ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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EPA Region 5 Records Ctr.
225270

Date: November 26, 2002

To: Division File

From: Jody Kershaw, State Sites Unit

Re: 0316000067 / Cook County
Paxton Avenue Lagoons / Chicago
Superfund / Technical Report

The Illinois EPA Bureau of Land State Sites Unit conducted a groundwater sampling event at the Calumet Cluster Sites in Southeast Chicago during July 30th through August 1st. The purpose of this sampling was to gain more information as to the current groundwater quality. The sampling teams consisted of Illinois EPA State Site Unit employees: Chris Nickell, Michael Berkoff, Mike Morgan, John Richardson, Vanessa Keehner, Stanley Komperda, Rebecca Oswald and Jody Kershaw. Sampling began the afternoon of July 30th following purging of the monitoring wells by Illinois EPA's contractor Patrick Engineering. Twenty-five wells were scheduled to be sampled however, five were found to be damaged or inaccessible.

Wells scheduled to be sampled included: Shallow Fill - LC01, LC03, LC04, LC05, LC06, LC07, LC09, LC10, LC13, G26F, SL-16R; Shallow Sand/Silty Clay – LC02, LC11, LC12, SL-26, G13S; Lower Sand – G11S, G19D, G22D, G24D, G26D; Bedrock – G11B, G13B, G105B, G130B. Well LC07 could not be accessed and was not sampled. Wells SL-26, G13B, G105B and G103B were damaged and could not be sampled. (See attached map for locations). The following wells were located within or near the U.S. Drum II site: LC10, LC09, LC12, LC11, LC04, LC05 and LC06. The following wells were located within or near Paxton I Landfill: G24D, LC01, G19D, LC02, LC03, G26D, and G26F. The following wells were located within or near Paxton II Landfill: G11S, G13S and G11B. Well G22D is located within the former Alburn Incinerator site. Well LC13 is located in the area known as the Unnamed Parcel.

Purging consisted of utilizing the total depth of the well, taking a water level reading, calculating the water column height and the gallons to be purged. A 3-foot long, 1.5 inch bailer was used. See Attachment B regarding water levels, gallons purged and PID readings at initial opening of each well. Decontamination of the equipment by Patrick following purging consisted of washing each piece in a 55-gal drum with alconox and distilled water. All wash water was placed into a portable tank along with purged water and discharged to the Paxton II leachate collection system.

Sampling was conducted in teams of two and followed the Illinois EPA Bureau of Land Sampling Procedures Guidance Manual Section VII. A total of 14 sample bottles were required to be filled from each well. Tyvek and protective gloves were worn by each team. Bailers remained in the wells after being purged by Patrick Engineering, and then sampling teams collected the samples, cut the bailer strings and properly disposed of bailers after use. Illinois EPA locks were then placed on all open wells except for LC10 due to well damage. Samples were placed on ice immediately after collection. Samples were re-iced the night of July 30th and brought into the hotel for security overnight. Sampling continued the morning of July 31st and at approximately 11 am samples were re-iced. Vanessa Keehner and Mike Morgan left at noon to deliver samples collected up to that time first to Severn Trent Laboratories, and then they were met outside Champaign by Illinois EPA Field Office employee Mike Mullins who delivered the Inorganics to the Illinois EPA Champaign Laboratory. Finally Keehner and Morgan delivered the remaining samples to the Springfield Organics Laboratory. Sampling continued the afternoon of July 31st and samples were then re-iced and again brought into the hotel overnight for security. The morning of August 1st John Richardson and Chris Nickell delivered samples collected up to that time in the same order as the previous route. Stanley Komperda, Rebecca Oswald and Jody Kershaw remained on-site in order to observe if the remaining wells had recharged. A few more bottles were able to be filled, iced and Illinois EPA left the site at approximately 11:00 am. Rebecca Oswald delivered designated bottles to the Severn Trent Laboratories and Jody Kershaw delivered designated bottles to the Champaign Laboratory and Springfield Laboratory.

Groundwater analysis was based on a list of constituents the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) requires for discharge of the Paxton II leachate into their system. The reason being, this would provide some comparison information if in the future the Cluster Site remedial action includes discharging Cluster Site groundwater to the MWRDGC through a connection to the Paxton II system.

Four separate laboratories were used for analysis of the collected groundwater: Illinois EPA Champaign Inorganic Laboratory, Illinois EPA Springfield Organic Laboratory, Severn Trent Laboratories, Inc. located in University Park and Severn Trent Laboratories, Inc. located in Savannah, Georgia. Four different laboratories were needed due to each being unable to complete the entire analyte list. This July groundwater sampling was the first occasion Illinois EPA has used the services of Severn Trent Laboratories. In the planning stage there was a mis-communication in the bottle requirements of Severn Trent Laboratories, Inc. This was not realized until after the sampling was complete and samples had been delivered to the lab. A Sample Discrepancy Report was attached with the results received noting a limited volume and insufficient sample. Illinois EPA knew certain analysis would not be completed due to insufficient volumes because various wells never recharged over the three day period after being purged. Well G11S was bailed dry after 10 bails were removed. G19D was bailed dry after 16 bails were removed. G22D was bailed dry with a pump after 9 gallons were removed. Well G11B was bailed dry with a pump and bailers. G13S and G105B were slow to recharge.

Attachment A lists the analytical results and highlights exceedances of the 35 IAC Section 742 Tier 1 Class I and Class II Groundwater Remediation Objectives. "Class I Groundwater" refers to groundwater that meets the Class I: Potable Resource Groundwater criteria set forth in 35 Ill. Adm. Code 620. "Class II Groundwater" means groundwater that meets the Class II: General Resource Groundwater criteria set forth in 35 Ill. Adm. Code 620.

The following contaminants were found to exceed Class I objectives only: Nickel, Manganese, Fluorene, Aldrin, P,P'-DDE, Total DDT, Dieldrin, toluene, and chlorobenzene.

The following contaminants were found to exceed both Class I and Class II objectives: Antimony, Lead, Thallium, Cadmium, Chloride, Iron, Boron, Benzene, Chrysene, Phenol, Naphthalene, Vinyl Chloride, Methylene Chloride, Chromium, P,P'-DDD, Total PCBs, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(a)pyrene, acetone, Bis(2-ethylhexyl)phthalate.

All but three wells exceeded the Illinois ammonia-N standard of 15 mg/L. The two highest concentrations were detected at 800 mg/L in G24D-A and 460 mg/L in G13S. Monitoring well G24D in particular contained a black, oily liquid.

The pH value, or hydrogen ion concentration, is a measure of the acidity or alkalinity of water. This value ranged from 6.7 to 8.5.

The highest concentration of Total Suspended Solids (TSS) was 39,200 mg/L found in G19D. The TSS value is a standard measure for inorganic and organic materials suspended in the water column. The highest Kjeldahl-N, total value was 1,160 mg/L found in LC03B. This value represents the sum of the organic nitrogen and ammonia-N.

The Illinois EPA Bureau of Land currently has no further groundwater sampling planned for the Cluster Sites. The original analytical sheets can be found in the Illinois EPA Bureau of Land Division File.

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ATTACHMENT A

July 2002 Cluster Site Groundwater Sampling

25 Total Wells - 20 Sampled - 5 Damaged

Well			LC01A	LC01B	LC03A	LC03B	LC04	LC05
Unit			Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill
TOC Elevation (ft msl)			593.38	593.38	593.31	593.31	593.42	594.32
Total Depth (ft)			15	15	14.5	14.5	15	15
Water Level (ft below TOC)			8.74	8.74	5.61	5.61	5.65	10 95
Water Column Height (ft)			6.26	6.26	8.89	8.89	9.35	4.05
PID Reading (ppm)			2.4	2.4	0	0	0	0
Sample Date			31-Jul	31-Jul	31-Jul	31-Jul	30-Jul	30-Jul
Sample Time			10:05	10:15	9:45	10:10	2:40	14:45
Notes	TACO 742 Class II ug/L	TACO 742 Class I ug/L	Paxton I	Paxton I	Paxton I	Paxton I	U.S. Drum II	US Drum II
Severn Trent Services								
Tannin/ Lignin (mg/l) (LC06/LC02/LC11)								
Chemical Oxygen Demand (COD) (mg/L)			3000	3100	150	86	590	100
Organochlorine Pesticide Analysis (ug/L)								
beta-BHC			0.025 U	0.025 U	0.024 U	0.024 U	0.024 U	0.024 U
delta-BHC			0.39	0.025 U	0.024 U	0.024 U	0.024 U	0.024 U
Endosulfan I			0.025 U	0.025 U	0.024 U	0.024 U	0.024 U	0.024 U
Endosulfan II			0.051 U	0.049 U	0.047 U	0.047 U	0.048 U	0.048 U
Endosulfan sulfate			0.051 U	0.049 U	0.047 U	0.047 U	0.048 U	0.048 U
Methoxychlor	200	0.04	0.25 U	0.25 U	0.24 U	0.24 U	0.24 U	0.24 U
Endrin aldehyde			0.051 U	0.049 U	0.047 U	0.047 U	0.048 U	0.048 U
Endrin ketone			0.051	0.049 U	0.047 U	0.047 U	0.048 U	0.048 U
SVOCs (ug/L)								
1,2-Diphenylhydrazine			97 U	98 U	9.5 U	9.5 U	9.6 U	9.5 U
n-Nitrosodiphenylamine			97 U	98 U	9.5 U	9.5 U	9.6 U	9.5 U
Benzidine			970 U	980 U	95 U	95 U	96	95 U
1,4-Dioxane			500 M	430 M	38 U	32 J	69 M	38 U
n-Nitrosodiethylamine			190 U	200 U	19 U	19 U	19 U	19 U
VOCs (ug/L)								
Acrolein			200 U	200 U	200 U	200 U	200 U	200 U
Acetonitrile			40 U	40 U	40 U	40 U	40 U	40 U
2-Chloroethylvinylether			2 U	2 U	2 U	2 U	2 U	2 U
1,3-Butadiene			1 U	1 U	1 U	1 U	1 U	1 U

Exceedances highlighted.

Exceedances bolded/larger font.

