.00	7.79	7.72	8.01	7.27	8.38	7.41	7.03	4.91	5.06	6.00	6.48	7.42	7.31	4.11	5.49
West-Central Region of Free Product	EFR-4	1.03	2.27	0.54	0.30	0.00	0.00	0.00	0.00	0.03	0.38	1.23	2.40	2.17	1.75	1.79	0.73	0.10
	EFR-5	4.03	3.74	4.25	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33	2.52	2.19	2.28	2.68	3.47
	EFR-6	0.72	1.00	1.24	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42	1.25	1.29	1.38	0.49	0.84
	EFR-7	0.17	0.09	0.16	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.03	0.07	0.05	0.20	0.16	0.02	0.04
	EFR-19	0.54	2.80	1.89	1.95	1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68	1.95	2.31	2.44	1.83	1.68
	EFR-22	3.78	4.10	0.05	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87	2.97	2.83	2.58	2.27	2.06	0.84
	EFR-23	0.00	0.06	0.06	0.02	0.00	0.00	0.00	0.00	0.05	0.11	0.08	0.27	1.03	3.07	2.29	1.55	0.91
	EFR-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.03	0.12	0.14	0.38	0.06
	EFR-25	2.95	3.00	3.55	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29	0.41	1.33	1.58	1.05	1.75
	EFR-26	2.20	2.05	2.66	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17	1.24	1.08	1.09	0.73	0.55
	EFR-27	0.15	0.02	2.71	0.74	0.00	0.00	0.03	0.00	0.02	0.33	0.45	1.49	0.54	0.47	0.51	0.09	0.12
	Total Free Product (ft)	15.57	19.13	17.11	18.42	16.65	9.89	9.81	8.18	6.91	11.60	11.99	14.09	14.02	16.39	15.93	11.61	10.36
	Total Free Product (gal)	9.98	12.26	10.97	11.81	10.67	6.34	6.29	5.24	4.43	7.44	7.69	9.16	9.11	10.65	10.35	7.55	6.73
East-Central Region of Free Product	EFR-8	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.03	0.04	0.08	0.13	0.09	0.07	0.03	0.12	0.00
	EFR-9	0.00	1.10	1.79	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23	1.31	1.26	1.86	0.74	0.49
	EFR-10	5.20	5.80	6.42	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34	4.38	3.98	3.99	3.68	5.79
	EFR-11	3.07	4.04	4.28	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95	4.06	3.65	3.52	2.42	4.69
	EFR-12	0.04	0.03	0.00	0.07	0.00	0.00	0.00	0.02	0.28	0.22	0.28	0.24	0.15	0.29	0.17	0.04	0.11
	EFR-13	0.48	0.56	1.33	1.28	1.07	1.07	0.67	0.00	0.90	0.56	0.48	0.66	0.82	1.13	1.30	0.22	1.19
	Total Free Product (ft)	8.79	11.53	13.82	13.53	15.53	11.87	13.36	11.33	13.26	11.10	10.81	10.55	10.81	10.38	10.87	7.22	12.27
	Total Free Product (gal)	5.63	7.39	8.86	8.67	9.95	7.61	8.56	7.26	8.50	7.12	6.93	6.86	7.03	6.75	7.07	4.69	7.98
Eastern Region of Free Product	EFR-14	0.10	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.09	0.12	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03	0.12	0.12	0.32	0.11	0.07
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.19	0.28	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03	0.12	0.12	0.32	0.11	0.07
	Total Free Product (gal)	0.12	0.18	0.17	0.04	0.00	0.00	0.00	0.00	0.02	0.01	0.02	0.02	0.08	0.08	0.21	0.07	0.04
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)		21.60	25.83	27.79	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.03	22.70	24.89	24.93	16.42	20.24

TABLE 2

L.E. CARPENTER - WHARTON, NEW JERSEY

REGIONAL APPARENT FREE PRODUCT TRENDS

THROUGH 4TH QUARTER 2002

	EFR Event Date	23-Mar-99	19-Apr-99	18-May-99	22-Jun-99	28-Jul-99	27-Aug-99	22-Sep-99	27-Oct-99	30-Nov-99	16-Dec-99	28-Jan-00	18-Feb-00	24-Mar-00	19-Apr-00	18-May-00	16-Jun-00	18-Jul-00
Western Region of Free Product	EFR-1	3.68	1.13	1.09	1.15	1.49	1.27	1.94	1.63	1.47	1.20	1.22	0.85	1.86	1.59	1.54	2.10	1.51
	EFR-2	2.42	1.46	1.22	0.92	1.21	1.00	0.63	1.35	1.28	1.40	0.06	1.04	2.25	2.00	1.64	1.89	1.40
	EFR-3	1.63	0.36	0.25	0.86	0.88	1.03	0.74	0.69	0.47	0.02	0.51	0.07	0.08	0.09	0.62	1.02	0.25
	EFR-17	0.06	0.06	0.08	0.12	0.39	0.36	0.10	0.06	0.24	0.25	0.11	0.32	0.04	0.16	0.65	0.04	0.01
	EFR-18	0.00	0.06	0.16	0.46	0.96	1.37	0.61	0.36	0.77	0.05	0.20	0.05	0.12	0.04	0.32	0.01	0.06
	EFR-20	0.88	0.43	0.89	0.87	1.59	1.86	0.47	1.92	1.36	0.75	1.08	2.58	0.64	0.42	0.54	0.33	0.30
	EFR-21	2.62	2.35	1.49	1.46	1.57	1.04	1.01	2.32	1.40	1.70	1.92	1.34	3.04	2.86	2.47	3.02	2.09
	EFR-28	1.71	1.65	1.46	1.25	1.67	1.78	0.38	2.19	0.96	1.42	1.33	1.00	2.30	2.42	1.81	2.68	1.72
	Total Free Product (ft)	13.00	7.50	6.64	7.09	9.76	9.71	5.88	10.52	7.95	6.79	6.43	7.25	10.33	9.58	9.59	11.09	7.34
	Total Free Product (gal)	8.45	4.88	4.32	4.61	6.34	6.31	3.82	6.84	5.17	4.41	4.18	4.71	6.71	6.23	6.23	7.21	4.77
West-Central Region of Free Product	EFR-4	0.14	0.08	0.05	0.03	0.44	0.99	0.51	0.11	0.03	0.58	0.51	0.48	0.11	0.11	0.41	0.22	0.05
	EFR-5	6.15	2.65	2.61	2.66	2.66	1.57	1.77	3.23	2.99	1.27	2.95	2.46	2.91	2.54	1.84	2.34	1.99
	EFR-6	0.88	0.61	1.07	1.16	1.51	0.91	0.15	0.86	0.63	0.33	1.07	0.77	0.29	0.31	0.49	0.27	0.54
	EFR-7	0.04	0.07	0.02	0.08	0.28	0.05	0.01	0.07	0.04	0.47	0.15	0.02	0.35	0.01	0.02	-	-
	EFR-19	0.52	0.44	0.52	1.10	2.05	2.02	0.51	1.54	0.84	0.69	1.67	1.73	0.25	0.60	0.98	0.17	0.63
	EFR-22	0.34	0.95	1.39	1.93	1.47	1.41	0.17	2.22	1.76	0.53	0.82	0.58	0.09	0.16	0.05	0.05	0.01
	EFR-23	0.47	0.22	0.25	0.45	2.13	1.03	0.12	0.53	0.64	0.24	0.23	0.31	0.46	0.06	0.06	0.01	0.13
	EFR-24	0.00	0.00	0.00	0.08	0.08	0.05	0.00	0.00	0.04	0.13	0.11	0.07	0.58	0.02	0.03	-	-
	EFR-25	1.19	1.08	0.76	0.54	1.74	1.48	0.21	0.39	0.19	0.05	0.31	0.39	0.58	0.21	0.10	0.03	0.10
	EFR-26	0.45	0.75	1.29	1.28	1.23	0.72	0.29	0.52	0.94	0.59	1.54	1.10	1.33	1.68	2.02	1.44	2.25
	EFR-27	0.00	0.00	0.02	0.03	0.17	0.21	0.06	0.01	0.01	0.01	0.02	0.14	0.20	0.01	0.03	0.04	0.01
	Total Free Product (ft)	10.18	6.85	7.98	9.34	13.76	10.44	3.80	9.48	8.11	4.89	9.38	8.05	7.15	5.71	6.03	4.57	5.71
	Total Free Product (gal)	6.62	4.45	5.19	6.07	8.94	6.79	2.47	6.16	5.27	3.18	6.10	5.23	4.65	3.71	3.92	2.97	3.71
East-Central Region of Free Product	EFR-8	0.03	0.03	0.03	0.09	0.39	0.27	0.09	0.13	0.05	0.11	0.05	0.06	0.08	0.03	0.05	0.03	0.02
	EFR-9	0.06	0.11	0.32	0.49	1.16	0.56	0.41	0.28	0.10	0.15	0.13	0.08	0.19	0.02	0.06	0.06	0.12
	EFR-10	5.52	4.97	4.23	3.71	3.63	2.47	3.02	5.18	3.95	3.07	4.50	3.55	3.50	4.50	1.36	2.50	3.09
	EFR-11	2.84	2.02	2.48	3.28	2.78	1.57	1.93	3.20	3.11	1.07	3.44	4.95	2.41	2.95	2.93	2.49	4.12
	EFR-12	0.05	0.02	0.02	0.10	0.30	0.20	0.03	0.09	0.67	0.01	0.03	0.49	0.46	0.10	0.19	0.01	0.01
	EFR-13	0.15	0.49	0.50	0.44	1.33	1.01	0.74	0.78	0.57	0.26	0.36	0.34	0.48	0.47	0.69	0.55	0.73
	Total Free Product (ft)	8.65	7.64	7.58	8.11	9.59	6.08	6.22	9.66	8.45	4.67	8.51	9.47	7.12	8.07	5.28	5.64	8.09
	Total Free Product (gal)	5.62	4.97	4.93	5.27	6.23	3.95	4.04	6.28	5.49	3.04	5.53	6.16	4.63	5.25	3.43	3.67	5.26
Eastern Region of Free Product	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.01	0.01	0.00	0.00	0.00	0.13	0.04	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.01	0.01	0.00	0.00	0.00	0.13	0.04	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00
	Total Free Product (gal)	0.01	0.01	0.00	0.00	0.00	0.08	0.03	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)		20.70	14.30	14.43	15.95	21.52	17.13	10.36	19.29	15.98	10.64	15.82	16.11	16.00	15.20	13.59	13.85	13.74

TABLE 2

THROUGH 4TH QUARTER 2002

L.E. CARPENTER - WHARTON, NEW JERSEY

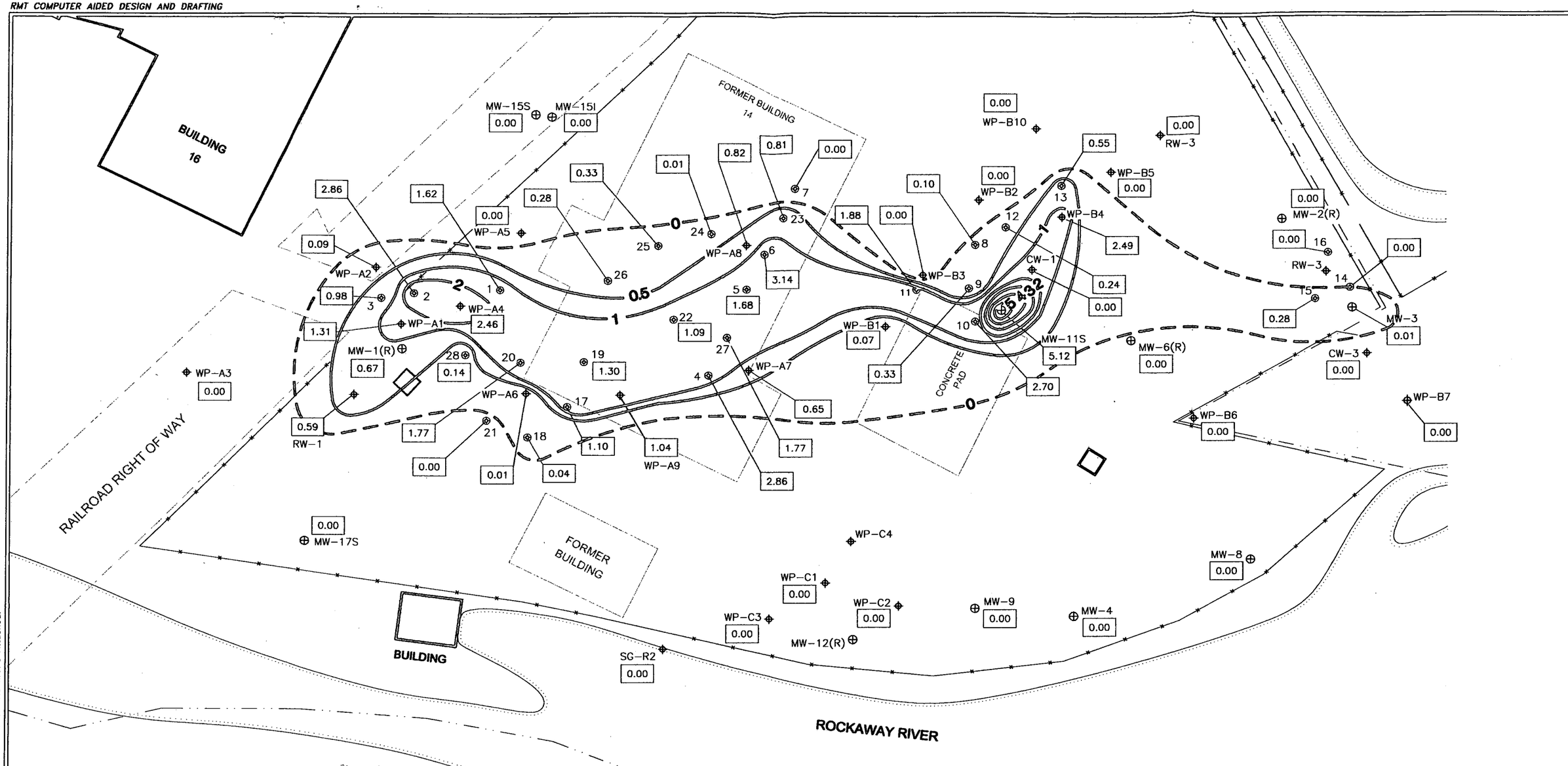
REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	17-Aug-00	18-Sep-00	25-Oct-00	17-Nov-00	15-Dec-00	15-Mar-01	23-Apr-01	25-May-01	13-Jun-01	27-Jul-01	24-Aug-01	25-Sep-01	25-Oct-01	20-Nov-01	31-Dec-01	29-Jan-02	20-Feb-02
Western Region of Free Product	EFR-1	1.26	1.53	1.00	1.07	1.14	2.91	1.25	1.02	1.14	0.57	0.80	1.29	1.60	1.51	1.57	2.07	1.93
	EFR-2	0.36	1.08	0.97	1.09	0.76	2.92	2.66	1.75	2.26	1.22	1.17	1.22	1.14	1.15	1.19	1.37	1.33
	EFR-3	0.02	0.08	0.44	0.43	0.46	0.33	0.29	0.49	0.70	0.40	0.66	0.51	0.81	0.76	0.80	0.70	0.78
	EFR-17	0.02	0.09	0.06	0.36	0.01	0.41	0.31	0.51	0.28	0.02	0.49	0.34	0.85	0.97	1.57	1.43	2.23
	EFR-18	0.16	0.08	0.31	0.31	0.20	3.27	1.35	0.43	0.31	0.01	0.13	0.41	0.69	0.75	1.22	1.90	1.00
	EFR-20	0.39	0.45	0.54	0.11	0.37	0.24	0.97	0.52	0.31	0.08	0.32	0.24	0.73	1.10	1.29	1.78	0.46
	EFR-21	1.62	2.75	1.79	1.65	1.37	4.09	3.51	2.96	2.61	1.98	1.61	1.87	1.58	1.38	1.54	1.51	1.50
	EFR-28	2.48	2.02	1.39	1.36	0.64	2.81	2.75	1.86	2.34	1.36	1.67	1.05	1.50	1.38	1.51	1.67	1.86
	Total Free Product (ft)	6.31	8.08	6.50	6.38	4.95	16.98	13.09	9.54	9.95	5.64	6.85	6.93	8.90	9.00	10.69	12.43	11.09
	Total Free Product (gal)	4.10	5.25	4.23	4.15	3.22	11.04	8.51	6.20	6.47	3.67	4.45	4.50	5.79	5.85	6.95	8.08	7.21
West-Central Region of Free Product	EFR-4	0.02	0.02	0.02	0.05	0.21	0.59	1.65	0.01	0.44	0.02	1.86	0.11	0.57	0.68	0.54	0.26	1.13
	EFR-5	1.69	1.57	2.74	2.47	2.76	5.95	1.75	1.90	0.62	2.24	2.05	2.25	2.55	2.10	2.67	2.66	2.68
	EFR-6	0.29	0.55	0.83	0.79	0.96	2.05	0.32	0.43	0.16	0.46	0.49	0.37	1.13	1.56	1.23	0.71	2.21
	EFR-7	0.01	-	0.01	0.01	0.01	0.28	0.02	0.02	0.00	0.00	0.16	0.00	0.05	0.08	0.24	0.00	0.00
	EFR-19	0.34	0.22	0.87	0.59	1.42	2.32	0.65	1.98	1.01	0.44	1.19	0.54	2.15	2.36	2.38	2.26	3.22
	EFR-22	0.18	0.06	0.53	2.14	1.50	0.81	0.06	0.43	0.00	0.00	0.47	0.57	1.22	1.53	1.93	0.98	0.63
	EFR-23	0.03	0.07	0.07	0.08	0.39	0.07	0.03	0.88	0.28	0.05	0.34	0.07	0.85	2.67	0.75	0.98	1.13
	EFR-24	-	0.01	0.01	0.01	0.04	2.27	0.05	0.34	0.01	0.01	0.27	0.14	0.35	0.38	0.34	0.47	2.65
	EFR-25	0.03	0.10	0.19	0.12	0.10	0.04	0.39	0.28	0.14	0.03	0.47	0.09	0.43	0.63	0.64	0.82	0.99
	EFR-26	1.38	2.01	2.05	1.78	1.10	2.64	2.56	2.68	1.48	2.24	1.07	1.20	1.45	1.22	1.13	1.14	0.87
	EFR-27	0.01	0.15	0.01	0.01	0.01	0.48	0.05	0.04	0.00	0.01	0.04	0.00	0.52	0.49	0.13	0.53	0.32
	Total Free Product (ft)	3.98	4.76	7.33	8.05	8.50	17.50	7.53	8.99	4.14	5.50	8.41	5.34	11.27	13.70	11.98	10.81	15.83
	Total Free Product (gal)	2.59	3.09	4.76	5.23	5.53	11.38	4.89	5.84	2.69	3.58	5.47	3.47	7.33	8.91	7.79	7.03	10.29
East-Central Region of Free Product	EFR-8	0.01	0.01	0.16	0.02	0.06	0.03	0.05	0.04	0.03	0.01	0.18	0.00	0.18	0.16	0.22	0.01	0.04
	EFR-9	0.16	0.08	0.02	0.50	0.77	0.57	0.07	0.56	0.07	0.14	0.27	0.39	0.56	0.85	0.32	0.29	0.45
	EFR-10	0.75	2.76	3.88	3.27	4.05	5.64	3.17	3.52	3.32	3.73	2.30	2.62	2.70	2.61	2.91	2.02	3.32
	EFR-11	0.79	4.73	4.26	4.00	3.73	2.82	2.41	3.56	2.60	3.91	2.37	3.86	3.22	2.44	2.90	2.89	2.58
	EFR-12	0.00	0.03	0.11	0.04	0.02	0.07	0.02	0.25	0.01	0.01	0.23	0.00	0.00	0.34	0.21	0.26	0.11
	EFR-13	0.49	0.22	0.25	0.09	0.15	1.14	0.27	0.78	0.26	0.39	0.47	0.38	0.46	0.88	0.44	0.84	0.44
	Total Free Product (ft)	2.20	7.83	8.68	7.92	8.78	10.27	5.99	8.71	6.29	8.19	5.82	7.25	7.12	7.28	7.00	6.31	6.94
	Total Free Product (gal)	1.43	5.09	5.64	5.15	5.71	6.68	3.89	5.66	4.09	5.32	3.78	4.71	4.63	4.73	4.55	4.10	4.51
Eastern Region of Free Product	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
	Total Free Product (gal)	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)		8.12	13.44	14.63	14.53	14.45	29.09	17.30	17.71	13.25	12.56	13.70	12.69	17.74	19.51	19.29	19.21	22.01

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY
REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	26-Mar-02	10-Apr-02	6-May-02	13-Jun-02	15-Jul-02	9-Aug-02	13-Sep-02	8-Oct-02	7-Nov-02	17-Dec-02
Western Region of Free Product	EFR-1	0.90	0.77	1.60	1.92	0.65	0.81	1.14	0.83	1.62	1.33
	EFR-2	1.40	1.20	2.39	2.15	1.33	1.02	0.09	1.27	2.86	3.07
	EFR-3	1.05	1.09	1.28	1.53	0.25	0.89	0.81	0.91	0.98	0.88
	EFR-17	1.90	0.77	0.75	0.60	0.43	0.67	1.50	0.71	1.10	1.07
	EFR-18	1.07	0.81	0.80	0.05	0.32	0.02	1.56	0.21	0.04	0.84
	EFR-20	1.24	1.24	1.74	2.03	1.62	1.58	1.85	1.47	1.77	2.45
	EFR-21	2.25	1.65	2.11	2.51	1.98	1.46	0.02	0.44	0.00	0.00
	EFR-28	0.21	0.63	0.29	0.35	1.08	0.38	1.22	0.22	0.14	0.28
	Total Free Product (ft)	10.02	8.16	10.96	11.14	7.66	6.83	8.19	6.06	8.51	9.92
	Total Free Product (gal)	6.51	5.30	7.12	7.24	4.98	4.44	5.32	3.94	5.53	6.45
West-Central Region of Free Product	EFR-4	0.37	0.89	0.98	1.07	1.00	0.26	0.11	0.43	2.86	0.52
	EFR-5	3.50	3.07	3.25	2.17	2.01	2.00	2.05	1.67	1.68	0.37
	EFR-6	2.30	0.77	0.43	0.27	0.54	0.45	0.62	0.38	3.14	1.63
	EFR-7	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.00	0.00	0.00
	EFR-19	2.90	2.69	1.34	0.95	1.82	1.55	2.55	0.35	1.30	1.03
	EFR-22	0.80	0.39	0.16	0.19	0.32	0.11	0.22	1.39	1.09	0.76
	EFR-23	0.01	0.70	0.57	0.52	0.60	0.38	0.77	0.53	0.81	0.67
	EFR-24	0.60	1.35	0.33	0.24	1.18	0.19	0.13	0.16	0.01	0.00
	EFR-25	0.75	1.21	0.33	0.29	0.36	0.25	0.35	0.28	0.33	0.69
	EFR-26	1.55	1.67	1.83	1.92	2.42	1.69	1.24	0.59	0.28	0.40
	EFR-27	0.00	0.00	0.38	1.31	1.10	0.04	1.43	2.53	1.77	3.10
	Total Free Product (ft)	12.78	12.74	9.60	8.93	11.35	7.03	9.48	8.31	13.27	9.17
	Total Free Product (gal)	8.31	8.28	6.24	5.80	7.38	4.57	6.16	5.40	8.63	5.96
East-Central Region of Free Product	EFR-8	0.07	0.10	0.05	0.07	0.00	0.14	0.28	0.18	0.10	0.25
	EFR-9	0.32	0.32	0.28	0.11	0.35	0.30	0.19	0.32	0.33	0.25
	EFR-10	3.48	2.77	2.64	3.39	3.16	2.31	2.83	1.95	2.70	2.76
	EFR-11	2.12	0.99	0.87	1.01	1.54	2.08	3.91	2.06	1.88	1.87
	EFR-12	0.10	0.15	0.00	0.06	0.30	0.06	0.33	0.25	0.24	0.64
	EFR-13	0.87	0.68	1.71	1.11	0.55	0.26	0.61	0.30	0.55	0.68
	Total Free Product (ft)	6.96	5.01	5.55	5.75	5.90	5.15	8.15	5.06	5.80	6.45
	Total Free Product (gal)	4.52	3.26	3.61	3.74	3.84	3.35	5.30	3.29	3.77	4.19
Eastern Region of Free Product	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.05	0.00	0.00	0.00	0.20	0.00	0.09	0.00	0.28	0.00
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.05	0.00	0.00	0.00	0.20	0.00	0.09	0.00	0.28	0.00
	Total Free Product (gal)	0.03	0.00	0.00	0.00	0.13	0.00	0.06	0.00	0.18	0.00
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)		19.38	16.84	16.97	16.78	16.32	12.36	16.84	12.63	18.11	16.60

RMT COMPUTER AIDED DESIGN AND DRAFTING



LEGEND

- SURFACE WATER FEATURE
- PROPERTY LINE
- FENCE
- 1 APPARENT PRODUCT THICKNESS CONTOURS (FT)
- 0 APPROXIMATE OUTER LIMIT OF FREE PRODUCT
- 0.00 NO MEASURABLE PRODUCT
- 1.22 PRODUCT THICKNESS MEASURED IN WELL (FT) (Measurements collected at monitoring wells and well points on November 19, 2002 by RMT, Inc.) (Measurements collected at EFR wells on November 7, 2002 by CEMCO)
- MW-13S MONITORING WELL
- MW-24 ABANDONED WELL
- RW-2 RECOVERY WELL
- CW-3 CAISSON WELLS
- WP-B7 WELL POINTS WITH ELEVATION
- TREATMENT BUILDING
- 13 ENHANCED FLUID RECOVERY WELL (EFR)

N

0 50' 100'

SCALE IN FEET

LE CARPENTER
WHARTON, NEW JERSEY

APPARENT FREE PRODUCT THICKNESS CONTOURS FOR 4th QUARTER 2002

DRAWN BY:	SJL	PROJECT NUMBER:	3868.35
CHECKED BY:	CT	FILE NUMBER:	38683553.DWG
APPROVED BY:	JDD	DATE:	JANUARY 2003

RMT INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237
PHONE: 734-971-7080
FAX: 734-971-9022

FIGURE 3

PLOT DATA
Drawing Name: J:\03868\35\38683553.dwg
Operator Name: lucidos
Scale: 1"=50'
Dwg Size: 427347 Bytes
Plot Date: Thursday, January 23, 2003
Plot Time: 06:59:15:19 AM
Attached Xref's: No xref's Attached.

