Tables

Table 2-1
Constituents Detected in Soil
Arkema Portland Plant Remedial Investigation

Analyte	Number of Analyses	Percent Detections	Maximum Concentration (mg/kg)	Location of Maximum Value	Depth (ft bgs)
4,4'-DDT	105	86	150,000	RP-SB-01	8.5
Chlorobenzene	35	83	43,000	RP-SB-18	10
Acetone	22	55	1,300 *J*	GA-SB-03	10
1,2-Dichlorobenzene	13	54	1.3	RP-SB-01	4
Methylene Chloride[1]	22	41	0.055[1]	NA	NA
1,4-Dichlorobenzene	13	38	0.1	RP-SB-01	4
4,4'-DDD	105	17	690	RP-SB-18	10
4,4'-DDE	105	17	83	RP-SB-18	10
Chloroform	22	14	0.35	RP-SB-17	20
Tetrachloroethene	22	9	0.31	RP-SB-17	20
Total Xylenes	35	9	0.011	RP-SB-13	4.7
1,3-Dichlorobenzene	13	8	0.051	RP-SB-01	4
2-Butanone (MEK)	22	5	0.016	GA-MWA-2	24
gamma-BHC	79	3	0.007	GA-SB-05	4
alpha-Endosulfan[2]	68	1	0.0035	GA-SB-05	2
Endosulfan II[2]	79	1	0.033	GA-SB-05	2

Notes:
NA - Not Applicable
Qualifier : *J* - estimated
[1]Suspected analytical laboratory contaminant.
[2]Values presented in table are based on Endosulfan.

Table 2-2
Constituents Detected in Groundwater - Phase 1 and 2 Site Characterization
Arkema Portland Plant Remedial Investigation

Analyte	Number of Analyses	Percent Detections	Maximum Concentration (µg/L)	Location of Maximum Value	
				Monitoring Well	Sample Event
Chlorobenzene	20	75	21,000	MWA-1	May-98
Chloroform	20	60	600	MWA-2	Jan-97
Tetrachloroethene	20	50	59	MWA-2	Jan-97
4,4'-DDE	20	45	2.1	MWA-4	Sep-97
4,4'-DDD	20	45	6.8	MWA-4	Jan-97
gamma-BHC	20	35	0.6	MWA-4	Jan-97
Trichloroethane	20	30	6	MWA-2	Jan-97
Acetone	20	20	690	MWA-1	Jan-97
cis-1,2-Dichloroethene	20	15	6	MWA-2	Jan-97
Carbon Tetrachloride	20	15	120	MWA-2	Jan-97
beta-BHC	20	10	0.28 *J*	MWA-1	May-98
4,4'-DDT	20	10	0.13	MWA-3/MWA-4	Jun-97/Mar-97
Total Xylenes	20	5	9	MWA-3	Sep-97
Endosulfan II	20	5	0.75	MWA-4	Jan-97
Bromodichloromethane	20	5	0.7	MWA-3	May-98
alpha-BHC	20	5	0.05 *J*	MWA-2	May-98
Phenol	4	25	75	MWA-1	May-98
2-Chlorophenol	4	25	78	MWA-1	May-98
3- and 4-Clorophenol	4	25	80	MWA-1	May-98
3- and 4-Methylphenol	4	25	16	MWA-1	May-98

Notes:
Source: CH2M Hill 1997
NA - Not Applicable
Qualifier : *J* - estimated
[1]Not including sample duplicates.

Table 3-1
Summary of Source Areas
Arkema Portland Plant Remedial Investigation

Area of Investigation	Potential Source Areas	Period of Operation	Constituents of Interest	Source of Investigation Findings
Acid Plant Area	MPR Pond and Trench	1948-1954 (Pond) 1951-1954 (Trench)	MCB, DDT, DDD, DDE, and Chloroform	*Phase 2 Site Characterization Report* (CH2M Hill 1997); *Voluntary Cleanup Program Quarterly Progress Reports* prepared by Arkema (1999 through Present); *Elf Atochem Acid Plant Area Remedial Investigation Interim Data Report* (Exponent 1999); *Interim Remedial Measures Implementation Report* (ERM 2001); *Residual Dense Non-Aqueous Phase Liquid Investigation (Phase I), Acid Plant Area* (ERM 2002); *Phase II Residual Dense Non-Aqueous Phase Liquid Investigation (Intermediate Zone Sampling), Acid Plant Area* (ERM 2002), *Phase II Soil Interim Remedial Measure* (ERM 2002); *Confirmation Soil Sampling Summary Report* (ERM 2003); *Phase II Stage 1 & 2 In-River Groundwater and Sediment Investigation Report* (Exponent 2003); *Dense Non-Aqueous Phase Liquid Remediation Pilot Study Completion Report* (ERM 2004)
	DDT Process Building	1947-1954	MCB, DDT, DDD, DDE, and Chloroform	
		1958-1962	Ammonium Perchlorate	
	MCB Recovery Unit	1950-1954	MCB, DDT, DDD, DDE, and Chloroform	
	DDT Dry Storage Area	1947-1954	DDT, DDD, and DDE	
	DDT Loading Areas	1947-1954	DDT, DDD, and DDE	
	Fill Riverward of Trench	N/A	Pesticides, Metals, SVOCs	
	Surface Soil in General Acid Plant Area	N/A	DDT, DDD, and DDE	
Chlorate Plant Area	Chlorate Cell Room	1941-2001	Sodium Bichromate (Hexavalent Chromium), Sodium Perchlorate, Chloride	*Voluntary Cleanup Program Quarterly Progress Reports* prepared by Arkema (1999 through Present); *Hexavalent Chromium Reduction Pilot Study Completion Report* (ERM 2004)
	Chlorate Process Building	1941-2001	Sodium Bichromate (Hexavalent Chromium), Sodium Perchlorate, Chloride	
	Chlorate Warehouse	1941-2001	Sodium Bichromate (Hexavalent Chromium), Sodium Perchlorate, Chloride	
	Chlorate Tank Farm	1941-2001	Sodium Bichromate (Hexavalent Chromium), Sodium Perchlorate, Chloride	
Salt Pads	Salt Pads	1941-2001	Sodium Chloride	*Voluntary Cleanup Program Quarterly Progress Reports* prepared by Arkema (1999 through Present); *Hexavalent Chromium Reduction Pilot Study Completion Report* (ERM 2004)
Old Caustic Tank Farm	Old Caustic Tank Farm	1946-1996	Sodium Hydroxide (Caustic), Total Petroleum Hydrocarbons (TPH), DDT, DDD, and DDE.	*Soil Sampling and Analysis Report - Old Caustic Tank Farm* (ERM 2004)
Ammonia Plant	Ammonia Plant	mid-1950's-1990	Ammonia	*Voluntary Cleanup Program Quarterly Progress Reports* prepared by Arkema (1999 through Present)
Concrete Transformer Pads	Various Transformer Pads	1941-2001	Polychlorinated Biphenyls (PCBs)	*Sampling Summary Report - Former Transformer Pads* (ERM 2004)
BPA Main Substation	Various Transformer Pads	1954-2001	Polychlorinated Biphenyls (PCBs)	*Phase II Environmental Site Assessment for Bonneville Power Administration - Pennwalt Substation* (PBS 2002)
Storm Water Drain System	Storm Water Drain System	1941-Present	Pesticides, Metals, VOCs, SVOCs, Perchlorate, Chloride	*Stormwater Characterization Report* (Arkema 2005)

Table 3-2
Summary of Investigations
Arkema Portland Plant Remedial Investigation

Investigation	Area of Investigation	Date(s)	Boreholes Drilled/Wells Installed
Phase 1 Site Characterization (Pre-Remedial Investigation)	Former MPR Pond; DDT Dry Storage Area; General Acid Plant Area	1994	15 Soil Borings: RP-SB-01 through RP-SB-15 6 Test Pits: GA-TP-01 through GA-TP-06 4 Direct-push Groundwater Sample Borings: GW-01 through GW-04
Phase 2 Site Characterization (Pre-Remedial Investigation)	Former MPR Pond and Trench; General Acid Plant Area; Shallow Groundwater Zone	1996	33 Soil Borings: RP-SB-16 through RP-SB-37 and GA-SB-01 through GA-SB-11 14 Direct-push Groundwater Sample Borings: GW-05 through GW-18 3 Cone Penetrometer Test (CPT) Borings: CPT-1 through CPT-3 4 Monitoring Wells: MWA-1 through MWA-4
Remedial Investigation	Acid Plant Area	1998 through 2005	48 Soil Borings: B-49 through B-67 and B-91 through B-115 and US-01 through US-03 8 Surface Soil Sample Locations: S-1 through S-8 12 Riverbank Soil Sample Locations: RB-1 through RB-12 20 Montoring Well Borings: MWA-5 through MWA-22
	Chlorate Plant Area	2001 through 2005	28 Soil sampling borings: B-68 through B-90 and B-116 through B-118 12 Monitoring well borings: MWA-23 through MWA-34i
Remedial Investigation	Ammonia Plant	June 2002	1 Direct-push Groundwater Sample Boring: B-119
Phase I Soil Removal Interim Remedial Measure	Acid Plant Area Vadose Zone Soil	May and July 2000	57 Soil Sampling Borings: IB-1 through IB-67
Phase II Soil Removal Interim Remedial Measure	Acid Plant Area Vadose Zone Soil	August 2001 and May 2002	24 Soil Sampling Borings: IB-73 through IB-96
Phase I DNAPL Investigation	Acid Plant Area Shallow Groundwater Zone	February 2002	19 CPT Borings: APMIP-1 through APMIP-19 17 Membrane Interface Probe (MIP) Borings (at 17 of the 19 CPT locations) 12 Direct-push Groundwater Sampling Borings (at 12 of the 19 CPT locations)
Phase II DNAPL Investigation	Acid Plant Area Intermediate Groundwater Zone	June and July 2002	7 Direct-push Borings: INT-4, -5, -7, -9, -10, -11, -12
BPA Main Substation	BPA Main Substation Soil	March through October 2002	54 Soil Sampling Locations (Various sample location identifiers; see Figure 3-14)
Hexavalent Chromium Reduction Pilot Study	Chlorate Plant Area Groundwater	December 2003	4 Performance Monitoring Wells: MWA-35 through MWA-38 5 Injection Wells: IW-1 through IW-5
Vadose Zone Vapor Extraction System (VES)	Acid Plant Area Vadose Zone Soil	June 2000 to May 2003	8 Hand Auger Soil Borings: AP-1 through AP-8 24 Vapor Monitoring Point Borings: VP-1 through VP-24 15 Confirmation Soil Sampling Borings: CS-1 and CS-15
DNAPL Pilot Study	Acid Plant Area Shallow Groundwater Zone	2003	6 Vapor Monitoring Point Borings: VP-25 through VP-30 3 Performance Monitoring Wells: PMP-1 through PMP-3 2 Air Sparging Wells: AS-1 through AS-2 2 Soil Vapor Extraction Wells: SVE-1 through SVE-2
Persulfate Oxidation Pilot Study	Acid Plant Area Shallow Groundwater Zone	2001	12 Performance Monitoring Wells: NMP-1S and -1D through NMP-6S and -6D
Old Caustic Tank Farm	Old Caustic Tank Farm Shallow Soil	2003-2004	9 Tank Base Composite Sampling Locations: OCTF-1 through OCTF-9 4 Discrete Soil Sample Locations: OCTF-10 through OCTF-13

Table 3-3
Summary of Investigative Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
US-01	Acid Plant Area	Acid Plant RI	01/04/99	4.0	DP	X	X												
US-02	Acid Plant Area	Acid Plant RI	01/04/99	4.0	DP	X	X												
US-03	Acid Plant Area	Acid Plant RI	01/04/99	4.0	DP	X	X												
B-49	Acid Plant Area	Acid Plant RI	01/04/99	8.0	DP	X	X	X											
B-50	Acid Plant Area	Acid Plant RI	01/04/99	8.0	DP	X	X	X											
B-51	Acid Plant Area	Acid Plant RI	01/04/99	8.0	DP	X	X	X											
B-51b	Acid Plant Area	Acid Plant RI	01/04/99	2.0	DP	X													
B-52	Acid Plant Area	Acid Plant RI	01/04/99	8.0	DP	X	X	X											
B-53	Acid Plant Area	Acid Plant RI	01/13/99	30.0	HSA	X	X	X											
B-54	Acid Plant Area	Acid Plant RI	01/19/99	10.0	DP	X	X	X											
B-55	Acid Plant Area	Acid Plant RI	01/19/99	25.0	DP	X	X	X											X
B-56	Acid Plant Area	Acid Plant RI	01/19/99	25.0	DP	X	X	X											X
B-57	Acid Plant Area	Acid Plant RI	08/03/99	8.0	DP	X	X												
B-58	Acid Plant Area	Acid Plant RI	08/03/99	8.0	DP	X	X												
B-59	Acid Plant Area	Acid Plant RI	08/03/99	24.0	DP	X													X
B-60	Acid Plant Area	Acid Plant RI	07/18/00	21.0	DP	X													X
B-61	Acid Plant Area	Acid Plant RI	07/17/00	29.0	DP	X	X												X
B-62	Acid Plant Area	Acid Plant RI	07/17/00	6.0	DP	X	X												
B-63	Acid Plant Area	Acid Plant RI	07/17/00	10.0	DP	X													
B-64	Acid Plant Area	Acid Plant RI	07/17/00	17.0	DP	X													X
B-65	Acid Plant Area	Acid Plant RI	05/02/01	27.0	DP	X	X												X
B-66	Acid Plant Area	Acid Plant RI	05/02/01	14.0	DP	X	X												
B-67	Acid Plant Area	Acid Plant RI	05/02/01	30.0	DP	X													X
B-91	Acid Plant Area	Acid Plant RI	11/02/01	4.0	DP	X	X	X											
B-92	Acid Plant Area	Acid Plant RI	11/02/01	4.0	DP	X	X	X											
B-93	Acid Plant Area	Acid Plant RI	11/02/01	4.0	DP	X	X	X											
B-94	Acid Plant Area	Acid Plant RI	11/02/01	4.0	DP	X	X	X											
B-95	Acid Plant Area	Acid Plant RI	11/02/01	4.0	DP	X	X	X											
B-96	Acid Plant Area	Acid Plant RI	11/02/01	4.0	DP	X	X	X											
B-97	Acid Plant Area	Acid Plant RI	11/02/01	7.5	DP	X	X	X											
B-98	Acid Plant Area	Acid Plant RI	11/02/01	7.5	DP	X	X	X											
B-99	Acid Plant Area	Acid Plant RI	11/02/01	7.5	DP	X	X	X											
B-100	Acid Plant Area	Acid Plant RI	11/05/01	20.0	DP	X	X	X											
B-101	Acid Plant Area	Acid Plant RI	11/05/01	20.0	DP	X	X	X											
B-102	Acid Plant Area	Acid Plant RI	12/19/01	4.0	DP		X												
B-103	Acid Plant Area	Acid Plant RI	12/19/01	4.0	DP		X												
B-104	Acid Plant Area	Acid Plant RI	12/18/01	16.0	DP	X	X												
B-105	Acid Plant Area	Acid Plant RI	12/19/01	4.0	DP		X												
B-106	Acid Plant Area	Acid Plant RI	12/19/01	4.0	DP		X												
B-107	Acid Plant Area	Acid Plant RI	12/19/01	4.0	DP		X												
B-108	Acid Plant Area	Acid Plant RI	12/17/01	4.0	DP		X												
B-109	Acid Plant Area	Acid Plant RI	12/17/01	4.0	DP		X												
B-110	Acid Plant Area	Acid Plant RI	12/20/01	10.5	HSA	X	X	X											
B-111	Acid Plant Area	Acid Plant RI	12/20/01	10.0	HSA	X	X	X											
B-112	Acid Plant Area	Acid Plant RI	12/18/01	8.0	DP		X												
B-113	Acid Plant Area	Acid Plant RI	12/18/01	8.0	DP		X												
B-114	Acid Plant Area	Acid Plant RI	12/18/01	8.0	DP		X												
B-115	Acid Plant Area	Acid Plant RI	12/18/01	8.0	DP		X												
MWA-5	Acid Plant Area	Acid Plant RI	01/12/99	39.0	HSA	X													
MWA-6	Acid Plant Area	Acid Plant RI	01/13/99	36.0	HSA	X													
MWA-6r	Acid Plant Area	Acid Plant RI	08/05/99	33.5	HSA	X													
MWA-7	Acid Plant Area	Acid Plant RI	01/12/99	33.0	HSA	X													
MWA-8i	Acid Plant Area	Acid Plant RI	11/12/98	47.3	CT	X	X	X									X		
MWA-9i	Acid Plant Area	Acid Plant RI	11/18/98	46.5	CT	X											X		
MWA-10i	Acid Plant Area	Acid Plant RI	11/24/98	45.6	CT	X											X		
MWA-11i	Acid Plant Area	Acid Plant RI	12/03/98	51.3	CT	X	X	X									X		
MWA-12i	Acid Plant Area	Acid Plant RI	11/05/98	52.3	CT	X											X		
MWA-13d	Acid Plant Area	Acid Plant RI	01/06/99	53.8	CT	X											X		
MWA-14i	Acid Plant Area	Acid Plant RI	12/18/98	49.4	CT	X													

Table 3-3
Summary of Investigative Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
MWA-15	Acid Plant Area	Acid Plant RI	08/05/99	32.5	HSA	X													
MWA-15r	Acid Plant Area	Acid Plant RI	07/02/01	32.5	HSA	X													
MWA-16i	Acid Plant Area	Acid Plant RI	08/14/99	45.3	CT	X													
MWA-17si	Acid Plant Area	Acid Plant RI	08/13/99	35.3	CT	X													
MWA-18	Acid Plant Area	Acid Plant RI	02/06/01	29.5	HSA	X	X												
MWA-19	Acid Plant Area	Acid Plant RI	02/06/01	35.5	HSA	X	X												
MWA-20	Acid Plant Area	Acid Plant RI	02/07/01	35.5	HSA	X	X												
MWA-21b	Acid Plant Area	Acid Plant RI	10/17/01	69.5	CT	X													
MWA-22	Acid Plant Area	Acid Plant RI	06/07/01	36.0	HSA	X													
S-1	Acid Plant Area	Acid Plant RI - Surface Soil	03/31/00	1.4	HA	X	X												
S-2	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
S-3	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
S-4	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
S-5	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
S-6	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
S-7	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
S-8	Acid Plant Area	Acid Plant RI - Surface Soil	05/01/01	0.3	HA	X	X												
RB-1	Acid Plant Area	Acid Plant RI - Riverbank	11/23/98	1.0	HA	X	X	X	X								X		
RB-2	Acid Plant Area	Acid Plant RI - Riverbank	11/23/98	1.0	HA	X	X	X	X								X		
RB-3	Acid Plant Area	Acid Plant RI - Riverbank	11/24/98	1.0	HA	X	X	X	X								X		
RB-4	Acid Plant Area	Acid Plant RI - Riverbank	11/24/98	1.0	HA	X	X	X	X								X		
RB-5	Acid Plant Area	Acid Plant RI - Riverbank	11/24/98	1.0	HA	X	X	X	X								X		
RB-6	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	3.0	HA	X	X	X	X								X		
RB-7	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	0.5	S		X		X				X						
RB-8	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	0.5	S		X		X				X						
RB-9	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	0.5	S		X		X				X						
RB-10	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	0.5	S		X		X				X						
RB-11	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	0.5	S		X		X				X						
RB-12	Acid Plant Area	Acid Plant RI - Riverbank	08/03/00	0.5	S		X		X				X						
IB-1	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-2	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-3	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-4	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X	X												
IB-5	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-6	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X	X												
IB-7	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-8	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-9	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-10	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-11	Acid Plant Area	Phase I Soil Removal IRM	05/15/00	10.0	DP	X													
IB-12	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-13	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-14	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-15	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-16	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-17	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X	X												
IB-18	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-19	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X													
IB-20	Acid Plant Area	Phase I Soil Removal IRM	05/16/00	10.0	DP	X	X												
IB-21	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X		X											
IB-22	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X													
IB-23	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X													
IB-24	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X													
IB-25	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X	X												
IB-26	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X		X											
IB-27	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X	X												
IB-28	Acid Plant Area	Phase I Soil Removal IRM	05/17/00	10.0	DP	X													
IB-29	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-30	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-31	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-32	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X	X												
IB-33	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													

Table 3-3
Summary of Investigative Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
IB-34	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-35	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-36	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X	X												
IB-37	Acid Plant Area	Phase I Soil Removal IRM	05/19/00	10.0	DP	X	X												
IB-38	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-39	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X	X												
IB-40	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-41	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X	X												
IB-42	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X													
IB-43	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X	X												
IB-44	Acid Plant Area	Phase I Soil Removal IRM	05/18/00	5.0	DP	X	X						X						
IB-45	Acid Plant Area	Phase I Soil Removal IRM	05/22/00	8.0	DP	X													
IB-46	Acid Plant Area	Phase I Soil Removal IRM	05/22/00	13.0	DP	X	X												
IB-47	Acid Plant Area	Phase I Soil Removal IRM	05/19/00	5.0	DP	X	X												
IB-48	Acid Plant Area	Phase I Soil Removal IRM	05/19/00	5.0	DP	X	X												
IB-49	Acid Plant Area	Phase I Soil Removal IRM	05/19/00	10.0	DP	X													
IB-50	Acid Plant Area	Phase I Soil Removal IRM	05/19/00	10.0	DP	X													
IB-51	Acid Plant Area	Phase I Soil Removal IRM	05/19/00	10.0	DP	X		X											
IB-52	Acid Plant Area	Phase I Soil Removal IRM	05/22/00	10.0	DP	X													
IB-53	Acid Plant Area	Phase I Soil Removal IRM	05/22/00	10.0	DP	X													
IB-54	Acid Plant Area	Phase I Soil Removal IRM	05/22/00	10.0	DP	X													
IB-65	Acid Plant Area	Phase I Soil Removal IRM	07/18/00	10.0	DP	X													
IB-66	Acid Plant Area	Phase I Soil Removal IRM	07/18/00	10.0	DP	X													
IB-67	Acid Plant Area	Phase I Soil Removal IRM	07/18/00	10.0	DP	X													
IB-73	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	2.0	DP	X	X												
IB-74	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	2.0	DP	X	X												
IB-75	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X													
IB-76	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X													
IB-77	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X	X												
IB-78	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X													
IB-79	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	2.0	DP	X	X												
IB-80	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	8.0	DP	X	X												
IB-81	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	8.0	DP	X	X												
IB-82	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X	X												
IB-83	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X	X												
IB-84	Acid Plant Area	Phase II Soil Removal IRM	08/15/01	6.0	DP	X	X												
IB-85	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-86	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-87	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	12.0	DP	X	X												
IB-88	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-89	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-90	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-91	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-92	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	13.0	DP	X													
IB-93	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-94	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-95	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
IB-96	Acid Plant Area	Phase II Soil Removal IRM	05/20/02	10.0	DP	X	X												
AP-1	Acid Plant Area	Vapor Extraction System	06/07/01	10.0	HA	X		X											
AP-2	Acid Plant Area	Vapor Extraction System	06/07/01	10.0	HA	X	X	X											
AP-3	Acid Plant Area	Vapor Extraction System	06/07/01	10.0	HA	X	X	X											
AP-4	Acid Plant Area	Vapor Extraction System	06/07/01	10.0	HA	X	X	X											
AP-5	Acid Plant Area	Vapor Extraction System	06/07/01	10.0	HA	X	X	X											
AP-6	Acid Plant Area	Vapor Extraction System	07/26/01	8.0	HA	X		X											
AP-7	Acid Plant Area	Vapor Extraction System	07/26/01	8.0	HA	X		X											
AP-8	Acid Plant Area	Vapor Extraction System	07/26/01	8.0	HA	X		X											
VP-1	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-2	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-3	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-4	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-5	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-6	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											

Table 3-3
Summary of Investigative Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
VP-7	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-8	Acid Plant Area	Vapor Extraction System	06/26/00	8.0	DP	X		X											
VP-9	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-10	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-11	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-12	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-13	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-14	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-15	Acid Plant Area	Vapor Extraction System	11/30/00	16.0	DP	X		X											
VP-16	Acid Plant Area	Vapor Extraction System	12/01/00	16.0	DP	X		X											
VP-17	Acid Plant Area	Vapor Extraction System	12/01/00	16.0	DP	X		X											
VP-18	Acid Plant Area	Vapor Extraction System	12/01/00	16.0	DP	X		X											
VP-19	Acid Plant Area	Vapor Extraction System	12/01/00	16.0	DP	X		X											
VP-20	Acid Plant Area	Vapor Extraction System	12/01/00	16.0	DP	X		X											
VP-21	Acid Plant Area	Vapor Extraction System	12/17/01	16.0	DP	X	X	X											
VP-22	Acid Plant Area	Vapor Extraction System	12/18/01	16.0	DP	X	X	X											
VP-23	Acid Plant Area	Vapor Extraction System	12/17/01	16.0	DP	X	X	X											
VP-24	Acid Plant Area	Vapor Extraction System	12/17/01	16.0	DP	X	X	X											
CS-1	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-2	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-3	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-4	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-5	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-6	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-7	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-8	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-9	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-10	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-11	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
CS-12	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP			X											
CS-13	Acid Plant Area	Vapor Extraction System	05/08/03	12.0	DP	X		X											
CS-14	Acid Plant Area	Vapor Extraction System	05/08/03	12.0	DP	X		X											
CS-15	Acid Plant Area	Vapor Extraction System	05/08/03	10.0	DP	X		X											
NMP-1S	Acid Plant Area	Persuflate Pilot Study	05/22/01	30.0	HSA	X													
NMP-2S	Acid Plant Area	Persuflate Pilot Study	05/22/01	30.0	HSA	X													
NMP-3S	Acid Plant Area	Persuflate Pilot Study	05/22/01	30.0	HSA	X													
NMP-4S	Acid Plant Area	Persuflate Pilot Study	05/22/01	30.0	HSA	X													
NMP-5S	Acid Plant Area	Persuflate Pilot Study	05/22/01	30.0	HSA	X													
NMP-6S	Acid Plant Area	Persuflate Pilot Study	05/22/01	30.0	HSA	X													
NMP-1D	Acid Plant Area	Persuflate Pilot Study	05/14/01	36.0	HSA	X													
NMP-2D	Acid Plant Area	Persuflate Pilot Study	05/15/01	37.0	HSA	X													
NMP-3D	Acid Plant Area	Persuflate Pilot Study	05/15/01	37.0	HSA	X													
NMP-4D	Acid Plant Area	Persuflate Pilot Study	05/16/01	36.0	HSA	X													
NMP-5D	Acid Plant Area	Persuflate Pilot Study	05/16/01	35.5	HSA	X													
NMP-6D	Acid Plant Area	Persuflate Pilot Study	05/16/01	36.0	HSA	X													
APMIP-1	Acid Plant Area	Phase I DNAPL Investigation	02/06/02	30.2	CPT														
APMIP-2	Acid Plant Area	Phase I DNAPL Investigation	02/06/02	37.0	CPT														
APMIP-3	Acid Plant Area	Phase I DNAPL Investigation	02/06/02	30.2	CPT														
APMIP-4	Acid Plant Area	Phase I DNAPL Investigation	02/06/02	30.3	CPT	X													X
APMIP-5	Acid Plant Area	Phase I DNAPL Investigation	02/06/02	31.1	CPT	X													X
APMIP-6	Acid Plant Area	Phase I DNAPL Investigation	02/07/02	32.2	CPT	X													X
APMIP-7	Acid Plant Area	Phase I DNAPL Investigation	02/07/02	32.5	CPT	X													X
APMIP-8	Acid Plant Area	Phase I DNAPL Investigation	02/07/02	32.9	CPT	X													X
APMIP-9	Acid Plant Area	Phase I DNAPL Investigation	02/07/02	33.9	CPT	X													X
APMIP-10	Acid Plant Area	Phase I DNAPL Investigation	02/07/02	32.5	CPT	X													X
APMIP-11	Acid Plant Area	Phase I DNAPL Investigation	02/07/02	33.2	CPT	X													X
APMIP-12	Acid Plant Area	Phase I DNAPL Investigation	02/08/02	32.7	CPT	X													X
APMIP-13	Acid Plant Area	Phase I DNAPL Investigation	02/08/02	35.0	CPT	X													X
APMIP-14	Acid Plant Area	Phase I DNAPL Investigation	02/08/02	34.4	CPT														
APMIP-15	Acid Plant Area	Phase I DNAPL Investigation	02/08/02	35.0	CPT														
APMIP-16	Acid Plant Area	Phase I DNAPL Investigation	02/08/02	35.4	CPT														
APMIP-17	Acid Plant Area	Phase I DNAPL Investigation	02/08/02	30.1	CPT														
APMIP-18	Acid Plant Area	Phase I DNAPL Investigation	02/14/02	30.1	CPT	X													X

Table 3-3
Summary of Investigative Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
APMIP-19	Acid Plant Area	Phase I DNAPL Investigation	02/14/02	34.1	CPT														
INT-4	Acid Plant Area	Phase II DNAPL Investigation	07/02/02	46.0	DP	X													
INT-5	Acid Plant Area	Phase II DNAPL Investigation	06/12/02	46.5	DP	X													X
INT-7	Acid Plant Area	Phase II DNAPL Investigation	07/01/02	54.0	DP	X												X	
INT-9	Acid Plant Area	Phase II DNAPL Investigation	06/10/02	42.0	DP	X													
INT-10	Acid Plant Area	Phase II DNAPL Investigation	06/11/02	47.0	DP	X													X
INT-11	Acid Plant Area	Phase II DNAPL Investigation	06/28/02	49.0	DP	X												X	X
INT-12	Acid Plant Area	Phase II DNAPL Investigation	07/03/02	52.0	DP	X													
PMP-1	Acid Plant Area	DNAPL Pilot Study	09/22/03	35.0	HSA														
PMP-2	Acid Plant Area	DNAPL Pilot Study	09/22/03	35.0	HSA														
PMP-3	Acid Plant Area	DNAPL Pilot Study	09/18/03	35.0	HSA														
AS-1	Acid Plant Area	DNAPL Pilot Study	09/17/03	36.5	HSA														
AS-2	Acid Plant Area	DNAPL Pilot Study	09/17/03	36.5	HSA														
SVE-1	Acid Plant Area	DNAPL Pilot Study	09/18/03	17.0	HSA														
SVE-2	Acid Plant Area	DNAPL Pilot Study	09/18/03	17.0	HSA														
VP-25	Acid Plant Area	DNAPL Pilot Study	09/16/03	17.0	DP														
VP-26	Acid Plant Area	DNAPL Pilot Study	09/16/03	17.0	DP														
VP-27	Acid Plant Area	DNAPL Pilot Study	09/16/03	17.0	DP														
VP-28	Acid Plant Area	DNAPL Pilot Study	09/16/03	17.0	DP														
VP-29	Acid Plant Area	DNAPL Pilot Study	09/16/03	17.0	DP														
VP-30	Acid Plant Area	DNAPL Pilot Study	09/16/03	17.0	DP														
B-68	Chllorate Plant Area	Chlorate Plant RI	05/02/01	36.0	DP	X													X
B-69	Chllorate Plant Area	Chlorate Plant RI	05/02/01	36.0	DP	X													X
B-70	Chllorate Plant Area	Chlorate Plant RI	05/03/01	36.0	DP	X													X
B-70b	Chllorate Plant Area	Chlorate Plant RI	10/25/01	36.0	DP	X													
B-71	Chlorate Plant Area	Chlorate Plant RI	09/25/01	36.0	DP	X									X				X
B-72	Chlorate Plant Area	Chlorate Plant RI	09/25/01	46.0	DP	X									X				X
B-73	Chlorate Plant Area	Chlorate Plant RI	09/25/01	32.0	DP	X									X				X
B-74	Chlorate Plant Area	Chlorate Plant RI	09/27/01	24.0	DP	X									X				X
B-75	Chlorate Plant Area	Chlorate Plant RI	09/27/01	29.5	DP	X									X				X
B-76	Chlorate Plant Area	Chlorate Plant RI	09/27/01	24.0	DP	X									X				X
B-77	Chlorate Plant Area	Chlorate Plant RI	09/26/01	32.0	DP	X									X				X
B-78	Chlorate Plant Area	Chlorate Plant RI	09/28/01	24.0	DP	X									X				X
B-79	Chlorate Plant Area	Chlorate Plant RI	09/28/01	20.0	DP	X									X				X
B-80	Chlorate Plant Area	Chlorate Plant RI	09/26/01	24.0	DP	X									X				X
B-81	Chlorate Plant Area	Chlorate Plant RI	09/27/01	24.0	DP	X									X				X
B-82	Chlorate Plant Area	Chlorate Plant RI	09/28/01	28.0	DP	X									X				X
B-83	Chlorate Plant Area	Chlorate Plant RI	09/28/01	24.0	DP	X									X				X
B-84	Chlorate Plant Area	Chlorate Plant RI	09/26/01	32.0	DP	X									X				X
B-85	Chlorate Plant Area	Chlorate Plant RI	10/25/01	54.0	DP	X													X
B-86	Chlorate Plant Area	Chlorate Plant RI	11/01/01	21.5	DP	X									X				
B-86b	Chlorate Plant Area	Chlorate Plant RI	11/02/01	36.0	DP	X													X
B-87	Chlorate Plant Area	Chlorate Plant RI	11/01/01	32.0	DP	X									X				X
B-88	Chlorate Plant Area	Chlorate Plant RI	11/01/01	32.0	DP	X									X				X
B-89	Chlorate Plant Area	Chlorate Plant RI	11/09/01	2.2*	DP														
B-90	Chlorate Plant Area	Chlorate Plant RI	11/05/01	32.0	DP	X									X				X
B-116	Chlorate Plant Area	Chlorate Plant RI	12/19/01	32.0	DP	X													X
B-117	Chlorate Plant Area	Chlorate Plant RI	12/19/01	32.0	DP	X													X
B-118	Chlorate Plant Area	Chlorate Plant RI	12/19/01	32.0	DP	X													X
MWA-23	Chlorate Plant Area	Chlorate Plant RI	10/08/01	26.0	HSA														
MWA-24	Chlorate Plant Area	Chlorate Plant RI	10/09/01	36.0	HSA														
MWA-25	Chlorate Plant Area	Chlorate Plant RI	10/10/01	34.0	HSA														
MWA-26	Chlorate Plant Area	Chlorate Plant RI	10/08/01	31.5	HSA														
MWA-27	Chlorate Plant Area	Chlorate Plant RI	10/10/01	36.0	HSA														
MWA-28i(d)	Chlorate Plant Area	Chlorate Plant RI	10/06/01	59.2	CT														
MWA-29	Chlorate Plant Area	Chlorate Plant RI	03/08/02	35.2	HSA														
MWA-30	Chlorate Plant Area	Chlorate Plant RI	03/06/02	29.5	HSA		X	X			X								
MWA-31i(d)	Chlorate Plant Area	Chlorate Plant RI	03/08/02	60.0	HSA														
MWA-32i	Chlorate Plant Area	Chlorate Plant RI	05/22/03	44.0	CT														
MWA-33	Chlorate Plant Area	Chlorate Plant RI	05/30/03	30.0	HSA														
MWA-34i	Chlorate Plant Area	Chlorate Plant RI	05/29/03	38.0	CT														
MWA-35	Chlorate Plant Area	Hex. Chrome Pilot Study	11/20/03	35.0	HSA														
MWA-36	Chlorate Plant Area	Hex. Chrome Pilot Study	11/20/03	34.0	HSA														

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Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
MWA-37	Chlorate Plant Area	Hex. Chrome Pilot Study	11/21/03	33.5	HSA														
MWA-38	Chlorate Plant Area	Hex. Chrome Pilot Study	11/21/03	32.0	HSA														
IW-1	Chlorate Plant Area	Hex. Chrome Pilot Study	11/25/03	32.0	HSA														
IW-2	Chlorate Plant Area	Hex. Chrome Pilot Study	11/25/03	32.0	HSA														
IW-3	Chlorate Plant Area	Hex. Chrome Pilot Study	11/24/03	33.0	HSA														
IW-4	Chlorate Plant Area	Hex. Chrome Pilot Study	11/24/03	32.0	HSA														
IW-5	Chlorate Plant Area	Hex. Chrome Pilot Study	11/24/03	32.0	HSA														
OCTF-1	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X		X	X	X		X		X			
OCTF-2	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X			X					X			
OCTF-3	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X		X	X	X		X		X			
OCTF-4	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X			X					X			
OCTF-5	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X			X					X			
OCTF-6	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X			X					X			
OCTF-7	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X			X					X			
OCTF-8	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X			X					X			
OCTF-9	Old Caustic Tank Farm	OCTF Investigation	01/28/04	1.0	HA		X	X		X	X	X		X		X			
OCTF-10	Old Caustic Tank Farm	OCTF Investigation	01/27/04	1.0	HA		X												
OCTF-11	Old Caustic Tank Farm	OCTF Investigation	01/27/04	1.0	HA		X												
OCTF-12	Old Caustic Tank Farm	OCTF Investigation	01/27/04	1.0	HA		X												
OCTF-13	Old Caustic Tank Farm	OCTF Investigation	01/27/04	1.0	HA		X												
B-119	Ammonia Plant	Ammonia Plant Investigation	06/12/02	30.0	DP	X													X
PENN-1	BPA Main Sbstn.	BPA Main Substation														X			
PENN-2	BPA Main Sbstn.	BPA Main Substation														X			
PENN-3	BPA Main Sbstn.	BPA Main Substation														X			
PENN-4	BPA Main Sbstn.	BPA Main Substation														X			
PENN-5	BPA Main Sbstn.	BPA Main Substation														X			
PENN-6	BPA Main Sbstn.	BPA Main Substation														X			
BPA-1	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-2	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-3	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-4	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-5	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-6	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-7	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-8	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-9	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-10	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-11	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-12	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-13	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-14	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-15	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-16	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-17	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-18	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-19	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-20	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-21	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-22	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-23	BPA Main Sbstn.	BPA Main Substation									X					X			
BPA-24	BPA Main Sbstn.	BPA Main Substation									X					X			
PEN-N	BPA Main Sbstn.	BPA Main Substation														X			
PEN-S	BPA Main Sbstn.	BPA Main Substation														X			
PEN-E	BPA Main Sbstn.	BPA Main Substation														X			
PEN-W	BPA Main Sbstn.	BPA Main Substation														X			
PEN-B1	BPA Main Sbstn.	BPA Main Substation														X			
PEN-B2	BPA Main Sbstn.	BPA Main Substation														X			
PEN-B3	BPA Main Sbstn.	BPA Main Substation														X			
PEN-B4	BPA Main Sbstn.	BPA Main Substation														X			
PEN-B5	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-1	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-2	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-3	BPA Main Sbstn.	BPA Main Substation														X			

Table 3-3
Summary of Investigative Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Investigation Phase	Completion Date	Depth ft-bgs	Drilling Method	Field Screening	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs USEPA 8270	PAHs USEPA 8270 SIM	TPH NWTPH-Dx/-Gx	TPH NWTPH-VPH/-EPH	Metals (Cd, Cr, Pb, Zn) 6010B	Metals (Cd, Cr, Pb) USEPA 6020	Chromium USEPA 6020	PCBs USEPA 8020	Soil Physical Properties	Total Organic Carbon USEPA 9060	Groundwater Grab Sample
P-ROW-4	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-5	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-6	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-7	BPA Main Sbstn.	BPA Main Substation														X			
P-ROW-8	BPA Main Sbstn.	BPA Main Substation														X			
PD31&32B	BPA Main Sbstn.	BPA Main Substation									X					X			
PD31732S	BPA Main Sbstn.	BPA Main Substation									X					X			
PD41-BE	BPA Main Sbstn.	BPA Main Substation									X					X			
PD41-SE	BPA Main Sbstn.	BPA Main Substation									X					X			
PD41-BW	BPA Main Sbstn.	BPA Main Substation									X					X			
PD-41-SW	BPA Main Sbstn.	BPA Main Substation									X					X			
PD72-BE	BPA Main Sbstn.	BPA Main Substation									X					X			
PD72-SE	BPA Main Sbstn.	BPA Main Substation									X					X			
PD72-BW	BPA Main Sbstn.	BPA Main Substation									X					X			
PD72-SW	BPA Main Sbstn.	BPA Main Substation									X					X			
PD97-S	BPA Main Sbstn.	BPA Main Substation									X					X			
PD97-B	BPA Main Sbstn.	BPA Main Substation									X					X			

Notes:
* - Refusal reached at 2.2 ft-bgs.
DP - Direct push
ft-bgs - feet below ground surface
HSA - Hollow-stem auger
USEPA - United States Environmental Protection Agency
VOC - Volatile organic compound

Table 3-4
Summary of Groundwater Sampling Events and Analyses
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Sampling Date	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs/PAHs USEPA 8270	TPH-Diesel Range NWTPH-Dx	Metals USEPA 6010	Dissolved Ca, Fe, Mn USEPA 6010	Priority Pollutant Metals USEPA 6020/7470A	Total Chromium USEPA 6020/6010	Hexavalent Chromium USEPA 6010B/7196A	Perchlorate USEPA 314.0	Carbonate/ Bicarbonate USEPA 310.0	Alkalinity USEPA 310.0	Ammonia-Nitrogen USEPA 350.1	Nitrate and Nitrite, Sulfate, and Total Chloride USEPA 300.0	Total Organic Carbon USEPA 9060 Mod.	Chloral Hydrate USEPA 551.1	p-chloro-benzene-sulfonic acid	Dissolved Methane RSK 175	Sulfate USEPA 300.0	Sulfide USEPA 9030	Total Dissolved Solids USEPA 160.1	Total and Dissolved Organic Carbon USEPA 415.1
B-55	Acid Plant	02/19/99		X		X																		
B-56	Acid Plant	02/19/99		X		X																		
B-59	Acid Plant	08/03/99	X	X	X																			
B-60	Acid Plant	07/18/00		X																				
B-61	Acid Plant	07/17/00		X																				
B-64	Acid Plant	07/17/00		X																				
B-65	Acid Plant	05/02/01		X																				
B-67	Acid Plant	05/02/01		X											X									
B-68	Chlorate Plant	05/03/01								X														
B-69	Chlorate Plant	05/03/01								X														
B-70	Chlorate Plant	05/03/01								X														
B-71	Chlorate Plant	09/25/01								X														
B-72	Chlorate Plant	09/25/01								X														
B-73	Chlorate Plant	09/25/01								X														
B-74	Chlorate Plant	09/27/01								X														
B-75	Chlorate Plant	09/27/01								X														
B-76	Chlorate Plant	09/27/01								X														
B-77	Chlorate Plant	09/26/01								X														
B-78	Chlorate Plant	09/28/01								X														
B-79	Chlorate Plant	09/28/01								X														
B-80	Chlorate Plant	09/27/01								X														
B-81	Chlorate Plant	09/27/01								X														
B-82	Chlorate Plant	09/28/01								X														
B-83	Chlorate Plant	09/28/01								X														
B-84	Chlorate Plant	09/26/01								X														
B-85	Chlorate Plant	10/25/01								X														
B-86b	Chlorate Plant	11/02/01								X														
B-87	Chlorate Plant	11/01/01								X														
B-88	Chlorate Plant	11/01/01								X														
B-90	Chlorate Plant	11/05/01								X														
B-116	Chlorate Plant	12/19/01								X														
B-117	Chlorate Plant	12/19/01								X														
B-118	Chlorate Plant	12/19/01								X														
B-119	Ammonia Plant	06/12/02													X									
APMIP-4	Acid Plant	02/06/02		X																				
APMIP-5	Acid Plant	02/06/02		X																				
APMIP-6	Acid Plant	02/07/02		X																				
APMIP-7	Acid Plant	02/07/02		X																				
APMIP-8	Acid Plant	02/07/02		X																				
APMIP-9	Acid Plant	02/07/02		X																				
APMIP-10	Acid Plant	02/07/02		X																				
APMIP-11	Acid Plant	02/07/02		X																				
APMIP-12	Acid Plant	02/08/02		X																				
APMIP-13	Acid Plant	02/08/02		X																				
APMIP-18	Acid Plant	02/14/02		X																				
INT-5	Acid Plant	06/12/02		X																				
INT-10	Acid Plant	06/11/02		X																				
INT-11	Acid Plant	06/28/02		X																				
MWA-1	Acid Plant	01/29/99	X (T/D)	X	X		X						X	X		X								
		04/29/99	X (T/D)	X	X		X						X	X		X								
MWA-2	Acid Plant	01/27/99	X (T/D)	X	X		X						X	X		X								
		04/27/99	X (T/D)	X	X		X						X	X		X		X	X					
		08/24/99	X (T/D)	X	X		X						X	X		X								
		11/16/99	X	X	X		X						X	X		X		X						
		03/29/01	X	X	X									X		X (353.2)	X (415.1)							
		06/12/01	X	X	X									X		X	X (415.1)							
		04/10/02	X	X										X		X	X (415.1)							
		06/09/03	X	X			X					X		X		X	X			X				
MWA-3	Acid Plant	01/27/99	X (T/D)	X	X		X						X	X		X								
		04/28/99	X (T/D)	X	X		X						X	X		X								
		08/24/99	X (T/D)	X	X		X						X	X		X								
		11/16/99	X	X	X		X						X	X		X								
		03/29/01	X	X	X									X		X (353.2)	X (415.1)							
		06/14/01	X	X	X									X		X	X (415.1)							
		04/15/02	X	X										X		X	X (415.1)							
		06/09/03	X	X			X					X		X		X	X			X				

Table 3-4
Summary of Groundwater Sampling Events and Analyses
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Sampling Date	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs/PAHs USEPA 8270	TPH-Diesel Range NWTPH-Dx	Metals USEPA 6010	Dissolved Ca, Fe, Mn USEPA 6010	Priority Pollutant Metals USEPA 6020/7470A	Total Chromium USEPA 6020/6010	Hexavalent Chromium USEPA 6010B/7196A	Perchlorate USEPA 314.0	Carbonate/ Bicarbonate USEPA 310.0	Alkalinity USEPA 310.0	Ammonia-Nitrogen USEPA 350.1	Nitrate and Nitrite, Sulfate, and Total Chloride USEPA 300.0	Total Organic Carbon USEPA 9060 Mod.	Chloral Hydrate USEPA 551.1	p-chloro-benzene-sulfonic acid	Dissolved Methane RSK 175	Sulfate USEPA 300.0	Sulfide USEPA 9030	Total Dissolved Solids USEPA 160.1	Total and Dissolved Organic Carbon USEPA 415.1
MWA-4	Acid Plant	01/02/99	X (T/D)	X	X		X						X	X		X								
		04/28/99	X (T/D)	X	X		X						X	X		X		X	X					
		08/25/99	X (T/D)	X	X		X						X	X		X								
		11/16/99	X	X	X		X						X	X		X		X						
		03/29/01	X	X	X									X		X (353.2)	X (415.1)							
		06/14/01	X	X	X									X		X	X (415.1)							
		04/11/02	X	X						X				X		X	X (415.1)							
		06/09/03	X	X						X		X		X		X	X							
MWA-5	Acid Plant	01/27/99	X (T/D)	X	X		X						X	X		X								
		04/27/99	X (T/D)	X	X		X						X	X		X								
		08/23/99	X (T/D)	X	X		X						X	X		X								
		11/15/99	X	X	X		X						X	X		X								
		03/28/01	X	X	X									X		X	X (415.1)							
		06/12/01	X	X	X									X	X	X	X (415.1)							
		04/04/02	X	X										X	X	X	X (415.1)							
		06/06/03	X	X										X		X	X							
MWA-6	Acid Plant	01/27/99	X (T/D)	X	X		X						X	X		X								
		04/29/99	X (T/D)	X	X																			
MWA-6r	Acid Plant	08/25/99	X (T/D)	X	X		X						X	X		X								
		11/17/99	X	X	X		X						X	X		X		X						
		03/28/01	X	X	X									X		X	X (415.1)							
		06/12/01	X	X	X					X	X			X		X	X (415.1)							
		04/10/02	X	X						X				X		X	X (415.1)							
		06/05/03	X	X						X		X		X		X	X							
MWA-7	Acid Plant	01/26/99	X (T/D)	X	X		X						X	X		X								
		04/26/99	X (T/D)	X	X		X						X	X		X								
		08/23/99	X (T/D)	X	X		X						X	X		X								
		11/15/99	X	X	X		X						X	X		X								
		03/26/01	X	X	X									X		X	X (415.1)							
		06/11/01	X	X	X									X		X	X (415.1)							
		04/03/02	X	X										X		X	X (415.1)							
		06/04/03	X	X			X							X		X	X			X				
MWA-8i	Acid Plant	11/24/98		X																				
		01/27/99	X (T/D)	X	X		X						X	X		X								
		04/27/99	X (T/D)	X	X		X						X	X		X								
		08/24/99	X (T/D)	X	X		X						X	X		X								
		11/16/99	X	X	X		X						X	X		X								
		03/29/01	X	X	X									X		X (353.2)	X (415.1)							
		06/12/01	X	X	X									X		X	X (415.1)							
		04/10/02	X	X										X		X	X (415.1)							
		06/09/03	X	X								X		X		X	X							
MWA-9i	Acid Plant	11/24/98		X																				
		01/28/99	X (T/D)	X	X		X						X	X		X								
		04/28/99	X (T/D)	X	X		X						X	X		X		X	X					
		08/25/99	X (T/D)	X	X		X						X	X		X								
		11/16/99	X	X	X		X						X	X		X		X						
		03/30/01	X	X	X									X		X	X (415.1)							
		06/18/01	X	X	X									X		X	X (415.1)							
		04/15/02	X	X										X		X	X (415.1)							
		06/09/03	X	X								X		X		X	X							
MWA-10i	Acid Plant	12/04/98		X																				
		01/28/99	X (T/D)	X	X		X						X	X		X								
		04/28/99	X (T/D)	X	X		X						X	X		X		X						
		08/25/99	X (T/D)	X	X		X						X	X		X								
		11/16/99	X	X	X		X						X	X		X		X						
		03/29/01	X	X	X									X		X (353.2)	X (415.1)							
		06/14/01	X	X	X									X		X	X (415.1)							
		04/11/02	X	X										X		X	X (415.1)							
		06/10/03	X	X								X		X		X	X							
MWA-11i	Acid Plant	12/07/98		X																				
		01/29/99	X (T/D)	X	X		X						X	X		X								
		04/27/99	X (T/D)	X	X		X						X	X		X								
		08/26/99	X (T/D)	X	X		X						X	X		X								
		11/17/99	X	X	X		X						X	X		X								
		03/30/01	X	X	X									X		X	X (415.1)							
		06/15/01	X	X	X									X		X	X (415.1)							
		04/11/02	X	X										X		X (353.2/354.1)	X (415.1)							
		06/10/03	X	X								X		X		X	X							

Table 3-4
Summary of Groundwater Sampling Events and Analyses
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Sampling Date	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs/PAHs USEPA 8270	TPH-Diesel Range NWTPH-Dx	Metals USEPA 6010	Dissolved Ca, Fe, Mn USEPA 6010	Priority Pollutant Metals USEPA 6020/7470A	Total Chromium USEPA 6020/6010	Hexavalent Chromium USEPA 6010B/7196A	Perchlorate USEPA 314.0	Carbonate/ Bicarbonate USEPA 310.0	Alkalinity USEPA 310.0	Ammonia-Nitrogen USEPA 350.1	Nitrate and Nitrite, Sulfate, and Total Chloride USEPA 300.0	Total Organic Carbon USEPA 9060 Mod.	Chloral Hydrate USEPA 551.1	p-chloro-benzene-sulfonic acid	Dissolved Methane RSK 175	Sulfate USEPA 300.0	Sulfide USEPA 9030	Total Dissolved Solids USEPA 160.1	Total and Dissolved Organic Carbon USEPA 415.1
MWA-12i	Acid Plant	01/26/99	X (T/D)	X	X		X						X	X		X								
		04/26/99	X (T/D)	X	X		X						X	X		X								
		08/23/99	X (T/D)	X	X		X						X	X		X								
		11/15/99	X	X	X		X						X	X		X								
		03/26/01	X	X	X									X		X	X (415.1)							
		06/11/01	X	X	X									X		X	X (415.1)							
		04/03/02	X	X										X		X	X (415.1)							
		06/03/03	X	X										X		X	X							
MWA-13d	Acid Plant	01/28/99	X (T/D)	X	X		X						X	X		X								
		04/28/99	X (T/D)	X	X		X						X	X		X								
		08/25/99	X (T/D)	X	X		X						X	X		X								
		11/18/99	X	X	X		X						X	X		X								
		03/29/01	X	X	X									X		X (353.2)	X (415.1)							
		06/14/01	X	X	X									X		X	X (415.1)							
		04/15/02	X	X										X		X	X (415.1)							
		06/09/03	X	X								X		X		X	X							
MWA-14i	Acid Plant	01/27/99	X (T/D)	X	X		X						X	X		X								
		04/27/99	X (T/D)	X	X		X						X	X		X								
		08/23/99	X (T/D)	X	X		X						X	X		X								
		11/15/99	X	X	X		X						X	X		X								
		03/28/01	X	X	X									X		X	X (415.1)							
		06/12/01	X	X	X									X	X	X	X (415.1)							
		04/04/02	X	X										X	X	X	X (415.1)							
		06/06/03	X	X										X		X	X							
MWA-15	Acid Plant	08/26/99	X (T/D)	X	X		X						X	X		X								
		11/17/99	X	X	X		X						X	X		X		X						
MWA-15r	Acid Plant	03/30/01	X	X	X									X		X	X (415.1)							
		5/31/01[1]	X	X					X															
		06/15/01	X	X	X									X		X	X (415.1)							
		04/16/02	X	X										X		X	X (415.1)							
		06/10/03	X	X			X					X		X		X	X			X				
		10/02/03[2]		X				X (Fe, Mn only)						X										
MWA-16i	Acid Plant	08/25/99	X (T/D)	X	X		X						X	X		X								
		11/17/99	X	X	X		X						X	X		X								
		03/28/01	X	X	X									X		X	X (415.1)							
		06/12/01	X	X	X					X	X			X		X	X (415.1)							
		04/10/02	X	X						X				X		X	X (415.1)							
		06/05/03	X	X						X		X		X		X	X							
MWA-17si	Acid Plant	08/26/99	X (T/D)	X	X		X						X	X		X								
		11/18/99	X	X	X		X						X	X		X		X						
		03/30/01	X	X	X									X		X	X (415.1)							
		06/18/01	X	X	X									X		X	X (415.1)							
		04/15/02	X	X										X		X	X (415.1)							
		06/09/03	X	X								X		X		X	X							
MWA-18	Acid Plant	03/27/01	X	X	X									X		X	X (415.1)							
		06/13/01	X	X	X					X	X			X		X	X (415.1)							
		04/04/02	X	X						X				X		X	X (415.1)							
		06/06/03	X	X								X		X		X	X							
MWA-19	Acid Plant	03/27/01	X	X	X									X		X	X (415.1)							
		06/13/01	X	X	X					X	X			X		X	X (415.1)							
		04/04/02	X	X						X				X		X	X (415.1)							
		06/06/03	X	X								X		X		X	X							
MWA-20	Acid Plant	03/27/01	X	X	X									X		X	X (415.1)							
		06/13/01	X	X	X					X	X			X		X	X (415.1)							
		04/09/02	X	X						X				X		X	X (415.1)							
		06/05/03	X	X										X		X	X							
MWA-21b	Acid Plant	11/05/01	X	X																				
		12/04/01	X	X																				
		04/12/02	X	X												X (353.2/354.1)								
MWA-22	Acid Plant	06/15/01	X	X	X									X		X	X (415.1)							
		04/11/02	X	X										X		X (353.2/354.1)								
		06/10/03	X	X								X		X		X	X							
MWA-23	Chlorate Plant	11/14/01								X														
		04/05/02	X	X						X				X		X	X (415.1)							
		06/04/03					X			X				X		X	X			X				
		07/29/03										X												
MWA-24	Chlorate Plant	11/15/01	X	X						X														
		04/08/02								X				X		X	X (415.1)							
		06/05/03	X											X		X	X							

Table 3-4
Summary of Groundwater Sampling Events and Analyses
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Sampling Date	Organochlorine Pesticides USEPA 8081	VOCs USEPA 8260B	SVOCs/PAHs USEPA 8270	TPH-Diesel Range NWTPH-Dx	Metals USEPA 6010	Dissolved Ca, Fe, Mn USEPA 6010	Priority Pollutant Metals USEPA 6020/7470A	Total Chromium USEPA 6020/6010	Hexavalent Chromium USEPA 6010B/7196A	Perchlorate USEPA 314.0	Carbonate/ Bicarbonate USEPA 310.0	Alkalinity USEPA 310.0	Ammonia-Nitrogen USEPA 350.1	Nitrate and Nitrite, Sulfate, and Total Chloride USEPA 300.0	Total Organic Carbon USEPA 9060 Mod.	Chloral Hydrate USEPA 551.1	p-chloro-benzene-sulfonic acid	Dissolved Methane RSK 175	Sulfate USEPA 300.0	Sulfide USEPA 9030	Total Dissolved Solids USEPA 160.1	Total and Dissolved Organic Carbon USEPA 415.1
MWA-25	Chlorate Plant	11/15/01	X	X						X														
		04/09/02	X	X						X				X		X	X (415.1)							
		06/06/03					X			X				X		X	X			X				
		07/29/03										X												
		12/03/03 (3)						X		X (T/D)	X										X	X	X	X
MWA-26	Chlorate Plant	11/15/01								X														
		04/05/02	X	X						X				X		X	X (415.1)							
		06/04/03								X				X		X	X							
		07/29/03										X												
MWA-27	Chlorate Plant	11/15/01	X	X						X														
		04/09/02	X	X						X				X		X	X (415.1)							
		06/04/03					X			X				X		X	X			X				
		12/03/03 (3)						X	X	X (T/D)	X										X	X	X	X
MWA-28i(d)	Chlorate Plant	11/16/01	X	X						X														
		04/09/02	X	X						X				X		X	X (415.1)							
		06/06/03								X				X		X	X							
		07/29/03										X												
MWA-29	Chlorate Plant	04/08/02	X	X						X				X		X	X (415.1)							
		06/04/03	X							X				X		X	X							
MWA-30	Chlorate Plant	04/12/02	X	X						X						X (353.2/354.1)	X (415.1)							
		06/04/03	X		X	X	X			X				X		X	X			X				
MWA-31i(d)	Chlorate Plant	03/06/02								X														
		03/07/02								X														
		03/07/02								X														
		03/07/02								X														
		04/08/02	X	X						X				X		X	X (415.1)							
		06/04/03	X							X				X		X	X							
MWA-32i	Chlorate Plant	06/04/03	X		X	X				X				X		X	X							
MWA-33	Chlorate Plant	06/05/03	X	X			X			X		X		X		X	X							
		06/11/03	X				X			X				X		X	X			X				
		06/11/03	X				X			X				X		X	X			X				
MWA-34i	Chlorate Plant	06/06/03	X	X						X		X		X		X	X							
MWA-35	Chlorate Plant	12/02/03 (3)						X		X (T/D)	X										X	X	X	X
MWA-36	Chlorate Plant	12/03/03 (3)						X	X	X (T/D)	X										X	X	X	X
MWA-37	Chlorate Plant	12/03/03 (3)						X	X	X (T/D)	X										X	X	X	X
MWA-38	Chlorate Plant	12/03/03 (3)						X		X (T/D)	X										X	X	X	X
NMP-1S	Acid Plant	06/01/01 (1)	X	X					X															
		10/03/03 (2)		X				X (Fe, Mn only)						X										
NMP-1D	Acid Plant	06/01/01 (1)	X	X					X															
		10/03/03 (2)		X				X (Fe, Mn only)						X										
NMP-2S	Acid Plant	06/01/01 (1)	X	X					X															
NMP-2D	Acid Plant	06/01/01 (1)	X	X					X															
		10/03/03 (2)		X				X (Fe, Mn only)						X										
NMP-3S	Acid Plant	05/31/01 (1)	X	X					X															
NMP-3D	Acid Plant	06/01/01 (1)	X	X					X															
		06/11/03	X	X			X							X		X	X			X				
NMP-4S	Acid Plant	06/01/01 (1)	X	X					X															
		10/03/03 (2)		X				X (Fe, Mn only)						X										
NMP-4D	Acid Plant	06/01/01 (1)	X	X					X															
		06/10/03	X	X			X							X		X	X			X				
		10/03/03 (2)		X				X (Fe, Mn only)						X										
NMP-5S	Acid Plant	06/01/01 (1)	X	X					X															
NMP-5D	Acid Plant	06/01/01 (1)	X	X					X															
		10/03/03 (2)		X				X (Fe, Mn only)						X										
NMP-6S	Acid Plant	06/01/01 (1)	X	X					X															
NMP-6D	Acid Plant	06/01/01 (1)	X	X					X															
PMP-1	Acid Plant	10/02/03 (2)		X				X (Fe, Mn only)						X										
PMP-2	Acid Plant	10/02/03 (2)		X				X (Fe, Mn only)						X										
PMP-3	Acid Plant	10/02/03 (2)		X				X (Fe, Mn only)						X										

Notes:
PAH - Polynuclear aromatic hydrocarbons
SVOC - Semi-volatile organic compound
TPH - Total petroleum hydrocarbons
USEPA - United States Environmental Protection Agency
VOC - Volatile organic compound
(T/D) - Total and Dissolved measurements
Numbers in the table in parentheses indicate alternate analytical method.
(1) - Sodium Persulfate Oxidation Pilot Study baseline sampling event
(2) - DNAPL Pilot Study baseline sampling event
(3) - Hexavalent Chromium Reduction Pilot Study baseline sampling event

Table 3-5
Summary of Well Completion Data
Arkema Portland Plant Remedial Investigation

Well Number	Area of Investigation	Installation Date	Depth Drilled (ft)	Measuring Point Elevation [a] (ft)	Ground Surface Elevation [a] (ft)	Measuring Point Stickup (ft)	Well Depth from Measuring Point (ft)	Screen Length (ft)	Screen Slot Size[b] (in)	Sump Length (ft)	Screened Interval Depth Below Surface		Screened Interval Elevation		Sandpack Interval Depth Below Surface		Sandpack Interval Elevation		Sandpack Thickness (ft)
											Bottom (ft)	Top (ft)	Bottom (ft)	Top (ft)	Bottom (ft)	Top (ft)	Bottom (ft)	Top (ft)	
MWA-1[cf]	Acid Plant	12/11/96	33.5	34.15	34.40	-0.25	33.25	10.0	0.010	0.5	33.0	23.0	1.4	11.4	33.5	21.0	0.9	13.4	12.5
MWA-2[c]	Acid Plant	12/11/96	32.3	36.47	33.60	2.87	34.87	10.0	0.010	0.5	31.5	21.5	2.1	12.1	32.0	18.5	1.6	15.1	13.5
MWA-3[c]	Acid Plant	12/11/96	32.1	37.46	34.40	3.06	34.26	10.0	0.010	0.5	30.7	20.7	3.7	13.7	32.0	18.2	2.4	16.2	13.8
MWA-4[c]	Acid Plant	12/11/96	30.5	36.46	33.70	2.76	32.76	10.0	0.010	0.5	29.5	19.5	4.2	14.2	30.0	17.5	3.7	16.2	12.5
MWA-5	Acid Plant	01/12/99	39.0	37.07	35.00	2.07	40.57	2.5	0.010	0.3	38.2	35.7	-3.2	-0.7	38.5	33.5	-3.5	1.5	5.0
MWA-6[f]	Acid Plant	01/13/99	36.0	34.27	34.80	-0.53	33.37	2.5	0.010	0.3	33.6	30.8	1.2	4.0	36.0	28.5	-1.2	6.3	7.5
MWA-6r	Acid Plant	08/05/99	33.5	34.55	34.85	-0.30	33.20	5.0	0.010	0.3	33.2	28.2	1.7	6.7	33.5	25.5	1.4	9.4	8.0
MWA-7	Acid Plant	01/12/99	33.0	34.29	34.20	0.09	33.19	2.5	0.010	0.3	32.8	30.3	1.4	3.9	33.1	28.0	1.1	6.2	5.1
MWA-8i	Acid Plant	11/12/98	47.3	36.10	33.80	2.30	49.60	5.0	0.010	0.3	47.0	42.0	-13.2	-8.2	47.3	39.8	-13.5	-6.0	7.5
MWA-9i	Acid Plant	11/18/98	46.5	36.81	34.80	2.01	47.31	5.0	0.010	0.3	45.0	40.0	-10.2	-5.2	46.5	39.0	-11.7	-4.2	7.5
MWA-10i	Acid Plant	11/24/98	45.6	35.90	33.70	2.20	47.80	5.0	0.010	0.3	45.3	40.3	-11.6	-6.6	45.6	38.2	-11.9	-4.5	7.4
MWA-11i	Acid Plant	12/03/98	51.3	34.50	34.70	-0.20	51.10	5.0	0.010	0.3	51.0	46.0	-16.3	-11.3	51.3	44.0	-16.6	-9.3	7.3
MWA-12i	Acid Plant	11/05/98	52.3	33.91	34.20	-0.29	52.01	10.0	0.010	0.3	52.0	42.0	-17.8	-7.8	52.3	40.0	-18.1	-5.8	12.3
MWA-13d	Acid Plant	01/06/99	53.8	37.06	34.80	2.26	55.56	2.0	0.010	0.3	53.0	51.0	-18.2	-16.2	53.8	50.0	-19.0	-15.2	3.8
MWA-14i	Acid Plant	12/18/98	49.4	37.39	35.00	2.39	51.79	5.0	0.010	0.3	49.1	44.1	-14.1	-9.1	49.4	42.6	-14.4	-7.6	6.8
MWA-15f	Acid Plant	08/05/99	32.5	34.01	34.26	-0.25	32.25	8.9	0.020[g]	0.1	32.4	23.5	1.9	10.8	32.5	20.5	1.8	13.8	12.0
MWA-15r	Acid Plant	07/02/01	32.5	34.11	34.40	-0.29	32.21	10.0	0.010	0.1	32.4	22.4	2	12	32.5	22.5	1.9	11.9	10.0
MWA-16i	Acid Plant	08/14/99	45.3	34.82	35.10	-0.28	44.22	5.0	0.010	0.3	44.2	39.2	-9.1	-4.1	45.3	37.2	-10.2	-2.1	8.1
MWA-17si	Acid Plant	08/13/99	35.3	37.20	34.40	2.80	38.20	1.5	0.010[g]	0.3	35.1	33.6	-0.7	0.8	35.3	32.4	-0.9	2.0	2.9
MWA-18	Acid Plant	02/06/01	29.5	37.49	34.80	2.69	32.19	10.0	0.010	0.3	29.2	19.2	5.6	15.6	29.5	17.0	5.3	17.8	12.5
MWA-19	Acid Plant	02/06/01	35.5	38.00	35.70	2.30	31.80	10.0	0.010	0.3	29.2	19.2	6.5	16.5	30.5	17.0	5.2	18.7	13.5
MWA-20	Acid Plant	02/07/01	35.5	38.00	35.70	2.30	37.30	10.0	0.010	0.3	34.7	24.7	1.0	11.0	35.5	22.5	0.2	13.2	13.0
MWA-21b	Acid Plant	10/17/01	69.5	36.84	34.25	2.59	71.04	7.3	0.010	0.3	68.3	61.0	-34.0	-26.7	69.5	59.0	-35.2	-24.7	10.5
MWA-22	Acid Plant	06/07/01	36.0	34.65	34.96	-0.31	34.69	10.0	0.010	0.3	34.7	24.7	0.3	10.3	36.0	23.0	-1.0	12.0	13.0
MWA-23	Chlorate Plant	10/08/01	26.0	34.86	35.16	-0.30	25.12	10.0	0.010	0.3	25.2	15.2	10.0	20.0	26.0	13.5	9.2	21.7	12.5
MWA-24	Chlorate Plant	10/09/01	36.0	35.64	36.00	-0.36	33.48	10.0	0.010	0.3	34.0	24.0	2.0	12.0	36.0	22.0	0.0	14.0	14.0
MWA-25	Chlorate Plant	10/10/01	34.0	35.72	36.13	-0.41	33.62	10.0	0.010	0.3	33.7	23.7	2.4	12.4	34.0	22.0	2.1	14.1	12.0
MWA-26	Chlorate Plant	10/08/01	31.5	35.73	36.08	-0.35	31.37	10.0	0.010	0.3	31.2	21.2	4.9	14.9	31.5	19.7	4.6	16.4	11.8
MWA-27	Chlorate Plant	10/10/01	36.0	34.92	35.35	-0.43	33.48	10.0	0.010	0.3	34.0	24.0	1.3	11.3	36.0	22.0	-0.7	13.3	14.0
MWA-28i(d)	Chlorate Plant	10/06/01	59.2	35.89	36.20	-0.31	58.25	5.0	0.010	0.3	58.9	53.9	-22.7	-17.7	59.2	52.0	-23.0	-15.8	7.2
MWA-29	Chlorate Plant	03/08/02	35.2	35.24	35.57	-0.33	33.70[h]	10.0	0.010	0.3	34.9	24.9	0.7	10.7	35.2	22.9	0.4	12.7	12.3
MWA-30	Chlorate Plant	03/06/02	29.5	36.36	36.80	-0.44	29.25	10.0	0.010	0.3	29.1	19.1	7.7	17.7	29.4	17.4	7.4	19.4	12.0
MWA-31i(d)	Chlorate Plant	03/08/02	60.0	36.38	36.80	-0.42	59.80	5.0	0.010	0.2	59.8	54.8	-23.0	-18.0	60.0	54.0	-23.2	-17.2	6.0
MWA-32i	Chlorate Plant	05/22/03	44.0	36.70	37.00	-0.30	41.90	5.0	0.010	0.2	42.0	37.0	-5.0	0.0	42.0	35.0	-5.0	2.0	7.0
MWA-33	Chlorate Plant	05/30/03	30.0	35.31	35.80	-0.49	29.71	10.0	0.010	0.2	30.0	20.0	5.8	15.8	30.0	19.0	5.8	16.8	11.0

Table 3-5
Summary of Well Completion Data
Arkema Portland Plant Remedial Investigation

Well Number	Area of Investigation	Installation Date	Depth Drilled (ft)	Measuring Point Elevation [a] (ft)	Ground Surface Elevation [a] (ft)	Measuring Point Stickup (ft)	Well Depth from Measuring Point (ft)	Screen Length (ft)	Screen Slot Size[b] (in)	Sump Length (ft)	Screened Interval Depth Below Surface		Screened Interval Elevation		Sandpack Interval Depth Below Surface		Sandpack Interval Elevation		Sandpack Thickness (ft)
											Bottom (ft)	Top (ft)	Bottom (ft)	Top (ft)	Bottom (ft)	Top (ft)	Bottom (ft)	Top (ft)	
MWA-34i	Chlorate Plant	05/29/03	38.0	37.95	35.90	2.05	39.25	5.0	0.010	0.2	37	32	-1.1	3.9	37.5	31.5	-1.6	4.4	6.0
MWA-35	Chlorate Plant	11/20/03	35.0	35.80	36.02	-0.22	32.78	10.0	0.010	0	33	23	3.0	13.0	35.0	21.0	1.0	15.0	14.0
MWA-36	Chlorate Plant	11/20/03	34.0	35.16	35.39	-0.23	32.77	10.0	0.010	0	33	23	2.4	12.4	34.0	21.0	1.4	14.4	13.0
MWA-37	Chlorate Plant	11/21/03	33.5	35.45	35.61	-0.16	32.84	10.0	0.010	0	33	23	2.6	12.6	33.5	21.0	2.1	14.6	12.5
MWA-38	Chlorate Plant	11/21/03	32.0	35.28	35.60	-0.32	31.68	10.0	0.010	0	32	22	3.6	13.6	32.0	20.0	3.6	15.6	12.0
NMP-1S	Acid Plant	05/22/01	30.0	33.87	34.20	-0.33	29.67	10.0	0.010	0.5	29.5	19.5	4.7	14.7	30.0	18.0	4.2	16.2	12.0
NMP-2S	Acid Plant	05/22/01	30.0	33.61	33.94	-0.32	29.68	10.0	0.010	0.5	29.5	19.5	4.4	14.4	30.0	18.0	3.9	15.9	12.0
NMP-3S	Acid Plant	05/22/01	30.0	33.82	34.07	-0.26	29.74	10.0	0.010	0.5	29.5	19.5	4.6	14.6	30.0	18.0	4.1	16.1	12.0
NMP-4S	Acid Plant	05/22/01	30.0	33.69	33.94	-0.26	29.74	10.0	0.010	0.5	29.5	19.5	4.4	14.4	30.0	18.0	3.9	15.9	12.0
NMP-5S	Acid Plant	05/22/01	30.0	33.43	33.61	-0.18	29.82	10.0	0.010	0.5	29.5	19.5	4.1	14.1	30.0	18.0	3.6	15.6	12.0
NMP-6S	Acid Plant	05/22/01	30.0	34.14	34.28	-0.14	29.86	10.0	0.010	0.5	29.5	19.5	4.8	14.8	30.0	18.0	4.3	16.3	12.0
NMP-1D	Acid Plant	05/14/01	36.0	33.95	34.33	-0.38	34.22	5.0	0.010	0.5	34.1	29.1	0.2	5.2	35.0	27.7	-0.7	6.6	7.3
NMP-2D	Acid Plant	05/15/01	37.0	33.80	34.03	-0.22	36.78	5.0	0.010	0.5	36.5	31.5	-2.5	2.5	37.0	30.0	-3.0	4.0	7.0
NMP-3D	Acid Plant	05/15/01	37.0	33.76	33.96	-0.20	35.30	5.0	0.010	0.5	35	30	-1.0	4.0	36.0	29.0	-2.0	5.0	7.0
NMP-4D	Acid Plant	05/16/01	36.0	33.73	33.95	-0.22	35.28	5.0	0.010	0.5	35	30	-1.1	4.0	36.0	28.0	-2.1	6.0	8.0
NMP-5D	Acid Plant	05/16/01	35.5	33.63	33.90	-0.27	33.73	5.0	0.010	0.5	33.5	28.5	0.4	5.4	34.5	27.0	-0.6	6.9	7.5
NMP-6D	Acid Plant	05/16/01	36.0	34.14	34.32	-0.19	33.81	5.0	0.010	0.5	33.5	28.5	0.8	5.8	35.0	27.0	-0.7	7.3	8.0
PMP-1	Acid Plant	09/22/03	35.0	34.07	34.40	-0.33	33.67	10.0	0.010[i]	0	34	24	0.4	10.4	35.0	22.5	-0.6	11.9	12.5
PMP-2	Acid Plant	09/22/03	35.0	34.07	34.37	-0.30	33.50	10.0	0.010[i]	0	33.8	23.8	0.6	10.6	35.0	21.0	-0.6	13.4	14.0
PMP-3	Acid Plant	09/18/03	35.0	33.78	34.19	-0.41	34.59	10.0	0.010[i]	0	35	25	-0.8	9.2	35.0	22.8	-0.8	11.4	12.2

Notes:
All site wells installed by Exponent unless otherwise noted.
All site wells are made of 304 stainless steel and schedule 40 PVC pipe and are a 2-inch diameter well casing unless otherwise noted.
-- data not found or available
[a]Vertical survey data based on City of Portland Benchmark #2529 (to convert to NGVD 1929, subtract 1.375 ft).
[b] Stainless-steel, wire-wrapped screen unless otherwise noted.
[c] Installed by CH2M Hill and Environmental West Explorations.
[d] Installed by Rhône-Poulenc.
[e] Installed by Geraghty & Miller.
[f] Well abandoned. MWA-1 abandoned on 26 August 1999. MWA-6 abandoned on 4 August 1999. MWA-15 abandoned on 18 September 2000.
[g] 4-inch diameter well casing.
[h] Total depth may be inaccurate due to fine heaving sand entering the well through the screen.
[i]Slotted PVC Screen.