Well			LC01A	LC01B	LC03A	LC03B	LC04	LC05
Unit			Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill
TOC Elevation (ft msl)			593.38	593.38	593.31	593.31	593.42	594.32
Total Depth (ft)			15	15	14.5	14.5	15	15
Water Level (ft below TOC)			8.74	8.74	5.61	5.61	5.65	10.95
Water Column Height (ft)			6.26	6.26	8.89	8.89	9.35	4.05
PID Reading (ppm)			2.4	2.4	0	0	0	0
VOC TIC (ug/L)								
Benzene, 1-ethyl-2-methyl-			4	3.8			0.41	
U - Analyte was not detected at or above the stated limit.								
M - Manually integrated compound.								
IEPA - INORGANICS								
ph - lab, >2 Hours			6.7		8	7.9	7.1	8.5
Fluoride, Total mg/L			0.38		0.45	0.46	0.24	3.58
Sulfate, Total mg/L	400 mg/L							170
Ammonia - N, Total mg/L			392		22	21	115	39
Phosphate - O AS PO4 mg/L					0.84	0.79	0.03K	0.3
Orthophosphate								
BOD 5 DAY mg/L			2700L		15	11	23	27L
Kjeldahl-N, Total mg/L			476		43	1160	320	87
Chromium, Hex ug/L			50K		50K	50K	50K	50K
Magnesium, T mg/L			370		86	86	84	49
Mercury, T ug/L			0.12		0.11	0.10K	0.15	0.10K
Potassium, T mg/L			290		54	54	82	100
Antimony, T ug/L	24	6	29		14K	21	19	21
Barium, T ug/L	2000	2000	430		460	420	370	54
Beryllium, T ug/L	500	4	1.0K		1.0K	1.0K	1.0K	1.0K
Chromium, T, ug/L	1000	100	45		25	8.3	23	530K
Cobalt, T ug/L	1000	1000	7.7		5.0K	5.0K	6.2	6.5
Lead, T ug/L	100	7.5	65		62	21	65	16
Nickel, T ug/L	2000	100	270		17	8.9	38	65
Silver, T ug/L		50	5.0K		5.0K	5.0K	5.0K	5.0K
Thallium, T ug/L	20	2	31K		31K	31K	31K	31K
Zinc, T ug/L	10,000		2700		200	120	410	100K
TDS @1800 (ROE) mg/L			7530		1170	1150	1320	1610
Chloride, Total mg/L		200,000	2220		250	231	232	469
Nitrate & NO2 - Ntotal mg/L		10,000	0.01K		0.15	0.06	0.06	0.08
Phosphorous - P, Total mg/L			0.36		0.72	0.54	0.48	0.38
Cyanide, T mg/L		200	0.01		0.01	0.01	0.01K	0.01K
Solids, TOT. SUS. Mg/L			924		118	114	307	57
Oil, Gravimetric mg/L			100		3	2.7	3.2	4.6

Well			LC01A	LC0[illegible]	LC03A	LC03B	LC04	LC05
Unit			Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill
TOC Elevation (ft msl)			593.38	593.38	593.31	593.31	593.42	594.32
Total Depth (ft)			15	15	14.5	14.5	15	15
Water Level (ft below TOC)			8.74	8.74	5.61	5.61	5.65	10.95
Water Column Height (ft)			6.26	6.26	8.89	8.89	9.35	4.05
PID Reading (ppm)			2.4	2.4	0	0	0	0
Calcium, T mg/L			470		140	130	130	52
Sodium, T mg/L			1100J		230J	230J	300J	560
Alumimum, T ug/L			1400		1800	550	2000	190
Arsenic, T ug/L	200	50	10K		10K	10K	10K	10K
Boron, T ug/L	2000	2000	2600		1300	1300	2600	2300
Cadmium, T ug/L	50	5	5.0K		**5.0K**	**5.0K**	**5.0K**	5.0K
Copper, T ug/L	650	350	35		24	5.0K	56	5.2
Iron, T ug/L	5000	000	[illegible]		[illegible]	4000	[illegible]	2400
Manganese, T ug/L	10,000	50	**3700**		**300**	**160**	**470**	450
Selenium, T ug/L	50	50	30K		30K	30K	30K	30K
Strontium, T ug/L			1400		1600	1600	610	190
Vanadium, T ug/L			5.0K		6.3	5.0K	5.0K	22
IEPA - SVOCs/VOCs/Pest (ug/L)								
Hexachlorobenzene	0.3	.06	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Trifluralin			0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Alpha-BHC	0.15	.03	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Gamma-BHC (Lindane)	1	.2	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Atrazine	15	3	0.1 K	0.1 K	0.1 K	0.16	0.1 K	0.1 K
Heptachlor	2	.4	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Aldrin	0.2	.04	0.01 K	0.01 K	0.01 K	0.01	0.03	0.01 K
Acetochlor			0.1 K	0.1 K	0.1 K	0.1 K	0.1 K	0.1 K
Alachlor	10	2	0.02 K	0.02 K	0.02 K	0.02 K	0.02 K	0.02 K
Metribuzin			0.05 K	0.05 K	0.05 K	0.05 K	0.05 K	0.05 K
Metolachlor			0.1 K	0.1 K	0.1 K	0.1 K	0.1 K	0.1 K
Heptachlor Epoxide	1	.2	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Pendimethalin			0.05 K	0.05 K	0.05 K	0.05 K	0.05 K	0.05 K
Gamma-Chlordane	2	[illegible]	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Alpha-Chlordane		[illegible]	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Total Alpha and Gamma Chlordane		[illegible]	0.1 K	0.1 K	0.1 K	0.1 K	0.1 K	0.1 K
Dieldrin	0.1	0.02	0.01K	0.01 K	0.01 K	0.01 K	0.01 K	0.01 K
Captan			0.05 K	0.05 K	0.05 KJ	0.05 K	0.05 K	0.05 K
Cyanazine			0.1 K	0.1 K	0.1 K	0.1 K	0.1 K	0.1 K
Endrin	10	2	0.03	0.02	0.01 K	0.01 K	0.01 K	0.01 K
P,P'-DDE	0.2	0.04	0.03	0.01 K	0.01K	0.01 K	0.01 K	0.01 K
P,P'-DDD	0.55	0.11	0.01 K	0.01	0.06	0.01	**0.24**	0.01 K

Well			LC01A	LC01B	LC03A	LC03B	LC04	LC05
Unit			Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill
TOC Elevation (ft msl)			593.38	593.38	593.31	593.31	593.42	594.32
Total Depth (ft)			15	15	14.5	14.5	15	15
Water Level (ft below TOC)			8.74	8.74	5.61	5.61	5.65	10.95
Water Column Height (ft)			6.26	6 26	8.89	8.89	9.35	4.05
PID Reading (ppm)			2.4	2.4	0	0	0	0
P,P'-DDT			0.01 K	0.01 K	0.01 KJ	0.01 K	0.02	0.01 K
Total DDT	0.6	0.12	0.1 K	0.1 K	0.1 K	0.1 K	**0.26**	0.1 K
Methoxychlor	200	40	0.05 K	0.05 K	0.05 K	0.05 K	0.05 K	0.05 K
Total PCBs	2.5	0.5	0.1 K	0.1 K	0.1 K	0.26	**0.65**	0.1 K
Toxaphene	15	3	1.0 K	1.0 K	1.0 K	1.0 K	1.0 K	1.0 K
Phenol	100	100	1300 J	1300 J	1.5 K	1.5 K	1.5 K	1.5 KJ
Bis(2-Chloroethyl)Ether	10	10	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2-Chlorophenol	175	35	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
1,3-Dichlorobenzene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
1,4-Dichlorobenzene	375	75	1.5 KJ	1.5 KJ	1.5 K	1.5 K	5.4	1.5 KJ
1,2-Dichlorobenzene	1500	600	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2-methylphenol	350	350	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Bis(2-Chloroisopropyl) Ether			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
4-Methylphenol			4200 KJ	4100 J	1.5 K	1.5 K	1.9	1.5 KJ
N-Nitroso-Di-N-Propylamine	10	10	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Hexachloroethane	35	7	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Nitrobenzene	3.5	3.5	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Isophorone	1400	1,400	1.5 KJ	17 J	1.5 K	1.5 K	1.5 k	1.5 KJ
2-Nitrophenol			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2,4-Dimethylphenol	140	140	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Bis(2-chloroethoxy)Methane			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2,4-Dichlorophenol	21	21	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
1,2,4-trichlorobenzene	700	70	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Naphthalene	39	25	**30 J**	**34 J**	1.5 K	1.5 K	1.9	1.5 KJ
4-Chloroaniline	28	28	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Hexachlorobutadiene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5K	1.5 KJ
4-Chloro-3-Methylphenol			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2-methylnaphthalene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Hexachlorocyclopentadiene	500	50			1.5 K	1.5 K		
2,4,6-Trichlorophenol	32	6.4	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2,4,5-Trichlorophenol	3500	700	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2-chloronaphthalene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2-Nitroaniline			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Dimethylphthalate			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Acenaphthylene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2,6-Dinitrotoluene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 k	1.5 KJ

Well			LC01A	LC01	LC03A	LC03B	LC04	LC05
Unit			Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill
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Water Column Height (ft)			6.26	6.26	8.89	8.89	9.35	4.05
PID Reading (ppm)			2.4	2.4	0	0	0	0
3-Nitroaniline			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Acenaphthene	2100	420	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2,4-Dinitrophenol	14	14						
4-Nitrophenol			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Dibenzofuran			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
2,4-Dinitortoluene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Diethylphthalate	5600	5600	64 J	59J	1.5 K	1.5 K	1.5 K	1.5 KJ
4-chiorophenyl Phenyl Ether			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Fluorene	1400	280	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
4-Nitroaniline			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
4,6-Dinitro-2-Methylphenol							1.5 K	1.5 KJ
4-Bromophenyl Phenyl Ether			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Hexachlorobenzene	0.3	0.08	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Pentachlorophenol	5	1	1.5 KJ	1.5 KJ			1.5 K	1.5 KJ
Phenanthrene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Anthracene	10500	2100	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Di-N-Butylphthlate	3500	700	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Fluoranthene	1400	280	1.5 KJ	1.5 KJ	1.5 K	1.8	1.5 K	1.5 KJ
Pyrene	1050	210	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Butyl Benzyl Phthalate	7000	400	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
3,3'-Dichlorobenzidine	100	20	1.5 KJ	1.5 KJ	1.5 KJ	1.5 KJ	1.5 K	1.5 KJ
Benzo(a)anthracene	0.65	13	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Chrysene	7.5		1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Bis(2-Ethylhexyl)Phthalate	80		8.3 J	10 J	1.5 K	1.5 K	1.5 K	1.5 KJ
Di-N-Octylphthalate			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Benzo(B)Fluoranthene	0.9	18	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Benzo(K)Fluoranthene	0.85	17	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Benzo(A)Pyrene	2	12	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Indeno(1,2,3-CD)Pyrene	2.15	43	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Dibenzo(AH)Anthracene	1.5	13	1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Benzo(GHI)Perylene			1.5 KJ	1.5 KJ	1.5 K	1.5 K	1.5 K	1.5 KJ
Chloromethane			2 K	2 K	2 K	2 K	2 K	2 K
Bromomethane	49		2 K	2 K	2 K	2 K	2 K	2 KJ
Vinyl Chloride	10	2	[illegible]	[illegible]	2 K	2 K	2 K	2 K
Chloroethane			290	410	23	22	2 K	2 K
Methylene Chloride	50	5	[illegible]	490	5 KJ	5 KJ	5 K	5 K