2.3 Recovered Free Product Volume Estimations

After the completion of each EFR event, the total volume of extracted fluid was determined by gauging the 55-gallon vacuum head drum previously mentioned in Section 2.1 with an oil/water interface probe. The drum was allowed to stabilize for one hour prior to gauging to allow for separation of emulsified product resulting from aggressive recovery. Gauging was conducted on a level surface and recorded thickness was converted to volumes based on a conversion of 1.65 gallons per inch of fluid thickness in the 55-gallon drum. Recovered liquid free product volume was determined by subtracting the volume of water from the total fluid volume collected in the 55-gallon drum. Vapor phase product volume was estimated based on vacuum head airflow (in cfm) and vented contaminant concentrations (in ppm) obtained during extraction at each EFR well. The volume (combined liquid and vapor phase) of free product extracted during each month's EFR event is presented in Table 3.

The total extraction volume (measurable free product, product vapor, and groundwater) during fourth quarter 2002 was 92.45 gallons. Approximately 81.55 gallons of that amount were measurable free product as determined by vacuum head drum gauging and vapor phase volume calculations, and 10.09 gallons were groundwater. Since initiation in December 1997, site EFR activities have removed approximately 14,788 gallons of total fluids, of which, approximately 3,635 gallons were measurable free phase product. Based on historical modeling data (Ref. Section 2.2), approximately 4,365 to 9,365 gallons of recoverable free product remains in the ground. Tables 1, 2, and 3 contain a complete breakdown of EFR related information.

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR #59 DATE 8-Oct-02

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	11.77	12.6	0.83
EFR-2	12.29	13.56	1.27
EFR-3	12.16	13.07	0.91
EFR-4	13.84	14.27	0.43
EFR-5	12.08	13.75	1.67
EFR-6	11.42	11.8	0.38
EFR-7	8.65	8.65	0.00
EFR-8	7.66	7.84	0.18
EFR-9	7.89	8.21	0.32
EFR-10	8.65	10.6	1.95
EFR-11	8.19	10.25	2.06
EFR-12	7.18	7.43	0.25
EFR-13	6.77	7.07	0.30
EFR-14	6.52	6.52	0.00
EFR-15	5.89	5.89	0.00
EFR-16	6.34	6.34	0.00
EFR-17	10.47	11.18	0.71
EFR-18	11.08	11.29	0.21
EFR-19	13.95	14.3	0.35
EFR-20	10.65	12.12	1.47
EFR-21	13.41	13.85	0.44
EFR-22	14.04	15.43	1.39
EFR-23	10.38	10.91	0.53
EFR-24	13.41	13.57	0.16
EFR-25	13.15	13.43	0.28
EFR-26	14.88	15.47	0.59
EFR-27	10.64	13.17	2.53
EFR-28	12.19	12.41	0.22

CEMCO FIELD TECHNICIAN: Gary Pizzuti

Total Volume Of Free Standing Product (gal) 12.63

Table 3A (8.5x11)

I:\WPORD\PJT\00-03868\29\000386829-002.xls 1/24/2003

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #59 **DATE: 10/8/02**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	5.0	0.0833	2,493	38	17	100	11.52	0.9603
EFR-2	5.0	0.0833	1,837	28	17	100	8.49	0.7076
EFR-3	5.0	0.0833	2,427	37	17	100	11.22	0.9350
EFR-4	5.0	0.0833	328	5	17	100	1.52	0.1264
EFR-5	5.0	0.0833	459	7	17	100	2.12	0.1769
EFR-6	2.0	0.0333	722	11	17	100	3.34	0.1112
EFR-7	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-8	2.0	0.0333	2,099	32	17	100	9.70	0.3235
EFR-9	2.0	0.0333	3,411	52	17	100	15.77	0.5256
EFR-10	15.0	0.2500	3,411	52	17	100	15.77	3.9422
EFR-11	15.0	0.2500	2,296	35	17	100	10.61	2.6534
EFR-12	5.0	0.0833	918	14	17	100	4.25	0.3538
EFR-13	2.0	0.0333	1,181	18	17	100	5.46	0.1819
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	2.0	0.0333	131	2	17	100	0.61	0.0202
EFR-18	2.0	0.0333	4,198	64	17	100	19.41	0.6469
EFR-19	5.0	0.0833	525	8	17	100	2.43	0.2022
EFR-20	5.0	0.0833	5,510	84	17	100	25.47	2.1227
EFR-21	2.0	0.0333	262	4	17	100	1.21	0.0404
EFR-22	2.0	0.0333	0	0	17	100	0.00	0.0000
EFR-23	2.0	0.0333	1,378	21	17	100	6.37	0.2123
EFR-24	1.0	0.0167	0	0	17	100	0.00	0.0000
EFR-25	1.0	0.0167	0	0	17	100	0.00	0.0000
EFR-26	2.0	0.0333	0	0	17	100	0.00	0.0000
EFR-27	15.0	0.2500	656	10	17	100	3.03	0.7581
EFR-28	1.0	0.0167	1,706	26	17	100	7.88	0.1314
Total EFR Time (hrs)		1.8000	AVG. ppm	1562.47			TOTAL (LBS)	15.1321
							TOTAL VAPOR PHASE VOLUME (GAL)	1.9378

NOTE: PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)
(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Analyte LELs: DEHP @ 0.3% ; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where:

ppm_v =	Parts per Million by Volume		
Flow =	Cubic feet per minute (CFM)	100	
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) =	292	(2)
IGC =	Ideal Gas Constant (359 ft^3/lb-mole) =	379	
LEL =	Free Product Mixture =	0.656	(1)
SG =	Specific Gravity =	0.9363	(3)

NOTE: (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2
(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

$$\text{Pounds/Hr (lbs/hr)} = (ppm_v \times (60\ \text{min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359\ ft^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	16.20
Groundwater Thickness (in)	2.60
Conversion @ 1.65 gal/inch	1.65
Total Product Volume (gal)	26.73
Total Groundwater Volume (gal)	4.29
Ratio Groundwater to Free Product (gal/gal)	0.16

		Y (gal)
Total Recovered Groundwater Volume (gal)		4.29
Total Recovered Free Product Volume (gal)		26.73
Total Recovered Fluids Volume (gal)		31.02
TOTAL EFR PRODUCT VOLUME		28.67 GAL

Date	8-Oct-02
Project #	3868.30
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

CEMCO Field Technician: Gary Pizzuti

RMT Project Manager: Nick Clevett

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR #60 DATE 7-Nov-02

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	10.43	12.05	1.62
EFR-2	9.97	12.83	2.86
EFR-3	10.85	11.83	0.98
EFR-4	12.26	15.12	2.86
EFR-5	10.83	12.51	1.68
EFR-6	10.16	13.3	3.14
EFR-7	6.06	6.06	0.00
EFR-8	6.42	6.52	0.10
EFR-9	6.61	6.94	0.33
EFR-10	7.36	10.06	2.70
EFR-11	6.97	8.85	1.88
EFR-12	5.95	6.19	0.24
EFR-13	5.53	6.08	0.55
EFR-14	5.3	5.3	0.00
EFR-15	4.56	4.84	0.28
EFR-16	5.2	5.2	0.00
EFR-17	9.25	10.35	1.10
EFR-18	9.81	9.85	0.04
EFR-19	12.69	13.99	1.30
EFR-20	9.04	10.81	1.77
EFR-21	11.78	11.78	0.00
EFR-22	12.39	13.48	1.09
EFR-23	8.98	9.79	0.81
EFR-24	12.16	12.17	0.01
EFR-25	11.82	12.15	0.33
EFR-26	13.65	13.93	0.28
EFR-27	9.28	11.05	1.77
EFR-28	10.89	11.03	0.14

Total Volume Of Free Standing Product (gal) 18.11

CEMCO FIELD TECHNICIAN: Gary Pizzuti

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #60 **DATE: 11/7/02**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	5.0	0.0833	5,904	90	17	100	27.29	2.2744
EFR-2	15.0	0.2500	453	7	17	100	2.09	0.5231
EFR-3	3.0	0.0500	577	9	17	100	2.67	0.1334
EFR-4	15.0	0.2500	1,837	28	17	100	8.49	2.1227
EFR-5	3.0	0.0500	1,312	20	17	100	6.06	0.3032
EFR-6	5.0	0.0833	656	10	17	100	3.03	0.2527
EFR-7	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-8	2.0	0.0333	262	4	17	100	1.21	0.0404
EFR-9	3.0	0.0500	354	5	17	100	1.64	0.0819
EFR-10	15.0	0.2500	3,674	56	17	100	16.98	4.2455
EFR-11	5.0	0.0833	2,886	44	17	100	13.34	1.1119
EFR-12	5.0	0.0833	341	5	17	100	1.58	0.1314
EFR-13	3.0	0.0500	0	0	17	100	0.00	0.0000
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	3.0	0.0500	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	2.0	0.0333	1,050	16	17	100	4.85	0.1617
EFR-18	3.0	0.0500	335	5	17	100	1.55	0.0773
EFR-19	3.0	0.0500	918	14	17	100	4.25	0.2123
EFR-20	3.0	0.0500	466	7	17	100	2.15	0.1077
EFR-21	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-22	5.0	0.0833	1,706	26	17	100	7.88	0.6570
EFR-23	5.0	0.0833	1,050	16	17	100	4.85	0.4043
EFR-24	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-25	2.0	0.0333	1,443	22	17	100	6.67	0.2224
EFR-26	3.0	0.0500	604	9	17	100	2.79	0.1395
EFR-27	3.0	0.0500	761	12	17	100	3.52	0.1759
EFR-28	2.0	0.0333	1,312	20	17	100	6.06	0.2022
Total EFR Time (hrs)		1.8833	AVG ppm	1218.07			TOTAL (LBS)	13.5810
							TOTAL VAPOR PHASE VOLUME (GAL)	1.7392

NOTE: PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)
(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Analyte LELs: DEHP @ 0.3% ; Ethylbenzene @ 1%, Xylenes @ 1.1%

Where:

ppm_v =	Parts per Million by Volume		
Flow =	Cubic feet per minute (CFM)	100	
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) =	292	(2)
IGC =	Ideal Gas Constant (359 ft^3/lb-mole) =	379	
LEL =	Free Product Mixture =	0.656	(1)
SG =	Specific Gravity =	0.9363	(3)

NOTE: (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Individual Analyte Molar Mass: DEHP @ 390.54, Ethylbenzene @ 106.2; Total Xylenes @ 106.2
(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

$$\text{Pounds/Hr (lbs/hr)} = (ppm_v \times (60\ \text{min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359\ ft^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	14.50
Groundwater Thickness (in)	2.50
Conversion @ 1.65 gal/inch	1.65
Total Product Volume (gal)	23.93
Total Groundwater Volume (gal)	4.13
Ratio Groundwater to Free Product (gal/gal)	0.17

		Y (gal)
Total Recovered Groundwater Volume (gal)		4.13
Total Recovered Free Product Volume (gal)		23.93
Total Recovered Fluids Volume (gal)		28.05
TOTAL EFR PRODUCT VOLUME		25.66 GAL

Date	7-Nov-02
Project #	3868.30
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

CEMCO Field Technician: Gary Pizzuti

RMT Project Manager: Nick Clevett

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR #61 DATE 17-Dec-02

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	9.38	10.71	1.33
EFR-2	9.85	12.92	3.07
EFR-3	9.85	10.73	0.88
EFR-4	10.48	11	0.52
EFR-5	9.84	10.21	0.37
EFR-6	9.15	10.78	1.63
EFR-7	4.96	4.96	0.00
EFR-8	5.5	5.75	0.25
EFR-9	5.73	5.98	0.25
EFR-10	6.42	9.18	2.76
EFR-11	6.05	7.92	1.87
EFR-12	5.04	5.68	0.64
EFR-13	4.62	5.3	0.68
EFR-14	4.29	4.29	0.00
EFR-15	3.77	3.77	0.00
EFR-16	4.61	4.61	0.00
EFR-17	8.03	9.1	1.07
EFR-18	8.73	9.57	0.84
EFR-19	11.57	12.6	1.03
EFR-20	9.43	11.88	2.45
EFR-21	10.13	10.13	0.00
EFR-22	11.17	11.93	0.76
EFR-23	7.78	8.45	0.67
EFR-24	10.95	10.95	0.00
EFR-25	10.46	11.15	0.69
EFR-26	12.63	13.03	0.40
EFR-27	8.23	11.33	3.10
EFR-28	9.87	10.15	0.28

Total Volume Of Free Standing Product (gal) 16.60

CEMCO FIELD TECHNICIAN: Gary Pizzuti

Table 3E (8.5x11)

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #61 **DATE: 12/17/02**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	12.0	0.2000	394	6	17	100	1.82	0.3639
EFR-2	15.0	0.2500	1,050	16	17	100	4.85	1.2130
EFR-3	2.0	0.0333	590	9	17	100	2.73	0.0910
EFR-4	1.0	0.0167	328	5	17	100	1.52	0.0253
EFR-5	2.0	0.0333	918	14	17	100	4.25	0.1415
EFR-6	2.0	0.0333	459	7	17	100	2.12	0.0708
EFR-7	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-8	1.0	0.0167	131	2	17	100	0.61	0.0101
EFR-9	4.0	0.0667	4,789	73	17	100	22.14	1.4758
EFR-10	23.0	0.3833	2,886	44	17	100	13.34	5.1148
EFR-11	12.0	0.2000	328	5	17	100	1.52	0.3032
EFR-12	1.0	0.0167	131	2	17	100	0.61	0.0101
EFR-13	2.0	0.0333	262	4	17	100	1.21	0.0404
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	2.0	0.0333	394	6	17	100	1.82	0.0606
EFR-18	3.0	0.0500	2,362	36	17	100	10.92	0.5458
EFR-19	2.0	0.0333	262	4	17	100	1.21	0.0404
EFR-20	3.0	0.0500	2,034	31	17	100	9.40	0.4700
EFR-21	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-22	1.0	0.0167	131	2	17	100	0.61	0.0101
EFR-23	10.0	0.1667	197	3	17	100	0.91	0.1516
EFR-24	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-25	2.0	0.0333	394	6	17	100	1.82	0.0606
EFR-26	2.0	0.0333	1,378	21	17	100	6.37	0.2123
EFR-27	10.0	0.1667	3,083	47	17	100	14.25	2.3754
EFR-28	2.0	0.0333	262	4	17	100	1.21	0.0404
Total EFR Time (hrs)		1.9000	AVG ppm	888.58			TOTAL (LBS)	12.8274
							TOTAL VAPOR PHASE VOLUME (GAL)	1.6427

NOTE: PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)
(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Analyte LELs: DEHP @ 0.3% ; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where:

ppm_v =	Parts per Million by Volume		
Flow =	Cubic feet per minute (CFM)	100	
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) =	292	(2)
IGC =	Ideal Gas Constant (359 ft^3/lb-mole) =	379	
LEL =	Free Product Mixture =	0.656	(1)
SG =	Specific Gravity =	0.9363	(3)

NOTE: (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)
Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2
(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

$$\text{Pounds/Hr (lbs/hr)} = (ppm_v \times (60\ \text{min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359\ ft^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	15.50
Groundwater Thickness (in)	1.50
Conversion @ 1.65 gal/inch	1.65
Total Product Volume (gal)	25.58
Total Groundwater Volume (gal)	2.48
Ratio Groundwater to Free Product (gal/gal)	0.10

		Y (gal)
Total Recovered Groundwater Volume (gal)		2.48
Total Recovered Free Product Volume (gal)		25.58
Total Recovered Fluids Volume (gal)		28.05
TOTAL EFR PRODUCT VOLUME		27.22 GAL

Date	17-Dec-02
Project #	3868.30
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

CEMCO Field Technician: Gary Pizzuti

RMT Project Manager: Nick Clevett

Section 3
Quarterly Groundwater Monitoring

RMT conducted groundwater monitoring activities in the fourth quarter of 2002 on November 19th and November 20th. In the past, we performed groundwater monitoring in accordance with the procedures contained in the NJDEP's *Field Sampling Procedures Manual* dated May 1992. However, for the second, third, and fourth quarters of 2002, we performed groundwater monitoring using the low-flow methodology outlined in our May 2001 Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater (MNA workplan). The MNA workplan was approved by NJDEP on January 24, 2002. Although the sampling was performed using low-flow methods, the remaining parts of the MNA workplan have not yet been initiated. A QED bladder pump system with disposable bladders (as described in the approved MNA workplan Quality Assurance Project Plan (QAPP)) was used as dedicated monitoring equipment to collect groundwater samples at LEC. Locations of the quarterly monitoring wells are shown on Figure 2.

Monitoring wells MW-4, MW-11D(R), MW-14S, MW-14I, MW-15S, MW-15I, MW-17S, MW-21, MW-22(R), and MW-25(R) were sampled utilizing the low-flow methodology outlined in the QAPP, presented in Appendix A of the approved MNA workplan. Specifically, RMT used a QED bladder pump to remove groundwater at a low rate (average of 0.3 L/minute). Before sampling the wells we measured field parameters until they stabilized to obtain a representative sample of the formation water for laboratory testing. Monitoring well sample data for the fourth quarter of 2002 is presented in Appendix C. Once the field parameters in each well stabilized or following adequate purging if stabilization could not be achieved, samples were collected from the Teflon-lined polyethylene tubing of the bladder pump. RMT submitted the samples to the Severn Trent Services laboratory, located in Edison New Jersey (STL Edison) for benzene, toluene, ethylbenzene, xylenes (BTEX) and bis (2-ethylhexyl) phthalate (DEHP) analysis per the current groundwater monitoring protocol presented in Table 4.

A sample duplicate, a field blank, a trip blank and a rinsate blank were collected to satisfy Quality Assurance/Quality Control (QA/QC) requirements. A summary of the quarterly groundwater monitoring QA/QC requirements for the LEC site is presented on Table 4. The trip blank was prepared by the laboratory and remained with the sample containers until the samples were returned to the laboratory. The duplicate was collected from monitoring well MW-25 (duplicate sample No. Dupe-01) and analyzed for BTEX and DEHP. The rinsate blank was collected by circulating triple distilled water through the cleaned bladder pump assembly

to verify that the decontamination procedures were adequate. Any sampling equipment used at each well was decontaminated prior to each use utilizing a soap and water wash and distilled water rinse. The field (atmosphere) blank was collected during the sampling event by opening the bottle of preserved DI water provided by the laboratory, leaving the bottle open during the sampling of one well, and pouring that water directly into empty clean sample bottles also provided by the laboratory.

TABLE 4
L.E. CARPENTER - WHARTON, NEW JERSEY
QUARTERLY MONITORING PROTOCOL

Monitoring Well	Analytical Parameters	Rational	Comments
MW-14S	BTEX(1) DEHP(1)	Analytical results will identify the migration of the dissolved groundwater plume in the Shallow Aquifer Zone downgradient of the site (Wharton Enterprise property)	Monitoring Well added to quarterly sampling protocol beginning 1st Quarter 2002 the further assess groundwater quality and flow within the Wharton Enterprise property.
MW-14I	BTEX(1) DEHP(1)	Analytical results will identify the migration of the dissolved groundwater plume in the Intermediate Aquifer Zone downgradient of the site (Wharton Enterprise property)	Original Monitoring Well
MW-15S	BTEX(1) DEHP(1)	Analytical results will identify if the dissolved groundwater plume is migrating through this portion of the shallow aquifer zone (on the rail spur right-of-way)	Original Monitoring Well
MW-15I	BTEX(1) DEHP(1)	Analytical results will identify the migration of the dissolved groundwater plume through the Intermediate Aquifer Zone in the is area (on rail spur right-of-way)	Original Monitoring Well
MW-22R	BTEX(1) DEHP(1)	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site (Wharton Enterprise property).	Original Monitoring Well. Beginning in 2nd quarter 2001, well will be analyzed for DEHP quarterly vs. semiannually
MW-25R	BTEX(1) DEHP(1)	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site. East of MW-22R (Wharton Enterprise property).	DEHP sampling required quarterly as opposed to semi annually per Nov 23, 1998 NJDEP Letter.
MW-17S	BTEX(1) DEHP(1)	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone.	Original Monitoring Well
MW-4	BTEX(1) DEHP(1)	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone (south portion of subject site, bordering on the Rockaway River)	Original Monitoring Well
MW-11D(R)	DEHP(1)	Analytical results from this well identify potential contamination of deep aquifer. This well lies in the center of the free product plume.	New well added to monitoring protocol as of May 21, 1999 NJDEP Letter (review of 1st quarter 1999 monitoring report). Well exhibited DEHP contamination potentially as the result of draw down during well installation. Well will be sampled for both monitoring program parameters (BTEX & DEHP) per NJDEP letter dated Aug 17, 1999. As of 4th Quarter 2000 (1 year of BTEX and DEHP sampling), approval was requested from NJDEP and USEPA to remove this well from the quarterly sampling program. NJDEP response letter dated April 5, 2001 following review of the 4th Quarter 2000 monitoring report requested that MW-11D(R) be sampled quarterly for DEHP ONLY.
MW-21	BTEX(1) DEHP(1)	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone. Additionally, data from this well is used to track the potential migratory trend from MW-25 (Eastern most portion of the subject site)	New well added to monitoring protocol as of Nov 23, 1998 NJDEP Letter.

NOTES
(1) Parameter analyzed every quarter
(2) Low flow sampling initiated 1st Quarter 2002 [Ref. Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater (RMT, May 2001]
(3) Beginning 1st Quarter 2002, both BTEX and DEHP will be analyzed every quarter

S: Shallow Hydrogeologic Unit
I: Intermediate Hydrogeologic
D: Deep Hydrogeologic Unit
R: Replacement well

QA/QC PROTOCOL
QA/QC procedures outlined in the Quality Assurance Project Plan (QAPP) included as Appendix A in the report entitled Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater (RMT, May 2001), and amended in the October 23, 2001 responses to agency comments regarding the "Workplan", will be followed during each sampling event.

Field Blank : BTEX & DEHP - USE TRIPLE DISTILLED WATER
Trip Blank: BTEX & DEHP - USE TRIPLE DISTILLED WATER
Rinsate Blank: BTEX & DEHP

FIELD ANALYSIS
All quarterly monitoring wells will be field tested for pH, temperature, specific conductivity, & turbidity

A comparison of the results of the chemical analyses to New Jersey Class IIa Groundwater Quality Standards (NJGWQS) is in Table 5. The presence of BTEX and/or DEHP was not detected at concentrations above NJGWQS in samples collected from MW-4, MW-11D(R), MW-14S, MW-14I, MW-15S, MW-15I, MW-17S, MW-21, and MW-25(R). At MW-22(R), ethylbenzene, total xylenes and DEHP were detected at concentrations of 310 µg/L, 1000 µg/L, and 6.3 µg/L respectively. Only the total xylene concentration detected at MW-22(R) exceeds the corresponding NJGWQS. It should also be noted that DEHP was detected in the laboratory blank sample.

Even though contaminant concentrations at MW-22(R) have consistently exceeded NJGWQS, contaminant concentrations at downgradient monitoring location MW-14S have been non-detect. In addition, contaminant concentrations at monitoring location MW-25(R) (also located downgradient from MW-22R at certain times of the year) have not exceeded NJGWQS since second quarter 1997, and contaminant concentration further downgradient at MW-21 have never exceeded NJGWQS since sampling began at this location in first quarter 1999. RMT will continue to closely monitor the contaminant concentration-trend at all four locations. Concentration trends for contaminants of concern detected at MW-22(R) and MW-25(R) are presented as Appendix D.

Agency comments outlined in the NJDEP letter dated April 5, 2001 regarding their review of the 4th Quarter 2000 Monitoring Report (RMT, February 2001) requested that MW-11D(R) remain incorporated in the quarterly monitoring protocol. DEHP was not detected in this well above the practical quantification limit during the fourth quarter 2002 event. Groundwater collected from this location will continue to be analyzed for DEHP. RMT has summarized the historical groundwater monitoring data, including the results from the fourth quarter 2002 sampling event on Table 5. We have included the corresponding analytical laboratory reports in Appendix E. STL Edison performed all laboratory analyses.

As described in previous reports, we believe that DEHP occasionally detected in water samples collected from MW-11D(R) is not representative of actual groundwater concentrations, but rather a function of laboratory and/or field cross-contamination. DEHP is a compound that is ubiquitous in the environment because of its' use in a wide variety of common products. RMT has taken steps to minimize cross-contamination that is a function of field sampling activities and the decontamination water used on-site. Despite these actions, laboratory cross-contamination of DEHP (see results for both trip blanks and laboratory blanks) remains an issue. Therefore, we have evaluated several laboratories in terms of their in-house program to minimize DEHP as a common lab contaminant. Beginning with the first quarter 2003 sampling event, we anticipate that all analytical services will be performed by Lancaster Laboratory (Lancaster). Lancaster is a New Jersey certified laboratory.