Table 3-6
Former Transformer Pad Concrete Sampling Program
Arkema Portland Plant Remedial Investigation

Sample	Sample Type	Composited Samples	Date
Pad A-Comp	Composite	21S, 22S, 23 OCB, 24TC, 26 OCB	01/29/04
Pad B-Comp	Composite	9 OCB, 13 OCB, 40T, 55 OCB, 58 OCB	01/29/04
9 OCB	Discreet	NA	01/29/04
13 OCB	Discreet	NA	01/29/04
40T	Discreet	NA	01/29/04
55 OCB	Discreet	NA	01/29/04
58 OCB	Discreet	NA	01/29/04
Comp C	Composite	46T/47T, 48, 49	01/30/04
Comp D	Composite	1T, 50/51T, 54T	01/30/04
1T	Discreet	NA	01/30/04
50/51T	Discreet	NA	01/30/04
54T	Discreet	NA	01/30/04
Comp E	Composite	16T, 52T	01/30/04
16T	Discreet	NA	01/30/04
Comp F	Composite	57T, 62 OCB, 63 OCB	01/30/04

Notes:
NA = Not Applicable

Table 3-7
Stormwater Sampling Summary
Arkema Portland Plant Remedial Investigation

Sample Location	Sample Date	Field Parameters [1]	Total Dissolved Solids	Chloride	Perchlorate USEPA 314.0	Metals (Fe, Mn, Hg, Cr[VI]	VOCs USEPA 8260B	SVOCs USEPA 8270	Organochlorine Pesticides USEPA 8081	PCBs USEPA 8020
Manholes SW01 and SW02	01/22/99	X							X	
	11/11/99	X							X	
	12/17/99	X							X	
	03/27/01	X							X	
Outfalls 1 through 4	02/04		(2)	(2)	(2)	X (Fe, Mn only)	(2)	(2)	(2)	(2)
	03/04		X	X	X	X	X	X	X	X
	04/04		X	X	X	X [4]	X	X	X	X
	05/04		X	X	X	X	X	X	X	X
	06/04		(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
	07/04		(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
	08/04		X	X	X	X	X	X	X	X
	09/04		X	X	X	X	X	X	X	X
	10/04		X	X	X	X	X	X	X	X
	11/04		X	X	X	X	X	X	X	X
	12/04		X	X	X	X	X	X	X	X
	01/05		X	X	X	X	X	X	X	X
	02/05		(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
	03/05		X	X	X	X	X	X	X	X

Notes:
(1) - Field Paramenters include: temperature, pH, conductivity, oxidation-reduction potential, dissolved oxygen and turbidity.
(2) - Most samples collected during February 2004 exceeded holding times.
(3) - Outfalls 1 through 4 were not sampled during June and July 2004 and February 2005 due to low flows.
(4) - March 2004 samples were analyzed for total chromium rather than hexavalent chromium.

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
MWA-1	Phase 2 Monitoring Well	702078.674	7627595.511	34.15	W&H Pacific	
MWA-2	Phase 2 Monitoring Well	702489.515	7627613.141	36.53	W&H Pacific	
MWA-3	Phase 2 Monitoring Well	702382.647	7627715.018	37.51	W&H Pacific	
MWA-4	Phase 2 Monitoring Well	702319.602	7627773.545	36.50	W&H Pacific	
MWA-5	RI Monitoring Well	702524.889	7627409.667	37.12	W&H Pacific	
MWA-6	RI Monitoring Well	702137.741	7627961.439	34.27	W&H Pacific	
MWA-6r	RI Monitoring Well	702143.641	7627945.898	34.54	W&H Pacific	
MWA-7	RI Monitoring Well	701707.858	7627161.314	34.29	W&H Pacific	
MWA-8i	RI Monitoring Well	702483.181	7627620.215	36.17	W&H Pacific	
MWA-9i	RI Monitoring Well	702375.716	7627721.359	36.87	W&H Pacific	
MWA-10i	RI Monitoring Well	702311.940	7627779.995	35.96	W&H Pacific	
MWA-11i	RI Monitoring Well	702155.027	7627636.440	34.54	W&H Pacific	
MWA-12i	RI Monitoring Well	701716.532	7627154.257	33.91	W&H Pacific	
MWA-13d	RI Monitoring Well	702392.151	7627704.845	37.13	W&H Pacific	
MWA-14i	RI Monitoring Well	702535.314	7627399.819	37.45	W&H Pacific	
MWA-15r	RI Monitoring Well	702194.225	7627679.229	34.11	W&H Pacific	
MWA-16i	RI Monitoring Well	702120.090	7627948.275	34.82	W&H Pacific	
MWA-17si	RI Monitoring Well	702386.450	7627698.190	37.21	W&H Pacific	
MWA-18	RI Monitoring Well	702052.795	7628047.410	34.81	W&H Pacific	
MWA-19	RI Monitoring Well	701963.765	7628189.485	35.59	W&H Pacific	
MWA-20	RI Monitoring Well	701918.930	7627962.313	36.55	W&H Pacific	
MWA-21b	RI Monitoring Well	702369.559	7627725.486	36.88	W&H Pacific	
MWA-22	RI Monitoring Well	702210.135	7627521.501	34.65	W&H Pacific	
MWA-23	RI Monitoring Well	701356.554	7627515.220	34.86	W&H Pacific	
MWA-24	RI Monitoring Well	701853.143	7627738.641	35.64	W&H Pacific	
MWA-25	RI Monitoring Well	701729.082	7627946.191	35.72	W&H Pacific	
MWA-26	RI Monitoring Well	701490.202	7628005.355	35.73	W&H Pacific	
MWA-27	RI Monitoring Well	701701.183	7628135.199	34.92	W&H Pacific	
MWA-28i(d)	RI Monitoring Well	701734.772	7627941.235	35.89	W&H Pacific	
MWA-29	RI Monitoring Well	701600.000	7628426.400	35.24	Unknown	Survey data unavailable. Location taken from historic figure.
MWA-30	RI Monitoring Well	701832.600	7628290.800	36.36	Unknown	Survey data unavailable. Location taken from historic figure.
MWA-31i(d)	RI Monitoring Well	701832.600	7628292.900	36.38	Unknown	Survey data unavailable. Location taken from historic figure.
MWA-32i	RI Monitoring Well	701841.100	7628288.700	36.70	W&H Pacific	
MWA-33	RI Monitoring Well	701598.600	7627705.600	35.31	W&H Pacific	
MWA-34i	RI Monitoring Well	701968.194	7628183.519	37.95	W&H Pacific	
MWA-35	Hex. Chrome Pilot Study Performance Monitoring Well	701770.243	7627899.937	35.80	W&H Pacific	
MWA-36	Hex. Chrome Pilot Study Performance Monitoring Well	701682.656	7627973.537	35.16	W&H Pacific	
MWA-37	Hex. Chrome Pilot Study Performance Monitoring Well	701714.251	7627938.894	35.45	W&H Pacific	
MWA-38	Hex. Chrome Pilot Study Performance Monitoring Well	701602.156	7627898.501	35.28	W&H Pacific	
US-01	Unpaved Area Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
US-02	Unpaved Area Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
US-03	Unpaved Area Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-49	RI Soil Boring	702145.886	7627438.022	34.67	W&H Pacific	
B-50	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
B-51b	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-51	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-52	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-53	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-54	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-55	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-56	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-57	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-58	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-59	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-60	RI Soil Boring	702038.283	7627533.615	34.39	W&H Pacific	
B-61	RI Soil Boring	702219.164	7627581.197	34.63	W&H Pacific	
B-62	RI Soil Boring	702052.108	7628027.202	33.81	W&H Pacific	
B-63	RI Soil Boring	701945.656	7628208.383	35.23	W&H Pacific	
B-64	RI Soil Boring	701913.715	7627972.270	36.28	W&H Pacific	
B-65	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-66	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-67	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-68	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-69	RI Soil Boring	701760.365	7627807.473	36.28	W&H Pacific	
B-70	RI Soil Boring	701657.930	7627898.327	36.70	W&H Pacific	
B-70b	RI Soil Boring	701657.653	7627901.383	36.55	W&H Pacific	
B-71	RI Soil Boring	701783.166	7627902.717	36.43	W&H Pacific	
B-72	RI Soil Boring	701731.003	7627944.686	36.13	W&H Pacific	
B-73	RI Soil Boring	701489.017	7628006.151	36.08	W&H Pacific	
B-74	RI Soil Boring	701705.734	7627673.815	36.06	W&H Pacific	
B-75	RI Soil Boring	701696.679	7627758.214	36.02	W&H Pacific	
B-76	RI Soil Boring	701578.576	7627779.971	35.94	W&H Pacific	
B-77	RI Soil Boring	701556.703	7627801.772	35.88	W&H Pacific	
B-78	RI Soil Boring	701500.229	7627851.268	36.48	W&H Pacific	
B-79	RI Soil Boring	701424.348	7627887.850	35.94	W&H Pacific	
B-80	RI Soil Boring	701585.160	7627691.554	35.83	W&H Pacific	
B-81	RI Soil Boring	701537.414	7627736.452	35.93	W&H Pacific	
B-82	RI Soil Boring	701492.027	7627563.315	35.01	W&H Pacific	
B-83	RI Soil Boring	701447.156	7627663.057	35.38	W&H Pacific	
B-84	RI Soil Boring	701595.327	7627844.119	35.90	W&H Pacific	
B-85	RI Soil Boring	701729.695	7627942.743	36.04	W&H Pacific	
B-86	RI Soil Boring	701764.282	7627616.445	35.12	W&H Pacific	
B-86b	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-87	RI Soil Boring	701667.853	7627513.112	35.01	W&H Pacific	
B-88	RI Soil Boring	701622.946	7627576.640	35.22	W&H Pacific	
B-89	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
B-90	RI Soil Boring	701514.827	7627677.893	35.68	W&H Pacific	
B-91	RI Soil Boring	702321.565	7627455.380	34.93	W&H Pacific	

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
B-92	RI Soil Boring	702283.627	7627413.356	34.94	W&H Pacific	
B-93	RI Soil Boring	702243.869	7627455.170	34.87	W&H Pacific	
B-94	RI Soil Boring	702273.429	7627501.774	34.91	W&H Pacific	
B-95	RI Soil Boring	702217.026	7627353.890	34.49	W&H Pacific	
B-96	RI Soil Boring	702175.688	7627385.794	34.49	W&H Pacific	
B-97	RI Soil Boring	702196.901	7627743.624	38.04	W&H Pacific	
B-98	RI Soil Boring	702182.461	7627713.604	38.18	W&H Pacific	
B-99	RI Soil Boring	702155.487	7627780.270	38.12	W&H Pacific	
B-100	RI Soil Boring	702099.565	7627668.043	34.77	W&H Pacific	
B-101	RI Soil Boring	702062.524	7627699.947	34.77	W&H Pacific	
B-102	RI Soil Boring	702313.184	7627486.657	34.86	W&H Pacific	
B-103	RI Soil Boring	702291.617	7627457.895	34.96	W&H Pacific	
B-104	RI Soil Boring	702255.846	7627486.106	34.91	W&H Pacific	
B-105	RI Soil Boring	702221.089	7627400.885	34.55	W&H Pacific	
B-106	RI Soil Boring	702165.477	7627450.646	34.86	W&H Pacific	
B-107	RI Soil Boring	702145.164	7627352.434	34.59	W&H Pacific	
B-108	RI Soil Boring	702143.871	7627710.159	34.76	W&H Pacific	
B-109	RI Soil Boring	702097.658	7627749.128	34.43	W&H Pacific	
B-110	RI Soil Boring	702156.861	7627553.713	34.20	W&H Pacific	
B-111	RI Soil Boring	702120.669	7627556.268	34.97	W&H Pacific	
B-112	RI Soil Boring	702354.101	7627517.866	34.03	W&H Pacific	
B-113	RI Soil Boring	702305.941	7627560.133	34.00	W&H Pacific	
B-114	RI Soil Boring	702256.488	7627602.423	34.10	W&H Pacific	
B-115	RI Soil Boring	702217.197	7627636.424	34.03	W&H Pacific	
B-116	RI Soil Boring	701524.488	7628305.499	35.66	W&H Pacific	
B-117	RI Soil Boring	701630.288	7628420.762	34.61	W&H Pacific	
B-118	RI Soil Boring	701830.784	7628292.537	36.85	W&H Pacific	
B-119	RI Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-1	Soil Removal IRM Soil Boring	702198.401	7627679.888	34.38	W&H Pacific	
IB-2	Soil Removal IRM Soil Boring	702200.418	7627682.411	34.42	W&H Pacific	
IB-3	Soil Removal IRM Soil Boring	702202.678	7627685.012	34.27	W&H Pacific	
IB-4	Soil Removal IRM Soil Boring	702204.631	7627687.662	34.27	W&H Pacific	
IB-5	Soil Removal IRM Soil Boring	702221.920	7627658.964	34.13	W&H Pacific	
IB-6	Soil Removal IRM Soil Boring	702223.893	7627661.884	34.14	W&H Pacific	
IB-7	Soil Removal IRM Soil Boring	702227.079	7627648.719	34.08	W&H Pacific	
IB-8	Soil Removal IRM Soil Boring	702229.059	7627651.850	34.12	W&H Pacific	
IB-9	Soil Removal IRM Soil Boring	702231.262	7627655.763	34.16	W&H Pacific	
IB-10	Soil Removal IRM Soil Boring	702220.214	7627665.116	34.18	W&H Pacific	
IB-11	Soil Removal IRM Soil Boring	702217.872	7627665.585	34.14	W&H Pacific	
IB-12	Soil Removal IRM Soil Boring	702220.260	7627669.275	34.18	W&H Pacific	
IB-13	Soil Removal IRM Soil Boring	702221.636	7627671.430	34.07	W&H Pacific	
IB-14	Soil Removal IRM Soil Boring	702224.999	7627663.352	34.09	W&H Pacific	
IB-15	Soil Removal IRM Soil Boring	702239.892	7627637.750	34.16	W&H Pacific	
IB-16	Soil Removal IRM Soil Boring	702242.115	7627639.823	34.10	W&H Pacific	

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
IB-17	Soil Removal IRM Soil Boring	702243.738	7627641.352	34.19	W&H Pacific	
IB-18	Soil Removal IRM Soil Boring	702154.676	7627618.981	35.14	W&H Pacific	
IB-19	Soil Removal IRM Soil Boring	702168.456	7627631.788	34.99	W&H Pacific	
IB-20	Soil Removal IRM Soil Boring	702154.531	7627645.506	34.69	W&H Pacific	
IB-21	Soil Removal IRM Soil Boring	702140.880	7627631.287	34.82	W&H Pacific	
IB-22	Soil Removal IRM Soil Boring	702143.737	7627596.746	35.09	W&H Pacific	
IB-23	Soil Removal IRM Soil Boring	702130.467	7627608.768	34.73	W&H Pacific	
IB-24	Soil Removal IRM Soil Boring	702118.634	7627618.949	34.68	W&H Pacific	
IB-25	Soil Removal IRM Soil Boring	702096.569	7627596.677	34.16	W&H Pacific	
IB-26	Soil Removal IRM Soil Boring	702114.479	7627637.534	34.89	W&H Pacific	
IB-27	Soil Removal IRM Soil Boring	702128.094	7627653.105	34.94	W&H Pacific	
IB-28	Soil Removal IRM Soil Boring	702141.302	7627667.498	34.72	W&H Pacific	
IB-29	Soil Removal IRM Soil Boring	702152.086	7627444.936	34.54	W&H Pacific	
IB-30	Soil Removal IRM Soil Boring	702139.264	7627430.304	34.66	W&H Pacific	
IB-31	Soil Removal IRM Soil Boring	702155.067	7627430.211	34.54	W&H Pacific	
IB-32	Soil Removal IRM Soil Boring	702136.553	7627444.499	34.52	W&H Pacific	
IB-33	Soil Removal IRM Soil Boring	702276.670	7627558.770	34.36	W&H Pacific	
IB-34	Soil Removal IRM Soil Boring	702288.751	7627534.934	34.41	W&H Pacific	
IB-35	Soil Removal IRM Soil Boring	702304.214	7627552.409	34.09	W&H Pacific	
IB-36	Soil Removal IRM Soil Boring	702318.403	7627526.283	34.28	W&H Pacific	
IB-37	Soil Removal IRM Soil Boring	702219.351	7627700.612	34.33	W&H Pacific	
IB-38	Soil Removal IRM Soil Boring	702267.081	7627658.379	33.95	W&H Pacific	
IB-39	Soil Removal IRM Soil Boring	702322.117	7627609.203	34.20	W&H Pacific	
IB-40	Soil Removal IRM Soil Boring	702397.259	7627539.071	33.55	W&H Pacific	
IB-41	Soil Removal IRM Soil Boring	702448.116	7627595.451	33.73	W&H Pacific	
IB-42	Soil Removal IRM Soil Boring	702385.449	7627655.441	33.79	W&H Pacific	
IB-43	Soil Removal IRM Soil Boring	702310.729	7627677.367	34.16	W&H Pacific	
IB-44	Soil Removal IRM Soil Boring	702316.824	7627711.142	33.43	W&H Pacific	
IB-45	Soil Removal IRM Soil Boring	702271.642	7627757.018	33.93	W&H Pacific	
IB-46	Soil Removal IRM Soil Boring	702374.512	7627611.134	33.78	W&H Pacific	
IB-47	Soil Removal IRM Soil Boring	702263.200	7627569.664	34.11	W&H Pacific	
IB-48	Soil Removal IRM Soil Boring	702165.908	7627420.365	34.48	W&H Pacific	
IB-49	Soil Removal IRM Soil Boring	702237.699	7627635.661	34.11	W&H Pacific	
IB-50	Soil Removal IRM Soil Boring	702234.599	7627632.712	34.24	W&H Pacific	
IB-51	Soil Removal IRM Soil Boring	702134.075	7627587.104	35.10	W&H Pacific	
IB-52	Soil Removal IRM Soil Boring	702107.123	7627588.135	34.42	W&H Pacific	
IB-53	Soil Removal IRM Soil Boring	702120.972	7627598.575	34.68	W&H Pacific	
IB-54	Soil Removal IRM Soil Boring	702109.373	7627608.146	34.38	W&H Pacific	
IB-65	Soil Removal IRM Soil Boring	702152.415	7627682.157	34.61	W&H Pacific	
IB-66	Soil Removal IRM Soil Boring	702158.158	7627587.579	35.34	W&H Pacific	
IB-67	Soil Removal IRM Soil Boring	702150.723	7627577.409	35.17	W&H Pacific	
IB-73	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-74	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-75	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
IB-76	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-77	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-78	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-79	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-80	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-81	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-82	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-83	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-84	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-85	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-86	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-87	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-88	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-89	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-90	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-91	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-92	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-93	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-94	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-95	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
IB-96	Soil Removal IRM Soil Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-1	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-2	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-3	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-4	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-5	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-6	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-7	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
AP-8	VES Hand Auger Boring				Unknown	Survey data unavailable. Location taken from historic figure.
VP-1	VES Vapor Monitoring Point	702147.605	7627632.781	34.82	W&H Pacific	
VP-2	VES Vapor Monitoring Point	702158.762	7627618.988	35.17	W&H Pacific	
VP-3	VES Vapor Monitoring Point	702145.259	7627643.157	34.72	W&H Pacific	
VP-4	VES Vapor Monitoring Point	702144.379	7627649.874	34.53	W&H Pacific	
VP-5	VES Vapor Monitoring Point				Unknown	Survey data unavailable. Location taken from historic figure.
VP-6	VES Vapor Monitoring Point				Unknown	Survey data unavailable. Location taken from historic figure.
VP-7	VES Vapor Monitoring Point	702126.601	7627604.907	34.66	W&H Pacific	
VP-8	VES Vapor Monitoring Point				Unknown	Survey data unavailable. Location taken from historic figure.
VP-9	VES Vapor Monitoring Point	702148.514	7627655.292	34.48	W&H Pacific	
VP-10	VES Vapor Monitoring Point	702134.769	7627663.059	34.83	W&H Pacific	
VP-11	VES Vapor Monitoring Point	702129.815	7627659.800	34.81	W&H Pacific	
VP-12	VES Vapor Monitoring Point	702131.142	7627634.891	34.83	W&H Pacific	
VP-13	VES Vapor Monitoring Point	702109.053	7627640.902	34.94	W&H Pacific	
VP-14	VES Vapor Monitoring Point	702093.642	7627622.807	34.54	W&H Pacific	
VP-15	VES Vapor Monitoring Point	702109.484	7627610.071	34.38	W&H Pacific	

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
VP-16	VES Vapor Monitoring Point	702129.150	7627608.643	34.67	W&H Pacific	
VP-17	VES Vapor Monitoring Point	702127.254	7627594.436	34.70	W&H Pacific	
VP-18	VES Vapor Monitoring Point	702142.088	7627624.324	34.93	W&H Pacific	
VP-19	VES Vapor Monitoring Point	702150.280	7627591.967	35.28	W&H Pacific	
VP-20	VES Vapor Monitoring Point	702149.582	7627578.548	35.23	W&H Pacific	
VP-21	VES Vapor Monitoring Point	702197.070	7627610.177	34.73	W&H Pacific	
VP-22	VES Vapor Monitoring Point	702115.466	7627677.954	34.83	W&H Pacific	
VP-23	VES Vapor Monitoring Point	702081.666	7627688.538	34.79	W&H Pacific	
VP-24	VES Vapor Monitoring Point	702089.811	7627651.492	34.74	W&H Pacific	
VP-25	DNAPL Pilot Study Vapor Monitoring Point	702207.404	7627665.914	34.31	W&H Pacific	
VP-26	DNAPL Pilot Study Vapor Monitoring Point	702237.848	7627670.499	34.34	W&H Pacific	
VP-27	DNAPL Pilot Study Vapor Monitoring Point	702257.535	7627676.862	34.02	W&H Pacific	
VP-28	DNAPL Pilot Study Vapor Monitoring Point	702239.757	7627650.886	34.38	W&H Pacific	
VP-29	DNAPL Pilot Study Vapor Monitoring Point	702259.392	7627652.291	34.26	W&H Pacific	
VP-30	DNAPL Pilot Study Vapor Monitoring Point	702222.780	7627700.801	34.46	W&H Pacific	
NMP-1S	Persuflate Pilot Study Performance Monitoring Well	702239.227	7627700.900	33.87	W&H Pacific	
NMP-2S	Persuflate Pilot Study Performance Monitoring Well	702255.433	7627711.735	33.61	W&H Pacific	
NMP-3S	Persuflate Pilot Study Performance Monitoring Well	702272.019	7627721.922	33.82	W&H Pacific	
NMP-4S	Persuflate Pilot Study Performance Monitoring Well	702273.729	7627675.912	33.69	W&H Pacific	
NMP-5S	Persuflate Pilot Study Performance Monitoring Well	702265.119	7627693.530	33.43	W&H Pacific	
NMP-6S	Persuflate Pilot Study Performance Monitoring Well	702236.658	7627729.259	34.14	W&H Pacific	
NMP-1D	Persuflate Pilot Study Performance Monitoring Well	702230.987	7627695.063	33.95	W&H Pacific	
NMP-2D	Persuflate Pilot Study Performance Monitoring Well	702247.561	7627706.233	33.80	W&H Pacific	
NMP-3D	Persuflate Pilot Study Performance Monitoring Well	702264.476	7627716.880	33.74	W&H Pacific	
NMP-4D	Persuflate Pilot Study Performance Monitoring Well	702264.713	7627670.093	33.72	W&H Pacific	
NMP-5D	Persuflate Pilot Study Performance Monitoring Well	702256.612	7627688.475	33.63	W&H Pacific	
NMP-6D	Persuflate Pilot Study Performance Monitoring Well	702244.762	7627734.436	33.99	W&H Pacific	
PMP-1	DNAPL Pilot Study Performance Monitoring Well	702203.757	7627688.308	34.42	W&H Pacific	
PMP-2	DNAPL Pilot Study Performance Monitoring Well	702236.908	7627659.165	34.42	W&H Pacific	
PMP-3	DNAPL Pilot Study Performance Monitoring Well	702261.330	7627647.109	34.22	W&H Pacific	
AS-1	DNAPL Pilot Study Air Sparging Well	702251.406	7627651.583	34.38	W&H Pacific	
AS-2	DNAPL Pilot Study Air Sparging Well	702217.080	7627686.948	34.36	W&H Pacific	
SVE-1	DNAPL Pilot Study SVE Well	702258.924	7627662.832	34.18	W&H Pacific	
SVE-2	DNAPL Pilot Study SVE Well	702212.051	7627681.512	34.37	W&H Pacific	
IW-1	Hex. Chrome Pilot Study Injection Well	701667.950	7627957.856	34.80	W&H Pacific	
IW-2	Hex. Chrome Pilot Study Injection Well	701679.620	7627948.452	34.83	W&H Pacific	
IW-3	Hex. Chrome Pilot Study Injection Well	701700.275	7627930.979	35.01	W&H Pacific	
IW-4	Hex. Chrome Pilot Study Injection Well	701711.602	7627921.191	35.03	W&H Pacific	
IW-5	Hex. Chrome Pilot Study Injection Well	701722.876	7627910.774	34.96	W&H Pacific	
S-1	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
S-2	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
S-3	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
S-4	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
S-5	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
S-6	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
S-7	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
S-8	Surface Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-1	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-2	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-3	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-4	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-5	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-6	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-7	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-8	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-9	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-10	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-11	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
RB-12	Riverbank Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-1	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-2	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-3	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-4	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-5	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-6	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-1	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-2	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-3	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-4	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-5	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-6	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-7	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-8	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-9	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-10	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-11	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-12	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-13	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-14	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-15	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-16	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-17	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-18	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-19	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-20	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-21	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-22	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
BPA-23	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
BPA-24	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-E	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-E	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-E	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-E	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-N	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-N	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-N	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-N	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-S	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-S	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-S	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-S	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-W	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-W	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-W	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-W	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-B1	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-B2	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-B3	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-B4	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PENN-B5	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-1	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-2	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-3	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-4	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-5	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-6	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-7	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
P-ROW-8	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD31&32B	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD31732S	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD41-BE	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD41-SE	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD41-BW	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD-41-SW	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD72-BE	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD72-SE	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD72-BW	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD72-SW	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD97-S	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
PD97-B	BPA Main Substation Soil Sample				Unknown	Survey data unavailable. Location taken from historic figure.
MIP-1	Phase I DNAPL Investigation MIP Boring	702150.985	7627637.576	34.67	W&H Pacific	
MIP-2	Phase I DNAPL Investigation MIP Boring	702383.024	7627730.100	34.40	W&H Pacific	

Table 3-8
Survey Information for Remedial Investigation Borings
Arkema Portland Plant Remedial Investigation

Boring Number	Description of Boring	Northing	Easting	Elevation	Surveyor/ Source	Notes
MIP-3	Phase I DNAPL Investigation MIP Boring	702210.058	7627631.664	33.99	W&H Pacific	
MIP/INT-4	Phase I DNAPL Investigation MIP Boring	702237.972	7627630.351	34.27	W&H Pacific	
MIP/INT-5	Phase I DNAPL Investigation MIP Boring	702198.224	7627665.161	34.23	W&H Pacific	
MIP-6	Phase I DNAPL Investigation MIP Boring	702230.104	7627659.819	34.38	W&H Pacific	
MIP/INT-7	Phase I DNAPL Investigation MIP Boring	702255.919	7627649.917	34.32	W&H Pacific	
MIP-8	Phase I DNAPL Investigation MIP Boring	702287.313	7627641.814	34.24	W&H Pacific	
MIP/INT-9	Phase I DNAPL Investigation MIP Boring	702194.074	7627688.515	34.55	W&H Pacific	
MIP/INT-10	Phase I DNAPL Investigation MIP Boring	702220.837	7627684.327	34.24	W&H Pacific	
MIP/INT-11	Phase I DNAPL Investigation MIP Boring	702248.979	7627679.751	34.13	W&H Pacific	
MIP/INT-12	Phase I DNAPL Investigation MIP Boring	702277.275	7627668.800	34.09	W&H Pacific	
MIP-13	Phase I DNAPL Investigation MIP Boring	702225.875	7627701.333	34.38	W&H Pacific	
MIP-14	Phase I DNAPL Investigation MIP Boring	702245.743	7627701.918	34.07	W&H Pacific	
MIP-15	Phase I DNAPL Investigation MIP Boring	702277.108	7627699.302	33.97	W&H Pacific	
MIP-16	Phase I DNAPL Investigation MIP Boring	702264.422	7627725.439	34.08	W&H Pacific	
MIP-17	Phase I DNAPL Investigation MIP Boring	702133.315	7627717.003	34.87	W&H Pacific	
MIP-18	Phase I DNAPL Investigation MIP Boring	702242.615	7627597.921	34.15	W&H Pacific	
MIP-19	Phase I DNAPL Investigation MIP Boring	702307.715	7627667.648	34.35	W&H Pacific	
CS-1	VES Confirmation Soil Boring	702159.700	7627576.700	35.30	Unknown	Survey data unavailable. Location taken from historic figure.
CS-2	VES Confirmation Soil Boring	702153.600	7627591.800	35.30	Unknown	Survey data unavailable. Location taken from historic figure.
CS-3	VES Confirmation Soil Boring	702123.800	7627597.500	34.60	Unknown	Survey data unavailable. Location taken from historic figure.
CS-4	VES Confirmation Soil Boring	702127.200	7627610.600	34.70	Unknown	Survey data unavailable. Location taken from historic figure.
CS-5	VES Confirmation Soil Boring	702107.500	7627607.300	34.20	Unknown	Survey data unavailable. Location taken from historic figure.
CS-6	VES Confirmation Soil Boring	702110.700	7627638.600	34.80	Unknown	Survey data unavailable. Location taken from historic figure.
CS-7	VES Confirmation Soil Boring	702132.700	7627637.200	34.90	Unknown	Survey data unavailable. Location taken from historic figure.
CS-8	VES Confirmation Soil Boring	702145.300	7627625.400	35.00	Unknown	Survey data unavailable. Location taken from historic figure.
CS-9	VES Confirmation Soil Boring	702147.500	7627644.200	34.60	Unknown	Survey data unavailable. Location taken from historic figure.
CS-10	VES Confirmation Soil Boring	702142.900	7627647.900	34.60	Unknown	Survey data unavailable. Location taken from historic figure.
CS-11	VES Confirmation Soil Boring	702138.300	7627651.400	34.70	Unknown	Survey data unavailable. Location taken from historic figure.
CS-12	VES Confirmation Soil Boring	702147.200	7627655.500	34.50	Unknown	Survey data unavailable. Location taken from historic figure.
CS-13	VES Confirmation Soil Boring	702104.400	7627668.300	34.90	Unknown	Survey data unavailable. Location taken from historic figure.
CS-14	VES Confirmation Soil Boring	702198.700	7627608.500	34.70	Unknown	Survey data unavailable. Location taken from historic figure.
CS-15	VES Confirmation Soil Boring	702179.700	7627599.700	35.10	Unknown	Survey data unavailable. Location taken from historic figure.

Notes:
Elevations based on City of Portland Datum.
Horizontal coordinates based on Oregon State Plane Coordinate System.

Table 3-9
Summary of Waste Characterization and Disposition
Arkema Portland Plant Remedial Investigation

Waste Type	Listed Hazardous Waste	Characteristic Hazardous Waste	Non-RCRA Regulated Waste
RI Investigation-Derived Waste	None Generated	D007[1] - Stabilized and Landfilled at Subtitle C Treatment, Storage, and Disposal (TSD) facility in Arlington, Oregon.	Stabilized, if necessary. Landfilled at Subtitle C TSD in Arlington, Oregon
		D021[2] - Incinerated at RCRA Subtitle C TSD	
IRM Soils	None Generated	None Generated	Landfilled at Subtitle C TSD in Arlington, Oregon
Demolition Debris	U061[3] - Macroencapsulated at Subtitle C TSD in Arlington, Oregon	None Generated	No. 3 Warehouse and Chlorate Plant debris[4] landfilled at Subtitle D facility in Hillsboro, Oregon.
			Transformer Pads landfilled at Subtitle D facility in Hillsboro, Oregon

Notes:

1 - D007 is the USEPA hazardous waste code for a characteristic waste exceeding the regulatory limit for chromium

2 - D021 is the USEPA hazardous waste code for a characteristic waste exceeding the regulatory limit for chlorobenzene

3 - Debris from the former DDT Process building and the former No. 2 Warehouse contained DDT and were managed as listed hazardous waste. U061 is the USEPA hazardous waste code for listed waste containing DDT.

4 - This debris contained perchlorate and was disposed off-site.

Table 4-1
Remedial Investigation Soil Analytical Results
Monitoring Well Borings - Physical Properites
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Percent Moisture (%)	Specific Gravity	Bulk density (Dry Mass/ Wet Volume) (lb/ft^3)	Dry Density (lb/ft^3)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soil Classification (USCS)	Hydraulic Conductivity (ft/day)
MWA-8i	SO0033	11/10/98	36.5	37.8	43.0	-	-	-	38.0	31.0	7.0	ML	-
MWA-8i	SO0038	11/11/98	48	49	35.0	-	-	-	NP	NP	NP	SM	-
MWA-9i	SO0045	11/17/98	30	32	34.0	-	-	-	NP	NP	NP	SM	-
MWA-9i	SO0049	11/17/98	38	40	45.0	-	-	-	43.0	31.0	12.0	ML	-
MWA-10i	SO0062	11/20/98	30	32	48.0	-	-	-	39.0	30.0	9.0	ML	-
MWA-10i	SO0065	11/20/98	36	38	54.0	-	-	-	42.0	31.0	11.0	ML	-
MWA-10i	SO0069	11/23/98	44	46	37.0	-	-	-	37.0	26.0	11.0	ML	-
MWA-10i	SO0070	11/23/98	45.3	46.8	24.2	2.7	120.0	96.6	31.0	25.0	6.0	ML	0.0028
MWA-11i	SO0089	12/2/98	39	40.25	37.2	2.7	119.0	86.9	41.0	24.0	17.0	CL	0.0007
MWA-12i	SO0018	11/4/98	48	50	35.0	-	-	-	41.0	22.0	19.0	CL	-
MWA-13d	SO0126	1/5/99	48	50	45.0	2.7	112.0	76.5	38.0	39.0	9.0	ML	0.0071

Notes:
CL - Low-plasticity clay
ft/day - feet per day
lb/ft^3 - pounds per cubic foot
ML - Low-plasticity silt
NP - Not plastic
SM - Silty sand
USCS - Unified Soil Classification System
- not analyzed

Table 4-2
Groundwater Elevation Data
Arkema Portland Plant Remedial Investigation

Monitoring Well:	MWA-1[b]		MWA-2		MWA-3		MWA-4		MWA-5		MWA-6[c]		MWA-6r		MWA-7		MWA-8i		MWA-9i		MWA-10i		MWA-11i	
Well Casing Elevation[a]:	34.15		36.47		37.46		36.46		37.07		34.27		34.55		34.29		36.10		36.81		35.90		34.50	
Measurement Date	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE
12/16/1996	17.82	16.33	22.25	14.22	22.95	14.51	22.00	14.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2/1997	13.44	20.71	14.00	22.47	16.51	20.95	15.51	20.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/7/1997	14.97	19.18	19.74	16.73	20.95	16.51	19.92	16.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/3/1997	18.15	16.00	22.84	13.63	23.45	14.01	22.44	14.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/12/1997	17.46	16.69	21.77	14.70	23.04	14.42	21.92	14.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/8/1997	17.44	16.71	22.58	13.89	22.55	14.91	21.53	14.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/22/1997	17.46	16.69	22.26	14.21	23.61	13.85	22.06	14.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/13/1997	15.18	18.97	19.17	17.30	20.22	17.24	19.09	17.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/24/1997	13.34	20.81	17.56	18.91	18.21	19.25	17.33	19.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/7/1997	20.16	13.99	25.82	10.65	24.74	12.72	24.62	11.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/30/1997	21.29	12.86	27.57	8.90	28.06	9.40	27.06	9.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/28/1998	17.78	16.37	21.73	14.74	21.81	15.65	22.00	14.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/25/1999	15.95	18.20	20.5	15.97	21.66	15.8	20.8	15.66	20.83	16.24	19.39	14.88	-	-	6.4	27.89	20.15	15.95	21.2	15.61	19.91	15.99	17.71	16.79
2/5/1999	17.14	17.01	22.26	14.21	22.77	14.69	21.87	14.59	23.33	13.74	19.87	14.4	-	-	6.45	27.84	22.23	13.87	22.81	14.00	21.88	14.02	19.69	14.81
4/26/1999	18.75	15.40	23.52	12.95	20.76	16.70	22.36	14.10	24.78	12.29	21.10	13.17	-	-	7.20	27.09	23.42	12.68	23.93	12.88	23.00	12.9	20.84	13.66
6/22/1999	17.62	16.53	22.42	14.05	23.04	14.42	22.01	14.45	23.10	13.97	19.95	14.32	-	-	7.95	26.34	22.27	13.83	22.82	13.99	21.91	13.99	19.65	14.85
8/23/1999	20.60	13.55	27.08	9.39	27.62	9.84	26.38	10.08	28.27	8.80	-	-	23.85	10.70	8.66	25.63	27.78	8.32	28.25	8.56	27.20	8.7	24.73	9.77
9/20/1999	-	-	28.55	7.92	29.00	8.46	27.82	8.64	29.73	7.34	-	-	25.17	9.38	9.20	25.09	29.50	6.60	30.00	6.81	29.00	6.90	26.37	8.13
10/18/1999	-	-	29.17	7.30	29.79	7.67	28.57	7.89	30.21	6.86	-	-	25.25	9.30	9.50	24.79	29.38	6.72	29.99	6.82	29.00	6.90	26.70	7.80
11/15/1999	-	-	28.41	8.06	25.04	12.42	27.99	8.47	29.29	7.78	-	-	24.83	9.72	9.47	24.82	28.32	7.78	28.89	7.92	27.93	7.97	25.75	8.75
12/14/1999	-	-	24.84	11.63	25.31	12.15	24.87	11.59	25.20	11.87	-	-	21.93	12.62	8.58	25.71	24.58	11.52	25.24	11.57	24.31	11.59	22.19	12.31
3/23/2000	-	-	25.54	10.93	21.92	15.54	24.23	12.23	27.00	10.07	-	-	22.74	11.81	9.12	25.17	26.10	10.00	26.50	10.31	25.62	10.28	23.36	11.14
2/13/2001	-	-	28.87	7.60	29.65	7.81	28.61	7.85	29.67	7.40	-	-	25.78	8.77	9.48	24.81	28.88	7.22	29.46	7.35	28.49	7.41	26.03	8.47
3/26/2001	-	-	29.23	7.24	30.04	7.42	28.93	7.53	30.04	7.03	-	-	26.55	8.00	9.75	24.54	29.10	7.00	29.66	7.15	28.67	7.23	26.32	8.18
5/9/2001	-	-	28.81	7.66	29.68	7.78	28.56	7.90	29.53	7.54	-	-	26.28	8.27	9.59	24.70	28.38	7.72	26.99	9.82	28.00	7.90	-	-
5/29/2001	-	-	28.89	7.58	29.69	7.77	28.63	7.83	29.70	7.37	-	-	26.41	8.14	9.83	24.46	28.87	7.23	29.44	7.37	28.45	7.45	26.14	8.36
6/11/2001	-	-	29.00	7.47	29.77	7.69	28.71	7.75	29.83	7.24	-	-	26.39	8.16	9.85	24.44	28.48	7.62	29.19	7.62	28.27	7.63	26.12	8.38
10/11/2001	-	-	30.40	6.07	31.17	6.29	30.07	6.39	31.21	5.86	-	-	27.78	6.77	11.02	23.27	30.65	5.45	31.21	5.60	30.32	5.58	27.97	6.53
11/14/2001	-	-	29.82	6.65	30.64	6.82	29.53	6.93	30.54	6.53	-	-	27.44	7.11	10.93	23.36	29.36	6.74	29.99	6.82	29.05	6.85	26.81	7.69
4/2/2002	-	-	27.65	8.82	28.33	9.13	27.26	9.20	28.61	8.46	-	-	25.17	9.38	7.95	26.34	27.44	8.66	28.06	8.75	27.10	8.80	24.74	9.76
6/3/2003	-	-	26.85	9.62	28.04	9.42	27.46	9.00	27.06	10.01	-	-	24.80	9.75	8.23	26.06	26.20	9.90	26.97	9.84	26.03	9.87	25.61	8.89*

Notes:
DTW - depth to water from top of well casing.
GWE - groundwater elevation
RSE - river stage elevation
- not analyzed
[a] Well casing elevation in feet above City of Portland Datum.
[b] Abandoned on 26 August 1999.
[c] Abandoned on 4 August 1999 and replaced by new monitoring well MWA-6r.
[d] Abandoned on 18 September 2000.
[e] Measured at stilling well on Dock 1 except as noted.
[f] Reported value is mid-point of reported RSE. 12/16/96 range 9-10 ft; 1/2/97 range 22-23.5 ft; 2/7/97 range 13-13.5 ft; 3/3/97 range 9-10 ft; 3/12/97 range 12-12.5 ft; and 4/8/97 range 8.5-9 ft.
[g] Ranges from Morrison Street Bridge gage on day of measurement.
* Water level data is anomalous. Care should be taken when using this data.

Table 4-2
Groundwater Elevation Data
Arkema Portland Plant Remedial Investigation

Monitoring Well:	MWA-12i		MWA-13d		MWA-14i		MWA-15[d]		MWA-15r		MWA-16i		MWA-17si		MWA-18		MWA-19		MWA-20		MWA-21b		MWA-22	
Well Casing Elevation[a]:	33.91		37.06		37.39		34.01		34.11		34.82		37.20		37.49		38.00		39.03		36.84		34.65	
Measurement Date	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE
12/16/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/7/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/3/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/12/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/8/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/22/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/13/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/24/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/7/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/30/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/28/1998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/25/1999	8.68	25.23	14.8	22.26	21.07	16.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/5/1999	8.4	25.51	23.15	13.91	23.24	14.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/26/1999	9.50	24.41	24.40	12.66	24.48	12.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/22/1999	9.68	24.23	23.20	13.86	23.21	14.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/23/1999	11.27	22.64	28.65	8.41	28.70	8.69	23.31	10.7	-	-	26.00	8.82	27.40	9.80	-	-	-	-	-	-	-	-	-	-
9/20/1999	11.95	21.96	30.45	6.61	30.37	7.02	24.62	9.39	-	-	27.75	7.07	28.91	8.29	-	-	-	-	-	-	-	-	-	-
10/18/1999	12.48	21.43	30.35	6.71	30.23	7.16	25.44	8.57	-	-	27.69	7.13	29.51	7.69	-	-	-	-	-	-	-	-	-	-
11/15/99	12.05	21.86	29.37	7.69	29.25	8.14	25.20	8.81	-	-	26.74	8.08	28.89	8.31	-	-	-	-	-	-	-	-	-	-
12/14/99	10.59	23.32	25.98	11.08	25.58	11.81	-	-	-	-	23.10	11.72	25.62	11.58	-	-	-	-	-	-	-	-	-	-
3/23/00	9.89	24.02	26.97	10.09	27.11	10.28	-	-	-	-	24.58	10.24	25.70	11.50	-	-	-	-	-	-	-	-	-	-
2/13/2001	12.36	21.55	29.76	7.3	29.76	7.63	-	-	25.87	8.14	27.32	7.50	29.38	7.82	29.30	8.19	29.95	8.05	30.54	8.49	-	-	-	-
3/26/2001	12.88	21.03	29.97	7.09	30	7.39	-	-	26.19	7.92	27.44	7.38	29.74	7.46	29.68	7.81	30.27	7.73	30.83	8.20	-	-	-	-
5/9/2001	12.63	21.28	29.20	7.86	29.33	8.06	-	-	25.86	8.25	26.62	8.20	29.34	7.86	29.16	8.33	29.81	8.19	30.52	8.51	-	-	-	-
5/29/2001	12.81	21.10	29.77	7.29	29.82	7.57	-	-	25.93	8.18	27.25	7.57	29.45	7.75	29.43	8.06	29.99	8.01	30.67	8.36	-	-	-	-
6/11/2001	12.77	21.14	29.67	7.39	29.51	7.88	-	-	25.92	8.19	26.85	7.97	29.44	7.76	29.84	7.65	30.12	7.88	30.67	8.36	-	-	23	11.65
10/11/2001	14.27	19.64	31.78	5.28	31.67	5.72	-	-	27.07	7.04	29.21	5.61	30.91	6.29	30.82	6.67	31.54	6.46	32.21	6.82	-	-	24.35	10.3
11/14/2001	13.79	20.12	30.36	6.7	30.26	7.13	-	-	27.00	7.11	27.77	7.05	30.39	6.81	30.44	7.05	31.27	6.73	31.89	7.14	29.89	6.95	24.27	10.38
4/2/2002	11.06	22.85	28.37	8.69	28.34	9.05	-	-	24.48	9.63	25.79	9.03	28.07	9.13	28.37	9.12	29.13	8.87	29.47	9.56	27.80	9.04	21.68	12.97
6/3/2003	10.94	22.97	27.12	9.94	27.14	10.25	-	-	25.17	8.94*	24.84	9.98	27.64	9.56	27.54	9.95	28.00	10.00	29.18	9.85	26.80	10.04	21.91	12.74

Notes:
DTW - depth to water from top of well casing.
GWE - groundwater elevation
RSE - river stage elevation
- not analyzed
[a] Well casing elevation in feet above City of Portland Datum.
[b] Abandoned on 26 August 1999.
[c] Abandoned on 4 August 1999 and replaced by new monitoring well MWA-6r.
[d] Abandoned on 18 September 2000.
[e] Measured at stilling well on Dock 1 except as noted.
[f] Reported value is mid-point of reported RSE. 12/16/96 range 9-10 ft; 1/2/97 range 22-23.5 ft; 2/7/97 range 13-13.5 ft; 3/3/97 range 9-10 ft; 3/12/97 range 12-12.5 ft; and 4/8/97 range 8.5-9 ft.
[g] Ranges from Morrison Street Bridge gage on day of measurement.
* Water level data is anomalous. Care should be taken when using this data.

Table 4-2
Groundwater Elevation Data
Arkema Portland Plant Remedial Investigation

Monitoring Well:	**MWA-23**		**MWA-24**		**MWA-25**		**MWA-26**		**MWA-27**		**MWA-28i**		**MWA-29**		**MWA-30**		**MWA-31i**		**MWA-32i**		**MWA-33**		**MWA-34i**		**Willamette River[e]**	
Well Casing Elevation[a]:	34.86		35.64		35.72		35.73		34.92		35.89		35.24		36.36		36.38		36.70		35.31		37.95		31.55	
Measurement Date	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	GWE	DTW	RSE
12/16/1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5 [f,g]
1/2/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.75 [f,g]
2/7/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.25 [f,g]
3/3/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5 [f,g]
3/12/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.25 [f,g]
4/8/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.75 [f,g]
4/22/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14 [g]
5/13/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/24/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/7/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/30/1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/28/1998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/25/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/5/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.78	12.774
4/26/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/22/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.56	12.99
8/23/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.31	6.24
9/20/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.39	4.16
10/18/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.52	5.03
11/15/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/14/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.64	10.91
3/23/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.29	8.26
2/13/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/26/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/9/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/29/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/11/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/11/2001	11.93	22.93	15.18	20.46	28.21	7.51	28.07	7.66	27.93	6.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/14/2001	11.94	22.92	21.23	14.41	28.15	7.57	27.97	7.76	27.64	7.28	26.75	9.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/2/2002	9.40	25.46	22.02	13.62	25.49	10.23	25.21	10.52	25.32	9.60	24.90	10.99	26.63	8.61	27.44	8.92	29.19	7.19	-	-	-	-	-	-	-	-
6/3/2003	9.62	25.24	24.88	10.76	25.42	10.30	22.97	12.76	22.86	12.06	23.90	11.99	23.44	11.80	21.50	14.86*	26.22	10.16	26.94	9.76	-	-	26.29	11.66*	-	-

Notes:
DTW - depth to water from top of well casing.
GWE - groundwater elevation
RSE - river stage elevation
- not analyzed
[a] Well casing elevation in feet above City of Portland Datum.
[b] Abandoned on 26 August 1999.
[c] Abandoned on 4 August 1999 and replaced by new monitoring well MWA-6r.
[d] Abandoned on 18 September 2000.
[e] Measured at stilling well on Dock 1 except as noted.
[f] Reported value is mid-point of reported RSE. 12/16/96 range 9-10 ft; 1/2/97 range 22-23.5 ft; 2/7/97 range 13-13.5 ft; 3/3/97 range 9-10 ft; 3/12/97 range 12-12.5 ft; and 4/8/97 range 8.5-9 ft.
[g] Ranges from Morrison Street Bridge gage on day of measurement.
* Water level data is anomalous. Care should be taken when using this data.

Table 4-3
Aquifer Test Results
Arkema Portland Plant Remedial Investigation

			Parameters											Calculations	
Well Number	**Date**	**Test Start Time**	r_w (ft)	L_e (ft)	**H** (ft)	L_w (ft)	r_c (ft)	**D/W** (ft)	y_o (ft)	y_t (ft)	**t** (days)	**A** (constant)	**B** (constant)	**ln R_e/r_w** (unitless)	**K** (ft/day)
MWA-1	2/11/1999	16:27:10	0.25	10.00	20.00	16.37	0.08	17.03	0.095	0.023	0.000210	2.50	0.49	2.791	6.5
MWA-3	2/11/1999	13:28:20	0.25	10.00	20.00	12.25	0.08	22.55	1.000	0.088	0.000100	2.50	0.49	2.583	22
MWA-5	2/10/1999	12:09:31	0.43	2.50	27.00	19.44	0.08	21.46	0.500	0.026	0.000174	1.60	0.25	1.462	34
MWA-6	2/12/1999	8:48:03	0.43	2.50	27.00	13.53	0.08	19.92	1.200	0.780	0.030000	1.60	0.25	1.353	0.03
MWA-7	2/12/1999	11:06:04	0.43	2.50	30.00	26.88	0.08	6.37	6.000	0.100	0.002292	1.60	0.25	1.603	5.9
MWA-8i	2/11/1999	9:18:15	0.36	5.00	28.00	11.25	0.08	22.00	1.400	1.100	0.000210	2.70	0.50	1.535	1.9
MWA-9i	2/11/1999	14:19:41	0.36	5.00	30.00	25.60	0.08	22.60	1.100	0.050	0.000280	2.70	0.50	1.845	21
MWA-10i	2/11/1999	15:02:02	0.36	5.00	32.00	28.63	0.08	19.47	0.800	0.110	0.000280	2.70	0.50	1.902	28
MWA-11i	2/11/1999	15:41:12	0.28	5.00	40.00	32.05	0.08	19.47	1.600	0.042	0.004170	2.25	0.50	2.230	1.9
MWA-12i	2/12/1999	11:27:27	0.36	10.00	50.00	43.01	0.08	8.89	3.200	2.000	0.013890	2.40	0.48	2.722	0.04
MWA-13d	2/11/1999	10:14:46	0.28	2.00	40.00	33.29	0.08	22.83	1.200	0.360	0.017360	1.80	0.24	1.713	0.3
MWA-14i	2/10/1999	12:59:39	0.36	5.00	40.00	29.36	0.08	22.24	3.200	1.800	0.000280	2.70	0.50	1.778	4.1

Notes:
Date in this table is based on slug test results
D/W - Depth to water
ft/day - feet per day
H - Saturated thickness of aquifer
K - Hydraulic conductivity
L_e - Length of well screen
L_w - Water column height in well
r_c - radius of well casing
R_e - effective radial distance over which the head difference, y, is dissipated
r_w - well radius
t - total time
y_o - head change at time 1
y_t - head change at time 2

Table 5-1
Summary of Preliminary Upland Soil Screening Levels
Arkema Portland Plant Remedial Investigation

Contaminant of Interest	Preliminary Soil Screening Level (mg/kg)	Source
Organochlorine Pesticides		
4,4'-DDT	7	EPA Region 9 PRG[a]
4,4'-DDD	10	EPA Region 9 PRG[a]
4,4'-DDE	7	EPA Region 9 PRG[a]
Volatile Organic Compounds		
Chlorobenzene (MCB)	530	EPA Region 9 PRG[a]
Chloroform	0.47	EPA Region 9 PRG[a]
Semivolatile Organic Compounds		
Acenaphthene	29,000	EPA Region 9 PRG[a]
Acenaphthylene	NE	Not established
Anthracene	100,000	EPA Region 9 PRG[a]
Benz[a]anthracene	2.1	EPA Region 9 PRG[a]
Benzo[a]pyrene	0.21	EPA Region 9 PRG[a]
Benzo[b]fluoranthene	2.1	EPA Region 9 PRG[a]
Benzo[ghi]perylene	NE	Not established
Benzo[k]fluoranthene	21	EPA Region 9 PRG[a]
Chrysene	210	EPA Region 9 PRG[a]
Dibenz[a,h]anthracene	0.21	EPA Region 9 PRG[a]
Fluoranthene	22,000	EPA Region 9 PRG[a]
Fluorene	26,000	EPA Region 9 PRG[a]
Indeno[1,2,3-cd]pyrene	2.1	EPA Region 9 PRG[a]
Naphthalene	190	EPA Region 9 PRG[a]
Phenanthrene	NE	Not established
Pyrene	29,000	EPA Region 9 PRG[a]
Metals		
Cadmium	450	EPA Region 9 PRG[a]
Hexavalent Chromium	64	EPA Region 9 PRG[a]
Total Chromium	450	EPA Region 9 PRG[a]
Iron	100,000	EPA Region 9 PRG[a]
Lead	800	EPA Region 9 PRG[a]
Manganese	19,000	EPA Region 9 PRG[a]
Mercury	310	EPA Region 9 PRG[a]
Zinc	100,000	EPA Region 9 PRG[a]
TPH		
Gasoline-range Organics	13,000	ODEQ RBCs[b]
Diesel-range Organics	23,000	ODEQ RBCs[b]
Extended-range Organics	23,000	ODEQ RBCs[b]
PCBs		
Aroclor 1016	21	EPA Region 9 PRG[a]
Aroclor 1221	0.74 c	EPA Region 9 PRG[a]
Aroclor 1232	0.74 c	EPA Region 9 PRG[a]
Aroclor 1242	0.74 c	EPA Region 9 PRG[a]
Aroclor 1248	0.74 c	EPA Region 9 PRG[a]
Aroclor 1254	0.74	EPA Region 9 PRG[a]
Aroclor 1260	0.74 c	EPA Region 9 PRG[a]
Other Constituents		
Ammonia	NE	Not established
Perchlorate	100	EPA Region 9 PRG[a]
Chloride	NE	Not established

Notes:
NE = Screening level not established for contaminant
a - USEPA Region IX PRGs, direct contact pathway, industrial soil, October 2004
b - ODEQ Risk-based Decision Making for the Remediation of Petroleum-contaminated Sites, Appendix A, September 22, 2003. Soil ingestion, dermal contact, and inhalation RBCs, construction worker receptor scenario.
c - Value for high risk PCBs (e.g., Aroclor 1254) used.

Table 5-2
Summary of Preliminary Screening Levels for Riverbank and Beach Soils
Arkema Portland Plant Remedial Investigation

Contaminant of Interest	Preliminary Screening Level for Riverbank and Beach Soils (mg/kg)	Source
Organochlorine Pesticides		
4,4'-DDD	0.028 b	MacDonald PEC [a]
4,4'-DDE	0.0313 b	MacDonald PEC [a]
4,4'-DDT	0.0629 b	MacDonald PEC [a]
Volatile Organic Compounds		
Chlorobenzene (MCB)	40 g	ODEQ Level II SLVs[c]
Chloroform	0.47 g	EPA Region 9 PRGs[d]
Semivolatile Organic Compounds		
Acenaphthene	0.29	NOAA UET[e]
Acenaphthylene	0.16	NOAA UET[e]
Anthracene	0.85	MacDonald PEC [a]
Benz[a]anthracene	1.05	MacDonald PEC [a]
Benzo[a]pyrene	1.45	MacDonald PEC [a]
Benzo[b]fluoranthene	NE	Not established
Benzo[ghi]perylene	0.30	NOAA UET[e]
Benzo[k]fluoranthene	13	NOAA UET[e]
Chrysene	1.29	MacDonald PEC [a]
Dibenz[a,h]anthracene	1.352	MacDonald PEC [a]
Fluoranthene	2.23	MacDonald PEC [a]
Fluorene	0.536	MacDonald PEC [a]
Indeno[1,2,3-cd]pyrene	0.1	EPA SQAL 1997[f]
Naphthalene	0.561	MacDonald PEC [a]
Phenanthrene	1.17	MacDonald PEC [a]
Pyrene	1.52	MacDonald PEC [a]
Metals		
Cadmium	4.98	MacDonald PEC [a]
Hexavalent Chromium	64 g	EPA Region 9 PRGs[d]
Total Chromium	111	MacDonald PEC [a]
Iron	10 g	ODEQ Level II SLVs[c]
Lead	128	MacDonald PEC [a]
Manganese	1,100	NOAA UET[e]
Mercury	1.06	MacDonald PEC [a]
Zinc	459	MacDonald PEC [a]
TPH		
Gasoline-range Organics	13,000	ODEQ RBCs[h]
Diesel-range Organics	23,000	ODEQ RBCs[h]
Extended-range Organics	23,000	ODEQ RBCs[h]
PCBs		
Total PCBs	0.676	MacDonald PEC [a]
Other Constituents		
Ammonia	Not Established	Not established
Perchlorate	100 g	EPA Region 9 PRGs[d]
Chloride	Not Established	Not established

Notes:

a - Probable effect concentration (PEC). Development and Evaluation of Consensus-based Sediment Quality Guidelines for Freshwater Ecosystems (MacDonald et al., 2000)

b - Values represent ∑DDD, ∑DDE, and ∑DDT, as appropriate.

c - Oregon DEQ Level II Soil Screening Level Values for terrestrial ecological receptors, December 2001. Most stringent value used.

d - USEPA Region IX PRGs, direct contact pathway, industrial soils, October 2004

e - Upper Effects Threshold (UET), Freshwater Sediment (NOAA, 1999)

f - USEPA sediment quality advisory level, 1997

g - Most stringent of the EPA Region IX PRG (direct contact, industrial soil) and ODEQ Level II SLVs used.

h - No PRG, ODEQ Level II SLV or PEC/SQV established. ODEQ soil ingestion, dermal contact, and inhalation RBC, construction worker receptor scenario used. September 22, 2003.

Table 5-3
Summary of Preliminary Groundwater Screening Levels
Arkema Portland Plant Remedial Investigation

Contaminant of Interest	Preliminary Groundwater Screening Level (µg/L)	Source
Organochlorine Pesticides		
4,4'-DDD	0.001 c	EPA 2004 NRWQC, Freshwater[a]
4,4'-DDE	0.001 c	EPA 2004 NRWQC, Freshwater[a]
4,4'-DDT	0.001 c	EPA 2004 NRWQC, Freshwater[a]
Volatile Organic Compounds		
Chlorobenzene (MCB)	50 d	ODEQ 2004 Water Quality Guidance Values, Freshwater[b]
Chloroform	1,240 d	ODEQ 2004 Water Quality Guidance Values, Freshwater[b]
Semivolatile Organic Compounds (Fill Area Riverward of Acid Plant)		
Acenaphthene	520 d	ODEQ 2004 Water Quality Guidance Values, Freshwater[b]
Acenaphthylene	NE	Not established
Anthracene	NE	Not established
Benz[a]anthracene	NE	Not established
Benzo[a]pyrene	NE	Not established
Benzo[b]fluoranthene	NE	Not established
Benzo[ghi]perylene	NE	Not established
Benzo[k]fluoranthene	NE	Not established
Chrysene	NE	Not established
Dibenz[a,h]anthracene	NE	Not established
Fluoranthene	3,980 d,e	ODEQ 2004 Water Quality Guidance Values, Freshwater[b]
Fluorene	NE	Not established
Indeno[1,2,3-cd] pyrene	NE	Not established
Naphthalene	620 d	ODEQ 2004 Water Quality Guidance Values, Freshwater[b]
Phenanthrene	NE	Not established
Pyrene	NE	Not established
Metals		
Cadmium	0.094 f,g	EPA 2004 NRWQC, Freshwater[a]
Hexavalent Chromium	11 f	EPA 2004 NRWQC, Freshwater[a]
Total Chromium	11 f,h	EPA 2004 NRWQC, Freshwater[a]
Iron	1000	EPA 2004 NRWQC, Freshwater[a]
Lead	0.54 f,g	EPA 2004 NRWQC, Freshwater[a]
Manganese	NE	Not established
Mercury	0.77 f	EPA 2004 NRWQC, Freshwater[a]
Zinc	36.5 f,g	EPA 2004 NRWQC, Freshwater[a]
TPH		
Gasoline-range Organics	NE i	Not established
Diesel-range Organics	NE i	Not established
Extended-range Organics	NE i	Not established
PCBs		
Total PCBs	0.014 j	EPA 2004 NRWQC, Freshwater[a]
Other Constituents		
Ammonia - nitrogen	k	
Chloride	230,000	EPA 2004 NRWQC, Freshwater[a]
Perchlorate	200	ODEQ Calculated SLV[1]

Notes:
NE - Screening level not established for this contaminant
a - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic
b - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshwater, Chronic
c - Criterion applies to the total concentration of DDT and it's metabolites
d - USEPA 2004 NRWQC and ODEQ 2004 WQC not established. ODEQ 2004 Water Quality Guidance Value used.
e - Chronic criterion not established, acute criterion used
f - Value applies to the dissolved phase.
g - Value is hardness-dependent. Value displayed corresponds to a hardness of 25 mg/L
h - Value for hexavalent chromium used.
i - Ecological-risk-based values not established.
j - Criterion applies to total PCBs (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)
k - Chronic criterion is pH and temperature dependent. Criterion not calculated for site groundwater.