Well			LC01A	LC01B	LC03A	LC03B	LC04	LC05
Unit			Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill
TOC Elevation (ft msl)			593 38	593 38	593.31	593.31	593.42	594.32
Total Depth (ft)			15	15	14.5	14.5	15	15
Water Level (ft below TOC)			8 74	8 74	5.61	5.61	5.65	10.95
Water Column Height (ft)			6 26	6 26	8.89	8.89	9.35	4.05
PID Reading (ppm)			2.4	2 4	0	0	0	0
Acetone	700	700	9200	9300	10 K	10 K	10 K	10 K
Trichlorofluoromethane			2 K	2 K	2 K	2 K	2 K	2 K
Bromochloromethane			2 K	2 K	2 KJ	2 KJ	2 K	2 K
Carbon Disulfide	3500	700	2 K	2 K	2 K	2 K	2 K	2 K
1,1-Dichloroethylene	35	7	2 K	2 K	2 K	2 K	2 K	2 K
1,1-Dichloroethane	3500	700	50	54	2 KJ	2 KJ	2 K	2 K
Trans-1,2-Dichloroethylene	500	100	4	4	2 K	2 K	2 K	2 K
Cis-1,2-Dichloroethylene	200	70	58	61	2 K	2 K	2 K	2 K
Chloroform	0.1	0.02	2 K	2 K	2 KJ	2 KJ	2 K	2 K
1,2-Dichloroethane	25	700	2 K	2 K	2 K	2 K	2 K	2 K
2-Butanone(MEK)			7500	7300	5 KJ	5 K	5 K	5 K
1,1,1-Trichloroethane	1000	200	2 K	2 K	2 KJ	2 KJ	2 K	2 K
Carbon Tetrachloride	25	5	2 K	2 K	2 K	2 K	2 K	2 K
Methyl Tert-Butyl Ether			2 K	2 K	2 K	2 K	2 K	2 K
Dichlorobromomethane			2 K	2 K	2 K	2 K	2 K	2 K
1,2-Dichloropropoane	25	5	2 K	2 K	2 K	2 K	2 K	2 K
Cis-1,3-Dichloropropene			2 K	2 K	2 K	2 K	2 K	2 K
Trichloroethylene	25	5	2.5	2.9	2 K	2 K	2 K	2 K
Chlorodibromomethane	140	140	2 K	2 K	2 K	2 K	2 K	2 K
1,1,2-Trichloroethane	50	5	2 K	2 K	2 K	2 K	2 K	2 K
Benzene	25	5	32	33	4.4	4.4	6.6	2 K
Trans-1,3-Dichloropropene	5	1	2 K	2 K	2 K	2 K	2 K	2 K
2-Chloroethylvinyl Ether								
Bromoform	0.2	0.2	2 K	2 K	2 K	2 K	2 K	2 K
4-Methyl-2-Pentanone (MIBK)			1300	1800	2 K	2 K	2 K	2 K
2-Hexanone (MBK)			68	63	2 K	2 K	2 K	2 K
Tetrachloroethylene	25	5	2 K	2 K	2 K	2 K	2 K	2 K
1,1,2,2-Tetrachloroethane			2 K	2 K	2 K	2 K	2 K	2 K
Toluene	2500	1000	1800	2000	2 K	2 K	2 K	2 K
Chlorobenzene	500	100	2 K	2 K	3.1	3	110	2 K
Ethylbenzene	1000	700	350	460	2 K	2 K	2 K	2 K
Styrene	500	100	2 K	2 K	2 K	2 K	2 K	2 K
Xylene	10000	10,000	1400	1800	2 K	2 K	2 K	2 K

K = Actual Value Not Known, but known to be less than value shown (Value shown is the practical quantitation limit)

J = Estimated Value

ATTACHMENT A

Well	LC06	LC07	LC09	LC10	LC13	G26F	SL-16R	LC02
Unit	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Sand
TOC Elevation (ft msl)	591.48	596.33	595.33	594.98	594.13	594.99	603.74	590.68
Total Depth (ft)	15	14	20	15	15	10	15	14
Water Level (ft below TOC)	4.35		6.16	6.1	4.45	7	6.8	7.21
Water Column Height (ft)	10.65		13.84	8.9	10.55	3	8.2	6.79
PID Reading (ppm)	3.2		0	0	0	1.1	19.8	0
Sample Date	30-Jul	Could not	30-Jul	30-Jul	30-Jul	31-Jul		31-Jul
Sample Time	3:15/15:30	Access/Not	13:55	15:00	13:50	11:00		11:07
Notes	US Drum II	Sampled					NO SAMPLE	Paxton I
		Alburn	US Drum II	US Drum II	Unnamed	Paxton I	Paxton I	
Severn Trent Services								
Tannin/ Lignin (mg/l) (LC06/LC02/LC11)	8.8							6.8
Chemical Oxygen Demand (COD) (mg/L)	900		920	900	820	760		690
Organochlorine Pesticide Analysis (ug/L)								
beta-BHC	0.024 U		0.025 U	0.024 U		0.027 U		0.024 U
delta-BHC	0.024 U		0.025 U	0.024 U		0.042		0.024 U
Endosulfan I	0.024 U		0.025 U	0.024 U		0.027 U		0.024 U
Endosulfan II	0.048 U		0.049 U	0.048 U		0.053 U		0.048 U
Endosulfan sulfate	0.048 U		0.049 U	0.048 U		0.053 U		0.048 U
Methoxychlor	0.24 U		0.25 U	0.24 U		0.27 U		0.24 U
Endrin aldehyde	0.048 U		0.049 U	0.048 U		0.053 U		0.048 U
Endrin ketone	0.048 U		0.049 U	0.048 U		0.053 U		0.048 U
SVOCs (ug/L)								
1,2-Diphenylhydrazine	9.5 U		9.6 U	9.7 U	9.5 U	9.5 U		9.6 U
n-Nitrosodiphenylamine	9.5 U		9.6 U	9.7 U	9.5 U	9.5 U		9.6 U
Benzidine	95 U		96 U	97 U	95 U	95 U		96 U
1,4-Dioxane	57 M		69 M	43 M	47 M	38 U		130 M
n-Nitrosodiethylamine	19 U		19 U	19 U	19 U	19 U		19 U
VOCs (ug/L)								
Acrolein	200 U		200 U	200 U	200 U	200 U		200 U
Acetonitrile	40 U		40 U	40 U	40 U	40 U		40 U
2-Chloroethylvinylether	2 U		2.0 U	2 U	2 U	2 U		2 U
1,3-Butadiene	1 U		1.0 U	1 U	1 U	1 U		1 U

Well	LC06	LC07	LC09	LC10	LC13	G26F	SL-16R	LC02
Unit	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Sand
TOC Elevation (ft msl)	591.48	596.33	595.33	594.98	594.13	594.99	603.74	590 68
Total Depth (ft)	15	14	20	15	15	10	15	14
Water Level (ft below TOC)	4.35		6.16	6.1	4.45	7	6.8	7.21
Water Column Height (ft)	10.65		13.84	8.9	10.55	3	8.2	6.79
PID Reading (ppm)	3.2		0	0	0	1.1	19.8	0

VOC TIC (ug/L)								
Benzene, 1-ethyl-2-methyl-	1.9		1.6	0.75	2.2			
U - Analyte was not detected at or above the st								
M - Manually integrated compound.								
IEPA - INORGANICS								
ph - lab, >2 Hours	7.4		6.9	6.9	7.1	8		6.7
Fluoride, Total mg/L	1.19		0.23	0.23	0.22	0.92		0.46
Sulfate, Total mg/L						747		
Ammonia - N, Total mg/L	205		188	155	99	1		393
Phosphate - O AS PO4 mg/L	0.05		0.03K	0.03K		0.91		0.77
Orthophosphate								
BOD 5 DAY mg/L	23		10	9	25	240		4660
Kjeldahl-N, Total mg/L	220		955	185	101	27		568
Chromium, Hex ug/L	50K		50K	50K	50K	50K		50K
Magnesium, T mg/L	140		66	60	99	76		370
Mercury, T ug/L	0.34		0.19	0.69	0.22	0.10K		0.11
Potassium, T mg/L	160		100	72	86	36		270
Antimony, T ug/L	50		16	21	20	21		24
Barium, T ug/L	880		480	550	290	300		400
Beryllium, T ug/L	1.0K		1.0K	1.0K	1.0K	1.0K		1.0K
Chromium, T ug/L	30		28	49	13	13		37
Cobalt, T ug/L	11		7.7	8.8	5.3	8.9		7.5
Lead, T ug/L	420		140	230	81	83		62
Nickel, T ug/L	26		22	46	15	41		260
Silver, T ug/L	5.0K		5.0K	5.0K	5.0K	5.0K		5.0K
Thallium, T ug/L	31K		31K	31K	31K	31K		31K
Zinc, T ug/L	330		460	510	350	350		2400
TDS @1800 (ROE) mg/L	2120		1530	1310	1370	1000		6870
Chloride, Total mg/L	413		302	168	180	168		2020
Nitrate & NO2 - Ntotal mg/L	0.28		0.08	0.1	0.28	0.13		0.05
Phosphorous - P, Total mg/L	1.12		0.95	0.9	0.52	0.87		0.37
Cyanide, T mg/L	0.01K		0.01K	0.01K	0.01K	0.01K		0 01K
Solids, TOT. SUS. Mg/L	512		147	261	108	1227		658
Oil, Gravimetric mg/L	3.8		1.3K	5.3	2.8	15		4 3

Well	LC06	LC07	LC09	LC10	LC13	G26F	SL-16R	LC02
Unit	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Sand
TOC Elevation (ft msl)	591.48	596.33	595.33	594.98	594.13	594.99	603.74	590.68
Total Depth (ft)	15	14	20	15	15	10	15	14
Water Level (ft below TOC)	4.35		6.16	6.1	4.45	7	6.8	7.21
Water Column Height (ft)	10.65		13.84	8.9	10.55	3	8.2	6.79
PID Reading (ppm)	3.2		0	0	0	1.1	19.8	0