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS[5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-4	1995	1	22-Feb-95	< 0.3	26	< 0.3	32	25,000
		2	13-Jun-95	< 0.5	16	< 0.7	13	46,000
		3	13-Sep-95	< 1	9.7	< 1.4	8.7	NS
		4	7-Dec-95	< 0.1	8.8	< 0.14	11	17,000
	1996	1	7-Mar-96	< 0.5	24	< 0.7	47	NS
		2	14-Jun-96	< 0.1	7	< 0.14	7.8	9,300
		3	17-Sep-96	< 0.1	6.8	< 0.14	4.3	NS
		4	12-Dec-96	< 0.1	2.3	< 0.14	< 0.5	11,000
	1997	1	7-Apr-97	< 0.2	3.5	< 0.14	1.8	NS
		2	14-Aug-97	< 0.2	1.2	< 0.14	4.2	120
		3	3-Oct-97	< 0.2	2.2	< 0.14	12.6	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.4	< 0.28	< 0.28	< 1	NS
		2	4-Jun-98	< 0.2	1.0	< 0.14	1.4	710
		3	28-Aug-98	< 0.2	1.9	< 0.14	1.2	NS
		4	20-Nov-98	< 0.2	9.3	< 0.14	3.3	650
	1999	1	21-Jan-99	< 0.2	1.1	< 0.14	2.5	NS
		2	15-Apr-99	< 0.31	0.66	< 0.34	< 0.4	3,000
		2 duplicate	15-Apr-99	< 0.31	0.43	< 0.34	< 0.4	4,400
		3	22-Jul-99	< 0.31	3.10	< 0.34	2.9	NS
		4	25-Oct-99	< 0.31	0.51	< 0.34	< 0.4	4,000
	2000	1	17-Jan-00	< 0.31	0.54	< 0.34	1.6	NS
		2	13-Apr-00	< 0.25	0.31	< 0.27	< 0.25	480
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	0.41	210
		4 duplicate	30-Oct-00	< 0.25	< 0.27	< 0.27	0.33	NS
	2001	1	27-Feb-01	< 0.25	1	< 0.27	3.7	NS
DEHP found in lab blank		2	2-Apr-01	< 0.28	0.31	< 0.26	0.41	300
		3	24-Jul-01	< 0.28	0.52	< 0.26	2.5	NS
		4	26-Oct-01	< 0.28	0.33	< 0.26	0.77	3300
	2002	1	7-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	150
		2	21-May-02	< 0.22	< 0.18	< 0.24	< 0.2	1300
		2 duplicate	22-May-02	< 0.22	< 0.18	< 0.24	< 0.2	950
Dilution factor 5.0 for bis(2-ethylhexyl)phthalate		3	13-Aug-02	< 0.22	0.54	< 0.24	0.86	670
		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 8.6

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS [5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-11(DR) [2][3]	1999	1	21-Jan-99	< 0.2	< 0.1	< 0.14	< 0.5	64
		1 duplicate	21-Jan-99	< 0.2	< 0.1	< 0.14	< 0.5	20
		2		NS	NS	NS	NS	NS
		3[3]	22-Jul-99	NS	NS	NS	NS	59
		3 duplicate	22-Jul-99	NS	NS	NS	NS	13
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.1
	2000	1	17-Jan-00	NS	NS	NS	NS	< 4.2
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
	Field ID: MW-11DD	2 duplicate	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	3.4
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	2
DEHP found in lab blank	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	0.8
DEHP found in lab blank	Field ID: MW-11DD	1 duplicate	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	0.9
DEHP found in lab blank		2	2-Apr-01	NS	NS	NS	NS	1.5
		3	24-Jul-01	NS	NS	NS	NS	< 0.4
		4	26-Oct-01	NS	NS	NS	NS	0.6
	2002	1	7-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	2.8
		2	21-May-02	< 0.22	< 0.18	< 0.24	< 0.2	26
		3	13-Aug-02	NS	NS	NS	NS	63
		4	20-Nov-02	NS	NS	NS	NS	B 0.2

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS (3)				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-14S	2002	1	6-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	1.2
DEHP found in lab blank		2	21-May-02	< 0.22	< 0.18	< 0.24	< 0.2	0.7
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.3
		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.5

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L.E. CARPENTER - Wharton, New Jersey
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MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS [5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-14I	1995	1	22-Feb-95	< 0.3	0.4	< 0.3	1.2	140
		2	13-Jun-95	< 0.1	< 0.14	< 0.14	< 0.5	1.6
		3	13-Sep-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	< 0.5	2.6
	1996	1	7-Mar-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		2	14-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.3
		3	17-Sep-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	2.7
	1997	1	7-Apr-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	14-Aug-97	< 0.2	< 0.14	< 0.14	< 0.5	1.6
		3	3-Oct-97	1.2	22.1	< 0.7	176	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	4-Jun-98	< 0.2	0.34	< 0.14	2	24
		3	28-Aug-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4	20-Nov-98	< 0.2	< 0.14	< 0.14	< 0.5	< 1.2
	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.1
		3	22-Jul-99	< 0.31	< 0.38	< 0.34	< 0.4	NS
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.1
	2000	1	17-Jan-00	< 0.31	< 0.38	< 0.34	< 0.4	NS
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	2.4
DEHP found in lab blank		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	3.5
Field ID: MW-14Id		2 duplicate	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	NS
		3	24-Jul-01	< 0.28	< 0.26	< 0.26	< 0.25	NS
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	2.2
	2002	1	6-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	3.4
DEHP found in lab blank		2	21-May-02	< 0.22	< 0.18	< 0.24	< 0.2	1.0
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.2
		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.3

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MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS [5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-15S	1995	1	22-Feb-95	< 0.3	< 0.3	< 0.3	< 1	2.4
		2	13-Jun-95	< 0.1	< 0.14	< 0.14	< 0.5	< 1.1
		3	13-Sep-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	< 0.5	< 1.2
	1996	1	7-Mar-96	< 0.2	33	< 0.28	83	NS
		2	14-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.2
		3	17-Sep-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	12-Dec-96	< 0.1	0.21	< 0.14	1.7	< 1.2
	1997	1	7-Apr-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	14-Aug-97	< 0.2	< 0.14	< 0.14	< 0.5	1.2
		3	3-Oct-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.2	< 0.14	1.4	< 0.5	NS
		2	4-Jun-98	< 0.2	< 0.14	< 0.14	1.3	< 1.1
		3	28-Aug-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4	1-Dec-98	< 0.2	< 0.14	< 0.14	< 0.5	< 1.2
	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.2
		3	22-Jul-99	< 0.31	< 0.38	< 0.34	< 0.4	NS
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.1
	2000	1	17-Jan-00	< 0.31	< 0.38	< 0.34	< 0.4	NS
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	NS
DEHP found in lab blank		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	0.8
		3	24-Jul-01	< 0.28	< 0.26	< 0.26	< 0.25	NS
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	< 0.4
	2002	1	7-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	1.0
DEHP found in lab blank		2	20-May-02	< 0.22	< 0.18	< 0.24	< 0.2	0.7
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.2
		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.2

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L.E. CARPENTER - Wharton, New Jersey
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MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS (5)				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-15I	1995	1	22-Feb-95	< 0.3	< 0.3	< 0.3	< 1	250
		2	13-Jun-95	< 0.1	< 0.14	< 0.14	< 0.5	7.2
		3	13-Sep-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	< 0.5	2.8
	1996	1	7-Mar-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		2	14-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	1.2
		3	17-Sep-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	1.7
		4 duplicate	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	1.9
	1997	1	7-Apr-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	14-Aug-97	< 0.2	< 0.14	< 0.14	< 0.5	2.2
		3	3-Oct-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	4-Jun-98	< 0.2	< 0.14	< 0.14	< 0.5	1.9
		2 duplicate	4-Jun-98	< 0.2	< 0.14	< 0.14	< 0.5	3.8
		3	28-Aug-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4	20-Nov-98	< 0.2	< 0.14	< 0.14	0.53	11
		4 duplicate	20-Nov-98	< 0.2	0.2	< 0.14	0.8	9.8
	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	4.8
		3	22-Jul-99	< 0.31	< 0.38	< 0.34	< 0.4	NS
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	4.1
	2000	1	17-Jan-00	< 0.31	< 0.38	< 0.34	< 0.4	NS
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	2
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	2
	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	NS
DEHP found in lab blank		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	1.2
		3	24-Jul-01	< 0.28	< 0.26	< 0.26	< 0.25	NS
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	0.5
	2002	1	7-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	1.0
		2	21-May-02	< 0.22	< 0.18	< 0.24	< 0.2	0.5
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	< 0.2
		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.2

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L.E. CARPENTER - Wharton, New Jersey
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MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS (5)				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		FRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-17S (4)	1995	1	24-Feb-95	< 0.3	0.6	0.3	1.9	11
		2	13-Jun-95	0.2	< 0.14	0.18	< 0.5	< 1.1
		3		NS	NS	NS	NS	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	0.63	< 1.2
	1996	1		NS	NS	NS	NS	NS
		2	14-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.3
		3		NS	NS	NS	NS	NS
		4	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	1.5
	1997	1		NS	NS	NS	NS	NS
		2	14-Aug-97	< 0.2	< 0.14	< 0.14	< 0.5	< 1.3
		3		NS	NS	NS	NS	NS
		4		NS	NS	NS	NS	NS
	1998	1		NS	NS	NS	NS	NS
		2	4-Jun-98	< 0.2	< 0.14	< 0.14	1.2	6.1
		3		NS	NS	NS	NS	NS
		4	1-Dec-98	< 0.2	< 0.14	< 0.14	< 0.5	6
	1999	1		NS	NS	NS	NS	NS
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.1
		3		NS	NS	NS	NS	NS
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	40
	2000	1		NS	NS	NS	NS	NS
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		3		NS	NS	NS	NS	NS
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
DEHP found in lab blank	2001	2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	1.8
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	9.6
	2002	1	6-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	1.0
Sample designation DUP01		1 duplicate	6-Mar-01	< 0.28	< 0.26	< 0.26	< 0.25	1.6
DEHP found in lab blank		2	20-May-02	< 0.22	< 0.18	< 0.24	< 0.2	0.6
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.2
		4	21-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.2

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MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS [5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		FRACTICAL QUANTIFICATION LIMIT (FQL)		1	5	5	2	30
MW-21 [1]	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	< 4.2
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.2
		3	22-Jul-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.3
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.1
	2000	1	17-Jan-00	< 0.31	< 0.38	< 0.34	< 0.4	6
		1 duplicate	17-Jan-00	NS	NS	NS	NS	< 4.2
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.24	< 2.1
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
DEHP found in lab blank	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	2.7
DEHP found in lab blank		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	0.9
		3	24-Jul-01	< 0.28	< 0.26	< 0.26	< 0.25	0.9
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	0.6
	2002	1	6-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	1.3
DEHP found in lab blank		2	22-May-02	< 0.22	< 0.18	< 0.24	< 0.2	1
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.3
Sample designation DUPE-001		3 duplicate	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.4
		4	19-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.3

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MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS [5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-22(R)	1995	1	21-Feb-95	< 0.3	57	< 0.3	260	6,500
		2	13-Jun-95	< 2.5	311	< 3.5	955	380
		3	13-Sep-95	< 2.5	171	< 3.5	693	NS
		4	7-Dec-95	< 2	123	< 2.8	494	320
	1996	1		NS	NS	NS	NS	NS
		2	8-Jul-96	< 2	258	< 2.8	941	70
		3	17-Sep-96	< 2.5	359	< 3.5	1,320	NS
		4	12-Dec-96	< 5	320	< 7	1,330	< 1.2
	1997	1		NS	NS	NS	NS	NS
		2	14-Aug-97	< 200	5,730	< 140	32,900	7,500
		3	3-Oct-97	< 400	11,400	< 280	66,000	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 200	4,070	348	20,600	NS
		2	4-Jun-98	< 40	2,260	< 28	11,300	5,800
		3	28-Aug-98	< 50	1880	< 35	10300	NS
		3duplicate	28-Aug-98	< 50	2,510	< 35	11,000	NS
		4	20-Nov-98	< 40	1,650	< 28	7,230	1,100
	1999	1	21-Jan-99	< 0.4	18	< 0.28	84	NS
		2	15-Apr-99	< 31	1,600	< 34	7,600	670
		3	22-Jul-99	< 31	1,200	42	5,200	NS
		4	25-Oct-99	< 16	810	< 17	3,300	1200
		4duplicate	25-Oct-99	< 31	840	< 34	3,400	1600
	2000	1	17-Jan-00	< 7.8	360	< 8.5	1,400	NS
Dilution Factor 50		2	13-Apr-00	< 12	820	< 14	3,600	92
Dilution Factor 200		3	31-Jul-00	< 50	1,000	< 54	4,800	NS
Dilution Factor 50 and 250 for DEHP and BTEX respectively		4	30-Oct-00	< 62	1,200	< 68	6,200	5,100
Dilution Factor 200	2001	1	27-Feb-01	< 50	1,900	< 54	9,000	NS
Dilution Factor 20 and 100 for DEHP and BTEX respectively. DEHP found in lab blank		2	2-Apr-01	< 28	910	< 26	4,100	2,400
Dilution factor 100 for BTEX, 50 for DEHP. DEHP detected in field blank		3	24-Jul-01	< 28	1,100	< 26	5,300	8,200
Dilution Factor 100		4	26-Oct-01	< 28	980	< 26	4,700	15,000
Dilution Factor 100		4duplicate	26-Oct-01	< 28	1,000	< 26	4,900	NS
Dilution factors - 10 for BTEX, 2 for DEHP.	2002	1	6-Mar-02	< 2.8	140	< 2.6	420	18
Dilution factors - 50 for BTEX, 1 for DEHP		2	22-May-02	< 11	320	< 12	1,400	21
Dilution factors - 50 for BTEX, 1 for DEHP		3	13-Aug-02	< 11	180	< 12	1,400	13
Dilution factor - 25 for BTEX		4	20-Nov-02	< 5.5	310	< 6	1,000	B 6.3

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS[5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
MW-25(R)	1995	1		NS	NS	NS	NS	NS
		2	14-Jun-95	< 0.2	< 0.2	< 0.2	< 1	1.6
		3	13-Sep-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	< 0.5	68
	1996	1		NS	NS	NS	NS	NS
		2	14-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.2
		3	17-Sep-96	< 0.1	0.34	< 0.14	2.2	NS
		4	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.3
	1997	1	7-Apr-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	14-Aug-97	< 0.2	13.5	< 0.14	89	63
		3	3-Oct-97	< 0.2	4.1	< 0.14	30.7	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.2	0.33	< 0.14	1.5	NS
		1 duplicate	12-Mar-98	< 0.2	0.39	< 0.14	0.94	NS
		2	4-Jun-98	< 0.2	< 0.14	< 0.14	< 0.5	5.3
		3	28-Aug-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4	20-Nov-98	< 0.2	< 0.14	< 0.14	< 0.5	1.9
	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	< 4.3
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	14	< 4.1
		3	22-Jul-99	< 0.31	< 0.38	< 0.34	1.4	9.6
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.2
	2000	1	1-Mar-00	< 0.31	< 0.38	< 0.34	< 0.4	< 3.5
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
Field ID: MW-25RD		3 duplicate	31-Jul-00	NS	NS	NS	NS	< 2
		4	30-Oct-00	< 0.25	0.33	< 0.27	1.1	3.4
DEHP found in lab blank	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	1.9
DEHP found in lab blank		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	1.4
		3	24-Jul-01	< 0.28	< 0.26	< 0.26	< 0.25	0.5
Field ID: MW-25D		3 duplicate	24-Jul-01	NS	NS	NS	NS	1.2
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	0.7
	2002	1	6-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	0.5
DEHP found in lab blank		2	22-May-02	< 0.22	< 0.18	< 0.24	< 0.2	1.1
		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.2
		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	< 0.3
Dupe-01		4 duplicate	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.2

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS (5)				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
Trip Blank	1995	1	27-Feb-95	< 0.3	< 0.3	< 0.3	< 1	NS
		2	12-Jun-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		3	12-Sep-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
	1996	1	6-Mar-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		2	12-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		3	16-Sep-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
	1997	1	7-Apr-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	13-Aug-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		3	3-Oct-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	4-Jun-98	< 0.2	< 0.14	< 0.14	< 0.5	ND
		3	28-Aug-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4	20-Nov-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	NS
		3	22-Jul-99	NS	NS	NS	NS	< 4.2
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	NS
	2000	1	17-Jan-00	NS	NS	NS	NS	< 4.1
		1	1-Mar-00	NS	NS	NS	NS	< 3.8
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
		3	31-Jul-00	NS	NS	NS	NS	< 2
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	NS
DEHP found in lab blank	2001	1	27-Feb-01	NS	NS	NS	NS	0.6
		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	NS
Performed for Lab No. N067 (MW22R DEHP sample). STL forgot to sample DEHP at this well on first round		3	24-Jul-01	NS	NS	NS	NS	< 0.4
		3	24-Jul-01	NS	NS	NS	NS	< 0.4
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	NS
	2002	1	5-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	NS
		2	20-May-02	< 0.22	< 0.18	< 0.24	< 0.2	NS
		3	12-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	180
TB-01		4	19-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.2

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS [5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
Rinsate Sample	2002	1		ND	ND	0.7	ND	2.5
DEHP found in lab blank		2	22-May-02	< 0.22	< 0.18	< 0.24	< 0.2	3.4
Rinsate -001		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	4.5
Rinsate-01		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.3

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS[5]				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30
Field Blank	1995	1	27-Feb-95	< 0.3	< 0.3	< 0.3	< 1	< 1.1
		2	13-Jun-95	< 0.1	< 0.14	< 0.14	< 0.5	1.3
		3	13-Sep-95	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	7-Dec-95	< 0.1	< 0.14	< 0.14	< 0.5	< 1.2
	1996	1	7-Mar-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		2	14-Jun-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.4
		3	17-Sep-96	< 0.1	< 0.14	< 0.14	< 0.5	NS
		4	12-Dec-96	< 0.1	< 0.14	< 0.14	< 0.5	< 1.2
	1997	1	7-Apr-97	< 0.2	< 0.14	0.2	< 0.5	NS
		2	14-Aug-97	< 0.2	< 0.14	< 0.14	< 0.5	< 1.1
		3	3-Oct-97	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4		NS	NS	NS	NS	NS
	1998	1	12-Mar-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		2	4-Jun-98	< 0.2	< 0.14	< 0.14	< 0.5	< 1.1
		3	28-Aug-98	< 0.2	< 0.14	< 0.14	< 0.5	NS
		4	20-Nov-98	< 0.2	< 0.14	< 0.14	< 0.5	1.3
	1999	1	21-Jan-99	< 0.2	< 0.14	< 0.14	< 0.5	< 4.4
		2	15-Apr-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.4
		3	22-Jul-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.3
		4	25-Oct-99	< 0.31	< 0.38	< 0.34	< 0.4	< 4.6
	2000	1	17-Jan-00	< 0.31	< 0.38	< 0.34	< 0.4	< 4.2
		1	1-Mar-00	< 0.31	< 0.38	< 0.34	< 0.4	< 4.2
		1	16-Mar-00	NS	NS	NS	NS	3.2
		2	13-Apr-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		3	31-Jul-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
		4	30-Oct-00	< 0.25	< 0.27	< 0.27	< 0.25	< 2
DEHP found in lab blank	2001	1	27-Feb-01	< 0.25	< 0.27	< 0.27	< 0.25	1.3
DEHP found in lab blank		2	2-Apr-01	< 0.28	< 0.26	< 0.26	< 0.25	2
Performed for Lab No. N067 (MW22R DEHP sample). STL forgot to sample DEHP at this well on first round		3		NS	NS	NS	NS	1.2
		3	24-Jul-01	< 0.28	< 0.26	< 0.26	< 0.25	< 0.5
		4	26-Oct-01	< 0.28	< 0.26	< 0.26	< 0.25	< 0.4
	2002	1	6-Mar-02	< 0.28	< 0.26	< 0.26	< 0.25	16
		2	22-May-02	< 0.22	< 0.18	< 0.24	< 0.2	130
FB-001		3	13-Aug-02	< 0.22	< 0.18	< 0.24	< 0.2	0.5
FB-01		4	20-Nov-02	< 0.22	< 0.18	< 0.24	< 0.2	B 0.4

TABLE 5

L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE			CHEMICAL ANALYSIS RESULTS (5)				
	YEAR	QUARTER	SAMPLING DATE	Benzene	Ethylbenzene	Toluene	Total Xylenes	DEHP
				ug/l	ug/l	ug/l	ug/l	ug/l
	NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30
		PRACTICAL QUANTIFICATION LIMIT (PQL)		1	5	5	2	30

GENERAL NOTES PAGE

LEGEND

ug/L: micrograms per liter
NJGWQS: New Jersey Groundwater Quality Standards
NS: Not Sampled
duplicate: Duplicate sample
B: Analyte found in laboratory blank as well as sample.
DEHP: bis-2-Ethylhexylphthalate

SAMPLING NOTES

(1) MW-21 Quarterly sampling required for both DEHP and BTEX as of NJDEP letter dated Nov 23, 1998
(2) MW-11(IR) & MW-11(DR) sampled for both DEHP and BTEX per NJDEP letter dated Nov 23, 1998 (one time sample round- baseline concentration)
(3) MW-11D required to be sampled quarterly per NJDEP letter dated August 17, 1999. Third quarter 1999 sampling was performed prior to receiving the NJDEP letter. Subsequently, the well was only sampled for DEHP. Starting 4th quarter 1999, MW-11D will be sampled for both DEHP and BTEX. Based on NJDEP letter dated April 5, 2001, this well will be sampled for DEHP only (starting 2nd qtr 2001).
(4) Well initially sampled Biannually - 2nd and 4th Quarter as of the beginning of 1998. 1st quarter 2002, well sampled quarterly for both DEHP and BTEX.
(5) Low flow sampling initiated 1st quarter 2002.

15,000 Above the NJDEP NJGWQS

Section 4
Water Table Elevations

On November 19, 2002 RMT measured static groundwater levels from 75 different locations throughout the site (Table 6). RMT used these data to calculate groundwater elevations and evaluate the groundwater flow pattern in the shallow aquifer system.

Figure 4 displays the site-wide shallow groundwater potentiometric surface, and indicates that groundwater flow direction in the shallow aquifer east of the rail spur is similar to that observed historically (generally toward the east). Groundwater levels across the site have risen which is likely due to the increase in regional precipitation seen throughout the northeastern portion of the United States, and a heavy rainfall event experienced at the site just prior to sampling. Also exhibited in Figure 4 are the effects caused by the presence of the drainage ditch and the Rockaway River. The drainage ditch acts as a local groundwater "sink", and shallow groundwater flow direction from a large portion of the site is controlled by the drainage ditch. Shallow groundwater at the southern edge of the LEC site is recharged directly by the Rockaway River and flows towards the site before turning eastward toward the drainage ditch and the narrow area between the Air Products property and the Rockaway River known as the Wharton Enterprises property.

The potentiometric surface contours were generated using the measured fluid level elevations in site shallow wells. Some shallow well fluid elevations were not used to generate these contours because the observed values appeared to be in error, specifically, some of the wells denoted as "well points". We also used head values for the Rockaway River, the drainage ditch and the Washington Forge Reservoir to control and interpret the groundwater elevation contours.

Activities in the MW19/Hot Spot 1 area for the fourth quarter 2002 event were limited to groundwater level elevation measurements only. As in previous quarters, groundwater flow in this area is generally northwards and bends northeast (Figure 5). Previous sampling events have indicated that the general flow of groundwater in this area is controlled by the presence of the Washington Forge Reservoir, and the 24-inch Rockaway River Regional Interceptor Sewer (RRRIS), which is encased in a gravel, lined trench running parallel to Ross Street.

TABLE 6
L.E. Carpenter and Company, Wharton, New Jersey
Quarterly Groundwater Elevations