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
B-49	Soil	0.5	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	2.5	>5000 (~10,000)	3600	Neg.	0
	Soil	2.5	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	4.5	ND (<50)	-	Neg.	0
	Soil	4.5	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	5.5	ND (<50)	-	Neg.	0
	Soil	5.5	6.0	ND (<50)	-	Neg.	43.3
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	0.135 J (dup: 0.299 J)	Neg.	0
B-50	Soil	0.5	1.0	ND (<50)	-	Neg.	3.1
	Soil	1.0	2.0	ND (<50)	-	Neg.	4
	Soil	2.0	2.5	ND (<50)	-	Neg.	0
	Soil	2.5	4.0	ND (<50)	-	Neg.	1.1
	Soil	4.0	4.5	ND (<50)	-	Neg.	3.1
	Soil	4.5	5.0	ND (<50)	-	Neg.	22.2
	Soil	5.0	5.5	ND (<50)	0.012 U	Neg.	3.4
	Soil	5.5	6.0	ND (<50)	-	Neg.	43
	Soil	6.0	7.0	ND (<50)	-	Neg.	3.1
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
B-51	Soil	0.5	1.0	50-100	1.8	Neg.	-
	Soil	1.0	2.0	ND (<50)	-	Neg.	-
	Soil	2.0	2.5	ND (<50)	-	Neg.	-
	Soil	2.5	4.0	ND (<50)	-	Neg.	-
	Soil	4.0	4.5	ND (<50)	-	Neg.	0
	Soil	4.5	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	5.5	ND (<50)	2.4	Neg.	2.2
	Soil	5.5	6.0	ND (<50)	-	Neg.	3.1
	Soil	6.0	7.0	ND (<50)	-	Neg.	2.2
	Soil	7.0	8.0	ND (<50)	-	Neg.	13
B-51b	Soil	0.0	0.5	~100	-	Neg.	0
	Soil	0.5	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
B-52	Soil	0.5	1.0	ND (<50)	0.03	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	2.5	ND (<50)	-	Neg.	0
	Soil	2.5	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	4.5	ND (<50)	-	Neg.	0
	Soil	4.5	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	5.5	ND (<50)	0.048	Neg.	0
	Soil	5.5	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	6.7
B-53	Soil	1.5	3.0	500-1000	-	Neg.	84
	Soil	3.0	4.5	1000-5000	-	Neg.	1597
	Soil	4.5	6.0	~5000	16000	Neg.	14
	Soil	6.0	7.5	~1000	-	Neg.	4
	Soil	7.5	9.0	1000-5000 (~1000)	-	Neg.	8.6
	Soil	9.0	10.5	1000-5000	-	Neg.	2.2
	Soil	10.5	12.0	~1000	-	Neg.	2.2
	Soil	12.0	13.5	~1000	-	Neg.	1.3
	Soil	13.5	15.0	1000-5000	-	Neg.	1.3
	Soil	15.0	16.5	~1000	-	Neg.	10.4
	Soil	16.5	18.0	~1000	-	Neg.	1.3
	Soil	18.0	19.5	~1000	-	Neg.	1.2
	Soil	19.5	21.0	500-1000	-	Neg.	1.3
	Soil	21.0	22.5	~500	-	Neg.	4
	Soil	22.5	24.0	500-1000	-	Neg.	1.3
	Soil	24.0	25.5	500-1000	-	Neg.	3.1
	Soil	25.5	27.0	500-1000	-	Pos. (high)	1592
	Soil	27.0	28.5	500-1000	-	Pos. (high)	1405
	Soil	28.5	30.0	1000-5000	-	Pos. (low)	1132

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
B-54	Soil	0.0	1.0	ND (<50)	-	Neg.	5.3
	Soil	1.0	2.0	10-50	-	Neg.	3.6
	Soil	2.0	3.0	ND (<50)	-	Neg.	2.3
	Soil	3.0	4.0	ND (<50)	-	Neg.	2.6
	Soil	4.0	5.0	ND (<50)	21	Neg.	18.3
	Soil	5.0	6.0	ND (<50)	-	Neg.	3.9
	Soil	6.0	7.0	ND (<50)	-	Neg.	3.9
	Soil	7.0	8.0	ND (<50)	-	Neg.	5.3
	Soil	8.0	9.0	ND (<50)	-	Neg.	10.3
	Soil	9.0	10.0	ND (<50)	6.1	Neg.	3.9
B-55	Soil	1.0	2.0	500-1000	-	Neg.	0
	Soil	2.0	3.0	100-500	-	Neg.	0
	Soil	3.0	4.0	100-500	-	Neg.	7.9
	Soil	4.0	5.0	100-500	-	Neg.	3.9
	Soil	5.0	6.0	50-100	-	Neg.	132
	Soil	6.0	7.0	50-100	297	Pos. (low)	1427+
	Soil	7.0	8.0	10-50	-	Neg.	261
	Soil	8.0	9.0	ND (<50)	-	Neg.	63.9
	Soil	9.0	10.0	ND (<50)	-	Neg.	98.9
	Soil	10.0	11.0	ND (<50)	-	Neg.	11.9
	Soil	12.0	13.0	ND (<50)	2.8	Neg.	6.6
	Soil	13.0	14.0	ND (<50)	-	Neg.	221
	Soil	14.0	15.0	ND (<50)	-	Neg.	90.6
	Soil	19.0	20.0	ND (<50)	-	Neg.	89.9
	Soil	24.0	25.0	ND (<50)	-	Neg.	202
B-56	Soil	1.0	2.0	~50	-	Neg.	3.9
	Soil	2.0	3.0	~50	-	Neg.	5.3
	Soil	3.0	4.0	~50	-	Neg.	2.6
	Soil	4.0	5.0	~50	454	Neg.	2.6
	Soil	5.0	6.0	~50	-	Neg.	2.6
	Soil	6.0	7.0	ND (<50)	-	Neg.	2.6
	Soil	7.0	8.0	~50	-	Neg.	2.6
	Soil	8.0	9.0	ND (<50)	-	Neg.	2.6
	Soil	9.0	10.0	~50	-	Neg.	2.6
	Soil	10.0	11.0	ND (<50)	-	Neg.	2.6
	Soil	11.0	12.0	~50	-	Neg.	11.1
	Soil	12.0	13.0	ND (<50)	-	Neg.	3.9
	Soil	13.0	14.0	ND (<50)	-	Neg.	3.9
	Soil	14.0	15.0	ND (<50)	-	Neg.	2.6
	Soil	19.0	20.0	ND (<50)	0.01 U	Neg.	2.6
	Soil	24.0	25.0	ND (<50)	-	Neg.	9.3
B-57	Soil	0.0	1.0	~1000	23	Neg.	0
	Soil	1.0	2.0	~5000	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	8.4	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
B-58	Soil	0.0	1.0	ND (<50)	-	Neg.	24.7
	Soil	1.0	2.0	ND (<50)	0.36	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	2.1	Neg.	3
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
B-59	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	10.0	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	ND (<50)	-	Neg.	0
	Soil	12.0	14.0	ND (<50)	-	Neg.	0
	Soil	14.0	16.0	ND (<50)	-	Neg.	0
	Soil	18.0	20.0	ND (<50)	-	Neg.	0
	Soil	22.0	24.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
B-60	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	1.8
	Soil	2.0	3.0	ND (<50)	-	Neg.	1.8
	Soil	3.0	4.0	50	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
	Soil	10.0	11.0	ND (<50)	-	Neg.	0
	Soil	11.0	12.0	ND (<50)	-	Neg.	0
	Soil	12.0	13.0	ND (<50)	-	Neg.	0
	Soil	13.0	14.0	ND (<50)	-	Neg.	0
	Soil	14.0	15.0	ND (<50)	-	Neg.	0
	Soil	15.0	16.0	ND (<50)	-	Neg.	0
	Soil	16.0	17.0	ND (<50)	-	Neg.	0
	Soil	17.0	18.0	ND (<50)	-	Neg.	0
	Soil	18.0	19.0	ND (<50)	-	Neg.	0
	Soil	19.0	20.0	ND (<50)	-	Neg.	0
	Soil	20.0	21.0	ND (<50)	-	Neg.	0
B-61	Soil	0.0	1.0	100	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	3000	7000	Neg.	0
	Soil	6.0	7.0	50	920 J	Neg.	0
	Soil	7.0	8.0	ND (<50)	33 J	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
	Soil	10.0	11.0	100	-	Neg.	0
	Soil	11.0	12.0	750	400 J	Neg.	0
	Soil	12.0	13.0	100	-	Neg.	0
	Soil	13.0	14.0	ND (<50)	-	Neg.	0
	Soil	14.0	15.0	200	-	Neg.	0
	Soil	15.0	16.0	ND (<50)	-	Neg.	0
	Soil	16.0	17.0	ND (<50)	-	Neg.	0
	Soil	17.0	18.0	ND (<50)	-	Neg.	0
	Soil	18.0	19.0	ND (<50)	-	Neg.	0
	Soil	19.0	20.0	ND (<50)	-	Neg.	0
	Soil	20.0	21.0	50	-	Neg.	0
	Soil	21.0	22.0	50	21 J	Neg.	0
	Soil	22.0	23.0	50	-	Neg.	0
	Soil	23.0	24.0	ND (<50)	-	Neg.	255
	Soil	24.0	25.0	ND (<50)	-	Neg.	420
	Soil	25.0	26.0	ND (<50)	-	Neg.	637
	Soil	26.0	27.0	ND (<50)	-	Neg.	628
	Soil	27.0	28.0	ND (<50)	-	Neg.	534
	Soil	28.0	29.0	ND (<50)	-	Neg.	213
B-62	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	100	3.8	Neg.	0
	Soil	5.0	6.0	100	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
B-63	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)		Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
B-64	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
	Soil	10.0	11.0	ND (<50)	-	Neg.	0
	Soil	11.0	12.0	ND (<50)	-	Neg.	0
	Soil	12.0	13.0	ND (<50)	-	Neg.	0
	Soil	13.0	14.0	ND (<50)	-	Neg.	0
	Soil	14.0	15.0	ND (<50)	-	Neg.	0
	Soil	15.0	16.0	ND (<50)	-	Neg.	0
	Soil	16.0	17.0	ND (<50)	-	Neg.	0
B-65	Soil	0.0	2.0	400	-	NM	-
	Soil	2.0	4.0	200	-	NM	-
	Soil	4.0	6.0	50	-	NM	-
	Soil	6.0	8.0	10	-	NM	-
	Soil	8.0	10.0	ND (<10)	-	NM	-
	Soil	10.0	12.0	ND (<10)	-	NM	-
	Soil	12.0	14.0	ND (<10)	760	NM	-
	Soil	14.0	16.0	ND (<10)	-	NM	-
	Soil	16.0	18.0	ND (<10)	-	NM	-
	Soil	18.0	20.0	ND (<10)	-	NM	-
	Soil	25.0	27.0	ND (<10)	-	NM	-
B-66	Soil	0.0	2.0	50	-	NM	-
	Soil	2.0	4.0	10	-	NM	-
	Soil	4.0	6.0	75	84	NM	-
	Soil	6.0	8.0	ND (<10)	-	NM	-
	Soil	8.0	10.0	ND (<10)	-	NM	-
	Soil	10.0	12.0	ND (<10)	-	NM	-
	Soil	12.0	14.0	10	49	NM	-
B-97	Soil	-3.5	0.0	ND (<50)	-	Neg.	2
B-98	Soil	-2.5	0.0	ND (<50)	-	Neg.	2
B-99	Soil	-3.5	0.0	ND (<50)	-	Neg.	2
B-100	Soil	0.0	0.3	5000	3300 J (dup: 2600 J)	Neg.	40
	Soil	0.3	0.5	50	-	Neg.	2
	Soil	0.5	1.0	ND (<50)	-	Neg.	240
	Soil	0.5	1.5	ND (<50)	20	Neg.	160
	Soil	1.0	1.5	ND (<50)	-	Neg.	190
	Soil	2.0	4.0	ND (<50)	-	Neg.	2
	Soil	4.0	6.0	400	-	Neg.	12
	Soil	6.0	8.0	50	-	Neg.	470
	Soil	8.0	10.0	200	1500 J	Pos.	380
	Soil	10.0	12.0	ND (<50)	-	Neg.	210
	Soil	12.0	14.0	300	390	Pos.	520
	Soil	14.0	16.0	ND (<50)	-	Pos.	410
	Soil	18.0	20.0	ND (<50)	-	Pos.	370
B-101	Soil	0.0	0.5	300	230	Neg.	2
	Soil	0.5	1.0	ND (<50)	-	Neg.	2
	Soil	0.5	1.5	ND (<50)	5.0 J	Neg.	2
	Soil	1.0	1.5	ND (<50)	-	Neg.	2
	Soil	2.0	4.0	ND (<50)	-	Neg.	2
	Soil	4.0	6.0	ND (<50)	-	Neg.	2
	Soil	6.0	8.0	ND (<50)	-	Neg.	2
	Soil	8.0	10.0	ND (<50)	-	Neg.	2
	Soil	10.0	12.0	ND (<50)	-	Neg.	2
	Soil	12.0	14.0	ND (<50)	0.014 U/0.79 J	Neg.	69
	Soil	14.0	16.0	ND (<50)	-	Neg.	12
	Soil	16.0	18.0	ND (<50)	-	Neg.	55
	Soil	18.0	20.0	ND (<50)	-	Neg.	8
B-104	Soil	1.5	3.0	ND (<50)	-	Neg.	0
	Soil	4.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	10.0	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	ND (<50)	-	Neg.	0
	Soil	12.0	14.0	ND (<50)	0.093	Neg.	0
	Soil	14.0	16.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
B-110	Soil	0.5	1.5	100	240	Neg.	0
	Soil	1.5	2.5	ND (<50)	15	Neg.	0
	Soil	2.5	3.5	ND (<50)	3.4	Neg.	0
	Soil	3.5	4.5	ND (<50)	0.59	Neg.	0
	Soil	4.5	5.5	ND (<50)	-	Neg.	0
	Soil	5.5	6.5	ND (<50)	-	Neg.	0
	Soil	6.5	7.5	ND (<50)	-	Neg.	0
	Soil	7.5	8.5	ND (<50)	-	Neg.	0
	Soil	8.5	9.5	ND (<50)	-	Neg.	0
	Soil	9.5	10.5	ND (<50)	-	Neg.	0
B-111	Soil	0.0	1.0	250	390	Neg.	0
	Soil	1.0	2.0	500	1300	Neg.	0
	Soil	2.0	3.0	400	870	Neg.	0
	Soil	3.0	4.0	ND (<50)	720	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	400	-	Neg.	0
	Soil	6.0	7.0	50	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	7	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-4	Soil	0.0	2.0	50	-	Neg.	0
	Soil	2.0	4.0	100	-	Neg.	0
	Soil	4.0	6.0	50	-	Neg.	0
	Soil	6.0	7.0	500	450	Neg.	0
	Soil	7.0	8.0	500	-	Neg.	0
	Soil	8.0	10.0	ND (<50)	-	Neg.	0
IB-6	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	2000	960	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	1.1	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-9	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	1000	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	10.0	500	-	Neg.	0
IB-10	Soil	0.0	2.0	100	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	500	-	Neg.	0
IB-13	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	2000	-	Neg.	0
	Soil	2.0	3.0	1000	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-14	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	2000	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
IB-17	Soil	0.0	1.0	2000	-	Neg.	0
	Soil	1.0	2.0	1000	1700	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-18	Soil	0.0	2.0	200	-	Neg.	718
	Soil	2.0	3.0	500	-	Neg.	0
	Soil	3.0	4.0	1000	-	Neg.	0
	Soil	4.0	5.0	700	-	Neg.	0
	Soil	5.0	6.0	1000	-	Neg.	0
	Soil	6.0	7.0	500	-	Pos.	0
	Soil	7.0	8.0	1000	-	Neg.	0
	Soil	8.0	9.0	1000	-	Pos.	314
	Soil	9.0	10.0	1000	-	Pos.	314
IB-19	Soil	0.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	1000	-	Neg.	0
	Soil	3.0	4.0	200	-	Neg.	0
	Soil	4.0	5.0	1000	-	Pos.	9
	Soil	5.0	6.0	1000	-	Pos.	9
	Soil	6.0	8.0	3000	-	Pos.	76
	Soil	8.0	9.0	100	-	Pos.	68
	Soil	9.0	10.0	200	-	Pos.	68
IB-20	Soil	0.0	2.0	750	-	Neg.	0
	Soil	2.0	3.0	2000	-	Neg.	0
	Soil	3.0	4.0	2000	13000	Neg.	0
	Soil	4.0	5.0	700	-	Pos.	212
	Soil	5.0	6.0	500	-	Pos.	212
	Soil	6.0	8.0	700	-	Pos.	125
	Soil	8.0	9.0	500	-	Pos.	136
	Soil	9.0	10.0	500	-	Pos.	136
IB-21	Soil	0.0	2.0	200	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	500	-	Pos.	0
	Soil	4.0	5.0	1000	-	Pos.	9
	Soil	5.0	6.0	1000	-	Pos.	9
	Soil	6.0	7.0	500	-	Pos.	483
	Soil	7.0	8.0	750	-	Pos.	483
	Soil	8.0	9.0	1000	-	Pos.	591
	Soil	9.0	10.0	500	-	Pos.	591
IB-22	Soil	0.0	1.0	100	-	Neg.	0
	Soil	1.0	2.0	100	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	50	-	Neg.	0
	Soil	5.0	6.0	1000	-	Pos.	0
	Soil	6.0	7.0	2000	-	Pos.	336
	Soil	7.0	8.0	2000	-	Pos.	336
	Soil	8.0	9.0	3000	-	Pos.	190
	Soil	9.0	10.0	3000	-	Pos.	190
IB-23	Soil	0.0	1.0	ND (<50)	-	Neg.	28
	Soil	1.0	2.0	ND (<50)	-	Neg.	28
	Soil	2.0	3.0	ND (<50)	-	Neg.	19
	Soil	3.0	4.0	ND (<50)	-	Neg.	19
	Soil	4.0	5.0	500	-	Neg.	6
	Soil	5.0	6.0	1000	-	Pos.	6
	Soil	6.0	7.0	3000	-	Pos.	34
	Soil	7.0	8.0	3000	-	Pos.	34
	Soil	8.0	9.0	3000	-	Pos.	9
	Soil	9.0	10.0	750	-	Pos.	9
IB-24	Soil	0.0	1.0	2000	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	4000	-	Pos.	0
	Soil	6.0	7.0	1000	-	Pos.	92
	Soil	7.0	8.0	1000	-	Pos.	92
	Soil	8.0	9.0	2000	-	Pos.	25
	Soil	9.0	10.0	100	-	Pos.	25

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
IB-25	Soil	0.0	1.0	500	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	0.87	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	400	3900	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-26	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	50	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	3000	-	Neg.	20
	Soil	5.0	6.0	750	-	Pos.	20
	Soil	6.0	7.0	1000	-	Pos.	170
	Soil	7.0	8.0	500	-	Pos.	170
	Soil	8.0	9.0	750	-	Pos.	77
	Soil	9.0	10.0	50	-	Pos.	77
IB-27	Soil	0.0	1.0	5000	-	Neg.	5
	Soil	1.0	2.0	5000	-	Neg.	5
	Soil	2.0	3.0	3000	-	Neg.	0
	Soil	3.0	4.0	2000	-	Neg.	0
	Soil	4.0	5.0	500	-	Pos.	0
	Soil	5.0	6.0	5000	6300	Pos.	0
	Soil	6.0	7.0	300	-	Pos.	209
	Soil	7.0	8.0	800	-	Pos.	209
	Soil	8.0	9.0	750	-	Pos.	26
	Soil	9.0	10.0	800	-	Pos.	26
IB-28	Soil	0.0	1.0	5000	-	Neg.	0
	Soil	1.0	2.0	5000	-	Neg.	0
	Soil	2.0	3.0	6000	-	Neg.	0
	Soil	3.0	4.0	300	-	Neg.	0
	Soil	4.0	5.0	1000	-	Neg.	0
	Soil	5.0	6.0	750	-	Pos.	0
	Soil	6.0	7.0	1000	-	Pos.	0
	Soil	7.0	8.0	1000	-	Pos.	0
	Soil	8.0	9.0	500	-	Pos.	92
	Soil	9.0	10.0	50	-	Neg.	92
IB-29	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-30	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-31	Soil	0.0	1.0	5000	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-32	Soil	0.0	1.0	1000	2,700	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-33	Soil	0.0	1.0	2000	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-34	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-35	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
IB-36	Soil	0.0	1.0	100	340	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-37	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	500	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	6000	1400	Neg.	0
	Soil	4.0	5.0	5000	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-38	Soil	0.0	1.0	400	-	Neg.	0
	Soil	1.0	2.0	200	-	Neg.	0
	Soil	2.0	3.0	200	-	Neg.	0
	Soil	3.0	4.0	100	-	Neg.	0
	Soil	4.0	5.0	50	-	Neg.	0
IB-39	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	100	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	50	-	Neg.	0
	Soil	4.0	5.0	50	61	Neg.	0
IB-40	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-41	Soil	0.0	1.0	1000	200	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	50	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-42	Soil	0.0	1.0	1000	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	50	-	Neg.	0
IB-43	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	5000	5100	Neg.	0
	Soil	2.0	3.0	5000	-	Neg.	0
	Soil	3.0	4.0	5000	-	Neg.	0
	Soil	4.0	5.0	750	-	Neg.	0
IB-44	Soil	0.0	1.0	200	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	250	-	Neg.	0
	Soil	3.0	4.0	1000	-	Neg.	0
	Soil	4.0	5.0	50	55	Neg.	0
IB-45	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	750	-	Neg.	0
	Soil	4.0	5.0	1000	-	Neg.	0
	Soil	5.0	6.0	1000	-	Neg.	0
	Soil	6.0	7.0	300	-	Neg.	0
	Soil	7.0	8.0	2000	-	Neg.	0
IB-46	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	100	-	Neg.	0
	Soil	3.0	4.0	50	-	Neg.	0
	Soil	4.0	5.0	1000	-	Neg.	0
	Soil	5.0	6.0	1000	-	Neg.	0
	Soil	6.0	7.0	7000	6500	Neg.	0
	Soil	7.0	8.0	7000	-	Neg.	0
	Soil	8.0	9.0	1000	-	Neg.	0
	Soil	9.0	10.0	1000	-	Neg.	0
	Soil	10.0	11.0	750	-	Neg.	0
	Soil	11.0	12.0	750	-	Neg.	0
	Soil	12.0	13.0	750	-	Neg.	0
IB-47	Soil	0.0	1.0	50	330	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
IB-48	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	2.3	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
IB-50	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	700	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.0	ND (<50)	-	Neg.	0
IB-51	Soil	0.0	1.0	200	-	Neg.	0
	Soil	1.0	2.0	200	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	50	-	Neg.	0
	Soil	5.0	6.0	100	-	Neg.	0
	Soil	6.0	7.0	NM	-	NM	0
	Soil	7.0	8.0	NM	-	NM	0
	Soil	8.0	9.0	NM	-	Pos.	0
	Soil	9.0	10.0	4000	-	Pos.	0
IB-52	Soil	0.0	1.0	ND (<50)	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	100	-	Neg.	0
	Soil	6.0	7.0	750	-	Neg.	0
	Soil	7.0	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.0	1000	-	Neg.	0
	Soil	9.0	10.0	1000	-	Neg.	0
IB-53	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	500	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	2000	-	Pos.	699
	Soil	6.0	7.0	750	-	Pos.	1928
	Soil	7.0	8.0	3000	-	Pos.	1928
	Soil	8.0	9.0	1000	-	Pos.	404
	Soil	9.0	10.0	500	-	Pos.	904
IB-54	Soil	0.0	1.0	750	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	3000	-	Pos.	0
	Soil	6.0	7.0	50	-	Neg.	0
	Soil	7.0	8.0	100	-	Pos.	0
	Soil	8.0	9.0	800	-	Pos.	613
	Soil	9.0	10.0	ND (<50)	-	Neg.	200
IB-65	Soil	0.0	1.0	3000	-	Neg.	0
	Soil	1.0	2.0	2000	-	Neg.	0
	Soil	2.0	3.0	50	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	100	-	Neg.	0
	Soil	5.0	6.0	2000	-	Neg.	0
	Soil	6.0	7.0	1000	-	Pos.	0
	Soil	7.0	8.0	200	-	Pos.	0
	Soil	8.0	9.0	750	-	Pos.	5.4
	Soil	9.0	10.0	500	-	Pos.	0
IB-66	Soil	0.0	1.0	2000	-	Neg.	3.6
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	300	-	Neg.	3.6
	Soil	4.0	5.0	50	-	Neg.	0
	Soil	5.0	6.0	50	-	Neg.	0
	Soil	6.0	7.0	2000	-	Neg.	136
	Soil	7.0	8.0	1000	-	Neg.	698
	Soil	8.0	9.0	750	-	Neg.	309
	Soil	9.0	10.0	5000	-	Pos.	1979

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
IB-67	Soil	0.0	1.0	50	-	Neg.	0
	Soil	1.0	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
	Soil	3.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.0	ND (<50)	-	Pos.	0
	Soil	7.0	8.0	ND (<50)	-	Pos.	90
	Soil	8.0	9.0	5000	-	Pos.	1752
	Soil	9.0	10.0	5000	-	Pos.	1735
IB-73	Soil	0.5	1.0	ND (<50)	1.4	Neg.	4.4
	Soil	1.0	1.5	ND (<50)	-	Neg.	2.6
	Soil	1.5	2.0	ND (<50)	-	Neg.	2.6
IB-74	Soil	0.5	1.0	ND (<50)	1.7	Neg.	2.6
	Soil	1.0	1.5	ND (<50)	-	Neg.	2.6
	Soil	1.5	2.0	ND (<50)	-	Neg.	4.4
IB-75	Soil	5.0	6.0	-	-	Neg.	2.6
IB-76	Soil	5.0	6.0	-	-	Neg.	2.6
IB-77	Soil	5.0	6.0	-	6200	Neg.	2.6
IB-78	Soil	5.0	6.0	-	-	Neg.	2.6
IB-79	Soil	0.5	1.0	ND (<50)	4100	Neg.	4.4
	Soil	1.0	1.5	ND (<50)	160 J	Neg.	4.4
	Soil	1.5	2.0	ND (<50)	-	Neg.	2.6
IB-80	Soil	0.5	1.0	ND (<50)	100	Neg.	2.6
	Soil	1.0	1.5	ND (<50)	-	Neg.	0.8
	Soil	1.5	2.0	ND (<50)	-	Neg.	0.8
	Soil	2.0	4.0	ND (<50)	-	Neg.	0.8
	Soil	4.0	6.0	ND (<50)	-	Neg.	0.8
	Soil	6.0	8.0	ND (<50)	-	Neg.	0.8
IB-81	Soil	0.5	1.0	ND (<50)	1	Neg.	2.6
	Soil	1.0	1.5	ND (<50)	-	Neg.	4.4
	Soil	1.5	2.0	ND (<50)	-	Neg.	4.4
	Soil	2.0	4.0	ND (<50)	-	Neg.	2.6
	Soil	4.0	6.0	ND (<50)	-	Neg.	4.4
	Soil	6.0	8.0	ND (<50)	-	Neg.	4.4
IB-82	Soil	5.0	6.0	ND (<50)	0.07 (dup = 0.053)	Neg.	0.8
IB-83	Soil	5.0	6.0	ND (<50)	0.029	Neg.	0.8
IB-84	Soil	5.0	6.0	ND (<50)	0.0074	Neg.	0.8
IB-85	Soil	0.0	2.0	ND (<50)	-	NM	2.4
	Soil	2.0	4.0	ND (<50)	-	NM	0.8
	Soil	4.0	6.0	ND (<50)	-	NM	0.8
	Soil	6.0	8.0	ND (<50)	-	NM	0.8
	Soil	8.0	10.0	ND (<50)	500	NM	2.4
IB-86	Soil	0.0	2.0	ND (<50)	-	NM	0.8
	Soil	2.0	4.0	ND (<50)	-	NM	0
	Soil	4.0	6.0	500	-	NM	0.8
	Soil	6.0	8.0	3000	-	NM	2100
	Soil	8.0	10.0	ND (<50)	16	NM	550
IB-87	Soil	2.0	4.0	ND (<50)	280 J	NM	0
	Soil	4.0	6.0	500	-	NM	0
	Soil	6.0	8.0	ND (<50)	-	NM	0
	Soil	8.0	10.0	ND (<50)	-	NM	0
	Soil	10.0	12.0	ND (<50)	-	NM	0
IB-88	Soil	1.0	2.0	ND (<50)	-	NM	2.4
	Soil	2.0	4.0	ND (<50)	-	NM	2.4
	Soil	4.0	6.0	50	-	NM	17
	Soil	6.0	8.0	500	460	NM	5700
	Soil	8.0	10.0	ND (<50)	2.1	NM	480
IB-89	Soil	2.0	4.0	ND (<50)	-	NM	4.1
	Soil	4.0	6.0	300	-	NM	9.1
	Soil	6.0	8.0	500	9000	NM	4.1
	Soil	8.0	10.0	200	700	NM	14
IB-90	Soil	2.0	4.0	ND (<50)	340	NM	0.8
	Soil	4.0	6.0	ND (<50)	-	NM	2.4
	Soil	6.0	8.0	ND (<50)	-	NM	0.8
	Soil	8.0	10.0	ND (<50)	-	NM	0.8
IB-91	Soil	0.0	2.0	3000	4200 J (dup = 2300 J)	NM	2.4
	Soil	2.0	4.0	250	980	NM	2.4
	Soil	4.0	6.0	50	-	NM	7.1
	Soil	6.0	8.0	ND (<50)	-	NM	4.1
	Soil	8.0	10.0	ND (<50)	-	NM	5.7
IB-92	Soil	0.0	2.0	ND (<50)	-	NM	0.8
	Soil	2.0	4.0	ND (<50)	-	NM	0.8
	Soil	4.0	6.0	ND (<50)	-	NM	0.8
	Soil	6.0	8.0	ND (<50)	-	NM	0.8
	Soil	8.0	10.0	ND (<50)	-	NM	0.8

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
IB-93	Soil	0.0	2.0	ND (<50)	-	NM	22
	Soil	2.0	4.0	ND (<50)	-	NM	50
	Soil	4.0	6.0	ND (<50)	-	NM	2.4
	Soil	6.0	8.0	ND (<50)	-	NM	2.4
	Soil	8.0	10.0	5000	6900	NM	4400
IB-94	Soil	0.0	2.0	500	850	NM	4.1
	Soil	2.0	4.0	ND (<50)	-	NM	5.7
	Soil	4.0	6.0	ND (<50)	-	NM	7.4
	Soil	6.0	8.0	ND (<50)	-	NM	4.1
	Soil	8.0	10.0	ND (<50)	-	NM	4.1
IB-95	Soil	0.0	2.0	500	390	NM	26
	Soil	2.0	4.0	100	-	NM	4.1
	Soil	4.0	6.0	200	-	NM	5.7
	Soil	6.0	8.0	ND (<50)	-	NM	4.1
	Soil	8.0	10.0	ND (<50)	-	NM	5.7
IB-96	Soil	0.0	2.0	100	-	NM	0.8
	Soil	2.0	4.0	ND (<50)	-	NM	5.7
	Soil	4.0	6.0	ND (<50)	-	NM	4.1
	Soil	6.0	8.0	ND (<50)	-	NM	2.4
	Soil	8.0	10.0	ND (<50)	0.18	NM	2.4
MWA-5	Soil	2.0	3.5	ND (<50)	-	Neg.	0
	Soil	3.0	5.0	ND (<50)	-	Neg.	0
	Soil	5.0	6.5	ND (<50)	-	Neg.	0
	Soil	6.5	8.0	ND (<50)	-	Neg.	0
	Soil	8.0	9.5	ND (<50)	-	Neg.	0
	Soil	9.5	11.0	ND (<50)	-	Neg.	0
	Soil	11.0	12.5	ND (<50)	-	Neg.	0
	Soil	12.5	14.0	ND (<50)	-	Neg.	0
	Soil	14.0	15.5	ND (<50)	-	Neg.	0
	Soil	15.5	17.0	ND (<50)	-	Neg.	0
	Soil	17.0	18.5	ND (<50)	-	Neg.	0
	Soil	18.5	20.0	ND (<50)	-	Neg.	0
	Soil	20.0	21.5	ND (<50)	-	Neg.	0
	Soil	21.5	23.0	ND (<50)	-	Neg.	0
	Soil	23.0	24.5	ND (<50)	-	Neg.	0
	Soil	24.5	26.0	ND (<50)	-	Neg.	0
	Soil	26.0	27.5	ND (<50)	-	Neg.	0
	Soil	27.5	29.0	ND (<50)	-	Neg.	2.2
	Soil	29.0	30.5	ND (<50)	-	Neg.	0
	Soil	30.5	32.0	ND (<50)	-	Neg.	0
	Soil	32.0	33.5	ND (<50)	-	Neg.	0
	Soil	33.5	35.0	ND (<50)	-	Neg.	0
	Soil	35.0	36.5	ND (<50)	-	Neg.	0
	Soil	36.5	38.0	ND (<50)	-	Neg.	0
	Soil	37.5	39.0	ND (<50)	-	Neg.	0
MWA-6	Soil	3.0	4.5	ND (<50)	-	Neg.	0
	Soil	4.5	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.5	ND (<50)	-	Neg.	0
	Soil	7.5	9.0	ND (<50)	-	Neg.	2.2
	Soil	9.0	10.5	ND (<50)	-	Neg.	0
	Soil	10.5	12.0	ND (<50)	-	Neg.	0
	Soil	12.0	13.5	ND (<50)	-	Neg.	3.1
	Soil	13.5	15.0	ND (<50)	-	Neg.	0
	Soil	15.0	16.5	ND (<50)	-	Neg.	6.7
	Soil	18.0	19.5	ND (<50)	-	Neg.	0
	Soil	19.5	21.0	ND (<50)	-	Neg.	0
	Soil	21.0	22.5	ND (<50)	-	Neg.	0
	Soil	22.5	24.0	ND (<50)	-	Neg.	0
	Soil	24.0	25.5	ND (<50)	-	Neg.	2.2
	Soil	25.5	27.0	ND (<50)	-	Neg.	0
	Soil	27.0	28.5	ND (<50)	-	Neg.	0
	Soil	28.5	30.0	ND (<50)	-	Neg.	0
	Soil	30.0	31.5	ND (<50)	-	Neg.	0
	Soil	31.5	33.0	ND (<50)	-	Neg.	0
	Soil	33.0	34.5	ND (<50)	-	Neg.	0
	Soil	34.5	36.0	ND (<50)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
MWA-6r	Soil	5.0	6.5	ND (<50)	-	Neg.	3.6
	Soil	10.0	11.5	ND (<50)	-	Neg.	0
	Soil	15.0	16.5	ND (<50)	-	Neg.	0
	Soil	20.0	21.5	ND (<50)	-	Neg.	3.6
	Soil	21.5	23.0	ND (<50)	-	Neg.	0
	Soil	23.0	24.5	ND (<50)	-	Neg.	3.6
	Soil	24.5	26.0	ND (<50)	-	Neg.	0
	Soil	26.0	27.5	ND (<50)	-	Neg.	0
	Soil	27.5	29.0	ND (<50)	-	Neg.	9.1
	Soil	29.0	30.5	ND (<50)	-	Neg.	5.4
	Soil	30.5	32.0	ND (<50)	-	Neg.	5.4
	Soil	32.0	33.5	ND (<50)	-	Neg.	3.6
	Soil	33.0	34.0	ND (<50)	-	Neg.	5.4
MWA-7	Soil	3.0	4.5	ND (<50)	-	Neg.	0
	Soil	4.5	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	7.5	ND (<50)	-	Neg.	0
	Soil	7.5	9.0	ND (<50)	-	Neg.	0
	Soil	9.0	10.5	ND (<50)	-	Neg.	0
	Soil	10.5	12.0	ND (<50)	-	Neg.	0
	Soil	12.0	13.5	ND (<50)	-	Neg.	0
	Soil	13.5	15.0	ND (<50)	-	Neg.	0
	Soil	15.0	16.5	ND (<50)	-	Neg.	0
	Soil	16.5	18.0	ND (<50)	-	Neg.	0
	Soil	18.0	19.5	ND (<50)	-	Neg.	0
	Soil	19.5	21.0	ND (<50)	-	Neg.	0
	Soil	21.0	22.5	ND (<50)	-	Neg.	0
	Soil	22.5	24.0	ND (<50)	-	Neg.	0
	Soil	24.0	25.5	ND (<50)	-	Neg.	0
	Soil	25.5	27.0	ND (<50)	-	Neg.	0
	Soil	27.0	28.5	ND (<50)	-	Neg.	0
	Soil	28.5	30.0	ND (<50)	-	Neg.	0
	Soil	30.0	31.5	ND (<50)	-	Neg.	0
	Soil	31.5	33.0	ND (<50)	-	Neg.	0
MWA-8i	Soil	5.0	7.0	ND (<500)	-	Neg.	0
	Soil	10.0	12.0	ND (<500)	-	Neg.	0
	Soil	15.0	17.0	ND (<50)	-	Neg.	0
	Soil	20.0	22.0	ND (<500)	-	Neg.	1.1
	Soil	22.0	24.0	ND (<500)	-	Neg.	0
	Soil	24.0	26.0	ND (<500)	-	Neg.	1.1
	Soil	26.0	28.0	ND (<500)	-	Neg.	1.1
	Soil	28.0	30.0	ND (<500)	-	Neg.	3.4
	Soil	30.0	32.0	ND (<500)	-	Neg.	43
	Soil	32.0	32.5	ND (<500)	-	Neg.	-
	Soil	32.0	34.0	ND (<500)	-	Neg.	89
	Soil	32.5	33.0	ND (<500)	-	Neg.	-
	Soil	33.0	33.5	ND (<500)	-	Neg.	-
	Soil	33.0	34.5	ND (<500)	-	Neg.	115
	Soil	33.5	34.0	ND (<500)	-	Neg.	-
	Soil	34.5	35.0	ND (<500)	-	Neg.	36
	Soil	36.0	36.3	1000-5000	5800	Pos. (high)	-
	Soil	36.5	37.8	ND (<500)	-	Neg.	-
	Soil	38.0	40.0	ND (<100)	-	Neg.	-
	Soil	40.0	42.0	ND (<100)	-	Neg.	5.2
	Soil	42.0	44.0	ND (<100)	-	Neg.	26
	Soil	44.0	45.0	ND (<50)	-	Neg.	5
	Soil	45.0	46.0	ND (<100)	-	Neg.	1
	Soil	46.0	47.0	ND (<100)	-	Neg.	2
	Soil	47.0	48.0	ND (<100)	-	Neg.	1
	Soil	48.0	49.0	ND (<100)	-	Neg.	-
	Soil	49.0	49.0	ND (<100)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
MWA-9i	Soil	5.1	7.1	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	ND (<50)	-	Neg.	0
	Soil	15.0	17.0	ND (<50)	-	Neg.	0
	Soil	20.0	22.0	ND (<50)	-	Neg.	0
	Soil	22.0	24.0	ND (<50)	-	Neg.	0
	Soil	24.0	26.0	ND (<50)	-	Neg.	0
	Soil	26.0	28.0	ND (<50)	-	Neg.	0
	Soil	28.0	30.0	ND (<50)	-	Neg.	0
	Soil	30.0	32.0	ND (<50)	-	Neg.	3.5
	Soil	32.0	34.0	ND (<50)	-	Neg.	13
	Soil	34.0	36.0	ND (<50)	-	Neg.	32.8
	Soil	37.4	37.7	~5000	-	Pos. (high)	1260
	Soil	38.0	38.5	ND (<50)	-	Neg.	430
	Soil	38.5	40.0	ND (<50)	-	Neg.	244
	Soil	40.0	42.0	ND (<50)	-	Neg.	350
	Soil	42.0	44.0	ND (<50)	-	Neg.	429
	Soil	44.8	46.0	ND (<50)	-	Neg.	99.6
	Soil	46.0	48.0	ND (<50)	-	Neg.	-
MWA-10i	Soil	5.0	7.0	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	ND (<50)	-	Neg.	0
	Soil	15.0	17.0	ND (<50)	-	Neg.	0
	Soil	20.0	22.0	ND (<50)	-	Neg.	0
	Soil	22.0	24.0	ND (<50)	-	Neg.	0
	Soil	24.0	26.0	~50	-	Neg.	0
	Soil	26.0	28.0	ND (<50)	-	Neg.	0
	Soil	28.0	30.0	ND (<50)	-	Neg.	22
	Soil	30.0	32.0	ND (<50)	-	Neg.	85
	Soil	32.0	34.0	ND (<50)	-	Neg.	73
	Soil	34.0	36.0	ND (<50)	-	Neg.	-
	Soil	36.0	38.0	ND (<50)	-	Neg.	-
	Soil	38.0	40.0	ND (<50)	-	Neg.	4.7
	Soil	40.0	42.0	ND (<50)	-	Neg.	21.5
	Soil	42.0	44.0	ND (<50)	-	Neg.	-
	Soil	44.0	46.0	ND (<50)	-	Neg.	-
MWA-11i	Soil	0.5	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	4.0	>30% DDT	-	Neg.	6.5
	Soil	4.0	6.0	500-1000	-	Pos. (low)	1071
	Soil	6.0	8.0	1000-5000	31000	Pos. (high)	1973
	Soil	10.0	12.0	100-500	-	Pos. (low)	1892
	Soil	12.0	14.0	1000-5000	-	Pos. (high)	-
	Soil	14.0	16.0	500-1000	-	Neg.	101
	Soil	16.0	18.0	50-100	-	Neg.	826
	Soil	18.0	20.0	ND (<50)	-	Neg.	621
	Soil	20.0	22.0	ND (<50)	-	Neg.	472
	Soil	22.0	24.0	ND (<50)	-	Neg.	530
	Soil	24.0	26.0	ND (<50)	-	Neg.	787
	Soil	26.0	28.0	50-100	230	Pos. (high)	1336
	Soil	28.0	30.0	ND (<50)	2.72	Neg.	-
	Soil	30.0	32.0	ND (<50)	-	Neg.	0
	Soil	32.0	34.0	ND (<50)	-	Neg.	15.2
	Soil	34.0	36.0	ND (<50)	-	Neg.	2.3
	Soil	37.0	38.0	ND (<50)	-	Neg.	0
	Soil	41.0	43.0	ND (<50)	-	Neg.	0
	Soil	43.0	45.0	ND (<50)	-	Neg.	0
	Soil	45.0	47.0	ND (<50)	-	Neg.	0
	Soil	47.0	49.0	ND (<50)	-	Neg.	0
	Soil	50.0	52.0	ND (<50)	-	Neg.	-
MWA-12i	Soil	5.2	7.2	ND (<500)	-	Neg.	0
	Soil	10.2	12.2	ND (<500)	-	Neg.	0
	Soil	15.0	17.0	ND (<500)	-	Neg.	0
	Soil	20.0	22.0	ND (<500)	-	Neg.	0
	Soil	22.0	24.0	ND (<500)	-	Neg.	0
	Soil	24.0	26.0	ND (<500)	-	Neg.	0
	Soil	26.0	28.0	ND (<500)	-	Neg.	0
	Soil	28.0	30.0	ND (<500)	-	Neg.	0
	Soil	30.0	32.0	ND (<500)	-	Neg.	0
	Soil	32.0	34.0	ND (<500)	-	Neg.	0
	Soil	34.0	36.0	ND (<500)	-	Neg.	0
	Soil	36.0	38.0	ND (<500)	-	Neg.	0
	Soil	38.0	40.0	ND (<500)	-	Neg.	0
	Soil	40.0	42.0	ND (<500)	-	Neg.	0
	Soil	42.0	44.0	ND (<500)	-	Neg.	0
	Soil	44.0	46.0	ND (<500)	-	Neg.	0
	Soil	46.0	48.0	ND (<500)	-	Neg.	0
	Soil	48.0	50.0	ND (<500)	-	Neg.	0
	Soil	50.0	52.0	ND (<500)	-	Neg.	0

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
MWA-13d	Soil	5.0	7.0	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	ND (<50)	-	Neg.	0
	Soil	15.0	17.0	ND (<50)	-	Neg.	0
	Soil	20.0	22.0	ND (<50)	-	Neg.	0
	Soil	25.0	27.0	ND (<50)	-	Neg.	0
	Groundwater	28.0	28.0	ND (<0.5)	-	-	-
	Soil	30.0	32.0	ND (<50)	-	Neg.	2.2
	Soil	32.0	34.0	ND (<50)	-	Neg.	70
	Soil	34.0	36.0	ND (<50)	-	Neg.	306
	Soil	36.5	37.0	~5000	-	Pos. (high)	677
	Soil	37.5	38.0	ND (<50)	-	Neg.	0
	Soil	38.0	40.0	~500	-	Neg.	112
	Soil	43.0	44.0	ND (<50)	-	Neg.	106
	Groundwater	43.0	43.0	ND (<0.5)	-	-	-
	Soil	44.0	45.0	ND (<50)	-	Neg.	32.8
	Soil	46.0	48.0	ND (<50)	-	Neg.	15.1
	Soil	50.0	50.0	ND (<50)	-	Neg.	0
	Soil	50.0	52.0	ND (<50)	-	Neg.	0
	Soil	52.0	54.0	ND (<50)	-	Neg.	0
	Soil	52.8	53.8	ND (<50)	-	Neg.	0
MWA-14i	Soil	5.0	7.0	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	ND (<50)	-	Neg.	0
	Soil	15.0	17.0	ND (<50)	-	Neg.	0
	Soil	20.0	22.0	ND (<50)	-	Neg.	0
	Soil	22.0	24.0	ND (<50)	-	Neg.	0
	Soil	24.0	26.0	ND (<50)	-	Neg.	0
	Groundwater	24.0	24.0	ND (0.5)	-	-	-
	Soil	26.0	28.0	ND (<50)	-	Neg.	0
	Soil	28.0	30.0	ND (<50)	-	Neg.	0
	Soil	30.0	32.0	ND (<50)	-	Neg.	0
	Soil	32.0	34.0	ND (<50)	-	Neg.	0
	Groundwater	32.0	32.0	ND (0.5)	-	-	-
	Soil	34.0	36.0	ND (<50)	-	Neg.	0
	Soil	36.0	38.0	ND (<50)	-	Neg.	0
	Soil	38.0	40.0	ND (<50)	-	Neg.	0
	Soil	40.0	42.0	ND (<50)	-	Neg.	0
	Soil	42.0	44.0	ND (<50)	-	Neg.	0
	Groundwater	42.0	42.0	ND (0.5)	-	-	-
	Soil	44.0	46.0	ND (<50)	-	Neg.	0
	Soil	46.0	48.0	ND (<50)	-	Neg.	0
	Soil	48.0	49.0	ND (<50)	-	Neg.	0
	Soil	48.0	49.0	ND (<50)	-	Neg.	0
	Soil	49.0	49.0	ND (<50)	-	Neg.	0
MWA-15	Soil	5.0	6.5	~1000	-	Neg.	232
	Soil	10.0	11.5	1000-5000	-	Neg.	95
	Soil	15.0	16.5	~5000	-	Neg.	3.5
	Soil	20.0	21.5	~5000	-	Neg.	5.3
	Soil	21.5	23.0	1000-5000	-	Neg.	8.8
	Soil	23.0	24.5	1000-5000	-	Neg.	23
	Soil	24.5	26.0	1000-5000	-	Neg.	10.6
	Soil	26.0	27.5	1000-5000	-	Pos. (high)	>2400
	Soil	27.5	29.0	~5000	-	Pos. (high)	>2400
	Soil	29.0	30.5	~5000	-	Pos. (high)	>2400
	Soil	30.5	31.5	~5000	-	Pos. (high)	>2400
	Soil	31.5	32.5	~5000	-	Pos. (high)	>1068
	Soil	32.5	33.8	ND (<50)	-	Neg.	>1038
MWA-16i	Soil	5.0	7.0	ND (<50)	-	Neg.	3.8
	Soil	10.0	12.0	ND (<50)	-	Neg.	3.8
	Soil	15.0	17.0	ND (<50)	-	Neg.	1.9
	Soil	20.0	22.0	ND (<50)	-	Neg.	1.9
	Soil	25.0	27.0	ND (<50)	-	Neg.	3.8
	Soil	27.0	29.0	ND (<50)	-	Neg.	3.8
	Soil	29.0	31.0	ND (<50)	-	Neg.	3.8
	Soil	31.0	33.0	ND (<50)	-	Neg.	1.9
	Soil	33.0	35.0	ND (<50)	-	Neg.	1.9
	Soil	35.0	37.0	ND (<50)	-	Neg.	3.6
	Soil	37.0	39.0	ND (<50)	-	Neg.	3.6
	Soil	39.0	41.0	ND (<50)	-	Neg.	1.8
	Soil	41.0	43.0	ND (<50)	-	Neg.	1.8
	Soil	43.0	45.0	ND (<50)	-	Neg.	1.8
	Soil	45.0	47.0	ND (<50)	-	Neg.	1.8

Table 5-4
Field Screening Results
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Type	Upper Depth (ft)	Lower Depth (ft)	DDT by TLC (mg/kg)	DDT in Lab by USEPA Method 8081A (mg/kg)	Sudan IV Dye	OVM (ppm)
MWA-17si	Soil	5.0	6.5	ND (<50)	-	Neg.	0
	Soil	10.0	11.5	ND (<50)	-	Neg.	0
	Soil	15.0	17.0	ND (<50)	-	Neg.	0
	Soil	25.0	27.0	ND (<50)	-	Neg.	0
	Soil	27.0	29.0	ND (<50)	-	Neg.	0
	Soil	29.0	31.0	ND (<50)	-	Neg.	3
	Soil	31.0	33.0	ND (<50)	-	Neg.	45
	Soil	33.0	35.0	ND (<50)	-	Pos. (high)	>3884
MWA-18	Soil	5.0	6.5	25	38	-	-
	Soil	10.0	11.5	ND (<10)	3.6	-	-
	Soil	15.0	16.5	10	7.4	-	-
MWA-19	Soil	5.0	6.5	-	-	-	-
	Soil	10.0	11.5	ND (<10)	0.04	-	-
	Soil	15.0	16.5	ND (<10)	1	-	-
MWA-20	Soil	5.0	6.5	ND (<10)	0.028	-	-
	Soil	10.0	11.5	25	0.3 J (dup = 0.033 J)	-	-
	Soil	15.0	16.5	ND (<10)	0.014	-	-
RB-1	Soil	0.0	0.3	ND (<50)	0.32	Neg.	0
	Soil	0.3	0.7	ND (<50)	0.59	Neg.	0
RB-2	Soil	0.0	0.3	ND (<50)	0.7	Neg.	0
	Soil	0.3	0.7	ND (<50)	1.3	Neg.	0
RB-3	Soil	0.0	0.3	ND (<50)	2.4 J	Neg.	0
	Soil	0.3	1.0	ND (<50)	2	Neg.	0
	Soil	0.7	0.7	ND (<50)	-	Neg.	0
RB-4	Soil	0.0	0.3	ND (<50)	0.41	Neg.	0
	Soil	0.3	1.0	ND (<50)	2.6	Neg.	0
RB-5	Soil	0.0	0.3	ND (<50)	0.034	Neg.	0
	Soil	0.3	1.0	ND (<50)	0.064	Neg.	0
RB-6	Soil	0.0	0.3	ND (<50)	0.064	Neg.	0
	Soil	0.3	2.0	ND (<50)	0.36	Neg.	0
	Soil	1.0	1.0	ND (<50)	-	Neg.	0
	Soil	2.0	3.0	ND (<50)	-	Neg.	0
US-01	Soil	0.0	0.5	ND (<50)	6.6	Neg.	0
	Soil	0.5	2.0	>5000	-	Neg.	24.9
	Soil	2.0	2.5	1000-5000	690	Neg.	46.6
	Soil	2.5	4.0	~1000	1100	Neg.	0
US-02	Soil	0.0	0.5	ND (<50)	1.9	Neg.	0
	Soil	0.5	2.0	ND (<50)	-	Neg.	0
	Soil	2.0	2.5	ND (<50)	0.239	Neg.	0
	Soil	2.5	4.0	ND (<50)	-	Neg.	0
US-03	Soil	0.0	0.5	~100	140	Neg.	0
	Soil	0.5	2.0	500-1000	-	Neg.	0
	Soil	2.0	2.5	ND (<50)	25	Neg.	0
	Soil	2.5	4.0	100-500	-	Neg.	0
VP-21	Soil	2.0	4.0	150	-	Neg.	0
	Soil	6.0	8.0	300	2000	Neg.	0
	Soil	8.0	10.0	ND (<50)	-	Neg.	0
	Soil	10.0	12.0	100	-	Neg.	22.7
	Soil	12.0	14.0	ND (<50)	-	Neg.	105.2
	Soil	14.0	16.0	ND (<50)	2	Neg.	116.1
VP-22	Soil	2.0	4.0	400	-	Neg.	0
	Soil	4.0	6.0	300	-	Neg.	0
	Soil	6.0	8.0	50	-	Neg.	0
	Soil	8.0	10.0	500	1200	Pos.	634
	Soil	10.0	12.0	50	-	Neg.	>1000
	Soil	12.0	14.0	ND (<50)	-	Neg.	85.7
	Soil	14.0	16.0	ND (<50)	0.15	Neg.	95.3
VP-23	Soil	2.0	4.0	ND (<50)	-	Neg.	3.4
	Soil	4.0	6.0	ND (<50)	-	Neg.	4.7
	Soil	6.0	8.0	750	-	Pos.	331
	Soil	8.0	10.0	1500	1700	Pos.	>1000
	Soil	10.0	12.0	ND (<50)	-	Pos.	482
	Soil	12.0	14.0	ND (<50)	-	Neg.	43.1
	Soil	14.0	16.0	200	55	Neg.	564
VP-24	Soil	2.0	4.0	ND (<50)	-	Neg.	0
	Soil	4.0	6.0	ND (<50)	-	Neg.	0
	Soil	6.0	8.0	500	100	Neg.	0
	Soil	8.0	10.0	750	-	Neg.	11.6
	Soil	10.0	12.0	50	-	Neg.	22.6
	Soil	12.0	14.0	500	-	Neg.	32
	Soil	14.0	16.0	ND (<50)	9.2	Neg.	49

Notes:
mg/kg - milligrams per kilogram
ppm - parts per million
J - Estimated Concentration
U - Constituent not detected at the detection limit shown

Table 5-5
Surface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	4,4'-DDD 8081A (mg/kg)	4,4'-DDE 8081A (mg/kg)	4,4'-DDT 8081A (mg/kg)	Aldrin 8081A (mg/kg)	alpha-BHC 8081A (mg/kg)	alpha-Chlordane 8081A (mg/kg)	beta-BHC 8081A (mg/kg)	delta-BHC 8081A (mg/kg)	Dieldrin 8081A (mg/kg)	Endosulfan I 8081A (mg/kg)	Endosulfan II 8081A (mg/kg)	Endosulfan sulfate 8081A (mg/kg)	Endrin 8081A (mg/kg)	Endrin aldehyde 8081A (mg/kg)	Endrin ketone 8081A (mg/kg)	gamma-BHC [Lindane] 8081A (mg/kg)	gamma-Chlordane 8081A (mg/kg)	Heptachlor 8081A (mg/kg)	Heptachlor epoxide 8081A (mg/kg)	Methoxychlor 8081A (mg/kg)	Toxaphene 8081A (mg/kg)
Preliminary Screening Level							**10 a**	**7 a**	**7 a**	**0.1 a**	**0.36 a**	**6.5 a,b**	**1.3 a**	**1.3 a,c**	**0.11 a**	**3,700 a,d**	**3,700 a,d**	**3,700 a,d**	**180 a**	**180 a,e**	**180 a,e**	**1.7 a**	**6.5 a,b**	**0.38 a**	**0.19 a**	**3,100 a**	**1.6 a**
S-1	Acid Plant	SO0400	3/31/2000	0.4	0.7	X	**13**	**5,200**	**890**	5 U	5 U	30 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	150 U	5 U	5 U	5 U	250 U
S-2	Acid Plant	SO1041	5/1/2001	0	0.3		**0.013** J	**0.086**	**0.33**	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.3 U
S-3	Acid Plant	SO1042	5/1/2001	0	0.3		**0.054** J	**0.15** J	**1.8**	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0065 U	0.27 U
(dup)		SO1043	5/1/2001	0	0.3		**0.032** J	**0.087** J	**1.6**	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	**0.0073**	0.28 U
S-4	Acid Plant	SO1040	5/1/2001	0	0.3		**0.049** J	**0.12**	**1.3**	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.29 U
S-5	Acid Plant	SO1044	5/1/2001	0	0.3		**0.16**	**0.39**	**2**	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.32 U
S-6	Acid Plant	SO1047	5/1/2001	0	0.3	X	**5.8** J	**4.1**	**260**	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	29 U
S-7	Acid Plant	SO1045	5/1/2001	0	0.3	X	**25** J	**40**	**1,600**	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	300 U
S-8	Acid Plant	SO1046	5/1/2001	0	0.3	X	**21** J	**12**	**1,600**	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	61 U
US-01	Acid Plant	SO0174	1/11/1999	0	0.5		**0.42**	**0.89**	**6.6**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	10 U
US-02	Acid Plant	SO0178	1/11/1999	0	0.5		**0.113**	**0.151**	**1.9**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
US-03	Acid Plant	SO0182	1/11/1999	0	0.5		**9.0**	**6.6**	**140**	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	2.0 U	100 U
B-51	Acid Plant	SO0129	1/11/1999	0.5	1		0.01 U	**0.197**	**1.8**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
B-52	Acid Plant	SO0159	1/11/1999	0.5	1		0.01 U	0.01 U	**0.03**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
B-57	Acid Plant	SO0314	8/3/1999	0	1	X	**0.32**	**29**	**23**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.035 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.04 U	2.0 U
B-91	Acid Plant	SO1434	11/2/2001	0	0.5		**0.82** J	**2.1**	**120**	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
B-92	Acid Plant	SO1430	11/2/2001	0	0.5		**0.33** J	**0.83**	**39**	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
B-93	Acid Plant	SO1442	11/2/2001	0	0.5		**0.012** J	**0.53**	**1.0** J	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
B-94	Acid Plant	SO1438	11/2/2001	0	0.5		**8.8** J	**4.4**	**1,300**	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
B-95	Acid Plant	SO1422	11/2/2001	0	0.5		**0.066** J	**0.91**	**16**	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
B-96	Acid Plant	SO1426	11/2/2001	0	0.5		**2.2** J	**190**	**440**	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
B-97	Acid Plant	SO1410	11/2/2001	0	0.5		**0.0026**	**0.044**	**0.096**	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
B-98	Acid Plant	SO1414	11/2/2001	0	0.5		**0.023** J	0.036 U	**0.9**	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
B-99	Acid Plant	SO1418	11/2/2001	0	0.5		**0.0032**	**0.055**	**0.094** J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
B-100	Acid Plant	SO1448	11/5/2001	0	0.5		**32** J	**8.5**	**3,300** J	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
(dup)		SO1448XX	11/5/2001	0	0.5		31 U	31 U	**2,600** J	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U
B-101	Acid Plant	SO1461	11/5/2001	0	0.5		5.5 U	5.5 U	**230** J	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U
B-102	Acid Plant	SO1591	12/19/2001	0	0.5		5.5 U	5.5 U	**62**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-103	Acid Plant	SO1595	12/19/2001	0	0.5		0.0057 U	**0.11**	0.07 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-104	Acid Plant	SO1538	12/18/2001	0	0.5		0.0055 U	0.12 U	**0.032** J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-105	Acid Plant	SO1583	12/19/2001	0	0.5		26 U	**32**	**240**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-106	Acid Plant	SO1587	12/19/2001	0	0.5		2.6 U	**4.5**	**81**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-107	Acid Plant	SO1579	12/19/2001	0	0.5		**13**	5.7 U	**98**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-108	Acid Plant	SO1494	12/17/2001	0	0.5		560 U	560 U	**2,900**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-109	Acid Plant	SO1490	12/17/2001	0	0.5		57 U	57 U	**710**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-111	Acid Plant	SO1609	12/20/2001	0	1		56 U	56 U	**390**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-112	Acid Plant	SO1572	12/18/2001	0	0.5		**11** J	5.5 U	**96**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-113	Acid Plant	SO1564	12/18/2001	0	0.5		**1.4** J	0.54 U	**14**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-114	Acid Plant	SO1556	12/18/2001	0	0.5		5.3 U	5.3 U	**23**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-115	Acid Plant	SO1549	12/18/2001	0	0.5		**0.019**	**0.029**	**0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IB-32	Acid Plant	SO0705	5/18/2000	0	1	X	**16**	**25**	**2,700**	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	**1.5**	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-36	Acid Plant	SO0725	5/18/2000	0	1	X	**1.9**	**2.3**	**340**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	25 U
IB-41	Acid Plant	SO0750	5/18/2000	0	1		**2.4**	**3.9**	**200**	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-47	Acid Plant	SO0512	5/19/2000	0	1	X	**1.7**	**6.9**	**330**	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.44 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-73	Acid Plant	SO1121	8/15/2001	0.5	1	X	0.11 U	0.11 U	**1.4**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.29 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	5.5 U
IB-74	Acid Plant	SO1115	8/15/2001	0.5	1	X	0.12 U	0.12 U	**1.7**	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.39 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	5.7 U
IB-79	Acid Plant	SO1118	8/15/2001	0.5	1	X	**72** J	**19**	**4,100**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	41 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	290 U
IB-80	Acid Plant	SO1130	8/15/2001	0.5	1	X	5.4 U	5.4 U	**100**	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	13 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	270 U
IB-81	Acid Plant	SO1124	8/15/2001	0.5	1	X	0.11 U	**0.13**	**1**	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.32 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	5.4 U
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5		**0.0495**	**0.0564**	**0.291**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-1-1.0	1/28/2004	0.5	1		**0.0275**	**0.0235**	**0.0815**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-2	Old Caustic Tank Farm	OCTF-2-0.5	1/28/2004	0	0.5		**39.6**	**5.95**	**17.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-2-1.0	1/28/2004	0.5	1		**4.59**	**0.48**	**1.81**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5		**0.0999**	0.0067 U	**0.0109**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-3-1.0	1/28/2003	0.5	1		**0.362**	**0.132**	**0.187**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-4	Old Caustic Tank Farm	OCTF-4-0.5	1/28/2004	0	0.5		**0.0167**	**0.0189**	**0.0575**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-4-1.0	1/28/2004	0.5	1		**7.91**	**1.16**	**1.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-5	Old Caustic Tank Farm	OCTF-5-0.5	1/28/2004	0	0.5		**0.01**	**0.0158**	0.0067 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-5-1.0	1/28/2004	0.5	1		0.0067 U	**0.0118**	0.0067 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-6	Old Caustic Tank Farm	OCTF-6-0.5	1/28/2004	0	0.5		**0.0499**	**0.0429**	**0.0932**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-6-1.0	1/28/2004	0.5	1		**0.0267**	**0.0686**	**0.0215**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-7	Old Caustic Tank Farm	OCTF-7-0.5	1/28/2004	0	0.5		0.0067 U	**0.226**	**0.0238**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-7-1.0	1/28/2004	0.5	1		**0.131**	**2.99**	0.0067 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-8	Old Caustic Tank Farm	OCTF-8-0.5	1/28/2004	0	0.5		**0.0283**	**0.0454**	**0.0941**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-8-1.0	1/28/2004	0.5	1		0.0067 U	**0.0163**	**0.0371**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5		**0.0474**	**0.0213**	**0.0367**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-9-1.0	1/28/2004	0.5	1		**0.0774**	**0.0354**	**0.0482**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-10	Old Caustic Tank Farm	OCTF-10-0.5	1/27/2004	0	0.5		**0.0176**	**0.167**	**0.715**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-10-1.0	1/27/2004	0.5	1		**0.0184**	**0.0956**	**1.34**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-11	Old Caustic Tank Farm	OCTF-11-0.5	1/27/2004	0	0.5		**360**	**18,200**	**13,300**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-11-1.0	1/27/2004	0.5	1		3,350 U	**12,300**	3,350 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-12	Old Caustic Tank Farm	OCTF-12-0.5	1/27/2004	0	0.5		**0.208**	**5.28**	**5.71**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-12-1.0	1/27/2004	0.5	1		**0.0215**	**0.664**	**0.164**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCTF-13	Old Caustic Tank Farm	OCTF-13-0.5	1/27/2004	0	0.5		**0.144**	**7.87**	**0.672**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		OCTF-13-1.0	1/27/2004	0.5	1		**0.248**	**14.6**	**6.74**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
J - Estimated
mg/kg - milligrams per kilogram
R - Rejected
U - Undetected at detection limit shown
- not analyzed
- Value above preliminary screening level

- Data for this sample has not undergone validation
a = USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b = Value for technical chlordane used
c = Value for technical BHC used
d = Value for endosulfan used
e = Value for endrin used

Table 5-6
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	1,1,1,2-Tetrachloro-ethane 8260B (mg/kg)	1,1,1-Trichloro-ethane 8260B (mg/kg)	1,1,2,2-Tetrachloro-ethane 8260B (mg/kg)	1,1,2-Trichloro-ethane 8260B (mg/kg)	1,1-Dichloro-ethane 8260B (mg/kg)	1,1-Dichloro-ethene 8260B (mg/kg)	1,1-Dichloro-propene 8260B (mg/kg)	1,2,3-Trichloro-propane 8260B (mg/kg)	1,2,4- Trimethyl-benzene 8260B (mg/kg)	1,2-Dibromo-3-chloro-propane 8260B (mg/kg)	1,2-Dibromo-ethane 8260B (mg/kg)	1,2-Dichloro-ethane 8260B (mg/kg)	1,2-Dichloro-propane 8260B (mg/kg)
Remedial Investigation Screening Levels						**7.3 a**	**1,200 a**	**0.93 a**	**1.6 a**	**1,700 a**	**410 a**	**NE**	**0.076 a**	**170 a**	**2 a**	**0.073 a**	**0.6 a**	**0.74 a**
B-50	Acid Plant	SO0139	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-	0.02 *U*	0.02 *U*	0.005 *U*	0.005 *U*
B-51	Acid Plant	SO0129	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-	0.02 *U*	0.02 *U*	0.005 *U*	0.005 *U*
B-52	Acid Plant	SO0159	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-	0.02 *U*	0.02 *U*	0.005 *U*	0.005 *U*
B-91	Acid Plant	SO1434	11/2/2001	0	0.5	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	-	0.023 *U*	0.023 *U*	0.0057 *U*	0.0057 *U*
B-92	Acid Plant	SO1430	11/2/2001	0	0.5	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	-	0.023 *U*	0.023 *U*	0.0057 *U*	0.0057 *U*
B-93	Acid Plant	SO1442	11/2/2001	0	0.5	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	-	0.022 *U*	0.022 *U*	0.0055 *U*	0.0055 *U*
B-94	Acid Plant	SO1438	11/2/2001	0	0.5	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	-	0.022 *U*	0.022 *U*	0.0054 *U*	0.0054 *U*
B-95	Acid Plant	SO1422	11/2/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	-	0.023 *U*	0.023 *U*	0.0056 *U*	0.0056 *U*
B-96	Acid Plant	SO1426	11/2/2001	0	0.5	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	-	0.023 *U*	0.023 *U*	0.0058 *U*	0.0058 *U*
B-97	Acid Plant	SO1410	11/2/2001	0	0.5	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	-	0.021 *U*	0.021 *U*	0.0052 *U*	0.0052 *U*
B-98	Acid Plant	SO1414	11/2/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	-	0.023 *U*	0.023 *U*	0.0056 *U*	0.0056 *U*
B-99	Acid Plant	SO1418	11/2/2001	0	0.5	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	-	0.022 *U*	0.022 *U*	0.0053 *U*	0.0053 *U*
B-100	Acid Plant	SO1448	11/5/2001	0	0.5	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	-	0.022 *U*	0.022 *U*	0.0055 *U*	0.0055 *U*
(dup)		SO1448XX	11/5/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	-	0.023 *U*	0.023 *U*	0.0056 *U*	0.0056 *U*
B-101	Acid Plant	SO1461	11/5/2001	0	0.5	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	-	0.024 *U*	0.024 *U*	0.0058 *U*	0.0058 *U*
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-1-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-2	Old Caustic Tank Farm	OCTF-2-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-2-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-3-1.0	1/28/2003	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	**0.125** *J*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-4	Old Caustic Tank Farm	OCTF-4-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-4-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-5	Old Caustic Tank Farm	OCTF-5-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-5-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-6	Old Caustic Tank Farm	OCTF-6-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-6-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-7	Old Caustic Tank Farm	OCTF-7-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-7-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-8	Old Caustic Tank Farm	OCTF-8-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-8-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*
		OCTF-9-1.0	1/28/2004	0.5	1	0.00925 *U*	0.00613 *U*	0.0211 *U*	0.0181 *U*	0.0119 *U*	0.0119 *U*	0.0109 *U*	0.0492 *U*	0.00675 *U*	0.026 *U*	0.0116 *U*	0.0112 *U*	0.00745 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
NE = Not established
- not analyzed
- Data for this sample has not undergone validation
a = USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b = Value for 1,3-dichloropropene used
c = Value for total xylenes used
d = Value for adult exposure used

Table 5-6
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	1,3-Dichloro-propane 8260B (mg/kg)	2,2-Dichloro-propane 8260B (mg/kg)	2-Hexanone 8260B (mg/kg)	2-Butanone 8260B (mg/kg)	4-Methyl-2-pentanone 8260B (mg/kg)	Acetone 8260B (mg/kg)	Benzene 8260B (mg/kg)	Bromobenzene 8260B (mg/kg)	Bromochloro-methane 8260B (mg/kg)	Bromodichloro-methane 8260B (mg/kg)	Bromoform 8260B (mg/kg)	Bromomethane 8260B (mg/kg)	Carbon disulfide 8260B (mg/kg)
Remedial Investigation Screening Levels						**360 a**	**NE**	**NE**	**110,000 a**	**47,000 a**	**54,000 a**	**1.4 a**	**92 a**	**NE**	**1.8 a**	**220 a**	**13 a**	**720 a**
B-50	Acid Plant	SO0139	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-51	Acid Plant	SO0129	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-52	Acid Plant	SO0159	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*
B-91	Acid Plant	SO1434	11/2/2001	0	0.5	0.0057 *U*	0.0057 *U*	0.023 *U*	0.023 *U*	0.023 *U*	0.057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*
B-92	Acid Plant	SO1430	11/2/2001	0	0.5	0.0057 *U*	0.0057 *U*	0.023 *U*	0.023 *U*	0.023 *U*	0.057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*
B-93	Acid Plant	SO1442	11/2/2001	0	0.5	0.0055 *U*	0.0055 *U*	0.022 *U*	0.022 *U*	0.022 *U*	0.055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*
B-94	Acid Plant	SO1438	11/2/2001	0	0.5	0.0054 *U*	0.0054 *U*	0.022 *U*	0.022 *U*	0.022 *U*	0.054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*
B-95	Acid Plant	SO1422	11/2/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.023 *U*	0.023 *U*	0.023 *U*	0.056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-96	Acid Plant	SO1426	11/2/2001	0	0.5	0.0058 *U*	0.0058 *U*	0.023 *U*	0.023 *U*	0.023 *U*	0.058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*
B-97	Acid Plant	SO1410	11/2/2001	0	0.5	0.0052 *U*	0.0052 *U*	0.021 *U*	0.021 *U*	0.021 *U*	0.052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*
B-98	Acid Plant	SO1414	11/2/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.023 *U*	0.023 *U*	0.023 *U*	0.056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-99	Acid Plant	SO1418	11/2/2001	0	0.5	0.0053 *U*	0.0053 *U*	0.022 *U*	0.022 *U*	0.022 *U*	0.053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*
B-100	Acid Plant	SO1448	11/5/2001	0	0.5	0.0055 *U*	0.0055 *U*	0.022 *U*	0.022 *U*	0.022 *U*	**0.13** *J*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*
(dup)		SO1448XX	11/5/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.023 *U*	0.023 *U*	0.023 *U*	0.014 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-101	Acid Plant	SO1461	11/5/2001	0	0.5	0.0058 *U*	0.0058 *U*	0.024 *U*	0.024 *U*	0.024 *U*	**0.045**	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-1-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-2	Old Caustic Tank Farm	OCTF-2-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-2-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-3-1.0	1/28/2003	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-4	Old Caustic Tank Farm	OCTF-4-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-4-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-5	Old Caustic Tank Farm	OCTF-5-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-5-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-6	Old Caustic Tank Farm	OCTF-6-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-6-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-7	Old Caustic Tank Farm	OCTF-7-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-7-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-8	Old Caustic Tank Farm	OCTF-8-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-8-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*
		OCTF-9-1.0	1/28/2004	0.5	1	0.0174 *U*	0.00809 *U*	0.0572 *U*	0.148 *U*	0.117 *U*	0.144 *U*	0.00444 *U*	0.0122 *U*	0.0164 *U*	0.0102 *U*	0.0158 *U*	0.00509 *U*	0.00719 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
NE = Not established
- not analyzed
- Data for this sample has not undergone validation
a = USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b = Value for 1,3-dichloropropene used
c = Value for total xylenes used
d = Value for adult exposure used

Table 5-6
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Carbon tetrachloride 8260B (mg/kg)	Chlorobenzene 8260B (mg/kg)	Chloroethane 8260B (mg/kg)	Chloroform 8260B (mg/kg)	Chloro-methane 8260B (mg/kg)	cis-1,2-Dichloro-ethene 8260B (mg/kg)	cis-1,3-Dichloro-propene 8260B (mg/kg)	Dibromo-chloro-methane 8260B (mg/kg)	Dibromo-methane 8260B (mg/kg)	Dichloro-difluoro-methane 8260B (mg/kg)	Ethylbenzene 8260B (mg/kg)	meta & para Xylenes 8260B (mg/kg)	Methylene chloride 8260B (mg/kg)
Remedial Investigation Screening Levels						**0.55 a**	**530 a**	**6.5 a**	**0.47 a**	**160 a**	**150 a**	**18 a,b**	**2.6 a**	**230 a**	**310 a**	**400 a**	**420 a,c**	**21 a**
B-50	Acid Plant	SO0139	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.01 *U*
B-51	Acid Plant	SO0129	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	**0.005**	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.01 *U*
B-52	Acid Plant	SO0159	1/11/1999	0.5	1	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.01 *U*
B-91	Acid Plant	SO1434	11/2/2001	0	0.5	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.012 *U*
B-92	Acid Plant	SO1430	11/2/2001	0	0.5	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.012 *U*
B-93	Acid Plant	SO1442	11/2/2001	0	0.5	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.011 *U*
B-94	Acid Plant	SO1438	11/2/2001	0	0.5	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.011 *U*
B-95	Acid Plant	SO1422	11/2/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.012 *U*
B-96	Acid Plant	SO1426	11/2/2001	0	0.5	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.012 *U*
B-97	Acid Plant	SO1410	11/2/2001	0	0.5	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.011 *U*
B-98	Acid Plant	SO1414	11/2/2001	0	0.5	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.012 *U*
B-99	Acid Plant	SO1418	11/2/2001	0	0.5	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.011 *U*
B-100	Acid Plant	SO1448	11/5/2001	0	0.5	0.0055 *U*	**0.021** *J*	0.0055 *U*	0.00059 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0094 *U*
(dup)		SO1448XX	11/5/2001	0	0.5	0.0056 *U*	**0.011** *J*	0.0056 *U*	0.00067 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0049 *U*
B-101	Acid Plant	SO1461	11/5/2001	0	0.5	0.0058 *U*	**0.0047**	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *UJ*	0.0058 *U*	0.0058 *U*	0.0062 *U*
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-1-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-2	Old Caustic Tank Farm	OCTF-2-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-2-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-3-1.0	1/28/2003	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-4	Old Caustic Tank Farm	OCTF-4-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-4-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-5	Old Caustic Tank Farm	OCTF-5-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-5-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-6	Old Caustic Tank Farm	OCTF-6-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-6-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-7	Old Caustic Tank Farm	OCTF-7-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-7-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-8	Old Caustic Tank Farm	OCTF-8-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-8-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*
		OCTF-9-1.0	1/28/2004	0.5	1	0.00764 *U*	0.00809 *U*	0.0107 *U*	0.00726 *U*	0.00672 *U*	0.0126 *U*	0.00495 *U*	0.0112 *U*	0.0147 *U*	0.0118 *U*	0.0094 *U*	0.0114 *U*	0.250 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
NE = Not established
- not analyzed
- Data for this sample has not undergone validation
a = USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b = Value for 1,3-dichloropropene used
c = Value for total xylenes used
d = Value for adult exposure used