Calcium, T mg/L	110		170	170	100	180		460
Sodium, T mg/L	600J		430J	250J	330J	170		1100J
Alumimum, T ug/L	5000		1500	2300	800	3200		1100
Arsenic, T ug/L	10K		10K	10K	10K	10K		10K
Boron, T ug/L	**4500**		**270**	1900	**3200**	720		**2400**
Cadmium, T ug/L	5.0K		**5.0K**	**5.0K**	**5.0K**	**5.0K**		**5.0K**
Copper, T ug/L	58		49	88	20	64		28
Iron, T ug/L	**25000**		**9000**	**24000**	**28000**	**140000**		**520000**
Manganese, T ug/L	**620**		**470**	**450**	**190**	**640**		**3400**
Selenium, T ug/L	30K		30K	30K	30K	30K		30K
Strontium, T ug/L	510		550	520	460	1400		1400
Vanadium, T ug/L	13		5.0K	5.2	5.0K	12		5.0K
IEPA - SVOCs/VOCs/Pest (ug/L)								
Hexachlorobenzene	0.01 K		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
Trifluralin	0.01 K		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
Alpha-BHC	0.01 K		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
Gamma-BHC (Lindane)	0.01 K		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
Atrazine	0.1 K		0.1 K	0.1 K	0.1 K	0.1 K		0.1 K
Heptachlor	0.01 K		0.01 K	0.01 K	0.01 K	0.01K		0.01 K
Aldrin	**0.04**		**0.04**	0.01 K	**0.07**	0.03		0.01 K
Acetochlor	0.1 K		0.1 K	0.1 K	0.1 K	0.1 K		0.1 K
Alachlor	0.02 K		0.02 K	0.02 K	0.02 K	0.02 K		0.02 K
Metribuzin	0.05 K		0.05 K	0.05 K	0.05 K	0.05 K		0.05 K
Metolachlor	0.18		0.1 K	0.12	0.1	0.1 K		0.1 K
Heptachlor Epoxide	0.01 K		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
Pendimethalin	0.06		0.05 K	0.05 K	0.07	0.05 K		0.05 K
Gamma-Chlordane	0.01 K		0.01 K	0.01 K	0.02	0.01 K		0.01 K
Alpha-Chlordane	0.02		0.01 K	0.01 K	0.02	0.01 K		0.01 K
Total Alpha and Gamma Chlordane	0.1 K		0.1 K	0.1 K	0.1 K	0.1 K		0.1 K
Dieldrin	0.01 K		0.01 K	0.01 K	0.01 K	**0.02**		0.01 K
Captan	0.05 K		0.05 KJ	0.11 J	0.05 K	0.05 K		0.05 K
Cyanazine	0.1 K		0.1 K	0.1 K	0.1 K	0.1 K		0.1 K
Endrin	0.01 K		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
P,P'-DDE	**0.04**		0.01 K	0.01 K	0.01 K	0.01 K		0.01 K
P,P'-DDD	**0.12**		0.02	0.02	0.01 K	0.02		0.04

Well	LC06	LC07	LC09	LC10	LC13	G26F	SL-16R	LC02
Unit	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Sand
TOC Elevation (ft msl)	591.48	596.33	595.33	594.98	594.13	594.99	603.74	590.68
Total Depth (ft)	15	14	20	15	15	10	15	14
Water Level (ft below TOC)	4.35		6.16	6.1	4.45	7	6.8	7.21
Water Column Height (ft)	10.65		13.84	8.9	10.55	3	8.2	6.79
PID Reading (ppm)	3.2		0	0	0	1.1	19.8	0
P,P'-DDT	0.01		0.01 J	0.01 J	0.01	0.02		0.01 K
Total DDT	**0.17**		0.1 K	0.1 K	0.1 K	0.1 K		0.1 K
Methoxychlor	0.05 K		0.05 K	0.05 K	0.05 K	0.05 K		0.05 K
Total PCBs	**1.4**		**0.58**	**1.3**	**1.1**	0.48		0.1 K
Toxaphene	1.0 K		1.0 K	1.0 K	1.0 K	1.0 K		1.0 K
Phenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Bis(2-Chloroethyl)Ether	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2-Chlorophenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
1,3-Dichlorobenzene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
1,4-Dichlorobenzene	1.5 KJ		2.3	2.2	1.5 K	2		1.5 K
1,2-Dichlorobenzene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2-methylphenol	1.5 KJ		7	1.5 K	1.5 K	1.5 K		1.5 K
Bis(2-Chloroisopropyl) Ether	2.6 J		7	3.4	1.5 K	1.5 K		1.5 K
4-Methylphenol	1.5 KJ		1.5 K	1.5 K	1.7	1.5 K		1.5 K
N-Nitroso-Di-N-Propylamine	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Hexachloroethane	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Nitrobenzene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Isophorone	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2-Nitrophenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2,4-Dimethylphenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Bis(2-chloroethoxy)Methane	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2,4-Dichlorophenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
1,2,4-trichlorobenzene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Naphthalene	18 J		8.8	13	1.5 K	1.5 K		1.5 K
4-Chloroaniline	1.5 KJ		1.5 K	2.7	1.5 K	1.5 K		1.5 K
Hexachlorobutadiene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
4-Chloro-3-Methylphenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2-methylnaphthalene	15 J		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Hexachlorocyclopentadiene			1.5 K	1.5 K		1.5 K		1.5 K
2,4,6-Trichlorophenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2,4,5-Trichlorophenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2-chloronaphthalene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2-Nitroaniline	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Dimethylphthalate	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Acenaphthylene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2,6-Dinitrotoluene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K

Well	LC06	LC07	LC09	LC10	LC13	G26F	SL-16R	LC02
Unit	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Sand
TOC Elevation (ft msl)	591.48	596.33	595.33	594.98	594.13	594.99	603.74	590.68
Total Depth (ft)	15	14	20	15	15	10	15	14
Water Level (ft below TOC)	4.35		6.16	6.1	4.45	7	6.8	7.21
Water Column Height (ft)	10.65		13.84	8 9	10.55	3	8.2	6.79
PID Reading (ppm)	3.2		0	0	0	1.1	19.8	0
3-Nitroaniline	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Acenaphthene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2,4-Dinitrophenol				5.0 K		1.5 K		
4-Nitrophenol	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Dibenzofuran	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
2,4-Dinitortoluene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Diethylphthalate	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
4-chlorophenyl Phenyl Ether	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Fluorene	1.6 J		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
4-Nitroaniline	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
4,6-Dinitro-2-Methylphenol	1.5 KJ			1.5 K	1.5 K	1.5 K		
4-Bromophenyl Phenyl Ether	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Hexachlorobenzene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Pentachlorophenol	1.5 KJ			5.0 K	1.5 K	1.5 K		
Phenanthrene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Anthracene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Di-N-Butylphthlate	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1 5 K
Fluoranthene	1.5 KJ		1.5 K	1.8	1.5 K	1.5 K		1.5 K
Pyrene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Butyl Benzyl Phthalate	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
3,3'-Dichlorobenzidine	1.5 KJ		1.5 KJ	1.5 KJ	1.5 K	1.5 K		1.5 KJ
Benzo(a)anthracene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Chrysene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Bis(2-Ethylhexyl)Phthalate	3.6 J		4.6	6.7	2.4	1.5 K		1.5 K
Di-N-Octylphthalate	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Benzo(B)Fluoranthene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Benzo(K)Fluoranthene	1.5		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Benzo(A)Pyrene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Indeno(1,2,3-CD)Pyrene	1.5 KJ		1.5K	1.5 K	1.5 K	1.5 K		1.5 K
Dibenzo(AH)Anthracene	1.5		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Benzo(GHI)Perylene	1.5 KJ		1.5 K	1.5 K	1.5 K	1.5 K		1.5 K
Chloromethane	2 K		2 K	2 K	2 K	2 K		2 K
Bromomethane	2 KJ		2 K	2 K	2 KJ	2 KJ		2 K
Vinyl Chloride	2 K		2 K	2 K	2 K	2 K		2 K
Chloroethane	2 K		10	2 K		2 K		2 K
Methylene Chloride	5 K		5 KJ	5 KJ	5 K	5 K		5 KJ

Well	LC06	LC07	LC09	LC10	LC13	G26F	SL-16R	LC02
Unit	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Fill	Shallow Sand
TOC Elevation (ft msl)	591 48	596.33	595 33	594 98	594 13	594.99	603.74	590.68
Total Depth (ft)	15	14	20	15	15	10	15	14
Water Level (ft below TOC)	4 35		6 16	6.1	4.45	7	6.8	7.21
Water Column Height (ft)	10.65		13 84	8 9	10.55	3	8.2	6.79
PID Reading (ppm)	3 2		0	0	0	1.1	19.8	0
Acetone	10 K		10 K	10 K	10 K	10 K		10 K
Trichlorofluoromethane	2 K		2 K	2 K	2 K	2 K		2 K
Bromochloromethane	2 K		2 KJ	2 KJ	2 K	2 K		2 KJ
Carbon Disulfide	2 K		2 K	2 K	2 K	2 K		2 K
1,1-Dichloroethylene	2 K		2 K	2 K	2 K	2 K		2 KJ
1,1-Dichloroethane	2 K		2 KJ	2 KJ	2 K	2 K		2 KJ
Trans-1,2-Dichloroethylene	2 K		2 K	2 K	2 K	2 K		2 K
Cis-1,2-Dichloroethylene	2 K		2 K	2 K	2 K	2 K		2 K
Chloroform	2 K		2 KJ	2 KJ	2 K	2 K		2 KJ
1,2-Dichloroethane	2 K		2 K	2 K	2 K	2 K		2 K
2-Butanone(MEK)	2 K		5 K	5 K	5 K	5 K		5 K
1,1,1-Trichloroethane	2 K		2 KJ	2 KJ	2 K	2 K		2 KJ
Carbon Tetrachloride	2 K		2 K	2K	2 K	2 K		2 K
Methyl Tert-Butyl Ether	2 K		2 K	2 K	2 K	2 K		2 K
Dichlorobromomethane	2 K		2 K	2 K	2 K	2 K		2 K
1,2-Dichloropropoane	2 K		2 K	2 K	2 K	2 K		2 K
Cis-1,3-Dichloropropene	2 K		2 K	2 K	2 K	2 K		2 K
Trichloroethylene	2 K		2 K	2 K	2 K	2 K		2 K
Chlorodibromomethane	2 K		2 K	2 K	2 K	2 K		2 K
1,1,2-Trichloroethane	2 K		2 K	2 K	2 K	2 K		2 K
Benzene	**19**		**6.9**	**7.6**		2 K		2 K
Trans-1,3-Dichloropropene	2 K		2 K	2 K	2 K	2 K		2 K
2-Chloroethylvinyl Ether								
Bromoform	2		2 K	2 K	2 K	2 K		2 K
4-Methyl-2-Pentanone (MIBK)	2 K		2 K	2 K	2 K	2 K		2 K
2-Hexanone (MBK)	2 K		2 K	2 K	2 K	2 K		2 KJ
Tetrachloroethylene	2 K		2 K	2 K	2 K	2 K		2 K
1,1,2,2-Tetrachloroethane	2 K		2 K	2 K	2 K	2 K		2 K
Toluene	2 K		2 K	2 K	2 K	2 K		2 K
Chlorobenzene	16		6.6	12	8.8	4.4		2 K
Ethylbenzene	2 K		2.5	2 K	2 K	2 K		2 K
Styrene	2 K		2 K	2 K	2 K	2 K		2 K
Xylene	2 K		16	2	2 K	2 K		2 K