WELL LOCATION	WELL TYPE	WELL INSTALLATION AND CONSTRUCTION INFORMATION (3)										PROFESSIONAL SURVEY INFORMATION				ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION (6)						
		MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	BASELINE LOCATION (feet) (4) (Y) North	(X) East	GEODETIC LOCATION LATITUDE	LONGITUDE	GROUND	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS (2)
CW-1	Caisson Well	ROY F. WESTON	-	-	-	-	-	-	-	-	-	754247.22	471142.06	40° 54' 14.2"	74° 34' 34.7"	630.83	634.35		19-Nov-02	-	6.11	-	624.72	-	-
CW-3	Caisson Well	ROY F. WESTON		-	-	-	-	-	-	-	-	754203.93	471309.9	40° 54' 13.8"	74° 34' 32.5"	628.63	633.30		19-Nov-02	-	6.65	-	621.98	-	-
GEI-1I	Piezometer	ROY F. WESTON	April to October 1989	44.34	2.00	PVC	0.02	31.62	41.62	10.00	I	754767.14	471095.56	40° 54' 19.3"	74° 34' 35.3"	628.44	630.93	630.78	19-Nov-02	-	4.05	-	626.73	-	-
GEI-2I	Piezometer	ROY F. WESTON	April to October 1989	46.28	2.00	PVC	0.02	31.50	41.50	10.00	I	754573.99	470499.76	40° 54' 17.4"	74° 34' 43.1"	635.92	638.35	638.20	19-Nov-02	-	10.15	-	628.05	-	-
GEI-2S	Piezometer	ROY F. WESTON	April to October 1989	22.21	2.00	PVC	0.02	10.00	20.00	10.00	S	754566	470506.18	40° 54' 17.3"	74° 34' 43.0"	635.46	637.87	637.67	19-Nov-02	-	9.90	-	627.77	-	-
GEI-3I	Piezometer	ROY F. WESTON	April to October 1989	53.29	2.00	PVC	0.02	30.00	40.00	10.00	I	754311.79	470453.7	40° 54' 14.8"	74° 34' 43.7"	637.56	639.99	639.85	19-Nov-02	-	12.09	-	627.76	-	-
MW-1(R)	Monitoring Well	ROY F. WESTON	February 3, 1995	22.50	4.00	STEEL	0.01	7.00	22.50	15.50	S	754207.21	470825.97	40° 54' 13.8"	74° 34' 38.8"	635.79	635.78	635.47	19-Nov-02	8.55	9.22	626.92	626.25	0.67	626.88
MW-2(R)	Monitoring Well	ROY F. WESTON	January 30, 1995	13.00	2.00	PVC	0.01	2.00	12.00	10.00	S	754272.74	471267.56	40° 54' 14.4"	74° 34' 33.1"	629.06	632.28	632.14	19-Nov-02	-	5.59	-	626.55	-	-
MW-3	Monitoring Well	WEHRAN ENG.	May 15, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	S	754227.41	471302.62	40° 54' 14.0"	74° 34' 32.6"	628.64	632.27	632.56	19-Nov-02	6.35	6.36	626.21	626.20	0.01	626.21
MW-4 (5)	Monitoring Well	WEHRAN ENG.	May 20, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	S	754070.52	471162.53	40° 54' 12.4"	74° 34' 34.4"	628.86	632.31	632.50	19-Nov-02	-	5.39	-	627.11	-	-
MW-6(R)	Monitoring Well	ROY F. WESTON	January 25, 1995	10.98	2.00	PVC	0.02	0.98	10.98	10.00	S	754210.83	471191.61	40° 54' 13.8"	74° 34' 34.1"	629.82	632.64	632.42	19-Nov-02	-	4.96	-	627.46	-	-
MW-8 (5)	Monitoring Well	GROUNDWATER TECHNOLOGIES	1983	19.00	2.00	STEEL	0.02	0.00	19.00	19.00	S	754099.29	471251.06	40° 54' 12.7"	74° 34' 33.3"	627.99	630.56	628.79	19-Nov-02	-	3.93	-	624.86	-	-
MW-9 (5)	Monitoring Well	GROUNDWATER TECHNOLOGIES	1983	20.50	2.00	STEEL	0.02	0.50	20.00	19.50	S	754075.94	471111.03	40° 54' 12.5"	74° 34' 35.1"	629.21	631.69	630.18	19-Nov-02	-	3.82	-	626.36	-	-
MW-11S	Monitoring Well	ROY F. WESTON	April to October 1989	14.73	4.00	STEEL	0.02	4.37	14.41	10.00	S	754226.73	471126.83	40° 54' 14.0"	74° 34' 34.9"	631.23	633.26	632.96	19-Nov-02	6.61	11.73	626.35	621.23	5.12	626.02
MW-11I(R)	Monitoring Well	RMT, INC.	February 20, 1998	52.00	2.00	STEEL	0.01	42.00	52.00	10.00	I	754237.94	471128.05	40° 54' 14.1"	74° 34' 34.9"	630.89	633.67	633.33	19-Nov-02	-	6.78	-	626.55	-	-
MW-11D(R) (5)	Monitoring Well	RMT, INC.	February 20, 1998	157.00	2.00	STEEL	0.01	147.00	157.00	10.00	D	754244.62	471124.66	40° 54' 14.2"	74° 34' 34.9"	630.66	633.35	633.09	19-Nov-02	-	4.81	-	628.28	-	-
MW-12S(R)	Monitoring Well	ROY F. WESTON	May 7, 1996	14.45	4.00	PVC.	0.02	2.45	14.45	12.00	S	754055.97	471042.34	40° 54' 12.3"	74° 34' 35.9"	632.17	634.86	634.33	19-Nov-02	-	6.19	-	628.14	-	-
MW-13S	Monitoring Well	ROY F. WESTON	April to October 1989	16.39	4.00	STEEL	0.02	5.37	15.14	10.00	S	754353.97	471370.04	40° 54' 15.3"	74° 34' 31.7"	628.34	631.40	631.23	19-Nov-02	-	4.44	-	626.79	-	-
MW-13S(R)	Monitoring Well	ROY F. WESTON	January 27, 1995	17.00	2.00	PVC	0.01	2.00	12.00	10.00	S	754333.07	471365.71	40° 54' 15.0"	74° 34' 31.8"	628.26	630.96	630.59	19-Nov-02	-	4.09	-	626.50	-	-
MW-13I	Monitoring Well	ROY F. WESTON	July 31, 1989	46.30	2.00	STEEL	0.02	35.22	45.26	10.00	I	754337.8	471360.31	40° 54' 15.1"	74° 34' 31.9"	628.36	630.88	630.66	19-Nov-02	-	4.32	-	626.34	-	-
MW-14S	Monitoring Well	ROY F. WESTON	April to October 1989	15.46	4.00	STEEL	0.02	3.42	13.46	10.00	S	754255.02	471423.66	40° 54' 14.3"	74° 34' 31.0"	625.78	628.63	628.41	19-Nov-02	-	2.89	-	625.52	-	-
MW-14I (5)	Monitoring Well	ROY F. WESTON	April to October 1989	44.30	2.00	STEEL	0.02	33.22	43.26	10.00	I	754250.22	471409.52	40° 54' 14.2"	74° 34' 31.2"	625.93	628.32	628.23	19-Nov-02	-	2.13	-	626.10	-	-
MW-15S (5)	Monitoring Well	ROY F. WESTON	April to October 1989	25.94	4.00	STEEL	0.02	9.37	19.41	10.00	S	754326.58	470891.83	40° 54' 15.0"	74° 34' 38.0"	634.83	637.03	636.77	19-Nov-02	-	9.90	-	626.87	-	-
MW-15I (5)	Monitoring Well	ROY F. WESTON	July 17, 1989	43.92	2.00	STEEL	0.02	30.55	40.26	10.00	I	754325.8	470901.47	40° 54' 15.0"	74° 34' 37.9"	634.74	636.88	636.66	19-Nov-02	-	9.81	-	626.85	-	-
MW-16S	Monitoring Well	ROY F. WESTON	April to October 1989	23.90	4.00	STEEL	0.02	7.37	17.41	10.00	S	754424.11	470704.1	40° 54' 15.9"	74° 34' 40.4"	632.57	634.69	634.47	19-Nov-02	-	4.85	-	629.62	-	-
MW-16I	Monitoring Well	ROY F. WESTON	April to October 1989	46.53	2.00	STEEL	0.02	32.22	42.26	10.00	I	754435.1	470710.17	40° 54' 16.0"	74° 34' 40.3"	632.43	635.08	634.96	19-Nov-02	-	7.66	-	627.30	-	-
MW-17S (5)	Monitoring Well	ROY F. WESTON	April to October 1989	15.04	4.00	STEEL	0.02	5.20	15.24	10.00	S	754109.68	470759.85	40° 54' 12.8"	74° 34' 39.7"	632.95	634.92	634.79	19-Nov-02	-	7.02	-	627.77	-	-
MW-18S	Monitoring Well	ROY F. WESTON	April to October 1989	15.04	2.00	STEEL	0.02	4.37	14.41	10.00	S	754677.95	471117.26	40° 54' 18.4"	74° 34' 33.0"	628.22	631.48	631.26	19-Nov-02	-	4.93	-	626.33	-	-
MW-18I	Monitoring Well	ROY F. WESTON	April to October 1989	44.69	2.00	STEEL	0.02	34.22	44.26	10.00	I	754675.11	471106.07	40° 54' 18.4"	74° 34' 35.2"	628.35	631.19	631.04	19-Nov-02	-	4.31	-	626.73	-	-
MW-19 (5)	Monitoring Well	ROY F. WESTON	May 20, 1991	17.00	4.00	STEEL	0.02	7.00	17.00	10.00	S	754537.15	470454.45	40° 54' 17.1"	74° 34' 43.7"	636.82	636.83	636.50	19-Nov-02	-	8.46	-	628.04	-	-
MW-19-1 (5)	Monitoring Well	RMT, INC.	February 17, 1998	17.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	754534.52	470427.63	40° 54' 17.0"	74° 34' 44.0"	636.53	636.56	636.24	19-Nov-02	-	7.90	-	628.34	-	-
MW-19-2 (5)	Monitoring Well	RMT, INC.	February 17, 1998	16.00	4.00	STEEL	0.01	6.00	16.00	10.00	S	754551.81	470429.56	40° 54' 17.2"	74° 34' 44.0"	637.06	637.10	636.90	19-Nov-02	-	8.89	-	628.01	-	-
MW-19-3 (5)	Monitoring Well	RMT, INC.	February 18, 1998	16.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	754539.4	470394.2	40° 54' 17.1"	74° 34' 44.5"	637.57	637.66	637.30	19-Nov-02	-	9.11	-	628.19	-	-
MW-19-4 (5)	Monitoring Well	RMT, INC.	February 18, 1998	16.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	754505.39	470432.08	40° 54' 16.7"	74° 34' 44.0"	636.29	636.36	636.03	19-Nov-02	-	7.21	-	628.82	-	-
MW-19-5 (5)	Monitoring Well	RMT, INC.	February 18, 1998	16.00	2.00	PVC	0.01	6.00	15.50	9.50	S	754565.53	470470.75	40° 54' 17.3"	74° 34' 43.5"	636.53	636.53	636.16	19-Nov-02	-	8.40	-	627.76	-	-
MW-19-6 (5)(6)	Monitoring Well	RMT, INC.	October 28, 1999	20.00	2.00	STEEL	0.02	10.00	20.00	10.00	S	754578.87	470443.1	40° 54' 17.5"	74° 34' 43.8"	636.77	636.76	636.42	19-Nov-02	-	8.69	-	627.73	-	-
MW-19-7 (5)(6)	Monitoring Well	RMT, INC.	October 29, 1999	20.00	2.00	STEEL	0.02	10.00	20.00	10.00	S	754595.66	470501.7	40° 54' 17.6"	74° 34' 43.1"	635.91	635.96	635.60	19-Nov-02	-	8.05	-	627.55	-	-
MW-19-8 (5)(6)	Monitoring Well	RMT, INC.	October 28, 1999	20.00	2.00	STEEL	0.02	11.00	20.00	9.00	S	754617.42	470493.65	40° 54' 17.8"	74° 34' 43.2"	636.42	636.42	635.96	19-Nov-02	-	8.35	-	627.61	-	-
MW-19-9D (5)(6)	Monitoring Well	RMT, INC.	July 10, 2001	35.00	2.00	STEEL	0.02	25.00	35.00	10.00	S	754590	470442	40° 54' 17.9"	74° 34' 42.4"	636.99	637.01	636.70	19-Nov-02	-	8.45	-	628.25	-	-
MW-20	Monitoring Well	ROY F. WESTON	May 21, 1991	14.00	4.00	STEEL	0.02	4.00	14.00	10.00	S	754550.52	470647.25	40° 54' 17.2"	74° 34' 41.2"	634.82	637.03	636.77	19-Nov-02	-	8.33	-	628.44	-	-
MW-21 (5)	Monitoring Well	ROY F. WESTON	May 22, 1991	15.00	4.00	STEEL	0.02	5.00	15.00	10.00	S	754240.97	471645.78	40° 54' 14.1"	74° 34' 28.2"	625.17	629.09	628.80	19-Nov-02	-	2.95	-	625.85	-	-
MW-22(R) (5)	Monitoring Well	ROY F. WESTON	July 22, 1997	7.50	2.00	STEEL	-	-	-	-	S	754200.52	471409.13	40° 54' 13.7"	74° 34' 31.2"	625.94	628.31	628.13	19-Nov-02	-	2.51	-	625.62	-	-
MW-23	Monitoring Well	ROY F. WESTON	January 6, 1992	6.00	2.00	STEEL	0.02	1.00	6.00	5.00	S	754413.43	471469.4	40° 54' 15.8"	74° 34' 30.5"	628.70	630.95	630.64	19-Nov-02	-	2.24	-	628.40	-	-
MW-25(R) (5)	Monitoring Well	ROY F. WESTON	July 22, 1997	10.00	2.00	STEEL	-	-	-	-	S	754201.83	471518.21	40° 54' 13.7"	74° 34' 29.8"	625.25	627.37	627.22	19-Nov-02	-	2.06	-	625.16	-	-
MW-26	Monitoring Well	ROY F. WESTON	May 8, 1996	11.80	4.00	PVC	0.02	1.80	11.80	10.00	S	754401.17	471174.36	40° 54' 15.7"	74° 34' 34.3"	630.84	634.39	633.26	19-Nov-02	-	6.86	-	626.40	-	-
RW-1	Recovery Well	ROY F. WESTON	June 17, 1991	30.00	8.00	STEEL	0.02	5.00	30.00	25.00	S	754183.96	470802.1	40° 54' 13.6"	74° 34' 39.1"	635.19	637.81	637.38	19-Nov-02	10.26	10.85	627.12	626.53	0.59	627.08
RW-2	Recovery Well	ROY F. WESTON	June 22, 1991	30.00	8.00	STEEL	0.02	3.00	30.00	27.00	S	754245.98	471289.8	40° 54' 14.2"	74° 34' 32.8"	629.80	631.78	631.68	19-Nov-02	-	5.58	-	626.10	-	-
RW-3	Recovery Well	ROY F. WESTON	June 21, 1991	28.00	8.00	STEEL	0.02	3.00	28.00	25.00	S	754315.59	471206.84	40° 54' 14.9"	74° 34' 33.9"	629.89	632.15	631.99	19-Nov-02	-	5.76	-	626.23	-	-
SG-D1 (1)	Drainage Channel Staff Gauge	RMT, INC.	November-98	NA	NA	NA	NA	NA	NA	NA	NA	754428.57	471240.37	-	-	626.41	-	-	19-Nov-02	-	1.12	-	624.20	-	-
SG-D2 (1)	Drainage Channel Staff Gauge	RMT, INC.	November-98	NA	NA	NA	NA	NA	NA	NA	NA	754285.43	471361.24	-	-	626.86	-	-	19-Nov-02	-	0.35	-	623.88	-	-
SG-D3 (1)	Drainage Channel Staff Gauge	RMT, INC.	November-98	NA	NA	NA	NA	NA	NA	NA	NA	754381.47	471548.31	-	-	626.43	-	-	19-Nov-02	-	1.40	-	624.50	-	-
SG-R1 (1)	Rockaway River Staff Gauge	RMT, INC.	November-98	NA	NA	NA	NA	NA	NA	NA	NA	754313.99	470408.70	-	-	641.52	-	-	19-Nov-02	-	2.24	-	640.43	-	-
SG-R2 (1)	Rockaway River Staff Gauge	RMT, INC.	November-98	NA	NA	NA	NA	NA	NA	NA	NA	754056.10	470949.16	-	-	628.84	-	-	19-Nov-02	-	2.72		628.23	-	-
SG-R3 (1)	Rockaway River Staff Gauge	RMT, INC.	November-98	NA	NA	NA	NA	NA	NA	NA	NA	754113.47	471426.67	-	-	627.38	-	-	19-Nov-02	-	1.46		625.51	-	-

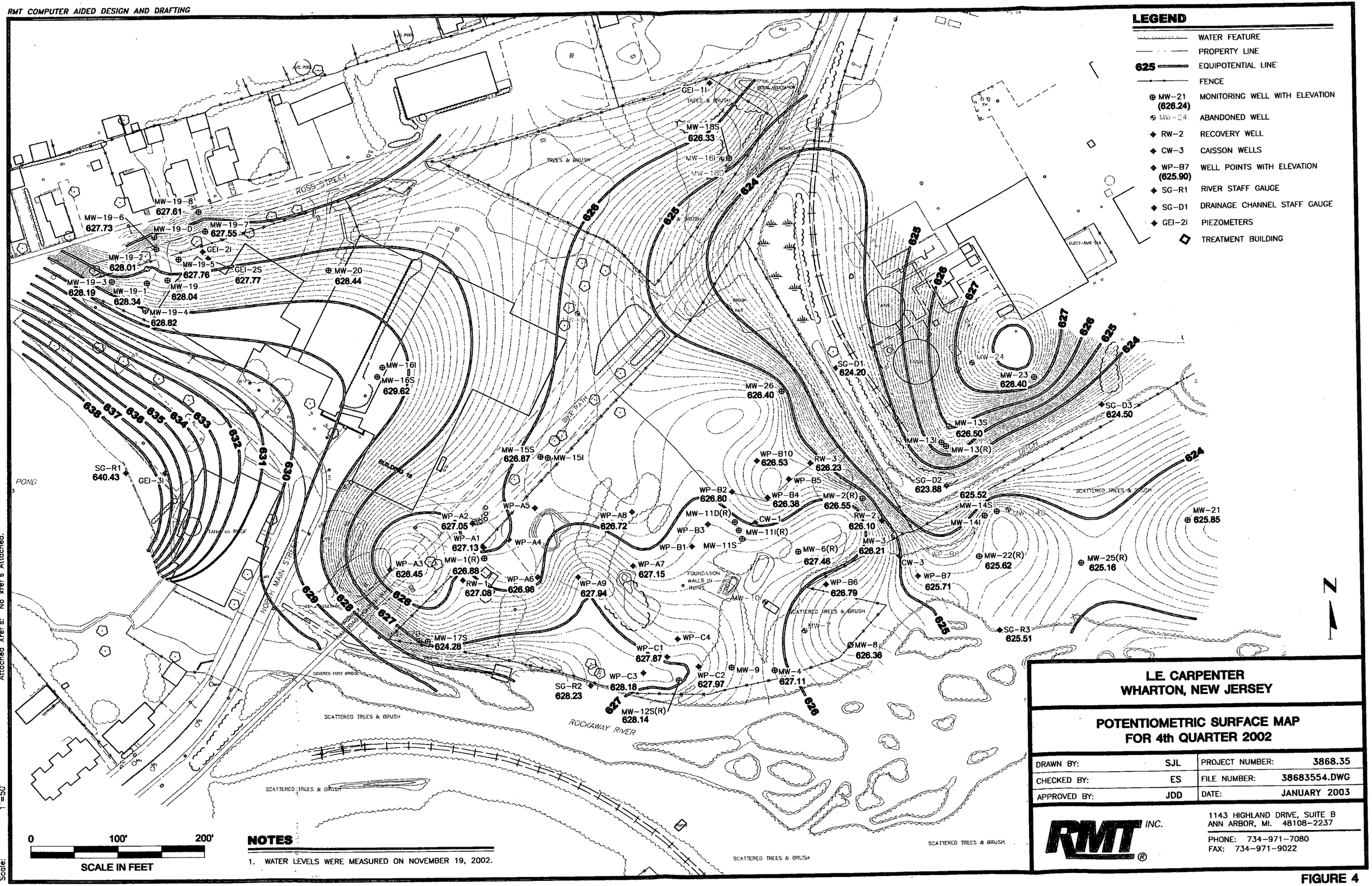
TABLE 6
L.E. Carpenter and Company, Wharton, New Jersey
Quarterly Groundwater Elevations

WELL LOCATION	WELL TYPE	WELL INSTALLATION AND CONSTRUCTION INFORMATION (7)										PROFESSIONAL SURVEY INFORMATION				ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION (9)						
		MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	BASELINE LOCATION (feet) (8) (Y) North	(X) East	GEODETIC LOCATION LATITUDE	LONGITUDE	GROUND	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS (2)
WP-A1	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754220.52	470825.71	40° 54' 13.9"	74°34' 38.8"	636.29	636.32	635.81	19-Nov-02	8.60	9.91	627.21	625.90	1.31	627.13
WP-A2	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754249.34	470813.05	40° 54' 14.2"	74°34' 39.0"	637.31	639.62	639.19	19-Nov-02	12.13	12.22	627.06	626.97	0.09	627.05
WP-A3	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754195.42	470717.12	40° 54' 13.7"	74°34' 40.3"	635.97	635.97	635.56	19-Nov-02		9.11	-	626.45	-	-
WP-A4	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754229.46	470855.24	40° 54' 14.0"	74°34' 38.5"	635.63	635.66	635.10	19-Nov-02	8.33	11.09	626.77	624.01	2.76	626.59
WP-A5	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754266.54	470886.02	40° 54' 14.4"	74°34' 38.1"	635.70		637.85	19-Nov-02		9.69		628.16	-	-
WP-A6	Area A Well Point	ROY F. WESTON	1993	13.00	2.00	PVC	-	3.00	13.00	10.00	S	754184.69	470888.45	40° 54' 13.6"	74°34' 38.0"	634.95		637.28	19-Nov-02	10.32	10.33	626.96	626.95	0.01	626.96
WP-A7	Area A Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754196.44	470999.43	40° 54' 13.7"	74°34' 36.6"	632.94		634.88	19-Nov-02	7.69	8.34	627.19	626.54	0.65	627.15
WP-A8	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754260.25	470998.97	40° 54' 14.3"	74°34' 36.6"	634.70		637.56	19-Nov-02	10.79	11.61	626.77	625.95	0.82	626.72
WP-A9	Area A Well Point	ROY F. WESTON	1993	16.00	2.00	PVC	-	6.00	16.00	10.00	S	754184.12	470935.26	40° 54' 13.6"	74°34' 37.4"	637.22		639.32	19-Nov-02	11.31	12.35	628.01	626.97	1.04	627.94
WP-B1	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754218.63	471068.54	40° 54' 13.9"	74°34' 35.7"	631.85		633.65	19-Nov-02	5.34	5.41	628.31	628.24	0.07	628.31
WP-B2	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754282.8	471115.71	40° 54' 14.5"	74°34' 35.1"	630.48	632.58	632.25	19-Nov-02		5.45		626.80	-	-
WP-B3	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754243.43	471088.51	40° 54' 14.2"	74°34' 35.4"	631.71		633.33	19-Nov-02		6.10		627.23	-	-
WP-B4	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754275.31	471156.49	40° 54' 14.5"	74°34' 34.5"	629.93		632.56	19-Nov-02	6.02	8.51	626.54	624.05	2.49	626.38
WP-B5	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754296.93	471181.49	40° 54' 14.7"	74°34' 34.2"	630.03		632.11	19-Nov-02	-	4.73	-	627.38	-	-
WP-B6	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754171.56	471223.53	40° 54' 13.4"	74°34' 33.7"	629.72		631.86	19-Nov-02	-	5.07	-	626.79	-	-
WP-B7	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754179.91	471330.82	40° 54' 13.5"	74°34' 32.3"	627.62		629.49	19-Nov-02	-	3.78	-	625.71	-	-
WP-B10	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754319.10	471144.76	40° 54' 14.9"	74°34' 34.7"	630.42	633.12	632.74	19-Nov-02	-	6.21	-	626.53	-	-
WP-C1	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754087.66	471038.32	40° 54' 12.6"	74°34' 36.1"	632.81		633.51	19-Nov-02	-	5.64	-	627.87	-	-
WP-C2	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754075.97	471074.74	40° 54' 12.5"	74°34' 35.6"	633.02		634.46	19-Nov-02	-	6.49	-	627.97	-	-
WP-C3	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754066.60	471009.58	40° 54' 12.4"	74°34' 36.4"	631.00		632.64	19-Nov-02	-	4.46	-	628.18	-	-
WP-C4	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	754108.93	471050.74	40° 54' 12.8"	74°34' 35.9"	632.44		633.27	19-Nov-02	BROKEN					

FOOTNOTES
(1) Elevation measured at the top of a 3.33 ft. Staff gauge. Water depth based on a visual observation of the water level on the Staff gauge.
(2) Corrected water level elevations utilize an average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1(R); EFR-11 & WP-A8)
(3) Wells included in the quarterly sampling program. Depth to water recorded before purging
(4) Wells installed during new RI efforts per NJDEP and EPA request to further delineate MW19/Hot Spot 1 Area
(5) No boring log or well construction diagram available. Well specific information determined from Weston Geologic Cross Section
(6) "-" in the Quarterly Measurement Information section of this database indicates that the presence of free product was NOT detected at any measurable thickness and therefore did not generate a product elevation, product thickness nor require water level elevation to be corrected
(7) "-" in the Well Installation and Construction Information section indicates that well construction logs were not available for review
(8) Horizontal Datum: New Jersey State Plane Coordinate System NAD 83. Vertical Datum: NGVD 29
(9) All "19 series" wells were resurveyed August 8, 2001 at owners request. Wells MW19 through MW19-5 were converted to flush mount wells to allow for through traffic. Professional survey performed by James M. Stewart, Inc., Philadelphia, PA

GENERAL NOTES
All WP series wells finished elevation is 2 feet above nominal grade. Total depth of well only accounts for subsurface structure
Wells MW-1A, MW5, MW-7, MW-10, MW-11I; MW-11D, MW-14D, MW-17D, MW-18D, MW-22, MW-24, MW-25, WP-B8, Wp-D1, PZ-6A, PZ-2A(R), PZ-2AS, RW-1 have been abandoned
Wells MW-11I(R), MW11-D(R), MW-1(R), MW-2(R), MW-6(R), MW-22(R), and MW-25(R) are replacement wells

LEGEND
S: Shallow Aquifer System
I: Intermediate Aquifer System
D: Deep Aquifer System
R: Replacement Well
NAS: Not Assessable
REM: Removed
-': Value of 0.00. Free Product not encountered at well



L.E. CARPENTER
WHARTON, NEW JERSEY

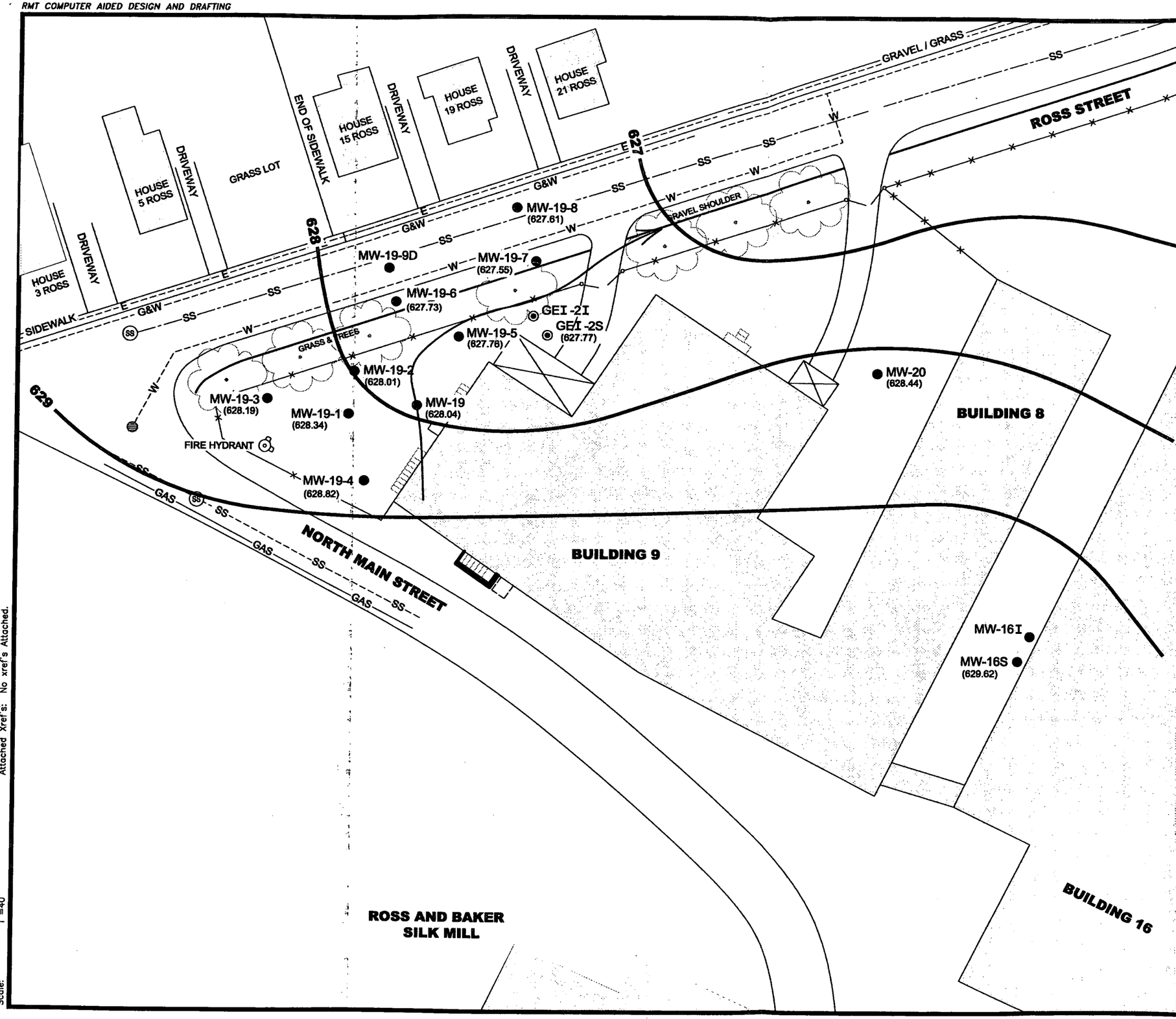
POTENTIOMETRIC SURFACE MAP
FOR 4th QUARTER 2002

DRAWN BY:	SJL	PROJECT NUMBER:	3868.35
CHECKED BY:	ES	FILE NUMBER:	38683554.DWG
APPROVED BY:	JDD	DATE:	JANUARY 2003

RMT INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237
PHONE: 734-971-7080
FAX: 734-971-9022

FIGURE 4

PLOT DATA
Drawing Name: J:\03868\35\38683554.dwg
Operator Name: lucidos
Scale: 1"=50'
Dwg Size: 5366819 Bytes
Plot Date: Thursday, January 23, 2003
Plot Time: 07:06:45:79 AM
Attached Xref's: No xref's Attached.