Table 5-6
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	n-Butylbenzene 8260B (mg/kg)	ortho-Xylene 8260B (mg/kg)	sec-Butylbenzene 8260B (mg/kg)	Styrene 8260B (mg/kg)	tert-Butyl-benzene 8260B (mg/kg)	Tetrachloro-ethene 8260B (mg/kg)	Toluene 8260B (mg/kg)	trans-1,2-Dichloro-ethene 8260B (mg/kg)	trans-1,3-Dichloro-propene 8260B (mg/kg)	Trichloro-ethene 8260B (mg/kg)	Trichlorofluoro-methane 8260B (mg/kg)	Vinyl chloride 8260B (mg/kg)
Remedial Investigation Screening Levels						**240 a**	**420 a,c**	**220 a**	**1,700 a**	**390 a**	**1.3 a**	**520 a**	**230 a**	**1.8 a,b**	**0.11 a**	**2,000 a**	**0.75 a,d**
B-50	Acid Plant	SO0139	1/11/1999	0.5	1	0.02 *U*	0.005 *U*	0.02 *U*	0.005 *U*	0.02 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-51	Acid Plant	SO0129	1/11/1999	0.5	1	0.02 *U*	0.005 *U*	0.02 *U*	0.005 *U*	0.02 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-52	Acid Plant	SO0159	1/11/1999	0.5	1	0.02 *U*	0.005 *U*	0.02 *U*	0.005 *U*	0.02 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-91	Acid Plant	SO1434	11/2/2001	0	0.5	0.023 *U*	0.0057 *U*	0.023 *U*	0.0057 *U*	0.023 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*
B-92	Acid Plant	SO1430	11/2/2001	0	0.5	0.023 *U*	0.0057 *U*	0.023 *U*	0.0057 *U*	0.023 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*
B-93	Acid Plant	SO1442	11/2/2001	0	0.5	0.022 *U*	0.0055 *U*	0.022 *U*	0.0055 *U*	0.022 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*
B-94	Acid Plant	SO1438	11/2/2001	0	0.5	0.022 *U*	0.0054 *U*	0.022 *U*	0.0054 *U*	0.022 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*
B-95	Acid Plant	SO1422	11/2/2001	0	0.5	0.023 *U*	0.0056 *U*	0.023 *U*	0.0056 *U*	0.023 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-96	Acid Plant	SO1426	11/2/2001	0	0.5	0.023 *U*	0.0058 *U*	0.023 *U*	0.0058 *U*	0.023 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*
B-97	Acid Plant	SO1410	11/2/2001	0	0.5	0.021 *U*	0.0052 *U*	0.021 *U*	0.0052 *U*	0.021 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*
B-98	Acid Plant	SO1414	11/2/2001	0	0.5	0.023 *U*	0.0056 *U*	0.023 *U*	0.0056 *U*	0.023 *U*	0.0056 *U*	**0.043**	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-99	Acid Plant	SO1418	11/2/2001	0	0.5	0.022 *U*	0.0053 *U*	0.022 *U*	0.0053 *U*	0.022 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*
B-100	Acid Plant	SO1448	11/5/2001	0	0.5	0.022 *U*	0.0055 *U*	0.022 *U*	0.0055 *U*	0.022 *U*	**0.00072** *J*	**0.00048**	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*
(dup)		SO1448XX	11/5/2001	0	0.5	0.023 *U*	0.0056 *U*	0.023 *U*	0.0056 *U*	0.023 *U*	**0.0019** *J*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-101	Acid Plant	SO1461	11/5/2001	0	0.5	0.024 *U*	0.0058 *U*	0.024 *U*	0.0058 *U*	0.024 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-1-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-2	Old Caustic Tank Farm	OCTF-2-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-2-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-3-1.0	1/28/2003	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-4	Old Caustic Tank Farm	OCTF-4-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-4-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-5	Old Caustic Tank Farm	OCTF-5-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-5-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-6	Old Caustic Tank Farm	OCTF-6-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-6-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-7	Old Caustic Tank Farm	OCTF-7-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-7-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-8	Old Caustic Tank Farm	OCTF-8-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-8-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*
		OCTF-9-1.0	1/28/2004	0.5	1	0.0113 *U*	0.0116 *U*	0.00745 *U*	0.00889 *U*	0.0152 *U*	0.0169 *U*	0.00629 *U*	0.00897 *U*	0.00829 *U*	0.0120 *U*	0.00897 *U*	0.00574 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
NE = Not established
- not analyzed
- Data for this sample has not undergone validation
a = USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b = Value for 1,3-dichloropropene used
c = Value for total xylenes used
d = Value for adult exposure used

Table 5-7
Surface Soil Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Cadmium 6010B (mg/kg)	Chromium 6010B (mg/kg)	Lead 6010B (mg/kg)	Zinc 6010B (mg/kg)
Preliminary Screening Level						**450 a**	**450 a**	**800 a**	**100,000 a**
IB-44	Acid Plant	SO0764	5/18/2000	0	1	1.08 *U*	**85.7**	**47.9**	**394** *J*
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5	0.556 *U*	**9.12**	**3.15**	-
OCTF-1	Old Caustic Tank Farm	OCTF-1-1.0	1/28/2004	0.5	1	0.5 *U*	**8.98**	**2.32**	-
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5	0.5 *U*	**17.8**	**8.64**	-
OCTF-3	Old Caustic Tank Farm	OCTF-3-1.0	1/28/2003	0.5	1	0.5 *U*	**13.4**	**8.5**	-
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5	0.5 *U*	**6.29**	**6.14**	-
OCTF-9	Old Caustic Tank Farm	OCTF-9-1.0	1/28/2004	0.5	1	0.5 *U*	**10**	**8.75**	-

Notes:
U - Undetected at the detection limit shown
J - Estimated
- Not analyzed
a = USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
- Data for this sample has not undergone validation

Table 5-8
Subsurface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	4,4'-DDD 8081A (mg/kg)	4,4'-DDE 8081A (mg/kg)	4,4'-DDT 8081A (mg/kg)	Aldrin 8081A (mg/kg)	alpha-BHC 8081A (mg/kg)	alpha-Chlordane 8081A (mg/kg)	beta-BHC 8081A (mg/kg)	delta-BHC 8081A (mg/kg)	Dieldrin 8081A (mg/kg)	Endosulfan I 8081A (mg/kg)	Endosulfan II 8081A (mg/kg)	Endosulfan sulfate 8081A (mg/kg)	Endrin 8081A (mg/kg)	Endrin aldehyde 8081A (mg/kg)	Endrin ketone 8081A (mg/kg)	gamma-BHC [Lindane] 8081A (mg/kg)	gamma-Chlordane 8081A (mg/kg)	Heptachlor 8081A (mg/kg)	Heptachlor epoxide 8081A (mg/kg)	Methoxychlor 8081A (mg/kg)	Toxaphene 8081A (mg/kg)
Remedial Investigation Screening Goals							**10 a**	**7 a**	**7 a**	**0.1 a**	**0.36 a**	**6.5 a,b**	**1.3 a**	**1.3 a,c**	**0.11 a**	**3,700 a,d**	**3,700 a,d**	**3,700 a,d**	**180 a**	**180 a,e**	**180 a,e**	**1.7 a**	**6.5 a,b**	**0.38 a**	**0.19 a**	**3,100 a**	**1.6 a**
US-01	Acid Plant	SO0176	1/11/1999	2	2.5		**38**	**53**	**690**	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	20 U	1,000 U
		SO0177	1/11/1999	2.5	4		**16** J	**8.5** J	**1,100** J	0.02 UR	0.02 UR	0.39 UR	0.02 UR	0.02 UR	0.2 UR	0.2 UR	0.4 UR	0.2 UR	0.2 UR	0.2 UR	0.2 UR	0.02 UR	0.35 UR	0.02 UR	0.2 UR	0.4 UR	20 UR
US-02	Acid Plant	SO0180	1/11/1999	2	2.5		0.01 U	**0.012**	**0.239**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
US-03	Acid Plant	SO0184	1/11/1999	2	2.5		**1.1**	**3.2**	**25**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	100 U
B-49	Acid Plant	SO0151	1/11/1999	2	2.5	X	**48**	**44**	**3,600**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.1 U	2.0 U	2.0 U	4.0 U	200 U
		SO0158	1/11/1999	7	8		0.015 U	0.015 U	**0.135** J	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.02 U	1.0 U
(dup)		SO0169	1/11/1999	7	8		0.012 U	**0.011** J	**0.299** J	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.02 U	1.0 U
B-50	Acid Plant	SO0145	1/11/1999	5	5.5		0.012 U	**0.018**	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.02 U	1.0 U
B-51	Acid Plant	SO0135	1/11/1999	5	5.5		**0.075**	**0.423**	**2.4**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
B-52	Acid Plant	SO0165	1/11/1999	5	5.5		0.01 U	0.01 U	**0.048**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
B-53	Acid Plant	SO0254	1/13/1999	4.5	6	X	**80**	**14**	**16,000**	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	600 U
B-54	Acid Plant	SO0306	2/19/1999	4	5		**0.26**	**1.3**	**21**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	20 U
		SO0311	2/19/1999	9	10		**0.7**	**0.096**	**6.1**	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	5.0 U
B-55	Acid Plant	SO0276	2/19/1999	6	7		**36**	1.0 U	**297**	1.0 U	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	30 U
		SO0281	2/19/1999	12	13		**0.289**	**0.021**	**2.8**	0.01 U	**0.037**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	1.0 U
B-56	Acid Plant	SO0289	2/19/1999	4	5		**4.9**	**3.2**	**454**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	20 U
		SO0300	2/19/1999	19	20		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	1.0 U
B-57	Acid Plant	SO0318	8/3/1999	4	5		**0.19**	**12**	**8.4**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.14**	0.02 U	0.02 U	0.04 U	2.0 U
B-58	Acid Plant	SO0323	8/3/1999	1	2		0.02 U	**0.047**	**0.36**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.04 U	2.0 U
		SO0326	8/3/1999	4	5		**0.13**	**0.1**	**2.1**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.04 U	2.0 U
B-61	Acid Plant	SO0889	7/17/2000	5	6	X	**620**	**36**	**7,000**	0.05 U	35 UJ	5.0 U	0.05 U	**0.19**	5.0 U	0.16 U	250 U	250 U	250 U	250 U	250 U	**0.53**	**0.7**	0.05 U	0.05 U	250 U	2.5 U
		SO0890	7/17/2000	6	7	X	**60** J	**8.2** J	**920** J	3.0 UJ	2.1 UJ	-	2.9 UJ	2.6 UJ	2.3 UJ	2.9 UJ	2.7 UJ	2.5 UJ	2.5 UJ	2.8 UJ	1.9 UJ	2.6 UJ	-	2.4 UJ	2.5 UJ	**39** J	43 UJ
		SO0891	7/17/2000	7	8		**1.0** J	**0.19** J	**33** J	0.048 UJ	0.034 UJ	-	0.047 UJ	0.042 UJ	0.036 UJ	0.047 UJ	0.043 UJ	0.04 UJ	0.04 UJ	0.045 UJ	0.031 UJ	0.042 UJ	-	0.038 UJ	0.04 UJ	0.15 UJ	0.69 UJ
		SO0895	7/17/2000	11	12		**32** J	**3** J	**400** J	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	0.65 UJ	32 UJ
		SO0905	7/17/2000	21	22		**1.2** J	**0.18** J	**21** J	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	2.7 UJ
B-62	Acid Plant	SO0854	7/17/2000	4	5		**0.078**	**0.36**	**3.8**	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U
B-65	Acid Plant	SO1062	5/2/2001	12	14		**15** J	**3.8**	**760**	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	33 U
B-66	Acid Plant	SO1050	5/2/2001	4	6		**2.1**	**0.86**	**84**	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	3.1 U
		SO1054	5/2/2001	12	14		**1.6** J	**0.65**	**49**	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	3.5 U
B-91	Acid Plant	SO1437	11/2/2001	0.5	1.5		0.054 U	0.1 U	**3.8** J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
B-92	Acid Plant	SO1433	11/2/2001	0.5	1.5		**0.004** J	**0.022**	**0.033** J	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
B-93	Acid Plant	SO1445	11/2/2001	0.5	1.5		**0.0037** J	0.0048 U	**0.032**	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
B-94	Acid Plant	SO1441	11/2/2001	0.5	1.5		0.0054 U	0.016 U	**0.56** J	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
B-95	Acid Plant	SO1425	11/2/2001	0.5	1.5		0.012 U	0.027 U	**1.1**	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
B-96	Acid Plant	SO1429	11/2/2001	0.5	1.5		0.06 U	**4.7**	**4.2**	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
B-97	Acid Plant	SO1413	11/2/2001	0.5	1.5		**0.0041** J	**0.11**	**0.17**	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U
B-98	Acid Plant	SO1417	11/2/2001	0.5	1.5		0.022 U	0.066 U	**1.6**	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U
B-99	Acid Plant	SO1421	11/2/2001	0.5	1.5		**0.0032** J	0.0012 U	0.008 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.0061**	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
B-100	Acid Plant	SO1451	11/5/2001	0.5	1.5		**0.22**	**0.098**	**20**	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U
		SO1455	11/5/2001	8	10		**54** J	20 U	**1,500** J	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
		SO1457	11/5/2001	12	14		**19**	0.7 U	**390**	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
B-101	Acid Plant	SO1464	11/5/2001	0.5	1.5		**0.063** J	0.055 U	**5.0** J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
		SO1470	11/5/2001	12	14		0.0012 U	0.0012 U	0.014 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
(dup)		SO1470XX	11/5/2001	12	14		**0.0086**	0.0024 U	**0.79** J	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
B-102	Acid Plant	SO1594	12/19/2001	0.5	1.5		0.055 U	**0.13**	**0.41**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-103	Acid Plant	SO1598	12/19/2001	0.5	1.5		0.0055 U	0.0055 U	0.0055 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-104	Acid Plant	SO1541	12/18/2001	0.5	1.5		0.0055 U	**0.0084**	**0.031**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1547	12/18/2001	12	14		**0.01**	**0.018**	**0.093**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-105	Acid Plant	SO1586	12/19/2001	0.5	1.5		0.56 U	**0.9**	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-106	Acid Plant	SO1590	12/19/2001	0.5	1.5		0.55 U	0.55 U	**3.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-107	Acid Plant	SO1582	12/19/2001	0.5	1.5		**0.087** J	**0.058**	**0.77**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-108	Acid Plant	SO1497	12/17/2001	0.5	1.5		590 U	590 U	**5,400**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-109	Acid Plant	SO1493	12/17/2001	0.5	1.5		60 U	60 U	**300**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-110	Acid Plant	SO1599	12/20/2001	0.5	1.5		58 U	58 U	**240**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1600	12/20/2001	1.5	2.5		**0.7**	0.65 U	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1601	12/20/2001	2.5	3.5		0.68 U	0.68 U	**3.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1602	12/20/2001	3.5	4.5		0.066 U	0.066 U	**0.59**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-111	Acid Plant	SO1610	12/20/2001	1	2		62 U	62 U	**1,300**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1611	12/20/2001	2	3		59 U	59 U	**870**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1612	12/20/2001	3	4		61 U	61 U	**720**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1616	12/20/2001	7	8		0.67 U	0.67 U	**7.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-112	Acid Plant	SO1575	12/18/2001	0.5	1.5		5.6 U	5.6 U	**23**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1576	12/18/2001	2	4		0.064 U	0.064 U	**0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1577	12/18/2001	4	6		0.68 U	0.68 U	**2.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1578	12/18/2001	6	8		**0.077**	0.0072 U	0.11 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-113	Acid Plant	SO1567	12/18/2001	0.5	1.5		5.9 U	5.9 U	**40**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1568	12/18/2001	2	4		0.0071 U	0.0066 U	0.06 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1569	12/18/2001	4	6		0.66 UJ	0.66 UJ	**2.5** J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1570	12/18/2001	6	8		**0.042** J	**0.041** J	0.045 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		SO1571	12/18/2001	6	8		0.011 U	**0.009** J	0.059 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-114	Acid Plant	SO1559	12/18/2001	0.5	1.5		**14**	6.0 U	**120**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1560	12/18/2001	2	4		0.0067 UJ	0.0067 U	0.056 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1561	12/18/2001	4	6		0.065 U	0.065 U	**0.47** J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1562	12/18/2001	6	8		0.0073 U	0.0073 U	0.0073 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		SO1563	12/18/2001	6	8		0.0071 U	0.0071 U	0.0071 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5-8
Subsurface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	4,4'-DDD 8081A (mg/kg)	4,4'-DDE 8081A (mg/kg)	4,4'-DDT 8081A (mg/kg)	Aldrin 8081A (mg/kg)	alpha-BHC 8081A (mg/kg)	alpha-Chlordane 8081A (mg/kg)	beta-BHC 8081A (mg/kg)	delta-BHC 8081A (mg/kg)	Dieldrin 8081A (mg/kg)	Endosulfan I 8081A (mg/kg)	Endosulfan II 8081A (mg/kg)	Endosulfan sulfate 8081A (mg/kg)	Endrin 8081A (mg/kg)	Endrin aldehyde 8081A (mg/kg)	Endrin ketone 8081A (mg/kg)	gamma-BHC [Lindane] 8081A (mg/kg)	gamma-Chlordane 8081A (mg/kg)	Heptachlor 8081A (mg/kg)	Heptachlor epoxide 8081A (mg/kg)	Methoxychlor 8081A (mg/kg)	Toxaphene 8081A (mg/kg)
Remedial Investigation Screening Goals							**10 a**	**7 a**	**7 a**	**0.1 a**	**0.36 a**	**6.5 a,b**	**1.3 a**	**1.3 a,c**	**0.11 a**	**3,700 a,d**	**3,700 a,d**	**3,700 a,d**	**180 a**	**180 a,e**	**180 a,e**	**1.7 a**	**6.5 a,b**	**0.38 a**	**0.19 a**	**3,100 a**	**1.6 a**
B-115	Acid Plant	SO1552	12/18/2001	0.5	1.5		56 U	56 U	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1553	12/18/2001	4	6		8.3 U	8.3 U	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1554	12/18/2001	6	8		89 U	89 U	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		SO1555	12/18/2001	6	8		84 U	84 U	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IB-4	Acid Plant	SO0564	5/15/2000	6	7	X	5.4	0.73	450	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.29 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-6	Acid Plant	SO0578	5/15/2000	1	2		12	7.7	960	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	2.2 U	0.25 U	0.48 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
		SO0580	5/15/2000	3	4		0.05 U	0.05 U	1.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U
IB-17	Acid Plant	SO0682	5/16/2000	1	2	X	18	13	1,700	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.52 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-20	Acid Plant	SO0428	5/16/2000	3	4		320	100	13,000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1.2 U	0.25 U	0.25 U	0.25 U	13 U
IB-25	Acid Plant	SO0472	5/17/2000	4	5		0.05 U	0.05 U	0.87	0.05 U	0.082 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	2.5 U
		SO0475	5/17/2000	8	9		160 U	86	3,900	0.25 U	0.25 U	1.1 U	0.25 U	0.25 U	0.25 U	0.25 U	2.2 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.62 U	0.25 U	0.25 U	0.25 U	13 U
IB-27	Acid Plant	SO0491	5/17/2000	5	6		230	8.3	6,300	0.25 U	0.25 U	0.79 U	0.25 U	0.25 U	0.25 U	0.25 U	0.74 U	0.25 U	0.25 U	0.25 U	0.7 U	0.25 U	0.28 U	0.25 U	0.25 U	0.25 U	13 U
IB-37	Acid Plant	SO0733	5/18/2000	3	4		16	2.3	1,400	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-39	Acid Plant	SO0744	5/18/2000	4	5		0.37 U	2.2	61	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-43	Acid Plant	SO0760	5/18/2000	1	2		96	70	5,100	0.26 U	0.25 U	3.2 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.32 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-44	Acid Plant	SO0768	5/18/2000	4	5		19	1.3	55	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-46	Acid Plant	SO0779	5/19/2000	6	7		68	29	6,500	1.8 U	0.25 U	1.7 U	0.25 U	0.52 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.4 U	0.66 U	0.25 U	0.25 U	0.25 U	0.3 U	0.25 U	13 U
IB-48	Acid Plant	SO0782	5/19/2000	1	2	X	0.25 U	10	2.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	13 U
IB-77	Acid Plant	SO1110	8/15/2001	5	6	X	540	38	6,200	5.9 U	56 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	220 U	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	15 U	5.9 U	5.9 U	5.9 U	300 U
IB-79	Acid Plant	SO1119	8/15/2001	1	1.5	X	4.5 J	2.3 J	160 J	0.6 UJ	0.6 UJ	-	0.6 UJ	0.6 UJ	1.2 UJ	0.6 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	0.6 UJ	-	0.6 UJ	0.6 UJ	6 UJ	60 UJ
IB-82	Acid Plant	SO1136	8/15/2001	5	6	X	0.006 U	0.006 U	0.07	0.006 U	0.19 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.048 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.3 U
(dup)		SO1137	8/15/2001	5	6	X	0.0063 U	0.0063 U	0.053	0.0063 U	0.24 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.045 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.0063 U	0.32 U
IB-83	Acid Plant	SO1138	8/15/2001	5	6	X	0.0058 U	0.0058 U	0.029	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.29 U
IB-84	Acid Plant	SO1139	8/15/2001	5	6	X	0.0061 U	0.0061 U	0.0074	0.0061 U	0.19 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.0061 U	0.31 U
IB-85	Acid Plant	SO1669	5/20/2002	8	10		8.8 J	2	500	0.44 U	0.48 U	0.57 U	0.42 U	0.14 U	0.22 U	0.14 U	0.37 U	0.43 U	0.19 U	0.31 U	0.3 U	0.41 U	0.44 U	0.44 U	0.48 U	1.7 U	30 U
IB-86	Acid Plant	SO1674	5/20/2002	8	10		2.4	0.5	16	0.049 U	0.053 U	0.064 U	0.047 U	0.016 U	0.025 U	0.015 U	0.041 U	0.048 U	0.021 U	0.034 U	0.034 U	0.045 U	0.049 U	0.049 U	0.053 U	0.19 U	3.4 U
IB-87	Acid Plant	SO1650	5/20/2002	2	4		10 J	0.75 J	280 J	0.42 U	0.45 U	0.55 U	0.4 U	0.14 U	0.21 U	0.13 U	0.35 U	0.41 U	0.18 U	0.3 U	0.29 U	0.39 U	0.42 U	0.42 U	0.45 U	1.6 U	29 U
IB-88	Acid Plant	SO1658	5/20/2002	6	8		14 J	1.2 J	460	0.4 U	0.43 U	0.51 U	0.38 U	0.13 U	0.2 U	0.12 U	0.33 U	0.39 U	0.17 U	0.28 U	0.27 U	0.37 U	0.4 U	0.4 U	0.43 U	1.5 U	27 U
		SO1659	5/20/2002	8	10		0.028	0.0071 J	2.1	0.004 U	0.0043 U	0.0052 U	0.0038 U	0.0013 U	0.002 U	0.0012 U	0.0034 U	0.0039 U	0.0017 U	0.0028 U	0.0027 U	0.0037 U	0.004 U	0.004 U	0.0043 U	0.016 U	0.27 U
IB-89	Acid Plant	SO1662	5/20/2002	6	8		240 J	63	9,000	4.5 U	4.8 U	5.8 U	4.3 U	1.5 U	2.3 U	1.4 U	3.8 U	4.4 U	1.9 U	3.1 U	3.1 U	4.1 U	4.5 U	4.5 U	4.8 U	17 U	310 U
		SO1663	5/20/2002	8	10		48 J	2.5	700	0.41 U	0.44 U	0.53 U	0.39 U	0.13 U	0.21 U	0.13 U	0.35 U	0.4 U	0.18 U	0.29 U	0.28 U	0.38 U	0.41 U	0.41 U	0.44 U	1.6 U	28 U
IB-90	Acid Plant	SO1675	5/20/2002	2	4		13 J	7.4	340	0.32 U	0.35 U	0.41 U	0.31 U	0.11 U	0.16 U	0.095 U	0.27 U	0.31 U	0.14 U	0.23 U	0.22 U	0.29 U	0.32 U	0.32 U	0.35 U	1.2 U	22 U
IB-91	Acid Plant	SO1679	5/20/2002	0	2		91 J	51 J	4,200 J	3.3 U	3.5 U	4.2 U	3.1 U	1.1 U	1.7 U	0.97 U	2.8 U	3.2 U	1.4 U	2.3 U	2.2 U	3 U	3.3 U	3.3 U	3.5 U	13 U	220 U
(dup)		SO1684	5/20/2002	0	2		50 J	14 J	2,300 J	0.33 U	0.36 U	0.43 U	0.32 U	0.11 U	0.17 U	0.099 U	0.28 U	0.33 U	0.14 U	0.23 U	0.23 U	0.31 U	0.33 U	0.33 U	0.36 U	1.3 U	23 U
		SO1680	5/20/2002	2	4		7.3 J	3.3	980	0.4 U	0.44 U	0.52 U	0.39 U	0.13 U	0.2 U	0.12 U	0.34 U	0.4 U	0.17 U	0.28 U	0.28 U	0.37 U	0.4 U	0.4 U	0.44 U	1.6 U	28 U
IB-93	Acid Plant	SO1694	5/20/2002	8	10		200 J	16	6,900	0.37 U	0.4 U	0.48 U	0.36 U	0.12 U	0.19 U	0.11 U	0.31 U	0.36 U	0.16 U	0.26 U	0.25 U	0.34 U	0.37 U	0.37 U	0.4 U	1.4 U	25 U
IB-94	Acid Plant	SO1685	5/20/2002	0	2		4.5 J	4.2	850	0.4 U	0.43 U	0.52 U	0.39 U	0.13 U	0.2 U	0.12 U	0.34 U	0.39 U	0.17 U	0.28 U	0.27 U	0.37 U	0.4 U	0.4 U	0.43 U	1.6 U	27 U
IB-95	Acid Plant	SO1696	5/20/2002	0	2		13 J	28 J	390	0.35 U	0.38 U	0.46 U	0.34 U	0.12 U	0.18 U	0.11 U	0.3 U	0.35 U	0.15 U	0.25 U	0.24 U	0.32 U	0.35 U	0.35 U	0.38 U	1.4 U	24 U
		SO1698	5/20/2002	4	6		5.6 J	1.2 J	270	0.42 U	0.45 U	0.54 U	0.4 U	0.14 U	0.21 U	0.13 U	0.35 U	0.41 U	0.18 U	0.29 U	0.29 U	0.38 U	0.42 U	0.42 U	0.45 U	1.6 U	29 U
IB-96	Acid Plant	SO1705	5/20/2002	8	10		0.0096 J	0.0049 J	0.18	0.0044 U	0.0048 U	0.0057 U	0.0042 U	0.0014 U	0.0022 U	0.0014 U	0.0037 U	0.0043 U	0.0019 U	0.0031 U	0.003 U	0.0041 U	0.0044 U	0.0044 U	0.0048 U	0.017 U	0.3 U
AP-2	Acid Plant	SO1074	6/7/2001	0	4	X (f)	2.6	4.2	220	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	70	0.58 U	0.58 U	0.58 U	2.2 U	0.58 U	0.58 U	0.58 U	29 U
		SO1075	6/7/2001	4	6		3.3 J	2.5 J	130 J	0.61 UJ	0.61 UJ	-	0.61 UJ	0.61 UJ	1.2 UJ	0.61 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	0.61 UJ	-	0.61 UJ	0.61 UJ	6.1 UJ	61 UJ
AP-3	Acid Plant	SO1082	6/7/2001	8	10		120 J	71 UJ	2,600 J	71 UJ	71 UJ	71 UJ	71 UJ	71 UJ	71 UJ	71 UJ	150 UJ	71 UJ	2000 UJ	71 UJ	71 UJ	71 UJ	71 UJ	71 UJ	71 UJ	71 UJ	3600 UJ
AP-4	Acid Plant	SO1083	6/7/2001	0	2		40	15	2,400	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	30 U
AP-5	Acid Plant	SO1088	6/7/2001	0	2		2.6	3.2	250	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	63	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	28 U
(dup)	Acid Plant	SO1088D	6/7/2001	0	2		2.8	3.5	300	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	72	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	29 U
VP-21	Acid Plant	SO1529	12/18/2001	6	8		200	83 U	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1536	12/18/2001	14	16		0.21 J	0.067 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-22	Acid Plant	SO1522	12/17/2001	8	10		140	74 U	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1526	12/17/2001	14	16		0.018	0.0067 U	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-23	Acid Plant	SO1512	12/17/2001	8	10		670 U	670 U	1,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1516	12/17/2001	14	16		9.2	7.1 U	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-24	Acid Plant	SO1500	12/17/2001	6	8		42 J	13	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SO1506	12/17/2001	14	16		1.1	0.7 U	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-8i	Acid Plant	SO0032	11/10/1998	36	36.3		210	59	5,800	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U
MWA-11i	Acid Plant	SO0074	11/30/1998	6	8		430	23	31,000	7.8 U	11 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	160 U
		SO0083	12/1/1998	26	28		22	2.4	230	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.74 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	14 U
		SO0084	12/1/1998	28	30		1.57	0.084	2.72	0.07 U	0.4 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.092 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	1.4 U
MWA-18	Acid Plant	SO1010	2/6/2001	5	6.5		1.2	5.5	38	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	21 U
		SO1011	2/6/2001	10	11.5		0.21 J	1.5	3.6	0.05 U	0.05 U	0.05 U	0.05 U	0.07 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	3.4 U
		SO1012	2/6/2001	15	16.5		0.6	12	7.4	0.005 U	0.005 U	0.005 U	0.0062 U	0.057 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0081 U	0.005 U	0.005 U	0.005 U	0.005 U	49 U
MWA-19	Acid Plant	SO1001	2/6/2001	10	11.5		0.005 U	0.007	0.04	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.25 U
		SO1002	2/6/2001	15	16.5		0.015	0.094	1	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	3 U
MWA-20	Acid Plant	SO1016	2/7/2001	5	6.5		0.005 U	0.005 U	0.028	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.25 U
		SO1017	2/7/2001	10	11.5		0.072 J	0.041 J	0.3 J	0.005 U	0.005 U	0.005 U	0.005 U	0.0057 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0053 U	0.005 U	0.005 U	0.005 U	0.005 U	1.2 U
(dup)		SO1027	2/7/2001	10	11.5		0.014 J	0.016 J	0.033 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.25 U
		SO1018	2/7/2001	15	16.5		0.005 U	0.005 U	0.014	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.25 U
MWA-30	Chlorate Plant	SO001700	3/5/2002	29.5	30		1.5	0.075	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.12 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	1.9 U

Notes:
J - Estimated
mg/kg - milligrams per kilogram
R - Rejected
U - Undetected at detection limit shown
- not analyzed
b - Value for technical chlordane used
c - Value for technical BHC used
d - Value for endosulfan used
e - Value for endrin used
f - Top 0-1 feet of soil removed during the soil removal IRM.
- Value above preliminary screening level
- Data for this sample has not undergone validation
a - USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil

Table 5-9
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	1,1,1,2-Tetrachloro-ethane 8260B (mg/kg)	1,1,1-Trichloro-ethane 8260B (mg/kg)	1,1,2,2-Tetrachloro-ethane 8260B (mg/kg)	1,1,2-Trichloro-ethane 8260B (mg/kg)	1,1-Dichloro-ethane 8260B (mg/kg)	1,1-Dichloro-ethene 8260B (mg/kg)	1,1-Dichloro-propene 8260B (mg/kg)	1,2,3-Trichloro-propane 8260B (mg/kg)	1,2-Dibromo-3-chloropropane 8260B (mg/kg)	1,2-Dibromo-ethane 8260B (mg/kg)	1,2- Dichloro-benzene 8260B (mg/kg)	1,3- Dichloro-benzene 8260B (mg/kg)	1,4- Dichloro-benzene 8260B (mg/kg)	1,2-Dichloro-ethane 8260B (mg/kg)	1,2-Dichloro-propane 8260B (mg/kg)	1,3-Dichloro-propane 8260B (mg/kg)	2,2-Dichloro-propane 8260B (mg/kg)	4-Isopropyl-toluene 8260B (mg/kg)
Preliminary Screening Levels							**7.3 a**	**1,200 a**	**0.93 a**	**1.6 a**	**1,700 a**	**410 a**	**NE**	**0.076 a**	**2 a**	**0.073 a**	**600 a**	**600 a**	**7.9 a**	**0.6 a**	**0.74 a**	**360 a**	**NE**	**NE**
B-49	Acid Plant	SO0151	1/11/1999	2	2.5	X	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
		SO0158	1/11/1999	7	8		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
(dup)		SO0169	1/11/1999	7	8		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-50	Acid Plant	SO0145	1/11/1999	5	5.5		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-51	Acid Plant	SO0135	1/11/1999	5	5.5		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-52	Acid Plant	SO0165	1/11/1999	5	5.5		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-53	Acid Plant	SO0254	1/13/1999	4.5	6	X	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-54	Acid Plant	SO0306	2/19/1999	4	5		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
		SO0311	2/19/1999	9	10		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-55	Acid Plant	SO0276	2/19/1999	6	7		5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	20 *U*	20 *U*	-	-	-	5 *U*	5 *U*	5 *U*	5 *U*	-
		SO0281	2/19/1999	12	13		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-56	Acid Plant	SO0289	2/19/1999	4	5		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
		SO0300	2/19/1999	19	20		0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.02 *U*	0.02 *U*	-	-	-	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	-
B-91	Acid Plant	SO1437	11/2/2001	0.5	1.5		0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.023 *U*	0.023 *U*	-	-	-	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	-
B-92	Acid Plant	SO1433	11/2/2001	0.5	1.5		0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.024 *U*	0.024 *U*	-	-	-	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	-
B-93	Acid Plant	SO1445	11/2/2001	0.5	1.5		0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.022 *U*	0.022 *U*	-	-	-	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	-
B-94	Acid Plant	SO1441	11/2/2001	0.5	1.5		0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.022 *U*	0.022 *U*	-	-	-	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	-
B-95	Acid Plant	SO1425	11/2/2001	0.5	1.5		0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.024 *U*	0.024 *U*	-	-	-	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	-
B-96	Acid Plant	SO1429	11/2/2001	0.5	1.5		0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.024 *U*	0.024 *U*	-	-	-	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	-
B-97	Acid Plant	SO1413	11/2/2001	0.5	1.5		0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.021 *U*	0.021 *U*	-	-	-	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	-
B-98	Acid Plant	SO1417	11/2/2001	0.5	1.5		0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.023 *U*	0.023 *U*	-	-	-	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	-
B-99	Acid Plant	SO1421	11/2/2001	0.5	1.5		0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.021 *U*	0.021 *U*	-	-	-	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	-
B-100	Acid Plant	SO1451	11/5/2001	0.5	1.5		0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.021 *U*	0.021 *U*	-	-	-	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	-
		SO1455	11/5/2001	8	10		37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	150 *U*	150 *U*	-	-	-	37 *U*	37 *U*	37 *U*	37 *U*	-
		SO1457	11/5/2001	12	14		35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	140 *U*	140 *U*	-	-	-	35 *U*	35 *U*	35 *U*	35 *U*	-
B-101	Acid Plant	SO1464	11/5/2001	0.5	1.5		0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.023 *U*	0.023 *U*	-	-	-	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	-
(dup)		SO1464XX	11/5/2001	0.5	1.5		0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.022 *U*	0.022 *U*	-	-	-	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	-
		SO1470	11/5/2001	12	14		0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.55 *U*	0.55 *U*	-	-	-	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	-
B-110	Acid Plant	SO1608	12/20/2001	9.5	10.5		0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.32 *U*	0.32 *U*	-	-	-	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	-
B-111	Acid Plant	SO1618	12/20/2001	9	10		0.0077 *U*	0.0077 *U*	0.0077 *UJ*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.031 *U*	0.031 *U*	-	-	-	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	-
IB-21	Acid Plant	434-442COMP	5/17/2000	0	10		270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	1100 *UJ*	1100 *UJ*	-	-	-	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	-
IB-26	Acid Plant	477-486COMP	5/17/2000	0	10		66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	270 *UJ*	270 *UJ*	-	-	-	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	-
IB-51	Acid Plant	811-818COMP	5/19/2000	0	10		120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	66 *UJ*	500 *UJ*	500 *UJ*	-	-	-	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	-
MWA-8i	Acid Plant	SO0032	11/10/1998	36	36.3		50 *U*	50 *U*	50 *U*	50 *U*	60 *U*	50 *U*	50 *U*	50 *U*	200 *U*	200 *U*	-	-	-	50 *U*	50 *U*	50 *U*	60 *U*	-
MWA-11i	Acid Plant	SO0074	11/30/1998	6	8		1.5 *U*	**3.6**	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	6 *U*	6 *U*	-	-	-	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	-
		SO0083	12/1/1998	26	28		1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	4 *UJ*	4 *UJ*	-	-	-	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	-
		SO0084	12/1/1998	28	39		0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.2 *UJ*	0.2 *UJ*	-	-	-	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	-
AP-1	Acid Plant	SO1072	6/7/2001	4	6		0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.027 *U*	0.027 *U*	-	-	-	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	-
AP-2	Acid Plant	SO1074	6/7/2001	0	4	X (e)	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.023 *U*	0.023 *U*	-	-	-	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	-
AP-3	Acid Plant	SO1082	6/7/2001	8	10		0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.03 *U*	0.03 *U*	-	-	-	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	-
(dup)		SO1082D	6/7/2001	8	10		0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.03 *UJ*	0.03 *UJ*	-	-	-	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	-
AP-4	Acid Plant	SO1087	6/7/2001	8	10		0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	1.5 *UJ*	1.5 *UJ*	-	-	-	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	-
AP-5	Acid Plant	SO1088	6/7/2001	0	2		0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.022 *U*	0.022 *U*	-	-	-	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	-
AP-6	Acid Plant	SO1103	7/26/2001	7.5	8		67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	270 *UR*	270 *U*	-	-	-	67 *U*	67 *U*	67 *U*	67 *U*	-
AP-7	Acid Plant	SO1106	7/26/2001	7	7.5		16 *U*	16 *U*	16 *U*	16 *U*	16 *U*	16 *U*	16 *U*	16 *U*	62 *UR*	62 *U*	-	-	-	16 *U*	16 *U*	16 *U*	16 *U*	-
		SO1107	7/26/2001	7.5	8		64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	260 *UR*	260 *U*	-	-	-	64 *U*	64 *U*	64 *U*	64 *U*	-
AP-8	Acid Plant	SO1098	7/26/2001	7.5	8		68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	270 *UR*	270 *U*	-	-	-	68 *U*	68 *U*	68 *U*	68 *U*	-
VP-1	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-2	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-3	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-4	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-5	Acid Plant	-	6/26/2000	7.5	8	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-6	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-7	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-8	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP-9	Acid Plant	-	11/30/2000	8	-		-	**3.3**	-	-	-	-	-	-	-	-	**3.4**	0.78 *U*	**21**	-	-	-	-	3.1 *U*
		-	11/30/2000	12	-		-	**0.8**	-	-	-	-	-	-	-	-	0.68 *U*	0.68 *U*	0.68 *U*	-	-	-	-	2.7 *U*
		-	11/30/2000	16	-		-	0.74 *U*	-	-	-	-	-	-	-	-	0.74 *U*	0.74 *U*	0.74 *U*	-	-	-	-	3.0 *U*
VP-10	Acid Plant	-	11/30/2000	8	-		-	0.075 *U*	-	-	-	-	-	-	-	-	**3.3**	**0.22**	**8.2**	-	-	-	-	0.30 *U*
		-	11/30/2000	12	-		-	**2.1**	-	-	-	-	-	-	-	-	0.76 *U*	0.76 *U*	**1.3**	-	-	-	-	3.0 *U*
		-	11/30/2000	16	-		-	0.19 *U*	-	-	-	-	-	-	-	-	0.19 *U*	0.19 *U*	**0.6**	-	-	-	-	0.76 *U*
VP-11	Acid Plant	-	11/30/2000	8	-		-	0.071 *U*	-	-	-	-	-	-	-	-	**15**	**1.2**	**49**	-	-	-	-	**1.1**
		-	11/30/2000	12	-		-	**2.3**	-	-	-	-	-	-	-	-	0.78 *U*	0.78 *U*	**1.2**	-	-	-	-	3.1 *U*
		-	11/30/2000	16	-		-	0.068 *U*	-	-	-	-	-	-	-	-	0.068 *U*	0.068 *U*	0.068 *U*	-	-	-	-	0.27 *U*

Table 5-9
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	2-Hexanone 8260B (mg/kg)	2-Butanone 8260B (mg/kg)	4-Methyl-2-pentanone 8260B (mg/kg)	Acetone 8260B (mg/kg)	Benzene 8260B (mg/kg)	Bromobenzene 8260B (mg/kg)	Bromochloro-methane 8260B (mg/kg)	Bromodichloro-methane 8260B (mg/kg)	Bromoform 8260B (mg/kg)	Bromomethane 8260B (mg/kg)	Carbon disulfide 8260B (mg/kg)	Carbon tetrachloride 8260B (mg/kg)	Chlorobenzene 8260B (mg/kg)	Chloroethane 8260B (mg/kg)	Chloroform 8260B (mg/kg)	Chloromethane 8260B (mg/kg)	cis-1,2-Dichloro-ethene 8260B (mg/kg)	cis-1,3-Dichloro-propene 8260B (mg/kg)	Dibromo-chloro-methane 8260B (mg/kg)	Dibromo-methane 8260B (mg/kg)
Preliminary Screening Levels							**NE**	**110,000 a**	**47,000 a**	**54,000 a**	**1.4 a**	**92 a**	**NE**	**1.8 a**	**220 a**	**13 a**	**720 a**	**0.55 a**	**530 a**	**6.5 a**	**0.47 a**	**160 a**	**150 a**	**1.8 a,b**	**2.6 a**	**230 a**
B-49	Acid Plant	SO0151	1/11/1999	2	2.5	X	0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
		SO0158	1/11/1999	7	8		0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
(dup)		SO0169	1/11/1999	7	8		0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-50	Acid Plant	SO0145	1/11/1999	5	5.5		0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-51	Acid Plant	SO0135	1/11/1999	5	5.5		0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-52	Acid Plant	SO0165	1/11/1999	5	5.5		0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-53	Acid Plant	SO0254	1/13/1999	4.5	6	X	0.02 *U*	0.02 *UR*	0.02 *UR*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	**1.4**	0.005 *U*	**0.062**	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-54	Acid Plant	SO0306	2/19/1999	4	5		0.02 *U*	0.02 *UR*	0.02 *U*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
		SO0311	2/19/1999	9	10		0.02 *U*	0.02 *UR*	0.02 *U*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	**0.007**	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-55	Acid Plant	SO0276	2/19/1999	6	7		200 *U*	200 *UR*	200 *UR*	200 *UR*	5 *U*	20 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	**4,100**	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*
		SO0281	2/19/1999	12	13		0.02 *U*	0.02 *UR*	0.02 *U*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-56	Acid Plant	SO0289	2/19/1999	4	5		0.02 *U*	0.02 *UR*	0.02 *U*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	**0.007**	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
		SO0300	2/19/1999	19	20		0.02 *U*	0.02 *UR*	0.02 *U*	0.05 *UR*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *UJ*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
B-91	Acid Plant	SO1437	11/2/2001	0.5	1.5		0.023 *U*	0.023 *U*	0.023 *U*	0.058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*
B-92	Acid Plant	SO1433	11/2/2001	0.5	1.5		0.024 *U*	0.024 *U*	0.024 *U*	0.059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*
B-93	Acid Plant	SO1445	11/2/2001	0.5	1.5		0.022 *U*	0.022 *U*	0.022 *U*	0.055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*
B-94	Acid Plant	SO1441	11/2/2001	0.5	1.5		0.022 *U*	0.022 *U*	0.022 *U*	0.054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*	0.0054 *U*
B-95	Acid Plant	SO1425	11/2/2001	0.5	1.5		0.024 *U*	0.024 *U*	0.024 *U*	0.059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*	0.0059 *U*
B-96	Acid Plant	SO1429	11/2/2001	0.5	1.5		0.024 *U*	0.024 *U*	0.024 *U*	0.06 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*	0.006 *U*
B-97	Acid Plant	SO1413	11/2/2001	0.5	1.5		0.021 *U*	0.021 *U*	0.021 *U*	0.052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*	0.0052 *U*
B-98	Acid Plant	SO1417	11/2/2001	0.5	1.5		0.023 *U*	0.023 *U*	0.023 *U*	0.056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
B-99	Acid Plant	SO1421	11/2/2001	0.5	1.5		0.021 *U*	0.021 *U*	0.021 *U*	0.053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*
B-100	Acid Plant	SO1451	11/5/2001	0.5	1.5		0.021 *U*	0.021 *U*	0.021 *U*	0.016 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	**0.0011**	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*	0.0053 *U*
		SO1455	11/5/2001	8	10		1500 *U*	1500 *UR*	1500 *UR*	1500 *UR*	37 *U*	150 *U*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	**1,800**	37 *UJ*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*	37 *U*
		SO1457	11/5/2001	12	14		1400 *U*	1400 *UR*	1400 *UR*	1400 *UR*	35 *U*	140 *U*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	**2,600**	35 *UJ*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*	35 *U*
B-101	Acid Plant	SO1464	11/5/2001	0.5	1.5		0.023 *U*	0.023 *U*	0.023 *U*	**0.074** *J*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	**0.0023** *J*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*	0.0057 *U*
(dup)		SO1464XX	11/5/2001	0.5	1.5		0.022 *U*	0.022 *U*	0.022 *U*	**0.066**	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	**0.0018**	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*	0.0055 *U*
		SO1470	11/5/2001	12	14		5.5 *U*	5.5 *UR*	5.5 *UR*	5.5 *UR*	0.14 *U*	0.55 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	**12**	0.14 *UJ*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*
B-110	Acid Plant	SO1608	12/20/2001	9.5	10.5		3.2 *U*	3.2 *UR*	3.2 *UR*	3.2 *UR*	0.079 *U*	0.32 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	**0.37**	0.079 *UR*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*	0.079 *U*
B-111	Acid Plant	SO1618	12/20/2001	9	10		0.031 *U*	0.031 *UJ*	0.031 *UJ*	0.077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *UJ*	0.0077 *U*	0.0077 *U*	0.0077 *U*	0.0077 *U*
IB-21	Acid Plant	434-442COMP	5/17/2000	0	10		11000 *UJ*	11000 *UR*	11000 *UR*	11000 *UR*	270 *UJ*	1100 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	**8,800** *J*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*
IB-26	Acid Plant	477-486COMP	5/17/2000	0	10		2700 *UJ*	2700 *UR*	2700 *UR*	2700 *UR*	66 *UJ*	270 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	**2,900** *J*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*
IB-51	Acid Plant	811-818COMP	5/19/2000	0	10		5000 *UJ*	5000 *UR*	5000 *UR*	5000 *UR*	120 *UJ*	500 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	**3,000** *J*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*	120 *UJ*
MWA-8i	Acid Plant	SO0032	11/10/1998	36	36.3		50 *U*	2000 *UR*	2000 *UR*	2000 *UR*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	**1,100**	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*
MWA-11i	Acid Plant	SO0074	11/30/1998	6	8		1.5 *U*	60 *UR*	60 *UR*	60 *UR*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	**15,000** *J*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*
		SO0083	12/1/1998	26	28		1 *UJ*	40 *UR*	40 *UR*	40 *UR*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	**880**	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*	1 *UJ*
		SO0084	12/1/1998	28	39		0.05 *UJ*	2 *UR*	2 *UR*	2 *UR*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	**39**	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*	0.05 *UJ*
AP-1	Acid Plant	SO1072	6/7/2001	4	6		0.027 *U*	0.027 *U*	0.027 *U*	**0.11** *J*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*
AP-2	Acid Plant	SO1074	6/7/2001	0	4	X (e)	0.023 *U*	0.023 *U*	0.023 *U*	**0.12** *J*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*	0.0058 *U*
AP-3	Acid Plant	SO1082	6/7/2001	8	10		0.03 *U*	0.03 *U*	0.03 *U*	**0.24** *J*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	**4** *J*	0.0076 *U*	**0.026**	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*	0.0076 *U*
(dup)		SO1082D	6/7/2001	8	10		0.03 *UJ*	0.03 *UJ*	0.03 *UJ*	**0.24** *J*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	**4.6** *UJ*	0.0074 *UJ*	**0.029** *J*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*	0.0074 *UJ*
AP-4	Acid Plant	SO1087	6/7/2001	8	10		1.5 *UJ*	1.5 *UR*	1.5 *UR*	15 *UR*	0.38 *UJ*	1.5 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	**4,400** *J*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*	0.38 *UJ*
AP-5	Acid Plant	SO1088	6/7/2001	0	2		0.022 *U*	0.022 *U*	0.022 *U*	0.056 *UJ*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0057 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*
AP-6	Acid Plant	SO1103	7/26/2001	7.5	8		270 *U*	270 *UR*	270 *UR*	2,700 *UR*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *UJ*	67 *U*	**4,000**	67 *U*	67 *U*	67 *UJ*	67 *U*	67 *U*	67 *U*	67 *U*
AP-7	Acid Plant	SO1106	7/26/2001	7	7.5		62 *U*	62 *UR*	62 *UR*	620 *UR*	16 *U*	16 *U*	16 *U*	16 *U*	16 *U*	16 *U*	16 *UJ*	16 *U*	**480**	16 *U*	16 *U*	16 *UJ*	16 *U*	16 *U*	16 *U*	16 *U*
		SO1107	7/26/2001	7.5	8		260 *U*	260 *UR*	260 *UR*	2,600 *UR*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *UJ*	64 *U*	**1,700**	64 *U*	64 *U*	64 *UJ*	64 *U*	64 *U*	64 *U*	64 *U*
AP-8	Acid Plant	SO1098	7/26/2001	7.5	8		270 *U*	270 *UR*	270 *UR*	2,700 *UR*	68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	68 *UJ*	68 *U*	68 *U*	**2,000**	68 *U*	68 *U*	68 *UJ*	68 *U*	68 *U*	68 *U*	68 *U*
VP-1	Acid Plant	-	6/26/2000	7.5	8			-	-	-	-	-	-	-	-	-	-	-	**520** *D*	-	50 *U*	-	-	-	-	-
VP-2	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	**1.6** *D*	-	**0.007**	-	-	-	-	-
VP-3	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	**5,600** *D*	-	25 *U*	-	-	-	-	-
VP-4	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	**4,600** *D*	-	25 *U*	-	-	-	-	-
VP-5	Acid Plant	-	6/26/2000	7.5	8	X	-	-	-	-	-	-	-	-	-	-	-	-	**1,500**	-	25 *U*	-	-	-	-	-
VP-6	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	**13,000** *D*	-	49 *U*	-	-	-	-	-
VP-7	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	**0.083**	-	0.005 *U*	-	-	-	-	-
VP-8	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	-	-	**5,400** *D*	-	50 *U*	-	-	-	-	-
VP-9	Acid Plant	-	11/30/2000	8	-		-	-	-	31 *U*	-	-	-	-	-	-	-	-	**11,000**	-	0.78 *U*	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	27 *U*	-	-	-	-	-	-	-	-	**570**	-	0.68 *U*	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	30 *U*	-	-	-	-	-	-	-	-	**420**	-	0.74 *U*	-	-	-	-	-
VP-10	Acid Plant	-	11/30/2000	8	-		-	-	-	3 *U*	-	-	-	-	-	-	-	-	**53**	-	0.075 *U*	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	30 *U*	-	-	-	-	-	-	-	-	**930**	-	0.76 *U*	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	7.6 *U*	-	-	-	-	-	-	-	-	**150**	-	0.19 *U*	-	-	-	-	-
VP-11	Acid Plant	-	11/30/2000	8	-		-	-	-	2.8 *U*	-	-	-	-	-	-	-	-	**9.8**	-	0.071 *U*	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	31 *U*	-	-	-	-	-	-	-	-	**860**	-	0.78 *U*	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	2.7 *U*	-	-	-	-	-	-	-	-	**11**	-	0.068 *U*	-	-	-	-	-

Table 5-9
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	Dichlorodifluoro-methane 8260B (mg/kg)	Ethylbenzene 8260B (mg/kg)	meta & para Xylenes 8260B (mg/kg)	Methylene chloride 8260B (mg/kg)	Naphthalene 8260B	n-Butylbenzene 8260B (mg/kg)	ortho-Xylene 8260B (mg/kg)	sec-Butyl-benzene 8260B (mg/kg)	Styrene 8260B (mg/kg)	tert-Butyl-benzene 8260B (mg/kg)	Tetrachloro-ethene 8260B (mg/kg)	Toluene 8260B (mg/kg)	trans-1,2-Dichloroethene 8260B (mg/kg)	trans-1,3-Dichloro-propene 8260B (mg/kg)	Trichloroethene 8260B (mg/kg)	Trichloro-fluoro-methane 8260B (mg/kg)	Vinyl chloride 8260B (mg/kg)	Total Xylenes 8260B (mg/kg)
Preliminary Screening Levels							**310 a**	**400 a**	**420 a,c**	**21 a**	**NE**	**240 a**	**420 a,c**	**220 a**	**1,700 a**	**390 a**	**1.3 a**	**520 a**	**230 a**	**1.8 a,b**	**0.11 a**	**2,000 a**	**0.75 a,d**	**420 a**
B-49	Acid Plant	SO0151	1/11/1999	2	2.5	X	0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
		SO0158	1/11/1999	7	8		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
(dup)		SO0169	1/11/1999	7	8		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-50	Acid Plant	SO0145	1/11/1999	5	5.5		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-51	Acid Plant	SO0135	1/11/1999	5	5.5		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-52	Acid Plant	SO0165	1/11/1999	5	5.5		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-53	Acid Plant	SO0254	1/13/1999	4.5	6	X	0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.083**	0.005 U	0.005 U	-
B-54	Acid Plant	SO0306	2/19/1999	4	5		0.005 UJ	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
		SO0311	2/19/1999	9	10		0.005 UJ	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-55	Acid Plant	SO0276	2/19/1999	6	7		5 U	5 U	5 U	10 U	-	20 U	5 U	20 U	5 U	20 U	**14**	5 U	5 U	5 U	5 U	5 U	5 U	-
		SO0281	2/19/1999	12	13		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-56	Acid Plant	SO0289	2/19/1999	4	5		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
		SO0300	2/19/1999	19	20		0.005 U	0.005 U	0.005 U	0.01 U	-	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
B-91	Acid Plant	SO1437	11/2/2001	0.5	1.5		0.0058 U	0.0058 U	0.0058 U	0.012 U	-	0.023 U	0.0058 U	0.023 U	0.0058 U	0.023 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	-
B-92	Acid Plant	SO1433	11/2/2001	0.5	1.5		0.0059 U	0.0059 U	0.0059 U	0.012 U	-	0.024 U	0.0059 U	0.024 U	0.0059 U	0.024 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	-
B-93	Acid Plant	SO1445	11/2/2001	0.5	1.5		0.0055 U	0.0055 U	0.0055 U	0.011 U	-	0.022 U	0.0055 U	0.022 U	0.0055 U	0.022 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	-
B-94	Acid Plant	SO1441	11/2/2001	0.5	1.5		0.0054 U	0.0054 U	0.0054 U	0.011 U	-	0.022 U	0.0054 U	0.022 U	0.0054 U	0.022 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	-
B-95	Acid Plant	SO1425	11/2/2001	0.5	1.5		0.0059 U	0.0059 U	0.0059 U	0.012 U	-	0.024 U	0.0059 U	0.024 U	0.0059 U	0.024 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	-
B-96	Acid Plant	SO1429	11/2/2001	0.5	1.5		0.006 U	0.006 U	0.006 U	0.012 U	-	0.024 U	0.006 U	0.024 U	0.006 U	0.024 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	-
B-97	Acid Plant	SO1413	11/2/2001	0.5	1.5		0.0052 U	0.0052 U	0.0052 U	0.011 U	-	0.021 U	0.0052 U	0.021 U	0.0052 U	0.021 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	-
B-98	Acid Plant	SO1417	11/2/2001	0.5	1.5		0.0056 U	0.0056 U	0.0056 U	0.012 U	-	0.023 U	0.0056 U	0.023 U	0.0056 U	0.023 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	-
B-99	Acid Plant	SO1421	11/2/2001	0.5	1.5		0.0053 U	0.0053 U	0.0053 U	0.011 U	-	0.021 U	0.0053 U	0.021 U	0.0053 U	0.021 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	-
B-100	Acid Plant	SO1451	11/5/2001	0.5	1.5		0.0053 U	0.0053 U	0.0053 U	0.0041 U	-	0.021 U	0.0053 U	0.021 U	0.0053 U	0.021 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	-
		SO1455	11/5/2001	8	10		37 U	37 U	37 U	58 U	-	150 U	37 U	150 U	37 U	150 U	37 U	37 U	37 U	37 U	37 U	37 U	37 U	-
		SO1457	11/5/2001	12	14		35 U	35 U	35 U	58 U	-	140 U	35 U	140 U	35 U	140 U	35 U	35 U	35 U	35 U	35 U	35 U	35 U	-
B-101	Acid Plant	SO1464	11/5/2001	0.5	1.5		0.0057 U	0.0057 U	0.0057 U	0.0086 U	-	0.023 U	0.0057 U	0.023 U	0.0057 U	0.023 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	-
(dup)		SO1464XX	11/5/2001	0.5	1.5		0.0055 U	0.0055 U	0.0055 U	0.008 U	-	0.022 U	0.0055 U	0.022 U	0.0055 U	0.022 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	-
		SO1470	11/5/2001	12	14		0.14 U	0.14 U	0.14 U	0.28 U	-	0.55 U	0.14 U	0.55 U	0.14 U	0.55 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	-
B-110	Acid Plant	SO1608	12/20/2001	9.5	10.5		0.079 U	0.079 U	0.079 U	0.16 U	-	0.32 U	0.079 U	0.32 U	0.079 U	0.32 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	-
B-111	Acid Plant	SO1618	12/20/2001	9	10		0.0077 U	0.0077 U	0.0077 U	0.016 U	-	0.031 U	0.0077 U	0.031 U	0.0077 U	0.031 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	-
IB-21	Acid Plant	434-442COMP	5/17/2000	0	10		270 UJ	270 UJ	270 UJ	540 UJ	-	1100 UJ	270 UJ	1100 UJ	270 UJ	1100 UJ	270 UJ	270 UJ	270 UJ	270 UJ	270 UJ	270 UJ	270 UJ	-
IB-26	Acid Plant	477-486COMP	5/17/2000	0	10		66 UJ	66 UJ	66 UJ	130 UJ	-	270 UJ	66 UJ	270 UJ	66 UJ	270 UJ	66 UJ	66 UJ	66 UJ	66 UJ	66 UJ	66 UJ	66 UJ	-
IB-51	Acid Plant	811-818COMP	5/19/2000	0	10		120 UJ	120 UJ	120 UJ	250 UJ	-	500 UJ	120 UJ	500 UJ	120 UJ	500 UJ	120 UJ	120 UJ	120 UJ	120 UJ	120 UJ	120 UJ	120 UJ	-
MWA-8i	Acid Plant	SO0032	11/10/1998	36	36.3		50 U	50 U	-	100 U	-	200 UJ	-	200 UJ	50 U	200 U	50 U	50 U	60 U	50 U	50 U	50 U	50 U	50 U
MWA-11i	Acid Plant	SO0074	11/30/1998	6	8		1.5 U	1.5 U	-	3 U	-	6 U	-	6 U	1.5 U	6 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
		SO0083	12/1/1998	26	28		1 UJ	1 UJ	-	2 UJ	-	4 UJ	-	4 UJ	1 UJ	4 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
		SO0084	12/1/1998	28	39		0.05 UJ	0.05 UJ	-	0.1 UJ	-	0.2 UJ	-	0.2 UJ	0.05 UJ	0.2 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
AP-1	Acid Plant	SO1072	6/7/2001	4	6		0.0066 UJ	0.0066 U	0.0066 U	0.033 U	-	0.027 U	0.0066 U	0.027 U	0.0066 U	0.027 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	-
AP-2	Acid Plant	SO1074	6/7/2001	0	4	X (e)	0.0058 UJ	0.0058 U	0.0058 U	0.029 U	-	0.023 U	0.0058 U	0.023 U	0.0058 U	0.023 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	-
AP-3	Acid Plant	SO1082	6/7/2001	8	10		0.0076 UJ	0.0076 U	0.0076 U	0.052 U	-	0.03 U	0.0076 U	0.03 U	0.0076 U	0.03 U	**0.011** J	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	-
(dup)		SO1082D	6/7/2001	8	10		0.0074 UJ	0.0074 UJ	**0.0095** J	0.06 U	-	0.03 UJ	0.0074 UJ	0.03 UJ	0.0074 UJ	0.03 UJ	**0.028** J	0.0074 UJ	0.0074 UJ	0.0074 UJ	0.0074 UJ	0.0074 UJ	0.0074 UJ	-
AP-4	Acid Plant	SO1087	6/7/2001	8	10		0.38 UJ	0.38 UJ	0.380 UJ	0.76 UJ	-	1.5 UJ	0.38 UJ	1.5 UJ	0.38 UJ	1.5 UJ	**2.1** J	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	0.38 UJ	-
AP-5	Acid Plant	SO1088	6/7/2001	0	2		0.0056 UJ	0.0056 U	0.0056 U	0.021 U	-	0.022 U	0.0056 U	0.022 U	0.0056 U	0.022 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	-
AP-6	Acid Plant	SO1103	7/26/2001	7.5	8		67 UJ	67 U	67 U	140 U	-	270 U	67 U	270 U	67 U	270 U	67 U	67 U	67 U	67 U	67 U	67 U	67 U	-
AP-7	Acid Plant	SO1106	7/26/2001	7	7.5		16 UJ	16 U	16 U	31 U	-	62 U	16 U	62 U	16 U	62 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	-
		SO1107	7/26/2001	7.5	8		64 UJ	64 U	64 U	130 U	-	260 U	64 U	260 U	64 U	260 U	64 U	64 U	64 U	64 U	64 U	64 U	64 U	-
AP-8	Acid Plant	SO1098	7/26/2001	7.5	8		68 UJ	68 U	68 U	140 U	-	270 U	68 U	270 U	68 U	270 U	68 U	68 U	68 U	68 U	68 U	68 U	68 U	-
VP-1	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	50 U	-	-	-	-	-	-	-
VP-2	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	**0.076**	-	-	-	-	-	-	-
VP-3	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	25 U	-	-	-	-	-	-	-
VP-4	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	25 U	-	-	-	-	-	-	-
VP-5	Acid Plant	-	6/26/2000	7.5	8	X	-	-	-	-	-	-	-	-	-	-	25 U	-	-	-	-	-	-	-
VP-6	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	49 U	-	-	-	-	-	-	-
VP-7	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	0.005 U	-	-	-	-	-	-	-
VP-8	Acid Plant	-	6/26/2000	7.5	8		-	-	-	-	-	-	-	-	-	-	50 U	-	-	-	-	-	-	-
VP-9	Acid Plant	-	11/30/2000	8	-		-	-	0.78 U	-	3.1 U	-	-	-	-	-	**5.6**	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.68 U	-	2.7 U	-	-	-	-	-	0.68 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	0.74 U	-	3.0 U	-	-	-	-	-	0.74 U	-	-	-	-	-	-	-
VP-10	Acid Plant	-	11/30/2000	8	-		-	-	0.075 U	-	0.30 U	-	-	-	-	-	**0.87**	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.76 U	-	3.0 U	-	-	-	-	-	0.76 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	0.19 U	-	0.76 U	-	-	-	-	-	0.19 U	-	-	-	-	-	-	-
VP-11	Acid Plant	-	11/30/2000	8	-		-	-	**0.28**	-	**0.46**	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.78 U	-	3.1 U	-	-	-	-	-	0.78 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	0.068 U	-	0.27 U	-	-	-	-	-	0.068 U	-	-	-	-	-	-	-

Table 5-9
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	1,1,1,2-Tetrachloro-ethane 8260B (mg/kg)	1,1,1-Trichloro-ethane 8260B (mg/kg)	1,1,2,2-Tetrachloro-ethane 8260B (mg/kg)	1,1,2-Trichloro-ethane 8260B (mg/kg)	1,1-Dichloro-ethane 8260B (mg/kg)	1,1-Dichloro-ethene 8260B (mg/kg)	1,1-Dichloro-propene 8260B (mg/kg)	1,2,3-Trichloro-propane 8260B (mg/kg)	1,2-Dibromo-3-chloropropane 8260B (mg/kg)	1,2-Dibromo-ethane 8260B (mg/kg)	1,2- Dichloro-benzene 8260B (mg/kg)	1,3- Dichloro-benzene 8260B (mg/kg)	1,4- Dichloro-benzene 8260B (mg/kg)	1,2-Dichloro-ethane 8260B (mg/kg)	1,2-Dichloro-propane 8260B (mg/kg)	1,3-Dichloro-propane 8260B (mg/kg)	2,2-Dichloro-propane 8260B (mg/kg)	4-Isopropyl-toluene 8260B (mg/kg)
Preliminary Screening Levels							**7.3 a**	**1,200 a**	**0.93 a**	**1.6 a**	**1,700 a**	**410 a**	**NE**	**0.076 a**	**2 a**	**0.073 a**	**600 a**	**600 a**	**7.9 a**	**0.6 a**	**0.74 a**	**360 a**	**NE**	**NE**
VP-12	Acid Plant	-	11/30/2000	8	-		-	**18**	-	-	-	-	-	-	-	-	**1.9**	0.68 *U*	**11**	-	-	-	-	2.7 *U*
		-	11/30/2000	12	-		-	0.72 *U*	-	-	-	-	-	-	-	-	0.72 *U*	0.72 *U*	0.72 *U*	-	-	-	-	2.9 *U*
		-	11/30/2000	16	-		-	0.17 *U*	-	-	-	-	-	-	-	-	0.17 *U*	0.17 *U*	**0.22**	-	-	-	-	0.68 *U*
VP-13	Acid Plant	-	11/30/2000	8	-		-	**13**	-	-	-	-	-	-	-	-	**5.4**	**0.8**	**26**	-	-	-	-	2.8 *U*
		-	11/30/2000	12	-		-	0.76 *U*	-	-	-	-	-	-	-	-	0.76 *U*	0.76 *U*	**0.89**	-	-	-	-	3.1 *U*
		-	11/30/2000	16	-		-	0.068 *U*	-	-	-	-	-	-	-	-	0.068 *U*	0.068 *U*	0.068 *U*	-	-	-	-	0.27 *U*
VP-14	Acid Plant	-	11/30/2000	8	-		-	0.069 *U*	-	-	-	-	-	-	-	-	0.069 *U*	0.069 *U*	0.069 *U*	-	-	-	-	0.28 *U*
		-	11/30/2000	12	-		-	0.067 *U*	-	-	-	-	-	-	-	-	**0.083**	0.067 *U*	**0.27**	-	-	-	-	0.27 *U*
		-	11/30/2000	16	-		-	34 *U*	-	-	-	-	-	-	-	-	34 *U*	34 *U*	34 *U*	-	-	-	-	130 *U*
VP-15	Acid Plant	-	11/30/2000	8	-		-	6.6 *U*	-	-	-	-	-	-	-	-	6.6 *U*	6.6 *U*	6.6 *U*	-	-	-	-	26 *U*
		-	11/30/2000	12	-		-	0.067 *U*	-	-	-	-	-	-	-	-	**0.14**	0.067 *U*	**0.66**	-	-	-	-	0.27 *U*
		-	11/30/2000	16	-		-	0.066 *U*	-	-	-	-	-	-	-	-	0.066 *U*	0.066 *U*	**0.12**	-	-	-	-	0.26 *U*
VP-16	Acid Plant	-	12/1/2000	8	-		-	0.67 *U*	-	-	-	-	-	-	-	-	0.67 *U*	0.67 *U*	**2.5**	-	-	-	-	2.7 *U*
		-	12/1/2000	12	-		-	0.078 *U*	-	-	-	-	-	-	-	-	**0.12**	0.078 *U*	**0.6**	-	-	-	-	0.31 *U*
		-	12/1/2000	16	-		-	0.067 *U*	-	-	-	-	-	-	-	-	0.067 *U*	0.067 *U*	**0.29**	-	-	-	-	0.27 *U*
VP-17	Acid Plant	-	12/1/2000	8	-		-	0.65 *U*	-	-	-	-	-	-	-	-	**0.87**	0.65 *U*	**4.7**	-	-	-	-	2.6 *U*
		-	12/1/2000	12	-		-	0.078 *U*	-	-	-	-	-	-	-	-	**0.16**	0.078 *U*	**0.78**	-	-	-	-	0.31 *U*
		-	12/1/2000	16	-		-	0.069 *U*	-	-	-	-	-	-	-	-	0.069 *U*	0.069 *U*	**0.071**	-	-	-	-	0.28 *U*
VP-18	Acid Plant	-	12/1/2000	8	-		-	0.64 *U*	-	-	-	-	-	-	-	-	**1**	0.64 *U*	**6.2**	-	-	-	-	2.5 *U*
		-	12/1/2000	12	-		-	0.73 *U*	-	-	-	-	-	-	-	-	0.73 *U*	0.73 *U*	0.73 *U*	-	-	-	-	2.9 *U*
		-	12/1/2000	16	-		-	0.34 *U*	-	-	-	-	-	-	-	-	0.34 *U*	0.34 *U*	0.34 *U*	-	-	-	-	1.4 *U*
VP-19	Acid Plant	-	12/1/2000	8	-		-	6.6 *U*	-	-	-	-	-	-	-	-	6.6 *U*	6.6 *U*	**11**	-	-	-	-	27 *U*
		-	12/1/2000	12	-		-	1.5 *U*	-	-	-	-	-	-	-	-	1.5 *U*	1.5 *U*	1.5 *U*	-	-	-	-	6.0 *U*
		-	12/1/2000	16	-		-	0.063 *U*	-	-	-	-	-	-	-	-	0.063 *U*	0.063 *U*	0.063 *U*	-	-	-	-	0.25 *U*
VP-20	Acid Plant	-	12/1/2000	8	-		-	0.066 *U*	-	-	-	-	-	-	-	-	0.066 *U*	0.066 *U*	0.066 *U*	-	-	-	-	0.26 *U*
		-	12/1/2000	12	-		-	0.35 *U*	-	-	-	-	-	-	-	-	0.35 *U*	0.35 *U*	0.35 *U*	-	-	-	-	1.4 *U*
		-	12/1/2000	16	-		-	0.063 *U*	-	-	-	-	-	-	-	-	0.066 *U*	0.066 *U*	0.066 *U*	-	-	-	-	0.26 *U*
VP-21	Acid Plant	SO1531	12/18/2001	7.5	8		0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.032 *UJ*	0.032 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.0078 *UJ*	0.032 *UJ*
(dup)		SO1532	12/18/2001	7.5	8		0.0075 *U*	0.0075 *U*	0.0075 *UJ*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.0075 *UJ*	0.03 *UJ*	0.03 *U*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.0075 *U*	0.03 *UJ*
		SO1534	12/18/2001	11.5	12		0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.58 *U*	0.58 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	0.15 *U*	5.8 *UR*
		SO1537	12/18/2001	15.5	16		0.0066 *U*	0.0066 *U*	0.0066 *UJ*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *UJ*	0.027 *UJ*	0.027 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.0066 *U*	0.027 *UJ*
VP-22	Acid Plant	SO1521	12/17/2001	7.5	8		0.0068 *U*	0.0068 *U*	0.0068 *UJ*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.027 *U*	0.027 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.0068 *U*	0.027 *UJ*
		SO1524	12/17/2001	11.5	12		1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	6 *U*	6 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	1.5 *U*	60 *UR*
		SO1527	12/17/2001	15.5	16		0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	1.5 *U*	1.5 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	0.370 *U*	15 *UR*
VP-23	Acid Plant	SO1511	12/17/2001	7.5	8		6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	28 *U*	28 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	6.8 *U*	280 *UR*
		SO1514	12/17/2001	11.5	12		0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.56 *U*	0.56 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	0.140 *U*	5.6 *UR*
		SO1517	12/17/2001	15.5	16		7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	30 *U*	30 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	7.4 *U*	300 *UR*
VP-24	Acid Plant	SO1501	12/17/2001	7.5	8		0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.028 *UJ*	0.028 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.007 *UJ*	0.028 *UJ*
		SO1504	12/17/2001	11.5	12		0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.03 *U*	0.03 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.0074 *U*	0.03 *UJ*
		SO1507	12/17/2001	15.5	16		0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.027 *U*	0.027 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.0067 *U*	0.027 *UJ*
CS-1	Acid Plant	-	5/8/2003	7.5	-		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*
CS-2	Acid Plant	-	5/8/2003	8	-		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**0.713**	0.1 *U*	5.73 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*
CS-3	Acid Plant	-	5/8/2003	8	-		2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	10 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*
CS-4	Acid Plant	-	5/8/2003	7	-		1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	5 *U*	1 *U*	**1.4**	1 *U*	**9.75**	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*
CS-5	Acid Plant	-	5/8/2003	8	-		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*
CS-6	Acid Plant	-	5/8/2003	8	-		50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	250 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*
CS-7	Acid Plant	-	5/8/2003	8	-		50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	250 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*
CS-8	Acid Plant	-	5/8/2003	7.5	-		200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	1000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-9	Acid Plant	-	5/8/2003	8	-		200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	1000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-10	Acid Plant	-	5/8/2003	8	-		50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	250 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*
CS-11	Acid Plant	-	5/8/2003	8	-		200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	1000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-12	Acid Plant	-	5/8/2003	8	-		200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	1000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-13	Acid Plant	-	5/8/2003	8.5	-		1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	5000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*	1000 *U*
CS-14	Acid Plant	-	5/8/2003	11	-		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*
CS-15	Acid Plant	-	5/8/2003	7.5	-		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*
MWA-30	Chlorate Plant	SO001700	3/5/2002	29.5	30		0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.023 *U*	0.023 *U*	-	-	-	0.0056 *U*	0.0056 *U*	0.0056 *U*	0.0056 *U*	-

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
D - Dilution
- Value above preliminary screening level
- Data for this sample has not undergone validation
NE - Not established
a - USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b - Value for 1,3-dichloropropene used
c - Value for total xylenes used
d - Value for adult exposure used
e - Top 0-1 feet of soil removed during the soil removal IRM.