K = Actual Value Not Known, but known to be le

J = Estimated Value

ATTACHMENT A

Well	LC02 Dup	LC11	LC12	SL-26	G13S	G11S	G19D	G22D
Unit	Shallow Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Lower Sand	Lower Sand	Lower Sand
TOC Elevation (ft msl)	590.68	593.5	592.71	596.77	594.31	589.65	590.55	595.55
Total Depth (ft)	14	19	15		12	15	43	48
Water Level (ft below TOC)	7.21	7.3	6		10.31	8.13	11.7	8.662
Water Column Height (ft)	6.79	11.7	9		1.69	6.87	31.3	39.34
PID Reading (ppm)	0	0	2		0	0	0	0
Sample Date		30-Jul	30-Jul		31-Jul	31-Jul	31-Jul	7/31 &8/01
Sample Time		15:40	16:15		8:00/14:50	9:00	8:40	8:00
Notes	Paxton I	US Drum II	US Drum II	NO SAMPLE Paxton II	Incomplete Paxton II	Paxton II	Paxton I	Alburn
Severn Trent Services								
Tannin/ Lignin (mg/l) (LC06/LC02/LC11)		4						
Chemical Oxygen Demand (COD) (mg/L)		130	890			68	47	620
Organochlorine Pesticide Analysis (ug/l.)								
beta-BHC		0.024 U	0.027 U			0.024 U	0.024 U	0.025 U
delta-BHC		0.024 U	0.027 U			0.024 U	0.024 U	0.025 U
Endosulfan I		0.024 U	0.027 U			0.024 U	0.024 U	0.025 U
Endosulfan II		0.048 U	0.053 U			0 048 U	0.049 U	0.050 U
Endosulfan sulfate		0.048 U	0.053 U			0.048 U	0.049 U	0.050 U
Methoxychlor		0.24 U	0.27 U			0.24 U	0.24 U	0.25 U
Endrin aldehyde		0.048 U	0.053 U			0.048 U	0.049 U	0.050 U
Endrin ketone		0.048 U	0.053 U			0.048 U	0.049 U	0.050 U
SVOCs (ug/L)								
1,2-Diphenylhydrazine		9.6 U	9.5 U		10 U	9.8 U	9.6 U	11 U
n-Nitrosodiphenylamine		9.6 U	9.5 U		10 U	9.8 U	9.6 U	11 U
Benzidine		96 U	95 U		100 U	98 U	96 U	110 U
1,4-Dioxane		67 M	130 M		240 M	39 U	38 U	360 M
n-Nitrosodiethylamine		19 U	19 U		20 U	20 U	19 U	21 U
VOCs (ug/L)								
Acrolein		200 U	200 U		2000 U	200 U	200 U	2000 U
Acetonitrile		40 U	40 U		400 U	40 U	40 U	400 U
2-Chloroethylvinylether		2 U	2 U		20 U	2 U	2 U	20 U
1,3-Butadiene		1 U	1 U		10 U	1 U	1 U	10 U

Well	LC02 Dup	LC11	LC12	SL-26	G13S	G11S	G19D	G22D
Unit	Shallow Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Lower Sand	Lower Sand	Lower Sand
TOC Elevation (ft msl)	590.68	593.5	592.71	596.77	594.31	589.65	590.55	595.55
Total Depth (ft)	14	19	15		12	15	43	48
Water Level (ft below TOC)	7.21	7.3	6		10.31	8.13	11.7	8.662
Water Column Height (ft)	6.79	11.7	9		1.69	6.87	31.3	39 34
PID Reading (ppm)	0	0	2		0	0	0	0

VOC TIC (ug/L)								
Benzene, 1-ethyl-2-methyl-			2.3		16			
U - Analyte was not detected at or above the st								
M - Manually integrated compound.								
IEPA - INORGANICS								
ph - lab, >2 Hours	7.3	7.4	7.6			7.9	8	7.6
Fluoride, Total mg/L	1.41	0.48	0.18			0.92	0.87	0.46
Sulfate, Total mg/L						279		
Ammonia - N, Total mg/L	120	62	59		460	4	2	61
Phosphate - O AS PO4 mg/L	0.03K	0.82	0.03K			0.04	3.2	
Orthophosphate								
BOD 5 DAY mg/L	25	7	110			28	8	60
Kjeldahl-N, Total mg/L	149	62	447		634	15	8.2	120
Chromium, Hex ug/L	50K	50K	50K			50K	50K	
Magnesium, T mg/L	280	98	92				53	240
Mercury, T ug/L	0.14	0.10K	0.10K			0.10K	0.10K	0.10K
Potassium, T mg/L	74	82	99				20K	96
Antimony, T ug/L	**16**	**14K**	**14K**			**17**	**14K**	**14K**
Barium, T ug/L	1200	400	590			260	150	1600
Beryllium, T ug/L	1.0K	1.0K	1.0K			2.5	1.8	1.0K
Chromium, T ug/L	18	12	10			62	**250**	39
Cobalt, T ug/L	23	5.0K	5.0K				28	17
Lead, T ug/L	**38**	**16**	**10**			**30**	**39**	**47**
Nickel, T ug/L	**200**	10	47			94	**650**	56
Silver, T ug/L	5.0K	5.0K	5.0K			5.0K	5.0K	5.0K
Thallium, T ug/L	**31K**	**31K**	**31K**			**31K**	**31K**	**31K**
Zinc, T ug/L	120	100K	100K				260	160
TDS @1800 (ROE) mg/L	4110	1690	1520			1270	482	3850
Chloride, Total mg/L	**1030**	**317**	**314**			102	38.7	**846**
Nitrate & NO2 - Ntotal mg/L	0.17	0.03	0.03		0.14	0.05	0.05	0.21
Phosphorous - P, Total mg/L	0.57	0.4	0.5		1.07	2.77	4.84	0.57
Cyanide, T mg/L	0.01K	0.01K	0.01K			0.06	0.01K	0.01
Solids, TOT. SUS. Mg/L	1040	130	741			16800	39200	111
Oil, Gravimetric mg/L	2.7	4.3	1.7			260		1.8

Well	LC02 Dup	LC11	LC12	SL-26	S	G11S	G19D	G22D
Unit	Shallow Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Lower Sand	Lower Sand	Lower Sand
TOC Elevation (ft msl)	590.68	593.5	592.71	596.77	594.31	589.65	590.55	595.55
Total Depth (ft)	14	19	15		12	15	43	48
Water Level (ft below TOC)	7.21	7.3	6		10.31	8.13	11.7	8.662
Water Column Height (ft)	6.79	11.7	9		1.69	6.87	31.3	39.34
PID Reading (ppm)	0	0	2		0	0	0	0

Calcium, T mg/L	410	190	360				110	370
Sodium, T mg/L	1100J	360J	320J				100J	1000J
Alumimum, T ug/L	4000	1600	1200				27000	3600
Arsenic, T ug/L	10K	10K	10K			35	10K	10K
Boron, T ug/L	1300	[illegible]	1900				[illegible]	5500
Cadmium, T ug/L	**5.0K**	**5.0K**	**5.0K**			**5.0K**	**5.0K**	**5.0K**
Copper, T ug/L	16	5.6	30				220	40
Iron, T ug/L	29000	3300	[illegible]				39000	64000
Manganese, T ug/L	**1200**	**150**	120				**690**	**1300**
Selenium, T ug/L	30K	30K	30K			30K	30K	30K
Strontium, T ug/L	3700	1800	3200				3000	11000
Vanadium, T ug/L	22	9.0K	6.6			79	45	35
IEPA - SVOCs/VOCs/Pest (ug/L)								
Hexachlorobenzene		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Trifluralin		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Alpha-BHC		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Gamma-BHC (Lindane)		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Atrazine		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Heptachlor		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Aldrin		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Acetochlor		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Alachlor		0.02 K	0.02 K			0.02 K	0.02 K	0.02 K
Metribuzin		0.05 K	0.05 K			0.05 K	0.05 K	0.05 K
Metolachlor		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Heptachlor Epoxide		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Pendimethalin		0.05 K	0.05 K			0.05 K	0.05 K	0.05 K
Gamma-Chlordane		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Alpha-Chlordane		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Total Alpha and Gamma Chlordane		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Dieldrin		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
Captan		0.05 KJ	0.05 KJ			0.05 K	0.05 K	0.05 K
Cyanazine		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Endrin		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
P,P'-DDE		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K
P,P'-DDD		0.01 K	0.01 K			0.01 K	0.01 K	0.01 K

Well	LC02 Dup	LC11	LC12	SL-26	G13S	G11S	G19D	G22D
Unit	Shallow Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Lower Sand	Lower Sand	Lower Sand
TOC Elevation (ft msl)	590.68	593.5	592.71	596.77	594.31	589.65	590.55	595.55
Total Depth (ft)	14	19	15		12	15	43	48
Water Level (ft below TOC)	7.21	7.3	6		10.31	8.13	11.7	8.662
Water Column Height (ft)	6.79	11.7	9		1.69	6.87	31.3	39.34
PID Reading (ppm)	0	0	2		0	0	0	0

P,P'-DDT		0.01 KJ	0.01 KJ			0.01 K	0.01 K	0.01 K
Total DDT		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Methoxychlor		0.05 K	0.05 K			0.05 K	0.05 K	0.05 K
Total PCBs		0.1 K	0.1 K			0.1 K	0.1 K	0.1 K
Toxaphene		1.0 K	1.0 K			1.0 K	1.0 K	1.0 K
Phenol		1.5 K	130			1.5 KJ	1.5 KJ	1.5 K
Bis(2-Chloroethyl)Ether		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2-Chlorophenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
1,3-Dichlorobenzene		1.5 K	1.5 K			1.3 KJ	1.5 KJ	1.5 K
1,4-Dichlorobenzene		1.5 K	2.3			1.5 KJ	1.5 KJ	1.5 K
1,2-Dichlorobenzene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2-methylphenol		1.5 K	6.8			1.5 KJ	1.5 KJ	1.5 K
Bis(2-Chloroisopropyl) Ether		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
4-Methylphenol		1.5 K	100			1.5 KJ	1.5 KJ	1.5 K
N-Nitroso-Di-N-Propylamine		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Hexachloroethane		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Nitrobenzene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Isophorone		1.5 K	32			1.5 KJ	1.5 KJ	1.5 K
2-Nitrophenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2,4-Dimethylphenol		1.5 K	12			1.5 KJ	1.5 KJ	1.5 K
Bis(2-chloroethoxy)Methane		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2,4-Dichlorophenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
1,2,4-trichlorobenzene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Naphthalene		1.5 K	31			1.5 KJ	1.5 KJ	1.5 K
4-Chloroaniline		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Hexachlorobutadiene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
4-Chloro-3-Methylphenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2-methylnaphthalene		1.5 K	14			1.5 KJ		1.5 K
Hexachlorocyclopentadiene		1.5 K	1.5 K				1.5 KJ	1.5 K
2,4,6-Trichlorophenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2,4,5-Trichlorophenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2-chloronaphthalene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2-Nitroaniline		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Dimethylphthalate		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Acenaphthylene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
2,6-Dinitrotoluene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K