LEGEND

- FENCE LINE
- SS — APPROXIMATE LOCATION OF ROCKAWAY RIVER REGIONAL INTERCEPTOR SEWER
- 627 — GROUNDWATER ELEVATION CONTOUR
- MW-19-7 (627.55) — MONITORING WELL LOCATION AND NUMBER WITH GROUNDWATER ELEVATION
- GEI-2S (627.77) — GEOPROBE INSTALLED PIEZOMETER LOCATION AND NUMBER WITH GROUNDWATER ELEVATION
- SS — SANITARY SEWER
- G&W — GAS AND WATER
- E — ELECTRIC
- W — WATER
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES

1. GROUNDWATER ELEVATIONS BASED ON LEVELS MEASURED ON NOVEMBER 19, 2002.

N

0 40' 80'

SCALE IN FEET

L.E. CARPENTER
WHARTON, NEW JERSEY

MW-19 / HOT SPOT 1
GROUNDWATER ELEVATION CONTOURS
FOR 4th QUARTER 2002

DRAWN BY:	SJL	PROJECT NUMBER:	3868.35
CHECKED BY:	EES	FILE NUMBER:	38683555.DWG
APPROVED BY:	NC	DATE:	JANUARY 2003

RMT INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237
PHONE: 734-971-7080
FAX: 734-971-9022

FIGURE 5

PLOT DATA
Drawing Name: J:\03868\35\38683555.dwg
Operator Name: lucidas
Scale: 1"=40'
Dwg Size: 173202 Bytes
Plot Date: Thursday, January 23, 2003
Plot Time: 07:08:23:20 AM
Attached Xref's: No xref's Attached.

Section 5
Drainage Channel Surface Water Sampling

As part of the fourth quarter 2002 event, RMT sampled the eastern drainage channel that separates the adjacent Air Products facility from the LEC site and the adjacent Wharton Enterprises property. This sampling was conducted at the request of NJDEP as outlined in their letter dated May 31, 2002. As requested in the NJDEP letter dated November 4, 2002, grab sampling was performed in the three locations along this channel (SW-5, SW-7 and SW-8). Sampling started with the downstream location SW-8 and proceeded to upstream location SW-7. As previously seen, the drainage ditch controls shallow groundwater pressure heads and flow direction as described above.

Each of the three grab samples was analyzed for the presence of DEHP and BTEX compounds. All three surface water samples contained very low levels of DEHP (0.3 to 0.4 μg/L), although the data are "B-qualified" because of similar levels detected in the laboratory blank. These concentrations are all below the surface water quality criteria for toxic substances outlined in N.J.A.C 7:9B-1.14 and NJGWQS. Historical and current surface water sampling results are summarized in Table 7.

These data show that BTEX and DEHP constituents dissolved in groundwater are naturally attenuating, and that migration of the these primary constituents of concern is not taking place at levels above applicable standards in surface water within the drainage channel nor in groundwater beyond MW-25(R) located on the Wharton Enterprises property. In other words, the area of on-site free product results in a downgradient "halo" of dissolved phase contaminants in groundwater that make up a stable (non-expanding) plume. Future site monitoring activities will include surface water sample collection at the same three locations.

In addition, the NJDEP letter dated November 4, 2002, recommends that LEC further evaluate groundwater discharge to the drainage ditch. NJDEP requested this be done by means of passive diffusion bag (PDB) samplers. RMT has advised LEC to not use PDB samplers because significant amounts of DEHP are known to leach from these devices. DEHP is one of the main constituents of concern at the LEC site, and data collected from PDB samplers could not be used to determine actual concentrations of DEHP in the sampled media. RMT is currently evaluating alternative methodologies to further evaluate groundwater discharge to the ditch.

TABLE 7
L.E. CARPENTER - Wharton, New Jersey
Surface Water Monitoring Data

SURFACE WATER SAMPLING	ROCKAWAY RIVER			INFILTRATION GALLERY	DRAINAGE DITCH														ROCKAWAY RIVER	
	SW-1	SW-2	SW-3	SW-4	SW-5				SW-6	SW-7				SW-8					SW-9	SW-10
SAMPLING DATE	03/14/89 (1)	03/14/89 (1)	03/14/89 (1)	03/14/89 (1)(6)	08/02/89 (1)	5/29/98 (5)	06/06/02	11/21/02	03/14/89 (1)	08/27/90	5/29/98 (5)	06/06/02	11/21/02	08/27/90	5/29/98 (5)	06/06/02	8/14/2002	11/21/2002	08/28/90	08/28/90
VOLATILE ORGANIC COMPOUNDS (ug/l) (4)																				
Methylene Chloride	J 1	ND	ND	ND	JP 3.8	ND	NS	NS	J 3.8	(2) ND	ND	NS	NS	(2) ND	ND	NS	NS	NS	(2) ND	(2) ND
1,1,1-Trichloroethane	ND	ND	ND	ND	J 3.7	0.4	NS	NS	ND	ND	0.5	NS	NS	ND	ND	NS	NS	NS	ND	ND
Ethylbenzene	ND	ND	ND	ND	J 3.5	ND	NS	< 0.18	ND	ND	ND	ND	< 0.18	ND	ND	ND	< 0.18	< 0.18	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	NS	NS	J 1.2	ND	ND	NS	NS	ND	ND	NS	NS	NS	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NS	NS	ND	ND	NS	NS	NS	ND	ND
Total Xylenes	ND	ND	ND	ND	44	ND	ND	< 0.2	ND	ND	ND	ND	< 0.2	ND	ND	ND	0.43	0.32	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	1	< 0.24	ND	ND	ND	ND	< 0.24	ND	ND	1	0.54	< 0.24	ND	ND
1,1,2-Trichloro-2,2,1-Trifluoroethane	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NS	NS	ND	ND	NS	NS	NS	ND	ND
Benzene							ND	< 0.22				ND	< 0.22			ND	< 0.22	< 0.22		
BASE NEUTRAL COMPOUNDS (ug/l) (4)																				
Di-n-butyl phthalate (3)	JP 3.2	JP 3.7	JP 3.6	JP 3.5	ND	ND	NS	NS	JP 4	NS	ND	NS	NS	NS	ND	NS	NS	NS	NS	NS
bis(2-Ethylhexyl) phthalate	ND	ND	ND	J 7.2	ND	ND	ND	B 0.3	ND	J(2) 7	ND	ND	B 0.4	NS	ND	0.6	1.3	B 0.4	J(2) 6	NS
METALS (ug/l) (4)																				
Antimony	ND	ND	ND	J 22.8	ND	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Arsenic	ND	ND	J 2.4	ND	10	NS	NS	NS	15.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	J 3.9
Cadmium	ND	ND	ND	ND	ND	NS	NS	NS	J 22.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Chromium	ND	ND	J 8	ND	ND	NS	NS	NS	231	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Copper	J 16.7	J 5.3	J 22.1	J 6.7	ND	NS	NS	NS	405	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Lead	20.7	ND	87.2	J 2.7	6	NS	NS	NS	1340	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	J 4.6
Mercury	ND	ND	ND	ND	ND	NS	NS	NS	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Nickel	ND	ND	ND	ND	ND	NS	NS	NS	J 60.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Selenium	ND	ND	ND	ND	ND	NS	NS	NS	7.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Zinc	96.4	J 4.2	152	23	60	NS	NS	NS	2,370	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	J 5.4
POLYCHLORINSTED BIPHENYLS (PCBs) (ug/l) (6)																				
Arochlor-1016	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arochlor-1221	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arochlor-1232	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arochlor-1242	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arochlor-1248	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arochlor-1254	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arochlor-1260	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

LEGEND
ug/L = micrograms per liter
SW = Surface water sample (Roy F. Weston nomenclature)
ND: No Detection
NS: Not Sampled
Concentration data in BOLD above detection level
B: Compound detected in lab blank.

NOTES
(1) NJDEP Tier 1 sample holding time was exceeded
(2) Compound detected in method blank. Sample concentration < 3x concentration in method blank
For Tier 1 guidelines the result is negated
(3) All concentrations later negated by NJDEP
(4) Only those parameters listed showed concentrations above ND. All other parameters were either ND or NS
(5) Sampling performed by RMT per NJDEP request letter dated Jan 28, 1998
VOCs and Base Neutrals ONLY (EPA 624 and 625 respectively)
(6) The PCB sample (SW-4) was collected May 5, 1989

1989 and 1990 LABORATORY QUALIFIERS
J: Detected below reporting limit or is an estimated concentration
P: Compound detected in laboratory method blank

Surface Water Sampling Information

1989
GeoEngineering/Roy F. Weston sampling November 1989: VO+15 (EPA 624), BN+15 (EPA 625); PP Metals (EPA 200 series), PCBs (SW-4 only) (EPA 608)
PP Metals (EPA 200 series), PCBs (SW/SS-4 only) (for SW sample EPA 608, for SS EPA 8080)
SW-1: Backround sample location in Washington Forge Pond
SW-2: Assess impact on Rockaway River. Located immediately adjacent to Bldg. 12
SW-3: Assess impact on Rockaway River. Located downstream of former impoundment area
SW-4: Located in former infiltration gallery between former impoundment area and tank farm
SW-5: Located in the drainline ditch between LEC and Air Products
SW-6: Located in a drainline feature in Northeast corner, up by former Starch drying beds. Potential floor drain and non-contact cooling water impacts

1990
Roy F. Weston Supplemental RI (November 1990)
SW-7: Former outfall from northeast corner starch drying beds. (VOC+10, BN+10, PCB)
SW-8: Bend in drainline ditch. Assess downwardient quality of drainline ditch (VOC+10)
SW-9: Junction of ditch and Rockaway River. Assess impact of ditch on river quality. (VOC+10, BN+10, PCB)
SW-10: Rockaway River south of MW-4. Assess impact of site on contaminants of Rockaway River. (VOC+10, TAL Metals)

2002
Sampling performed by RMT per the NJDEP letter dated May 31, 2002 (NJDEP/EPA review of Quarterly Monitoring Report - 1st Quarter 2002
During 3Q02 sampling event only SW-8 location sampled due drought conditions.
During 4Q02 grab sampling was utilized to sample from downstream to upstream per NJDEP letter dated November 4, 2002.

Section 6
Site Investigation and Remedial Actions

The following section briefly outlines additional activities and scope(s) of work performed at various on-site areas of environmental concern during fourth quarter 2002 and provides a brief discussion of activities anticipated for completion during first quarter 2003.

6.1 Free Product

In December 2001, RMT conducted a subsurface investigation to further investigate viable free product remedial technologies as outlined in the NJDEP approved workplan and amendment entitled Workplan to Evaluate Free Product Remedial Strategies (RMT, November 2001), and Amendment to Workplan to Evaluate Free Product Remedial Strategies (RMT, November 2001). Results of this investigation were submitted to USEPA and NJDEP in the document entitled Findings & Recommendations Regarding a Conceptual Free-Product Remediation Strategy in March 2002. NJDEP and USEPA comments were provided in the NJDEP letter dated July 26, 2002. Written responses to the comments outlined in the July 26, 2002 letter were provided to NJDEP and USEPA in the RMT response letter dated October 22, 2002. No regulatory response has been provided to date, but all of the issues described in the comments and response letters were addressed at the meeting held in Edison New Jersey on September 19, 2002.

6.2 Lead in Soils

In November 2001, RMT conducted a subsurface investigation as outlined in the Revised Workplan for Delineating and Characterizing Elevated Lead Concentrations in Soil (RMT, May 2001) to delineate the extent of on-site lead contamination in soils. Results of this investigation were submitted to USEPA and NJDEP in the document entitled Nature and Extent of Lead in Soils and Groundwater in March 2002. NJDEP and USEPA comments were provided in the NJDEP letter dated July 26, 2002. Written responses to the comments outlined in the July 26, 2002 letter were discussed at the September 19, 2002 meeting and also provided to NJDEP and USEPA in the RMT response letter dated October 22, 2002. In addition, RMT is currently preparing a Focused Feasibility Study (FFS) that will document in detail the alternate remedy for on-site soils exhibiting elevated lead concentrations so an Explanation of Significant Difference (ESD) can be prepared documenting and approving this significant change in the current ROD remedial approach.

6.3 Monitored Natural Attenuation (MNA)

RMT provided a letter response dated October 23, 2001 to agency comments dated August 23, 2001 regarding the Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater (RMT, May 2001). Both the NJDEP and USEPA approved this workplan as outlined in the NJDEP letter dated January 24, 2002. Implementation of the approved MNA evaluation is currently on hold pending completion of the proposed free product and lead remediation.

Appendix A
Report Certification

REPORT CERTIFICATION
PURSUANT TO N.J.A.C. 7:26E–1.5

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement, which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Mr. Cristopher R. Anderson

PRINTED NAME

Director, Environmental Services

TITLE

L.E. Carpenter & Company

COMPANY

Cristopher Anderson

SIGNATURE

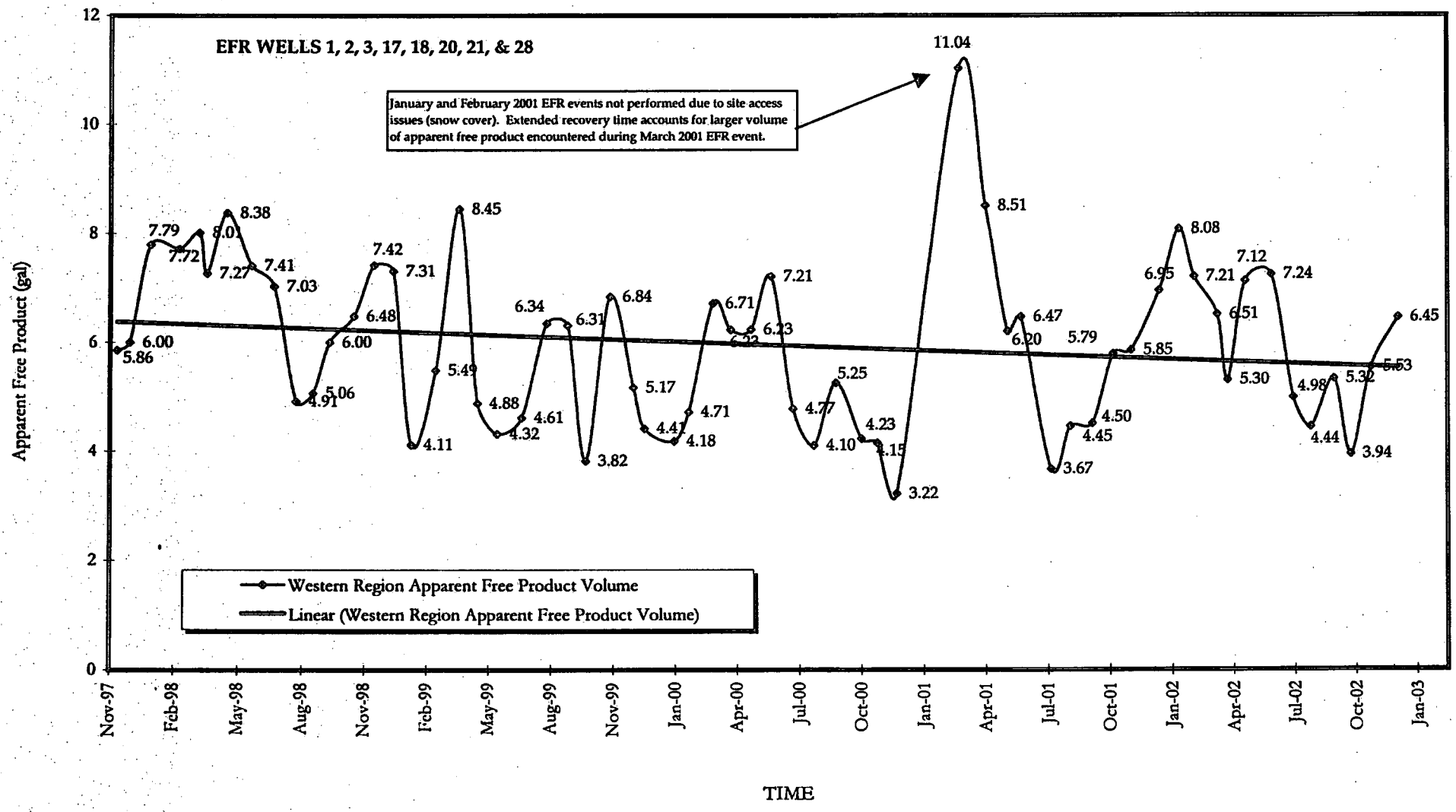
01/21/03

DATE

Appendix B
Apparent Free Product Volume Trend Charts

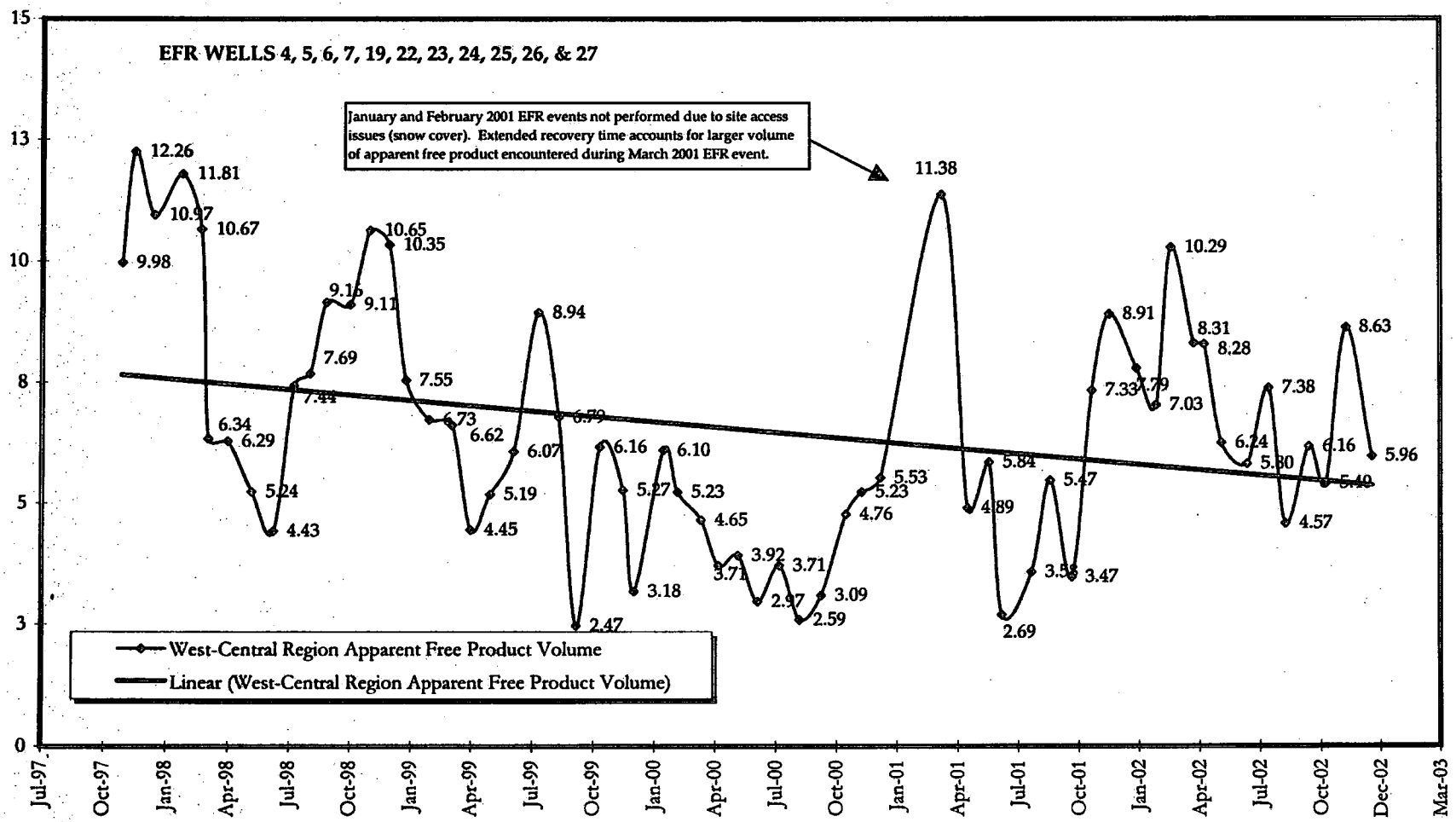
L.E. Carpenter and Company
Western Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2002



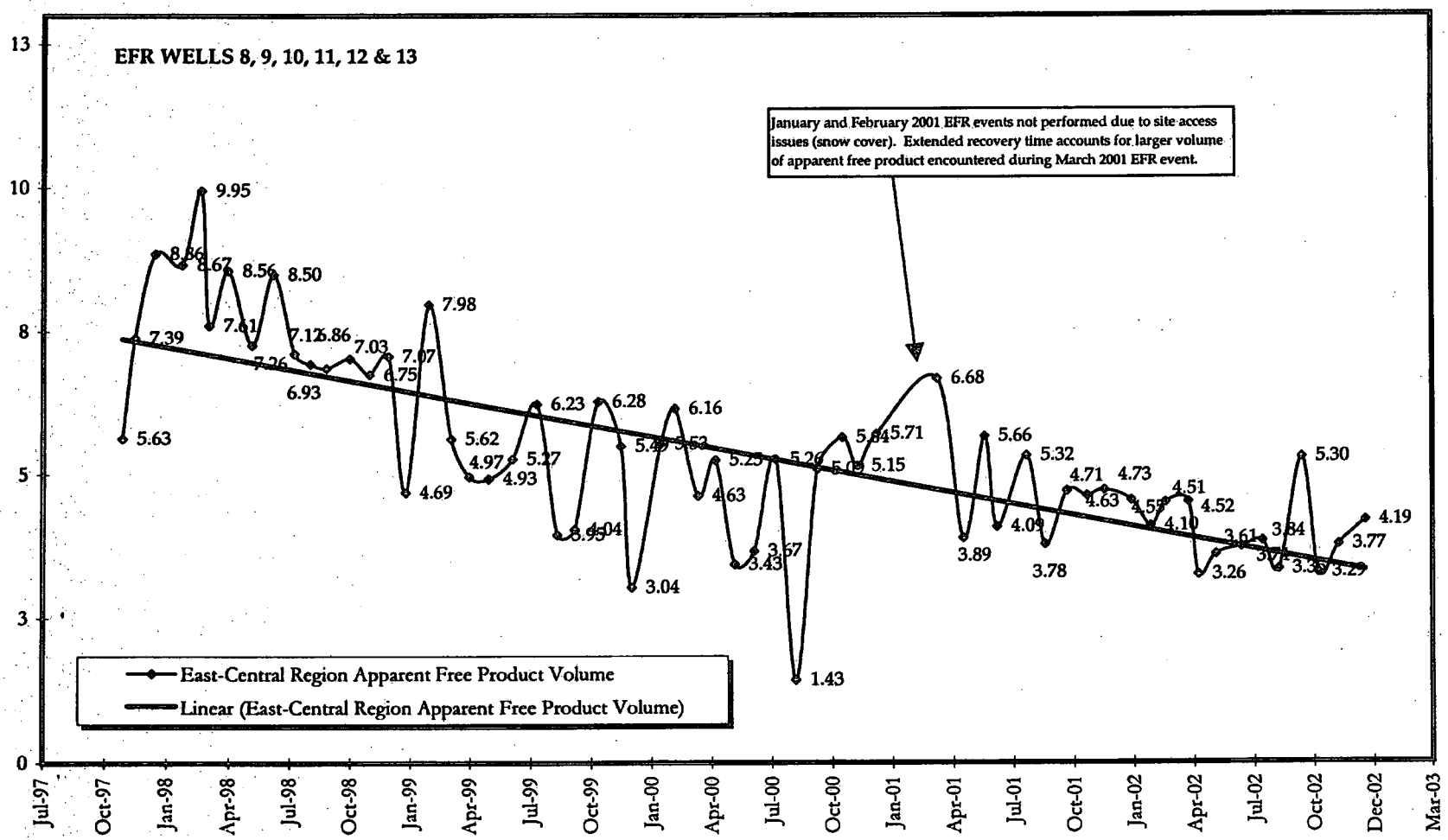
L.E. Carpenter and Company
West-Central Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2002