Table 5-9
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	2-Hexanone 8260B (mg/kg)	2-Butanone 8260B (mg/kg)	4-Methyl-2-pentanone 8260B (mg/kg)	Acetone 8260B (mg/kg)	Benzene 8260B (mg/kg)	Bromobenzene 8260B (mg/kg)	Bromochloro-methane 8260B (mg/kg)	Bromodichloro-methane 8260B (mg/kg)	Bromoform 8260B (mg/kg)	Bromomethane 8260B (mg/kg)	Carbon disulfide 8260B (mg/kg)	Carbon tetrachloride 8260B (mg/kg)	Chlorobenzene 8260B (mg/kg)	Chloroethane 8260B (mg/kg)	Chloroform 8260B (mg/kg)	Chloromethane 8260B (mg/kg)	cis-1,2-Dichloro-ethene 8260B (mg/kg)	cis-1,3-Dichloro-propene 8260B (mg/kg)	Dibromo-chloro-methane 8260B (mg/kg)	Dibromo-methane 8260B (mg/kg)
Preliminary Screening Levels							**NE**	**110,000 a**	**47,000 a**	**54,000 a**	**1.4 a**	**92 a**	**NE**	**1.8 a**	**220 a**	**13 a**	**720 a**	**0.55 a**	**530 a**	**6.5 a**	**0.47 a**	**160 a**	**150 a**	**1.8 a,b**	**2.6 a**	**230 a**
VP-12	Acid Plant	-	11/30/2000	8	-		-	-	-	27 U	-	-	-	-	-	-	-	-	7,200	-	0.68 U	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	29 U	-	-	-	-	-	-	-	-	550	-	0.72 U	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	6.8 U	-	-	-	-	-	-	-	-	92	-	0.17 U	-	-	-	-	-
VP-13	Acid Plant	-	11/30/2000	8	-		-	-	-	28 U	-	-	-	-	-	-	-	-	8,700	-	0.69 U	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	31 U	-	-	-	-	-	-	-	-	500	-	0.76 U	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	2.7 U	-	-	-	-	-	-	-	-	14	-	0.068 U	-	-	-	-	-
VP-14	Acid Plant	-	11/30/2000	8	-		-	-	-	2.8 U	-	-	-	-	-	-	-	-	0.35	-	0.13	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	2.7 U	-	-	-	-	-	-	-	-	0.16	-	0.067 U	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	340	-	-	-	-	-	-	-	-	230	-	34 U	-	-	-	-	-
VP-15	Acid Plant	-	11/30/2000	8	-		-	-	-	210	-	-	-	-	-	-	-	-	13	-	6.6 U	-	-	-	-	-
		-	11/30/2000	12	-		-	-	-	2.7 U	-	-	-	-	-	-	-	-	110	-	0.067 U	-	-	-	-	-
		-	11/30/2000	16	-		-	-	-	2.6 U	-	-	-	-	-	-	-	-	9.6	-	0.066 U	-	-	-	-	-
VP-16	Acid Plant	-	12/1/2000	8	-		-	-	-	27 U	-	-	-	-	-	-	-	-	1,300	-	0.67 U	-	-	-	-	-
		-	12/1/2000	12	-		-	-	-	3.1 U	-	-	-	-	-	-	-	-	700	-	0.27	-	-	-	-	-
		-	12/1/2000	16	-		-	-	-	2.7 U	-	-	-	-	-	-	-	-	180	-	0.067 U	-	-	-	-	-
VP-17	Acid Plant	-	12/1/2000	8	-		-	-	-	26 U	-	-	-	-	-	-	-	-	2,300	-	0.65 U	-	-	-	-	-
		-	12/1/2000	12	-		-	-	-	3.1 U	-	-	-	-	-	-	-	-	580	-	0.31	-	-	-	-	-
		-	12/1/2000	16	-		-	-	-	2.8 U	-	-	-	-	-	-	-	-	73	-	0.069 U	-	-	-	-	-
VP-18	Acid Plant	-	12/1/2000	8	-		-	-	-	25 U	-	-	-	-	-	-	-	-	3,900	-	0.64 U	-	-	-	-	-
		-	12/1/2000	12	-		-	-	-	29 U	-	-	-	-	-	-	-	-	550	-	0.73 U	-	-	-	-	-
		-	12/1/2000	16	-		-	-	-	14 U	-	-	-	-	-	-	-	-	240	-	0.34 U	-	-	-	-	-
VP-19	Acid Plant	-	12/1/2000	8	-		-	-	-	270 U	-	-	-	-	-	-	-	-	7,900	-	6.6 U	-	-	-	-	-
		-	12/1/2000	12	-		-	-	-	60 U	-	-	-	-	-	-	-	-	670	-	1.5 U	-	-	-	-	-
		-	12/1/2000	16	-		-	-	-	2.5 U	-	-	-	-	-	-	-	-	7.3	-	0.063 U	-	-	-	-	-
VP-20	Acid Plant	-	12/1/2000	8	-		-	-	-	2.6 U	-	-	-	-	-	-	-	-	29	-	0.066 U	-	-	-	-	-
		-	12/1/2000	12	-		-	-	-	14 U	-	-	-	-	-	-	-	-	180	-	0.35 U	-	-	-	-	-
		-	12/1/2000	16	-		-	-	-	2.6 U	-	-	-	-	-	-	-	-	50	-	0.066 U	-	-	-	-	-
VP-21	Acid Plant	SO1531	12/18/2001	7.5	8		0.032 UJ	0.032 UJ	0.032 UJ	0.078 UJ	0.0078 UJ	0.078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.37 J	0.0078 UJ	0.0087 J	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ
(dup)		SO1532	12/18/2001	7.5	8		0.03 U	0.03 UJ	0.03 UJ	0.075 U	0.0075 U	0.075 UJ	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.55	0.0075 U	0.0019	0.0075 UJ	0.0075 U	0.0075 U	0.0075 U	0.0075 U
		SO1534	12/18/2001	11.5	12		0.58 U	0.58 UR	0.58 UR	5.8 UR	0.15 U	0.58 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	22	0.15 UR	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
		SO1537	12/18/2001	15.5	16		0.027 U	0.027 UJ	0.027 UJ	0.066 U	0.0066 U	0.066 UJ	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	2.6 J	0.0066 U	0.0066 U	0.0066 UJ	0.0066 U	0.0066 U	0.0066 U	0.0066 U
VP-22	Acid Plant	SO1521	12/17/2001	7.5	8		0.027 U	0.027 UJ	0.027 UJ	0.068 U	0.0068 U	0.068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.4	0.0068 U	0.0068 U	0.0068 UJ	0.0068 U	0.0068 U	0.0068 U	0.0068 U
		SO1524	12/17/2001	11.5	12		6 U	6 UR	6 UR	60 UR	1.5 U	6 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	170	1.5 UR	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
		SO1527	12/17/2001	15.5	16		1.5 U	1.5 UR	1.5 UR	15 UR	0.370 U	1.5 U	0.370 U	0.370 U	0.370 U	0.370 U	0.370 U	0.370 U	40	0.370 UR	0.37 U	0.370 U	0.370 U	0.370 U	0.370 U	0.370 U
VP-23	Acid Plant	SO1511	12/17/2001	7.5	8		28 U	28 UR	28 UR	280 UR	6.8 U	28 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	310	6.8 UR	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
		SO1514	12/17/2001	11.5	12		0.56 U	0.56 UR	0.56 UR	5.6 UR	0.140 U	0.56 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	12	0.140 UR	0.14 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
		SO1517	12/17/2001	15.5	16		30 U	30 UR	30 UR	300 UR	7.4 U	30 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	410	7.4 UR	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U
VP-24	Acid Plant	SO1501	12/17/2001	7.5	8		0.028 UJ	0.028 UJ	0.028 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.17 J	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ
		SO1504	12/17/2001	11.5	12		0.03 U	0.03 UJ	0.03 UJ	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.31	0.0074 U	0.0074 U	0.0074 UJ	0.0074 U	0.0074 U	0.0074 U	0.0074 U
		SO1507	12/17/2001	15.5	16		0.027 U	0.027 UJ	0.027 UJ	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.059	0.0067 U	0.0067 U	0.0067 UJ	0.0067 U	0.0067 U	0.0067 U	0.0067 U
CS-1	Acid Plant	-	5/8/2003	7.5	-		1 U	1 U	1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.298	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
CS-2	Acid Plant	-	5/8/2003	8	-		1 U	1 U	1 U	1 U	0.1 U	0.188	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2,110	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
CS-3	Acid Plant	-	5/8/2003	8	-		20 U	20 U	20 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	41.9	2 U	2 U	10 U	2.0 U	2.0 U	2.0 U	2.0 U
CS-4	Acid Plant	-	5/8/2003	7	-		10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	7,370	1 U	1 U	5 U	1.00 U	1.00 U	1.00 U	1.00 U
CS-5	Acid Plant	-	5/8/2003	8	-		1 U	1 U	1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.27	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
CS-6	Acid Plant	-	5/8/2003	8	-		50 U	5000 U	5000 U	5000 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	3,220	50 U	50 U	250 U	50.0 U	50.0 U	50.0 U	50.0 U
CS-7	Acid Plant	-	5/8/2003	8	-		50 U	5000 U	5000 U	5000 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	3,610	50 U	50 U	250 U	50.0 U	50.0 U	50.0 U	50.0 U
CS-8	Acid Plant	-	5/8/2003	7.5	-		2000 U	2000 U	2000 U	2000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	4,280	200 U	200 U	1000 U	200 U	200 U	200 U	200 U
CS-9	Acid Plant	-	5/8/2003	8	-		2000 U	2000 U	2000 U	2000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	7,310	200 U	200 U	1000 U	200 U	200 U	200 U	200 U
CS-10	Acid Plant	-	5/8/2003	8	-		50 U	5000 U	5000 U	5000 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	2,310	50 U	50 U	250 U	50.0 U	50.0 U	50.0 U	50.0 U
CS-11	Acid Plant	-	5/8/2003	8	-		2000 U	2000 U	2000 U	2000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	26,700	200 U	200 U	1000 U	200 U	200 U	200 U	200 U
CS-12	Acid Plant	-	5/8/2003	8	-		2000 U	2000 U	2000 U	2000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	12,500	200 U	200 U	1000 U	200 U	200 U	200 U	200 U
CS-13	Acid Plant	-	5/8/2003	8.5	-		10000 U	10000 U	10000 U	10000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	66,600	1000 U	1000 U	5000 U	1000 U	1000 U	1000 U	1000 U
CS-14	Acid Plant	-	5/8/2003	11	-		1 U	1 U	1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	11.3	0.1 U	0.171	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
CS-15	Acid Plant	-	5/8/2003	7.5	-		1 U	1 U	1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1.21	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MWA-30	Chlorate Plant	SO001700	3/5/2002	29.5	30		0.0056 U	0.023 U	0.023 U	0.023 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056	0.0056 U	0.025	0.0056 UJ	0.0056 U	0.0056 U	0.0056 U	0.0056 U

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
D - Dilution
- Value above preliminary screening level
- Data for this sample has not undergone validation
NE - Not established
a - USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b - Value for 1,3-dichloropropene used
c - Value for total xylenes used
d - Value for adult exposure used
e - Top 0-1 feet of soil removed during the soil removal IRM.

Table 5-9
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Soil Removed During IRM	Dichlorodifluoro-methane 8260B (mg/kg)	Ethylbenzene 8260B (mg/kg)	meta & para Xylenes 8260B (mg/kg)	Methylene chloride 8260B (mg/kg)	Naphthalene 8260B	n-Butylbenzene 8260B (mg/kg)	ortho-Xylene 8260B (mg/kg)	sec-Butyl-benzene 8260B (mg/kg)	Styrene 8260B (mg/kg)	tert-Butyl-benzene 8260B (mg/kg)	Tetrachloro-ethene 8260B (mg/kg)	Toluene 8260B (mg/kg)	trans-1,2-Dichloroethene 8260B (mg/kg)	trans-1,3-Dichloro-propene 8260B (mg/kg)	Trichloroethene 8260B (mg/kg)	Trichloro-fluoro-methane 8260B (mg/kg)	Vinyl chloride 8260B (mg/kg)	Total Xylenes 8260B (mg/kg)
Preliminary Screening Levels							**310 a**	**400 a**	**420 a,c**	**21 a**	**NE**	**240 a**	**420 a,c**	**220 a**	**1,700 a**	**390 a**	**1.3 a**	**520 a**	**230 a**	**1.8 a,b**	**0.11 a**	**2,000 a**	**0.75 a,d**	**420 a**
VP-12	Acid Plant	-	11/30/2000	8	-		-	-	0.68 U	-	2.7 U	-	-	-	-	-	**3.4**	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.72 U	-	2.9 U	-	-	-	-	-	0.72 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	0.17 U	-	0.68 U	-	-	-	-	-	0.17 U	-	-	-	-	-	-	-
VP-13	Acid Plant	-	11/30/2000	8	-		-	-	0.69 U	-	2.8 U	-	-	-	-	-	**7.5**	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.76 U	-	3.1 U	-	-	-	-	-	0.76 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	0.068 U	-	0.27 U	-	-	-	-	-	0.068 U	-	-	-	-	-	-	-
VP-14	Acid Plant	-	11/30/2000	8	-		-	-	0.069 U	-	0.28 U	-	-	-	-	-	0.069 U	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.067 U	-	0.27 U	-	-	-	-	-	0.067 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	34 U	-	130 U	-	-	-	-	-	34 U	-	-	-	-	-	-	-
VP-15	Acid Plant	-	11/30/2000	8	-		-	-	6.6 U	-	26 U	-	-	-	-	-	6.6 U	-	-	-	-	-	-	-
		-	11/30/2000	12	-		-	-	0.067 U	-	0.27 U	-	-	-	-	-	0.067 U	-	-	-	-	-	-	-
		-	11/30/2000	16	-		-	-	0.066 U	-	0.26 U	-	-	-	-	-	**0.066**	-	-	-	-	-	-	-
VP-16	Acid Plant	-	12/1/2000	8	-		-	-	0.67 U	-	2.7 U	-	-	-	-	-	0.67 U	-	-	-	-	-	-	-
		-	12/1/2000	12	-		-	-	0.078 U	-	0.31 U	-	-	-	-	-	**0.17**	-	-	-	-	-	-	-
		-	12/1/2000	16	-		-	-	0.067 U	-	0.27 U	-	-	-	-	-	0.067 U	-	-	-	-	-	-	-
VP-17	Acid Plant	-	12/1/2000	8	-		-	-	0.65 U	-	2.6 U	-	-	-	-	-	**1.4**	-	-	-	-	-	-	-
		-	12/1/2000	12	-		-	-	0.078 U	-	0.31 U	-	-	-	-	-	**0.2**	-	-	-	-	-	-	-
		-	12/1/2000	16	-		-	-	0.069 U	-	0.28 U	-	-	-	-	-	0.069 U	-	-	-	-	-	-	-
VP-18	Acid Plant	-	12/1/2000	8	-		-	-	0.64 U	-	2.5 U	-	-	-	-	-	**1.5**	-	-	-	-	-	-	-
		-	12/1/2000	12	-		-	-	0.73 U	-	2.9 U	-	-	-	-	-	0.73 U	-	-	-	-	-	-	-
		-	12/1/2000	16	-		-	-	0.34 U	-	1.4 U	-	-	-	-	-	0.34 U	-	-	-	-	-	-	-
VP-19	Acid Plant	-	12/1/2000	8	-		-	-	6.6 U	-	27 U	-	-	-	-	-	6.6 U	-	-	-	-	-	-	-
		-	12/1/2000	12	-		-	-	1.5 U	-	6.0 U	-	-	-	-	-	1.5 U	-	-	-	-	-	-	-
		-	12/1/2000	16	-		-	-	0.063 U	-	0.25 U	-	-	-	-	-	0.063 U	-	-	-	-	-	-	-
VP-20	Acid Plant	-	12/1/2000	8	-		-	-	0.066 U	-	0.26 U	-	-	-	-	-	**0.096**	-	-	-	-	-	-	-
		-	12/1/2000	12	-		-	-	0.35 U	-	1.4 U	-	-	-	-	-	0.35 U	-	-	-	-	-	-	-
		-	12/1/2000	16	-		-	-	0.066 U	-	0.26 U	-	-	-	-	-	0.066 U	-	-	-	-	-	-	-
VP-21	Acid Plant	SO1531	12/18/2001	7.5	8		0.0078 UJ	0.0078 UJ	0.0078 UJ	0.016 UJ	0.0078 UJ	0.032 UJ	0.0078 UJ	0.032 UJ	0.0078 UJ	0.032 UJ	**0.0096** J	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	0.0078 UJ	-
(dup)		SO1532	12/18/2001	7.5	8		0.0075 U	0.0075 U	0.0075 U	0.015 U	0.0075 U	0.03 UJ	0.0075 U	0.03 UJ	0.0075 U	0.03 UJ	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.0075 U	0.0075 U	-
		SO1534	12/18/2001	11.5	12		0.15 U	0.15 U	0.15 U	0.29 U	0.15 U	0.58 U	0.15 U	0.58 U	0.15 U	0.58 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	-
		SO1537	12/18/2001	15.5	16		0.0066 U	0.0066 U	0.0066 U	0.014 U	0.0066 U	0.027 UJ	0.0066 U	0.027 UJ	0.0066 U	0.027 UJ	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	-
VP-22	Acid Plant	SO1521	12/17/2001	7.5	8		0.0068 U	0.0068 U	0.0068 U	0.014 U	0.0068 U	0.027 U	0.0068 U	0.027 U	0.0068 U	0.027 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	-
		SO1524	12/17/2001	11.5	12		1.5 U	1.5 U	1.5 U	3 U	1.5 U	6 U	1.5 U	6 U	1.5 U	6 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	-
		SO1527	12/17/2001	15.5	16		0.370 U	0.370 U	0.0370 U	0.73 U	0.370 U	1.5 U	0.370 U	1.5 U	0.370 U	1.5 U	0.370 U	0.370 U	0.370 U	0.370 U	0.370 U	0.370 U	0.370 U	-
VP-23	Acid Plant	SO1511	12/17/2001	7.5	8		6.8 U	6.8 U	6.8 U	14 U	6.8 U	28 U	6.8 U	28 U	6.8 U	28 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	-
		SO1514	12/17/2001	11.5	12		0.140 U	0.140 U	0.140 U	0.28 U	0.140 U	0.56 U	0.140 U	0.56 U	0.140 U	0.56 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	-
		SO1517	12/17/2001	15.5	16		7.4 U	7.4 U	7.4 U	15 U	7.4 U	30 U	7.4 U	30 U	7.4 U	30 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	-
VP-24	Acid Plant	SO1501	12/17/2001	7.5	8		0.007 UJ	0.007 UJ	0.007 UJ	0.014 UJ	0.007 UJ	0.028 UJ	0.007 UJ	0.028 UJ	0.007 UJ	0.028 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ	-
		SO1504	12/17/2001	11.5	12		0.0074 U	0.0074 U	0.0074 U	0.015 U	0.0074 U	0.03 U	0.0074 U	0.03 U	0.0074 U	0.03 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	-
		SO1507	12/17/2001	15.5	16		0.0067 U	0.0067 U	0.0067 U	0.014 U	0.0067 U	0.027 U	0.0067 U	0.027 U	0.0067 U	0.027 U	0.0076 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	-
CS-1	Acid Plant	-	5/8/2003	7.5	-		0.1 U	0.1 U	0.2 U	1.0 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-
CS-2	Acid Plant	-	5/8/2003	8	-		0.1 U	**0.107**	0.2 U	1.0 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**2.53**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-
CS-3	Acid Plant	-	5/8/2003	8	-		2.0 U	2.0 U	4.00 U	20.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	-
CS-4	Acid Plant	-	5/8/2003	7	-		1.00 U	1.00 U	2.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**5.63**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	-
CS-5	Acid Plant	-	5/8/2003	8	-		0.1 U	0.1 U	0.2 U	1.0 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-
CS-6	Acid Plant	-	5/8/2003	8	-		50.0 U	50.0 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
CS-7	Acid Plant	-	5/8/2003	8	-		50.0 U	50.0 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
CS-8	Acid Plant	-	5/8/2003	7.5	-		200 U	200 U	400 U	2,000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	-
CS-9	Acid Plant	-	5/8/2003	8	-		200 U	200 U	400 U	2,000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	-
CS-10	Acid Plant	-	5/8/2003	8	-		50.0 U	50.0 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
CS-11	Acid Plant	-	5/8/2003	8	-		200 U	200 U	400 U	2,000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	-
CS-12	Acid Plant	-	5/8/2003	8	-		200 U	200 U	400 U	2,000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	-
CS-13	Acid Plant	-	5/8/2003	8.5	-		1000 U	1000 U	2000 U	10,000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	-
CS-14	Acid Plant	-	5/8/2003	11	-		0.1 U	0.1 U	0.5 U	1.0 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-
CS-15	Acid Plant	-	5/8/2003	7.5	-		0.1 U	0.1 U	0.5 U	1.0 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-
MWA-30	Chlorate Plant	SO001700	3/5/2002	29.5	30		0.0056 U	0.0059	**0.022**	0.012 U	-	0.023 U	**0.014**	0.023 U	0.0056 U	0.023 U	0.0056 U	**0.0063**	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	-

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
R - Rejected
J - Estimated
D - Dilution
- Value above preliminary screening level
- Data for this sample has not undergone validation
NE - Not established
a - USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil
b - Value for 1,3-dichloropropene used
c - Value for total xylenes used
d - Value for adult exposure used
e - Top 0-1 feet of soil removed during the soil removal IRM.

Table 5-10
Acid Plant Subsurface Soil Analytical Results - Organochlorine Pesticides - SPLP
Arkema Portland Plant Remedial Investigation

Boring Number	B-53	B-53
Sample Number	SO0254	SO0254
Date	1/13/1999	1/13/1999
Sample Interval Depth	4.5-6.0 ft	4.5-6.0 ft
Method	8081A - Total	8081A - SPLP
(Units)	(mg/kg)	(µg/L)
4,4'-DDD	**80**	**7.0**
4,4'-DDE	**14**	0.40 *U*
4,4'-DDT	**16,000**	**9.0**
Aldrin	12 *U*	0.40 *UJ*
alpha-BHC	12 *U*	87.0 *U*
alpha-Chlordane	12 *U*	0.40 *U*
beta-BHC	12 *U*	0.40 *U*
delta-BHC	12 *U*	0.40 *U*
Dieldrin	12 *U*	0.50 *U*
Endosulfan I	12 *U*	0.40 *U*
Endosulfan II	12 *U*	12.0 *U*
Endosulfan sulfate	12 *U*	0.40 *U*
Endrin	12 *U*	0.40 *U*
Endrin aldehyde	12 *U*	0.40 *U*
Endrin ketone	12 *U*	0.40 *U*
gamma-BHC [Lindane]	12 *U*	0.40 *U*
gamma-Chlordane	12 *U*	0.40 *U*
Heptachlor	12 *U*	0.40 *UJ*
Heptachlor epoxide	12 *U*	0.40 *U*
Methoxychlor	12 *U*	1.0 *U*
Toxaphene	600 *U*	10.0 *U*

Notes:
Soils in the vicinity of B-53 were removed as part of the soil removal IRM.
SPLP - Synthetic Precipitation Leaching Procedure by USEPA Method 1312
mg/kg - milligrams per kilogram
µg/L - micrograms per liter
U - Undetected at detection limit shown
J - Estimated

Table 5-11
Acid Plant Subsurface Soil Analytical Results-VOCs-SPLP
Arkema Portland Plant Remedial Investigation

Boring Number Sample Number Date Sample Interval Depth Method (Units)	B-53 SO0254 1/13/1999 4.5-6.0 ft 8260B - Total (mg/kg)		B-53 SO0254 1/13/1999 4.5-6.0 ft 8260B - SPLP (µg/L)	
1,1,1,2-Tetrachloroethane	0.005	*U*	0.50	*U*
1,1,1-Trichloroethane	0.005	*U*	0.50	*U*
1,1,2,2-Tetrachloroethane	0.005	*U*	0.50	*U*
1,1,2-Trichloroethane	0.005	*U*	0.50	*U*
1,1-Dichloroethane	0.005	*U*	0.50	*U*
1,1-Dichloroethene	0.005	*U*	0.50	*U*
1,1-Dichloropropene	0.005	*U*	0.50	*U*
1,2,3-Trichloropropane	0.005	*U*	0.50	*U*
1,2-Dibromo-3-chloropropane	0.02	*U*	2.0	*U*
1,2-Dibromoethane	0.02	*U*	2.0	*U*
1,2-Dichloroethane	0.005	*U*	0.50	*U*
1,2-Dichloropropane	0.005	*U*	0.50	*U*
1,3-Dichloropropane	0.005	*U*	0.50	*U*
2,2-Dichloropropane	0.005	*U*	0.50	*U*
2-Hexanone	0.02	*U*	20.0	*U*
2-Butanone	0.02	*UR*	20.0	*UR*
4-Methyl-2-pentanone	0.02	*UR*	20.0	*UR*
Acetone	0.05	*UR*	20.0	*UR*
Benzene	0.005	*U*	0.50	*U*
Bromobenzene	0.005	*U*	0.50	*U*
Bromochloro-methane	0.005	*U*	0.50	*U*
Bromodichloro-methane	0.005	*U*	0.50	*U*
Bromoform	0.005	*U*	0.50	*U*
Bromomethane	0.005	*U*	0.50	*U*
Carbon disulfide	0.005	*UJ*	0.50	*U*
Carbon tetrachloride	0.005	*U*	0.50	*U*
Chlorobenzene	**1.4**		**44**	***J***
Chloroethane	0.005	*U*	**1.9**	***J***
Chloroform	**0.062**		**1.7**	***J***
Chloromethane	0.005	*U*	0.50	*U*
cis-1,2-Dichloroethene	0.005	*U*	0.50	*U*
cis-1,3-Dichloropropene	0.005	*U*	0.50	*U*
Dibromochloro-methane	0.005	*U*	0.50	*U*

Table 5-11
Acid Plant Subsurface Soil Analytical Results-VOCs-SPLP
Arkema Portland Plant Remedial Investigation

Boring Number Sample Number Date Sample Interval Depth Method (Units)	B-53 SO0254 1/13/1999 4.5-6.0 ft 8260B - Total (mg/kg)		B-53 SO0254 1/13/1999 4.5-6.0 ft 8260B - SPLP (µg/L)	
Dibromomethane	0.005	*U*	0.50	*U*
Dichlorodifluoro-methane	0.005	*U*	0.50	*U*
Ethylbenzene	0.005	*U*	0.50	*U*
meta & para Xylenes	0.005	*U*	0.50	*U*
Methylene chloride	0.01	*U*	5.0	*U*
n-Butylbenzene	0.02	*U*	2.0	*U*
ortho-Xylene	0.005	*U*	0.50	*U*
sec-Butylbenzene	0.02	*U*	2.0	*U*
Styrene	0.005	*U*	0.50	*U*
tert-Butylbenzene	0.02	*U*	2.0	*U*
Tetrachloroethene	0.005	*U*	**3.9**	***J***
Toluene	0.005	*U*	0.50	*U*
trans-1,2-Dichloroethene	0.005	*U*	0.50	*U*
trans-1,3-Dichloropropene	0.005	*U*	0.50	*U*
Trichloroethene	**0.083**		0.50	*U*
Trichlorofluoro-methane	0.005	*U*	0.50	*U*
Vinyl chloride	0.005	*U*	0.50	*U*

Notes:
Soils in the vicinity of B-53 were removed as part of the soil removal IRM.
SPLP - Synthetic Precipitation Leaching Procedure
mg/kg - milligrams per kilogram
µg/L - micrograms per liter
U - Undetected at detection limit shown
J - Estimated
R - Rejected
NE - Not established

Table 5-12
Acid Plant Subsurface Soil Analytical Results-VOCs-TCLP
Arkema Portland Plant Remedial Investigation

Boring Number Sample Number Date Sample Interval Depth Method (Units)	Hazardous Waste Characteristic Concentration (mg/kg)	IB-21 434-442COMP 5/17/2000 0-10 ft 8260B (mg/kg)	IB-21 434-442COMP 5/17/2000 0-10 ft 8260B TCLP (mg/L)	IB-26 477-486COMP 5/17/2000 0-10 ft 8260B (mg/kg)	IB-26 477-486COMP 5/17/2000 0-10 ft 8260B TCLP (mg/L)	IB-51 811-818COMP 5/19/2000 0-10 ft 8260B (mg/kg)	IB-51 811-818COMP 5/19/2000 0-10 ft 8260B TCLP (mg/L)
1,1-Dichloroethene	0.7	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
1,2-Dichloroethane	0.5	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
2-Butanone	200.0	11,000 *UR*	10 *UJ*	2,700 *UR*	10 *UJ*	5,000 *UR*	10 *UR*
Benzene	0.5	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
Carbon tetrachloride	0.5	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
Chlorobenzene	100.0	**8,800 *J***	**180 *J***	**2,900 *J***	**100 *J***	**3,000 *J***	**110 *J***
Chloroform	6.0	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
Tetrachloroethene	0.7	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
Trichloroethene	0.5	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*
Vinyl chloride	0.2	270 *UJ*	0.2 *UJ*	66 *UJ*	0.2 *UJ*	120 *UJ*	0.2 *UJ*

Notes:
TCLP - Toxicity Characteristic Leaching Procedure by EPA Method 1311
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
U - Undetected at the detection limit shown
J - Estimated
R - Rejected
- Concentration is above the characteristic toxicity concentration

Table 5-13
Riverbank and Beach Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Matrix	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	4,4'-DDD 8081A (mg/kg)	4,4'-DDE 8081A (mg/kg)	4,4'-DDT 8081A (mg/kg)	Aldrin 8081A (mg/kg)	alpha-BHC 8081A (mg/kg)	alpha-Chlordane 8081A (mg/kg)	beta-BHC 8081A (mg/kg)	delta-BHC 8081A (mg/kg)	Dieldrin 8081A (mg/kg)	Endosulfan I 8081A (mg/kg)	Endosulfan II 8081A (mg/kg)	Endosulfan sulfate 8081A (mg/kg)	Endrin 8081A (mg/kg)	Endrin aldehyde 8081A (mg/kg)	Endrin ketone 8081A (mg/kg)	gamma-BHC (Lindane) 8081A (mg/kg)	gamma-Chlordane 8081A (mg/kg)	Heptachlor 8081A (mg/kg)	Heptachlor epoxide 8081A (mg/kg)	Methoxychlor 8081A (mg/kg)	Toxaphene 8081A (mg/kg)
Preliminary Screening Levels						**0.028 a,b**	**0.0313 a,b**	**0.0629 a,b**	**0.04 c**	**0.1 c,d**	**0.0176 a**	**0.1 c,d**	**0.1 c,d**	**0.0618 a**	**20 e,f**	**20 e,f**	**20 e,f**	**0.207 a**	**0.207 a,g**	**0.207 a,g**	**0.00499 a**	**0.0176 a**	**0.01 c**	**0.016 a**	**500 e**	**1.6 h**
RB-1	Beach	-	12/23/1998	0	0.3	**0.066**	**0.073**	**0.32**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
		-	12/23/1998	0.3	0.7	**0.096**	**0.1**	**0.59**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
RB-2	Beach	-	12/23/1998	0	0.3	**0.1**	**0.13**	**0.7**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
		-	12/23/1998	0.3	0.7	**0.36**	**0.31**	**1.3**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
RB-3	Beach	-	12/24/1998	0	0.3	**0.084** *J*	**0.15** *J*	**2.4** *J*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
		-	12/24/1998	0.3	1	**0.075**	**0.11**	**2**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
RB-4	Beach	-	12/24/1998	0	0.3	0.01 *U*	**0.034**	**0.41**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
		-	12/24/1998	0.3	1.1	**0.018**	**0.028**	**2.6**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
RB-5	Beach	-	12/24/1998	0	0.3	0.01 *U*	**0.023**	**0.034**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
		-	12/24/1998	0.3	0.8	0.01 *U*	**0.058**	**0.064**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
RB-6	Beach	-	12/24/1998	0	0.3	**0.026** *J*	**0.011** *J*	**0.064**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
		-	12/24/1998	0.3	1.9	**0.028**	**0.071**	**0.36**	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	-	0.01 *U*	0.01 *U*	0.01 *U*	0.02 *U*	0.3 *U*
RB-7	Riverbank	SO0970	8/3/2000	0	0.5	**0.094**	**0.81**	**2.3**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	2.5 *U*
RB-8	Riverbank	SO0971	8/3/2000	0	0.5	**1.7**	**2.4**	**21**	0.085 *U*	**0.11**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.11 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.5 *U*	2.5 *U*
RB-9	Riverbank	SO0972	8/3/2000	0	0.5	**1.1** *J*	**1.6**	**95**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	2.5 *U*
RB-10	Riverbank	SO0973	8/3/2000	0	0.5	**0.53** *J*	**3.5**	**120**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	2.5 *U*
RB-11	Riverbank	SO0974	8/3/2000	0	0.5	**0.5** *J*	**2.7**	**52**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	2.5 *U*
RB-12	Riverbank	SO0975	8/3/2000	0	0.5	**0.77** *J*	**2.9**	**7.1**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	2.5 *U*
(dup)		SO0976	8/3/2000	0	0.5	**0.25** *J*	**3.1**	**6.2**	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	2.5 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at the detection limit shown
J - Estimated
- Value above preliminary screening level
a - Probable effect concentration (PEC). Development and Evaluation of Consensus-based Sediment Quality Guidelines for Freshwater Ecosystems. (MacDonald et al., 2000), referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, Sept. 1, 2005.
b - Values for sum DDD, DDE, and DDT used
c - Upper Effects Threshold (UET), Freshwater Sediment (NOAA, 1999), referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.
d - Value for technical BHC used
e - PEC and UET not established. Most stringent ODEQ Level II Soil SLV used.
f - Value for endosulfan used.
g - Value for endrin used.
h - PEC and UET not established. EPA Region IX PRG (direct contact pathway, industrial soil) used.

Table 5-14
Beach Soil Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	RB-1	RB-1	RB-2	RB-2	RB-3	RB-3	RB-4	RB-4	RB-5	RB-5	RB-6	RB-6
Sample Matrix	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach
Date Sampled	11/23/1998	11/23/1998	11/23/1998	11/23/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998
Sample Interval Depth	0-0.3 ft	0.3-0.7 ft	0-0.3 ft	0.3-0.7 ft	0-0.3 ft	0.3-1 ft	0-0.3 ft	0.3-1.1 ft	0-0.3 ft	0.3-0.8 ft	0-0.3 ft	0.3-1.9 ft
Method	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B
(Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1,1,1,2-Tetrachloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,1,1-Trichloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,1,2,2-Tetrachloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,1,2-Trichloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,1-Dichloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,1-Dichloroethene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,1-Dichloropropene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,2,3-Trichlorobenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
1,2,3-Trichloropropane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,2,4-Trimethylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
1,2-Dibromo-3-chloropropane	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
1,2-Dichloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,2-Dichloropropane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
1,3,5-Trimethylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
1,3-Dichloropropane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
2,2-Dichloropropane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
2-Chlorotoluene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
2-Hexanone	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
4-Chlorotoluene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
Benzene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Bromobenzene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Bromochloromethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Bromodichloromethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Bromoform	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Bromomethane	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*
Carbon disulfide	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Carbon tetrachloride	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Chlorobenzene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Chlorodibromomethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Chloroethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Chloroform	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Chloromethane	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*
cis-1,2-Dichloroethene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
cis-1,3-Dichloropropene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*

Table 5-14
Beach Soil Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Boring Number	RB-1	RB-1	RB-2	RB-2	RB-3	RB-3	RB-4	RB-4	RB-5	RB-5	RB-6	RB-6
Sample Matrix	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach	Beach
Date Sampled	11/23/1998	11/23/1998	11/23/1998	11/23/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998
Sample Interval Depth	0-0.3 ft	0.3-0.7 ft	0-0.3 ft	0.3-0.7 ft	0-0.3 ft	0.3-1 ft	0-0.3 ft	0.3-1.1 ft	0-0.3 ft	0.3-0.8 ft	0-0.3 ft	0.3-1.9 ft
Method	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B
(Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Dibromomethane	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Dichlorodifluoromethane	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*
Ethylbenzene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Ethylene dibromide	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
Isopropylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
m,p-Xylene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Methylene chloride	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*	0.01 *U*
n-Butylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
n-Propylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
o-Xylene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
p-Cymene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
Sec-butylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
Styrene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
tert-Butylbenzene	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*	0.02 *U*
Tetrachloroethene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	**0.008**	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Toluene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
trans-1,2-Dichloroethene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
trans-1,3-Dichloropropene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Trichloroethene	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*
Trichlorofluoromethane	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*	0.005 *UJ*
Vinyl chloride	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*	0.005 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at detection limit shown
J - Estimated

Table 5-15
Riverbank and Beach Soil Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Sample Location		RB-1	RB-1	RB-2	RB-2	RB-3	RB-3	RB-4	RB-4	RB-5	RB-5	RB-6	RB-6	RB-7	RB-8	RB-9	RB-10	RB-11	RB-12	RB-12 (dup)
Sample Number		-	-	-	-	-	-	-	-	-	-	-	-	SO0970	SO0971	SO0972	SO0973	SO0974	SO0975	SO0976
Date		11/23/1998	11/23/1998	11/23/1998	11/23/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	8/3/2000	8/3/2000	8/3/2000	8/3/2000	8/3/2000	8/3/2000	8/3/2000
Sample Interval Depth	Preliminary	0 - 0.3 ft	0.3 - 0.7 ft	0 - 0.3 ft	0.3 - 0.7 ft	0 - 0.3 ft	0.3 -1.0 ft	0 - 0.3 ft	0.3 - 1.1 ft	0 - 0.3 ft	0.3 - 0.8 ft	0 - 0.3 ft	0.3 - 1.9 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft
Method	Screening	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C
(Units)	Levels	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1,2,4-Trichlorobenzene	**9.2 a**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	**0.34 a**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	**1.7 a**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	**0.34 a**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2,4,5-Trichlorophenol	**4 b**	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2,4,6-Trichlorophenol	**10 b**	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2,4-Dichlorophenol	**20 b**	0.200 UT	0.200 UT	0.200 UT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2,4-Dimethylphenol	**20 b**	0.200 UT	0.200 UT	0.200 UT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	0.200 UJT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2,4-Dinitrophenol	**20 b**	-	-	-	-	-	-	-	-	-	-	-	-	10 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4-Dinitrotoluene	**1,200 b**	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	0.020 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2,6-Dinitrotoluene	**620 c**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Chloronaphthalene	**NE**	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Chlorophenol	**60 b**	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Methyl-4,6-dinitrophenol	**NE**	-	-	-	-	-	-	-	-	-	-	-	-	10 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene	**0.2 d**	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Methylphenol	**50 b**	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Nitroaniline	**1,800 c**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	10 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Nitrophenol	**NE**	-	-	-	-	-	-	-	-					2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
3,3'-Dichlorobenzidine	**3.8 c**	0.040 UJT	0.040 UJT	0.040 UJT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	0.040 UT	10 U	2 U	2 U	2 U	2 U	2 U	2 U
3-and 4-Methylphenol Coelution	**NE**	-	-	-	-	-	-	-	-	-	-	-	-	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
3-Nitroaniline	**70 b**	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	0.200 UT	10 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Bromophenyl-phenyl ether	**NE**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
4-Chloro-3-methylphenol	**NE**	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
4-Chloroaniline	**40 b**	0.050 UJT	0.050 UJT	0.050 UJT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
4-Chlorophenyl-phenyl ether	**NE**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
4-Nitroaniline	**40 b**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	10 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Nitrophenol	**7 b**	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	0.100 UT	10 U	2 U	2 U	2 U	2 U	2 U	2 U
Acenaphthene	**0.29 e**	0.010 UT	0.010 UT	0.010 UT	**0.015** JT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Acenaphthylene	**0.16 e**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Aniline	**200 b**	-	-	-	-	-	-	-	-	-	-	-	-	5 U	0.99 U	0.98 U	0.99 U	0.97 U	0.99 U	0.97 U
Anthracene	**0.845 f**	0.005 UT	0.005 UT	0.005 UT	**0.017** JT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benz[a]anthracene	**1.05 f**	**0.011** T	**0.031** JT	**0.029** JT	**0.070** JT	**0.012** T	0.010 UT	0.010 UT	**0.019** T	**0.014** JT	0.010 UT	**0.013** JT	**0.050** JT	2 U	**1.8**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzo[a]pyrene	**1.45 f**	**0.020** T	**0.050** JT	**0.026** JT	**0.083** JT	**0.018** T	0.010 UT	0.010 UT	**0.016** T	**0.015** JT	0.010 UT	**0.029** JT	**0.065** JT	2 U	**1.4**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzo[b]fluoranthene	**NE**	**0.030** JT	**0.058** JT	**0.042** JT	**0.095** JT	**0.023** JT	**0.017** JT	0.010 UT	**0.019** T	**0.015** JT	0.010 UT	**0.027** JT	**0.059** JT	2 U	**3.0**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzo[ghi]perylene	**0.3 e**	**0.017** JT	**0.052** JT	**0.028** JT	**0.050** JT	**0.014** JT	**0.010** JT	**0.007** JT	**0.014** T	**0.012** JT	**0.007** JT	**0.034** JT	**0.069** JT	2 U	**0.8**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzo[k]fluoranthene	**13.4 e**	**0.031** T	**0.049** JT	**0.026** JT	**0.070** JT	**0.022** T	**0.011** JT	0.010 UT	**0.016** T	**0.015** JT	0.010 UT	**0.024** JT	**0.051** JT	2 U	**2.3**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzoic acid	**100,000 c**	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	0.250 UT	10 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzyl alcohol	**100,000 c**	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	0.050 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
bis[2-Chloroethoxy]methane	**NE**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
bis[2-Chloroethyl] ether	**0.58 c**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
bis[2-Chloroisopropyl]ether	**7.4 c**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
bis[2-Ethylhexyl] phthalate	**0.75 e**	**0.160** JT	**0.280** JT	**0.280** JT	**0.410** JT	0.020 UJT	**0.820** JT	0.020 UJT	0.020 UJT	0.020 UT	0.020 UT	**0.120** JT	**0.070** JT	2 U	0.3 U	0.3 U	0.3 U	**0.4**	0.3 U	0.3 U
Butylbenzyl phthalate	**100,000 c**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chrysene	**1.29 f**	**0.025** T	**0.048** JT	**0.038** JT	**0.081** JT	**0.016** JT	**0.012** JT	0.010 UT	**0.026** T	**0.015** JT	0.010 UT	**0.017** JT	**0.065** JT	2 U	**1.9**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dibenz[a,h] anthracene	**1.352 f**	0.005 UT	**0.007** JT	**0.005** JT	**0.018** JT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	**0.006** JT	**0.009** JT	2 U	**0.4**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dibenzofuran	**5.1 e**	0.005 UT	0.005 UT	0.005 UT	**0.009** JT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	0.005 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Diethyl phthalate	**0.6 a**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dimethyl phthalate	**200 b**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Di-n-butyl phthalate	**0.1 e**	-	-	-	-	-	-	-	-	-	-	-	-	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Di-n-octyl phthalate	**NE**	0.010 UJT	0.010 UJT	0.010 UJT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fluoranthene	**2.23 f**	**0.013** JT	**0.063** JT	**0.036** JT	**0.170** JT	**0.012** JT	**0.017** JT	0.010 UT	**0.028** T	**0.020** JT	0.010 UT	**0.013** T	**0.087** JT	2 U	**2.1**	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Fluorene	**0.536 f**	0.010 UT	0.010 UT	0.010 UT	**0.011** JT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobenzene	**0.1 e**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	**0.55 g**	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	0.010 UT	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Table 5-15
Riverbank and Beach Soil Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Sample Location		RB-1	RB-1	RB-2	RB-2	RB-3	RB-3	RB-4	RB-4	RB-5	RB-5	RB-6	RB-6	RB-7	RB-8	RB-9	RB-10	RB-11	RB-12	RB-12 (dup)
Sample Number		-	-	-	-	-	-	-	-	-	-	-	-	SO0970	SO0971	SO0972	SO0973	SO0974	SO0975	SO0976
Date		11/23/1998	11/23/1998	11/23/1998	11/23/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	11/24/1998	8/3/2000	8/3/2000	8/3/2000	8/3/2000	8/3/2000	8/3/2000	8/3/2000
Sample Interval Depth	Preliminary	0 - 0.3 ft	0.3 - 0.7 ft	0 - 0.3 ft	0.3 - 0.7 ft	0 - 0.3 ft	0.3 -1.0 ft	0 - 0.3 ft	0.3 - 1.1 ft	0 - 0.3 ft	0.3 - 0.8 ft	0 - 0.3 ft	0.3 - 1.9 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft
Method	Screening	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C	8270 C
(Units)	Levels	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Hexachlorocyclopentadiene	**0.44 g**	-	-	-	-	-	-	-	-	-	-	-	-	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Hexachloroethane	**120 c**	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	0.040 *UT*	2 *U*	**2.2**	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Indeno[1,2,3-cd] pyrene	**0.1 h**	**0.022** *JT*	**0.059** *JT*	**0.027** *JT*	**0.069** *JT*	**0.018** *JT*	**0.012** *JT*	**0.007** *JT*	**0.012** *JT*	**0.014** *JT*	**0.007** *JT*	**0.041** *JT*	**0.076** *JT*	2 *U*	**1.0**	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Isophorone	**510 c**	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Naphthalene	**0.561 f**	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	0.005 *UT*	**0.005** *JT*	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Nitrobenzene	**8 b**	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
N-Nitroso dimethylamine	**0.034 c**	-	-	-	-	-	-	-	-	-	-	-	-	10 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*
N-Nitrosodi-n-propylamine	**0.25 c**	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
N-Nitrosodiphenylamine	**20 b**	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	0.010 *UT*	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Pentachlorophenol	**1 g**	-	-	-	-	-	-	-	-	-	-	-	-	10 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*
Phenanthrene	**1.17 f**	-	-	-	-	-	-	-	-	-	-	-	-	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Phenol	**0.048 e**	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	0.050 *UT*	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Pyrene	**1.52 f**	**0.014** *T*	**0.084** *JT*	**0.043** *JT*	**0.140** *JT*	**0.011** *JT*	**0.016** *JT*	0.010 *UT*	**0.037** *T*	**0.022** *JT*	0.010 *UT*	**0.013** *JT*	**0.110** *JT*	2 *U*	**1.4** *J*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*

Notes:
mg/kg - milligrams per kilogram
U - Undetected at the detection limit shown
J - Estimated
T - Value reported is less than the laboratory detection limit
- not analyzed
Value above preliminary screening level
a - USEPA sediment quality advisory level, referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.
b - PEC or other sediment SQV not established in the Portland Harbor Joint Source Control Strategy, most stringent ODEQ Level II Soil SLV used
c - PEC or other sediment SQV not established in the Portland Harbor Joint Source Control Strategy, USEPA Region IX PRG (direct contact, industrial soil) used.
d - PEL, British Columbia,referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.
e - Upper Effects Threshold (UET), Freshwater Sediment (NOAA, 1999), referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.
f - Probable effect concentration (PEC). Development and Evaluation of Consensus-based Sediment Quality Guidelines for Freshwater Ecosystems (MacDonald et al., 2000), referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.
g - NY State acute criterion, referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.
h - USEPA 1997, referenced in the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 1, 2005.

Table 5-16
Riverbank Soil Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Cadmium 6010B (mg/kg)	Chromium 6010B (mg/kg)	Lead 6010B (mg/kg)	Zinc 6010B (mg/kg)
Preliminary Screening Levels					4.9 a	111 a	128 a	459 a
RB-7	SO0970	8/3/2000	0	0.5	**1.22**	**20.4**	**62.8**	**113**
RB-8	SO0971	8/3/2000	0	0.5	1.03 *U*	**40.7**	**2090**	**130**
RB-9	SO0972	8/3/2000	0	0.5	1.07 *U*	**19.2**	**45.7**	**78.9**
RB-10	SO0973	8/3/2000	0	0.5	1.04 *U*	**17**	**63**	**72.2**
RB-11	SO0974	8/3/2000	0	0.5	1.07 *U*	**21.3**	**51.5**	**212**
RB-12	SO0975	8/3/2000	0	0.5	1.05 *U*	**19.5**	**56.2**	**107**
RB-12 (dup)	SO0976	8/3/2000	0	0.5	**1.4**	**20.7**	**53**	**114**

Notes:
mg/kg - milligrams per kilogram
U - Undetected at the detection limit shown
- Value above preliminary screening level
a - PECs and other sediment SQV as referenced in Table 3-1 of the Portland Harbor Joint Source Control Strategy, Oregon DEQ, September 2005

Table 5-17
Groundwater Analytical Results - Field Parameters
Arkema Portland Plant Remedial Investigation

Monitoring Well Number	Area of Investigation	Screen/Sample Depth ft bgs	Screen/Sample Depth ft bgs	Sample Number	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	pH (pH units)	Temperature (degrees C)	Turbidity (NTUs)
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	6280	0.050	-461	11.1	16.8	1.1
				GW029916	4/29/1999	7040	0.26	-121	10.95	17.4	NM
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	374	0.22	30	6.28	15.5	0.72
				GW029907	4/27/1999	317	0.18	NM	6.65	16.3	0.23
				GW039907	8/24/1999	585	0.24	35	6.1	16.6	0.31
				GW049905	11/16/1999	463	1	-66	8.2	14.9	3.1
				GW010111	3/29/2001	1165	0.87	-28	6.05	15.5	0.65
				GW020106	6/12/2001	2000	0.31	-352	5.87	16.3	3.41
				GW04100205	4/10/2002	6310	1.07	164	5.23	15.52	1
				GW06090301	6/9/2003	2477	1.83	181	5.36	15.53	6.1
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	707	0.28	152	6.93	13.7	1.05
				GW029911	4/28/1999	46	9.42	-6	7.69	11.5	0.41
				GW039909	8/24/1999	214	0.38	67	5.67	15.6	0.86
				GW049907	11/16/1999	160	2.07	63	8.23	14.3	1.1
				GW010113	3/29/2001	802	0.75	19	6.43	14.6	3.1
				GW020115	6/14/2001	690	0.71	-27	6.4	15.8	15.1
				GW04150203	4/15/2002	1870	0.51	173	6.02	15.61	35.4
				GW06090304	6/9/2003	750	0.93	193	6.41	16.37	16.4
MWA-4	Acid Plant	19.5	29.5	GW019913	1/28/1999	858	NR	-97	6.97	14.7	1.08
				GW029913	4/28/1999	283	0.24	-130	7.28	13.6	0.14
				GW039910	8/25/1999	436	0.46	-109	6.95	13.9	0.27
				GW049909	11/16/1999	859	0.8	-47	7.01	13	1.04
				GW010116	3/29/2001	1120	0.13	-40	6.83	14.2	0.38
				GW020117	6/14/2001	1123	0.71	-110	6.81	15.9	0.45
				GW04110201	4/11/2002	NR	NR	NR	NR	NR	NR
				GW06090307	6/9/2003	1605	0.96	-46	6.48	16.60	4.8
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	4380	0.17	-104	6.41	14.7	0.020
				GW029904	4/27/1999	2520	0.31	18	6.88	14.8	0.74
				GW039903	8/23/1999	2480	1.23	-141	6.73	16.6	0.51
				GW049903	11/15/1999	3340	0.21	20	7.58	15	1.65
				GW010110	3/28/2001	3920	0.76	-156	7.1	15.1	1.62
				GW020105	6/12/2001	4190	0.2	-364	7.09	15.4	2.57
				GW04040201	4/4/2002	2970	0.39	-70	7.29	15.64	-9.4E+0
				GW06060306	6/6/2003	3188	0.67	-38	6.6	19.57	46.1
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	3940	9.45	117	8.9	8.9	22
				GW029915	4/29/1999	4220	1.74	-67	8.95	18.5	88.3
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	4770	0.29	-126	8.52	19.6	14.9
				GW049911	11/17/1999	3690	1.31	44	9.05	17.7	6.62
				GW010107	3/28/2001	4850	0.16	-119	9	18	3.24
				GW020108	6/12/2001	5500	0.16	-376	8.82	19	3.82
				GW04100203	4/10/2002	7130	0.4	208	8	17.93	3
				GW06050302	6/5/2003	7140	NM	149	7.68	19.70	45.4
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	2450	NR	-139	6.74	13.8	0.41
				GW029902	4/26/1999	2700	0.72	-144	6.85	14.1	73.1
				GW039902	8/23/1999	2020	1.21	-111	6.83	16	54.2
				GW049902	11/15/1999	2030	0.19	44	7.61	15.6	2.51
				GW010101	3/26/2001	1671	0.71	-130	6.88	14.9	11.52
				GW020101	6/11/2001	1561	0.28	-260	6.94	14.7	4.77
				GW04030201	4/3/2002	809	NM	-163	6.7	15.53	3
				GW06040301	6/4/2003	1640	NM	-122	7.99	16.07	160
MWA-8i	Acid Plant	42	47	GW019906	1/27/1999	9420	0.050	-199	6.8	15.1	9.57
				GW029908	4/27/1999	9150	NR	-98	7.11	15.3	1.28
				GW039905	8/24/1999	6990	NR	-240	7.24	16.3	1.37
				GW049906	11/16/1999	9490	0.28	-199	7.88	15	2.89
				GW010112	3/29/2001	8530	0.62	-152	7.42	15.5	2.18
				GW020107	6/12/2001	9060	0.12	-380	7.36	16.4	2.26
				GW04100206	4/10/2002	9340	0.33	-156	708	16.09	0.6
				GW06090302	6/9/2003	7073	0.55	-204	8.67	16.21	16.2

Table 5-17
Groundwater Analytical Results - Field Parameters
Arkema Portland Plant Remedial Investigation

Monitoring Well Number	Area of Investigation	Screen/Sample Depth ft bgs	Screen/Sample Depth ft bgs	Sample Number	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	pH (pH units)	Temperature (degrees C)	Turbidity (NTUs)
MWA-9i	Acid Plant	40	45	GW019909	1/28/1999	13210	NR	-89	6.66	14.8	1.13
				GW029912	4/28/1999	14100	0.35	3	6.65	15.6	1.05
				GW039908	8/25/1999	10910	0.2	-204	6.6	15.6	1.27
				GW049908	11/16/1999	9970	NR	-172	6.67	14.2	1.2
				GW010120	3/30/2001	11540	0.1	-37	6.58	15.7	4.7
				GW020124	6/18/2001	12580	0.31	-161	6.57	16.9	3.91
				GW04150204	4/15/2002	14200	0.15	-67	6.44	15.95	1.2
				GW06090306	6/9/2003	7894	1.07	-115	6.55	16.97	17
MWA-10i	Acid Plant	40.3	45.3	GW019911	1/28/1999	4790	NR	-135	6.84	14.2	0.24
				GW029914	4/28/1999	5140	0.45	-125	7.01	15.4	0.33
				GW039911	8/25/1999	4420	0.39	-163	6.79	15.5	0.71
				GW049910	11/16/1999	3660	0.88	-158	7.03	14.3	1.18
				GW010115	3/29/2001	4490	0.11	-65	7.02	15.1	1.28
				GW020118	6/14/2001	4780	0.66	-116	7.02	16.1	2.75
				GW06100301	6/10/2003	3743	1.04	-7.9	6.65	16.27	18.6
MWA-11i	Acid Plant	46	51	GW019916	1/29/1999	2460	0.24	-142	6.66	17.2	4.25
				GW029905	4/27/1999	2500	NR	-80	6.63	17.8	0.21
				GW039916	8/26/1999	2880	1.2	-143	6.5	17.8	8.46
				GW049914	11/17/1999	2860	1.32	-156	6.71	16.4	3.09
				GW010118	3/30/2001	3060	0.65	-68	6.73	17.2	4.87
				GW020120	6/15/2001	3180	0.52	-113	6.64	17.2	2.19
				GW04110204	4/11/2002	2990	0.52	-113	6.89	17.18	NM
				GW06100303	6/10/2003	1822	0.71	-108	6.69	17.10	74.7
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	1052	NR	-140	7.18	14	0.71
				GW029901	4/26/1999	1135	0.78	-144	7.05	12.6	24.6
				GW039901	8/23/1999	1123	1.2	-164	6.78	17.2	35.2
				GW049901	11/15/1999	1127	0.16	52	7.78	15.1	1.81
				GW010102	3/26/2001	1123	0.81	-140	7.11	14.3	0.66
				GW020102	6/11/2001	1028	0.31	-264	7.09	14.6	5.97
				GW04030202	4/3/2002	1210	0.42	-119	6.84	15.57	8.7
				GW06030301	6/3/2003	1100	NM	-118	7.43	17.31	45.6
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	10720	NR	-5	6.61	13.6	2.24
				GW029910	4/28/1999	11300	1.61	-12	6.7	14.4	4.58
				GW039914	8/25/1999	11460	2.03	9	6.49	20.6	4.9
				GW049915	11/18/1999	11500	2.65	35	6.62	14.3	1.42
				GW010114	3/29/2001	11020	1.7	2	6.6	15.3	0.75
				GW020116	6/14/2001	11190	0.75	-68	6.64	16.4	0.69
				GW04150202	4/15/2002	14400	0.48	-25	6.53	15.22	12.1
				GW06090303	6/9/2003	8243	1.89	55	5.99	16.90	212.6
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	8300	0.17	-138	7.1	14.6	1640
				GW029903	4/27/1999	8810	0.34	25	7.18	15.1	0.68
				GW039904	8/23/1999	8520	1.23	-130	7.03	16	0.79
				GW049904	11/15/1999	8400	0.14	31	8.24	15.1	4.73
				GW010108	3/28/2001	8380	0.3	-130	7.29	15.7	2.54
				GW020103	6/12/2001	8650	0.22	-365	7.27	15.8	2.74
				GW04040202	4/4/2002	7600	NM	-87	7.27	16.14	3.6
				GW06060307	6/6/2003	5163	1.19	465	4.98	20.64	8.1
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	8210	2.12	5	5.87	18.1	18.1
				GW049913	11/17/1999	8420	1.36	-50	6.03	15.7	5.9
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	9320	6.5	240	3.69	16.9	25.2
				GW020121	6/15/2001	7920	2.78	97	4.19	17	23.5
				GW04160201	4/16/2002	2720	0.5	255	5.71	17.08	99.7
				GW06100304	6/10/2003	2643	0.95	-8	6.61	17.09	78.2
MWA-16i	Acid Plant	39.2	44.2	GW039913	8/25/1999	29700	0.27	-66	6.91	19	1.86
				GW049912	11/17/1999	2360	1.84	31	6.86	17.8	5.8
				GW010106	3/28/2001	17850	0.23	-49	6.93	18	2.41
				GW020109	6/12/2001	17470	0.18	-365	6.92	18.5	4.91
				GW04100204	4/10/2002	16900	1.13	-47	7.06	17.88	0.8
				GW06050301	6/5/2003	8840	NM	-6	7.04	18.90	163

Table 5-17
Groundwater Analytical Results - Field Parameters
Arkema Portland Plant Remedial Investigation

Monitoring Well Number	Area of Investigation	Screen/Sample Depth		Sample Number	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	pH (pH units)	Temperature (degrees C)	Turbidity (NTUs)
		ft bgs	ft bgs								
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	1600	1.89	212	5.27	15	14.4
				GW049916	11/18/1999	2140	3.37	168	5.42	13.7	1.02
				GW010121	3/30/2001	4620	0.57	131	4.89	15.4	0.74
				GW020123	6/18/2001	3750	0.95	-30	4.98	16.4	1.15
				GW04150205	4/15/2002	9220	0.21	195	4.86	17.01	6
				GW06090305	6/9/2003	6452	1.6	208	4.51	18.06	2.4
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	6050	0.18	-37	6.91	15.2	15.2
				GW020110	6/13/2001	6320	0.63	-297	6.98	16.9	7.56
				GW04040203	4/4/2002	7230	0.43	-33	7.02	18.72	7.1
				GW06060303	6/6/2003	3964	0.93	132	6.00	18.57	14.4
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	19670	0	-42	7.03	15.8	5.66
				GW020112	6/13/2001	3790	0.78	-313	6.77	17.4	1.13
				GW04040204	4/4/2002	43000	0.41	-35	6.84	18.56	9.3
				GW06060304	6/6/2003	13950	0.97	288	6.03	20.44	160.4
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	10620	0.25	28	9.99	17.1	2.02
				GW020114	6/13/2001	217	0.39	-359	9.62	19.1	2.91
				GW04090204	4/9/2002	7300	0.35	80	8.89	17.53	3.6
				GW06050303	6/5/2003	5390	NM	178	7.36	22.73	48.9
MWA-21b	Acid Plant	61	68.3	GW04120202	4/12/2002	3700	0.2	53	6.11	16.07	1.8
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	23900	0.14	-525	12.16	18.7	3.54
				GW04110203	4/11/2002	26900	0.17	-384	11.42	17.92	3.2
				GW06100302	6/10/2003	20780	0.32	-343	11.81	17.44	146.9
MWA-23	Chlorate Plant	15.2	25.2	GW04050202	4/5/2002	1000	0.43	-77	6.75	15.34	9.5
				GW06040302	6/4/2003	852	NM	-143	8.23	16.30	91.1
MWA-24	Chlorate Plant	24	34	GW04080201	4/8/2002	14500	0.33	-343	11.38	16.57	1.7
				GW06050304	6/5/2003	9480	NM	-446	12.56	18.89	15.4
MWA-25	Chlorate Plant	23.7	34	GW04090201	4/9/2002	28800	0.42	61	9.41	19.88	6
				GW06060302	6/6/2003	17510	0.29	164	9.44	20.45	14.1
MWA-26	Chlorate Plant	21.2	33.7	GW04050201	4/5/2002	1580	0.56	282	7.18	16.04	2.7
				GW06040303	6/4/2003	3010	NM	21	7.45	17.60	25.1
MWA-27	Chlorate Plant	24	34	GW04090203	4/9/2002	30600	0.37	28	7.61	16.66	1.9
				GW06040304	6/4/2003	29800	NM	124	7.56	17.69	66.8
MWA-28i(d)	Chlorate Plant	53.9	58.9	GW04090202	4/9/2002	609	0.38	-105	6.73	18.5	3.2
				GW06060301	6/6/2003	497	2.73	-102	6.9	21.06	1
MWA-29	Chlorate Plant	24.9	34.9	GW04080204	4/8/2002	78200	0.34	97	6.42	17.92	21.6
				GW06040306	6/4/2003	32100	NM	28	7.07	19.98	29.3
MWA-30	Chlorate Plant	19.1	29.1	GW04120204	4/12/2002	NR	NR	NR	NR	NR	NR
				GW06040308	6/4/2003	>99999	NM	35	6.07	19.00	11.7
MWA-31i	Chlorate Plant	54.8	59.8	GW04080208	4/8/2002	>99999	0.2	45	6.43	17.41	4.7
				GW06040307	6/4/2003	>99999	NM	39	6.53	19.14	147
MWA-32i	Chlorate Plant	37	42	GW06040310	6/4/2003	78900	NM	124	6.53	19.13	120
MWA-33	Chlorate Plant	20	30	GW06050305	6/5/2003	2790	10.74	-102	10.16	17.93	507
				GW06110302	6/11/2003	2659	1.60	30	10.67	17.23	99.6
				GW06110303	6/11/2003	2290	2.55	30	10.92	17.14	38.6
MWA-34i	Chlorate Plant	32	37	GW06060305	6/6/2003	10510	0.22	235	10.05	22.40	187