Well	LC02 Dup	LC11	LC12	SL-26	S	G11S	G19D	G22D
Unit	Shallow Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Lower Sand	Lower Sand	Lower Sand
TOC Elevation (ft msl)	590.68	593.5	592.71	596.77	594.31	589.65	590.55	595.55
Total Depth (ft)	14	19	15		12	15	43	48
Water Level (ft below TOC)	7.21	7.3	6		10.31	8.13	11.7	8.662
Water Column Height (ft)	6.79	11.7	9		1.69	6.87	31.3	39.34
PID Reading (ppm)	0	0	2		0	0	0	0

3-Nitroaniline		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Acenaphthene		1.5 K	4.5			1.5 KJ	1.5 KJ	1.5 K
2,4-Dinitrophenol								5.0 K
4-Nitrophenol		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Dibenzofuran		1.5 K	2.7			1.5 KJ	1.5 KJ	1.5 K
2,4-Dinitortoluene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Diethylphthalate		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
4-chlorophenyl Phenyl Ether		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Fluorene		1.5 K	3.7			1.5 KJ	1.5 KJ	1.5 K
4-Nitroaniline		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
4,6-Dinitro-2-Methylphenol						1.5 KJ		1.5 K
4-Bromophenyl Phenyl Ether		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Hexachlorobenzene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Pentachlorophenol						1.5 KJ	1.5 KJ	5.0K
Phenanthrene		1.5 K	6.4			1.5 KJ	1.5 KJ	1.5 K
Anthracene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Di-N-Butylphthlate		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Fluoranthene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Pyrene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Butyl Benzyl Phthalate		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
3,3'-Dichlorobenzidine		1.5 KJ	1.5 KJ			1.5 KJ	1.5 KJ	1.5 KJ
Benzo(a)anthracene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Chrysene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Bis(2-Ethylhexyl)Phthalate		1.5 K	1.5 K			1.5 KJ	6.1 J	7.5
Di-N-Octylphthalate		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Benzo(B)Fluoranthene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Benzo(K)Fluoranthene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Benzo(A)Pyrene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Indeno(1,2,3-CD)Pyrene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Dibenzo(AH)Anthracene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Benzo(GHI)Perylene		1.5 K	1.5 K			1.5 KJ	1.5 KJ	1.5 K
Chloromethane		2 K	2 K		10 K	5 K	2 K	2 K
Bromomethane		2 K	2 K		10 K	2 KJ	2 K	2 K
Vinyl Chloride		2 K	10		10 K	2 K	2 K	2 K
Chloroethane		2 K	2 K		10 K	2 K	2 K	2 K
Methylene Chloride		5 KJ	24 J		25 K	5 K	5 K	5 K

Well	LC02 Dup	LC11	LC12	SL-26	G13S	G11S	G19D	G22D
Unit	Shallow Sand	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Lower Sand	Lower Sand	Lower Sand
TOC Elevation (ft msl)	590 68	593.5	592 71	596 77	594.31	589.65	590.55	595.55
Total Depth (ft)	14	19	15		12	15	43	48
Water Level (ft below TOC)	7.21	7.3	6		10 31	8.13	11.7	8.662
Water Column Height (ft)	6 79	11.7	9		1.69	6.87	31.3	39.34
PID Reading (ppm)	0	0	2		0	0	0	0

Acetone		10 K	10 K			10 K	10 K	
Trichlorofluoromethane		2 K	2 K		10 K	2 K	2 K	2 K
Bromochloromethane		2 KJ	2 KJ		10 K	2 K	2 K	2 K
Carbon Disulfide		2 K	2 K		10 K	2 K	2 K	2 K
1,1-Dichloroethylene		2 K	2 K		10 K	2 K	2 K	2 K
1,1-Dichloroethane		2 KJ	2 KJ		10 K	2 K	2 K	2 K
Trans-1,2-Dichloroethylene		2 K	2 K		10 K	2 K	2 K	2 K
Cis-1,2-Dichloroethylene		2 K	2 K		10 K	2 K	2 K	2 K
Chloroform		2 KJ	2 KJ		10 K	2 K	2 K	2 K
1,2-Dichloroethane		2 K	21		10 K	2 K	2 K	2 K
2-Butanone(MEK)		5 K	5 K			5 K	5 K	
1,1,1-Trichloroethane		2 KJ	2 KJ		10 K	2 K	2 K	2 K
Carbon Tetrachloride		2 K	2 K		10 K	2 K	2 K	2 K
Methyl Tert-Butyl Ether		2 K	2 K		10 K	2 K	2 K	2 K
Dichlorobromomethane		2 K	2 K		10 K	2 K	2 K	2 K
1,2-Dichloropropoane		2 K	2 K		10 K	2 K	2 K	2 K
Cis-1,3-Dichloropropene		2 K	2 K		10 K	2 K	2 K	2 K
Trichloroethylene		2 K	2 K		10 K	2 K	2 K	2 K
Chlorodibromomethane		2 K	2 K		10 K	2 K	2 K	2 K
1,1,2-Trichloroethane		2 K	2 K		10 K	2 K	2 K	2 K
Benzene		24	80		270	2 K	2 K	2 K
Trans-1,3-Dichloropropene		2 K	2 K		10 K	2 K	2 K	2 K
2-Chloroethylvinyl Ether								
Bromoform		2 K	2 K		10 K	2 K	2 K	2 K
4-Methyl-2-Pentanone (MIBK)		2 K	76		10 K	2 K	2 K	2 K
2-Hexanone (MBK)		2 K	2		10 K	2 K	2 K	2 K
Tetrachloroethylene		2 K	2 K		10 K	2 K	2 K	2 K
1,1,2,2-Tetrachloroethane		2 K	2 K		10 K	2 K	2 K	2 K
Toluene		2 K	8		260	2 K	2 K	2 K
Chlorobenzene		2.8	4		10 K	2 K	2 K	2 K
Ethylbenzene		2 K	7.4		16	2 K	2 K	2 K
Styrene		2 K	2 K		95	2 K	2 K	2 K
Xylene		2 K	38		370	2 K	2 K	2 K

K = Actual Value Not Known, but known to be le

J = Estimated Value

ATTACHMENT A

Well	G24D - A	G24D - B	G26D	G11B	G13B	G105B	G130B
Unit	Lower Sand	Lower Sand	Lower Sand	Bedrock	Bedrock	Bedrock	Bedrock
TOC Elevation (ft msl)	600.92	600.92	594.13	590.92	593.1	593.24	599.48
Total Depth (ft)			40	101	115	102	118
Water Level (ft below TOC)	6.6	6.6	11.75	10	81.1	36.9	78.7
Water Column Height (ft)			28.25	91	33.9	65.1	39.3
PID Reading (ppm)	0	0	0	0	0	0	0

Sample Date	31-Jul	31-Jul	31-Jul	31-Jul		31-Jul	
Sample Time	14:43	15:03	8:45	8:15		15:00	
Notes	Free Product	Free Product			NO SAMPLE	Incomplete	NO SAMPLE
	Paxton I	Paxton I	Paxton I	Paxton II	Paxton II	Paxton II	Paxton II
Severn Trent Services							
Tannin/ Lignin (mg/l) (LC06/LC02/LC11)							
Chemical Oxygen Demand (COD) (mg/L)	17000		340			670	
Organochlorine Pesticide Analysis (ug/L)							
beta-BHC	100 U		0.024 U	0.027 U			
delta-BHC	100 U		0.024 U	0.027 U			
Endosulfan I	100 U		0.024 U	0.027 U			
Endosulfan II	200 U		0.048 U	0.055 U			
Endosulfan sulfate	200 U		0.048 U	0.055U			
Methoxychlor	1000 U		0.24 U	0.27 U			
Endrin aldehyde	200 U		0.048 U	0.055U			
Endrin ketone	200 U		0.048 U	0.055U			
SVOCs (ug/L)							
1,2-Diphenylhydrazine	5000 U		9.5 U				
n-Nitrosodiphenylamine	5000 U		9.5 U				
Benzidine	50000 U		95 U				
1,4-Dioxane	20000 U		38 U				
n-Nitrosodiethylamine	10000 U		19 U				
VOCs (ug/L)							
Acrolein	2000000 U	2000000 U	200 U			200 U	
Acetonitrile	400000 U	400000 U	40 U			40 U	
2-Chloroethylvinylether	50000 U	20000 U	2 U			2.0 U	
1,3-Butadiene	50000 U	10000 U	1 U			1.0 U	

Well	G24D - A	G24D - B	G26D	G11B	G13B	G105B	G130B
Unit	Lower Sand	Lower Sand	Lower Sand	Bedrock	Bedrock	Bedrock	Bedrock
TOC Elevation (ft msl)	600.92	600.92	594.13	590.92	593.1	593.24	599.48
Total Depth (ft)			40	101	115	102	118
Water Level (ft below TOC)	6.6	6.6	11.75	10	81.1	36.9	78.7
Water Column Height (ft)			28.25	91	33.9	65.1	39.3
PID Reading (ppm)	0	0	0	0	0	0	0