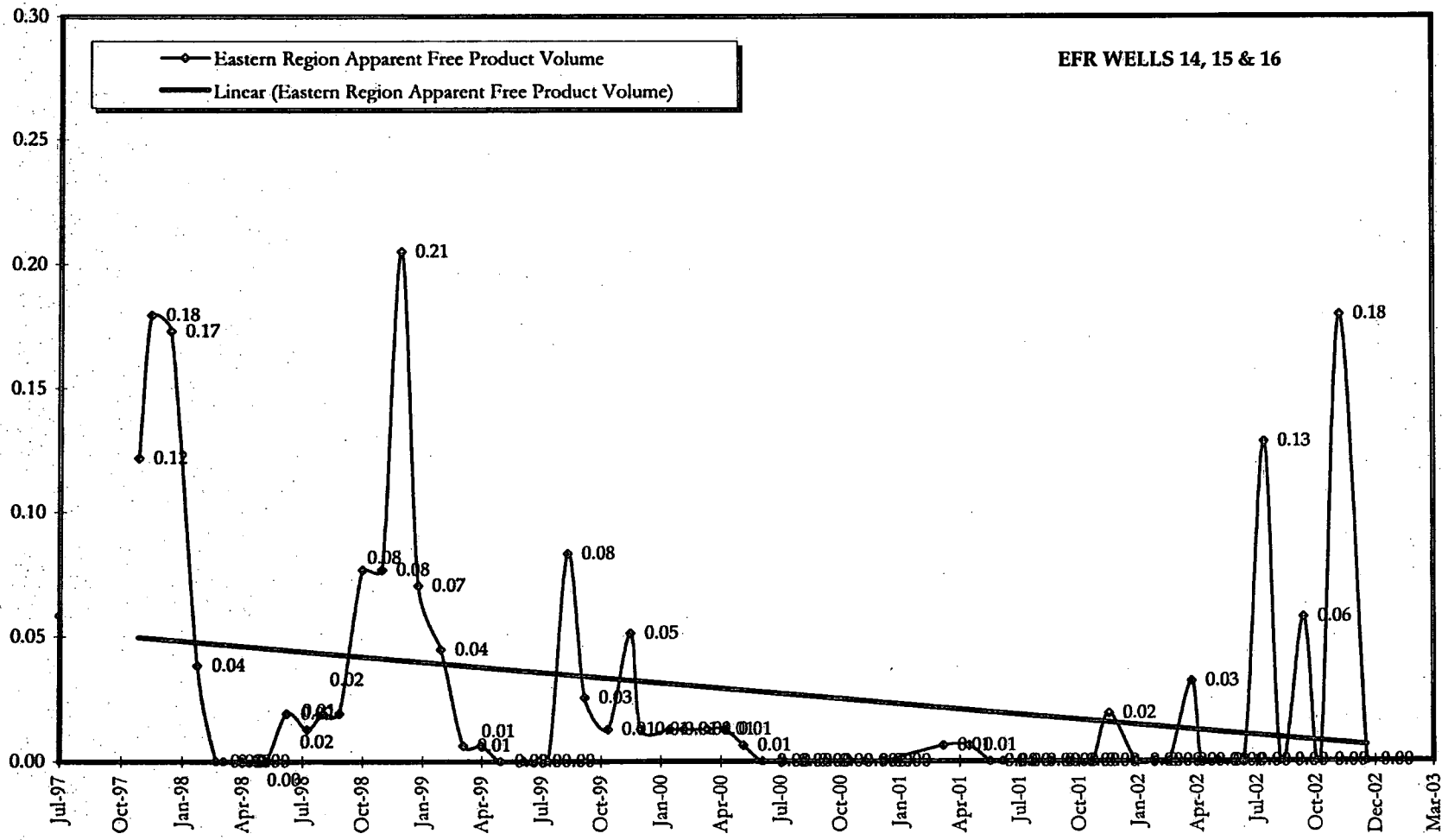
L.E. Carpenter and Company
East-Central Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2002



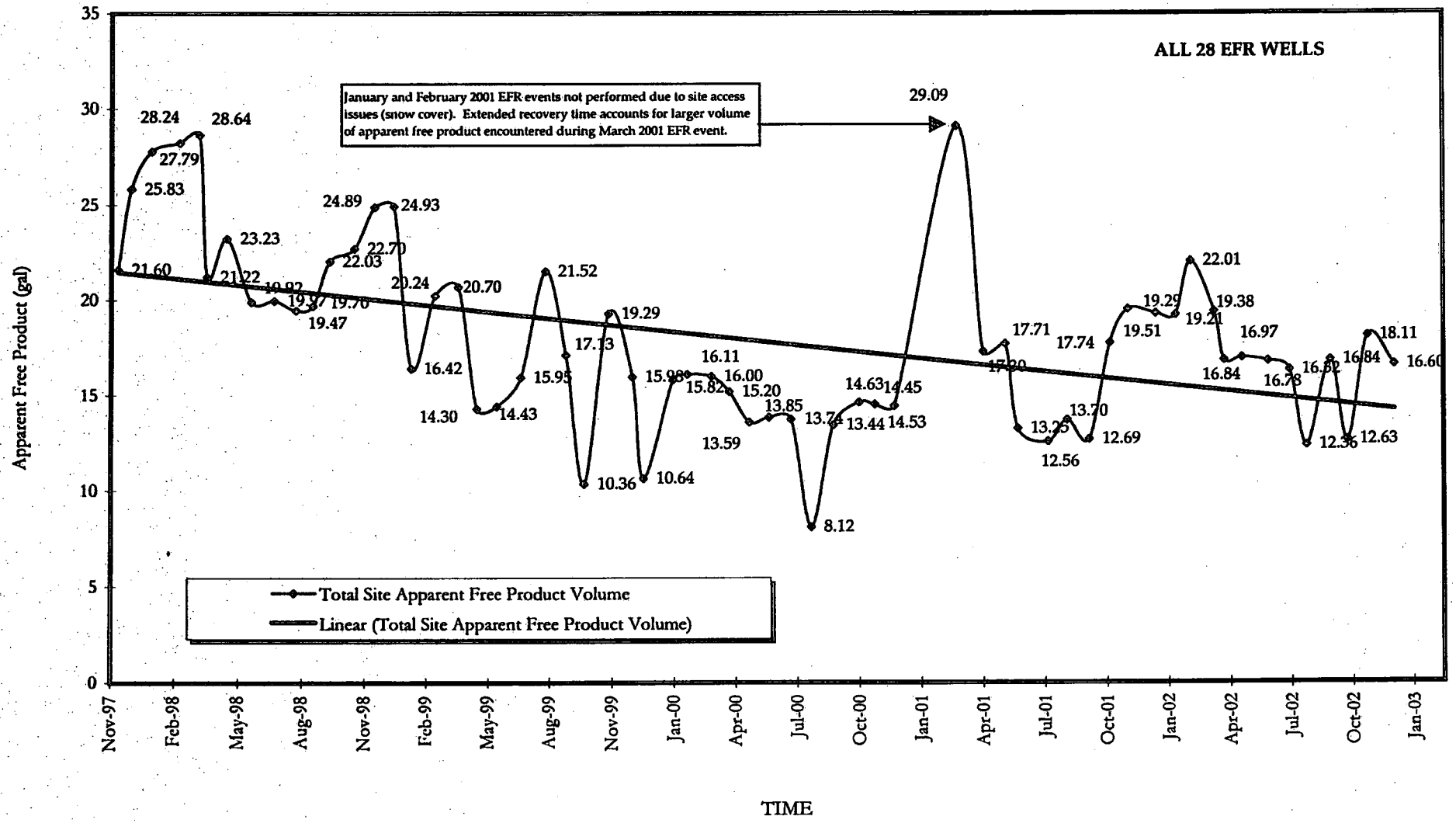
L.E. Carpenter and Company
Eastern Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2002



L.E. Carpenter and Company
Total Site Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2002



Appendix C
4th Quarter 2002 Monitoring Well Sampling Data

RMT INC.

PROJECT NAME:	LEC
PROJECT NUMBER:	00-03868.29
LOCATION:	Wharton, NJ
DATES OF FIELD WORK:	11/19/02 - 11/21/02
PURPOSE OF FIELD WORK:	4th Quarter Groundwater Sampling
WORK PERFORMED BY:	John Mihalich & Sarah Lapka

Sarah Lapka — Signed

1/6/03 — Date

QC'd By

1-7-03 — Date

RMT

GENERAL NOTES

PROJECT NAME: LEC DATE: 11/19/02

PROJECT NUMBER: 00-03868.29 AUTHOR: JPM/SL

TIME ARRIVED ON SITE: 8:15 TIME LEFT SITE: 18:00

WEATHER:
Temperature: 40 F° Wind: 0 MPH Visibility: good

WORK/SAMPLING PERFORMED: Water levels measured for all wells. Sampled MW21.

PROBLEMS ENCOUNTERED/CORRECTIVE ACTION TAKEN:
Turbidity meter and flow cell not calibrating.
Portable compressor needs gas.

NOTE: Contacted Micropurge for the flow cell and HACH for the turbidity. Trouble-shooted in the field. Flow cell needs to be taken apart and cleaned when we get back to office. Turbidity meter needs to be returned to HACH for servicing.

COMMUNICATIONS:

Name/Representing:

Subject/Comments:

QC: [signature]

RMT

GENERAL NOTES

PROJECT NAME: LEC
DATE: 11/20/02
PROJECT NUMBER: 00-03868.29
AUTHOR: JPM/SL
TIME ARRIVED ON SITE: 6:45
TIME LEFT SITE: 18:35

WEATHER:
Temperature: 40 F°
Wind: 0 MPH
Visibility: good

WORK/SAMPLING PERFORMED: Sampled wells MW25, MW22, MW14I, MW14S, MW4, MW11D(R), MW15I, MW15S, FB01, Rinsate 01, Took duplicate & MS/MSD Samples at MW25

PROBLEMS ENCOUNTERED/CORRECTIVE ACTION TAKEN:
Still having trouble with turbidity meter & flow cell calibrations. Spoke to Hach - need to send turb. meter in for servicing.

COMMUNICATIONS:

Name/Representing:

Subject/Comments:

QC:

RMT

GENERAL NOTES

PROJECT NAME: LEC
DATE: 11/21/02
PROJECT NUMBER: 00-03868.29
AUTHOR: SL/JPM
TIME ARRIVED ON SITE: 7:00
TIME LEFT SITE: 10:30

WEATHER:
Temperature: 40 F°
Wind: 0 MPH
Visibility: good

WORK/SAMPLING PERFORMED: Sampled MW 17S, SW8-1, SW5-1, and SW7-1.

PROBLEMS ENCOUNTERED/CORRECTIVE ACTION TAKEN:
Trouble calibrating flow cell. Spoke to QED - meter probably needs a good cleaning. Readings should be ok. They convert back to previous calibration.

COMMUNICATIONS:

Name/Representing:

Subject/Comments:

QC:

RMT

WATER LEVEL DATA

PROJECT NAME: LEC

DATE: 11/19/02

PROJECT NUMBER: 00-03868.29

SAMPLER: SL

Well ID	Time	Top of Casing Elevation	Historical Depth to Water	Depth to Product (feet)*	Depth to Water (feet)**	Depth to Bottom (feet)	Water Elev (MSL)
WPB10	8:45				6.21		
RW3	8:49				5.76		
MW26	8:54				6.86		
MW17S	9:05				7.02		
WPC1	9:16				5.64		
MW12R	9:19				6.19		
WPC2	9:22				0.49		
WPC3	9:25				4.46		
MW9	9:45				3.82		
MW4	9:47				5.39		
CW3	9:55				6.65		
MW22	10:00				2.51		
MW14I	10:03				2.13		
MW14S	10:05				2.89		
MW25	10:08				2.06		
MW21	10:11				2.95		
WPB7	10:16				3.78		
WPB6	10:19				5.07		
MW15I	10:25				9.81		
MW15S	10:28				9.90		
WPC4	10:35	(broken)			4.99		
MW8	10:41				3.93		

* Note the Presence of Sheen as an "S"

* All Water Levels Must Include Reference Point and Tape Correction factor, i.e., 1.1 + 0.00 T/PVC.

22

TYPE OF MEASURING DEVICE: water level meter

Sarah Lapka — Signed

1/6/03 — Date

QC'd By

1-7-03 — Date

REV 09/98

F-183

RMT

WATER LEVEL DATA

PROJECT NAME: LEC

DATE: 11/19/02

PROJECT NUMBER: 00-03868.29

SAMPLER: SL

Well ID	Time	Top of Casing Elevation	Historical Depth to Water	Depth to Product (feet)*	Depth to Water (feet)**	Depth to Bottom (feet)	Water Elev (MSL)
MW16I	11:04				7.66		
MW16S	11:06				4.85		
MW20	11:10				8.33		
GEI-2S	11:14				9.90		
GEI-2I	11:16				10.15		
MW19	11:31				8.46		
MW19-4	11:35				7.21		
MW19-3	11:40				9.11		
MW19-2	11:45				8.89		
MW19-5	11:50				8.40		
MW19-7	11:56				8.05		
MW19-6	12:04				8.69		
MW19-8D	12:10				8.45		
GEI-3I	12:14				12.09		
SG-R1	12:16				7.24		
MW19-8	13:11				8.35		
MW19-1	13:16				7.90		
GEI-1I	13:21				4.05		
MW18S	13:25				4.93		
MW18I	13:26				4.31		
MW13R	14:41				4.44		
MW13I	14:44				4.32		

* Note the Presence of Sheen as an "S"

* All Water Levels Must Include Reference Point and Tape Correction factor, i.e., 1.1 + 0.00 T/PVC.

22

TYPE OF MEASURING DEVICE: water level meter

Sarah Lapka — Signed

1/6/03 — Date

QC'd By — 1-7-02 — Date

REV 09/98

F-183

RMT

WATER LEVEL DATA

PROJECT NAME: UEC

DATE: 1/19/02

PROJECT NUMBER: 00-03868.29

SAMPLER: JPM

Well ID	Time	Top of Casing Elevation	Historical Depth to Water	Depth to Product (feet)*	Depth to Water (feet)**	Depth to Bottom (feet)	Water Elev (MSL)
WP B2	8:43			—	5.45		
WP B4	8:48			6.02	8.51		
MW 11 DR	8:58			—	4.81		
MW 11 IR	9:02			—	6.78		
~~EW-1~~	9:04	MW-11S		6.61	11.73		
WPB 3	9:11		JPM	~~6.10~~	6.10		
WPB-1	9:14			5.34	5.41		
WPA-8	9:23	next to	EPR6	10.79	11.61		
WPA-6	9:31			10.32	10.33		
WPA-5	9:51			—	9.69		
WPA-1	9:59			8.60	9.91		(inside gate)
WPA-4	10:05			8.33	11.09		
	Finally found WPA-4 - thought it was under						
	dirt pile during last sampling rounds is						
	flush mounted and damaged. Put cobble						
	over top.						
WPA-2	10:15			12.13	12.22		
WPA-3	10:20			—	9.11		
RW-1	10:24			10.26	10.85		
WPA-9	10:30			11.31	12.35		
SGR2	10:40				2.72		
WPA-7	10:42			7.69	8.34		

* Note the Presence of Sheen as an "S"

* All Water Levels Must Include Reference Point and Tape Correction factor, i.e., 1.1 + 0.00 T/PVC.

18

TYPE OF MEASURING DEVICE: water level meter

Sarah Lapka — Signed

1/6/03 — Date

QCd By — 1-7-02 — Date

RMT

WATER LEVEL DATA

PROJECT NAME: LEC

DATE: 11/19/02

PROJECT NUMBER: 00-03868-29

SAMPLER: JPM

Well ID	Time	Top of Casing Elevation	Historical Depth to Water	Depth to Product (feet)*	Depth to Water (feet)**	Depth to Bottom (feet)	Water Elev (MSL)
CW-1	1048			trace	6.11		
MW-3	1100			6.35	6.36		
RW-2	1218			—	5.33		
MW2R	1220			—	5.59		
SG-S3	1225			—	1.46		
MW6R	1240			trace	4.96		
WPB 5	1250			—	4.73		
MW1R	1258			8.55	9.22		
MW23	14:46				2.24		
~~SW8-1~~ SG	14:49	SG-D3			1.40		
MW13S	14:51				4.09		
SGD2	14:54				0.35		
SGD1	14:56				~~0.12~~ SG	1.12	

* Note the Presence of Sheen as an "S".

* All Water Levels Must Include Reference Point and Tape Correction factor, i.e., 1.1 + 0.00 T/PVC.

13

TYPE OF MEASURING DEVICE: Waterlevel meter

Sarah Lapka — Signed

1/6/03 — Date

[illegible] — QC'd By

1-7-03 — Date

RMT

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEI WELL NUMBER: MW21

PROJECT NUMBER: 00-03868.29 WELL DIAMETER: 4

DATE: 11/19/02 SAMPLER: JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 300

Water level before purging (nearest 0.01 ft. below reference point) 3.03+ T/

Depth to bottom of well (obtained from well logs) 15.00+ T/

Calculated volume of water in casing 7.82

Weather conditions Cold; (30s); overcast; raining

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
16:05		8.91	1136	NM	3.31	-262	12.86	3.03	0.1
16:10	300 ml/min	8.99	1141		1.94	-262	12.36	3.03	0.2
16:15		8.99	1142		1.63	-265	12.42	3.01	0.3
16:20		8.99	1142		1.29	-267	12.44	3.01	0.4
16:25		8.98	1140		1.01	-268		3.01	0.5
							12.40		0.6
16:30		9.00	1139		0.92	-269	12.36	3.00	0.7
Sample 16:35		8.99	1140		0.87	-272	12.30	3.01	0.8

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

Turbidity meter not working

Sarah Lapka — Signed

1/6/03 — Date

QC'd By

1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/19/02	SAMPLE TIME: 16:35

WELL INFORMATION	WELL ID: MW21	WELL DIAMETER: 4
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 2.95	TOTAL DEPTH: 15	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: ~~teflon~~ PE (new / used)		
TUBING TYPE: ~~teflon~~ PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: ~~Horiba~~ flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 0.87 UNITS mg/L	FINAL ORP -272 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 8.99	FINAL COND. 1140	FINAL TEMP.: 12.30
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

*PRESERVATIVE CODES: A - None B – HNO3 C - H2SO4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

5 psi R 10 D 10 MS/MSD DUPE 01

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC WELL NUMBER: MW25

PROJECT NUMBER: 00-03868.29 WELL DIAMETER: 2"

DATE: 11/20/02 SAMPLER: JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 450 mL/min

Water level before purging (nearest 0.01 ft. below reference point) 2.08+ T/

Depth to bottom of well (obtained from well logs) 10 + T/

Calculated volume of water in casing 1.29

Weather conditions Cold (30s); calm; sunny

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
7:54	450 mL/min	8.63	926	NM	3.18	-298	8.52	2.08	—
7:59		8.65	915		0.55	-328	10.03	2.09	0.15
8:04		8.65	913		0.47	-337	10.06	2.11	0.30
8:09		8.70	912		0.41	-334	10.07	2.13	0.45
8:14		8.69	911		0.39	-336	10.07	2.14	0.60
8:19		8.69	912		0.41	-327	10.09	2.15	0.75

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

Water is slightly turbid; turbidity meter not working

Sarah Lapka 1/6/03 [signature] 1-7-03

Signed Date QC'd By Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 8:19

WELL INFORMATION	WELL ID: MW25	WELL DIAMETER: 2
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 2.06	TOTAL DEPTH: 10	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD:	low flow (use purge form)
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: ~~Horiba~~ SL flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 0.41 UNITS mg/L	FINAL ORP -327 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 8.69	FINAL COND. 912	FINAL TEMP.: 10.09
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☐N					☐Y ☐N
1	500mL	amber	A	☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

7.5 psi

R5
D10

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC
WELL NUMBER: MW22
PROJECT NUMBER: 00-03868.29
WELL DIAMETER: 2
DATE: 11/20/02
SAMPLER: JPM/
Type of pump used: bladder
Pumping rate (milliliters/minute): 300
Water level before purging (nearest 0.01 ft. below reference point) 2.60+ T/
Depth to bottom of well (obtained from well logs) 7.5 + T/
Calculated volume of water in casing 0.80
Weather conditions Cool (40s); calm; sunny

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
9:07	300 mL/min	8.51	868	NM	4.19	-230	9.01	2.60	—
9:12		8.44	884		1.58	-270	11.72	2.70	0.1
9:17		8.46	883		1.06	-283	12.12	2.70	0.2
9:22		8.42	884		0.88	-292	12.15	2.73	0.3
9:27		8.44	885		0.77	-300	12.32	2.71	0.4
9:32		8.44	883		0.63	-309	12.38	2.78	0.5
9:37		8.46	885		0.53	-310	12.56	2.78	0.6
9:42		8.44	884		0.50	-322	12.49	2.78	0.7
9:47		8.44	885		0.45	-325	12.58	2.78	0.8
sample 9:52		8.40	884		0.36	-333	12.64	2.75	0.9

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

* due to time constraints we sampled even though DO not stable; Stable enough to sample
- turbidity meter not working

Dunn Lapka
Signed

1/6/03
Date

QC'd By

1-7-03
Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 9:52

WELL INFORMATION	WELL ID: MW22	WELL DIAMETER: 2
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 2.51	TOTAL DEPTH: 7.5	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: ~~Horiba~~ SL flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: Clear	ODOR: none
FINAL D.O. 0.36 UNITS mg/L	FINAL ORP -333 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 8.40	FINAL COND. 884	FINAL TEMP.: 12.64
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☒N					☐Y ☐N
1	500mL	amber	A	☐Y ☒N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC WELL NUMBER: MW14I

PROJECT NUMBER: 00-03868.29 WELL DIAMETER: 2"

DATE: 11/20/02 SAMPLER: SL/JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 450 mL/min

Water level before purging (nearest 0.01 ft. below reference point) 2.23+ T/

Depth to bottom of well (obtained from well logs) 44.3+ T/

Calculated volume of water in casing 6.86

Weather conditions cool (30s-40s); calm; sunny

10:55 begin purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
10:57	450 mL/min	9.67	335	NM	5.09	-238	12.46	2.23	—
11:02		9.78	330		2.13	-254	12.75	2.17	0.15
11:07		9.84	331		1.86	-256	12.72	2.18	0.30
11:12		9.85	330		1.75	-259	12.77	2.17	0.45
11:17		9.84	330		1.68	-260	12.76	2.16	0.60
ample 11:22		9.91	330		1.65	-261	12.80	2.21	0.75

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka — Signed; 1/6/03 — Date; QC'd By — 1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 11:22

WELL INFORMATION	WELL ID: MW14I	WELL DIAMETER: 2
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 2.13	TOTAL DEPTH: 44.3	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: ~~Horiba~~ flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: Clear	ODOR: none
FINAL D.O. 1.65 UNITS mg/L	FINAL ORP -261 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 9.91	FINAL COND. 330	FINAL TEMP.: 12.80
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☐N					☐Y ☐N
1	500mL	amber	A	☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LFC
WELL NUMBER: MW145
PROJECT NUMBER: 00-03868.29
WELL DIAMETER: 4
DATE: 11/20/02
SAMPLER: JPM
Type of pump used: bladder
Pumping rate (milliliters/minute): 300 ml/min
Water level before purging (nearest 0.01 ft. below reference point) 2.85+ T/
Depth to bottom of well (obtained from well logs) 15.46+ T/
Calculated volume of water in casing 8.23
Weather conditions Cool (30s - 40s); calm; sunny

12:20 begin purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
12:23	300 ml/min	9.15	568	NM	5.63	-230	11.65	2.85	—
12:28		8.76	850		1.12	-295	13.39	2.88	0.1
12:33		8.76	859		0.62	-325	13.72	2.80	0.2
12:38		8.77	860		0.40	-336	13.79	2.72	0.3
12:43		8.75	857		0.36	-340	13.84	2.75	0.4
12:48		8.75	859		0.35	-346	13.85	2.75	0.5

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka — Signed
1/6/03 — Date
QC'd By
1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 12:48

WELL INFORMATION	WELL ID: MW145	WELL DIAMETER: 4
WELL MATERIAL: steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 2.89	TOTAL DEPTH: 15.46	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: Horiba flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 0.35 UNITS mg/L	FINAL ORP -346 UNITS	FINAL TURBIDITY: —
FINAL PH: 8.75	FINAL COND. 859	FINAL TEMP.: 13.85
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative	Filtered	Number	Size	Type	Preservative	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

5 psi R5 D10

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEE WELL NUMBER: MW4

PROJECT NUMBER: 00-03868.29 WELL DIAMETER: 2"

DATE: 11/20/02 SAMPLER: JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 300 ML/min

Water level before purging (nearest 0.01 ft. below reference point) 6.01 + T/

Depth to bottom of well (obtained from well logs) 27 + T/

Calculated volume of water in casing 3.42

Weather conditions Cool (30s-40s); Calm; sunny

13:45 began purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
13:48	300 ml/min	8.93	567		8.17	-232	11.83	6.01	—
13:53		8.29	523		3.72	-269	10.30	5.79	0.1
13:58		8.22	515		2.57	-295	10.16		0.2
14:03		8.18	510		1.96	-312	10.15		0.3
14:08		8.13	509		1.61	-320	10.18		0.4
14:13		8.14	511		1.28	-326	10.14	5.74	0.5
14:18		8.16	508		1.10	-329	10.17	5.75	0.6
14:23		8.14	508		0.97	-331	10.22	5.76	0.7
14:28		8.17	507		0.87	-334	10.05	5.78	0.8
14:33		8.14	507		0.72	-334	9.96	5.73	0.9
14:38		8.14	508		0.66	-338	9.85	5.75	1.0
14:43		8.15	507		0.65	-342	9.92	5.75	1.1

sample

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

Sarah Lapka — Signed; 1/6/03 — Date; QC'd By; 1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 14:43

WELL INFORMATION	WELL ID: MW 4	WELL DIAMETER: 2
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 5.39	TOTAL DEPTH: 27	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 0.65 UNITS mg/L	FINAL ORP -342 UNITS	FINAL TURBIDITY: —
FINAL PH: 8.15	FINAL COND. 507	FINAL TEMP.: 9.92
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☐N					☐Y ☐N
1	500mL	amber	A	☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

R10

80 psi D10

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC WELL NUMBER: MW11D(R)

PROJECT NUMBER: 00-03868.29 WELL DIAMETER: 2"

DATE: 11/20/02 SAMPLER: JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 400 mL/min

Water level before purging (nearest 0.01 ft. below reference point) 4.68+ T/

Depth to bottom of well (obtained from well logs) 157 + T/

Calculated volume of water in casing 24.83

Weather conditions Cool (30s-40s); calm; sunny

15:19 began purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
15:24	11.63	~~9.63~~ 52	162	NM	8.52	-174	14.25	4.68	—
15:29	400 ml/min	10.46	209		4.72	-160	12.32	4.65	0.13
15:34		10.26	209		3.06	-177	12.28	4.74	0.26
15:39		10.24	206		2.93	-182	11.83	4.65	0.39
15:44		10.24	206		2.72	-185	11.80	4.65	0.52
15:49		10.23	206		2.58	-183	11.44	4.64	0.65
15:54		10.23	207		2.53	-182	11.17	4.64	0.78
15:59		10.25	206		2.43	-180	11.06	4.65	0.91
16:04		10.22	204		2.37	-182	11.12	4.65	1.04
16:09		10.21	206		2.35	-183	10.83	4.66	1.17
Sample 16:14		10.23	202		2.31	-185	10.67	4.66	1.30

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka 1/6/03 1-7-03

Signed Date QC'd By Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 16:14

WELL INFORMATION	WELL ID: MW 11 D(R)	WELL DIAMETER: 2
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 4.81	TOTAL DEPTH: 157	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: Horiba & flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 2.31 UNITS mg/L	FINAL ORP -185 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 10.23	FINAL COND. 202	FINAL TEMP.: 10.67
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

*PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

35 psi R10 D10

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC WELL NUMBER: MW15I

PROJECT NUMBER: 00-03868.29 WELL DIAMETER: 2"

DATE: 11/20/02 SAMPLER: JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 450 mL/min