Notes:
NM = Not measured
NR = Not reported

Table 5-18
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Total 4,4'-DDD 8081A (µg/L)	Dissolved 4,4'-DDD 8081A (µg/L)	Total 4,4'-DDE 8081A (µg/L)	Dissolved 4,4'-DDE 8081A (µg/L)	Total 4,4'-DDT 8081A (µg/L)	Dissolved 4,4'-DDT 8081A (µg/L)	Total Aldrin 8081A (µg/L)	Dissolved Aldrin 8081A (µg/L)	Total alpha-BHC 8081A (µg/L)	Dissolved alpha-BHC 8081A (µg/L)	Total alpha-Chlordane 8081A (µg/L)	Dissolved alpha-Chlordane 8081A (µg/L)	Total beta-BHC 8081A (µg/L)	Dissolved beta-BHC 8081A (µg/L)	Total Chlordane (tech) 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Dissolved delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total Endosulfan I 8081A (µg/L)	Dissolved Endosulfan I 8081A (µg/L)
Preliminary Screening Levels						**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**3.0 b,e**	**3.0 b,e**	**100 c,e,j**	**100 c,e,j**	**0.0043 a,f**	**0.0043 a,f**	**100 c,e,j**	**100 c,e,j**	**0.0043 a,f**	**100 e,j**	**100 e,j**	**0.056 a**	**0.056 a**	**0.056 a,g**	**0.056 a,g**
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	0.11 *U*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.04 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	-	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*
				GW029916	4/29/1999	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.04 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	-	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	**0.32**	**0.13**	**0.040**	0.040 *U*	**0.18**	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW029907	4/27/1999	**0.70**	**0.34** *J*	0.040 *U*	0.040 *U*	**0.50**	**0.23** *J*	0.040 *U*	0.040 *U*	0.2 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.07 *U*	-	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
(dup)				GW029906	4/27/1999	**0.80**	**0.19** *J*	0.040 *U*	0.040 *U*	**0.60**	**0.15** *J*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.110 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW039907	8/24/1999	**0.7**	0.4 *UJ*	0.4 *U*	0.4 *UJ*	0.4 *U*	0.4 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.07 *U*	0.07 *UJ*	-	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*
				GW049905	11/16/1999	**0.39** *J*	-	0.04 *UJ*	-	0.24 *U*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-
				GW010111	3/29/2001	**0.57**	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.46 *U*	-	0.10 *U*	-	0.10 *U*	-	-	0.10 *U*	-	0.10 *U*	-	0.10 *U*	-
				GW020106	6/12/2001	**0.40**	-	**0.055**	-	0.050 *UJ*	-	0.050 *U*	-	0.05 *U*	-	0.050 *U*	-	0.050 *U*	-	-	0.050 *U*	-	0.050 *U*	-	0.050 *U*	-
				GW04100205	4/10/2002	**0.41**	-	0.099 *U*	-	0.099 *U*	-	0.099 *U*	-	0.099 *U*	-	0.099 *U*	-	0.140 *U*	-	-	0.210 *U*	-	0.099 *U*	-	0.099 *U*	-
				GW06090301	6/9/2003	4.00 *U*	-	8.00 *U*	-	8.00 *U*	-	8.00 *U*	-	4.00 *U*	-	4.00 *U*	-	4.00 *U*	-	50.0 *U*	10.0 *U*	-	8.00 *U*	-	2.00 *U*	-
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	0.090 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.21**	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW029911	4/28/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.20**	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW039909	8/24/1999	**0.2**	0.04 *U*	**0.06**	0.04 *U*	**0.8**	**0.05**	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	-	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
				GW049907	11/16/1999	**0.07**	-	0.04 *U*	-	0.2 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-
				GW010113	3/29/2001	**0.2**	-	0.1 *U*	-	**0.37**	-	0.1 *U*	-	7 *U*	-	0 *U*	-	0.1 *U*	-	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-
				GW020115	6/14/2001	**0.32**	-	0.096 *U*	-	**0.58** *J*	-	0.096 *U*	-	**13** *J*	-	0 *U*	-	0.1 *U*	-	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-
				GW04150203	4/15/2002	0.24 *U*	-	**0.12**	-	1.3 *U*	-	0.05 *U*	-	0.05 *U*	-	0.05 *U*	-	0.05 *U*	-	-	0.05 *U*	-	0.05 *U*	-	0.05 *U*	-
				GW06090304	6/9/2003	**0.086**	-	0.0800 *U*	-	**0.362**	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.500 *U*	0.100 *U*	-	0.0800 *U*	-	0.0200 *U*	-
MWA-4	Acid Plant	19.5	29.5	GW019913	1/28/1999	**11.0**	**2.1**	**0.20**	0.10 *U*	**0.80**	0.10 *U*	0.10 *U*	0.10 *U*	0.4 *U*	0.30 *U*	0.10 *U*	0.10 *U*	0.10 *U*	0.10 *U*	-	0.10 *U*	0.10 *U*	0.10 *U*	0.10 *U*	0.10 *U*	0.10 *U*
(dup)				GW019912	1/28/1999	**11.0**	**2.2**	1.0 *U*	0.1 *U*	1.0 *U*	0.10 *U*	1.0 *U*	0.1 *U*	1 *U*	0.3 *U*	1.0 *U*	0.1 *U*	1.0 *U*	0.1 *U*	-	1.0 *U*	0.1 *U*	1.0 *U*	0.1 *U*	1.0 *U*	0.1 *U*
				GW029913	4/28/1999	**9.0**	**1.3**	**0.32**	**0.07**	**1.7**	**0.36**	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	**0.320**	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW039910	8/25/1999	**7.0**	**0.8**	**0.4**	**0.1**	**1.5**	**0.3**	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.40 *U*	0.04 *U*	0.06 *U*	0.04 *U*	-	0.04 *U*	0.04 *U*	0.40 *U*	0.04 *U*	0.40 *U*	0.04 *U*
				GW049909	11/16/1999	**4.0**	-	**0.14**	-	2.2 *U*	-	0.04 *U*	-	0.04 *U*	-	**0.16**	-	0.04 *U*	-	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-
				GW010116	3/29/2001	**7.0**	-	0.2 *U*	-	0.2 *U*	-	0.2 *U*	-	13 *U*	-	0.2 *U*	-	0.2 *U*	-	-	0.3 *U*	-	0.2 *U*	-	0.2 *U*	-
				GW020117	6/14/2001	**6.7**	-	**0.12** *J*	-	**0.43** *J*	-	0.098 *U*	-	**11** *J*	-	0.2 *U*	-	0.1 *U*	-	-	0.4 *U*	-	0.1 *U*	-	0.1 *U*	-
				GW04110201	4/11/2002	**8.3**	-	**0.50** *J*	-	0.20 *U*	-	0.20 *U*	-	0.2 *U*	-	0.20 *U*	-	0.20 *U*	-	-	0.20 *U*	-	0.20 *U*	-	0.20 *U*	-
				GW06090307	6/9/2003	**3.97**	-	**0.233**	-	0.0899 *U*	-	0.0899 *U*	-	0.0449 *U*	-	0.0449 *U*	-	0.0449 *U*	-	0.562 *U*	0.112 *U*	-	0.0899 *U*	-	0.0225 *U*	-
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW029904	4/27/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW039903	8/23/1999	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.1 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	-	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*
				GW049903	11/15/1999	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-
				GW010110	3/28/2001	0.020 *UR*	-	0.020 *UR*	-	0.020 *UR*	-	0.020 *UR*	-	0.02 *UR*	-	0.020 *UR*	-	0.020 *UR*	-	-	0.020 *UR*	-	0.020 *UR*	-	0.020 *UR*	-
				GW020105	6/12/2001	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-
				GW04040201	4/4/2002	0.0096 *U*	-	0.0096 *U*	-	0.014 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-
				GW06060306	6/6/2003	0.0400 *U*	-	0.0800 *U*	-	**0.0916**	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.500 *U*	0.100 *U*	-	0.0800 *U*	-	0.0200 *U*	-
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	**0.50**	0.40 *U*	**3.7**	**1.3**	**3.8**	**1.4**	0.40 *U*	0.40 *U*	0.4 *U*	0.40 *U*	0.40 *U*	0.40 *U*	0.40 *U*	0.40 *U*	-	0.40 *U*	0.40 *U*	**0.8**	**0.60**	0.40 *U*	0.40 *U*
				GW029915	4/29/1999	**0.90** *J*	**0.040** *J*	**3.2** *J*	**0.3** *J*	**2.9** *J*	**0.36** *J*	0.040 *UJ*	0.040 *UJ*	0.04 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	-	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	**0.13** *J*	**0.13** *J*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	-	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*
				GW049911	11/17/1999	**0.06** *J*	-	**0.06** *J*	-	0.2 *U*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-
				GW010107	3/28/2001	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-
				GW020108	6/12/2001	**0.059** *J*	-	**0.026** *J*	-	**0.11** *J*	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-	-	0.0097 *UR*	-	0.0097 *UR*	-	0.0097 *UR*	-
				GW04100203	4/10/2002	0.018 *U*	-	**0.068** *J*	-	0.11 *U*	-	0.010 *U*	-	0.01 *U*	-	0.010 *UJ*	-	0.010 *U*	-	-	0.010 *U*	-	0.010 *U*	-	0.010 *UJ*	-
				GW06050302	6/5/2003	**0.0400** *R*	-	**0.0800** *R*	-	**0.214 J**	-	**0.0800** *R*	-	**0.04** *R*	-	**0.0400** *R*	-	**0.0400** *R*	-	**0.500** *R*	**0.100** *R*	-	**0.0800** *R*	-	**0.0200** *R*	-
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.04 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	-	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*
				GW029902	4/26/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW039902	8/23/1999	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	-	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*
				GW049902	11/15/1999	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-
				GW010101	3/26/2001	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-	-	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-
				GW020101	6/11/2001	0.015 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-
				GW04030201	4/3/2002	0.0095 *U*	-	0.0095 *U*	-	0.0095 *U*	-	0.0095 *U*	-	0.0095 *U*	-	0.0095 *U*	-	0.0095 *U*	-	-	0.0095 *U*	-	0.0095 *U*	-	0.0095 *U*	-
				GW06040301	6/4/2003	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	0.100 *UJ*	-	0.0800 *UJ*	-	0.0200 *UJ*	-
MWA-8i	Acid Plant	42	47	GW019906	1/27/1999	**5.3** *J*	**2.4** *J*	**0.070** *J*	**0.040** *J*	**1.0** *J*	**0.64** *J*	0.040 *UJ*	0.040 *UJ*	0.04 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	-	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	0.040 *UJ*	**0.040** *J*
				GW029908	4/27/1999	**0.14** *J*	**0.16** *J*	0.040 *UR*	0.040 *UJ*	0.040 *UR*	0.040 *UJ*	0.040 *UR*	0.040 *UJ*	0.04 *UR*	0.040 *UJ*	0.040 *UR*	0.040 *UJ*	0.040 *UR*	0.040 *UJ*	-	0.040 *UR*	0.040 *UJ*	0.040 *UR*	0.040 *UJ*	0.040 *UR*	0.040 *UJ*
				GW039905	8/24/1999	**0.05** *J*	**0.04** *J*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.05 *UJ*	0.06 *UJ*	-	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*
(dup)				GW039906	8/24/1999	**0.05** *J*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.05 *UJ*	-	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*
				GW049906	11/16/1999	**0.08** *J*	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-
				GW010112	3/29/2001	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-
				GW020107	6/12/2001	**0.11** *J*	-	0.0096 *UR*	-	0.0096 *UR*	-	0.0096 *UR*	-	0.0096 *UR*	-	0.0096 *UR*	-	0.0096 *UR*	-	-	0.0096 *UR*	-	0.0096 *UR*	-	0.0096 *UR*	-
				GW04100206	4/10/2002	**0.080**	-	0.0097 *U*	-	**0.012**	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-
				GW06090302	6/9/2003	0.0400 *U*	-	0.0800 *U*	-	0.0800 *U*	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.500 *U*	0.100 *U*	-	0.0800 *U*	-	0.0200 *U*	-
MWA-9i	Acid Plant	40	45	GW019909	1/28/1999	**20.0** *J*	**9.0** *J*	**0.37** *J*	**0.33** *J*	**9.0** *J*	**8.0** *J*	0.040 *UJ*	0.040 *UJ*	0.04 *UJ*	0.040 *UJ*	0.170 *UJ*	0.100 *UJ*	0.100 *UJ*	0.040 *UJ*	-	0.040 *UJ*	0.040 *UJ*	0.050 *UJ*	0.050 *UJ*	0.040 *UJ*	0.040 *UJ*
				GW029912	4/28/1999	**10.0**	**2.8** *J*	**0.12**	0.04 *UJ*	**3.0**	**1.0** *J*	0.040 *U*	0.040 *UJ*	0.04 *U*	0.040 *UJ*	0.040 *U*	0.040 *UJ*	0.040 *U*	0.040 *UJ*	-	0.040 *U*	0.040 *UJ*	0.040 *U*	0.040 *UJ*	0.040 *U*	0.040 *UJ*
				GW039908	8/25/1999	**4.5** *J*	**2.9** *J*	**0.08** *J*	**0.06** *J*	**0.6** *J*	**0.6** *J*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.10 *UJ*	0.09 *UJ*	-	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*
				GW049908	11/16/1999	**1.9** *J*	-	0.04 *UR*	-	0.18 *U*	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-	-	0.04 *UR*	-	0.04 *UR*	-	0.04 *UR*	-
				GW010120	3/30/2001	**0.58**	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-	7.5 *U*	-	0.1 *U*	-	0.1 *U*	-	-	0.1 *U*	-	0.1 *U*	-	0.1 *U*	-
				GW020124	6/18/2001	**0.47** *J*	-	0.0097 *UJ*	-	**0.018** *J*	-	0.0097 *UJ*	-	0.0097 *UJ*	-	0.0097 *UJ*	-	0.0360 *UJ*	-	-	0.0170 *UJ*	-	0.0097 *UJ*	-	0.0097 *UJ*	-
				GW04150204	4/15/2002	**0.93** *J*	-	**0.066** *J*	-	0.15 *U*	-	0.05 *UR*	-	0.05 *UR*	-	0.05 *UR*	-	0.05 *UR*	-	-	0.05 *UR*	-	0.05 *UR*	-	0.05 *UR*	-
				GW06090306	6/9/2003	**1.1**	-	0.0899 *U*	-	0.0899 *U*	-	0.0899 *U*	-	0.0449 *U*	-	0.0449 *U*	-	0.0449 *U*	-	0.562 *U*	0.112 *U*	-	0.0899 *U*	-	0.0225 *U*	-
MWA-10i	Acid Plant	40.3	45.3	GW019911	1/28/1999	0.070 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.060**	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW029914	4/28/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	-	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
				GW039911	8/25/1999	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	-	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
				GW049910	11/16/1999	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-	-	0.04 *UJ*	-	0.04 *UJ*	-	0.04 *UJ*	-
				GW010115	3/29/2001	0.020 *U*	-	0.020 *U*	-	0.020 *U*	-	0.020 *U*	-	0.15 *U*	-	0.02 *U*	-	0.02 *U*	-	-	0.02 *U*	-	0.02 *U*	-	0.02 *U*	-
				GW020118	6/14/2001	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	**0.2** *J*	-	0.01 *U*	-	0.01 *U*	-	-	0.01 *U*	-	0.01 *U*	-	0.01 *U*	-
				GW04110202	4/11/2002	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-
				GW06100301	6/10/2003	0.0455 *UJ*	-	0.0909 *UJ*	-	0.0909 *UJ*	-	0.0909 *UJ*	-	0.0455 *UJ*	-	0.0455 *UJ*	-	0.0455 *UJ*	-	0.568 *UJ*	0.114 *UJ*	-	0.0909 *UJ*	-	0.0227 *UJ*	-

Table 5-18
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Total Endosulfan II 8081A (µg/L)	Dissolved Endosulfan II 8081A (µg/L)	Total Endosulfan sulfate 8081A (µg/L)	Dissolved Endosulfan sulfate 8081A (µg/L)	Total Endrin 8081A (µg/L)	Dissolved Endrin 8081A (µg/L)	Total Endrin aldehyde 8081A (µg/L)	Dissolved Endrin aldehyde 8081A (µg/L)	Total Endrin ketone 8081A (µg/L)	Dissolved Endrin ketone 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Dissolved gamma-BHC [Lindane] 8081A (µg/L)	Total gamma-Chlordane 8081A (µg/L)	Dissolved gamma-Chlordane 8081A (µg/L)	Total Heptachlor 8081A (µg/L)	Dissolved Heptachlor 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)	Dissolved Heptachlor epoxide 8081A (µg/L)	Total Methoxychlor 8081A (µg/L)	Dissolved Methoxychlor 8081A (µg/L)	Total Toxaphene 8081A (µg/L)	Dissolved Toxaphene 8081A (µg/L)
Preliminary Screening Levels						**0.056 a,g**	**0.056 a,g**	**0.056 a,h**	**0.056 a,h**	**0.036 a**	**0.036 a**	**0.036 a,i**	**0.036 a,i**	**0.036 a,i**	**0.036 a,i**	**0.08 b**	**0.08 b**	**0.0043 a,f**	**0.0043 a,f**	**0.0038 a**	**0.0038 a**	**0.0038 a**	**0.0038 a**	**0.03 b**	**0.03 b**	**0.0002 a**	**0.0002 a**
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.14 UJ	0.090 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.100 UJ	0.100 UJ	1.000 UJ	1.000 UJ
				GW029916	4/29/1999	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.04 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.100 UJ	0.100 UJ	1.000 UJ	1.000 UJ
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	0.090 U	0.070 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.060 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029907	4/27/1999	0.04 U	0.06 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	**0.05**	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.10 U	0.10 U	1.00 U	1.00 U
(dup)				GW029906	4/27/1999	0.040 U	0.050 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	**0.05**	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	4.000 U
				GW039907	8/24/1999	0.40 U	0.40 UJ	0.40 U	0.40 UJ	0.40 U	0.40 UJ	0.40 U	0.40 UJ	0.40 U	0.40 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	1.00 U	1.00 UJ	10.00 U	10.00 UJ
				GW049905	11/16/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.2 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010111	3/29/2001	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.1 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	2.50 U	-
				GW020106	6/12/2001	0.050 U	-	0.050 U	-	0.050 U	-	0.050 U	-	0.050 U	-	0.15 U	-	0.050 U	-	0.160 UJ	-	0.050 U	-	0.050 UJ	-	2.500 U	-
				GW04100205	4/10/2002	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	**0.19**	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	5.000 U	-
				GW06090301	6/9/2003	8.00 U	-	10.0 U	-	8.00 U	-	16.0 U	-	8.00 U	-	4.00 U	-	4.00 U	-	8.00 U	-	4.00 U	-	50.0 U	-	200 U	-
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	**0.07**	**0.050**	0.040 U	0.040 U	0.040 U	0.060 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029911	4/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039909	8/24/1999	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.10 U	0.10 U	1.00 U	1.00 U
				GW049907	11/16/1999	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.10 U	-	1.00 U	-
				GW010113	3/29/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	**0.17**	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	3 U	-
				GW020115	6/14/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	**0.23**	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	5 U	-
				GW04150203	4/15/2002	0.05 U	-	0.05 U	-	0.05 U	-	0.05 U	-	0.05 U	-	**0.17**	-	0.05 U	-	0.05 U	-	0.05 U	-	0.05 U	-	2.50 U	-
				GW06090304	6/9/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-4	Acid Plant	19.5	29.5	GW019913	1/28/1999	0.40 U	0.30 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.1 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	10.00 U	10.00 U
(dup)				GW019912	1/28/1999	1.0 U	0.3 U	1.0 U	0.1 U	1.0 U	0.1 U	1.0 U	0.1 U	1.0 U	0.1 U	1 U	0.2 U	1.0 U	0.1 U	1.0 U	0.2 U	1.0 U	0.1 U	1.0 U	0.1 U	5.0 U	10.0 U
				GW029913	4/28/1999	0.040 U	0.040 U	**0.08**	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039910	8/25/1999	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	**0.18**	**0.10**	0.05 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	1.00 U	1.00 U	10.00 U	10.00 U
				GW049909	11/16/1999	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.3 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.10 U	-	1.00 U	-
				GW010116	3/29/2001	0.2 U	-	0.2 U	-	0.2 U	-	0.2 U	-	0.2 U	-	0.3 U	-	0.2 U	-	0.2 U	-	0.2 U	-	0.2 U	-	5 U	-
				GW020117	6/14/2001	0.9 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.43 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	5 U	-
				GW04110201	4/11/2002	0.20 U	-	0.20 U	-	0.20 U	-	0.20 U	-	0.20 U	-	**0.71 J**	-	0.20 U	-	0.20 U	-	0.20 U	-	0.20 U	-	10.00 U	-
				GW06090307	6/9/2003	0.0899 U	-	0.112 U	-	0.0899 U	-	0.180 U	-	0.0899 U	-	0.0449 U	-	0.0449 U	-	0.0899 U	-	0.0449 U	-	0.562 U	-	2.25 U	-
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029904	4/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039903	8/23/1999	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.10 UJ	0.10 U	1.00 UJ	1.00 U
				GW049903	11/15/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.06 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010110	3/28/2001	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.02 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.500 UR	-
				GW020105	6/12/2001	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.4900 UR	-
				GW04040201	4/4/2002	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.4800 U	-
				GW06060306	6/6/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.4 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	1.00 U	1.00 U	10.00 U	10.00 U
				GW029915	4/29/1999	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.04 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.100 UJ	0.100 UJ	1.000 UJ	1.000 UJ
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.10 UJ	0.10 UJ	1.00 UJ	1.00 UJ
				GW049911	11/17/1999	0.04 UJ	-	0.04 UJ	-	0.06 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010107	3/28/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	2.5 U	-
				GW020108	6/12/2001	0.0097 UR	-	0.0250 UR	-	0.0097 UR	-	0.0097 UR	-	0.0110 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.0097 UR	-	0.4900 UR	-
				GW04100203	4/10/2002	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.01 U	-	0.010 UJ	-	0.010 U	-	0.010 UJ	-	0.010 U	-	0.500 U	-
				GW06050302	6/5/2003	**0.0800** R	-	**0.100** R	-	**0.0800** R	-	**0.160** R	-	**0.0800** R	-	**0.04** R	-	**0.0400** R	-	**0.0800** R	-	**0.0400** R	-	**0.500** R	-	**2.00** R	-
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.04 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.100 UJ	0.100 UJ	1.000 UJ	1.000 UJ
				GW029902	4/26/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039902	8/23/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.10 UJ	0.10 UJ	1.00 UJ	1.00 UJ
				GW049902	11/15/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010101	3/26/2001	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.50 U	-
				GW020101	6/11/2001	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0110 U	-	0.0096 U	-	0.0096 U	-	0.4800 U	-
				GW04030201	4/3/2002	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.4800 U	-
				GW06040301	6/4/2003	0.0800 UJ	-	0.100 UJ	-	0.0800 UJ	-	0.160 UJ	-	0.0800 UJ	-	0.04 UJ	-	0.0400 UJ	-	0.0800 UJ	-	0.0400 UJ	-	0.500 UJ	-	2.00 UJ	-
MWA-8i	Acid Plant	42	47	GW019906	1/27/1999	0.150 UJ	0.080 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.04 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.100 UJ	0.100 UJ	1.000 UJ	1.000 UJ
				GW029908	4/27/1999	0.040 UR	0.040 UJ	0.040 UR	0.040 UJ	0.040 UR	0.040 UJ	0.040 UR	0.040 UJ	0.040 UR	0.040 UJ	0.04 UR	0.040 UJ	0.040 UR	0.040 UJ	0.040 UR	0.040 UJ	0.040 UR	0.040 UJ	0.100 UR	0.100 UJ	1.000 UR	1.000 UJ
				GW039905	8/24/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.10 UJ	0.10 UJ	1.00 UJ	1.00 UJ
(dup)				GW039906	8/24/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.10 UJ	0.10 UJ	1.00 UJ	1.00 UJ
				GW049906	11/16/1999	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.10 UR	-	1.00 UR	-
				GW010112	3/29/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	2.5 U	-
				GW020107	6/12/2001	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.0096 UR	-	0.4800 UR	-
				GW04100206	4/10/2002	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.4900 U	-
				GW06090302	6/9/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-9i	Acid Plant	40	45	GW019909	1/28/1999	0.500 UJ	0.200 UJ	0.500 UJ	0.500 UJ	0.040 UJ	0.040 UJ	0.500 UJ	0.500 UJ	0.500 UJ	0.040 UJ	0.04 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.040 UJ	0.090 UJ	0.040 UJ	0.500 UJ	0.100 UJ	1.000 UJ	1.000 UJ
				GW029912	4/28/1999	0.200 U	0.040 UJ	0.040 U	0.040 UJ	**0.08**	0.040 UJ	0.040 U	0.040 UJ	0.040 U	0.040 UJ	0.04 U	0.040 UJ	0.040 U	0.040 UJ	0.040 U	0.040 UJ	0.040 U	0.040 UJ	0.200 U	0.100 UJ	1.000 U	1.000 UJ
				GW039908	8/25/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.10 UJ	0.10 UJ	1.00 UJ	1.00 UJ
				GW049908	11/16/1999	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.04 UR	-	0.10 UR	-	1.00 UR	-
				GW010120	3/30/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	2.5 U	-
				GW020124	6/18/2001	0.0140 UJ	-	0.0097 UJ	-	0.0097 UJ	-	0.0097 UJ	-	0.0097 UJ	-	0.0097 UJ	-	0.0140 UJ	-	0.0097 UJ	-	0.0097 UJ	-	0.0097 UJ	-	0.4800 UJ	-
				GW04150204	4/15/2002	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	0.05 UR	-	2.50 UR	-
				GW06090306	6/9/2003	0.0899 U	-	0.112 U	-	0.0899 U	-	0.180 U	-	0.0899 U	-	0.0449 U	-	0.0449 U	-	0.0899 U	-	0.0449 U	-	0.562 U	-	2.25 U	-
MWA-10i	Acid Plant	40.3	45.3	GW019911	1/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029914	4/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039911	8/25/1999	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.10 U	0.10 U	1.00 U	1.00 U
				GW049910	11/16/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010115	3/29/2001	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.50 U	-
				GW020118	6/14/2001	0.01 U	-	0.01 U	-	0.01 U	-	0.01 U	-	0.01 U	-	0.0097 U	-	0.01 U	-	0.01 U	-	0.01 U	-	0.01 U	-	0.49 U	-
				GW04110202	4/11/2002	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.5000 U	-
				GW06100301	6/10/2003	0.0909 UJ	-	0.114 UJ	-	0.0909 UJ	-	0.182 UJ	-	0.0909 UJ	-	0.0455 UJ	-	0.0455 UJ	-	0.0909 UJ	-	0.0455 UJ	-	0.568 UJ	-	2.27 UJ	-

Table 5-18
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Total 4,4'-DDD 8081A (µg/L)	Dissolved 4,4'-DDD 8081A (µg/L)	Total 4,4'-DDE 8081A (µg/L)	Dissolved 4,4'-DDE 8081A (µg/L)	Total 4,4'-DDT 8081A (µg/L)	Dissolved 4,4'-DDT 8081A (µg/L)	Total Aldrin 8081A (µg/L)	Dissolved Aldrin 8081A (µg/L)	Total alpha-BHC 8081A (µg/L)	Dissolved alpha-BHC 8081A (µg/L)	Total alpha-Chlordane 8081A (µg/L)	Dissolved alpha-Chlordane 8081A (µg/L)	Total beta-BHC 8081A (µg/L)	Dissolved beta-BHC 8081A (µg/L)	Total Chlordane (tech) 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Dissolved delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total Endosulfan I 8081A (µg/L)	Dissolved Endosulfan I 8081A (µg/L)
Preliminary Screening Levels						**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**3.0 b,e**	**3.0 b,e**	**100 c,e,j**	**100 c,e,j**	**0.0043 a,f**	**0.0043 a,f**	**100 c,e,j**	**100 c,e,j**	**0.0043 a,f**	**100 e,j**	**100 e,j**	**0.056 a**	**0.056 a**	**0.056 a,g**	**0.056 a,g**
MWA-11i	Acid Plant	46	51	GW019916	1/29/1999	0.16 U	0.040 U	0.040 U	0.040 U	**0.20**	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW029905	4/27/1999	**0.19**	0.040 U	0.040 U	0.040 U	**0.080**	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW039916	8/26/1999	**0.12**	0.04 U	0.04 U	0.04 U	**0.05**	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	-	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
				GW049914	11/17/1999	**0.1** J	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-
				GW010118	3/30/2001	**0.25**	-	0.1 U	-	**0.70**	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	-	0.1 U	-	0.1 U	-	0.1 U	-
				GW020120	6/15/2001	**0.22**	-	0.0097 U	-	**0.34**	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	-	0.0097 U	-	0.0097 U	-	0.0097 U	-
(dup)				GW020119	6/15/2001	**0.25**	-	**0.010** J	-	**0.48**	-	0.0096 U	-	**0.013**	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-	0.010 U	-
				GW04110204	4/11/2002	0.16 U	-	0.0097 U	-	0.085 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	-	0.0097 U	-	0.0097 U	-	0.0097 U	-
				GW06100303	6/10/2003	1.2 U	-	0.0800 U	-	0.573 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0400 U	-	0.500 U	0.100 U	-	0.0800 U	-	0.0200 U	-
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW029901	4/26/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW039901	8/23/1999	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	-	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
				GW049901	11/15/1999	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	-	0.04 U	-	0.04 U	-	0.04 U	-
				GW010102	3/26/2001	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	-	0.02 U	-	0.02 U	-	0.02 U	-
				GW020102	6/11/2001	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.01 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-	0.010 U	-
				GW04030202	4/3/2002	**0.016**	-	0.0095 U	-	**0.037**	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	-	0.0095 U	-	0.0095 U	-	0.0095 U	-
				GW06030301	6/3/2003	0.0400 UJ	-	0.0800 UJ	-	0.0800 UJ	-	0.0800 UJ	-	0.04 UJ	-	0.0400 UJ	-	0.0400 UJ	-	0.500 UJ	0.100 UJ	-	0.0800 UJ	-	0.0200 UJ	-
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	**0.090**	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW029910	4/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	**0.14**	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW039914	8/25/1999	**0.06**	0.04 U	0.04 U	0.04 U	**0.09**	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	-	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
				GW049915	11/18/1999	**0.05** J	-	0.04 UJ	-	0.13 U	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-
				GW010114	3/29/2001	**0.0620**	-	0.020 U	-	**0.43**	-	0.020 U	-	0.02 U	-	0.020 U	-	0.020 U	-	-	0.020 U	-	0.020 U	-	0.020 U	-
				GW020116	6/14/2001	**0.071**	-	0.0098 U	-	**0.065** J	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	-	0.0098 U	-	0.0098 U	-	0.0098 U	-
				GW04150202	4/15/2002	**0.091**	-	0.0098 U	-	**0.078**	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	-	0.0098 U	-	0.0098 U	-	0.0098 U	-
(dup)				GW04150201	4/15/2002	**0.09**	-	0.0098 U	-	**0.08**	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	-	0.0098 U	-	0.0098 U	-	0.0098 U	-
				GW06090303	6/9/2003	**0.0807**	-	0.0800 U	-	0.0800 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0400 U	-	0.500 U	0.100 U	-	0.0800 U	-	0.0200 U	-
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	**0.060**	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW029903	4/27/1999	**0.19**	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	-	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
				GW039904	8/23/1999	**0.19** J	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 UJ	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	-	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U
				GW049904	11/15/1999	**0.19**	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	-	0.04 U	-	0.04 U	-	0.04 U	-
				GW010108	3/28/2001	**0.0730**	-	0.020 U	-	0.020 U	-	0.020 U	-	0.02 U	-	0.020 U	-	0.020 U	-	-	0.020 U	-	0.020 U	-	0.020 U	-
(dup)				GW010109	3/28/2001	**0.0540**	-	0.020 U	-	0.020 U	-	0.020 U	-	0.02 U	-	0.020 U	-	0.020 U	-	-	0.020 U	-	0.020 U	-	0.020 U	-
				GW020103	6/12/2001	**0.065**	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	-	0.0096 U	-	0.0096 U	-	0.0096 U	-
				GW04040202	4/4/2002	**0.049**	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	-	0.0096 U	-	0.0096 U	-	0.0096 U	-
				GW06060307	6/6/2003	**0.0439**	-	0.0800 U	-	0.0800 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0400 U	-	0.500 U	0.100 U	-	0.0800 U	-	0.0200 U	-
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	3 U	2 U	1 U	1 U	**32**	**11**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U	1 U	1 U	1 U	1 U	1 U
				GW049913	11/17/1999	**1.7**	-	**0.4**	-	**21**	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	-	0.04 U	-	0.80 U	-	0.20 U	-
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	**37**	-	10 U	-	**450**	-	10 U	-	700 U	-	10 U	-	10 U	-	-	10 U	-	10 U	-	10 U	-
				MWA-15r	5/31/2001	**2.2** PD		0.30 U		**60** D		0.39 U		0.08 U		0.12 U		3.20 UI			0.54 U		0.23 UI		0.17 U	
				GW020121	6/15/2001	**7.4**	-	0.96 U	-	**73** J	-	0.96 U	-	**420** J	-	1 U	-	1 U	-	-	1 U	-	1 U	-	1 U	-
				GW04160201	4/16/2002	**25**	-	**4.2** J	-	**75** J	-	0.99 U	-	0.99 U	-	0.99 U	-	0.99 U	-	-	0.99 U	-	0.99 U	-	0.99 U	-
				GW06100304	6/10/2003	**28.4** J	-	16.0 U	-	**113**	-	16.0 U	-	8.00 U	-	8.00 U	-	8.00 U	-	100 U	20.0 U	-	16.0 U	-	**4.38**	-
MWA-16i	Acid Plant	39.2	44.2	GW039913	8/25/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	-	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ
				GW049912	11/17/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	
				GW010106	3/28/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	-	0.1 U	-	0.1 U	-	0.1 U	-
				GW020109	6/12/2001	**0.020**	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	-	0.0097 U	-	0.0097 U	-	0.0097 U	-
				GW04100204	4/10/2002	**0.015**	-	0.0096 U	-	**0.013**	-	0.011 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	-	0.0096 U	-	0.0096 U	-	0.0096 U	-
				GW06050301	6/5/2003	**0.0400** R	-	**0.0800** R	-	**0.0800** R	-	**0.0800** R	-	**0.04** R	-	**0.0400** R	-	**0.0400** R	-	**0.500** R	**0.100** R	-	**0.0800** R	-	**0.0200** R	-
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	-	1 U	1 U	1 U	1 U	1 U	1 U
				GW049916	11/18/1999	**1.8** J	-	0.04 UJ	-	0.2 U	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-
(dup)				GW049917	11/18/1999	**1.7** J	-	0.04 UJ	-	0.2 U	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-
				GW010121	3/30/2001	**1.7**	-	1.0 U	-	1.0 U	-	1.0 U	-	3 U	-	1.0 U	-	1.0 U	-	-	1.0 U	-	1.0 U	-	1.0 U	-
				GW020123	6/18/2001	**1.9** J	-	**0.28** J	-	**0.22**	-	0.10 U	-	0.1 U	-	0.10 U	-	0.10 U	-	-	0.10 U	-	0.10 U	-	0.10 U	-
				GW04150205	4/15/2002	**2**	-	**0.16** J	-	0.3 U	-	0.066 U	-	0.05 U	-	0.05 U	-	0.05 U	-	-	0.06 U	-	0.05 U	-	0.05 U	-
				GW06090305	6/9/2003	**1.44**	-	0.400 U	-	0.400 U	-	0.400 U	-	0.200 U	-	0.200 U	-	0.200 U	-	2.50 U	0.500 U	-	0.400 U	-	0.100 U	-
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	0.020 UR	-	0.020 UR	-	**0.0460** J	-	0.020 UR	-	0.02 UR	-	0.020 UR	-	0.020 UR	-	-	0.020 UR	-	0.020 UR	-	0.020 UR	-
				GW020110	6/13/2001	**0.015** J	-	0.0094 U	-	0.026 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	-	0.0094 U	-	0.0094 U	-	0.0094 U	-
				GW04040203	4/4/2002	0.0096 U	-	0.0096 U	-	0.019 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	-	0.0096 U	-	0.0096 U	-	0.0096 U	-
				GW06060303	6/6/2003	0.0400 U	-	0.0800 U	-	0.0800 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0400 U	-	0.500 U	0.100 U	-	0.0800 U	-	0.0200 U	-
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	0.020 UJ	-	0.020 UJ	-	**0.0950** J	-	0.020 UJ	-	0.02 UJ	-	0.020 UJ	-	0.020 UJ	-	-	0.020 UJ	-	0.020 UJ	-	0.020 UJ	-
				GW020112	6/13/2001	0.0099 U	-	0.0099 U	-	0.016 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	-	0.0099 U	-	0.0099 U	-	0.0099 U	-
				GW04040204	4/4/2002	0.0097 U	-	0.0097 U	-	**0.10**	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	-	0.0097 U	-	0.0097 U	-	0.0097 U	-
				GW06060304	6/6/2003	**0.0935**	-	0.0800 U	-	**0.23**	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0400 U	-	0.500 U	0.100 U	-	0.0800 U	-	0.0200 U	-
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	0.020 UR	-	0.020 UR	-	**0.0880** J	-	0.020 UR	-	0.02 UR	-	0.020 UR	-	0.020 UR	-	-	0.020 UR	-	0.020 UR	-	0.020 UR	-
				GW020114	6/13/2001	0.010 UR	-	0.010 UR	-	**0.052** J	-	0.010 UR	-	0.01 UR	-	0.010 UR	-	0.010 UR	-	-	0.010 UR	-	0.010 UR	-	0.010 UR	-
				GW04090204	4/9/2002	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	-	0.011 UR	-	0.011 UR	-	0.011 UR	-
				GW06050303	6/5/2003	**0.0688** J	-	**0.0800** R	-	**0.213** J	-	**0.0800** R	-	**0.04** R	-	**0.0400** R	-	**0.0400** R	-	**0.500** R	**0.100** R	-	**0.0800** R	-	**0.0200** R	-
MWA-21b	Acid Plant	61	68.3	GW1105014	11/5/2001	**0.0070** J	-	0.0050 UJ	-	**0.0088** J	-	0.0050 UJ	-	0.005 UJ	-	0.0050 UJ	-	0.0050 UJ	-	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-
(dup)				GW1105015	11/5/2001	**0.017** J	-	0.0050 UJ	-	**0.022** J	-	0.0050 UJ	-	0.005 UJ	-	0.0050 UJ	-	0.0050 UJ	-	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-
				GW12040102	12/4/2001	**0.011** J	-	0.0050 U	-	**0.0074** J	-	0.0050 U	-	0.005 U	-	0.0050 U	-	0.0050 U	-	-	0.0050 U	-	0.0050 U	-	0.0050 U	-
(dup)				GW12040103	12/4/2001	**0.012** J	-	0.0050 U	-	**0.019** J	-	0.0050 U	-	0.005 U	-	0.0050 U	-	0.0050 U	-	-	0.0050 U	-	0.0050 U	-	0.0050 U	-
				GW04120202	4/12/2002	**0.011**	-	0.0099 U	-	**0.010**	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	-	0.0099 U	-	0.0099 U	-	0.0099 U	-
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	**0.83**	-	0.096 U	-	**0.15**	-	0.096 U	-	0.21 U	-	0.10 U	-	0.10 U	-	-	0.10 U	-	0.10 U	-	0.10 U	-
				GW04110203	4/11/2002	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	-	0.099 U	-	0.099 U	-	0.099 U	-
				GW06100302	6/10/2003	0.13 U	-	0.0800 UJ	-	0.348 U	-	0.0800 UJ	-	0.04 UJ	-	0.0400 UJ	-	0.0400 UJ	-	0.500 UJ	0.100 UJ	-	0.0800 UJ	-	0.0200 UJ	-
NMP-1S	Acid Plant	19.5	29.5	NMP-1S	6/1/2001	**22.0** D	-	1.100 UI	-	41.000 U	-	0.390 U	-	0.8 U	-	0.190 U	-	3.000 UI	-		0.540 U	-	0.120 U	-	0.170 U	-
NMP-1D	Acid Plant	29.1	34.1	NMP-1D	6/1/2001	**52.0** PD	-	**8.10** D	-	**1,900** D	-	0.390 U	-	0.079 U	-	0.760 UI	-	2.200 UI	-	-	0.490 U	-	1.100 UI	-	0.170 U	-
NMP-2S	Acid Plant	19.5	29.5	NMP-2S	6/1/2001	**1.10** D	-	0.120 U	-	**22** D	-	0.390 U	-	0.079 U	-	0.120 U	-	1.800 UI	-		0.500 UI	-	0.120 U	-	0.170 U	-
NMP-2D	Acid Plant	31.5	36.5	NMP-2D	6/1/2001	**2.80** PD	-	0.330 U	-	**71** D	-	0.330 U	-	0.076 U	-	0.160 U	-	1.300 UI	-		0.470 U	-	0.250 UI	-	0.160 U	-
NMP-3S	Acid Plant	19.5	29.5	NMP-3S	5/31/2001	0.16 U	-	0.300 U	-	**13** D	-	0.390 U	-	0.08 U	-	0.120 U	-	1.100 UI	-		0.540 U	-	0.120 U	-	0.170 U	-
NMP-3D	Acid Plant	30	35	NMP-3D	6/1/2001	**0.63** JPD	-	0.330 U	-	**11** D	-	0.330 U	-	0.076 U	-	0.160 U	-	1.500 UI	-		0.470 U	-	0.160 U	-	0.160 U	-
				GW06110301	6/11/2003	0.800 U	-	1.60 U	-	5.8 U	-	1.60 U	-	0.800 U	-	0.800 U	-	0.800 U	-	10.0 U	2.00 U	-	1.60 U	-	0.400 U	-
NMP-4S	Acid Plant	19.5	29.5	NMP-4S	6/1/2001	**0.018** JPD	-	0.094 UI	-	**1.3** D	-	0.033 U	-	0.0076 U	-	0.016 U	-	0.020 U	-		**0.088** JD	-	0.016 U	-	0.016 U	-

Table 5-18
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Total Endosulfan II 8081A (µg/L)	Dissolved Endosulfan II 8081A (µg/L)	Total Endosulfan sulfate 8081A (µg/L)	Dissolved Endosulfan sulfate 8081A (µg/L)	Total Endrin 8081A (µg/L)	Dissolved Endrin 8081A (µg/L)	Total Endrin aldehyde 8081A (µg/L)	Dissolved Endrin aldehyde 8081A (µg/L)	Total Endrin ketone 8081A (µg/L)	Dissolved Endrin ketone 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Dissolved gamma-BHC [Lindane] 8081A (µg/L)	Total gamma-Chlordane 8081A (µg/L)	Dissolved gamma-Chlordane 8081A (µg/L)	Total Heptachlor 8081A (µg/L)	Dissolved Heptachlor 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)	Dissolved Heptachlor epoxide 8081A (µg/L)	Total Methoxychlor 8081A (µg/L)	Dissolved Methoxychlor 8081A (µg/L)	Total Toxaphene 8081A (µg/L)	Dissolved Toxaphene 8081A (µg/L)
Preliminary Screening Levels						**0.056 a,g**	**0.056 a,g**	**0.056 a,h**	**0.056 a,h**	**0.036 a**	**0.036 a**	**0.036 a,i**	**0.036 a,i**	**0.036 a,i**	**0.036 a,i**	**0.08 b**	**0.08 b**	**0.0043 a,f**	**0.0043 a,f**	**0.0038 a**	**0.0038 a**	**0.0038 a**	**0.0038 a**	**0.03 b**	**0.03 b**	**0.0002 a**	**0.0002 a**
MWA-11i	Acid Plant	46	51	GW019916	1/29/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	- U
				GW029905	4/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039916	8/26/1999	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.10 U	0.10 U	1.00 U	1.00 U
				GW049914	11/17/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010118	3/30/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	2.5 U	-
				GW020120	6/15/2001	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.4900 U	-
(dup)				GW020119	6/15/2001	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.0096 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.480 U	-
				GW04110204	4/11/2002	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.4900 U	-
				GW06100303	6/10/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029901	4/26/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039901	8/23/1999	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.10 U	0.10 U	1.00 U	1.00 U
				GW049901	11/15/1999	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.10 U	-	1.00 U	-
				GW010102	3/26/2001	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.02 U	-	0.50 U	-
				GW020102	6/11/2001	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	0.01 U	-	0.010 U	-	0.010 UJ	-	0.011 U	-	0.010 UJ	-	0.500 U	-
				GW04030202	4/3/2002	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.0095 U	-	0.4800 U	-
				GW06030301	6/3/2003	0.0800 UJ	-	0.100 UJ	-	0.0800 UJ	-	0.160 UJ	-	0.0800 UJ	-	0.04 UJ	-	0.0400 UJ	-	0.0800 UJ	-	0.0400 UJ	-	0.500 UJ	-	2.00 UJ	-
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029910	4/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039914	8/25/1999	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.10 U	0.10 U	1.00 U	1.00 U
				GW049915	11/18/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010114	3/29/2001	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.02 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.500 U	-
				GW020116	6/14/2001	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0110 U	-	0.0098 U	-	0.4900 U	-
				GW04150202	4/15/2002	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.4900 U	-
(dup)				GW04150201	4/15/2002	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.0098 U	-	0.4900 U	-
				GW06090303	6/9/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW029903	4/27/1999	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.04 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.100 U	0.100 U	1.000 U	1.000 U
				GW039904	8/23/1999	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.10 UJ	0.10 U	1.00 UJ	1.00 U
				GW049904	11/15/1999	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.10 U	-	1.00 U	-
				GW010108	3/28/2001	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.02 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.500 U	-
(dup)				GW010109	3/28/2001	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.02 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.020 U	-	0.500 U	-
				GW020103	6/12/2001	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 UJ	-	0.0096 U	-	0.0096 UJ	-	0.4800 U	-
				GW04040202	4/4/2002	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.4800 U	-
				GW06060307	6/6/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	4 U	50 U	50 U
				GW049913	11/17/1999	6.00 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.04 U	-	0.09 U	-	0.04 U	-	0.10 U	-	1.00 U	-
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	10 U	-	10 U	-	10 U	-	10 U	-	10 U	-	10 U	-	10 U	-	10 U	-	10 U	-	10 U	-	250 U	-
				MWA-15r	5/31/2001	3.90 UJ	-	0.06 U	-	0.36 U		0.33 UJ		0.15 U	-	0.25 U	-	0.14 U	-	0.48 U	-	0.54 U	-	0.31 U	-	5.40 U	-
				GW020121	6/15/2001	1 U	-	1 U	-	1 U	-	1 U	-	1 U	-	0.96 U	-	1 U	-	1 U	-	1 U	-	1 U	-	48 U	-
				GW04160201	4/16/2002	0.99 U	-	0.99 U	-	0.99 U	-	0.99 U	-	0.99 U	-	**1.1**	-	0.99 U	-	0.99 U	-	0.99 U	-	0.99 U	-	50.00 U	-
				GW06100304	6/10/2003	16.0 U	-	20.0 U	-	16.0 U	-	32.0 U	-	16.0 U	-	8.00 U	-	8.00 U	-	16.0 U	-	8.00 U	-	100 U	-	400 U	-
MWA-16i	Acid Plant	39.2	44.2	GW039913	8/25/1999	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.10 UJ	0.10 UJ	1.00 UJ	1.00 UJ
				GW049912	11/17/1999	0.04 UJ		0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010106	3/28/2001	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	0.1 U	-	2.5 U	-
				GW020109	6/12/2001	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 UJ	-	0.4900 U	-
				GW04100204	4/10/2002	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.4800 U	-
				GW06050301	6/5/2003	**0.0800** R	-	**0.100** R	-	**0.0800** R	-	**0.160** R	-	**0.0800** R	-	**0.04** R	-	**0.0400** R	-	**0.0800** R	-	**0.0400** R	-	**0.500** R	-	**2.00** R	-
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	4 U	50 U	50 U
				GW049916	11/18/1999	0.06 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.4 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
(dup)				GW049917	11/18/1999	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.4 UJ	-	0.04 UJ	-	0.04 UJ	-	0.04 UJ	-	0.10 UJ	-	1.00 UJ	-
				GW010121	3/30/2001	1.0 U	-	1.0 U	-	1.0 U	-	1.0 U	-	1.0 U	-	1 U	-	1.0 U	-	1.0 U	-	1.0 U	-	1.0 U	-	25.0 U	-
				GW020123	6/18/2001	1.80 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.1 U	-	0.10 U	-	0.10 U	-	0.19 U	-	0.10 U	-	5.00 U	-
				GW04150205	4/15/2002	0.05 U	-	0.05 U	-	0.05 U	-	0.05 U	-	0.05 U	-	**0.33**	-	0.05 U	-	0.05 U	-	0.05 U	-	0.05 U	-	2.50 U	-
				GW06090305	6/9/2003	0.400 U	-	0.500 U	-	0.400 U	-	0.800 U	-	0.400 U	-	**0.389**	-	0.200 U	-	0.400 U	-	**0.428**	-	2.50 U	-	10.0 U	-
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.02 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.500 UR	-
				GW020110	6/13/2001	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.0094 U	-	0.4700 U	-
				GW04040203	4/4/2002	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.0096 U	-	0.4800 U	-
				GW06060303	6/6/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	0.020 UJ	-	0.020 UJ	-	0.020 UJ	-	0.020 UJ	-	0.020 UJ	-	0.02 UJ	-	0.020 UJ	-	0.020 UJ	-	0.020 UJ	-	0.020 UJ	-	0.500 UJ	-
				GW020112	6/13/2001	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.5000 U	-
				GW04040204	4/4/2002	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.0097 U	-	0.4900 U	-
				GW06060304	6/6/2003	0.0800 U	-	0.100 U	-	0.0800 U	-	0.160 U	-	0.0800 U	-	0.0400 U	-	0.0400 U	-	0.0800 U	-	0.0400 U	-	0.500 U	-	2.00 U	-
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.02 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.020 UR	-	0.500 UR	-
				GW020114	6/13/2001	0.010 UR	-	0.010 UR	-	0.010 UR	-	0.010 UR	-	0.010 UR	-	0.01 UR	-	0.010 UR	-	0.010 UR	-	0.010 UR	-	0.010 UR	-	0.500 UR	-
				GW04090204	4/9/2002	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.011 UR	-	0.510 UR	-
				GW06050303	6/5/2003	**0.0800** R	-	**0.100** R	-	**0.0800** R	-	**0.160** R	-	**0.0800** R	-	**0.04** R	-	**0.0400** R	-	**0.0800** R	-	**0.0400** R	-	**0.500** R	-	**2.00** R	-
MWA-21b	Acid Plant	61	68.3	GW1105014	11/5/2001	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.005 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-
(dup)				GW1105015	11/5/2001	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.005 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-	0.0050 UJ	-
				GW12040102	12/4/2001	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.005 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-
(dup)				GW12040103	12/4/2001	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.005 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-	0.0050 U	-
				GW04120202	4/12/2002	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.0099 U	-	0.5000 U	-
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.096 U	-	0.10 U	-	0.10 U	-	0.10 U	-	0.10 U	-	4.80 U	-
				GW04110203	4/11/2002	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	0.099 U	-	5.000 U	-
				GW06100302	6/10/2003	0.0800 UJ	-	0.100 UJ	-	0.0800 UJ	-	0.160 UJ	-	0.0800 UJ	-	0.04 UJ	-	0.0400 UJ	-	0.0800 UJ	-	0.0400 UJ	-	0.500 UJ	-	2.00 UJ	-
NMP-1S	Acid Plant	19.5	29.5	NMP-1S	6/1/2001	15.000 UJ	-	**0.060**	-	0.360 U	-	0.240 U	-	0.150 U	-	0.25 U	-	0.140 U	-	0.480 U	-	0.540 U	-	0.310 U	-	5.400 U	-
NMP-1D	Acid Plant	29.1	34.1	NMP-1D	6/1/2001	6.700 UJ	-	0.064 U	-	0.400 U	-	0.240 U	-	0.150 U	-	0.25 U	-	0.140 U	-	0.430 U	-	1.000 UJ	-	0.350 U	-	4.900 U	-
NMP-2S	Acid Plant	19.5	29.5	NMP-2S	6/1/2001	2.600 UJ	-	0.064 U	-	0.400 U	-	0.240 U	-	0.150 U	-	1.5 Ui	-	0.140 U	-	0.430 U	-	0.490 U	-	0.350 U	-	4.900 U	-
NMP-2D	Acid Plant	31.5	36.5	NMP-2D	6/1/2001	2.900 UJ	-	0.057 U	-	0.340 U	-	0.230 U	-	0.190 U	-	0.24 U	-	0.130 U	-	0.460 U	-	0.470 U	-	0.290 U	-	4.700 U	-
NMP-3S	Acid Plant	19.5	29.5	NMP-3S	5/31/2001	1.300 UJ	-	0.060 U	-	0.360 U	-	0.240 U	-	0.150 U	-	0.25 U	-	0.140 U	-	0.480 U	-	0.540 U	-	0.310 U	-	5.400 U	-
NMP-3D	Acid Plant	30	35	NMP-3D	6/1/2001	2.000 UJ	-	0.057 U	-	0.340 U	-	**0.230**	-	0.190 U	-	0.24 U	-	0.130 U	-	0.460 U	-	0.470 U	-	0.290 U	-	4.700 U	-
				GW06110301	6/11/2003	1.60 U	-	2.00 U	-	1.60 U	-	3.20 U	-	1.60 U	-	0.800 U	-	0.800 U	-	1.60 U	-	**1.150**	-	10.0 U	-	40.0 U	-
NMP-4S	Acid Plant	19.5	29.5	NMP-4S	6/1/2001	1.3 UJ	-	0.094 U	-	0.16 UJ	-	0.072 UJ	-	0.019 U	-	0.024 U	-	0.094 UJ	-	0.041 U	-	0.047 U	-	0.029 U	-	0.47 U	-

Table 5-18
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Total 4,4'-DDD 8081A (µg/L)	Dissolved 4,4'-DDD 8081A (µg/L)	Total 4,4'-DDE 8081A (µg/L)	Dissolved 4,4'-DDE 8081A (µg/L)	Total 4,4'-DDT 8081A (µg/L)	Dissolved 4,4'-DDT 8081A (µg/L)	Total Aldrin 8081A (µg/L)	Dissolved Aldrin 8081A (µg/L)	Total alpha-BHC 8081A (µg/L)	Dissolved alpha-BHC 8081A (µg/L)	Total alpha-Chlordane 8081A (µg/L)	Dissolved alpha-Chlordane 8081A (µg/L)	Total beta-BHC 8081A (µg/L)	Dissolved beta-BHC 8081A (µg/L)	Total Chlordane (tech) 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Dissolved delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total Endosulfan I 8081A (µg/L)	Dissolved Endosulfan I 8081A (µg/L)
Preliminary Screening Levels						**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**0.001 a,d**	**3.0 b,e**	**3.0 b,e**	**100 c,e,j**	**100 c,e,j**	**0.0043 a,f**	**0.0043 a,f**	**100 c,e,j**	**100 c,e,j**	**0.0043 a,f**	**100 e,j**	**100 e,j**	**0.056 a**	**0.056 a**	**0.056 a,g**	**0.056 a,g**
NMP-4D	Acid Plant	30	35	NMP-4D	6/1/2001	**6,400** *PD*	-	**2,700** *D*	-	**120,000** *D*	-	78 *U*	-	18 *U*	-	160 *U*	-	35 *U*	-		160 *U*	-	240 *UI*	-	43 *U*	-
				GW06100306	6/10/2003	**6.26** *J*	-	8.00 *U*	-	**282**	-	8.00 *U*	-	4.00 *U*	-	4.00 *U*	-	4.00 *U*	-	50.0 *U*	10.0 *U*	-	8.00 *U*	-	2.00 *U*	-
(dup)				GW06100307	6/10/2003	**8.86** *J*	-	8.00 *U*	-	**235**	-	8.00 *U*	-	4.00 *U*	-	4.00 *U*	-	4.00 *U*	-	50.0 *U*	10.0 *U*	-	8.00 *U*	-	2.00 *U*	-
NMP-5S	Acid Plant	19.5	29.5	NMP-5S	6/1/2001	0.1 *UI*	-	0.1 *UI*	-	**1.3** *D*	-	0.033 *U*	-	0.0076 *U*	-	0.016 *U*	-	0.02 *U*	-		**0.15** *D*	-	0.016 *U*	-	0.016 *U*	-
NMP-5D	Acid Plant	28.5	33.5	NMP-5D	6/1/2001	**4.5** *PD*	-	**0.04** *JD*	-	**370** *D*	-	0.4 *U*	-	0.086 *U*	-	0.17 *U*	-	3.9 *UI*	-		0.55 *U*	-	0.7 *UI*	-	0.22 *U*	-
NMP-6S	Acid Plant	19.5	29.5	NMP-6S	6/1/2001	**4.3** *D*	-	**1.9** *PD*	-	**30** *D*	-	0.37 *U*	-	0.085 *U*	-	0.13 *U*	-	1.1 *UI*	-		1.1 *UI*	-	0.13 *U*	-	0.18 *U*	-
NMP-6D	Acid Plant	28.5	33.5	NMP-6D	6/1/2001	**2.0** *D*	-	**1.1** *PD*	-	**28** *D*	-	.33 *U*	-	0.076 *U*	-	0.16 *U*	-	0.95 *UI*	-		0.47 *U*	-	0.16 *U*	-	0.16 *U*	-
B-59	Acid Plant	20	24	GWG012	8/3/1999	0.04 *U*	-	0.040 *U*	-	0.040 *U*	-	0.040 *U*	-	0.04 *U*	-	0.040 *U*	-	0.040 *U*	-	0.040 *U*	0.040 *U*	-	0.040 *U*	-	0.040 *U*	-
MWA-23	Chlorate Plant	15.2	25.2	GW04050202	4/5/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-
MWA-24	Chlorate Plant	24	34	GW11150102	11/15/2001	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.05 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-
				GW06050304	6/5/2003	0.232 *U*	-	0.160 *U*	-	0.160 *U*	-	0.160 *U*	-	0.0800 *U*	-	0.0800 *U*	-	0.0800 *U*	-	1.00 *U*	0.200 *U*	-	0.160 *U*	-	0.0400 *U*	-
MWA-25	Chlorate Plant	23.7	34	GW11150105	11/15/2001	0.0050 *UJ*	-	0.0050 *UJ*	-	0.012 *U*	-	0.0050 *UJ*	-	0.005 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-
				GW04090201	4/9/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.015 *U*	-	0.010 *U*	-	0.025 *U*	-	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-
MWA-26	Chlorate Plant	21.2	33.7	GW04050201	4/5/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-
MWA-27	Chlorate Plant	24	34	GW11150103	11/15/2001	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.005 *U*	-	0.0050 *U*	-	0.0050 *U*	-	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-
(dup)				GW11150104	11/15/2001	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.005 *U*	-	0.0050 *U*	-	0.0050 *U*	-	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-
				GW04090203	4/9/2002	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-
MWA-28i(d)	Chlorate Plant	53.9	58.9	GW11160103	11/16/2001	0.0050 *U*	-	0.0050 *U*	-	0.019 *U*	-	0.0050 *U*	-	0.005 *U*	-	0.0050 *U*	-	0.0050 *U*	-	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-
				GW04090202	4/9/2002	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-
MWA-29	Chlorate Plant	24.9	34.9	GW04080204	4/8/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-
				GW06040306	6/4/2003	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	0.100 *UJ*	-	0.0800 *UJ*	-	0.0200 *UJ*	-
MWA-30	Chlorate Plant	19.1	29.1	GW04120204	4/12/2002	**0.16**	-	**0.021** *J*	-	**0.010**	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-
(dup)				GW04120203	4/12/2002	**0.18**	-	**0.021** *J*	-	**0.012**	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-
				GW06040308	6/4/2003	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	0.100 *UJ*	-	0.0800 *UJ*	-	0.0200 *UJ*	-
MWA-31i(d)	Chlorate Plant	54.8	59.8	GW04080205	4/8/2002	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.016 *U*	-	0.010 *U*	-	0.010 *U*	-	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-
				GW06040307	6/4/2003	0.0400 *U*	-	0.0800 *U*	-	0.0800 *U*	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.500 *U*	0.100 *U*	-	0.0800 *U*	-	0.0200 *U*	-
MWA-32i	Chlorate Plant	37	42	GW06040310	6/4/2003	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	0.100 *UJ*	-	0.0800 *UJ*	-	0.0200 *UJ*	-
MWA-33	Chlorate Plant	20	30	GW06050305	6/5/2003	**0.0400** *R*	-	**0.0800** *R*	-	**0.0800** *R*	-	**0.0800** *R*	-	**0.04** *R*	-	**0.0400** *R*	-	**0.0400** *R*	-	**0.500** *R*	**0.100** *R*	-	**0.0800** *R*	-	**0.0200** *R*	-
				GW06110302	6/11/2003	0.0400 *UJ*	-	0.0800 *UJ*	-	0.518 *U*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	0.100 *UJ*	-	0.0800 *UJ*	-	0.0200 *UJ*	-
(dup)				GW06110303	6/11/2003	0.0400 *UJ*	-	0.0800 *UJ*	-	0.6780 *U*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	0.100 *UJ*	-	0.0800 *UJ*	-	0.0200 *UJ*	-
MWA-34i	Chlorate Plant	32	37	GW06060305	6/6/2003	**0.0892**	-	0.0800 *U*	-	**0.327**	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.500 *U*	0.100 *U*	-	0.0800 *U*	-	0.0200 *U*	-

Notes:
µg/L - micrograms per liter
ft bgs - feet below ground surface
U - Undetected at the detection limit shown
J - Estimated
R - Rejected
- not analyzed
P - The GC or HPLC confirmation criteria was exceeded. The relative perent difference is greater than 40% . between the two analytical results. (25% for CLP Pesticides)
D - The reported result is from a dilution
I - The method reporting limit /method detection limit has been elevated due to a chromatogramatic interference
- Value above preliminary screening level
- Data for this sample has not undergone validation
a - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic
b - Oregon DEQ 2004 Water Quality Criteria Summary Tables 33A and 33B, Freshwater, Chronic
c - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshwater, Chronic
d - Criterion applies to the total concentration of DDT and it's metabolites
e - Chronic criterion not established, acute criterion used
f - Value for chlordane used
g - Criterion applied to the sum of endosulfan I and endosulfan II
h - Value for endosulfan used
i - Value for endrin used
j - Value for technical BHC used
k - Value for tetrachloroethanes used
l - Value for dichloroethenes used
m - Value for 1,3-dichloropropene used
n - Value is pH dependent. Value displayed corresponds to a pH of 7.8.
o - Value for dichlorobenzenes used
p - Value for dinitrotoluene used
q - Value for nitrophenols used
r - Value for chloroalkyl ethers used
s - Value for nitrosamines used
t - Value applies to the dissolved phase
u - Value is hardness-dependent. Value displayed corresponds to a hardness of 25 mg/L.
v - Value for Chromium (III) used

Table 5-18
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Total Endosulfan II 8081A (µg/L)	Dissolved Endosulfan II 8081A (µg/L)	Total Endosulfan sulfate 8081A (µg/L)	Dissolved Endosulfan sulfate 8081A (µg/L)	Total Endrin 8081A (µg/L)	Dissolved Endrin 8081A (µg/L)	Total Endrin aldehyde 8081A (µg/L)	Dissolved Endrin aldehyde 8081A (µg/L)	Total Endrin ketone 8081A (µg/L)	Dissolved Endrin ketone 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Dissolved gamma-BHC [Lindane] 8081A (µg/L)	Total gamma-Chlordane 8081A (µg/L)	Dissolved gamma-Chlordane 8081A (µg/L)	Total Heptachlor 8081A (µg/L)	Dissolved Heptachlor 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)	Dissolved Heptachlor epoxide 8081A (µg/L)	Total Methoxychlor 8081A (µg/L)	Dissolved Methoxychlor 8081A (µg/L)	Total Toxaphene 8081A (µg/L)	Dissolved Toxaphene 8081A (µg/L)
Preliminary Screening Levels						**0.056 a,g**	**0.056 a,g**	**0.056 a,h**	**0.056 a,h**	**0.036 a**	**0.036 a**	**0.036 a,i**	**0.036 a,i**	**0.036 a,i**	**0.036 a,i**	**0.08 b**	**0.08 b**	**0.0043 a,f**	**0.0043 a,f**	**0.0038 a**	**0.0038 a**	**0.0038 a**	**0.0038 a**	**0.03 b**	**0.03 b**	**0.0002 a**	**0.0002 a**
NMP-4D	Acid Plant	30	35	NMP-4D	6/1/2001	390 *UJ*	-	14 *U*	-	81 *U*	-	44 *U*	-	34 *U*	-	51 *U*	-	31 *U*	-	98 *U*	-	160 *U*	-	74 *U*	-	1600 *U*	-
				GW06100306	6/10/2003	8.00 *U*	-	10.0 *U*	-	8.00 *U*	-	16.0 *U*	-	8.00 *U*	-	4.00 *U*	-	4.00 *U*	-	8.00 *U*	-	4.00 *U*	-	50.0 *U*	-	200 *U*	-
(dup)				GW06100307	6/10/2003	8.00 *U*	-	10.0 *U*	-	8.00 *U*	-	16.0 *U*	-	8.00 *U*	-	4.00 *U*	-	4.00 *U*	-	8.00 *U*	-	4.00 *U*	-	50.0 *U*	-	200 *U*	-
NMP-5S	Acid Plant	19.5	29.5	NMP-5S	6/1/2001	2.6 *UJ*	-	0.074 *UJ*	-	0.1 *UJ*	-	0.1 *UJ*	-	0.019 *U*	-	0.77 *UJ*	-	**0.016** *JPD*	-	0.041 *U*	-	0.12 *UJ*	-	0.029 *U*	-	0.47 *U*	-
NMP-5D	Acid Plant	28.5	33.5	NMP-5D	6/1/2001	5.2 *UJ*	-	0.061 *U*	-	0.37 *U*	-	0.27 *UJ*	-	0.2 *U*	-	0.21 *U*	-	0.14 *U*	-	0.49 *U*	-	0.55 *U*	-	0.36 *U*	-	5.1 *U*	-
NMP-6S	Acid Plant	19.5	29.5	NMP-6S	6/1/2001	4.1 *UJ*	-	0.064 *U*	-	0.43 *U*	-	0.21 *U*	-	0.16 *U*	-	1.1 *UJ*	-	0.15 *UJ*	-	0.51 *U*	-	0.57 *U*	-	0.33 *U*	-	5.3 *U*	-
NMP-6D	Acid Plant	28.5	33.5	NMP-6D	6/1/2001	1.9 *UJ*	-	0.057 *U*	-	0.34 *U*	-	0.23 *U*	-	0.19 *U*	-	0.24 *U*	-	0.13 *U*	-	0.46 *U*	-	0.47 *U*	-	0.29 *U*	-	4.7 *U*	-
B-59	Acid Plant	20	24	GWG012	8/3/1999	0.040 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.04 *U*	-	0.1 *U*	-	1 *U*	-
MWA-23	Chlorate Plant	15.2	25.2	GW04050202	4/5/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.4800 *U*	-
MWA-24	Chlorate Plant	24	34	GW11150102	11/15/2001	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.05 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-	0.050 *UR*	-
				GW06050304	6/5/2003	0.160 *U*	-	0.200 *U*	-	0.160 *U*	-	0.320 *U*	-	0.160 *U*	-	0.0800 *U*	-	0.0800 *U*	-	0.160 *U*	-	0.0800 *U*	-	1.00 *U*	-	4.00 *U*	-
MWA-25	Chlorate Plant	23.7	34	GW11150105	11/15/2001	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.005 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-	0.0050 *UJ*	-
				GW04090201	4/9/2002	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.0096 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.480 *U*	-
MWA-26	Chlorate Plant	21.2	33.7	GW04050201	4/5/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.4800 *U*	-
MWA-27	Chlorate Plant	24	34	GW11150103	11/15/2001	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.005 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-
(dup)				GW11150104	11/15/2001	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.005 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-
				GW04090203	4/9/2002	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.4900 *U*	-
MWA-28i(d)	Chlorate Plant	53.9	58.9	GW11160103	11/16/2001	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.005 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-	0.0050 *U*	-
				GW04090202	4/9/2002	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.0097 *U*	-	0.4900 *U*	-
MWA-29	Chlorate Plant	24.9	34.9	GW04080204	4/8/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.4800 *U*	-
				GW06040306	6/4/2003	0.0800 *UJ*	-	0.100 *UJ*	-	0.0800 *UJ*	-	0.160 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	-	2.00 *UJ*	-
MWA-30	Chlorate Plant	19.1	29.1	GW04120204	4/12/2002	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.0096 *U*	-	0.4800 *U*	-
(dup)				GW04120203	4/12/2002	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.0099 *U*	-	0.5000 *U*	-
				GW06040308	6/4/2003	0.0800 *UJ*	-	0.100 *UJ*	-	0.0800 *UJ*	-	0.160 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	-	2.00 *UJ*	-
MWA-31i(d)	Chlorate Plant	54.8	59.8	GW04080205	4/8/2002	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.0097 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.010 *U*	-	0.490 *U*	-
				GW06040307	6/4/2003	0.0800 *U*	-	0.100 *U*	-	0.0800 *U*	-	0.160 *U*	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0800 *U*	-	0.0400 *U*	-	0.500 *U*	-	2.00 *U*	-
MWA-32i	Chlorate Plant	37	42	GW06040310	6/4/2003	0.0800 *UJ*	-	0.100 *UJ*	-	0.0800 *UJ*	-	0.160 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	-	2.00 *UJ*	-
MWA-33	Chlorate Plant	20	30	GW06050305	6/5/2003	**0.0800** *R*	-	**0.100** *R*	-	**0.0800** *R*	-	**0.160** *R*	-	**0.0800** *R*	-	**0.04** *R*	-	**0.0400** *R*	-	**0.0800** *R*	-	**0.0400** *R*	-	**0.500** *R*	-	**2.00** *R*	-
				GW06110302	6/11/2003	0.0800 *UJ*	-	0.100 *UJ*	-	0.0800 *UJ*	-	0.160 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	-	2.00 *UJ*	-
(dup)				GW06110303	6/11/2003	0.0800 *UJ*	-	0.100 *UJ*	-	0.0800 *UJ*	-	0.160 *UJ*	-	0.0800 *UJ*	-	0.04 *UJ*	-	0.0400 *UJ*	-	0.0800 *UJ*	-	0.0400 *UJ*	-	0.500 *UJ*	-	2.00 *UJ*	-
MWA-34i	Chlorate Plant	32	37	GW06060305	6/6/2003	0.0800 *U*	-	0.100 *U*	-	0.0800 *U*	-	0.160 *U*	-	0.0800 *U*	-	0.0400 *U*	-	0.0400 *U*	-	0.0800 *U*	-	0.0400 *U*	-	0.500 *U*	-	2.00 *U*	-

Notes:
µg/L - micrograms per liter
ft bgs - feet below ground surface
U - Undetected at the detection limit shown
J - Estimated
R - Rejected
- not analyzed
P - The GC or HPLC confirmation criteria was exceeded. The relative perent diff
between the two analytical results. (25% for CLP Pesticides)
D - The reported result is from a dilution
I - The method reporting limit / method detection limit has been elevated due to
- Value above preliminary screening level
- Data for this sample has not undergone validation
a - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chr
b - Oregon DEQ 2004 Water Quality Criteria Summary Tables 33A and 33B, Fresh
c - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Fresh
d - Criterion applies to the total concentration of DDT and it's metabolites
e - Chronic criterion not established, acute criterion used
f - Value for chlordane used
g - Criterion applied to the sum of endosulfan I and endosulfan II
h - Value for endosulfan used
i - Value for endrin used
j - Value for technical BHC used
k - Value for tetrachloroethanes used
l - Value for dichloroethenes used
m - Value for 1,3-dichloropropene used
n - Value is pH dependent. Value displayed corresponds to a pH of 7.8.
o - Value for dichlorobenzenes used
p - Value for dinitrotoluene used
q - Value for nitrophenols used
r - Value for chloroalkyl ethers used
s - Value for nitrosamines used
t - Value applies to the dissolved phase
u - Value is hardness-dependent. Value displayed corresponds to a hardness of 2
v - Value for Chromium (III) used