VOC TIC (ug/L)							
Benzene, 1-ethyl-2-methyl-							
U - Analyte was not detected at or above the st							
M - Manually integrated compound.							
IEPA - INORGANICS							
ph - lab, >2 Hours	7.2		8				
Fluoride, Total mg/L	0.43		0.52				
Sulfate, Total mg/L							
Ammonia - N, Total mg/L	800		16				
Phosphate - O AS PO4 mg/L			0.47				
Orthophosphate							
BOD 5 DAY mg/L	1180		32				
Kjeldahl-N, Total mg/L	1080		55				
Chromium, Hex ug/L	50K		50K				
Magnesium, T mg/L	360		83				
Mercury, T ug/L			0.10K				
Potassium, T mg/L	550		23				
Antimony, T ug/L	25		14K				
Barium, T ug/L	780		300				
Beryllium, T ug/L	1.0K		1.0K				
Chromium, T ug/L	1300		12				
Cobalt, T ug/L	22		7.3				
Lead, T ug/L	260		31				
Nickel, T ug/L	170		18				
Silver, T ug/L	5.0K		5.0K				
Thallium, T ug/L	31K		31K				
Zinc, T ug/L	1900		110				
TDS @1800 (ROE) mg/L	8830		1470				
Chloride, Total mg/L	3680		579				
Nitrate & NO2 - Ntotal mg/L	0.42		0.31				
Phosphorous - P, Total mg/L	2.01		0.93				
Cyanide, T mg/L	0.01		0.02				
Solids, TOT. SUS. Mg/L	4790		196				
Oil, Gravimetric mg/L	200		5.5				

Well	G24D - A	24D - B	G26D	G11B	13B	G105B	G130B
Unit	Lower Sand	Lower Sand	Lower Sand	Bedrock	Bedrock	Bedrock	Bedrock
TOC Elevation (ft msl)	600.92	600.92	594.13	590.92	593.1	593.24	599.48
Total Depth (ft)			40	101	115	102	118
Water Level (ft below TOC)	6.6	6.6	11.75	10	81.1	36.9	78.7
Water Column Height (ft)			28.25	91	33.9	65.1	39.3
PID Reading (ppm)	0	0	0	0	0	0	0

Calcium, T mg/L	260		120				
Sodium, T mg/L	3400J		440J				
Aluminum, T ug/L	11000		5700				
Arsenic, T ug/L	10K		10K				
Boron, T ug/L	3900		[illegible]				
Cadmium, T ug/L	61		**5.0K**				
Copper, T ug/L	150		16				
Iron, T ug/L	9200		[illegible]				
Manganese, T ug/L	**1000**		**270**				
Selenium, T ug/L	30K		30K				
Strontium, T ug/L	1400		4100				
Vanadium, T ug/L	37		12				
IEPA - SVOCs/VOCs/Pest (ug/L)							
Hexachlorobenzene	1500 K	2.0 K	0.01 K	0.01 K			
Trifluralin	3000 K	3	0.01 K	0.01 K			
Alpha-BHC	1500 K	2.0 K	0.01 K	0.01 K			
Gamma-BHC (Lindane)	1500 K	2.0 K	0.01 K	0.01 K			
Atrazine	15000 K	20 K	0.1 K	0.1 K			
Heptachlor	1500 K	2.0 K	0.01 K	0.01 K			
Aldrin	1500 K	2.0 K	0.01 K	0.01 K			
Acetochlor	7500 K	20 K	0.1 K	0.1 K			
Alachlor	3000 K	4.0 K	0.02 K	0.02 K			
Metribuzin	3000 K	10 K	0.05 K	0.05 K			
Metolachlor	7500 K	20 K	0.1 K	0.1 K			
Heptachlor Epoxide	1500 K	2.0 K	0.01 K	0.01 K			
Pendimethalin	3000 K	10 K	0.05 K	0.05 K			
Gamma-Chlordane	3000 K	2.0 K	0.01 K	0.01 K			
Alpha-Chlordane	3000 K	2.0 K	0.01 K	0.01 K			
Total Alpha and Gamma Chlordane	1500 K	20 K	0.1 K	0.1 K			
Dieldrin	1500 K	2.0 K	0.01 K	0.01 K			
Captan	3000 K	10 K	0.05 KJ	0.05 K			
Cyanazine	7500 K	20 K	0.1 K	0.1 K			
Endrin	1500 K	2.0 K	0.01 K	.01 K			
P,P'-DDE		2.0 K	0.01 K	0.01 K			
P,P'-DDD	1500 K	[illegible]	0.01 K	0.01 K			

Well	G24D - A	G24D - B	G26D	G11B	G13B	G105B	G130B
Unit	Lower Sand	Lower Sand	Lower Sand	Bedrock	Bedrock	Bedrock	Bedrock
TOC Elevation (ft msl)	600.92	600.92	594.13	590.92	593.1	593.24	599.48
Total Depth (ft)			40	101	115	102	118
Water Level (ft below TOC)	6.6	6.6	11.75	10	81.1	36.9	78.7
Water Column Height (ft)			28.25	91	33.9	65.1	39.3
PID Reading (ppm)	0	0	0	0	0	0	0
P,P'-DDT	1500 K	2.0 K	0.02 J	0.01 K			
Total DDT		20 K	0.1 K	0.1 K			
Methoxychlor	7500 K	10 K	0.05 K	0.05 K			
Total PCBs	11000	52	0.1 K	0.1 K			
Toxaphene	30000 K	200 K	1.0 K	1.0 K			
Phenol	140 K	30 KJ	2.4 KJ	1.5 K			
Bis(2-Chloroethyl)Ether	140 K	30 KJ	2.4 KJ	1.5 K			
2-Chlorophenol	140 K	30 KJ	2.4 KJ	1.5 K			
1,3-Dichlorobenzene	140 K	30 KJ	2.4 KJ	1.5 K			
1,4-Dichlorobenzene	140 K	67 J	2.4 KJ	1.5 K			
1,2-Dichlorobenzene	140 K	30 KJ	2.4 KJ	1.5 K			
2-methylphenol	140 K	30 KJ	2.4 KJ	1.5 K			
Bis(2-Chloroisopropyl) Ether	140 K	30 KJ	2.4 KJ	1.5 K			
4-Methylphenol	140 K	30 KJ	2.4 KJ	1.5 K			
N-Nitroso-Di-N-Propylamine	140 K	30 KJ	2.4 KJ	1.5 K			
Hexachloroethane	140 K	30 KJ	2.4 KJ	1.5 K			
Nitrobenzene	140 K	30 KJ	2.4 KJ	1.5 K			
Isophorone	140 K	30 KJ	2.4 KJ	1.5 K			
2-Nitrophenol	140 K	30 KJ	2.4 KJ	1.5 K			
2,4-Dimethylphenol	140 K	30 KJ	2.4 KJ	1.5 K			
Bis(2-chloroethoxy)Methane	140 K	30 KJ	2.4 KJ	1.5 K			
2,4-Dichlorophenol	140 K	30 KJ	2.4 KJ	1.5 K			
1,2,4-trichlorobenzene	140 K	30 KJ	2.4 KJ	1.5 K			
Naphthalene	360	20	2.4 KJ	1.5 K			
4-Chloroaniline	140 K	30 KJ	2.4 KJ	1.5 K			
Hexachlorobutadiene	140 K	30 KJ	2.4 KJ	1.5 K			
4-Chloro-3-Methylphenol	140 K	30 KJ	2.4 KJ	1.5 K			
2-methylnaphthalene	6500	16000 J	2.4 KJ	1.5 K			
Hexachlorocyclopentadiene		30 KJ	2.4 KJ				
2,4,6-Trichlorophenol	140 K	30 KJ	2.4 KJ	1.5 K			
2,4,5-Trichlorophenol	140 K	30 KJ	2.4 KJ	1.5 K			
2-chloronaphthalene	140 K	30 KJ	2.4 KJ	1.5 K			
2-Nitroaniline	140 K	30 KJ	2.4 KJ	1.5 K			
Dimethylphthalate	140 K	30 KJ	2.4 KJ	1.5 K			
Acenaphthylene	140 K	30 KJ	2.4 KJ	1.5 K			
2,6-Dinitrotoluene	140 K	30 KJ	2.4 KJ	1.5 K			

Well	G24D - A	G24D - B	G26D	G11B	G13B	G105B	G130B
Unit	Lower Sand	Lower Sand	Lower Sand	Bedrock	Bedrock	Bedrock	Bedrock
TOC Elevation (ft msl)	600.92	600.92	594.13	590.92	593.1	593.24	599.48
Total Depth (ft)			40	101	115	102	118
Water Level (ft below TOC)	6.6	6.6	11.75	10	81.1	36.9	78.7
Water Column Height (ft)			28.25	91	33.9	65.1	39.3
PID Reading (ppm)	0	0	0	0	0	0	0
3-Nitroaniline	140 K	30 KJ	2.4 KJ	1.5 K			
Acenaphthene	140 K	30 KJ	2.4 KJ	1.5 K			
2,4-Dinitrophenol		100 KJ					
4-Nitrophenol	140 K	30 KJ	2.4 KJ	1.5 K			
Dibenzofuran	280	650 J	2.4 KJ	1.5 K			
2,4-Dinitortoluene	140 K	30 KJ	2.4 KJ	1.5 K			
Diethylphthalate	140 K	30 KJ	2.4 KJ	1.5 K			
4-chlorophenyl Phenyl Ether	140 K	30 KJ	2.4 KJ	1.5 K			
Fluorene	710	160	2.4 KJ	1.5 K			
4-Nitroaniline	140 K	30 KJ	2.4 KJ	1.5 K			
4,6-Dinitro-2-Methylphenol		30 KJ		1.5 K			
4-Bromophenyl Phenyl Ether	140 K	30 KJ	2.4 KJ	1.5 K			
Hexachlorobenzene	140 K	30 KJ	2.4 KJ	1.5 K			
Pentachlorophenol	140 K	100 KJ		1.5 K			
Phenanthrene	1800	4600 J	2.4 KJ	1.5 K			
Anthracene	140 K	220 J	2.4 KJ	1.5 K			
Di-N-Butylphthlate	140 K	30 KJ	2.4 KJ	1.5 K			
Fluoranthene	140 K	190 J	2.4 KJ	1.5 K			
Pyrene	200	390 J	2.4 KJ	1.5 K			
Butyl Benzyl Phthalate	140 K	42 J	2.4 KJ	1.5 K			
3,3'-Dichlorobenzidine	140 K	30 KJ	2.4 KJ	1.5 K			
Benzo(a)anthracene	140 K	[illegible]	2.4 KJ	1.5 K			
Chrysene	140 K	[illegible]	2.4 KJ	1.5 K			
Bis(2-Ethylhexyl)Phthalate	2300	[illegible]	2.4 KJ	1.5 K			
Di-N-Octylphthalate	510	940 J	2.4 KJ	1.5 K			
Benzo(B)Fluoranthene	140 K	[illegible]	2.4 KJ	1.5 K			
Benzo(K)Fluoranthene	140 K	30 KJ	2.4 KJ	1.5 K			
Benzo(A)Pyrene	140 K	[illegible]	2.4 KJ	1.5 K			
Indeno(1,2,3-CD)Pyrene	140 K	30 KJ	2.4 KJ	1.5 K			
Dibenzo(AH)Anthracene	140 K	30 KJ	2.4 KJ	1.5 K			
Benzo(GHI)Perylene	140 K	30 KJ	2.4 KJ	1.5 K			
Chloromethane	10 K	2 K	2 K	2 K		2 K	
Bromomethane	10 K	2 K	2 K	2 KJ		2 K	
Vinyl Chloride	10 K	2 K	2 K	2 K		2 K	
Chloroethane	10 K	2 K	2 K	2 K		2 K	
Methylene Chloride	25 K	5 K	5 KJ	5 K		2 K	