Water level before purging (nearest 0.01 ft. below reference point) 9.89+ T/

Depth to bottom of well (obtained from well logs) 43.92+ T/

Calculated volume of water in casing 5.54

Weather conditions Cool (30s-40s); calm; sunny

16:52 began purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
16:55	450 mL/min	9.19	601	NM	5.01	-197	11.87	9.89	—
17:00		8.87	645		1.26	-293	13.97	9.89	0.15
17:05		8.83	648		0.68	-320	13.99	9.89	0.30
17:10		8.86	652		0.46	-328	13.93	9.89	0.45
17:15		8.89	653		0.39	-338	13.98	9.89	0.60
17:20		8.89	651		0.39 ~~0.26~~ SL	-334	13.98	9.89	0.75

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka 1/6/03 [signature] 1-7-03

Signed Date QC'd By Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihecich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 17:20

WELL INFORMATION	WELL ID: MW15I	WELL DIAMETER: 2
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 9.81	TOTAL DEPTH: 43.92	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: ~~Hor~~ SL flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 0.39 UNITS mg/L	FINAL ORP -334 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 8.89	FINAL COND. 651	FINAL TEMP.: 13.98
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

15psi R10 D60

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC WELL NUMBER: MW 15S

PROJECT NUMBER: 00-03868.27 WELL DIAMETER: 4"

DATE: 11/20/02 SAMPLER: JPM

Type of pump used: bladder

Pumping rate (milliliters/minute): 450 mL/min

Water level before purging (nearest 0.01 ft. below reference point) 9.98+ T/

Depth to bottom of well (obtained from well logs) 25.94+ T/

Calculated volume of water in casing 10.42

Weather conditions Cool ; calm ; sunny (30s-40s)

17:43 began purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
17:47	450 mL/min	7.91	150	NM	5.43	-171	12.81	9.98	—
17:52		7.68	144		5.13	769	14.86	9.98	0.15
17:57		7.68	145		4.95	-147	15.07	10.00	0.30
18:02		7.69	145		4.86	-138	15.00	10.01	0.45
18:07		7.67	142		4.71	-134	14.95	10.01	0.60
Sample 18:12		7.62	144	4.41	~~4.25~~	-129	15.04	9.99	0.75

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka 1/6/03 1-7-03

Signed Date QC'd By Date

RMT

WATER SAMPLE LOG

Sheet 26 of 36

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/20/02	SAMPLE TIME: 18:12

WELL INFORMATION	WELL ID: MW15S	WELL DIAMETER: 4
WELL MATERIAL: Steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 9.90	TOTAL DEPTH: 25.94	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none ☐ EQUIP. COATING ☐ PURGE WATER		

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new / used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 4.41 UNITS mg/L	FINAL ORP -129 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 7.62	FINAL COND. 144	FINAL TEMP.: 15.04
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

PSI 10
R 10
D 10

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC
WELL NUMBER: MW17S
PROJECT NUMBER: 00-03868.29
WELL DIAMETER: 4"
DATE: 11/21/02
SAMPLER: JPM
Type of pump used: bladder
Pumping rate (milliliters/minute): 300
Water level before purging (nearest 0.01 ft. below reference point) 7.67 T/
Depth to bottom of well (obtained from well logs) 15.04+ T/
Calculated volume of water in casing 4.81
Weather conditions cold (30s-40s); calm; sunny

8:05 begin purging

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
8:08	300	7.79	204	NM	6.92	-231	5.54	7.67	—
8:13		7.63	199		5.41	-211	7.80	7.70	0.1
8:18		7.66	202		5.17	-197	7.97	7.71	0.2
8:23		7.78	205		5.11	-190	8.04	7.71	0.3
8:28		7.73	207		5.08	-187	8.09	7.70	0.4
8:33		7.75	208		4.98	-188	8.14	7.71	0.5
8:38		7.76	209		4.95	-187	8.02	7.72	0.6
8:43		7.82	210		4.92	-186	8.13	7.72	0.7
8:48		7.86	210		4.84	-189	8.19	7.80	0.8
8:53		7.88	207		4.92	-187	8.23	7.64	0.9

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka — Signed
1/6/03 — Date
QC'd By
1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalick	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/21/02	SAMPLE TIME: 8:53

WELL INFORMATION	WELL ID: MW17S	WELL DIAMETER: 4
WELL MATERIAL: steel	WELL CONDITIONS: good	
STATIC WATER LEVEL: 7.02	TOTAL DEPTH: 15.04	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: none	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: low flow (use purge form)	
SAMPLING PUMP: QED submersible pump	PNEUMATIC SOURCE well wizard compressor	
BLADDER TYPE: PE (new) used)		
TUBING TYPE: PE	TUBING CONDITION: good	HOW STORED: in well
WATER QUALITY METER TYPE: flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 4.92 UNITS mg/L	FINAL ORP -187 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 7.88	FINAL COND. 207	FINAL TEMP.: 8.23
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

*PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

RMT

S6 reading 1/3
1.39

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC
WELL NUMBER: SW8-1
PROJECT NUMBER: 00-03868.29
WELL DIAMETER:
DATE: 11/21/02
SAMPLER: JPM
Type of pump used:
Pumping rate (milliliters/minute):
Water level before purging (nearest 0.01 ft. below reference point) + T/
Depth to bottom of well (obtained from well logs) + T/
Calculated volume of water in casing
Weather conditions Cool (40s); calm; sunny

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
9:30		8.45	591	NM	6.15	-175	4.99		

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka — Signed
1/6/03 — Date
QC'd By
1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/21/02	SAMPLE TIME: 9:30

WELL INFORMATION	WELL ID: SW8-1	WELL DIAMETER:
WELL MATERIAL:	WELL CONDITIONS:	
STATIC WATER LEVEL:	TOTAL DEPTH:	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: _____	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: (use purge form)	
SAMPLING PUMP:	PNEUMATIC SOURCE	
BLADDER TYPE: (new / used)		
TUBING TYPE:	TUBING CONDITION:	HOW STORED:
WATER QUALITY METER TYPE: flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 6.15 UNITS mg/L	FINAL ORP -175 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 8.45	FINAL COND. 591	FINAL TEMP.: 4.99
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☑N					☐Y ☐N
1	500mL	amber	A	☐Y ☑N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEE
WELL NUMBER: SW5-1
PROJECT NUMBER: 00-03868.29
WELL DIAMETER:
DATE: 11/21/02
SAMPLER: JPM
Type of pump used:
Pumping rate (milliliters/minute):
Water level before purging (nearest 0.01 ft. below reference point) + T/
Depth to bottom of well (obtained from well logs) + T/
Calculated volume of water in casing
Weather conditions Cool (40s); sunny; calm

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
9:40		9.01	290	NM	5.87	-203	4.38		

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

turbidity meter not working

Sarah Lapka — Signed
1/6/03 — Date
QC'd By
1-7-03 — Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/21/02	SAMPLE TIME: 9:40

WELL INFORMATION	WELL ID: SW5-1	WELL DIAMETER:
WELL MATERIAL:	WELL CONDITIONS:	
STATIC WATER LEVEL:	TOTAL DEPTH:	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: _____	☐ EQUIP. COATING ☐ PURGE WATER	

SAMPLE METHOD	PURGE METHOD: (use purge form)	
SAMPLING PUMP:	PNEUMATIC SOURCE	
BLADDER TYPE: (new / used)		
TUBING TYPE:	TUBING CONDITION:	HOW STORED:
WATER QUALITY METER TYPE: flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: Clear	ODOR: none
FINAL D.O. 5.87 UNITS mg/L	FINAL ORP -203 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 9.01	FINAL COND. 290	FINAL TEMP.: 4.38
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

*PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40mL	VOA	E	☐Y ☐N					☐Y ☐N
1	500mL	amber	A	☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

F-186 (REV 09MAY2002)

RMT

LOW-FLOW GROUNDWATER SAMPLING STABILIZATION LOG

PROJECT NAME: LEC

WELL NUMBER: SW7-1

PROJECT NUMBER: 00-03868.29

WELL DIAMETER:

DATE: 1/21/02

SAMPLER: JPM

Type of pump used:

Pumping rate (milliliters/minute):

Water level before purging (nearest 0.01 ft. below reference point) + T/

Depth to bottom of well (obtained from well logs) + T/

Calculated volume of water in casing

Weather conditions Cool (40s); calm; sunny

Time	Purge Rate (ml/min)	pH (SU)	Conductivity (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L) or %	ORP mV	Temp. (°C)	Water Level (0.01 ft.)	Cumulative Purge Volume (gal)
9:49		8.61	633		4.85	-202	6.65		

NOTE: STABILIZATION TEST IS COMPLETE WHEN 3 SUCCESSIVE READINGS ARE WITHIN THE FOLLOWING LIMITS: pH - ±0.1 pH; COND. - ±5%, TEMP (CORRECTED); TEMP. - ±0.5°c; TURBIDITY ±10%

Sarah Lapka
Signed

1/6/03
Date

QC'd By

1-7-03
Date

RMT

WATER SAMPLE LOG

PROJECT INFORMATION	PROJECT NAME: L.E. Carpenter	EVENT NAME: 4th Quarter, 2002 Sampling
SAMPLER NAME 1: John Mihalich	SAMPLER NAME 2: Sarah Lapka	PROJECT NO: 0003868.29
SITE LOCATION: Wharton, NJ	SAMPLE DATE: 11/21/02	SAMPLE TIME: 9:49

WELL INFORMATION	WELL ID: SW7-1	WELL DIAMETER:
WELL MATERIAL:	WELL CONDITIONS:	
STATIC WATER LEVEL:	TOTAL DEPTH:	
FREE PRODUCT: ☐ SHEEN ☐ MEAS. THICKNESS: _____ ☐ EQUIP. COATING ☐ PURGE WATER		

SAMPLE METHOD	PURGE METHOD: (use purge form)	
SAMPLING PUMP:	PNEUMATIC SOURCE	
BLADDER TYPE: (new / used)		
TUBING TYPE:	TUBING CONDITION:	HOW STORED:
WATER QUALITY METER TYPE: flow cell	CALIBRATION DATE / TIME	

SAMPLE DESCRIPTION	COLOR: clear	ODOR: none
FINAL D.O. 4.85 UNITS mg/L	FINAL ORP -202 UNITS mV	FINAL TURBIDITY: —
FINAL PH: 8.61	FINAL COND. 633	FINAL TEMP.: 6.65
COMMENTS:		

SAMPLE FILTRATION	FILTER TYPE / SIZE / DESCRIPTION: NA
FILTER METALS SAMPLE ONLY	COLOR AFTER FILTRATION:

BOTTLES FILLED

*PRESERVATIVE CODES: A - None B – HNO3 C - H_2SO_4 D - NaOH E - HCL F- _____

Number	Size	Type	Preservative*	Filtered	Number	Size	Type	Preservative*	Filtered
3	40 mL	VOA	E	☐Y ☐N					☐Y ☐N
1	500mL	amber	A	☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N
				☐Y ☐N					☐Y ☐N

CHAIN-OF-CUSTODY NUMBER: NA DATE SHIPPED: 11/21/02 METHOD: Courier

AIRBILL NUMBER: NA SIGNED: Sarah Lapka DATE: 1/6/03

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice) Nick Cirvch	Samplers Name (Printed) Mihalich/Lapka	Site/Project Identification LEC
Company RMT	P.O. # 00-03869.29	State (Location of site): NJ: ☑ NY: ☐ Other:
		Regulatory Program: Superfund / NJDEP
Address 222 S. Riverside Plaza, 820	Analysis Turnaround Time: Standard ☑	
City Chicago State IL 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone 312-575-0209 Fax 312-575-0300		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No: ____
Job No: ____

Sample Identification	Date	Time	Matrix	No. of Cont.	BTEX 602	DEHP 625										Sample Numbers
MW4	11/20/02	14:43	GW	4	✓	✓										
MW11D(R)	11/20/02	16:14	GW	1		✓										
MW15I	11/20/02	17:20	GW	4	✓	✓										
MW15S	11/20/02	18:12	GW	4	✓	✓										
MW17S	11/21/02	8:53	GW	4	✓	✓										
SW8	11/21/02	9:30	GW	4	✓	✓										
SW5	11/21/02	9:40	GW	4	✓	✓										
SW1	11/21/02	9:49	GW	4	✓	✓										

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil: ____
Water: ____

Special Instructions: Trip gets BTEX + DEHP

Water Metals Filtered (Yes/No)? ____

Relinquished by	Company	Date / Time	Received by	Company
1) Sarah Lapka	RMT	11/21/02 10:00	1) [signature]	STL
2)			2)	
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice) Mark Leuch	Samplers Name (Printed) [illegible]	Site/Project Identification ICC
Company RMT	P.O. # [illegible]	State (Location of site): NJ: ☑ NY: ☐ Other:
Address [illegible]	Analysis Turnaround Time: Standard ☑; Rush Charges Authorized For: 2 Week ☐; 1 Week ☐; Other ☐	Regulatory Program: [illegible] / NJDEP
City Chicago State IL		
Phone [illegible] Fax 312-575-0500		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No:

Sample Identification	Date	Time	Matrix	No. of Cont.	BTEX 602	DEHP 625	Sample Numbers
MW-S1	11/[illegible]	[illegible]	GW	4	✓	✓	
MW25	11/20/02	8:19	GW	4	✓	✓	
MW25 MS/MSD	11/20/02	8:19	GW	4	✓	✓	
MW22	11/20/02	9:32	GW	4	✓	✓	
MW14	11/20/02	11:22	GW	4	✓	✓	
TB01	11/20/02	11:46	GW	4	✓	✓	
TB01			GW	4	✓	✓	
Rinsate 01	11/20/02	12:15	GW	4	✓	✓	
MW14S	11/20/02	12:48	GW	4	✓	✓	
DUPE 01			GW	4	✓	✓	

Preservation Used: 1 = ICE, (2 = HCl), 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____

Soil: | Water:

Special Instructions: TAL + BTEX + DEHP

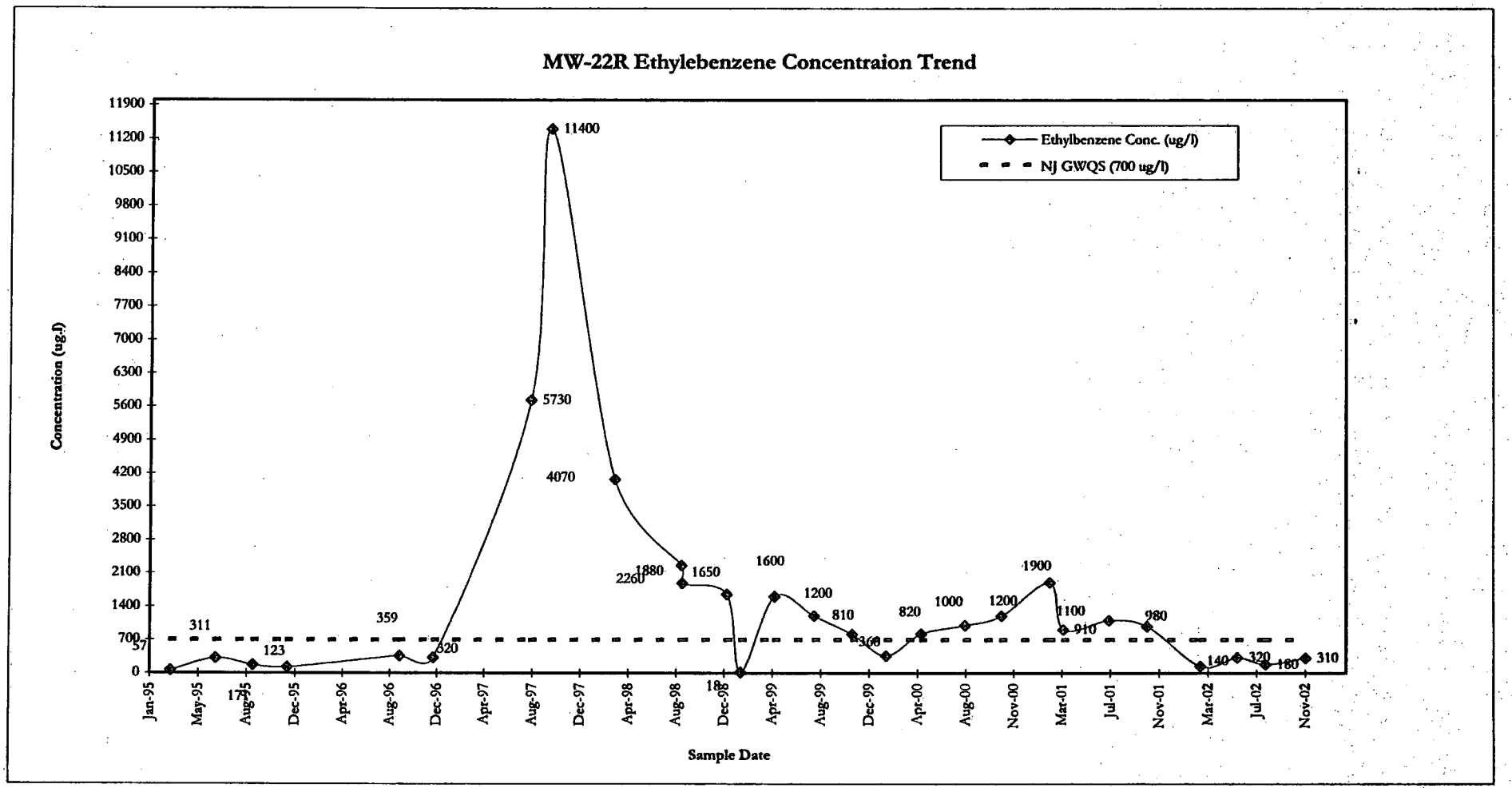
Water Metals Filtered (Yes/No)? _____

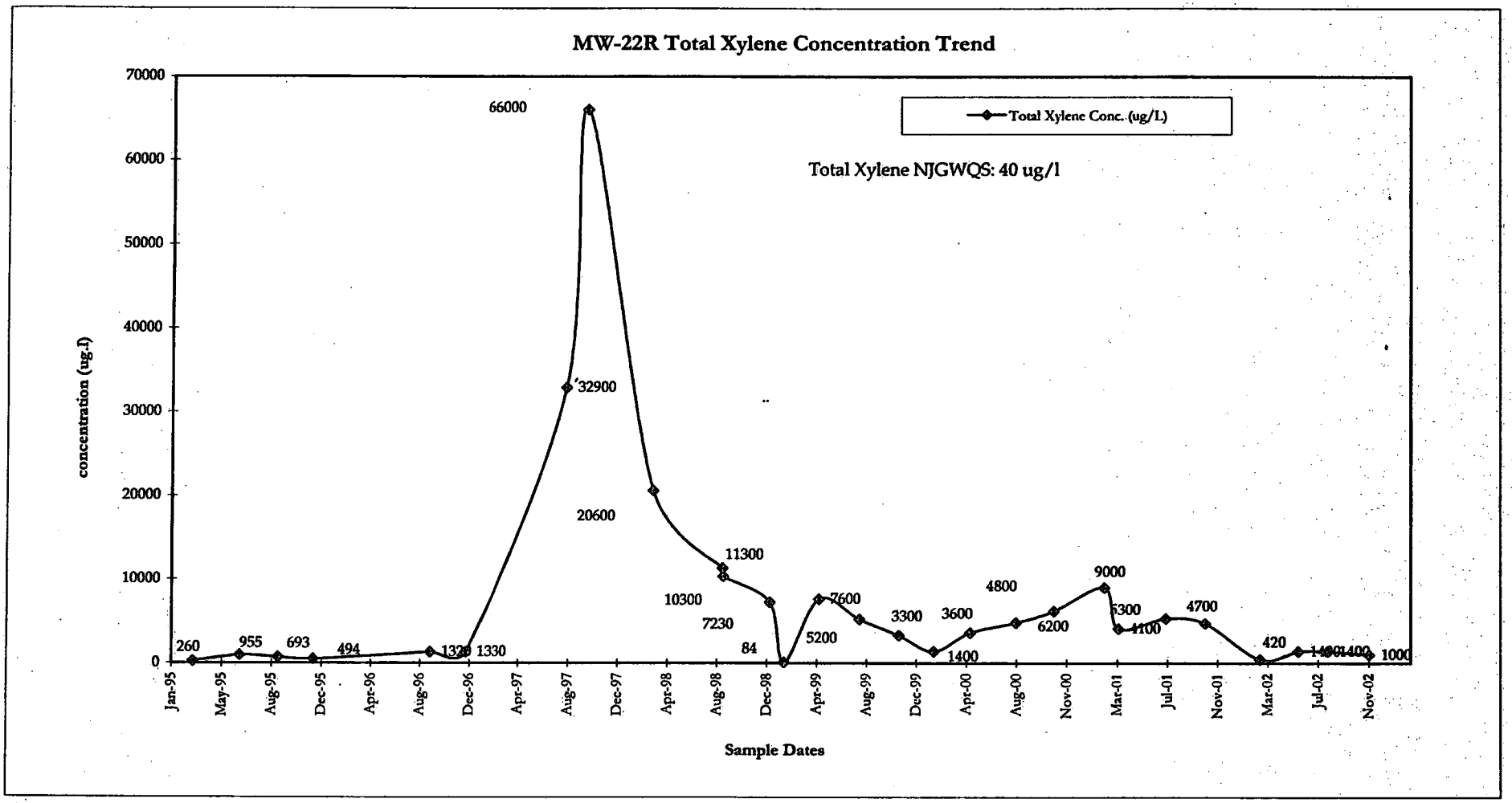
Relinquished by	Company	Date / Time	Received by	Company
1) Adrian Lupka	RMT	11/21/02 10:00	1) [signature]	STL
2)			2)	
3)			3)	
4)			4)	

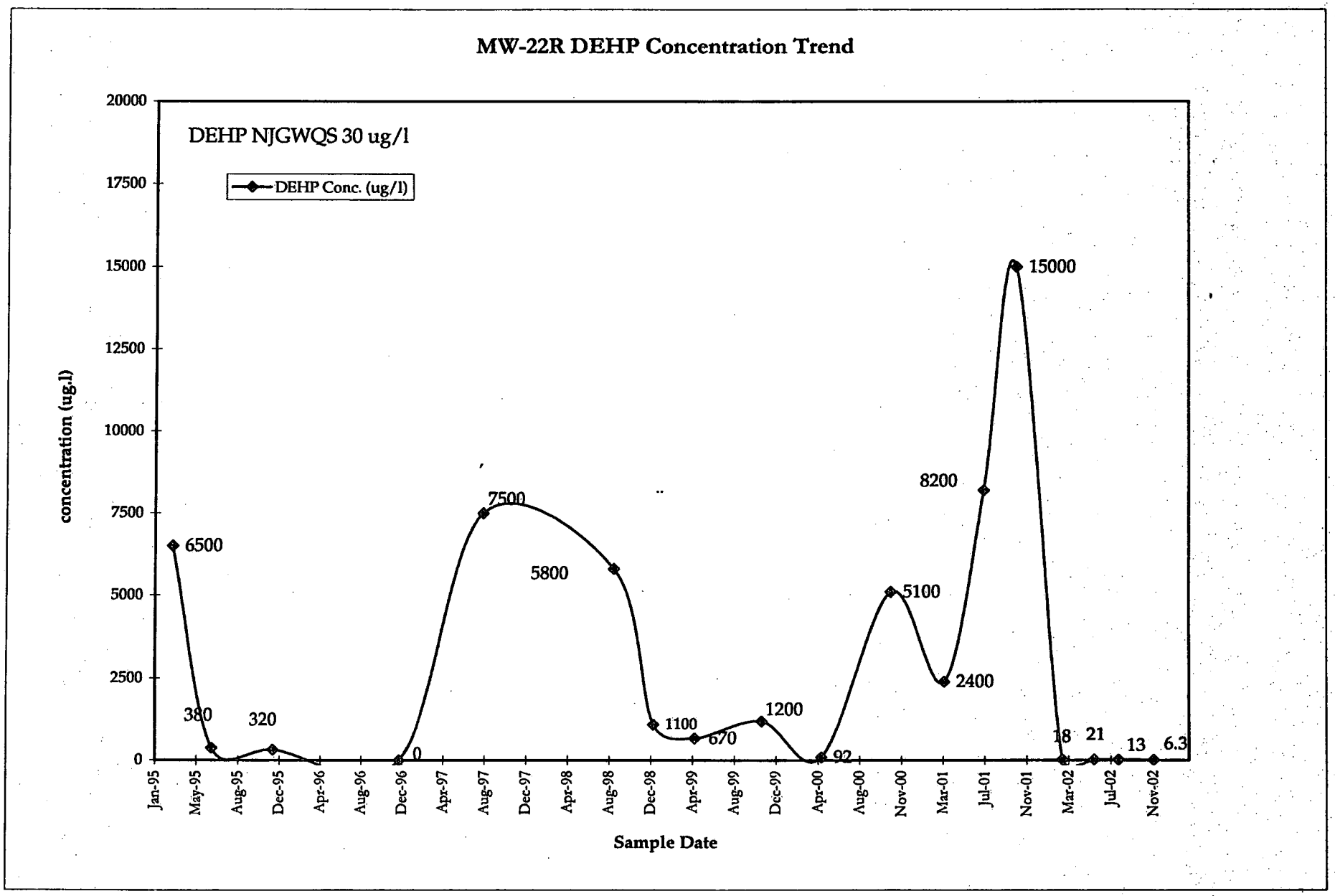
Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