Table 5-19
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen/Sample Depth ft bgs	Screen/Sample Depth ft bgs	Sample Number	Date	1,1,1,2-Tetrachloroethane 8260B (µg/L)	1,1,1-Trichloroethane 8260B (µg/L)	1,1,2,2-Tetrachloroethane 8260B (µg/L)	1,1,2-Trichloroethane 8260B (µg/L)	1,1-Dichloroethane 8260B (µg/L)	1,1-Dichloroethene 8260B (µg/L)	1,1-Dichloropropene 8260B (µg/L)	1,2,3-Trichlorobenzene 8260B (µg/L)	1,2,3-Trichloropropane 8260B (µg/L)	1,2,4-Trimethylbenzene 8260B (µg/L)	1,2-Dibromo-3-chloropropane 8260B (µg/L)	1,2-Dibromoethane 8260B (µg/L)	1,2-Dichloroethane 8260B (µg/L)	1,2-Dichloropropane 8260B (µg/L)	1,3,5-Trimethylbenzene 8260B (µg/L)	1,3-Dichloropropane 8260B (µg/L)	2,2-Dichloropropane 8260B (µg/L)	2-Butanone 8260B (µg/L)	2-Chlorotoluene 8260B (µg/L)	2-Hexanone 8260B (µg/L)	4-Chlorotoluene 8260B (µg/L)	4-Isopropyltoluene 8260B (µg/L)	4-Methyl-2-pentanone 8260B (µg/L)	Acetone 8260B (µg/L)	Benzene 8260B (µg/L)	Bromobenzene 8260B (µg/L)	Bromochloromethane 8260B (µg/L)	Bromodichloromethane 8260B (µg/L)	Bromoform 8260B (µg/L)	Bromomethane 8260B (µg/L)	Carbon disulfide 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)
Preliminary Screening Levels						9,320 a,b,c	NE	2,400 a	9,400 a	NE	11,600 a,b,d	NE	NE	NE	NE	NE	NE	20,000 a	5,700 a	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5,300 a,b	NE	NE	NE	NE	NE	NE	35,200 a,b
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 U	200 U	50 U	50 U	200 U	50 U	50 U	**2,000** UR	200 U	2000 U	200 U	200 U	**2000** UR	**2,000** UR	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW029916	4/29/1999	0.5 U	0.5 U	0.5 U	0.5 U	**1.6**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	**20** UR	2 U	20 U	2 U	2 U	**20** UR	**61** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1**	0.5 U
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U	4 U	4 UJ	4 U	1 U	1 U	4 U	1 U	1 U	40 UR	4 U	40 U	4 U	4 U	40 UR	40 UR	1 U	4 U	1 U	**5**	1 U	1 UJ	1 U	**130**
				GW029906	4/27/1999	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	5 UJ	1 UJ	5 UJ	5 UR	5 UJ	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	50 UR	5 UJ	50 UJ	5 UJ	5 UJ	50 UR	50 UR	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
(dup)				GW029907	4/27/1999	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	10 UJ	2 UJ	10 UJ	10 UR	10 UJ	2 UJ	2 UJ	10 UJ	2 UJ	2 UJ	100 UR	10 UJ	100 UJ	10 UJ	10 UJ	100 UR	100 UR	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
				GW039907	8/24/1999	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	10 U	40 U	40 U	40 U	10 U	10 U	40 U	10 U	10 U	400 UJ	40 U	400 UJ	40 U	40 U	400 UJ	400 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
				GW049905	11/16/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 UR	20 U	5 U	5 U	20 U	5 U	5 U	200 U	20 U	200 U	20 U	20 U	200 U	200 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW010111	3/29/2001	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 UJ	200 U	50 U	50 U	200 U	50 U	50 U	2,000 UR	200 U	2,000 U	200 U	200 U	2,000 UR	2,000 UR	50 U	200 U	50 U	50 U	50 UJ	50 U	50 U	50 U
				GW020106	6/12/2001	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	10 U	40 U	40 U	40 U	10 U	10 U	40 U	10 U	10 U	400 UR	40 U	400 U	40 U	40 U	400 UR	400 UR	10 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U
				GW04100205	4/10/2002	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 UJ	50 U	200 U	200 U	200 U	50 U	50 U	200 U	50 U	50 U	2,000 UR	200 U	2,000 U	200 U	200 U	2,000 UR	2,000 UR	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW-060903-01	6/9/2003	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	200 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	50.0 U	1,000 U	100 U	1,000 U	100 U	200 U	500 U	2,000 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	100 U	50.0 U
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	0.5 U	**0.9**	0.5 U	0.5 U	**0.6**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	**0.5**
				GW029911	4/28/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	0.5 U	0.5 U	**0.7**	0.5 U	0.5 U	0.5 U	0.5 U
				GW039909	8/24/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049907	11/16/1999	0.5 U	**0.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	**0.7**
				GW010113	3/29/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020115	6/14/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 UJ	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04150203	4/15/2002	13 U	13 U	13 U	13 U	13 U	13 U	13 U	50 U	13 U	50 U	50 U	50 U	13 U	13 U	50 U	13 U	13 U	500 UR	50 U	500 U	50 U	50 U	500 UR	500 UR	13 U	50 U	13 U	13 U	13 U	13 U	13 U	13 U
				GW-060903-04	6/9/2003	0.500 U	**0.53**	0.500 U	0.500 U	**1.62**	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-4	Acid Plant	19.5	29.5	GW019912	1/28/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
(dup)				GW019913	1/28/1999	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	2 UJ	0.5 UJ	2 UJ	2 UJ	2 UJ	0.5 UJ	0.5 UJ	2 UJ	0.5 UJ	0.5 UJ	20 UR	2 UJ	20 UJ	2 UJ	2 UJ	20 UR	20 UR	0.5 UJ	2 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
				GW029913	4/28/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW039910	8/25/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049909	11/16/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010116	3/29/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.89**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020117	6/14/2001	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	10 U	40 U	40 U	40 U	10 U	10 U	40 U	10 U	10 U	400 UR	40 U	400 UJ	40 U	40 U	400 UR	400 UR	10 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U
				GW04110201	4/11/2002	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 UJ	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
				GW-060903-07	6/9/2003	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	5.00 U	2.50 U	5.00 U	10.0 U	2.50 U	2.50 U	2.50 U	5.00 U	2.50 U	2.50 U	50.0 U	5.00 U	50.0 U	5.00 U	10.0 U	25.0 U	100 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	10.0 U	5.00 U	2.50 U
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	0.5 U	0.5 U	0.5 U	0.5 U	**5.7**	**7.3**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW029904	4/27/1999	0.5 U	**2.7**	0.5 U	0.5 U	**20**	**16**	0.5 U	2 U	0.5 UJ	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW039903	8/23/1999	0.5 U	**1.5**	0.5 U	0.5 U	**18**	**12**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049903	11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	**9.2**	**6.2**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010110	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**3.4**	**2.7**	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020105	6/12/2001	0.5 U	0.5 U	0.5 U	0.5 U	**2.2**	**1.8**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04040201	4/4/2002	0.5 U	0.5 U	0.5 U	0.5 U	**4.2**	**4.2**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060603-06	6/6/2003	0.500 U	0.500 U	0.500 U	0.500 U	**2.61**	**1.39**	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	10 UJ	2 UJ	10 UJ	10 UJ	10 UJ	2 UJ	2 UJ	10 UJ	2 UJ	**2** UJ	100 UR	10 UJ	100 UJ	10 UJ	10 UJ	100 UR	**20** J	2 UJ	10 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
				GW029915	4/29/1999	0.5 U	0.5 U	0.5 UJ	0.5 U	**0.7**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 UJ	20 UR	20 UR	**0.7**	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U	2 U	10 U	10 U	10 U	2 U	2 U	10 U	2 U	2 U	100 UJ	10 U	100 UJ	10 U	10 U	100 UJ	100 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
				GW049911	11/17/1999	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	4 U	1 U	4 U	4 U	4 U	1 U	1 U	4 U	1 U	1 U	40 U	4 U	40 U	4 U	4 U	40 U	40 U	**1.1**	4 U	1 U	1 U	1 U	1 U	1 U	1 U
				GW010107	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**1.2** J	**0.8** J	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	**1.8** J	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020108	6/12/2001	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 UR	20 U	200 U	20 U	20 U	200 UR	200 UR	5 U	20 U	5 U	5 U	5 U	5 UJ	5 U	5 U
				GW04100203	4/10/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 UR	20 U	200 U	20 U	20 U	200 UR	200 UR	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW-060503-02	6/5/2003	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	20.0 U	10.0 U	20.0 U	40.0 U	10.0 U	10.0 U	10.0 U	20.0 U	10.0 U	10.0 U	200 U	20.0 U	200 U	20.0 U	40.0 U	100 U	400 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	40.0 U	20.0 U	10.0 U
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW029902	4/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.9**	0.5 U	0.5 U	2 U	0.5 UJ	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW039902	8/23/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049902	11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.6**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010101	3/26/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 UJ	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW020101	6/11/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04030201	4/3/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060403-01	6/4/2003	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	**20.0** R	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-8i	Acid Plant	42	47	GWG001	11/24/1998	25 U	25 U	25 U	25 U	25 U	25 U	25 U	100 U	25 U	100 U	100 U	100 U	25 U	25 U	100 U	25 U	25 U	1000 U	100 U	1000 U	100 U	100 U	1000 U	1000 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
				GW019906	1/27/1999	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	10 U	40 U	40 UJ	40 U	10 U	10 U	40 U	10 U	10 U	400 UR	40 U	400 U	40 U	40 U	400 UR	400 UR	10 U	40 U	10 U	10 U	10 U	10 UJ	10 U	10 U
				GW029908	4/27/1999	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	50 UJ	12 UJ	50 UJ	50 UR	50 UJ	12 UJ	12 UJ	50 UJ	12 UJ	12 UJ	500 UR	50 UJ	500 UJ	50 UJ	50 UJ	500 UR	500 UR	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ
				GW039905	8/24/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 UJ	20 U	200 UJ	20 U	20 U	200 UJ	200 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
(dup)				GW039906	8/24/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 U	20 U	200 U	20 U	20 U	200 U	200 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW049906	11/16/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 UR	20 U	5 U	5 U	20 U	5 U	5 U	200 U	20 U	200 U	20 U	20 U	200 U	200 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW010112	3/29/2001	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 UJ	20 U	5 U	5 U	20 U	5 U	5 U	200 UR	20 U	200 U	20 U	20 U	200 UR	200 UR	5 U	20 U	5 U	5 U	5 UJ	5 U	5 U	5 U
				GW020107	6/12/2001	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
				GW04100206	4/10/2002	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	**10** UJ	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
				GW-060903-02	6/9/2003	0.500 U	0.500 U	0.500 U	0.500 U	**1**	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-9i	Acid Plant	40	45	GWG002	11/24/1998	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	500 U	2000 U	2000 U	2000 U	500 U	500 U	2000 U	500 U	500 U	20000 U	2000 U	20000 U	2000 U	2000 U	20000 U	20000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
				GW019909	1/28/1999	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 UJ	200 U	50 U	50 U	200 U	50 U	50 U	2000 UR	200 U	2000 U	200 U	200 U	2000 UR	2000 UR	50 U	200 U	50 U	50 U	50 U	50 UJ	50 U	50 U
				GW029912	4/28/1999	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	400 UJ	100 UJ	400 UJ	400 UR	400 UJ	100 UJ	100 UJ	400 UJ	100 UJ	100 UJ	4000 UR	400 UJ	4000 UJ	400 UJ	400 UJ	4000 UR	4000 UR	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ
				GW039908	8/25/1999	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	100 U	400 U	400 U	400 U	100 U	100 U	400 U	100 U	100 U	4000 U	400 U	4000 U	400 U	400 U	4000 U	4000 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
				GW049908	11/16/1999	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 UR	200 U	50 U	50 U	200 U	50 U	50 U	2000 U	200 U	2000 U	200 U	200 U	2000 U	2000 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW010120	3/30/2001	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1000 U	250 U	1000 U	1000 UJ	1000 U	250 U	250 U	1000 U	250 U	250 U	10000 UR	1000 U	10000 U	1000 U	1000 U	10000 UR	10000 UR	250 U	1000 U	250 U	250 U	250 UJ	250 U	250 U	250 U
				GW020124	6/18/2001	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 U	200 U	50 U	50 U	200 U	50 U	50 U	2000 UR	200 U	2000 U	200 U	200 U	2000 UR	2000 UR	50 U	200 U	50 U	50 U	50 UJ	50 UJ	50 U	50 U
				GW04150204	4/15/2002	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 U	200 U	50 U	50 U	200 U	50 U	50 U	2000 UR	200 U	2000 U	200 U	200 U	2000 UR	2000 UR	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW-060903-06	6/9/2003	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	100 U	200 U	400 U	100 U	100 U	100 U	200 U	100 U	100 U	2000 U	200 U	2000 U	200 U	400 U	1000 U	4000 U	100 U	100 U	100 U	100 U	100 U	400 U	200 U	100 U
MWA-10i	Acid Plant	40.3	45.3	GWG003	12/4/1998	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 U	20 U	200 U	20 U	20 U	200 U	200 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW019911	1/28/1999	0.5 U	**1.1** J	0.5 U	0.5 U	**3.2** J	**0.8** J	0.5 U	2 U	0.5 UJ	2 U	2 U	2 U	**0.6** J	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	**1.5** J	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW029914	4/28/1999	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 UR	200 U	50 U	50 U	200 U	50 U	50 U	2000 UR	200 U	2000 U	200 U	200 U	2000 UR	2000 UR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW039911	8/25/1999	15 U	15 U	15 U	15 U	15 U	15 U	15 U	60 U	15 U	60 U	60 U	60 U	15 U	15 U	60 U	15 U	15 U	600 UJ	60 U	600 UJ	60 U	60 U	600 UJ	600 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U
				GW049910	11/16/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.5**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010115	3/29/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.77**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 R	**0.68**	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020118	6/14/2001	25 U	25 U	25 U	25 U	25 U	25 U	25 U	100 U	25 U	100 U	100 U	100 U	25 U	25 U	100 U	25 U	25 U	1000 UR	100 U	1000 UJ	100 U	100 U	1000 UR	1000 UR	25 U	100 U	25 U	25 U	25 U	25 U	25 U	25 U
				GW04110202	4/11/2002	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 UJ	50 U	200 U	200 U	200 U	50 U	50 U	200 U	50 U	50 U	2000 UR	200 U	2000 U	200 U	200 U	2000 UR	2000 UR	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW-061003-01	6/10/2003	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	200 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	50.0 U	1000 U	100 U	1000 U	100 U	200 U	500 U	2000 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	100 U	50.0 U
MWA-11i	Acid Plant	46	51	GWG004	12/7/1998	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW019916	1/29/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW029905	4/27/1999	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	**2** UJ	0.5 UJ	2 UJ	2 UR	2 UJ	0.5 UJ	0.5 UJ	2 UJ	0.5 UJ	0.5 UJ	20 UR	2 UJ	20 UJ	2 UJ	2 UJ	20 UR	20 UR	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
				GW039916	8/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049914	11/17/1999	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010118	3/30/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020119	6/15/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
(dup)				GW020120	6/15/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 UJ	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04110204	4/11/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-061003-03	6/10/2003	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW029901	4/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 UJ	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW039901	8/23/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049901	11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010102	3/26/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 UJ	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW020102	6/11/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04030202	4/3/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060303-01	6/3/2003	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.6**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	**1.7**	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
				GW029910	4/28/1999	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	10 UJ	2 UJ	10 UJ	10 UR	10 UJ	2 UJ	2 UJ	10 UJ	2 UJ	2 UJ	100 UR	10 UJ	100 UJ	10 UJ	10 UJ	100 UR	100 UR	8 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
				GW039914	8/25/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 UJ	20 U	200 UJ	20 U	20 U	200 UJ	200 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW049915	11/18/1999	2 U	2 U	2 UJ	2 U	2 U	2 U	2 U	10 U	2 U	10 U	10 U	10 U	2 U	2 U	10 U	2 U	2 U	100 U	10 U	100 U	10 U	10 U	100 U	100 U	**3.5**	10 U	2 U	2 U	2 U	2 U	2 U	2 U
				GW010114	3/29/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.75**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	**0.61**	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	**1.7**	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020116	6/14/2001	13 U	13 U	13 U	13 U	13 U	13 U	13 U	50 U	13 U	50 U	50 U	50 U	13 U	13 U	50 U	13 U	13 U	500 UR	50 U	500 UJ	50 U	50 U	500 UR	500 UR	13 U	50 U	13 U	13 U	13 U	13 U	13 U	13 U
				GW04150201	4/15/2002	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
(dup)				GW04150202	4/15/2002	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
				GW-060903-03	6/9/2003	0.500 U	0.500 U	0.500 U	0.500 U	**0.68**	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U

Table 5-19
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	Chloro-methane 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	cis-1,3-Dichloro-propene 8260B (µg/L)	Dibromo-chloromethane 8260B (µg/L)	Dibromo-methane 8260B (µg/L)	Dichlorodi-fluoromethane 8260B (µg/L)	Ethylbenzene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Isopropyl-benzene 8260B (µg/L)	meta & para Xylenes 8260B (µg/L)
Preliminary Screening Levels						50 a	NE	1,240 a	NE	11,600 a,b,d	244 a,e	NE	NE	NE	32,000 a,b	NE	NE	NE
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	21,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 UJ	50 U	200 U	200 U	50 U
				GW029916	4/29/1999	10,000	0.5 U	4.3 U	0.5 U	8.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	6.7
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	94	1 U	810	1 U	7	1 U	1 U	1 U	1 U	1 U	4 U	4 U	1 U
				GW029906	4/27/1999	970 J	1 UR	9 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	5 UJ	5 UJ	1 UJ
(dup)				GW029907	4/27/1999	730 J	2 UR	9 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	10 UJ	10 UJ	2 UJ
				GW039907	8/24/1999	4,400	10 U	13	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U
				GW049905	11/16/1999	2,100	5 U	8.4	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW010111	3/29/2001	4,300	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW020106	6/12/2001	4,600	12	65	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U
				GW04100205	4/10/2002	27,000	50 UR	230	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW-060903-01	6/9/2003	13,700	50.0 U	144 U	200 U	50.0 U	50 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	200 U	100 U
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	0.5 U	0.5 U	24	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW029911	4/28/1999	0.5 U	0.5 UR	15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW039909	8/24/1999	9.2	0.5 U	14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW049907	11/16/1999	0.5 U	0.5 U	33	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010113	3/29/2001	130	0.5 U	12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020115	6/14/2001	79	0.5 U	8.8 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW04150203	4/15/2002	5,400	13 U	47	13 U	13 U	13 U	13 U	13 U	13 U	13 U	50 U	50 U	13 U
				GW-060903-04	6/9/2003	176	0.74	7.65 U	2.00 U	4.45	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U
MWA-4	Acid Plant	19.5	29.5	GW019912	1/28/1999	33	0.5 U	3.8 U	0.5 U	1.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
(dup)				GW019913	1/28/1999	34 J	0.5 UJ	3.6 U	0.5 UJ	1.2 J	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	2 UJ	2 UJ	0.5 UJ
				GW029913	4/28/1999	17	0.5 UR	4.3 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW039910	8/25/1999	30	0.5 U	8.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW049909	11/16/1999	17 U	0.5 U	21	0.5 U	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010116	3/29/2001	1,100	0.86	9	0.5 U	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020117	6/14/2001	800	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U
				GW04110201	4/11/2002	1,200	2.5 UR	12	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U
				GW-060903-07	6/9/2003	646	2.50 U	4.55 U	10.0 U	2.5 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	10.0 U	10.0 U	5.00 U
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	46 J	6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2 U	2 U	0.5 U
				GW029904	4/27/1999	70	0.5 U	1.1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW039903	8/23/1999	71	1.8	0.5 U	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW049903	11/15/1999	45 U	5.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010110	3/28/2001	32	5.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020105	6/12/2001	26	4.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW04040201	4/4/2002	34	2.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW-060603-06	6/6/2003	23.1	1.62	0.500 U	2.00 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	87 J	2 UJ	18 J	2 UJ	8 J	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	27 J	10 UJ	2 UJ
				GW029915	4/29/1999	82	5.6 J	11 U	0.5 U	17	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	25	2 U	0.5 U
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	730	2 U	2 U	2 U	10	2 U	2 U	2 U	2 U	2 U	10 U	10 U	2 U
				GW049911	11/17/1999	490	1.3	2.4	1 U	9.7	1 U	1 U	1 U	1 U	1 U	4 U	4 U	1 U
				GW010107	3/28/2001	1,700	2.4 J	3.5 J	0.5 U	17 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020108	6/12/2001	2,200	5 UR	5 U	5 U	18	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW04100203	4/10/2002	2,300	5 U	5 U	5 U	23	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW-060503-02	6/5/2003	2,620	10.0 U	14.2 U	40.0 U	67.2	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	40.0 U	40.0 U	20.0 U
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW029902	4/26/1999	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW039902	8/23/1999	1.4 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW049902	11/15/1999	2.4 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010101	3/26/2001	0.99	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020101	6/11/2001	2.2 U	0.5 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW04030201	4/3/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW-060403-01	6/4/2003	0.500 U	0.500 U	0.500 U	2.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 UJ	0.500 U	2.00 U	2.00 U	1.00 U
MWA-8i	Acid Plant	42	47	GWG001	11/24/1998	1,700	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	100 U	100 U	-
				GW019906	1/27/1999	4,800	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U
				GW029908	4/27/1999	4,300 J	12 UR	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	12 UJ	50 UJ	50 UJ	12 UJ
				GW039905	8/24/1999	3,400	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
(dup)				GW039906	8/24/1999	2,300	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW049906	11/16/1999	2,800	5 U	9.2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW010112	3/29/2001	4,100	5 U	5 U	5 U	5.6	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW020107	6/12/2001	1,400	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U
				GW04100206	4/10/2002	940	2.5 UR	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U
				GW-060903-02	6/9/2003	22.7	0.500 U	0.500 U	2.00 U	0.5 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U
MWA-9i	Acid Plant	40	45	GWG002	11/24/1998	32,000	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	2000 U	-
				GW019909	1/28/1999	38,000	50 U	120	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW029912	4/28/1999	29,000 J	100 UR	100 J	100 UJ	160 J	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	400 UJ	400 UJ	100 UJ
				GW039908	8/25/1999	37,000	100 U	110	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	400 U	100 U
				GW049908	11/16/1999	27,000	50 U	83	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW010120	3/30/2001	28,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1000 U	1000 U	250 U
				GW020124	6/18/2001	29,000	50 UR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW04150204	4/15/2002	26,000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW-060903-06	6/9/2003	32,100	100 U	100 U	400 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	400 U	200 U
MWA-10i	Acid Plant	40.3	45.3	GWG003	12/4/1998	1,900	5 U	11	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	-
				GW019911	1/28/1999	8,700 J	0.5 U	0.5 U	0.5 U	0.9 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.6 J
				GW029914	4/28/1999	12,000	50 UR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW039911	8/25/1999	6,200	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	60 U	60 U	15 U
				GW049910	11/16/1999	16 U	0.5 U	24	0.5 U	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010115	3/29/2001	1,400	0.5 U	0.5 U	0.5 U	0.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020118	6/14/2001	2,400	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	100 U	100 U	25 U
				GW04110202	4/11/2002	21,000	50 UR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U
				GW-061003-01	6/10/2003	15,800	50.0 U	50.0 U	200 U	50 U	50 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	200 U	100 U
MWA-11i	Acid Plant	46	51	GWG004	12/7/1998	49	0.5 U	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	-
				GW019916	1/29/1999	2.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW029905	4/27/1999	0.5 UJ	0.5 UR	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	2 UJ	2 UJ	0.5 UJ
				GW039916	8/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW049914	11/17/1999	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010118	3/30/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020119	6/15/2001	0.5 U	0.5 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
(dup)				GW020120	6/15/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW04110204	4/11/2002	1.4 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW-061003-03	6/10/2003	0.71 U	0.500 U	0.500 U	2.00 U	0.500 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW029901	4/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW039901	8/23/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW049901	11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW010102	3/26/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020102	6/11/2001	0.5 U	0.5 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW04030202	4/3/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW-060303-01	6/3/2003	0.500 U	0.500 U	0.500 U	2.00 U	0.500 U	0.5 U	0.500 U	0.500 U	0.500 UJ	0.500 U	2.00 U	2.00 U	1.00 U
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	240	0.5 U	0.7 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW029910	4/28/1999	950 J	2 UR	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	10 UJ	10 UJ	2 UJ
				GW039914	8/25/1999	1,600	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U
				GW049915	11/18/1999	1,600	2 U	2 U	2 U	2 U	2.5 U	2 U	2 U	2 U	2 U	10 U	10 U	2 U
				GW010114	3/29/2001	1,200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U
				GW020116	6/14/2001	1,200	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	50 U	50 U	13 U
				GW04150201	4/15/2002	980	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U
(dup)				GW04150202	4/15/2002	1,000	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U
				GW-060903-03	6/9/2003	10.6	0.500 U	0.500 U	2.00 U	0.5 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U

Sample Number	Methyl tert-butyl ether 8260B (µg/L)	Methylene chloride 8260B (µg/L)	Naphthalene 8260B (µg/L)	n-Butylbenzene 8260B (µg/L)	n-Propyl-benzene 8260B (µg/L)	ortho-Xylene 8260B (µg/L)	sec-Butylbenzene 8260B (µg/L)	Styrene 8260B (µg/L)	tert-Butylbenzene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	Toluene 8260B (µg/L)	trans-1,2-Dichloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Trichloro-fluoromethane 8260B (µg/L)	Vinyl chloride 8260B (µg/L)	Xylenes (total) 8260B (µg/L)
Preliminary Screening Levels	NE	NE	NE	NE	NE	NE	NE	NE	NE	840 a	17,500 a,b	11,600 a,b,d	244 a,e	21,900 a	NE	NE	NE
GW019915	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW029916	-	2	2 U	2 U	2 U	4.8	2 U	0.5 U	2 U	14	2.8	0.9	0.5 U	10	0.5 U	0.5 U	-
GW019907	-	4	4 U	4 U	4 U	1 U	4 U	1 U	4 U	60	1 U	1 U	1 U	11	1 U	1 U	-
GW029906	-	2 UJ	5 UJ	5 UJ	5 UJ	1 UJ	5 UJ	1 UJ	5 UJ	7 J	1 UJ	1 UJ	1 UJ	2 J	1 UJ	1 UJ	-
GW029907	-	5 UJ	10 UJ	10 UJ	10 UJ	2 UJ	10 UJ	2 UJ	10 UJ	7 J	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	-
GW039907	-	20 U	40 U	40 U	40 U	10 U	40 U	10 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	-
GW049905	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	6	5 U	5 U	5 U	5 U	5 U	5 U	-
GW010111	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW020106	-	20 U	40 U	40 U	40 U	10 U	40 U	10 U	40 U	23	10 U	10 U	10 U	10 U	10 U	10 U	-
GW04100205	-	200 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW-060903-01	100 U	500 U	200 U	500 U	100 U	50.0 U	100 U	50.0 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
GW019908	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	18	0.5 U	0.5 U	0.5 U	3.5	0.7	0.5 U	-
GW029911	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW039909	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	4.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW049907	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	13	0.5 U	0.5 U	0.5 U	2.4	0.5 U	0.5 U	-
GW010113	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	8.6	0.5 U	0.5 U	0.5 U	1.2	0.5 U	0.5 U	-
GW020115	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	8.2	0.5 U	0.5 U	0.5 U	1.2	0.5 U	0.5 U	-
GW04150203	-	50 U	50 U	50 U	50 U	13 U	50 U	13 U	50 U	21	13 U	13 U	13 U	13 U	13 U	13 U	-
GW-060903-04	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	14.7	0.500 U	0.500 U	0.500 U	5.54	0.500 U	0.500 U	-
GW019912	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	3.5	0.5 U	0.5 U	0.5 U	2.1	0.5 U	0.5 U	-
GW019913	-	1 UJ	2 UJ	2 UJ	2 UJ	0.5 UJ	2 UJ	0.5 UJ	2 UJ	3.6 J	0.5 UJ	0.5 UJ	0.5 UJ	2.2 J	0.5 UJ	0.5 UJ	-
GW029913	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	6.7	0.5 U	0.5 U	0.5 U	1.8	0.5 U	0.5 U	-
GW039910	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	4.5	0.5 U	0.5 U	0.5 U	1.5	0.5 U	0.5 U	-
GW049909	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	3.5	0.5 U	0.5 U	0.5 U	2	0.5 U	0.5 U	-
GW010116	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	16	0.5 U	0.5 U	0.5 U	2.7	0.5 U	0.5 U	-
GW020117	-	20 U	40 U	40 U	40 U	10 U	40 U	10 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	-
GW04110201	-	10 U	10 U	10 U	10 U	2.5 U	10 U	2.5 U	10 U	7.8	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
GW-060903-07	5.00 U	25.0 U	10.0 U	25.0 U	5.00 U	2.50 U	5.00 U	2.50 U	5.00 U	2.75	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	-
GW019905	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW029904	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	0.5	0.5 U	-
GW039903	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	-
GW049903	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW010110	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	-
GW020105	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW04040201	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW-060603-06	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
GW019901	-	5 UJ	10 UJ	10 UJ	10 UJ	2 UJ	10 UJ	2 UJ	10 UJ	1,000	3 J	2 UJ	2 UJ	14 J	2 UJ	10 J	-
GW029915	-	1 U	2 U	2 UJ	2 U	0.5 U	2 UJ	0.5 U	2 U	150	2.3	1.2	0.5 U	22	0.5 U	32	-
GW039912	-	5 U	10 U	10 U	10 U	2 U	10 U	2 U	10 U	13	2 U	7	2 U	22	2 U	5	-
GW049911	-	2 U	4 U	4 U	4 U	1 U	4 U	1 UJ	4 U	9.7	1 U	7.5	1 U	14	1 U	4	-
GW010107	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	17 J	0.5 U	13 J	0.5 UJ	21 J	0.5 U	6.6 J	-
GW020108	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	17	5 U	15	5 U	25	5 U	8.9	-
GW04100203	-	20 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	49	5 U	17	5 U	23	5 U	13	-
GW-060503-02	20.0 U	100 U	40.0 U	100 U	20.0 U	10.0 U	20.0 U	10.0 U	20.0 U	223	10.0 U	12.6	10.0 U	38.8	10.0 U	28.4	-
GW019903	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW029902	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW039902	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW049902	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW010101	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW020101	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW04030201	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW-060403-01	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
GWG001	-	50 U	100 U	100 U	100 U	-	100 U	25 U	100 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
GW019906	-	20 U	40 U	40 U	40 U	10 U	40 U	10 U	40 U	15	10 U	10 U	10 U	10	10 U	10 U	-
GW029908	-	25 UJ	50 UJ	50 UJ	50 UJ	12 UJ	50 UJ	12 UJ	50 UJ	12 UJ	12 UJ	12 UJ	12 UJ	20 J	12 UJ	12 UJ	-
GW039905	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	5 U	5 U	5 U	5 U	8	5 U	5 U	-
GW039906	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	5	5 U	5 U	5 U	10	5 U	5 U	-
GW049906	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	7.4	5 U	5 U	5 U	9	5 U	5 U	-
GW010112	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	7	5 U	5 U	5 U	9.8	5 U	5 U	-
GW020107	-	5 U	10 U	10 U	10 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	3.6	2.5 U	2.5 U	-
GW04100206	-	10 U	10 U	10 U	10 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	3.1	2.5 U	2.5 U	-
GW-060903-02	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
GWG002	-	1000 U	2000 U	2000 U	2000 U	-	2000 U	500 U	2000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
GW019909	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW029912	-	200 UJ	400 UJ	400 UJ	400 UJ	100 UJ	400 UJ	100 UJ	400 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	-
GW039908	-	200 U	400 U	400 U	400 U	100 U	400 U	100 U	400 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	-
GW049908	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW010120	-	500 U	1000 U	1000 U	1000 U	250 U	1000 U	250 U	1000 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	-
GW020124	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW04150204	-	200 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW-060903-06	200 U	1000 U	400 U	1000 U	200 U	100 U	200 U	100 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	-
GWG003	-	10 U	20 U	20 U	20 U	-	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
GW019911	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	1 J	0.5 U	0.5 U	0.5 U	0.9 J	0.5 U	0.5 U	-
GW029914	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW039911	-	30 U	60 U	60 U	60 U	15 U	60 U	15 U	60 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	-
GW049910	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	3.7	0.5 U	0.5 U	0.5 U	2	0.5 U	0.5 U	-
GW010115	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW020118	-	50 U	100 U	100 U	100 U	25 U	100 U	25 U	100 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	-
GW04110202	-	200 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
GW-061003-01	100 U	500 U	200 U	500 U	100 U	50.0 U	100 U	50.0 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
GWG004	-	1 U	2 U	2 U	2 U	-	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
GW019916	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW029905	-	1 UJ	2 UJ	2 UJ	2 UJ	0.5 UJ	2 UJ	0.5 UJ	2 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	-
GW039916	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW049914	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 UJ	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW010118	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW020119	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW020120	-	1 U	2 UJ	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW04110204	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW-061003-03	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
GW019902	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW029901	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW039901	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW049901	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW010102	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW020102	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW04030202	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW-060303-01	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
GW019910	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW029910	-	5 UJ	10 UJ	10 UJ	10 UJ	2 UJ	10 UJ	2 UJ	10 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	-
GW039914	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-
GW049915	-	5 U	10 U	10 U	10 U	2 U	10 U	2 UJ	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	-
GW010114	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
GW020116	-	25 U	50 U	50 U	50 U	13 U	50 U	13 U	50 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	-
GW04150201	-	10 U	10 U	10 U	10 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
GW04150202	-	10 U	10 U	10 U	10 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
GW-060903-03	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-

Table 5-19
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen/Sample Depth ft bgs	Screen/Sample Depth ft bgs	Sample Number	Date	1,1,1,2-Tetrachloroethane 8260B (µg/L)	1,1,1-Trichloroethane 8260B (µg/L)	1,1,2,2-Tetrachloroethane 8260B (µg/L)	1,1,2-Trichloroethane 8260B (µg/L)	1,1-Dichloroethane 8260B (µg/L)	1,1-Dichloroethene 8260B (µg/L)	1,1-Dichloropropene 8260B (µg/L)	1,2,3-Trichlorobenzene 8260B (µg/L)	1,2,3-Trichloropropane 8260B (µg/L)	1,2,4-Trimethylbenzene 8260B (µg/L)	1,2-Dibromo-3-chloropropane 8260B (µg/L)	1,2-Dibromoethane 8260B (µg/L)	1,2-Dichloroethane 8260B (µg/L)	1,2-Dichloropropane 8260B (µg/L)	1,3,5-Trimethylbenzene 8260B (µg/L)	1,3-Dichloropropane 8260B (µg/L)	2,2-Dichloropropane 8260B (µg/L)	2-Butanone 8260B (µg/L)	2-Chlorotoluene 8260B (µg/L)	2-Hexanone 8260B (µg/L)	4-Chlorotoluene 8260B (µg/L)	4-Isopropyltoluene 8260B (µg/L)	4-Methyl-2-pentanone 8260B (µg/L)	Acetone 8260B (µg/L)	Benzene 8260B (µg/L)	Bromobenzene 8260B (µg/L)	Bromochloromethane 8260B (µg/L)	Bromodichloromethane 8260B (µg/L)	Bromoform 8260B (µg/L)	Bromomethane 8260B (µg/L)	Carbon disulfide 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)
Preliminary Screening Levels						**9,320 a,b,c**	**NE**	**2,400 a**	**9,400 a**	**NE**	**11,600 a,b,d**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**20,000 a**	**5,700 a**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**5,300 a,b**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**35,200 a,b**
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	0.5 U	0.5 U	0.5 U	0.5 U	**3**	**3.1**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW029903	4/27/1999	0.5 U	0.5 U	0.5 U	0.5 U	**3.4**	**3.2**	0.5 U	2 U	0.5 UJ	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW039904	8/23/1999	0.5 U	0.5 U	0.5 U	0.5 U	**2.4**	**1.8**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049904	11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	**3**	**2.4**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010108	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**2.5**	**1.7**	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
(dup)				GW010109	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**2.4**	**1.7**	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020103	6/12/2001	0.5 U	0.5 U	0.5 U	0.5 U	**2.3**	**1.5**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04040202	4/4/2002	0.5 U	0.5 U	0.5 U	0.5 U	**2.1**	**1.7**	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060603-07	6/6/2003	0.500 U	0.500 U	0.500 U	0.500 U	**1.7**	**1.25**	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	5 UJ	**18** J	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	20 UJ	5 UJ	20 UJ	20 UJ	20 UJ	**13** J	5 UJ	20 UJ	5 UJ	5 UJ	200 UJ	20 UJ	200 UJ	20 UJ	20 UJ	200 UJ	200 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	**23** J
				GW049913	11/17/1999	25 U	**25**	25 U	25 U	25 U	25 U	25 U	100 U	25 U	100 U	100 U	100 U	25 U	25 U	100 U	25 U	25 U	1000 U	100 U	1000 U	100 U	100 U	1000 U	1000 U	25 U	100 U	25 U	25 U	25 U	25 U	25 U	25 U
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	500 U	2000 U	2000 UJ	2000 U	500 U	500 U	2000 U	500 U	500 U	20000 UR	2000 U	20000 U	2000 U	2000 U	20000 UR	20000 UR	500 U	2000 U	500 U	500 U	500 UJ	500 U	500 U	500 U
				MWA-15r	5/31/2001	-	500 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- U	-	-	-	-	-	-	-
				GW020121	6/15/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 UJ	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04160201	4/16/2002	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	100 U	400 U	400 U	400 U	100 U	100 U	400 U	100 U	100 U	4000 UR	400 U	4000 U	400 U	400 U	4000 UR	4000 UR	100 U	400 U	100 U	100 U	100 U	100 U	100 U	100 U
				GW-061003-04	6/10/2003	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	200 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	50.0 U	1000 U	100 U	1000 U	100 U	200 U	500 U	2000 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	100 U	50.0 U
				MWA-15r	10/2/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-16i	Acid Plant	39..2	44.2	GW039913	8/25/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.9**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UJ	2 U	20 UJ	2 U	2 U	20 UJ	20 U	**0.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW049912	11/17/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.9**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 U	2 U	20 U	2 U	2 U	20 U	20 U	**0.6**	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW010106	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.68**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UJ	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
				GW020109	6/12/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.68**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
				GW04100204	4/10/2002	0.5 U	0.5 U	0.5 U	0.5 U	**0.68**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060503-01	6/5/2003	0.500 U	0.500 U	0.500 U	0.500 U	**0.82**	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	**0.87**	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 UJ	20 U	200 UJ	20 U	20 U	200 UJ	200 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW049916	11/18/1999	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	400 UJ	100 U	400 UJ	400 UJ	400 U	100 U	100 U	400 U	100 U	100 U	4000 U	400 U	4000 U	400 U	400 U	4000 U	4000 UJ	100 U	400 UJ	100 U	100 U	100 U	100 U	100 U	100 U
(dup)				GW049917	11/18/1999	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	400 UJ	100 U	400 UJ	400 UJ	400 U	100 U	100 U	400 U	100 U	100 U	4000 U	400 U	4000 U	400 U	400 U	4000 U	4000 UJ	100 U	400 UJ	100 U	100 U	100 U	100 U	100 U	100 U
				GW010121	3/30/2001	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	500 U	2000 U	2000 UJ	2000 U	500 U	500 U	2000 U	500 U	500 U	20000 UR	2000 U	20000 U	2000 U	2000 U	20000 UR	20000 UR	500 U	2000 U	500 U	500 U	500 UJ	500 U	500 U	500 U
				GW020123	6/18/2001	130 U	130 U	130 U	130 U	130 U	130 U	130 U	500 U	130 U	500 U	500 U	500 U	130 U	130 U	500 U	130 U	130 U	5000 UR	500 U	5000 U	500 U	500 U	5000 UR	5000 UR	130 U	500 U	130 U	130 U	130 UJ	130 UJ	130 U	130 U
				GW04150205	4/15/2002	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1000 U	250 U	1000 U	1000 U	1000 U	250 U	250 U	1000 U	250 U	250 U	10000 UR	1000 U	10000 U	1000 U	1000 U	10000 UR	10000 UR	250 U	1000 U	250 U	250 U	250 U	250 U	250 U	250 U
				GW-060903-05	6/9/2003	500 U	500 U	500 U	500 U	500 U	500 U	500 U	1000 U	500 U	1000 U	2000 U	500 U	500 U	500 U	1000 U	500 U	500 U	10000 U	1000 U	10000 U	1000 U	2000 U	5000 U	20000 U	500 U	500 U	500 U	500 U	500 U	2000 U	1000 U	500 U
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW020110	6/13/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
				GW04040203	4/4/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060603-03	6/6/2003	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	0.5 U	0.5 U	0.5 U	0.5 U	**2.1**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 UR	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW020112	6/13/2001	0.5 U	0.5 U	0.5 U	0.5 U	**1**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
				GW04040204	4/4/2002	0.5 U	0.5 U	0.5 U	0.5 U	**0.98**	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW-060603-04	6/6/2003	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	1.00 U	2.00 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	10.0 U	1.00 U	10.0 U	1.00 U	2.00 U	5.00 U	20.0 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	1.00 U	0.500 U
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	50 U	200 U	200 UR	200 U	50 U	50 U	200 U	50 U	50 U	2000 UR	200 U	2000 U	200 U	200 U	2000 UR	2000 UR	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U
				GW020114	6/13/2001	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 U	100 UR	100 UR	**3.4**	10 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U
				GW04090204	4/9/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	5 U	20 U	20 U	20 U	5 U	5 U	20 U	5 U	5 U	200 UR	20 U	200 U	20 U	20 U	200 UR	200 UR	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW-060503-03	6/5/2003	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.00 U	1.00 U	2.00 U	4.00 U	1.00 U	1.00 U	1.00 U	2.00 U	1.00 U	1.00 U	20.0 U	2.00 U	20.0 U	2.00 U	4.00 U	10.0 U	40.0 U	**3.32**	1.00 U	1.00 U	1.00 U	1.00 U	4.00 U	2.00 U	1.00 U
MWA-21b	Acid Plant	61	68.3	GW1105014	11/5/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
(dup)				GW1105015	11/5/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW12040102	12/4/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
(dup)				GW12040103	12/4/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
				GW04120202	4/12/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	2.5 U	2.5 U	2.5 U	2.5 U	**3.6**	2.5 U	2.5 U	10 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U	2.5 U	2.5 U	100 UR	10 U	100 UJ	10 U	10 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
				GW04110203	4/11/2002	1 U	1 U	1 U	1 U	**2.7**	1 U	1 U	4 U	1 U	4 U	4 U	4 U	1 U	1 U	4 U	1 U	1 U	40 UR	4 U	40 U	4 U	4 U	40 UR	40 UR	**1.1**	4 U	1 U	1 U	1 U	1 U	1 U	1 U
				GW-061003-02	6/10/2003	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.00 U	1.00 U	2.00 U	4.00 U	1.00 U	1.00 U	1.00 U	2.00 U	1.00 U	1.00 U	20.0 U	2.00 U	20.0 U	2.00 U	4.00 U	10.0 U	40.0 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	4.00 U	2.00 U	1.00 U
NMP-1S	Acid Plant	19.5	29.5	NMP-1S	6/1/2001	-	**71** D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-
				NMP-1S-100303	10/3/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-1D	Acid Plant	29.1	34.1	NMP-1D	6/1/2001	-	500 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-1D	10/3/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-2S	Acid Plant	19.5	29.5	NMP-2S	6/1/2001	-	**110** D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-2D	Acid Plant	31.5	36.5	NMP-2D	6/1/2001	-	250 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-2D-100303	10/3/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-3S	Acid Plant	19.5	29.5	NMP-3S	5/31/2001	-	50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-3D	Acid Plant	30	35	NMP-3D	6/1/2001	-	250 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				GW-061103-01	6/11/2003	500 U	500 U	500 U	500 U	500 U	500 U	500 U	1000 U	500 U	1000 U	2000 U	500 U	500 U	500 U	1000 U	500 U	500 U	10000 U	1000 U	10000 U	1000 U	2000 U	5000 U	20000 U	500 U	500 U	500 U	500 U	500 U	2000 U	1000 U	500 U
NMP-4S	Acid Plant	19.5	29.5	NMP-4S	6/1/2001	-	250 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-4S-100303	10/3/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-4D	Acid Plant	30	35	NMP-4D	6/1/2001	-	500 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				GW-061003-06	6/10/2003	500 U	500 U	500 U	500 U	500 U	500 U	500 U	1000 U	500 U	1000 U	2000 U	500 U	500 U	500 U	- U	500 U	500 U	10000 U	1000 U	10000 U	1000 U	2000 U	5000 U	20000 U	500 U	500 U	500 U	500 U	500 U	2000 U	1000 U	500 U
(dup)				GW-061003-07	6/10/2003	500 U	500 U	500 U	500 U	500 U	500 U	500 U	1000 U	500 U	1000 U	2000 U	500 U	500 U	500 U	1000 U	500 U	500 U	10000 U	1000 U	1000 U	1000 U	2000 U	5000 U	20000 U	500 U	500 U	500 U	500 U	500 U	2000 U	1000 U	500 U
				NMP-4D-100303	10/3/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-5S	Acid Plant	-	-	NMP-5S	6/1/2001	-	100 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-5D	Acid Plant	28.5	33.5	NMP-5D	6/1/2001	-	500 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-5D-100303	10/3/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-6S	Acid Plant	-	-	NMP-6S	6/1/2001	-	**7.5** D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-6D	Acid Plant	28.5	33.5	NMP-6D	6/1/2001	-	50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-1	Acid Plant	24	34	PMP-1-100203	10/2/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-2	Acid Plant	23.8	33.8	PMP-2-100203	10/2/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-3	Acid Plant	25	35	PMP-3-100203	10/2/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-55	Acid Plant	-	-	GWGX10	2/19/1999	-	-	-	-	-	-	-	250 U	-	250 U	-	-	-	-	250 U	-	-	-	250 U	-	250 U	250 U	-	-	-	-	-	-	-	-	-	-
B-56	Acid Plant	-	-	GWG011	2/19/1999	-	-	-	-	-	-	-	2.0 U	-	2.0 U	-	-	-	-	2.0 U	-	-	-	2.0 U	-	2.0 U	2.0 U	-	-	-	-	-	-	-	-	-	-
B-59	Acid Plant	20	24	GWG012	8/3/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 UJ	0.5 U	2 UJ	2 U	2 U	0.5 U	0.5 U	2 UJ	0.5 U	0.5 U	**43**	2 UJ	20 U	2 UJ	**3** J	50 U	**330**	**1** J	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
B-60	Acid Plant	9	13	GW070003	7/18/2000	-	-	-	-	-	-	-	2 U	-	2 U	-	-	-	-	2 U	-	-	-	2 U	-	2 U	2 U	-	-	-	-	-	-	-	-	-	-
B-61	Acid Plant	24	28	GW070002	7/17/2000	-	-	-	-	-	-	-	100 U	-	100 U	-	-	-	-	100 U	-	-	-	100 U	-	100 U	100 U	-	-	-	-	-	-	-	-	-	-
B-64	Acid Plant	24	28	GW070001	7/17/2000	-	-	-	-	-	-	-	100 U	-	100 U	-	-	-	-	100 U	-	-	-	100 U	-	100 U	100 U	-	-	-	-	-	-	-	-	-	-
B-65	Acid Plant	26	30	GW05101	5/2/2001	-	-	-	-	-	-	-	40 U	-	40 U	-	-	-	-	40 U	-	-	-	40 U	-	40 U	40 U	-	-	-	-	-	-	-	-	-	-
B-67	Acid Plant	26	30	GW05102	5/2/2001	-	-	-	-	-	-	-	2.0 U	-	2.0 U	-	-	-	-	2.0 U	-	-	-	2.0 U	-	2.0 U	2.0 U	-	-	-	-	-	-	-	-	-	-
(dup)		26	30	GW05103	5/2/2001	-	-	-	-	-	-	-	2.0 UJ	-	2.0 UJ	-	-	-	-	2.0 UJ	-	-	-	2.0 UJ	-	2.0 UJ	2.0 UJ	-	-	-	-	-	-	-	-	-	-
APMIP-4	Acid Plant	26.8	28.8	APHP-4	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-5	Acid Plant	28.2	30.2	APHP-5	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-6	Acid Plant	29.3	31.3	APHP-6	2/13/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-7	Acid Plant	28.5	30.5	APHP-7	2/13/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-8	Acid Plant	30.7	32.7	APHP-8	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-9	Acid Plant	26.0	28.0	APHP-9a	2/13/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		29.6	31.6	APHP-9b	2/13/2002																																
APMIP-10	Acid Plant	30.5	32.5	APHP-10	2/13/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-11	Acid Plant	31.2	33.2	APHP-11	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-12	Acid Plant	29.6	31.6	APHP-12	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		29.6	31.6	APHP-12D	2/14/2002																																
APMIP-13	Acid Plant	30.0	62.0	APHP-13	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-18	Acid Plant	28.0	30.0	APHP-18	2/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INT-5	Acid Plant	41	44	P2F0349-02	6/12/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		41	44	P2F0349-03	6/12/2002																																
INT-10	Acid Plant	41	44	P2F0349-01	6/11/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INT-11	Acid Plant	41	46	P2G0097-01	6/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-23	Chlorate Plant	15.2	25.2	GW04050202	4/5/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.0 U	0.5 U	2.0 U	2 U	2 U	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	20 UR	2.0 U	20 U	2.0 U	2.0 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MWA-24	Chlorate Plant	24	34	GW11150102	11/15/2001	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10.0 U	2.5 U	10.0 U	10 U	10 U	2.5 U	2.5 U	10.0 U	2.5 U	2.5 U	100 UR	10.0 U	100 U	10.0 U	10.0 U	100 UR	170 J	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
MWA-25	Chlorate Plant	23.7	33.7	GW11150105	11/15/2001	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20.0 U	5 U	20.0 U	20 U	20 U	5 U	5 U	20.0 U	5 U	5 U	200 UR	20.0 U	200 U	20.0 U	20.0 U	200 UR	200 UR	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U
				GW04090201	4/9/2002	0.5 U	0.5 U	0.5 U	0.5 U	**0.96**	0.5 U	0.5 U	2.0 U	0.5 U	2.0 U	2 U	2 U	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	20 UR	2.0 U	20 U	2.0 U	2.0 U	20 UR	20 UR	0.5 U	2 U	0.5 U	**1.4**	**0.68**	0.5 UJ	0.5 U	0.5 U
MWA-26	Chlorate Plant	21.2	31.2	GW04050201	4/5/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.0 U	0.5 U	2.0 U	2 U	2 U	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	20 UR	2.0 U	20 U	2.0 U	2.0 U	20 UR	20 UR	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MWA-27	Chlorate Plant	24	34	GW11150103	11/15/2001	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10.0 U	2.5 U	10.0 U	10 U	10 U	2.5 U	2.5 U	10.0 U	2.5 U	2.5 U	100 UR	10.0 U	100 U	10.0 U	10.0 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
(dup)				GW11150104	11/15/2001	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10.0 U	2.5 U	10.0 U	10 U	10 U	2.5 U	2.5 U	10.0 U	2.5 U	2.5 U	100 UR	10.0 U	100 U	10.0 U	10.0 U	100 UR	100 UR	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
				GW04090203	4/9/2002	0.5 U	0.5 U	0.5 U	0.5 U	**0.66**	0.5 U	0.5 U	2.0 U	0.5 U	2.0 U	2 U	2 U	0.5 U	0.5 U	2.0 U	0.5 U	0.5 U	20 UR	2.0 U	20 U	2.0 U	2.0 U	20 UR	20 UR	0.5 U	2 U	0.5 U	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U

Table 5-19
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Chlorobenzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	Chloromethane 8260B (µg/L)	cis-1,2-Dichloroethene 8260B (µg/L)	cis-1,3-Dichloropropene 8260B (µg/L)	Dibromochloromethane 8260B (µg/L)	Dibromomethane 8260B (µg/L)	Dichlorodifluoromethane 8260B (µg/L)	Ethylbenzene 8260B (µg/L)	Hexachlorobutadiene 8260B (µg/L)	Isopropylbenzene 8260B (µg/L)	meta & para Xylenes 8260B (µg/L)	Methyl tert-butyl ether 8260B (µg/L)	Methylene chloride 8260B (µg/L)	Naphthalene 8260B (µg/L)	n-Butylbenzene 8260B (µg/L)	n-Propylbenzene 8260B (µg/L)	ortho-Xylene 8260B (µg/L)	sec-Butylbenzene 8260B (µg/L)	Styrene 8260B (µg/L)	tert-Butylbenzene 8260B (µg/L)	Tetrachloroethene 8260B (µg/L)	Toluene 8260B (µg/L)	trans-1,2-Dichloroethene 8260B (µg/L)	trans-1,3-Dichloropropene 8260B (µg/L)	Trichloroethene 8260B (µg/L)	Trichlorofluoromethane 8260B (µg/L)	Vinyl chloride 8260B (µg/L)	Xylenes (total) 8260B (µg/L)
Preliminary Screening Levels						50 a	NE	1,240 a	NE	11,600 a,b,d	244 a,e	NE	NE	NE	32,000 a,b	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	840 a	17,500 a,b	11,600 a,b,d	244 a,e	21,900 a	NE	NE	NE
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	0.5 U	0.5 U	0.5 U	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW029903	4/27/1999	0.5 U	0.5 U	0.5 U	0.5 U	**1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW039904	8/23/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW049904	11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	**0.9**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW010108	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.58**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
(dup)				GW010109	3/28/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.53**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW020103	6/12/2001	0.5 U	0.5 U	0.5 U	0.5 U	**0.54**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW04040202	4/4/2002	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW-060603-07	6/6/2003	0.5 U	0.500 U	0.500 U	2.00 U	0.500 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	**180,000 J**	210 J	**720 J**	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	20 UJ	20 UJ	5 UJ	-	10 UJ	20 UJ	20 UJ	20 UJ	5 UJ	20 UJ	5 UJ	20 UJ	**59 J**	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	-
				GW049913	11/17/1999	**240,000**	220	**950**	25 U	25 U	25 U	25 U	25 U	25 U	25 U	100 U	100 U	25 U	-	50 U	100 U	100 U	100 U	25 U	100 U	25 U	100 U	**100**	25 U	25 U	25 U	25 U	25 U	25 U	-
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	**260,000**	500 U	**620**	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	2000 U	500 U	-	1000 U	2000 U	2000 U	2000 U	500 U	2000 U	500 U	2000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	-
				MWA-15r	5/31/2001	**190,000 D**	-	500 U	-	-	-	-	-	-	-	*	*	*	-	*	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-
				GW020121	6/15/2001	**210,000**	0.5 U	0.53 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 UJ	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW04160201	4/16/2002	**48,000**	100 U	**530**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	400 U	100 U	-	400 U	400 U	400 U	400 U	100 U	400 U	100 U	400 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	-
				GW-061003-04	6/10/2003	**13,300**	50.0 U	219 U	200 U	50 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	200 U	100 U	100 U	500 U	200 U	500 U	100 U	50.0 U	100 U	50.0 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
				MWA-15r	10/2/2003	**180,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-16i	Acid Plant	39..2	44.2	GW039913	8/25/1999	**140**	**0.7**	**1.1**	0.5 U	**0.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**2.7**	**6.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW049912	11/17/1999	**69**	**0.6**	**1.1**	0.5 U	**1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**0.5**	0.5 U	0.5 U	0.5 U	**5.8**	0.5 U	0.5 U	-
				GW010106	3/28/2001	**25**	0.5 U	0.5 U	0.5 U	**0.68**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	-
				GW020109	6/12/2001	**27**	0.5 UR	0.5 U	0.5 U	**0.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW04100204	4/10/2002	20 U	0.5 U	0.5 U	0.5 U	0.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW-060503-01	6/5/2003	**17.5**	0.500 U	0.71 U	2.00 U	**0.51**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	**5.78**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	**33,000**	**6**	**62**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U	-	10 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	**20**	5 U	5 U	5 U	5 U	5 U	5 U	-
				GW049916	11/18/1999	**55,000**	100 U	**160**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 UJ	400 U	100 UJ	-	200 U	400 UJ	400 U	400 U	100 UJ	400 UJ	100 UJ	400 U	100 U	100 U	100 U	100 U	100 UJ	100 U	100 U	-
(dup)				GW049917	11/18/1999	**61,000**	100 U	**160**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 UJ	400 U	100 UJ	-	200 U	400 UJ	400 U	400 U	100 UJ	400 UJ	100 UJ	400 U	100 U	100 U	100 U	100 U	100 UJ	100 U	100 U	-
				GW010121	3/30/2001	**91,000**	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	2000 U	500 U	-	1000 U	2000 U	2000 U	2000 U	500 U	2000 U	500 U	2000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	-
				GW020123	6/18/2001	**66,000**	130 UR	**200**	130 U	130 U	130 U	130 U	130 U	130 U	130 U	500 U	500 U	130 U	-	250 U	500 U	500 U	500 U	130 U	500 U	130 U	500 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	-
				GW04150205	4/15/2002	**140,000**	250 U	**530**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1000 U	1000 U	250 U	-	1000 U	1000 U	1000 U	1000 U	250 U	1000 U	250 U	1000 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	-
				GW-060903-05	6/9/2003	**73,200**	500 U	550 U	2000 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	2000 U	1000 U	1000 U	5000 U	2000 U	5000 U	1000 U	500 U	1000 U	500 U	1000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	-
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	**41**	0.5 U	**0.59**	0.5 U	**1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW020110	6/13/2001	**34**	0.5 UR	0.63 U	0.5 U	**0.65**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**1.3**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW04040203	4/4/2002	**8.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**0.82**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW-060603-03	6/6/2003	3.06 U	0.500 U	11.7 U	2 U	0.5 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	**22**	0.500 U	0.500 U	0.500 U	**2.2**	0.500 U	0.500 U	-
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	0.5 U	0.5 U	**2.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**8.8**	0.5 U	0.5 U	0.5 U	**1.1**	0.5 U	0.5 U	-
				GW020112	6/13/2001	0.5 U	0.5 UR	1.8 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**6.3**	0.5 U	0.5 U	0.5 U	**1**	0.5 U	0.5 U	-
				GW04040204	4/4/2002	0.5 U	0.5 U	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2 U	2 U	0.5 U	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**9.3**	0.5 U	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U	-
				GW-060603-04	6/6/2003	0.64 U	0.500 U	1.8 U	2.00 U	0.500 U	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	2.00 U	2.00 U	1.00 U	1.00 U	5.00 U	2.00 U	5.00 U	1.00 U	0.500 U	1.00 U	0.500 U	1.00 U	**64**	0.500 U	0.500 U	0.500 U	9.25 U	0.500 U	0.500 U	-
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	**2,700**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U	-	100 U	200 U	200 U	200 U	50 U	200 U	50 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	-
				GW020114	6/13/2001	**1,100**	2.5 UR	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U	-	5 U	10 U	10 U	10 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
				GW04090204	4/9/2002	**1,900**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U	5 U	-	20 U	20 U	20 U	20 U	5 U	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-
				GW-060503-03	6/5/2003	**215**	1.00 U	1.00 U	4.00 U	1 U	1 U	1.00 U	1.00 U	1.00 U	1.00 U	4.00 U	4.00 U	2.00 U	2.00 U	10.0 U	4.00 U	10.0 U	2.00 U	1.00 U	2.00 U	1.00 U	2.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	-
MWA-21b	Acid Plant	61	68.3	GW1105014	11/5/2001	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
(dup)				GW1105015	11/5/2001	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2 U	2 U	0.5 U	-	1.3	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW12040102	12/4/2001	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
(dup)				GW12040103	12/4/2001	**2.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	1 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
				GW04120202	4/12/2002	**0.69**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	0.5 U	-	2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	**38**	2.5 U	2.5 U	2.5 U	**45**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	10 U	2.5 U	-	5 U	10 UJ	10 U	10 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	3.4	-
				GW04110203	4/11/2002	**310**	1 U	1 U	1 U	**55**	1 U	1 U	1 U	1 U	1 U	4 U	4 U	1 U	-	4 U	4 U	4 U	4 U	1 U	4 U	1 U	4 U	1 U	1.4 U	**2.5**	1 U	1 U	1 U	2.7	-
				GW-061003-02	6/10/2003	**128**	1.00 U	1.00 U	4.00 U	**25.5**	1 U	1.00 U	1.00 U	1.00 U	1.00 U	4.00 U	4.00 U	2.00 U	2.00 U	10.0 U	4.00 U	10.0 U	2.00 U	1.00 U	2.00 U	1.00 U	2.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.36	-
NMP-1S	Acid Plant	19.5	29.5	NMP-1S	6/1/2001	**29,000 D**	-	**310 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-1S-100303	10/3/2003	**55,500 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-1D	Acid Plant	29.1	34.1	NMP-1D	6/1/2001	**190,000 D**	-	**510 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-1D	10/3/2003	**159,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-2S	Acid Plant	19.5	29.5	NMP-2S	6/1/2001	**23,000 D**	-	**270 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-2D	Acid Plant	31.5	36.5	NMP-2D	6/1/2001	**100,000 D**	-	**350 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-2D-100303	10/3/2003	**185,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-3S	Acid Plant	19.5	29.5	NMP-3S	5/31/2001	**25,000 D**	-	**200 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-3D	Acid Plant	30	35	NMP-3D	6/1/2001	**120,000 D**	-	**480 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				GW-061103-01	6/11/2003	**127,000 D**	500 U	510 U	2000 U	5600 U	500 U	500 U	500 U	500 UJ	500 U	2000 U	2000 U	1000 U	1000 U	5000 U	2000 U	5000 U	1000 U	500 U	1000 U	500 U	1000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	-
NMP-4S	Acid Plant	19.5	29.5	NMP-4S	6/1/2001	**100,000 D**	-	**700 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-4S-100303	10/3/2003	**111,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-4D	Acid Plant	30	35	NMP-4D	6/1/2001	**200,000 D**	-	**1200 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				GW-061003-06	6/10/2003	**185,000 D**	500 U	1250 U	2000 U	5600 U	500 U	500 U	500 U	500 UJ	500 U	2000 U	2000 U	1000 U	1000 U	5000 U	2000 U	5000 U	1000 U	500 U	1000 U	500 U	1000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	-
(dup)				GW-061003-07	6/10/2003	**146,000 D**	500 U	1130 U	2000 U	5600 U	500 U	500 U	500 U	500 UJ	500 U	2000 U	2000 U	1000 U	1000 U	5000 U	2000 U	5000 U	1000 U	500 U	1000 U	500 U	1000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	-
				NMP-4D-100303	10/3/2003	**147,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-5S	Acid Plant	-	-	NMP-5S	6/1/2001	**46,000 D**	-	**560 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-5D	Acid Plant	28.5	33.5	NMP-5D	6/1/2001	**190,000 D**	-	**650 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				NMP-5D-100303	10/3/2003	**229,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-6S	Acid Plant	-	-	NMP-6S	6/1/2001	**1,900 D**	-	**50 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-6D	Acid Plant	28.5	33.5	NMP-6D	6/1/2001	**23,000 D**	-	**180 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-1	Acid Plant	24	34	PMP-1-100203	10/2/2003	**205,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-2	Acid Plant	23.8	33.8	PMP-2-100203	10/2/2003	**135,000 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-3	Acid Plant	25	35	PMP-3-100203	10/2/2003	**44,900 D**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-55	Acid Plant	-	-	GWGX10	2/19/1999	-	-	-	-	-	-	-	-	-	-	250 U	250 U	-	-	-	250 U	-	250 U	-	-	-	-	-	-	-	-	-	-	-	-
B-56	Acid Plant	-	-	GWG011	2/19/1999	-	-	-	-	-	-	-	-	-	-	2 U	2 U	-	-	-	2 U	-	2 U	-	-	-	-	-	-	-	-	-	-	-	-
B-59	Acid Plant	20	24	GWG012	8/3/1999	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 UJ	0.5 U	-	1 U	2 UJ	2 U	2 UJ	0.5 U	2 U	0.5 U	2 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
B-60	Acid Plant	9	13	GW070003	7/18/2000	-	-	-	-	-	-	-	-	-	-	2 U	2 U	-	-	-	2 U	-	2 U	-	-	-	-	-	-	-	-	-	-	-	-
B-61	Acid Plant	24	28	GW070002	7/17/2000	-	-	-	-	-	-	-	-	-	-	100 U	100 U	-	-	-	100 U	-	100 U	-	-	-	-	-	-	-	-	-	-	-	-
B-64	Acid Plant	24	28	GW070001	7/17/2000	-	-	-	-	-	-	-	-	-	-	100 U	100 U	-	-	-	100 U	-	100 U	-	-	-	-	-	-	-	-	-	-	-	-
B-65	Acid Plant	26	30	GW05101	5/2/2001	-	-	-	-	-	-	-	-	-	-	40 U	40 U	-	-	-	40 U	-	40 U	-	-	-	-	-	-	-	-	-	-	-	-
B-67	Acid Plant	26	30	GW05102	5/2/2001	-	-	-	-	-	-	-	-	-	-	2.0 U	2.0 U	-	-	-	2.0 U	-	2.0 U	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		26	30	GW05103	5/2/2001	-	-	-	-	-	-	-	-	-	-	2.0 UJ	2.0 UJ	-	-	-	2.0 UJ	-	2.0 UJ	-	-	-	-	-	-	-	-	-	-	-	-
APMIP-4	Acid Plant	26.8	28.8	APHP-4	2/14/2002	**89,800**	5,000 U	5,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000 U	-	-	-	-	-	-	-
APMIP-5	Acid Plant	28.2	30.2	APHP-5	2/14/2002	**268,000**	10,000 U	10,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10,000 U	-	-	-	-	-	-	-
APMIP-6	Acid Plant	29.3	31.3	APHP-6	2/13/2002	**174,000**	**265**	**782**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**109**	-	-	-	-	-	-	-
APMIP-7	Acid Plant	28.5	30.5	APHP-7	2/13/2002	**146,000**	**150**	**793**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**138**	-	-	-	-	-	-	-
APMIP-8	Acid Plant	30.7	32.7	APHP-8	2/14/2002	**109,000**	5,000 U	5,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000 U	-	-	-	-	-	-	-
APMIP-9	Acid Plant	26.0	28.0	APHP-9a	2/13/2002	**35,500**	100 U	**272**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100 U	-	-	-	-	-	-	-
		29.6	31.6	APHP-9b	2/13/2002	**159,000**	5,000 U	5,000 U																				5,000 U							
APMIP-10	Acid Plant	30.5	32.5	APHP-10	2/13/2002	**502,000**	**145**	**704**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**109**	-	-	-	-	-	-	-
APMIP-11	Acid Plant	31.2	33.2	APHP-11	2/14/2002	**184,000**	5,000 U	5,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000 U	-	-	-	-	-	-	-
APMIP-12	Acid Plant	29.6	31.6	APHP-12	2/14/2002	**142,000**	5,000 U	5,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000 U	-	-	-	-	-	-	-
(dup)		29.6	31.6	APHP-12D	2/14/2002	**147,000**	5,000 U	5,000 U																				5,000 U							
APMIP-13	Acid Plant	30.0	62.0	APHP-13	2/14/2002	**155,000**	5,000 U	5,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000 U	-	-	-	-	-	-	-
APMIP-18	Acid Plant	28.0	30.0	APHP-18	2/14/2002	**48,100**	5,000 U	5,000 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000 U	-	-	-	-	-	-	-
INT-5	Acid Plant	41	44	P2F0349-02	6/12/2002	**60,900**	500 U	500 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500 U	-	-	-	-	-	-	-
(dup)		41	44	P2F0349-03	6/12/2002	**61,600**	500 U	500 U																				500 U							
INT-10	Acid Plant	41	44	P2F0349-01	6/11/2002	**446**	5 U	5 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5 U	-	-	-	-	-	-	-
INT-11	Acid Plant	41	46	P2G0097-01	6/28/2002	**80.9**	1 U	1 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	-	-	-	-	-	-	-
MWA-23	Chlorate Plant	15.2	25.2	GW04050202	4/5/2002	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2.0 U	2.0 U	0.5 U	-	2 U	2.0 U	2 U	2.0 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	- U	0.5 U	0.5 U	-
MWA-24	Chlorate Plant	24	34	GW11150102	11/15/2001	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	10.0 U	10.0 U	2.5 U	-	5 U	10.0 U	10 U	10.0 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
MWA-25	Chlorate Plant	23.7	33.7	GW11150105	11/15/2001	5 U	5 U	**300**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20.0 U	20.0 U	5 U	-	10 U	20.0 U	20 U	20.0 U	5 U	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-
				GW04090201	4/9/2002	**0.72**	0.5 UR	**290**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.0 U	2.0 U	0.5 U	-	2 U	2.0 U	2 U	2.0 U	0.5 U	2 U	0.5 U	2 U	**1.3**	0.87 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
MWA-26	Chlorate Plant	21.2	31.2	GW04050201	4/5/2002	0.5 U	0.5 U	**0.66**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	2.0 U	2.0 U	0.5 U	-	2 U	2.0 U	2 U	2.0 U	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-
MWA-27	Chlorate Plant	24	34	GW11150103	11/15/2001	2.5 U	2.5 U	**200**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10.0 U	10.0 U	2.5 U	-	5 U	10.0 U	10 U	10.0 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
(dup)				GW11150104	11/15/2001	2.5 U	2.5 U	**190**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	10.0 U	10.0 U	2.5 U	-	5 U	10.0 U	10 U	10.0 U	2.5 U	10 U	2.5 U	10 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	-
				GW04090203	4/9/2002	0.5 U	0.5 U	**240**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.0 U	2.0 U	0.5 U	-	2 U	2.0 U	2 U	2.0 U	0.5 U	2 U	0.5 U	2 U	**0.59**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-

Table 5-19
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen/ Sample Depth ft bgs	Screen/ Sample Depth ft bgs	Sample Number	Date	1,1,1,2-Tetrachloro-ethane 8260B (µg/L)	1,1,1-Trichloro-ethane 8260B (µg/L)	1,1,2,2-Tetrachloro-ethane 8260B (µg/L)	1,1,2-Trichloro-ethane 8260B (µg/L)	1,1-Dichloro-ethane 8260B (µg/L)	1,1-Dichloro-ethene 8260B (µg/L)	1,1-Dichloro-propene 8260B (µg/L)	1,2,3-Trichloro-benzene 8260B (µg/L)	1,2,3-Trichloro-propane 8260B (µg/L)	1,2,4-Trimethyl-benzene 8260B (µg/L)	1,2-Dibromo-3-chloropropane 8260B (µg/L)	1,2-Dibromo-ethane 8260B (µg/L)	1,2-Dichloro-ethane 8260B (µg/L)	1,2-Dichloro-propane 8260B (µg/L)	1,3,5-Trimethyl-benzene 8260B (µg/L)	1,3-Dichloro-propane 8260B (µg/L)	2,2-Dichloro-propane 8260B (µg/L)	2-Butanone 8260B (µg/L)	2-Chlorotoluene 8260B (µg/L)	2-Hexanone 8260B (µg/L)	4-Chlorotoluene 8260B (µg/L)	4-Isopropyl-toluene 8260B (µg/L)	4-Methyl-2-pentanone 8260B (µg/L)	Acetone 8260B (µg/L)	Benzene 8260B (µg/L)	Bromo-benzene 8260B (µg/L)	Bromochloro-methane 8260B (µg/L)	Bromodichloro-methane 8260B (µg/L)	Bromoform 8260B (µg/L)	Bromom-ethane 8260B (µg/L)	Carbon disulfide 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)
Preliminary Screening Levels						**9,320 a,b,c**	**NE**	**2,400 a**	**9,400 a**	**NE**	**11,600 a,b,d**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**20,000 a**	**5,700 a**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**5,300 a,b**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**35,200 a,b**
MWA-28i(d)	Chlorate Plant	53.9	58.9	GW11160103	11/16/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	2.0 *U*	2 *U*	2 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	0.5 *U*	20 *UR*	2.0 *U*	20 *U*	2.0 *U*	2.0 *U*	20 *UR*	20 *UR*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
				GW04090202	4/9/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	2.0 *U*	2 *U*	2 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	0.5 *U*	20 *UR*	2.0 *U*	20 *U*	2.0 *U*	2.0 *U*	20 *UR*	20 *UR*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UJ*	0.5 *U*	0.5 *U*
MWA-29	Chlorate Plant	24.9	34.9	GW04080204	4/8/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	2.0 *U*	2 *U*	2 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	0.5 *U*	20 *UR*	2.0 *U*	20 *U*	2.0 *U*	2.0 *U*	20 *UR*	20 *UR*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UJ*	0.5 *U*	0.5 *U*
MWA-30	Chlorate Plant	19.1	29.1	GW04120203	4/12/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	2.0 *U*	2 *U*	2 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	0.5 *U*	20 *UR*	2.0 *U*	20 *U*	2.0 *U*	2.0 *U*	20 *UR*	20 *UR*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
(dup)				GW04120204	4/12/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	2.0 *U*	2 *U*	2 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	0.5 *U*	20 *UR*	2.0 *U*	20 *U*	2.0 *U*	2.0 *U*	20 *UR*	20 *UR*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-31i(d)	Chlorate Plant	54.8	59.8	GW04080205	4/8/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	2.0 *U*	2 *U*	2 *U*	0.5 *U*	0.5 *U*	2.0 *U*	0.5 *U*	0.5 *U*	20 *UR*	2.0 *U*	20 *U*	2.0 *U*	2.0 *U*	20 *UR*	20 *UR*	0.5 *U*	2 *U*	0.5 *U*	**0.57**	**0.82**	0.5 *UJ*	0.5 *U*	0.5 *U*
MWA-33a	Chlorate Plant	20	30	GW-060503-05	6/5/2003	0.500 *U*	0.500 *U*	0.500 *U*	0.500 *U*	**1.04**	0.500 *U*	0.500 *U*	1.00 *U*	0.500 *U*	1.00 *U*	2.00 *U*	0.500 *U*	0.500 *U*	0.500 *U*	1.00 *U*	0.500 *U*	0.500 *U*	10.0 *U*	1.00 *U*	10.0 *U*	1.00 *U*	2.00 *U*	5.00 *U*	20.0 *U*	**1.35**	0.500 *U*	0.500 *U*	0.500 *U*	0.500 *U*	2.00 *U*	1.00 *U*	0.500 *U*
MWA-34i	Chlorate Plant	32	37	GW-060603-05	6/6/2003	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	5.00 *U*	2.50 *U*	5.00 *U*	10.0 *U*	2.50 *U*	2.50 *U*	2.50 *U*	5.00 *U*	2.50 *U*	2.50 *U*	50.0 *U*	5.00 *U*	50.0 *U*	5.00 *U*	10.0 *U*	25.0 *U*	100 *U*	**2.6**	2.50 *U*	2.50 *U*	2.5 *U*	2.50 *U*	10.0 *U*	5.00 *U*	2.50 *U*

Notes:
mg/kg - milligrams per kilogram
ft bgs - feet below ground surface
U - Undetected at detection limit shown
R - Rejected
J - Estimated
D - The reported result is from a dilution.
- Value above preliminary screening level
- Data for this sample has not undergone validation
- not analyzed/reported
a - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshwater, Chronic
b - Chronic criterion not established, acute criterion used
c - Value for tetrachloroethanes used
d - Value for dichloroethenes used
e - Value for 1,3-dichloropropene used