Well	G24D - A	G24D - B	G26D	G11B	G13B	G105B	G130B
Unit	Lower Sand	Lower Sand	Lower Sand	Bedrock	Bedrock	Bedrock	Bedrock
TOC Elevation (ft msl)	600.92	600.92	594.13	590.92	593.1	593.24	599.48
Total Depth (ft)			40	101	115	102	118
Water Level (ft below TOC)	6.6	6.6	11.75	10	81.1	36.9	78.7
Water Column Height (ft)			28.25	91	33.9	65.1	39.3
PID Reading (ppm)	0	0	0	0	0	0	0

Acetone		16	10 K	20		13 J#	
Trichlorofluoromethane	10 K	2 K	2 K	2 K		2 K	
Bromochloromethane	10 K	2 KJ	2 KJ	2 K		2 K	
Carbon Disulfide	10 K	2 K	2 K	2 K		2 K	
1,1-Dichloroethylene	10 K	2 K	2 K	2 K		2 K	
1,1-Dichloroethane	10 K	2 K	2 KJ	2 K		2 K	
Trans-1,2-Dichloroethylene	10 K	2 K	2 K	2 K		2 K	
Cis-1,2-Dichloroethylene	10 K	2 K	2 K	2 K		2 K	
Chloroform	10 K	2 K	2 KJ	2 K		2 K	
1,2-Dichloroethane	10 K	2 KJ	2 K	2 K		2 K	
2-Butanone(MEK)			5 K	5.2			
1,1,1-Trichloroethane	10 K	2 K	2 KJ	2 K		2 K	
Carbon Tetrachloride	10 K	2 KJ	2 K	2 K		2 K	
Methyl Tert-Butyl Ether	10 K	2 K	2 K	2 K		2 K	
Dichlorobromomethane	10 K	2 K	2 K	2 K		2 K	
1,2-Dichloropropoane	10 K	2 K	2 K	2 K		2 K	
Cis-1,3-Dichloropropene	10 K	2 K	2 K	2 K		2 K	
Trichloroethylene	10 K	2 KJ	2 K	2 K		2 K	
Chlorodibromomethane	10 K	2 K	2 K	2 K		2 K	
1,1,2-Trichloroethane	10 K	2 KJ	2 K	2 K		2 K	
Benzene	44	[illegible]	2 K	2 K		2 K	
Trans-1,3-Dichloropropene	10 K	2 KJ	2 K	2 K		2 K	
2-Chloroethylvinyl Ether							
Bromoform	10 K	2 K	2 K	2 K		2 K	
4-Methyl-2-Pentanone (MIBK)	10 K	2 K	2 K	2 K		2 K	
2-Hexanone (MBK)	10 K	2 K	2 K	2 K		2 K	
Tetrachloroethylene	10 K	2 KJ	2 K	2 K		2 K	
1,1,2,2-Tetrachloroethane	10 K	2 K	2 K	2 K		2 K	
Toluene	10 K	6.4 J	2 K	2 K		2 K	
Chlorobenzene	10 K	9.9 J	2 K	2 K		2 K	
Ethylbenzene	33	190 J	2 K	2 K		2 K	
Styrene	10 K	2 KJ	2 K	2 K		2 K	
Xylene	190	200 J	2 K	2 K		2 K	

K = Actual Value Not Known, but known to be le

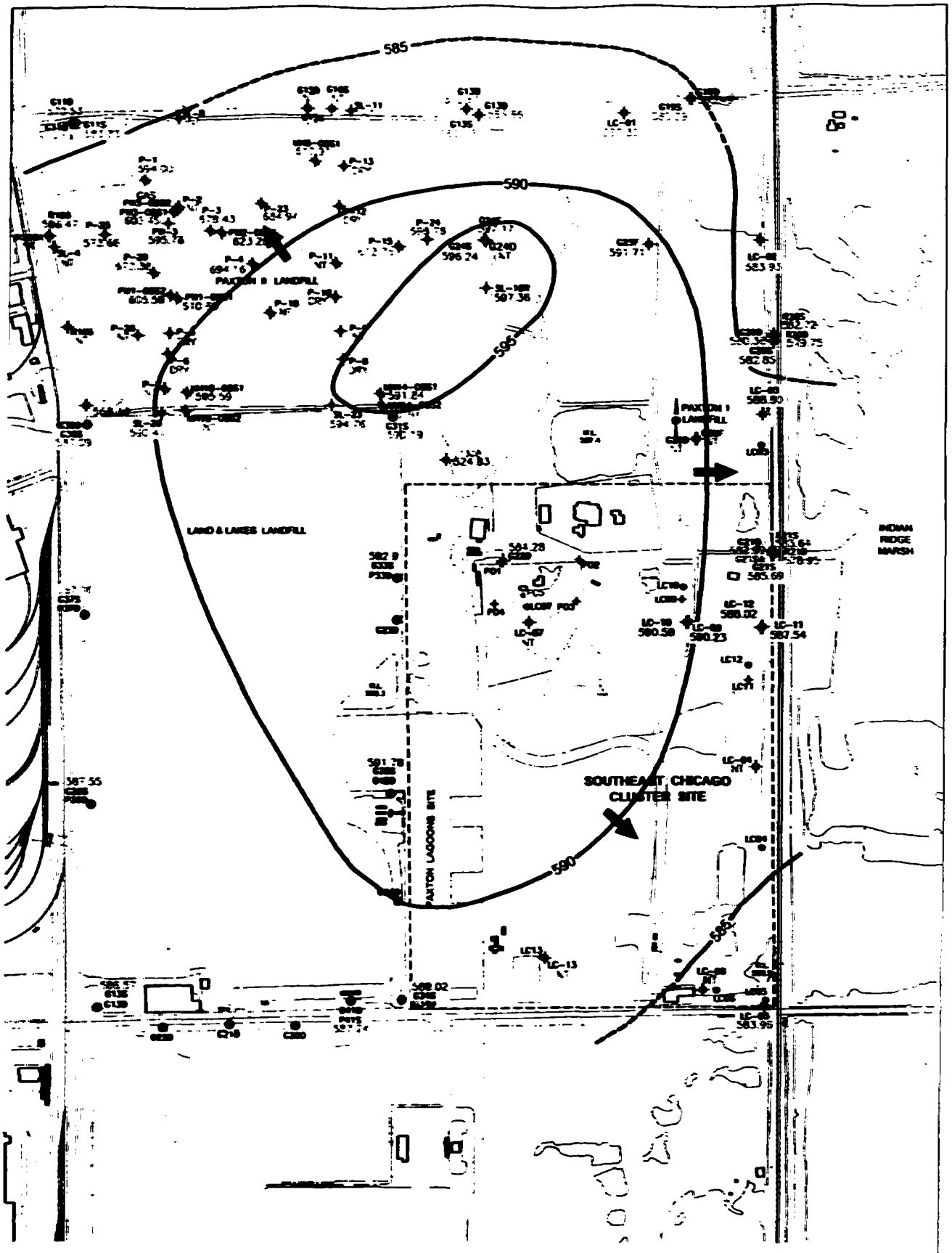
J = Estimated Value

ATTACHMENT B

PAXTON II LANDFILL PEI PROJ. NO. 7047.A9-1
GROUNDWATER SAMPLING -- JULY 2002

Unit	Well	TOC Elevation (ft msl)	Total Depth (ft)	Water Level (ft below TOC)	Water Column Height (ft)	Gallons to purge	Bails to Purge	PID Reading (ppm)	NOTES:
					(COL = TD-WL)	(GAL = COL*.51)[1]	(BAIL = GAL/0.23)[2]		
Shallow Fill	LC01	593.38	15.00	8.74	6.26	3.19	13.88	2.4	
	LC03	593.31	14.50	5.61	8.89	4.53	19.71	0	
	LC04	593.42	15.00	5.65	9.35	4.77	20.73	0	
	LC05	594.32	15.00	10.95	4.05	2.07	8.98	0	
	LC06	591.48	15.00	4.35	10.65	5.43	23.62	3.2	
	LC07	596.33	14.00						Could not access. Not sampled.
	LC09	595.00	20.00	6.16	13.84	7.06	30.69	0	
	LC10	594.98	15.00	6.1	8.90	4.54	19.73	0	
	LC13	594.13	15.00	4.45	10.55	5.38	23.39	0	
	G26F	594.99	10.00	7	3.00	1.53	6.65	1.1	
	SL-16R	603.74	15.00	6.8	8.20	4.18	18.18	19.8	
Shallow Sand/ Silty Clay	LC02	590.68	14.00	7.21	6.79	3.46	15.06	0	
	LC11	593.50	19.00	7.3	11.70	5.97	25.94	0	
	LC12	592.71	15.00	6	9.00	4.59	19.96	2	
	SL-26	596.77							Damaged. Could not sample.
	G13S	594.31	12.00	10.31	1.69	0.86	3.75	0	
Lower Sand	G11S	589.65	15.00	8.13	6.87	3.50	15.23	0	Bailed dry after 10 bails removed.
	G19D	590.55	43.00	11.7	31.30	15.96	69.40	0	Bailed dry after 16 bails removed.
	G22D	595.55	48.00	8.662	39.34	20.06	87.23	0	Bailed dry with pump after 9 gallons removed.
	G24D	600.92	unknown	6.6				0	Free Product. Well not purged per IEPA instructions.
	G26D	594.13	40.00	11.75	28.25	14.41	62.64	0	
Bedrock	G11B	590.92	101.00	10	91.00	46.41	201.78	0	Bailed dry with pump and bailers. Hand bailed by IEPA staff.
	G13B	593.10	115.00	81.1	33.90	17.29	75.17	0	Damaged. Could not advance bailer into well.
	G105B	593.24	102.00	36.9	65.10	33.20	144.35	0	Top of casing damaged. No cap on well casing.
	G130B	599.48	118.00	78.7	39.30	20.04	87.14	0	Damaged. Could not advance bailer into well.

[1]Gallons to purge to remove three well volumes = 3(7.48*pi*r²*Col height). Equation above assumes a 2"ID well casing.
[2]Equation assumes a 3' long, 1.5" OD bailer.



Clayton

REGIONAL GROUNDWATER CONTOUR MAP

SOUTHEAST CHICAGO CLUSTER SITES

FIGURE