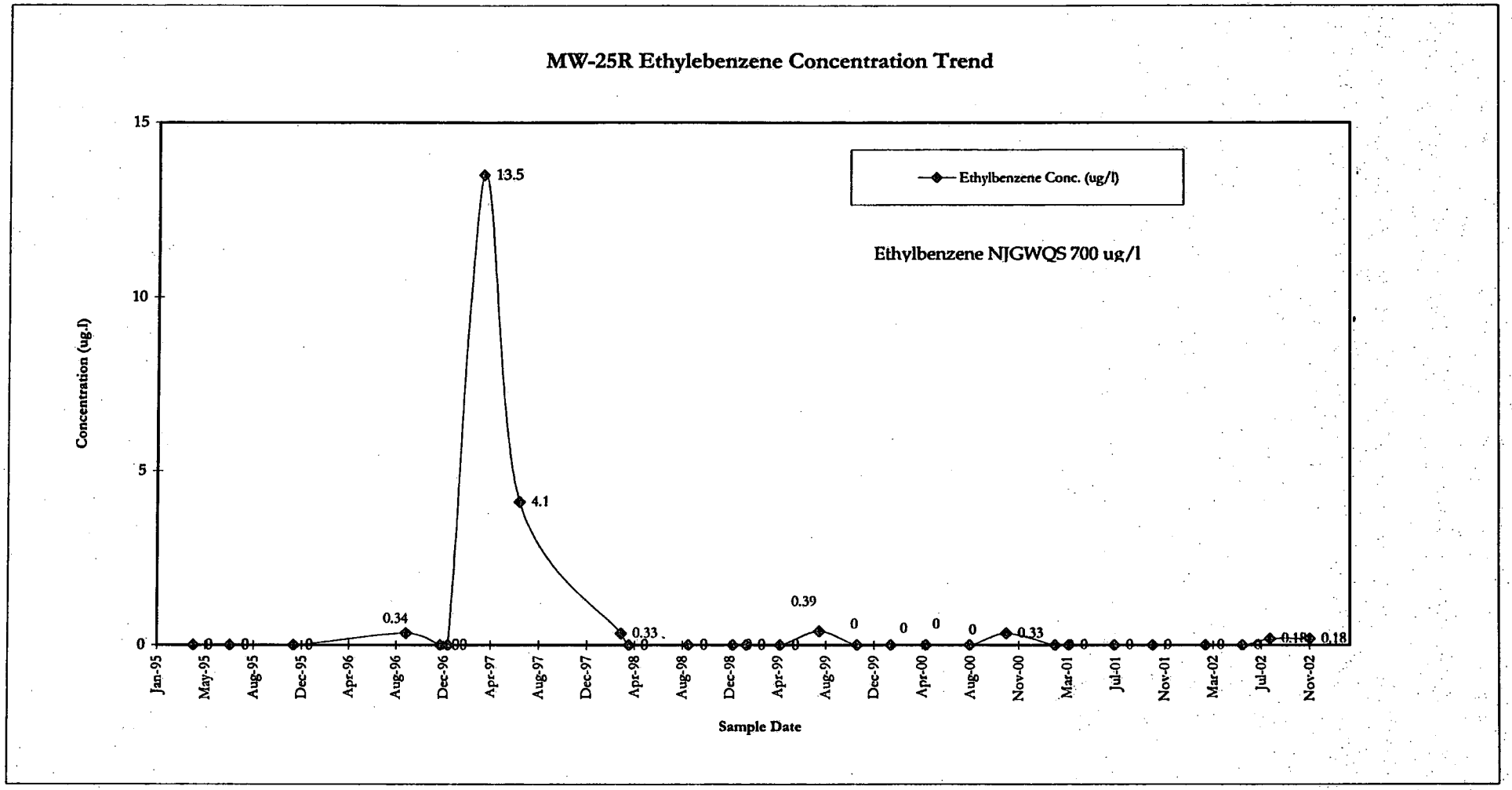
STL-6003

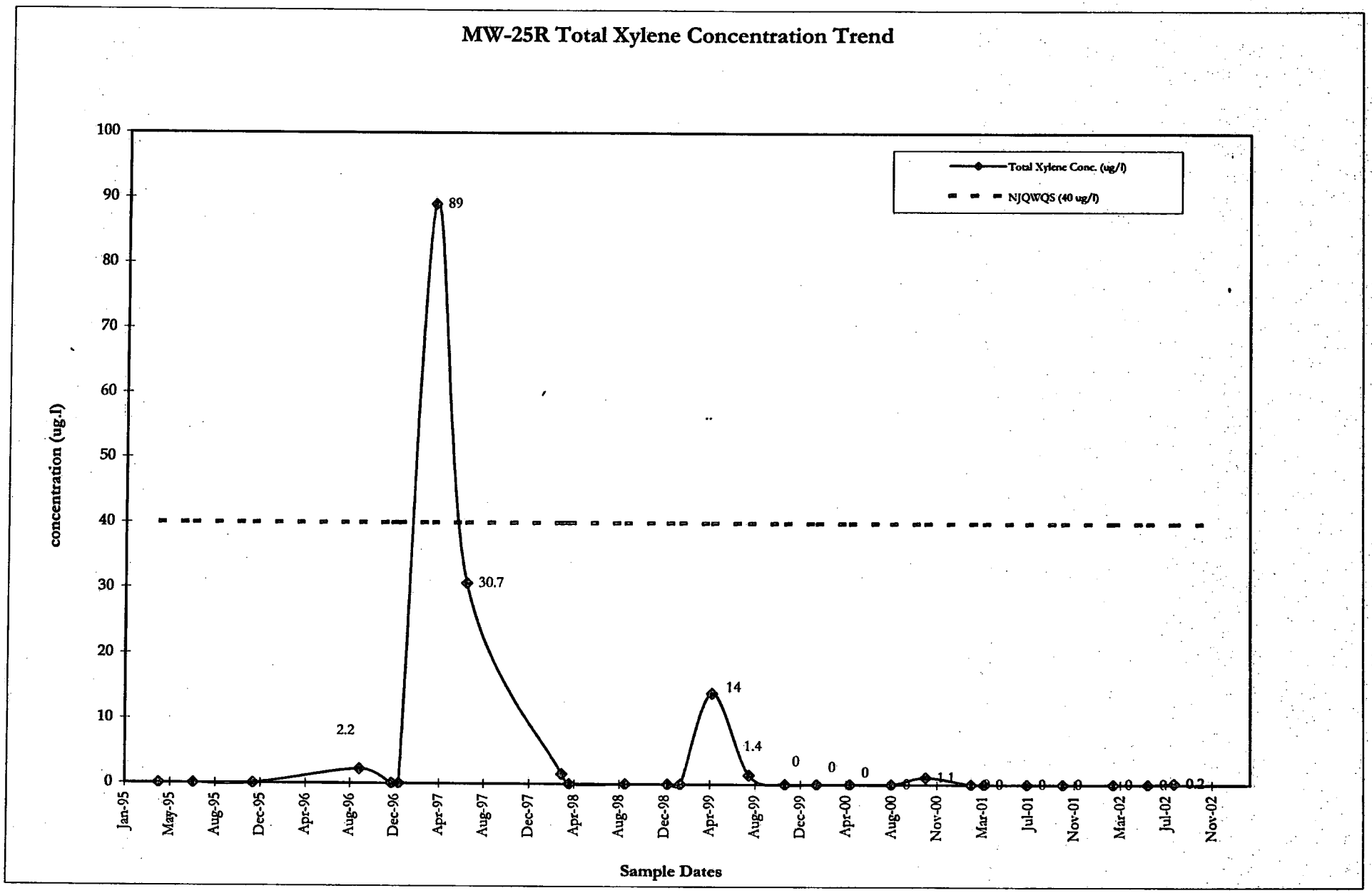
Appendix D
MW-22R and MW-25 Groundwater Concentration Trend Analysis

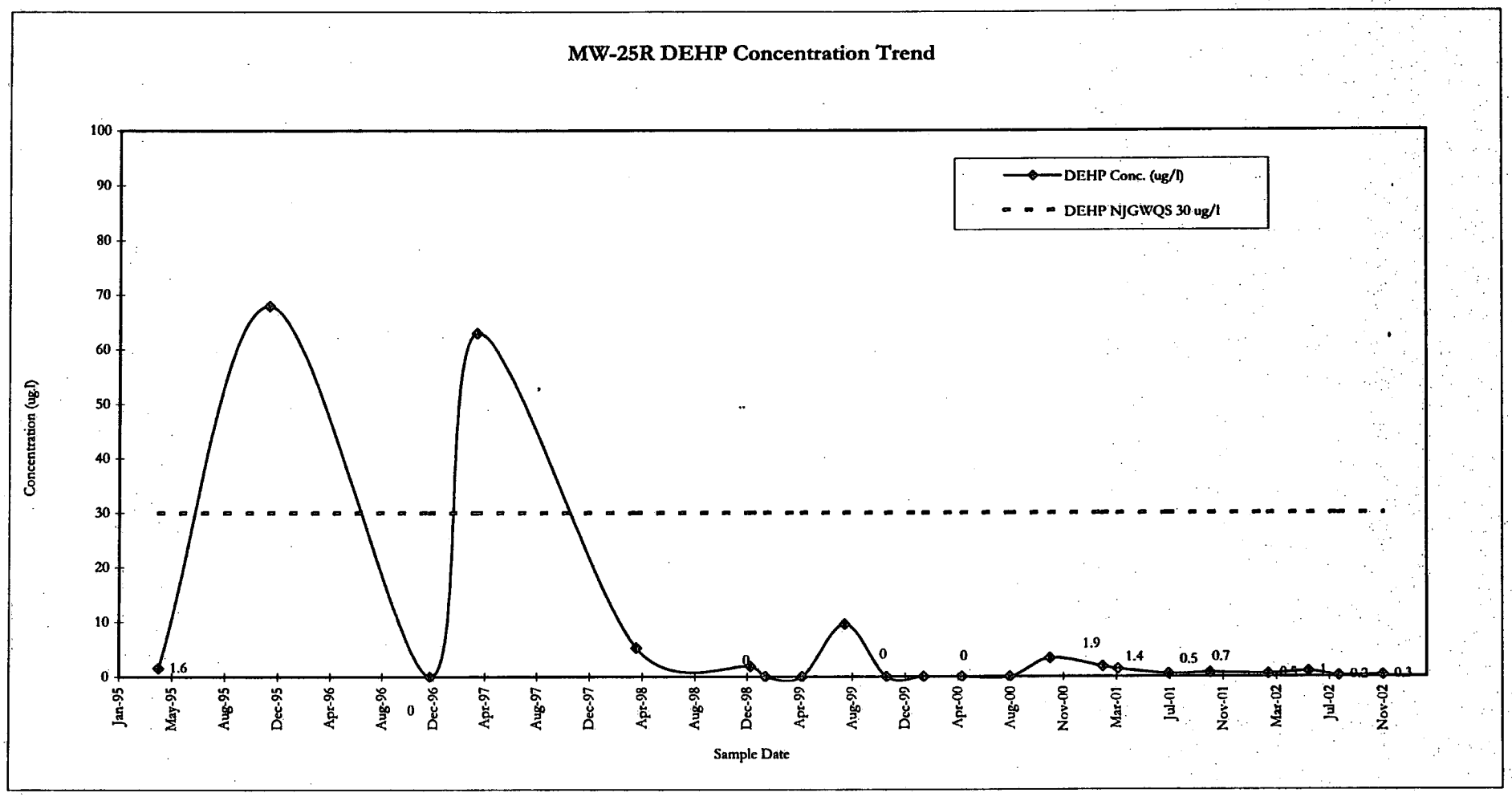

MW-22R Ethylebenzene Concentraion Trend
Ethylbenzene Conc. (ug/l)
NJ GWQS (700 ug/l)
Concentration (ug/l)
Sample Date
11900
11200
10500
9800
9100
8400
7700
7000
6300
5600
4900
4200
3500
2800
2100
1400
700
0
Jan-95
May-95
Aug-95
Dec-95
Apr-96
Aug-96
Dec-96
Apr-97
Aug-97
Dec-97
Apr-98
Aug-98
Dec-98
Apr-99
Aug-99
Dec-99
Apr-00
Aug-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
57
311
123
17
359
620
11400
5730
4070
2260
1880
1650
18
1600
1200
810
360
820
1000
1200
1900
1100
910
980
140
320
180
310


MW-22R Total Xylene Concentration Trend
Total Xylene Conc. (ug/L)
Total Xylene NJGWQS: 40 ug/l
concentration (ug/l)
70000
60000
50000
40000
30000
20000
10000
0
66000
32900
20600
11300
10300
7230
84
5200
7600
3300
3600
1400
4800
6200
9000
6300
4100
4700
420
1400
1000
260
955
693
494
1330
Jan-95
May-95
Aug-95
Dec-95
Apr-96
Aug-96
Dec-96
Apr-97
Aug-97
Dec-97
Apr-98
Aug-98
Dec-98
Apr-99
Aug-99
Dec-99
Apr-00
Aug-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
Sample Dates


MW-22R DEHP Concentration Trend
DEHP NJGWQS 30 ug/l
DEHP Conc. (ug/l)
concentration (ug.l)
20000
17500
15000
12500
10000
7500
5000
2500
0
6500
380
320
0
7500
5800
1100
670
1200
92
5100
2400
8200
15000
18
21
13
6.3
Jan-95
May-95
Aug-95
Dec-95
Apr-96
Aug-96
Dec-96
Apr-97
Aug-97
Dec-97
Apr-98
Aug-98
Dec-98
Apr-99
Aug-99
Dec-99
Apr-00
Aug-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
Sample Date


MW-25R Ethylebenzene Concentration Trend
Ethylbenzene Conc. (ug/l)
Ethylbenzene NJGWQS 700 ug/l
Concentration (ug/l)
Sample Date
15
10
5
0
13.5
4.1
0.34
0.33
0.39
0.33
0.18
0.18
Jan-95
May-95
Aug-95
Dec-95
Apr-96
Aug-96
Dec-96
Apr-97
Aug-97
Dec-97
Apr-98
Aug-98
Dec-98
Apr-99
Aug-99
Dec-99
Apr-00
Aug-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02


MW-25R Total Xylene Concentration Trend
Total Xylene Conc. (ug/l)
NJQWQS (40 ug/l)
concentration (ug.l)
100
90
80
70
60
50
40
30
20
10
0
89
30.7
2.2
14
1.4
0
0
0
1.1
0.2
Jan-95
May-95
Aug-95
Dec-95
Apr-96
Aug-96
Dec-96
Apr-97
Aug-97
Dec-97
Apr-98
Aug-98
Dec-98
Apr-99
Aug-99
Dec-99
Apr-00
Aug-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
Sample Dates


MW-25R DEHP Concentration Trend
DEHP Conc. (ug/l)
DEHP NJGWQS 30 ug/l
Concentration (ug/l)
100
90
80
70
60
50
40
30
20
10
0
1.6
0
0
0
0
1.9
1.4
0.5
0.7
0.3
0.3
Jan-95
May-95
Aug-95
Dec-95
Apr-96
Aug-96
Dec-96
Apr-97
Aug-97
Dec-97
Apr-98
Aug-98
Dec-98
Apr-99
Aug-99
Dec-99
Apr-00
Aug-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
Sample Date

Appendix E
4th Quarter 2002 Groundwater Monitoring Event Laboratory Analytical Report

SEVERN TRENT STL

12/26/2002

RMT, Inc
222 S. Riverside Plaza
Suite 820
Chicago, IL 60606

Attention: Mr. Nick Clevett

Laboratory Results
Job No. D115 - L.E. Carpenter

Dear Mr. Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on November 21, 2002.

Lab No.	Client ID	Analysis Required
392488	MW-21	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392489	MW-25	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392490	MW-22	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392491	MW-14I	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392492	FB01	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392493	TB01	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392494	Rinsate-01	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392495	MW-14S	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392496	Dupe-01	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392497	MW-4	BTEX (GC)

SEVERN TRENT STL

Laboratory Results
Job No. D115 - L.E. Carpenter (cont'd)

Lab No.	Client ID	Analysis Required
		Bis(2-Ethylhexyl)phthalate
392498	MW-11D	Bis(2-Ethylhexyl)phthalate
392499	MW-15I	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392500	MW-15S	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392501	MW-17S	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392502	SW-8	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392503	SW-5	BTEX (GC)
		Bis(2-Ethylhexyl)phthalate
392504	SW-7	BTEX (GC)

SEVERN TRENT STL

Laboratory Results
Job No. D115 - L.E. Carpenter (cont'd)

Lab No.	Client ID	Analysis Required
		Bis(2-Ethylhexyl)phthalate

If you have any questions please contact your Project Manager, Joy Kelly, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban

Michael J. Urban
Laboratory Manager

A part of Severn Trent plc

Severn Trent Laboratories, Inc.
STL Edison . 777 New Durham Road, Edison, NJ 08817
Tel 732 549 3900 Fax 732 549 3679 www.stl-inc.com

ACCREDITED IN ACCORDANCE WITH nelac

SEVERN TRENT STL

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Analytical Results Summary

Client ID: MW-21
Site: L.E. Carpenter

Lab Sample No: 392488
Lab Job No: D115

Date Sampled: 11/19/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5722.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **MW-25**
Site: L.E. Carpenter

Lab Sample No: **392489**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5723.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **MW-22**
Site: L.E. Carpenter

Lab Sample No: **392490**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5726.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 25.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	5.5
Toluene	ND	6.0
Ethylbenzene	310	4.5
Xylene (Total)	1000	5.0

Client ID: **MW-14I**
Site: L.E. Carpenter

Lab Sample No: **392491**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5727.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **FB01**
Site: L.E. Carpenter

Lab Sample No: **392492**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5728.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **TB01**
Site: L.E. Carpenter

Lab Sample No: **392493**
Lab Job No: D115

Date Sampled: 11/19/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5729.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **Rinsate-01**
Site: L.E. Carpenter

Lab Sample No: **392494**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5730.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **MW-14S**
Site: L.E. Carpenter

Lab Sample No: **392495**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/27/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5731.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **Dupe-01**
Site: L.E. Carpenter

Lab Sample No: **392496**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5732.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 392497
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5733.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **MW-15I**
Site: L.E. Carpenter

Lab Sample No: **392499**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5759.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **MW-15S**
Site: L.E. Carpenter

Lab Sample No: **392500**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5760.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **MW-17S**
Site: L.E. Carpenter

Lab Sample No: **392501**
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5761.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: **SW-8**
Site: L.E. Carpenter

Lab Sample No: **392502**
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5762.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	0.32	0.20

Client ID: SW-5
Site: L.E. Carpenter

Lab Sample No: 392503
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5763.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: SW-7
Site: L.E. Carpenter

Lab Sample No: 392504
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Analyzed: 11/28/02
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5764.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Benzene	ND	0.22
Toluene	ND	0.24
Ethylbenzene	ND	0.18
Xylene (Total)	ND	0.20

Client ID: MW-21
Site: L.E. Carpenter

Lab Sample No: 392488
Lab Job No: D115

Date Sampled: 11/19/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/02/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15334.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.3B	0.2

Client ID: MW-25
Site: L.E. Carpenter

Lab Sample No: 392489
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/02/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15335.d

Matrix: WATER
Level: LOW
Sample Volume: 600 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	ND	0.3

Client ID: MW-22
Site: L.E. Carpenter

Lab Sample No: 392490
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/02/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15338.d

Matrix: WATER
Level: LOW
Sample Volume: 970 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	6.3B	0.2

Client ID: **MW-14I**
Site: L.E. Carpenter

Lab Sample No: **392491**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/02/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15339.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.3B	0.2

Client ID: **FB01**
Site: L.E. Carpenter

Lab Sample No: **392492**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/02/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15340.d

Matrix: WATER
Level: LOW
Sample Volume: 900 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.4B	0.2

Client ID: TB01
Site: L.E. Carpenter

Lab Sample No: 392493
Lab Job No: D115

Date Sampled: 11/19/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15341.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.2B	0.2

Client ID: **Rinsate-01**
Site: L.E. Carpenter

Lab Sample No: **392494**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15342.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.3B	0.2

Client ID: MW-14S
Site: L.E. Carpenter

Lab Sample No: 392495
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15343.d

Matrix: WATER
Level: LOW
Sample Volume: 970 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.5B	0.2

Client ID: **Dupe-01**
Site: L.E. Carpenter

Lab Sample No: **392496**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15344.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.2B	0.2

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 392497
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15345.d

Matrix: WATER
Level: LOW
Sample Volume: 950 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	8.6B	0.2

Client ID: MW-11D
Site: L.E. Carpenter

Lab Sample No: 392498
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15346.d

Matrix: WATER
Level: LOW
Sample Volume: 940 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.2B	0.2

Client ID: **MW-15I**
Site: L.E. Carpenter

Lab Sample No: **392499**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15347.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.2B	0.2

Client ID: **MW-15S**
Site: L.E. Carpenter

Lab Sample No: **392500**
Lab Job No: D115

Date Sampled: 11/20/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15369.d

Matrix: WATER
Level: LOW
Sample Volume: 990 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.2B	0.2

Client ID: **MW-17S**
Site: L.E. Carpenter

Lab Sample No: **392501**
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15349.d

Matrix: WATER
Level: LOW
Sample Volume: 900 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.2B	0.2

Client ID: SW-8
Site: L.E. Carpenter

Lab Sample No: 392502
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15350.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.4B	0.2

Client ID: **SW-5**
Site: L.E. Carpenter

Lab Sample No: **392503**
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15351.d

Matrix: WATER
Level: LOW
Sample Volume: 970 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.3B	0.2

Client ID: SW-7
Site: L.E. Carpenter

Lab Sample No: 392504
Lab Job No: D115

Date Sampled: 11/21/02
Date Received: 11/21/02
Date Extracted: 11/23/02
Date Analyzed: 12/03/02
GC Column: DB-5
Instrument ID: BNAMS7.i
Lab File ID: 15352.d

Matrix: WATER
Level: LOW
Sample Volume: 1000 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
bis(2-Ethylhexyl)phthalate	0.4B	0.2

General Information

Chain of Custody

D115

STL Edison

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STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Nick Clerch
Company: RMT
Address: 222 S. Riverside Plaza, 820
City: Chicago State: IL 60606
Phone: 312-575-0209 Fax: 312-575-0300

Samplers Name (Printed): Mihalich/Lapka
P.O. #: 00-03869.29

Site/Project Identification: LEC
State (Location of site): NJ: ✓ NY: ☐ Other:
Regulatory Program: Superfund / NJDEP

Analysis Turnaround Time
Standard ✓
Rush Charges Authorized For:
2 Week ☐
1 Week ☐
Other ☐

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: D115

Sample Identification	Date	Time	Matrix	No. of. Cont.	BTEX 602	DEHP 625	Sample Numbers
MW21	11/19/02	16:35	GW	4	✓	✓	392488
MW25	11/20/02	8:19	GW	4	✓	✓	392489
MW25 MS/MSD	11/20/02	8:19	GW	4	✓	✓	392489
MW22	11/20/02	9:52	GW	4	✓	✓	392490
MW14E	11/20/02	11:22	GW	4	✓	✓	392491
FB01	11/20/02	11:46	GW	4	✓	✓	392492
TB01	11/19/02		GW	3	✓	✓	392499
Rinsate 01	11/20/02	12:15	GW	4	✓	✓	392494
MW14S	11/20/02	12:48	GW	4	✓	✓	392495
DUPE 01			GW	4	✓	✓	392496

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____
Soil:
Water:

Special Instructions: Trip gets BTEX & DEHP

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Sarah Lapka	RMT	11/21/02 10:00	1) Ed Reynolds	STL
2) Ed Reynolds	STL Edison	11/21/02 1145	2) J. Wolfenden	STL
3) Ed Reynolds	Ed Reynolds	/ /	3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

D115

STL Edison

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STL EDISON
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Nick Cleveh	Samplers Name (Printed): Mihalich/Lapka	Site/Project Identification: LEC
Company: RMT	P.O. #: 00-03869.29	State (Location of site): NJ: ✓ NY: ☐ Other:
		Regulatory Program: Superfund / NJDEP
Address: 222 S. Riverside Plaza, 820	Analysis Turnaround Time: Standard ☑	
City: Chicago State: IL 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 312-575-0209 Fax: 312-575-0300		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: D115

Sample Identification	Date	Time	Matrix	No. of Cont.	BTEX 602	DEHP 625	Sample Numbers
MW4	11/20/02	14:43	GW	4	✓	✓	392497
MW11D(R)	11/20/02	16:14	GW	4		✓	392498
MW15I	11/20/02	17:20	GW	4	✓	✓	392499
MW15S	11/20/02	18:12	GW	4	✓	✓	392500
MW17S	11/21/02	8:53	GW	4	✓	✓	392501
SW8	11/21/02	9:30	GW	4	✓	✓	392502
SW5	11/21/02	9:40	GW	4	✓	✓	392503
SW7	11/21/02	9:49	GW	4	✓	✓	392504

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions: Trip gets BTEX + DEHP

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Sarah Lapka	RMT	11/21/02 10:00	1) [signature]	STL
2) Ed Reynolds	STL Edison Ed Reynolds	11/21/02 11:45	2) J. Woerfenden	STL
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL-6003

Laboratory Chronicles

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison

777 New Durham Road, Edison, New Jersey
08817

Job No: D115 **Site:** L.E. Carpenter

Client: RMT, Inc

BNAMS

WATER - 625

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
392488	11/19/2002	11/21/2002			12/3/2002	Rossi, Jeri	7861
392489	11/20/2002	11/21/2002			12/2/2002	Bayoumi, Wahied	7861
392490	11/20/2002	11/21/2002			12/2/2002	Bayoumi, Wahied	7861
392491	11/20/2002	11/21/2002			12/2/2002	Bayoumi, Wahied	7861
392492	11/20/2002	11/21/2002			12/2/2002	Bayoumi, Wahied	7861
392493	11/19/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392494	11/20/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392495	11/20/2002	11/21/2002			12/3/2002	Rossi, Jeri	7861
392496	11/20/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392497	11/20/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392498	11/20/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392499	11/20/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392500	11/20/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392501	11/21/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392502	11/21/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392503	11/21/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861
392504	11/21/2002	11/21/2002			12/3/2002	Bayoumi, Wahied	7861

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison

777 New Durham Road, Edison, New Jersey
08817

Job No: D115 **Site:** L.E. Carpenter

Client: RMT, Inc

VOAGC

602

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
392488	11/19/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392489	11/20/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392490	11/20/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392491	11/20/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392492	11/20/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392493	11/19/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392494	11/20/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392495	11/20/2002	11/21/2002			11/27/2002	Zhang, Yannong	7434
392496	11/20/2002	11/21/2002			11/28/2002	Zhang, Yannong	7434
392497	11/20/2002	11/21/2002			11/28/2002	Zhang, Yannong	7434
392499	11/20/2002	11/21/2002			11/28/2002	Zhang, John	7435
392500	11/20/2002	11/21/2002			11/28/2002	Zhang, John	7435
392501	11/21/2002	11/21/2002			11/28/2002	Zhang, John	7435
392502	11/21/2002	11/21/2002			11/28/2002	Zhang, John	7435
392503	11/21/2002	11/21/2002			11/28/2002	Zhang, John	7435
392504	11/21/2002	11/21/2002			11/28/2002	Zhang, John	7435

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

NON-CONFORMANCE SUMMARY

STL Edison Job Number: D115

Volatile Organics Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements _____; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:
Samples 392488, 490, 491, 495, 496, 497, 498, 499, 501, 502, 503 + 504: S-3 surrogate std recovery is biased low. Insufficient sample volume to reextract.

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Page 1 of 2

Non-conformance Summary, Page 2 of 2
STL Edison Job Number: D115

Metals Analysis:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Signature of
Laboratory Manager: _____ Date: 12/20/02