Table 5-19
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	Sample Number	Date	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	Chloro-methane 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	cis-1,3-Dichloro-propene 8260B (µg/L)	Dibromo-chloromethane 8260B (µg/L)	Dibromo-methane 8260B (µg/L)	Dichlorodi-fluoromethane 8260B (µg/L)	Ethylbenzene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Isopropyl-benzene 8260B (µg/L)	meta & para Xylenes 8260B (µg/L)	Methyl tert-butyl ether 8260B (µg/L)	Methylene chloride 8260B (µg/L)	Naphthalene 8260B (µg/L)	n-Butylbenzene 8260B (µg/L)	n-Propyl-benzene 8260B (µg/L)	ortho-Xylene 8260B (µg/L)	sec-Butylbenzene 8260B (µg/L)	Styrene 8260B (µg/L)	tert-Butylbenzene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	Toluene 8260B (µg/L)	trans-1,2-Dichloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Trichloro-fluoromethane 8260B (µg/L)	Vinyl chloride 8260B (µg/L)	Xylenes (total) 8260B (µg/L)
Preliminary Screening Levels						**50 a**	**NE**	**1,240 a**	**NE**	**11,600 a,b,d**	**244 a,e**	**NE**	**NE**	**NE**	**32,000 a,b**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**840 a**	**17,500 a,b**	**11,600 a,b,d**	**244 a,e**	**21,900 a**	**NE**	**NE**	**NE**
MWA-28s(d)	Chlorate Plant	53.9	58.9	GW11160103	11/16/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	2.0 *U*	0.5 *U*	-	1 *U*	2.0 *U*	2 *U*	2.0 *U*	0.5 *U*	2 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-
				GW04090202	4/9/2002	0.5 *U*	0.5 *UR*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	2.0 *U*	0.5 *U*	-	2 *U*	2.0 *U*	2 *U*	2.0 *U*	0.5 *U*	2 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-
MWA-29	Chlorate Plant	24.9	34.9	GW04080204	4/8/2002	0.5 *U*	0.5 *UR*	2.3 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	2.0 *U*	0.5 *U*	-	2 *U*	2.0 *U*	2 *U*	2.0 *U*	0.5 *U*	2 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-
MWA-30	Chlorate Plant	19.1	29.1	GW04120203	4/12/2002	0.5 *U*	0.5 *U*	0.62 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	2.0 *U*	0.5 *U*	-	2 *U*	2.0 *U*	2 *U*	2.0 *U*	0.5 *U*	2 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-
(dup)				GW04120204	4/12/2002	0.5 *U*	0.5 *U*	0.6 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	2.0 *U*	0.5 *U*	-	2 *U*	2.0 *U*	2 *U*	2.0 *U*	0.5 *U*	2 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-
MWA-31i(d)	Chlorate Plant	54.8	59.8	GW04080205	4/8/2002	0.5 *U*	0.5 *UR*	**71**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.0 *U*	2.0 *U*	0.5 *U*	-	2 *U*	2.0 *U*	2 *U*	2.0 *U*	0.5 *U*	2 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-
MWA-33a	Chlorate Plant	20	30	GW-060503-05	6/5/2003	2.51 *U*	0.5 *U*	0.8 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.500 *U*	0.500 *U*	0.500 *U*	2.00 *U*	2.00 *U*	1.00 *U*	1.00 *U*	5.00 *U*	2.00 *U*	5.00 *U*	1.00 *U*	0.500 *U*	1.00 *U*	0.500 *U*	1.00 *U*	0.500 *U*	**0.91**	0.500 *U*	0.500 *U*	0.500 *U*	0.500 *U*	0.500 *U*	-
MWA-34i	Chlorate Plant	32	37	GW-060603-05	6/6/2003	**666**	2.5 *U*	10.2 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.50 *U*	2.50 *U*	2.50 *U*	10.0 *U*	10.0 *U*	5.00 *U*	5.00 *U*	25.0 *U*	10.0 *U*	25.0 *U*	5.00 *U*	2.50 *U*	5.00 *U*	2.50 *U*	5.00 *U*	**3.3**	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	2.50 *U*	-

Notes:
mg/kg - milligrams per kilogram
ft bgs - feet below ground surface
U - Undetected at detection limit shown
R - Rejected
J - Estimated
D - The reported result is from a dilution.
- Value above preliminary screening level
- Data for this sample has not undergone validation
- not analyzed/reported
a - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Fre
b - Chronic criterion not established, acute criterion used
c - Value for tetrachloroethanes used
d - Value for dichloroethenes used
e - Value for 1,3-dichloropropene used

Table 5-20
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	Screen / Sample Depth (ft bgs)	Sample Number	Date	Analytical Method	1,2,4-Trichloro-benzene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)	2,4,5-Trichloro-phenol (µg/L)	2,4,6-Trichloro-phenol (µg/L)	2,4-Dichloro-phenol (µg/L)	2,4-Dimethyl-phenol (µg/L)	2,4-Dinitrophenol (µg/L)	2,4-Dinitrotoluene (µg/L)
Preliminary Screening Levels							NE	763 a,b	763 a,b	763 a,b	NE	970 a	365 a	2,120 a,c	NE	230 c,p
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	8270 SIM	0.1 U	5 U	**0.3**	**10**	0.5 U	**2.1**	**2.1**	0.5 U	5 UJ	0.1 U
				GW029916	4/29/1999	8270 SIM	0.1 UJ	**4.3**	**0.2**	**11** J	0.5 U	**1.9**	**1.8**	0.5 U	5 UR	0.1 U
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	8270 SIM	0.1 U	0.10 U	0.10 U	0.10 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW029906	4/27/1999	8270 SIM	0.1 UJ	**0.3**	0.10 U	**0.8** J	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
(dup)				GW029907	4/27/1999	8270 SIM	0.1 UJ	**0.3**	0.10 U	**0.9** J	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039907	8/24/1999	8270 SIM	0.1 UJ	**0.8**	0.1 U	**2.3** J	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049905	11/16/1999	8270 SIM	0.1 UJ	**0.4**	0.1 U	**1.5** J	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010111	3/29/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
				GW020106	6/12/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	8270 SIM	0.1 U	0.1 U	0.10 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW029911	4/28/1999	8270 SIM	0.1 UJ	0.1 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039909	8/24/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049907	11/16/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010113	3/29/2001	8270C	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	26 U	10 U
				GW020115	6/14/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
MWA-4	Acid Plant	19.5	29.5	GW019912	1/28/1999	8270 SIM	0.1 U	**0.1**	0.10 U	**0.3**	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
(dup)				GW019913	1/28/1999	8270 SIM	0.1 U	**0.1**	0.10 U	**0.3**	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW029913	4/28/1999	8270 SIM	**0.1** J	**0.1**	0.10 U	**0.4** J	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039910	8/25/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	**0.3** J	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049909	11/16/1999	8270 SIM	0.1 UJ	**0.1**	0.1 U	**0.3** J	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010116	3/29/2001	8270C	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U
				GW020117	6/14/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.50 U	5 UJ	0.1 UJ
				GW029904	4/27/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.50 U	5 UR	0.1 U
				GW039903	8/23/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049903	11/15/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 U	0.1 U
				GW010110	3/28/2001	8270C	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U
				GW020105	6/12/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	8270 SIM	0.10 UJ	0.10 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.50 U	5 UJ	0.1 UJ
				GW029915	4/29/1999	8270 SIM	0.10 UJ	0.10 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.50 U	5 UR	0.1 U
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049911	11/17/1999	SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 U	0.1 U
				GW010107	3/28/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
				GW020108	6/12/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	8270 SIM	0.1 UJ	0.10 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.50 U	5 UJ	0.1 UJ
				GW029902	4/26/1999	8270 SIM	0.1 UJ	**0.6**	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	**0.8**	5 UR	0.1 U
				GW039902	8/23/1999	8270 SIM	0.1 UJ	**0.6**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	**0.6**	5 UJ	0.1 U
				GW049902	11/15/1999	8270 SIM	0.1 UJ	**0.6**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010101	3/26/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
				GW020101	6/11/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
MWA-8i	Acid Plant	42	47	GW019906	1/27/1999	8270 SIM	0.1 U	**0.5**	0.10 U	**0.3**	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW029908	4/27/1999	8270 SIM	0.1 UJ	**0.5**	0.10 U	0.10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039905	8/24/1999	8270 SIM	0.1 UJ	**0.3**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
(dup)				GW039906	8/24/1999	8270 SIM	0.1 UJ	**0.2**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049906	11/16/1999	8270 SIM	0.1 UJ	**0.2**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010112	3/29/2001	8270C	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25 U	9.9 U
				GW020107	6/12/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
MWA-9i	Acid Plant	40	45	GW019909	1/28/1999	8270 SIM	0.1 U	**4.80**	**0.1**	**8**	0.5 U	0.5 U	**3.3**	0.5 U	5 UJ	0.1 U
				GW029912	4/28/1999	8270 SIM	0.1 UJ	**3.5**	0.10 U	**6** J	0.5 U	0.5 U	**2.7**	0.5 U	5 UR	0.1 U
				GW039908	8/25/1999	8270 SIM	0.1 UJ	**4.0**	0.1 U	**6.8** J	0.5 U	0.5 U	**2.7**	0.5 U	5 UJ	0.1 U
				GW049908	11/16/1999	8270 SIM	0.1 UJ	**4.1**	0.1 U	**7.1** J	0.5 U	0.5 U	**2.3**	0.5 UJ	5 UJ	0.1 U
				GW010120	3/30/2001	8270C	9.7 U	9.7 U	9.7 U	**14**	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U
				GW020124	6/18/2001	8270C	9.6 U	9.6 U	9.6 U	**13**	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
MWA-10i	Acid Plant	40.3	45.3	GW019911	1/28/1999	8270 SIM	0.1 U	**1.2**	0.10 U	**2.2**	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW029914	4/28/1999	8270 SIM	0.1 UJ	**1.6**	0.10 U	**2.8** J	0.5 U	0.5 U	0.5 U	0.50 U	5 UR	0.1 U
				GW039911	8/25/1999	8270 SIM	0.1 UJ	**1.3**	0.1 U	**2.4** J	0.5 U	0.5 U	**0.6**	0.5 U	5 UJ	0.1 U
				GW049910	11/16/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010115	3/29/2001	8270C	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U
				GW020118	6/14/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
MWA-11i	Acid Plant	46	51	GW019916	1/29/1999	8270 SIM	0.1 UJ	0.1 U	0.10 U	0.1 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	5 UJ	0.1 U
				GW029905	4/27/1999	8270 SIM	0.1 UJ	0.1 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039916	8/26/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049914	11/17/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 U	0.1 U
				GW010118	3/30/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
				GW020119	6/15/2001	8270C	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25 U	9.8 U
(dup)				GW020120	6/15/2001	8270C	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	8270 SIM	0.1 UJ	0.1 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 UJ
				GW029901	4/26/1999	8270 SIM	0.1 UJ	0.1 U	0.10 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039901	8/23/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049901	11/15/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	5 UJ	0.1 U
				GW010102	3/26/2001	8270C	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25 U	9.9 U
				GW020102	6/11/2001	8270C	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25 U	9.8 U
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	8270 SIM	0.10 U	0.1 U	0.10 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW029910	4/28/1999	8270 SIM	0.1 UJ	0.1 U	0.10 U	**0.1** J	0.5 U	0.5 U	0.5 U	0.5 U	5 UR	0.1 U
				GW039914	8/25/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.1 U
				GW049915	11/18/1999	8270 SIM	0.1 UJ	**0.1**	0.1 U	**0.3** J	0.5 U	0.5 U	0.5 U	0.5 UJ	5 U	0.1 U
				GW010114	3/29/2001	8270C	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U
				GW020116	6/14/2001	8270C	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U

Sample Number	2,6-Dinitrotoluene (µg/L)	2-Chloro-naphthalene (µg/L)	2-Chlorophenol (µg/L)	2-Methyl-4,6-dinitrophenol (µg/L)	2-Methyl-naphthalene (µg/L)	2-Methylphenol (µg/L)	2-Nitroaniline (µg/L)	2-Nitrophenol (µg/L)	3,3'-Dichloro-benzidine (µg/L)	3- and 4-Chlorophenol (µg/L)	3- and 4-Methylphenol (µg/L)	3- and 4-Methylphenol Coelution (µg/L)	3-Nitroaniline (µg/L)	4-Bromophenyl-phenyl ether (µg/L)	4-Chloro-3-methylphenol (µg/L)
Preliminary Screening Levels	230 a,d	NE	2,000 a	NE	NE	NE	NE	150 a,e	NE	NE	NE	NE	NE	NE	30 a,c
GW019915	0.1 U	0.1 U	**39**	1 U	0.1 U	0.50 U	0.1 U	0.5 U	0.1 U	**67**	**4.5**	-	0.50 U	0.10 U	0.50 U
GW029916	0.1 U	0.1 U	**67**	1 U	**0.1**	0.50 U	0.1 U	0.5 U	0.1 U	**110**	**4.5**	-	0.50 U	0.10 U	0.50 U
GW019907	0.1 U	0.1 U	**1.6**	1 U	0.1 U	0.50 U	0.1 U	0.5 UR	0.1 U	0.50 U	0.5 U	-	0.50 U	0.10 U	0.50 U
GW029906	0.1 U	0.1 U	**2.7**	1 U	0.1 U	0.50 U	0.1 U	0.5 U	0.1 U	**2.9**	0.5 U	-	0.50 U	0.10 U	0.50 U
GW029907	0.1 U	0.1 U	**2.8**	1 U	0.1 U	0.50 U	0.1 U	0.5 U	0.1 U	**2.9**	0.5 U	-	0.50 U	0.10 U	0.50 U
GW039907	0.1 U	0.1 U	**5**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**10**	**0.7**	-	0.5 U	0.1 U	0.5 U
GW049905	0.1 U	0.1 U	**4.7**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**15**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010111	9.7 U	9.7 U	**11**	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	9.7 U	24 U	9.7 U	9.7 U
GW020106	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	-	24 U	9.7 U	9.7 U
GW019908	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.50 U	0.1 U	0.5 UR	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029911	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.50 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039909	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049907	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010113	10 U	10 U	10 U	26 U	10 U	10 U	26 U	10 U	26 U	-	-	10 U	26 U	10 U	10 U
GW020115	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	-	24 U	9.7 U	9.7 U
GW019912	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.50 U	0.1 U	0.5 UR	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW019913	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.50 U	0.1 U	0.5 UR	0.1 U	**0.5**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029913	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.50 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039910	0.1 U	0.1 U	0.5 U	1 UJ	0.1 U	0.5 U	0.1 U	0.5 U	0.1 UJ	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049909	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010116	10 U	10 U	**11**	25 U	10 U	10 U	25 U	10 U	25 U	-	-	10 U	25 U	10 U	10 U
GW020117	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	-	24 U	9.7 U	9.7 U
GW019905	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	**0.5**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029904	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**0.8**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039903	0.1 U	0.1 U	**0.6**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**1.0**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049903	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 UJ	0.1 U	**0.7**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010110	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	24 U	9.5 U	24 U	-	-	-	24 U	9.5 U	9.5 U
GW020105	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	-	24 U	9.7 U	9.7 U
GW019901	0.1 U	0.1 U	**0.5**	1 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029915	0.1 U	0.1 U	**1.0**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039912	0.1 U	0.1 U	**1.4**	1 UJ	0.1 U	0.5 U	0.1 U	0.5 U	0.1 UJ	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049911	0.1 U	0.1 U	**3.6**	1 U	0.1 U	0.5 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010107	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	-	24 U	9.7 U	9.7 U
GW020108	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	24 U	-	-	-	24 U	9.6 U	9.6 U
GW019903	0.1 U	0.1 U	0.50 U	1 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029902	0.1 U	0.1 U	0.50 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039902	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049902	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010101	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	24 UJ	-	-	9.6 U	24.0 U	9.6 U	9.6 U
GW020101	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	24 U	-	-	-	24 U	9.6 U	9.6 U
GW019906	0.1 U	0.1 U	**24**	1 U	0.1 U	0.5 U	0.10 U	0.50 UR	0.10 U	**42**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029908	0.1 U	0.1 U	**42**	1 U	0.1 U	0.5 U	0.10 U	0.50 U	0.10 U	**40**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039905	0.1 U	0.1 U	**14**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**16**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW039906	0.1 U	0.1 U	**12**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**17**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049906	0.1 U	0.1 U	**19**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**18**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010112	9.9 U	9.9 U	**27**	25 U	9.9 U	9.9 U	25 U	9.9 U	25 U	-	-	9.9 U	25 U	9.9 U	9.9 U
GW020107	9.6 U	9.6 U	**15**	24 U	9.6 U	9.6 U	24 U	9.6 U	24 U	-	-	-	24 U	9.6 U	9.6 U
GW019909	0.1 U	0.1 U	**77**	1 U	**0.2**	0.5 U	0.1 U	0.5 UR	0.1 U	**110**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029912	0.1 U	0.1 U	**91**	1 U	**0.1**	0.5 U	0.1 U	0.5 U	0.1 U	**120**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039908	0.1 U	0.1 U	**80**	1 U	**0.2**	0.5 U	0.1 U	0.5 U	0.1 U	**150**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049908	0.1 U	0.1 U	**72**	1 U	**0.2**	0.5 U	0.1 U	0.5 U	0.1 U	70	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010120	9.7 U	9.7 U	**180**	24 U	9.7 U	9.7 U	24 U	9.7 U	24 U	-	-	9.7 U	24 UJ	9.7 U	9.7 U
GW020124	9.6 U	9.6 U	**180**	24 U	9.6 U	9.6 U	24 U	9.6 U	24 U	-	-	-	24 U	9.6 U	9.6 U
GW019911	0.1 U	0.1 U	**21**	1 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	**52**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029914	0.1 U	0.1 U	**35**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**120**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039911	0.1 U	0.1 U	**18**	1 UJ	0.1 U	0.5 U	0.1 U	0.5 U	0.1 UJ	**18**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049910	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010115	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	24 U	9.5 U	24 U	-	-	9.5 U	24 UJ	9.5 U	9.5 U
GW020118	9.6 U	9.6 U	**13**	24 U	9.6 U	9.6 U	24 U	9.6 U	24 U	-	-	-	24 U	9.6 U	9.6 U
GW019916	0.1 U	0.1 U	0.50 U	1 U	0.1 UJ	0.5 U	0.1 U	0.5 UR	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 UJ
GW029905	0.1 U	0.1 U	0.50 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039916	0.1 U	0.1 U	0.5 U	1 UJ	0.1 U	0.5 U	0.1 U	0.5 U	0.1 UJ	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049914	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010118	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	24.0 U	-	-	9.6 U	24 UJ	9.6 U	9.6 U
GW020119	9.8 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	25 U	9.8 U	25.0 U	-	-	-	25 U	9.8 U	9.8 U
GW020120	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	24.0 U	-	-	-	24 U	9.6 U	9.6 U
GW019902	0.1 U	0.1 U	0.50 U	1 U	0.10 U	0.50 U	0.1 U	0.5 UR	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029901	0.1 U	0.1 U	0.50 U	1 U	0.10 U	0.50 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039901	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049901	0.1 U	0.1 U	0.5 U	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010102	9.9 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	25 U	9.9 U	25 UJ	-	-	9.9 U	25 U	9.9 U	9.9 U
GW020102	9.8 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	25 U	9.8 U	25 U	-	-	-	25 U	9.8 U	9.8 U
GW019910	0.1 U	0.1 U	**0.7**	1 U	0.10 U	0.50 U	0.1 U	0.5 UR	0.1 U	**0.5**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW029910	0.1 U	0.1 U	**1.3**	1 U	0.10 U	0.50 U	0.1 U	0.5 U	0.1 U	**4.2**	0.5 U	-	0.5 U	0.10 U	0.50 U
GW039914	0.1 U	0.1 U	**3.0**	1 UJ	0.1 U	0.5 U	0.1 U	0.5 U	0.1 UJ	**6.0** J	0.5 U	-	0.5 U	0.1 U	0.5 U
GW049915	0.1 U	0.1 U	**2.2**	1 U	0.1 U	0.5 U	0.1 U	0.5 UJ	0.1 U	**5.8**	0.5 U	-	0.5 U	0.1 U	0.5 U
GW010114	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	24 U	9.5 U	24.0 U	-	-	9.5 U	24.0 U	9.5 U	9.5 U
GW020116	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	24.0 U	-	-	-	24.0 U	9.7 U	9.7 U

Table 5-20
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Sample Number	Date	4-Chloroaniline (µg/L)	4-Chlorophenyl-phenyl ether (µg/L)	4-Methylphenol (µg/L)	4-Nitroaniline (µg/L)	4-Nitrophenol (µg/L)	Acenaphthene (µg/L)	Acena-phthylene (µg/L)	Aniline (µg/L)	Anthracene (µg/L)	Benzo[a]-anthracene (µg/L)	Benz[a]pyrene (µg/L)	Benzo[b]-fluoranthene (µg/L)	Benzo[ghi]-perylene (µg/L)	Benzo[k]-fluoranthene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	bis[2-Chloroethoxy] methane (µg/L)	bis[2-Chloroethyl]-ether (µg/L)	bis[2-Chloro-isopropyl] ether (µg/L)	bis[2-Ethylhexyl]-phthalate (µg/L)	Butylbenzyl phthalate (µg/L)	Carbazole (µg/L)	Chrysene (µg/L)
Preliminary Screening Levels						NE	238,000 a,c,f	NE	NE	150 a,e	520 a	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	238,000 a,c,f	238,000 f	NE	NE	NE	NE
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**25** J	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.10 U	0.1 U	0.1 U
				GW029916	4/29/1999	0.50 U	0.1 U	-	0.5 U	1 U	**0.1**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**7**	1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.10 U	0.1 U	0.1 U
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.10 U	0.1 U	0.1 U
				GW029906	4/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	1.00 U	0.10 U	0.1 U	0.1 U
(dup)				GW029907	4/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	12.00 U	0.10 U	0.1 U	0.1 U
				GW039907	8/24/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049905	11/16/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010111	3/29/2001	9.7 U	9.7 U	-	24 U	24 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
				GW020106	6/12/2001	9.7 U	9.7 U	9.7 U	24 U	24 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.10 U	0.1 U	0.1 U
				GW029911	4/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.10 U	0.1 U	0.1 U
				GW039909	8/24/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	**0.5**	0.1 U
				GW049907	11/16/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010113	3/29/2001	10 U	10 U	-	26 U	26 U	10 U	10 U	26 U	10 U	10 U	10 U	10 U	10 U	10 U	26 U	10 U	10 U	10 U	10 U	10 U	10 U	-	10 U
				GW020115	6/14/2001	9.7 U	9.7 U	9.7 U	24 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
MWA-4	Acid Plant	19.5	29.5	GW019912	1/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	**0.2**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.10 U	**0.3**	0.1 U
(dup)				GW019913	1/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	**0.2**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.10 U	**0.3**	0.1 U
				GW029913	4/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.10 U	**0.1**	**0.1**
				GW039910	8/25/1999	0.5 U	0.1 U	-	0.5 UJ	1 U	0.1 U	0.1 U	-	**0.1**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5 UJ	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	**0.1**	**0.1**
				GW049909	11/16/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010116	3/29/2001	10 U	10 U	-	25 U	25 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	-	10 U
				GW020117	6/14/2001	9.7 U	9.7 U	9.7 U	24 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	0.50 U	0.1 U	-	0.5 U	1.0 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	3.00 U	0.10 U	0.1 U	0.10 U
				GW029904	4/27/1999	0.50 U	0.1 U	-	0.5 U	1.0 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.10 U	0.1 U	0.10 U
				GW039903	8/23/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049903	11/15/1999	0.5 UJ	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010110	3/28/2001	9.5 U	9.5 U	9.5 U	24 U	24 U	9.5 U	9.5 U	24 UJ	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U
				GW020105	6/12/2001	9.7 U	9.7 U	9.7 U	24 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	**0.10**	**0.1**	**0.1**
				GW029915	4/29/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.10 U	**0.5**	0.1 U
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	0.5 U	0.1 U	-	0.5 UJ	1.0 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UJ	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	**0.1**
				GW049911	11/17/1999	0.5 UJ	0.1 U	-	0.5 U	1.0 U	0.1 U	0.1 U	-	0.1 U	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	**0.3**
				GW010107	3/28/2001	9.7 U	9.7 U	9.7 U	24 U	24 U	9.7 U	9.7 U	24 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
				GW020108	6/12/2001	9.6 U	9.6 U	9.6 U	24 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	**0.20**	0.1 U	0.1 U
				GW029902	4/26/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.4 U	0.10 U	0.1 U	0.1 U
				GW039902	8/23/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049902	11/15/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010101	3/26/2001	9.6 U	9.6 U	-	24 U	24 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
				GW020101	6/11/2001	9.6 U	9.6 U	9.6 U	24 U	24 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
MWA-8i	Acid Plant	42	47	GW019906	1/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	**0.2**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.10 U	0.1 U	0.1 U
				GW029908	4/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	**0.4**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.6 U	0.10 U	0.1 U	0.1 U
				GW039905	8/24/1999	0.5 U	0.1 U	-	0.5 U	1 U	**0.3** J	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
(dup)				GW039906	8/24/1999	0.5 U	0.1 U	-	0.5 U	1 U	**0.3** J	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049906	11/16/1999	0.5 U	0.1 U	-	0.5 U	1 U	**0.3**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010112	3/29/2001	9.9 U	9.9 U	-	25 U	25 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U
				GW020107	6/12/2001	9.6 U	9.6 U	9.6 U	24 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
MWA-9i	Acid Plant	40	45	GW019909	1/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	**0.4**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**12** J	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.1 U	0.1 U	0.1 U
				GW029912	4/28/1999	0.50 U	0.1 U	-	0.50 U	1 U	**0.3**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW039908	8/25/1999	0.5 U	0.1 U	-	0.5 U	1 U	**0.3**	0.1 U	-	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**14**	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049908	11/16/1999	0.5 U	0.1 U	-	0.5 U	1 U	**0.4**	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**12**	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010120	3/30/2001	9.7 U	9.7 U	-	24 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U
				GW020124	6/18/2001	9.6 U	9.6 U	9.6 U	24 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
MWA-10i	Acid Plant	40.3	45.3	GW019911	1/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.10 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.1 U	0.1 U	0.1 U
				GW029914	4/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.10 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.60 U	0.1 U	0.1 U	0.1 U
				GW039911	8/25/1999	0.5 U	0.1 U	-	0.5 UJ	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UJ	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049910	11/16/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	2.5 U	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	**0.3**
				GW010115	3/29/2001	9.5 U	9.5 U	-	24 U	24 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U
				GW020118	6/14/2001	9.6 U	9.6 U	9.6 U	24 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
MWA-11i	Acid Plant	46	51	GW019916	1/29/1999	0.50 UJ	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 UJ	0.1 U	0.1 U	2.00 U	0.1 U	0.1 U	0.1 U
				GW029905	4/27/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.4 U	0.1 U	0.1 U	0.1 U
				GW039916	8/26/1999	0.5 U	0.1 U	-	0.5 UJ	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UJ	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049914	11/17/1999	0.5 UJ	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010118	3/30/2001	9.6 U	9.6 U	-	24 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U
				GW020119	6/15/2001	9.8 U	9.8 U	9.8 U	25 U	25 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	-	9.8 U
(dup)				GW020120	6/15/2001	9.6 U	9.6 U	9.6 U	24 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U		9.6 U
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.00 U	0.1 U	0.1 U	0.1 U
				GW029901	4/26/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.8 U	0.1 U	0.1 U	0.1 U
				GW039901	8/23/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	**0.7**	0.1 U	0.1 U	0.1 U
				GW049901	11/15/1999	0.5 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010102	3/26/2001	9.9 U	9.9 U	-	25 U	25 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U
				GW020102	6/11/2001	9.8 U	9.8 U	9.8 U	25 U	25 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	-	9.8 U
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UR	1 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				GW029910	4/28/1999	0.50 U	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW039914	8/25/1999	0.5 U	0.1 U	-	0.5 UJ	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5 UJ	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW049915	11/18/1999	0.5 UJ	0.1 U	-	0.5 U	1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				GW010114	3/29/2001	9.5 U	9.5 U	-	24 U	24 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U
				GW020116	6/14/2001	9.7 U	9.7 U	9.7 U	24 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U

Table 5-20
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Sample Number	Date	Dibenz[a,h]-anthracene (µg/L)	Dibenzofuran (µg/L)	Diethyl phthalate (µg/L)	Dimethyl phthalate (µg/L)	Di-n-butyl phthalate (µg/L)	Di-n-octyl phthalate (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Hexachloro-benzene (µg/L)	Hexachloro-butadiene (µg/L)	Hexachloro-cyclo-pentadiene (µg/L)	Hexachloro-ethane (µg/L)	Indeno[1,2,3-cd] pyrene (µg/L)	Isophorone (µg/L)	Naphthalene (µg/L)	Nitrobenzene (µg/L)	N-Nitroso-dimethylamine (µg/L)	N-Nitroso-di-n-propylamine (µg/L)	N-Nitrosodi-phenylamine (µg/L)	Pentachloro-phenol (µg/L)	Phenanthrene (µg/L)	Phenol (µg/L)	Pyrene (µg/L)
Preliminary Screening Levels						NE	NE	NE	NE	NE	NE	3,980 a,c	NE	NE	9.3 a	5.2 a	540 a	NE	117,000 a,c	620 c	2,700 a,c	5,850 a,c,g	5,850 a,c,g	5,850 a,c,g	15 h	NE	NE	NE
MWA-1	Acid Plant	23	33	GW019915	1/29/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.6	1.2	0.1 U	-	0.1 U	0.1 U	1.3 J	0.1 U	13	0.1 U
				GW029916	4/29/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 U	0.6	1.3	0.1 U	-	0.1 U	0.1 U	2.2	0.2	31	0.2
MWA-2	Acid Plant	21.5	31.5	GW019907	1/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3	1 U	4	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW029906	4/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1	1 U	0.5	0.1 U	0.1 U	0.2	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
(dup)				GW029907	4/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1	1 U	0.5	0.1 U	0.1 U	0.2	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				GW039907	8/24/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.8	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW049905	11/16/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.4	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010111	3/29/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U
				GW020106	6/12/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U
MWA-3	Acid Plant	20.7	30.7	GW019908	1/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.10 U
				GW029911	4/28/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1	0.5 U	0.10 U
				GW039909	8/24/1999	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.1	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW049907	11/16/1999	0.1 U	0.1 U	0.2	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.2	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010113	3/29/2001	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	26 U	10 U	10 U	26 U	10 U	10 U	10 U
				GW020115	6/14/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U
MWA-4	Acid Plant	19.5	29.5	GW019912	1/28/1999	0.1 U	0.5	0.1	0.1 U	0.1 U	0.1 U	1.5	0.3	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.7
(dup)				GW019913	1/28/1999	0.1 U	0.5	0.1	0.1 U	0.1 U	0.1 U	1.4	0.3	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.7
				GW029913	4/28/1999	0.1 U	0.4	0.1 U	0.1 U	0.1 U	0.1 U	1.9	0.3	0.1 U	0.1 U	1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.3
				GW039910	8/25/1999	0.1 U	0.2	0.1 U	0.1 U	0.1 U	0.1 U	1.2	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.5
				GW049909	11/16/1999	0.1 U	0.1 U	0.3	0.1 U	0.1 U	0.1 UJ	0.3	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010116	3/29/2001	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	25 U	10 U	10 U	10 U
				GW020117	6/14/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U
MWA-5	Acid Plant	35.7	38.2	GW019905	1/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1	0.5 U	0.1
				GW029904	4/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				GW039903	8/23/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW049903	11/15/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010110	3/28/2001	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 UJ	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U
				GW020105	6/12/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
MWA-6	Acid Plant	30.8	33.6	GW019901	1/27/1999	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.1 U	0.5	0.1 U	0.1	29	1 U	15	0.1 U	0.1 U	0.1	0.1 U	-	0.1 U	0.1 U	18	0.10 U	0.50 U	0.4
				GW029915	4/29/1999	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.3	0.1 U	0.1 U	23	1 UJ	0.6	0.1 U	0.1 U	0.2	0.1 U	-	0.1 U	0.1 U	12	0.3	0.50 U	0.2
MWA-6r	Acid Plant	28.2	33.2	GW039912	8/25/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.6	0.1 U	0.1 U	0.4	1 UJ	2.2	0.1 UJ	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.3	0.5 U	0.9
				GW049911	11/17/1999	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.1 U	1	0.1 U	0.1 U	0.5	1 UJ	0.5	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.5	0.5 U	1.6
				GW010107	3/28/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U
				GW020108	6/12/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
MWA-7	Acid Plant	30.3	32.8	GW019903	1/26/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.10 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				GW029902	4/26/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.10 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				GW039902	8/23/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW049902	11/15/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010101	3/26/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
				GW020101	6/11/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
MWA-8i	Acid Plant	42	47	GW019906	1/27/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.10 U	1 U	0.1 U	0.1 U	0.1 U	0.7	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.3
				GW029908	4/27/1999	0.1 U	0.1 U	0.2 U	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.10 U	1 U	0.1 U	0.1 U	0.1 U	0.7	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.2
				GW039905	8/24/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.2	0.1 U	-	0.1 UJ	0.1 U	0.5 UJ	0.1 U	0.5 UJ	0.3 J
(dup)				GW039906	8/24/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	-	0.1 UJ	0.1 U	0.5 UJ	0.1 U	0.5 UJ	0.3 J
				GW049906	11/16/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.3
				GW010112	3/29/2001	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	9.9 U
				GW020107	6/12/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
MWA-9i	Acid Plant	40	45	GW019909	1/28/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	2.1	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.4	10	0.5
				GW029912	4/28/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	1.9	0.1 U	-	0.1 U	0.1 U	0.5 U	0.3	5.6	0.4
				GW039908	8/25/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.4	0.2	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	2.1	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.4	13	0.6
				GW049908	11/16/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.3	0.1	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	1.9	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.2	11	0.5
				GW010120	3/30/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U
				GW020124	6/18/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
MWA-10i	Acid Plant	40.3	45.3	GW019911	1/28/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.3	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.6	0.1 U
				GW029914	4/28/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 U	0.1 U	0.5	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.6 U	0.1
				GW039911	8/25/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 UJ	0.1 U	0.6	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1
				GW049910	11/16/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.4	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.2	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.2	0.5 U	0.5
				GW010115	3/29/2001	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 UJ	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U
				GW020118	6/14/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
MWA-11i	Acid Plant	46	51	GW019916	1/29/1999	0.10 U	0.10 U	0.10 U	0.10 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW029905	4/27/1999	0.10 U	0.10 U	0.10 U	0.10 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				GW039916	8/26/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				GW049914	11/17/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010118	3/30/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
				GW020119	6/15/2001	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 UJ	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	9.8 U
(dup)				GW020120	6/15/2001	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	24 U	9.6 U	9.6 U	9.6 U
MWA-12i	Acid Plant	42	52	GW019902	1/26/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.10 U
				GW029901	4/26/1999	0.1 U	0.1 U	0.3 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.10 U
				GW039901	8/23/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW049901	11/15/1999	0.1 U	0.1 U	0.2	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010102	3/26/2001	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	25 U	9.9 U	9.9 U	9.9 U
				GW020102	6/11/2001	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 UJ	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	25 U	9.8 U	9.8 U	9.8 U
MWA-13d	Acid Plant	51	53	GW019910	1/28/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	1 UJ	0.1 U	0.5 U	0.1 U
				GW029910	4/28/1999	0.1 U	0.1 U	0.1 U	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	-	0.1 U	0.1 U	1 U	0.1 U	0.5 U	0.1 U
				GW039914	8/25/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	1 U	0.1 U	0.5 U	0.1 U
				GW049915	11/18/1999	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.5 UJ	0.1 U	0.5 U	0.1 U
				GW010114	3/29/2001	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 UJ	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U
				GW020116	6/14/2001	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	24 U	9.7 U	9.7 U	9.7 U

Table 5-20
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Sample Number	Date	Analytical Method	1,2,4-Trichloro-benzene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)	2,4,5-Trichloro-phenol (µg/L)	2,4,6-Trichloro-phenol (µg/L)	2,4-Dichloro-phenol (µg/L)	2,4-Dimethyl-phenol (µg/L)	2,4-Dinitrophenol (µg/L)	2,4-Dinitrotoluene (µg/L)	2,6-Dinitrotoluene (µg/L)	2-Chloro-naphthalene (µg/L)	2-Chlorophenol (µg/L)	2-Methyl-4,6-dinitrophenol (µg/L)	2-Methyl-naphthalene (µg/L)	2-Methylphenol (µg/L)	2-Nitroaniline (µg/L)	2-Nitrophenol (µg/L)	3,3'-Dichloro-benzidine (µg/L)	3- and 4-Chlorophenol (µg/L)	3- and 4-Methylphenol (µg/L)	3- and 4-Methylphenol Coelution (µg/L)	3-Nitroaniline (µg/L)	4-Bromophenyl-phenyl ether (µg/L)	4-Chloro-3-methylphenol (µg/L)
Preliminary Screening Levels							**NE**	**763 a,b**	**763 a,b**	**763 a,b**	**NE**	**970 a**	**365 a**	**2,120 a,c**	**NE**	**230 c,p**	**230 a,d**	**NE**	**2,000 a**	**NE**	**NE**	**NE**	**NE**	**150 a,e**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**30 a,c**
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	8270 SIM	0.1 *UJ*	0.1 *U*	0.10 *U*	0.10 *UJ*	0.5 *U*	0.50 *U*	0.50 *U*	0.5 *U*	5 *UJ*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.50 *U*	1 *U*	0.10 *U*	0.50 *U*	0.1 *U*	0.5 *UR*	0.1 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.10 *U*	0.50 *U*
				GW029903	4/27/1999	8270 SIM	0.1 *UJ*	0.1 *U*	0.10 *U*	0.10 *UJ*	0.5 *U*	0.50 *U*	0.50 *U*	0.5 *U*	5 *UR*	0.1 *U*	0.1 *U*	0.1 *U*	0.50 *U*	1 *U*	0.10 *U*	0.50 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.10 *U*	0.50 *U*
				GW039904	8/23/1999	8270 SIM	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	5 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW049904	11/15/1999	8270 SIM	0.1 *UJ*	**0.1**	0.1 *U*	0.1 *UJ*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UJ*	5 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW010108	3/28/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	-	24 *U*	9.6 *U*	9.6 *U*
(dup)				GW010109	3/28/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	-	24 *U*	9.6 *U*	9.6 *U*
				GW020103	6/12/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	-	24 *U*	9.6 *U*	9.6 *U*
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	8270 SIM	0.1 *UJ*	**7.9**	**1.4**	**53** *J*	0.5 *U*	**1.2**	**3.4**	0.5 *U*	5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**160**	1 *U*	**0.1**	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**160**	**2.2**	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW049913	11/17/1999	8270 SIM	0.5 *UJ*	**13**	**2.8**	**83** *J*	2.5 *U*	2.5 *U*	**3.0**	2.5 *UJ*	25 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**280**	5 *U*	0.5 *U*	2.5 *U*	0.5 *U*	2.5 *UJ*	0.5 *U*	**290**	**3.0**	-	2.5 *U*	0.5 *U*	2.5 *U*
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	8270C	9.5 *U*	**22**	9.5 *U*	**83**	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	**160**	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	24 *U*	-	-	9.5 *U*	24 *UJ*	9.5 *U*	9.5 *U*
				GW020121	6/15/2001	8270C	9.5 *U*	**22**	9.5 *U*	**80**	9.5 *U*	9.5 *U*	**12**	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	**130**	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	24 *U*	-	-	-	24 *U*	9.5 *U*	9.5 *U*
MWA-16i	Acid Plant	39.2	44.2	GW039913	8/25/1999	8270 SIM	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *UJ*	**0.8**	0.5 *U*	0.5 *U*	0.5 *U*	5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW049912	11/17/1999	8270 SIM	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*	**0.8**	0.5 *U*	0.5 *UJ*	5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW010106	3/28/2001	8270C	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	24 *U*	-	-	-	24 *U*	9.5 *U*	9.5 *U*
				GW020109	6/12/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	-	24 *U*	9.6 *U*	9.6 *U*
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	8270 SIM	0.1 *UJ*	**3.3**	**0.3**	**13** *J*	0.5 *U*	**0.5**	**2.5**	0.5 *U*	5 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	**15**	1 *UJ*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *UJ*	**27**	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW049916	11/18/1999	8270 SIM	0.1 *UJ*	**7.2**	**0.8**	**28** *J*	0.5 *U*	**0.9**	**1**	0.5 *UJ*	5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**42**	1 *U*	**0.2**	0.5 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	**52**	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
(dup)				GW049917	11/18/1999	8270 SIM	0.1 *UJ*	**7.4**	**0.9**	**29** *J*	0.5 *U*	**1**	**1**	0.5 *UJ*	5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**41**	1 *U*	**0.2**	0.5 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	**52**	0.5 *U*	-	0.5 *U*	0.1 *U*	0.5 *U*
				GW010121	3/30/2001	8270C	9.6 *U*	**13**	9.6 *U*	**49**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	**74**	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	9.6 *U*	24 *UJ*	9.6 *U*	9.6 *U*
				GW020123	6/18/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	**36**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	**55**	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	-	24 *U*	9.6 *U*	9.6 *U*
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *UJ*	-	-	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*
				GW020110	6/13/2001	8270C	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	24 *U*	-	-	-	24 *U*	9.5 *U*	9.5 *U*
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	8270C	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	24 *UJ*	-	-	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*
				GW020112	6/13/2001	8270C	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	25 *U*	-	-	-	25 *U*	9.8 *U*	9.8 *U*
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	8270C	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	25 *U*	10 *U*	10 *U*	10 *U*	10 *U*	25 *U*	10 *U*	10 *U*	25 *U*	10 *U*	25 *UJ*	-	-	10 *U*	25 *U*	10 *U*	10 *U*
				GW020114	6/13/2001	8270C	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	25 *U*	-	-	-	25 *U*	9.8 *U*	9.8 *U*
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	24 *U*	-	-	-	24 *U*	9.6 *U*	9.6 *U*
MWA-30	Chlorate Plant	19.1	29.1	GW-060403-08	6/4/2003	8270C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-32i	Chlorate Plant	37	42	GW-060403-10	6/4/2003	8270C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)				GW-060403-11	6/4/2003	8270C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-59	Acid Plant	20	24	GWG012	8/3/1999	8270 SIM	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1 *U*	0.1 *U*	**1.1**	0.1 *U*	0.5 *U*	0.1 *UJ*	-	-	4.7 *U*	0.5 *U*	0.1 *U*	0.5 *U*

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown
J - Estimated
R - Rejected
- Value above preliminary screening level
- not analyzed
ft bgs - Feet below ground surface
a - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshwater, Chronic
b - Value for dichlorobenzenes used
c - Chronic criterion not established, acute criterion used
d - Value for dinitrotoluene used
e - Value for nitrophenols used
f - Value for chloroalkyl ethers used
g - Value for nitrosamines used
h - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic

Table 5-20
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Sample Number	Date	4-Chloroaniline (µg/L)	4-Chlorophenyl-phenyl ether (µg/L)	4-Methylphenol (µg/L)	4-Nitroaniline (µg/L)	4-Nitrophenol (µg/L)	Acenaphthene (µg/L)	Acena-phthylene (µg/L)	Aniline (µg/L)	Anthracene (µg/L)	Benzo[a]-anthracene (µg/L)	Benz[a]pyrene (µg/L)	Benzo[b]-fluoranthene (µg/L)	Benzo[ghi]-perylene (µg/L)	Benzo[k]-fluoranthene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	bis[2-Chloroethoxy] methane (µg/L)	bis[2-Chloroethyl]-ether (µg/L)	bis[2-Chloro-isopropyl] ether (µg/L)	bis[2-Ethylhexyl]-phthalate (µg/L)	Butylbenzyl phthalate (µg/L)	Carbazole (µg/L)	Chrysene (µg/L)
Preliminary Screening Levels						NE	**238,000 a,c,f**	NE	NE	**150 a,e**	**520 a**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**238,000 a,c,f**	**238,000 f**	NE	NE	NE	NE
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	0.50 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	5 *UR*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	2 *U*	0.1 *U*	0.1 *U*	0.1 *U*
				GW029903	4/27/1999	0.50 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	5 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*
				GW039904	8/23/1999	0.5 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	5 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**1.2**	0.1 *U*	0.1 *U*	0.1 *U*
				GW049904	11/15/1999	0.5 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	2.5 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*
				GW010108	3/28/2001	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
(dup)				GW010109	3/28/2001	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
				GW020103	6/12/2001	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	0.5 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *UR*	0.1 *UR*	0.1 *UR*	0.1 *UR*	**130** *J*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**3.6**	0.1 *U*	0.1 *U*	0.1 *U*
				GW049913	11/17/1999	2.5 *UJ*	0.5 *U*	-	2.5 *U*	5 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**140**	5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	9.5 *U*	9.5 *U*	-	24 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	95 *U*	95 *U*	95 *U*	95 *U*	**170**	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	-	9.5 *U*
				GW020121	6/15/2001	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	19 *U*	19 *U*	19 *U*	19 *U*	**130**	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	-	9.5 *U*
MWA-16i	Acid Plant	39.2	44.2	GW039913	8/25/1999	0.5 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.1 *UJ*	0.1 *U*	5 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*
				GW049912	11/17/1999	0.5 *UJ*	0.1 *U*	-	0.5 *U*	1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	3 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*
				GW010106	3/28/2001	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *UJ*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	-	9.5 *U*
				GW020109	6/12/2001	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	0.5 *U*	0.1 *U*	-	0.5 *UJ*	1 *U*	**0.3**	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**12** *J*	**2**	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	**0.1**	**0.4**	0.1 *U*
				GW049916	11/18/1999	0.5 *UJ*	0.1 *U*	-	0.5 *U*	1 *U*	**0.2**	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**18**	**3**	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**0.2** *J*	0.1 *U*
(dup)				GW049917	11/18/1999	0.5 *UJ*	0.1 *U*	-	0.5 *U*	1 *U*	**0.2**	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**16**	**3**	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**0.2**	0.1 *U*
				GW010121	3/30/2001	9.6 *U*	9.6 *U*	-	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	**32**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
				GW020123	6/18/2001	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	9.6 *U*	9.6 *U*	-	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
				GW020110	6/13/2001	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	-	9.5 *U*
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	9.7 *U*	9.7 *U*	-	24 *U*	24 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	-	9.7 *U*
				GW020112	6/13/2001	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	25 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	-	9.8 *U*
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	10 *U*	10 *U*	-	25 *U*	25 *U*	10 *U*	10 *U*	25 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	25 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	-	10 *U*
				GW020114	6/13/2001	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	25 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	-	9.8 *U*
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	-	9.6 *U*
MWA-30	Chlorate Plant	19.1	29.1	GW-060403-08	6/4/2003	-	-	-	-	-	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	-	-	-	-	-	-	-	0.1 *U*
MWA-32i	Chlorate Plant	37	42	GW-060403-10	6/4/2003	-	-	-	-	-	**0.3**	0.1 *U*	-	**0.1**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.1 *U*	-	-	-	-	-	-	-	-	0 *U*
(dup)				GW-060403-11	6/4/2003	-	-	-	-	-	**0.3**	0.1 *U*	-	**0.1**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.1 *U*	-	-	-	-	-	-	-	-	0.1 *U*
B-59	Acid Plant	20	24	GWG012	8/3/1999	0.5 *U*	0.1 *U*	-	0.5 *U*	1 *U*	0.2 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.0 *U*	**34**	**1**	0.1 *U*	0.1 *U*	0.1 *U*	0.3 *U*	0.1 *U*	0.1 *U*	0.1 *U*

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown
J - Estimated
R - Rejected
- Value above preliminary screening level
- not analyzed
ft bgs - Feet below ground surface
a - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshw
b - Value for dichlorobenzenes used
c - Chronic criterion not established, acute criterion used
d - Value for dinitrotoluene used
e - Value for nitrophenols used
f - Value for chloroalkyl ethers used
g - Value for nitrosamines used
h - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chro

Table 5-20
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Sample Number	Date	Dibenz[a,h]-anthracene (µg/L)	Dibenzofuran (µg/L)	Diethyl phthalate (µg/L)	Dimethyl phthalate (µg/L)	Di-n-butyl phthalate (µg/L)	Di-n-octyl phthalate (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Hexachloro-benzene (µg/L)	Hexachloro-butadiene (µg/L)	Hexachloro-cyclo-pentadiene (µg/L)	Hexachloro-ethane (µg/L)	Indeno[1,2,3-cd] pyrene (µg/L)	Isophorone (µg/L)	Naphthalene (µg/L)	Nitrobenzene (µg/L)	N-Nitroso-dimethylamine (µg/L)	N-Nitroso-di-n-propylamine (µg/L)	N-Nitrosodi-phenylamine (µg/L)	Pentachloro-phenol (µg/L)	Phenanthrene (µg/L)	Phenol (µg/L)	Pyrene (µg/L)
Preliminary Screening Levels						**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**3,980 a,c**	**NE**	**NE**	**9.3 a**	**5.2 a**	**540 a**	**NE**	**117,000 a,c**	**620 c**	**2,700 a,c**	**5,850 a,c,g**	**5,850 a,c,g**	**5,850 a,c,g**	**15 h**	**NE**	**NE**	**NE**
MWA-14i	Acid Plant	44.1	49.1	GW019904	1/27/1999	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*
				GW029903	4/27/1999	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*
				GW039904	8/23/1999	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	0.5 *U*	0.1 *U*
				GW049904	11/15/1999	0.1 *U*	0.1 *U*	0.1 *U*	**0.1**	0.1 *U*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	0.5 *U*	0.1 *U*
				GW010108	3/28/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
(dup)				GW010109	3/28/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
				GW020103	6/12/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
MWA-15	Acid Plant	23.5	32.4	GW039917	8/26/1999	0.1 *UR*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *UJ*	0.1 *U*	0.1 *UR*	0.1 *U*	**0.1**	0.1 *U*	-	0.1 *U*	0.1 *U*	**0.9**	0.1 *U*	**6**	0.1 *U*
				GW049913	11/17/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	5 *UJ*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	-	0.5 *U*	0.5 *U*	**7** *J*	0.5 *U*	**19**	0.5 *U*
MWA-15r	Acid Plant	22.4	32.4	GW010117	3/30/2001	95.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	95 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *UJ*	9.5 *U*	95.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	**32**	9.5 *U*
				GW020121	6/15/2001	19.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	19 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *UJ*	9.5 *U*	19.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	**31**	9.5 *U*
MWA-16i	Acid Plant	39.2	44.2	GW039913	8/25/1999	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*
				GW049912	11/17/1999	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	1 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	-	0.1 *U*	0.1 *U*	**0.5** *UJ*	0.1 *U*	0.5 *U*	**0.2**
				GW010106	3/28/2001	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *UJ*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*
				GW020109	6/12/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
MWA-17si	Acid Plant	33.6	35.1	GW039918	8/26/1999	0.1 *U*	**0.2**	0.1 *U*	0.1 *U*	0.6 *U*	0.1 *U*	**0.3**	**0.2**	0.1 *U*	0.1 *U*	1 *UJ*	0.1 *U*	0.1 *UJ*	0.1 *U*	**0.7**	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *U*	**0.7**	0.5 *U*	**0.1**
				GW049916	11/18/1999	0.1 *U*	**0.2**	0.1 *U*	0.1 *U*	**0.2** *J*	0.1 *U*	**0.5**	**0.2**	0.1 *U*	0.1 *U*	1 *UJ*	**0.3**	0.1 *U*	0.1 *U*	**0.8**	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *UJ*	**0.5** *J*	**1** *J*	**0.2**
(dup)				GW049917	11/18/1999	0.1 *U*	**0.2**	0.1 *U*	0.1 *U*	**0.3**	0.1 *U*	**0.4**	**0.2**	0.1 *U*	0.1 *U*	1 *UJ*	**0.3**	0.1 *U*	0.1 *U*	**0.9**	0.1 *U*	-	0.1 *U*	0.1 *U*	0.5 *UJ*	**0.6**	**2** *J*	**0.2**
				GW010121	3/30/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
				GW020123	6/18/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
MWA-18	Acid Plant	19.2	29.2	GW010105	3/27/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	9.6 *U*
				GW020110	6/13/2001	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *UJ*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	24 *U*	9.5 *U*	9.5 *U*	9.5 *U*
MWA-19	Acid Plant	19.2	29.2	GW010104	3/27/2001	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *UJ*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*	24 *U*	9.7 *U*	9.7 *U*	9.7 *U*
				GW020112	6/13/2001	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *UJ*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*
MWA-20	Acid Plant	24.7	34.7	GW010103	3/27/2001	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *UJ*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	25 *U*	10 *U*	10 *U*	25 *U*	10 *U*	10 *U*	10 *U*
				GW020114	6/13/2001	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *UJ*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	25 *U*	9.8 *U*	9.8 *U*	9.8 *U*
MWA-22	Acid Plant	24.7	34.7	GW020122	6/15/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	9.6 *U*	24 *U*	9.6 *U*	**95**	9.6 *U*
MWA-30	Chlorate Plant	19.1	29.1	GW-060403-08	6/4/2003	0.2 *U*	-	-	-	-	-	0.1 *U*	0.1 *U*	-	-	-	-	0.1 *U*	-	0.1 *U*	-	-	-	-	-	0.11 *U*	-	0.1 *U*
MWA-32i	Chlorate Plant	37	42	GW-060403-10	6/4/2003	0 *U*	-	-	-	-	-	0.1 *U*	**0.269**	-	-	-	-	0.1 *UJ*	-	**1**	-	-	-	-	-	**1**	-	**0.2**
(dup)				GW-060403-11	6/4/2003	2.0 *U*	-	-	-	-	-	0.1 *U*	**0.2**	-	-	-	-	0.1 *UJ*	-	**0.5**	-	-	-	-	-	**0.5**	-	**0.2**
B-59	Acid Plant	20	24	GWG012	8/3/1999	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	1 *U*	0.1 *U*	0.1 *U*	**0.1**	**0.7**	0.1 *U*	0.1 *U*	0.1 *U*	-	0.5 *U*	0.1 *U*	**45**	0.1 *U*

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown
J - Estimated
R - Rejected
- Value above preliminary screening level
- not analyzed
ft bgs - Feet below ground surface
a - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshw
b - Value for dichlorobenzenes used
c - Chronic criterion not established, acute criterion used
d - Value for dinitrotoluene used
e - Value for nitrophenols used
f - Value for chloroalkyl ethers used
g - Value for nitrosamines used
h - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chro

Table 5-21
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Screen /Sample Depth (ft bgs)	(ft bgs)	Antimony (Total) 6020 (mg/L)	Antimony (Dissolved) 6020 (mg/L)	Arsenic (Total) 6020 (mg/L)	Arsenic (Dissolved) 6020 (mg/L)	Barium (Total) 6010B (mg/L)	Barium (Dissolved) 6010B (mg/L)	Beryllium (Total) 6020 (mg/L)	Beryllium (Dissolved) 6020 (mg/L)	Cadmium (Total) 6020 (mg/L)	Cadmium (Dissolved) 6020 (mg/L)	Calcium (Total) 6010B (mg/L)	Chromium (Total) 6020/6010B (mg/L)	Chromium (Dissolved) 6010B (mg/L)	Chromium, Hexavalent (Total) 6010B/7195 (mg/L)	Copper (Total) 6010B/6020 (mg/L)	Copper (Dissolved) 6010B/6020 (mg/L)	Iron (Total) 6010B (mg/L)	Iron (Dissolved) 6010B (mg/L)	Lead (Total) 7421 (mg/L)	Lead (Dissolved) 7421 (mg/L)
Preliminary Screening Levels						**1.6 a**	**1.6 a**	**0.1500 b,c**	**0.1500 b,c**	**NE**	**NE**	**0.0053 a**	**0.0053 a**	**0.000094 b,c,d**	**0.000094 b,c,d**	**NE**	**0.011 b,c,e**	**0.011 b,c,e**	**0.011 b,c**	**0.0027 b,c,d**	**0.0027 b,c,d**	**1 b**	**1 b**	**0.00054 b,c,d**	**0.00054 b,c,d**
MWA-1	Acid Plant	GW019915	1/29/1999	23	33	-	-	-	-	-	-	-	-	-	-	10.5	-	-	-	-	-	13.3	-	-	-
		GW029916	4/29/1999			-	-	-	-	-	-	-	-	-	-	9.14	-	-	-	-	-	10.4	-	-	-
MWA-2	Acid Plant	GW019907	1/27/1999	21.5	31.5	-	-	-	-	-	-	-	-	-	-	23.4	-	-	-	-	-	0.044	-	-	-
		GW029906	4/27/1999			-	-	-	-	-	-	-	-	-	-	10.7	-	-	-	-	-	0.347	-	-	-
(dup)		GW029907	4/27/1999			-	-	-	-	-	-	-	-	-	-	10.8	-	-	-	-	-	0.351	-	-	-
		GW039907	8/24/1999			-	-	-	-	-	-	-	-	-	-	29	-	-	-	-	-	1.97	-	-	-
		GW049905	11/16/1999			-	-	-	-	-	-	-	-	-	-	19.3	-	-	-	-	-	1.24	-	-	-
		GW06090301	6/9/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8	-	-
MWA-3	Acid Plant	GW019908	1/27/1999	20.7	30.7	-	-	-	-	-	-	-	-	-	-	96.6	-	-	-	-	-	0.078	-	-	-
		GW029911	4/28/1999			-	-	-	-	-	-	-	-	-	-	4.58	-	-	-	-	-	0.065 *U*	-	-	-
		GW039909	8/24/1999			-	-	-	-	-	-	-	-	-	-	26.5	-	-	-	-	-	1.32	-	-	-
		GW049907	11/16/1999			-	-	-	-	-	-	-	-	-	-	20.2	-	-	-	-	-	0.15	-	-	-
		GW06090304	6/9/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1 *U*	-	-
MWA-4	Acid Plant	GW019912	1/28/1999	19.5	29.5	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	8.14	-	-	-
(dup)		GW019913	1/28/1999			-	-	-	-	-	-	-	-	-	-	101	-	-	-	-	-	8.06	-	-	-
		GW029913	4/28/1999			-	-	-	-	-	-	-	-	-	-	32.4	-	-	-	-	-	1.71	-	-	-
		GW039910	8/25/1999			-	-	-	-	-	-	-	-	-	-	47.2	-	-	-	-	-	1.98	-	-	-
		GW049909	11/16/1999			-	-	-	-	-	-	-	-	-	-	121		-	-	-	-	0.138	-	-	-
		GW04110201	4/11/2002			-	-	-	-	-	-	-	-	-	-	-	0.00079 *U*	-	-	-	-	-	-	-	-
		GW06090307	6/9/2003			-	-	-	-	-	-	-	-	-	-	-	0.00236	-	-	-	-	-	-	-	-
MWA-5	Acid Plant	GW019905	1/27/1999	35.7	38.2	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	24.3	-	-	-
		GW029904	4/27/1999			-	-	-	-	-	-	-	-	-	-	30.4	-	-	-	-	-	6.91	-	-	-
		GW039903	8/23/1999			-	-	-	-	-	-	-	-	-	-	37.4	-	-	-	-	-	9.29	-	-	-
		GW049903	11/15/1999			-	-	-	-	-	-	-	-	-	-	53.4	-	-	-	-	-	12.5	-	-	-
MWA-6	Acid Plant	GW019901	1/27/1999	30.8	33.6	-	-	-	-	-	-	-	-	-	-	13.3	-	-	-	-	-	92.2	-	-	-
MWA-6r	Acid Plant	GW039912	8/25/1999	28.2	33.2	-	-	-	-	-	-	-	-	-	-	19.3	-	-	-	-	-	6.86	-	-	-
		GW049911	11/17/1999			-	-	-	-	-	-	-	-	-	-	16.4	-	-	-	-	-	6.33	-	-	-
		GW020108	6/12/2001			-	-	-	-	-	-	-	-	-	-	-	0.056	-	0.058	-	-	-	-	-	-
		GW04100203	4/10/2002			-	-	-	-	-	-	-	-	-	-	-	0.11 *J*	-	-	-	-	-	-	-	-
		GW06050302	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	0.0189	-	-	-	-	-	-	-	-
MWA-7	Acid Plant	GW019903	1/26/1999	30.3	32.8	-	-	-	-	-	-	-	-	-	-	78.7	-	-	-	-	-	66.2	-	-	-
		GW029902	4/26/1999			-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	39.3	-	-	-
		GW039902	8/23/1999			-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	26	-	-	-
		GW049902	11/15/1999			-	-	-	-	-	-	-	-	-	-	41	-	-	-	-	-	26	-	-	-
MWA-8i	Acid Plant	GW019906	1/27/1999	42	47	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	18.6	-	-	-
		GW029908	4/27/1999			-	-	-	-	-	-	-	-	-	-	97.7	-	-	-	-	-	22.4	-	-	-
		GW039905	8/24/1999			-	-	-	-	-	-	-	-	-	-	99	-	-	-	-	-	20.4	-	-	-
(dup)		GW039906	8/24/1999			-	-	-	-	-	-	-	-	-	-	96.5	-	-	-	-	-	19.5	-	-	-
		GW049906	11/16/1999			-	-	-	-	-	-	-	-	-	-	95.8	-	-	-	-	-	19.2	-	-	-
MWA-9i	Acid Plant	GW019909	1/28/1999	40	45	-	-	-	-	-	-	-	-	-	-	218	-	-	-	-	-	22	-	-	-
		GW029912	4/28/1999			-	-	-	-	-	-	-	-	-	-	274	-	-	-	-	-	28.5	-	-	-
		GW039908	8/25/1999			-	-	-	-	-	-	-	-	-	-	182	-	-	-	-	-	19.4	-	-	-
		GW049908	11/16/1999			-	-	-	-	-	-	-	-	-	-	163	-	-	-	-	-	16.9	-	-	-
MWA-10i	Acid Plant	GW019911	1/28/1999	40.3	45.3	-	-	-	-	-	-	-	-	-	-	107	-	-	-	-	-	11	-	-	-
		GW029914	4/28/1999			-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	9.18	-	-	-
		GW039911	8/25/1999			-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	5.88	-	-	-
		GW049910	11/16/1999			-	-	-	-	-	-	-	-	-	-	64.7	-	-	-	-	-	5.2	-	-	-
MWA-11i	Acid Plant	GW019916	1/29/1999	46	51	-	-	-	-	-	-	-	-	-	-	227	-	-	-	-	-	23.4	-	-	-
		GW029905	4/27/1999			-	-	-	-	-	-	-	-	-	-	231	-	-	-	-	-	24.4	-	-	-
		GW039916	8/26/1999			-	-	-	-	-	-	-	-	-	-	252	-	-	-	-	-	27	-	-	-
		GW049914	11/17/1999			-	-	-	-	-	-	-	-	-	-	274	-	-	-	-	-	28.9	-	-	-
MWA-12i	Acid Plant	GW019902	1/26/1999	42	52	-	-	-	-	-	-	-	-	-	-	136	-	-	-	-	-	9.99	-	-	-
		GW029901	4/26/1999			-	-	-	-	-	-	-	-	-	-	143	-	-	-	-	-	11.8	-	-	-
		GW039901	8/23/1999			-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	9.96	-	-	-
		GW049901	11/15/1999			-	-	-	-	-	-	-	-	-	-	137	-	-	-	-	-	14.1	-	-	-
MWA-13d	Acid Plant	GW019910	1/28/1999	51	53	-	-	-	-	-	-	-	-	-	-	114	-	-	-	-	-	0.502	-	-	-
		GW029910	4/28/1999			-	-	-	-	-	-	-	-	-	-	115	-	-	-	-	-	2.58	-	-	-
		GW039914	8/25/1999			-	-	-	-	-	-	-	-	-	-	119	-	-	-	-	-	4.37	-	-	-
		GW049915	11/18/1999			-	-	-	-	-	-	-	-	-	-	114	-	-	-	-	-	2.44	-	-	-
MWA-14i	Acid Plant	GW019904	1/27/1999	44.1	49.1	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	2.53	-	-	-
		GW029903	4/27/1999			-	-	-	-	-	-	-	-	-	-	16.9	-	-	-	-	-	3.04	-	-	-
		GW039904	8/23/1999			-	-	-	-	-	-	-	-	-	-	16.4	-	-	-	-	-	2.21	-	-	-
		GW049904	11/15/1999			-	-	-	-	-	-	-	-	-	-	14.6	-	-	-	-	-	1.68	-	-	-
MWA-15	Acid Plant	GW039917	8/26/1999	23.5	32.4	-	-	-	-	-	-	-	-	-	-	567	-	-	-	-	-	3.92	-	-	-
		GW049913	11/17/1999			-	-	-	-	-	-	-	-	-	-	58.9	-	-	-	-	-	10.9	-	-	-
MWA-15r	Acid Plant	MWA-15r	5/31/2001	22.4	32.4	-	-	-	-	0.0269	0.0184	-	-	-	-	-	0.0119	0.0134	-	0.0757	0.0608	-	-	0.018	0.0173
		GW06100304	6/10/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.43	0.019	-	-
		MWA15R100203	10/2/2003			-	0.05 *U*	-	0.01 *U*	-	-	-	-	-	-	-	-	-	-	-	-	-	5.34 *D*	-	-
MWA-16i	Acid Plant	GW039913	8/25/1999	39.2	44.2	-	-	-	-	-	-	-	-	-	-	81.1	-	-	-	-	-	1.56	-	-	-
		GW049912	11/17/1999			-	-	-	-	-	-	-	-	-	-	66.6	-	-	-	-	-	0.759	-	-	-
		GW020109	6/12/2001			-	-	-	-	-	-	-	-	-	-	-	0.007	-	0.05 *U*	-	-	-	-	-	-
		GW04100204	4/10/2002			-	-	-	-	-	-	-	-	-	-	-	0.064 *J*	-	-	-	-	-	-	-	-
		GW06050301	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	0.992	-	-	-	-	-	-	-	-

Table 5-21
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Screen /Sample Depth (ft bgs)	(ft bgs)	Magnesium (Total) 6010B (mg/L)	Manganese (Total) 6010B (mg/L)	Manganese (Dissolved) 6010B (mg/L)	Mercury (Total) 7470A (mg/L)	Mercury (Dissolved) 7470A (mg/L)	Nickel (Total) 6010B (mg/L)	Nickel (Dissolved) 6010B/6020 (mg/L)	Potassium (Total) 6010B (mg/L)	Selenium (Total) 6020 (mg/L)	Selenium (Dissolved) 6020 (mg/L)	Silver (Total) 6020 (mg/L)	Silver (Dissolved) 6020 (mg/L)	Sodium (Total) 6010B (mg/L)	Thallium (Total) 6020 (mg/L)	Thallium (Dissolved) 6020 (mg/L)	Zinc (Total) 6010B/6020 (mg/L)	Zinc (Dissolved) 6010B/6020 (mg/L)
Preliminary Screening Levels						**NE**	**NE**	**NE**	**0.00077 b,c**	**0.00077 b,c**	**0.016 b,c,d**	**0.016 b,c,d**	**NE**	**0.005 b**	**0.005 b**	**0.0003 b,c,d,f**	**0.0003 b,c,d,f**	**NE**	**0.04 a**	**0.04 a**	**0.0365 b,c,d**	**0.0365 b,c,d**
MWA-1	Acid Plant	GW019915	1/29/1999	23	33	**0.16**	-	-	-	-	-	-	2 *U*	-	-	-	-	**1860**	-	-	-	-
		GW029916	4/29/1999			**0.197**	-	-	-	-	-	-	2 *U*	-	-	-	-	**1750**	-	-	-	-
MWA-2	Acid Plant	GW019907	1/27/1999	21.5	31.5	**7.14**	-	-	-	-	-	-	2 *U*	-	-	-	-	**49.3**	-	-	-	-
		GW029906	4/27/1999			**2.3**	-	-	-	-	-	-	2 *U*	-	-	-	-	**52.5**	-	-	-	-
(dup)		GW029907	4/27/1999			**2.4**	-	-	-	-	-	-	2 *U*	-	-	-	-	**51.7**	-	-	-	-
		GW039907	8/24/1999			**1.27**	-	-	-	-	-	-	2 *U*	-	-	-	-	**91.9**	-	-	-	-
		GW049905	11/16/1999			**1.69**	-	-	-	-	-	-	2 *U*	-	-	-	-	**85.3**	-	-	-	-
		GW06090301	6/9/2003			-	-	**1.16**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-3	Acid Plant	GW019908	1/27/1999	20.7	30.7	**13.1**	-	-	-	-	-	-	2 *U*	-	-	-	-	**40.8**	-	-	-	-
		GW029911	4/28/1999			**0.651**	-	-	-	-	-	-	2 *U*	-	-	-	-	**3.29**	-	-	-	-
		GW039909	8/24/1999			**3.92**	-	-	-	-	-	-	2 *U*	-	-	-	-	**11.6**	-	-	-	-
		GW049907	11/16/1999			**2.42**	-	-	-	-	-	-	2 *U*	-	-	-	-	**10.1**	-	-	-	-
		GW06090304	6/9/2003			-	-	**0.189**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-4	Acid Plant	GW019912	1/28/1999	19.5	29.5	**29.8**	-	-	-	-	-	-	**3.5**	-	-	-	-	**29.5**	-	-	-	-
(dup)		GW019913	1/28/1999			**29.5**	-	-	-	-	-	-	**3.7**	-	-	-	-	**29.1**	-	-	-	-
		GW029913	4/28/1999			**8.22**	-	-	-	-	-	-	**1.7**	-	-	-	-	**15.8**	-	-	-	-
		GW039910	8/25/1999			**11.6**	-	-	-	-	-	-	**2.1**	-	-	-	-	**19.4**	-	-	-	-
		GW049909	11/16/1999			**22.6**	-	-	-	-	-	-	**2.8**	-	-	-	-	**45.6**	-	-	-	-
		GW04110201	4/11/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06090307	6/9/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-5	Acid Plant	GW019905	1/27/1999	35.7	38.2	**48.5**	-	-	-	-	-	-	**9.4**	-	-	-	-	**771**	-	-	-	-
		GW029904	4/27/1999			**10.6**	-	-	-	-	-	-	**3.4**	-	-	-	-	**438**	-	-	-	-
		GW039903	8/23/1999			**14.1**	-	-	-	-	-	-	**4.2**	-	-	-	-	**462**	-	-	-	-
		GW049903	11/15/1999			**19.5**	-	-	-	-	-	-	**5.4**	-	-	-	-	**614**	-	-	-	-
MWA-6	Acid Plant	GW019901	1/27/1999	30.8	33.6	**11.5**	-	-	-	-	-	-	**4.1**	-	-	-	-	**606**	-	-	-	-
MWA-6r	Acid Plant	GW039912	8/25/1999	28.2	33.2	**4.02**	-	-	-	-	-	-	**5.53**	-	-	-	-	**1120**	-	-	-	-
		GW049911	11/17/1999			**3.03**	-	-	-	-	-	-	**4**	-	-	-	-	**897**	-	-	-	-
		GW020108	6/12/2001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04100203	4/10/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06050302	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-7	Acid Plant	GW019903	1/26/1999	30.3	32.8	**28.9**	-	-	-	-	-	-	**5**	-	-	-	-	**431**	-	-	-	-
		GW029902	4/26/1999			**14**	-	-	-	-	-	-	**3.7**	-	-	-	-	**455**	-	-	-	-
		GW039902	8/23/1999			**9.88**	-	-	-	-	-	-	**2.8**	-	-	-	-	**381**	-	-	-	-
		GW049902	11/15/1999			**9.93**	-	-	-	-	-	-	**3.1**	-	-	-	-	**373**	-	-	-	-
MWA-8i	Acid Plant	GW019906	1/27/1999	42	47	**47.1**	-	-	-	-	-	-	**10.1**	-	-	-	-	**2210**	-	-	-	-
		GW029908	4/27/1999			**29**	-	-	-	-	-	-	**8.1**	-	-	-	-	**1870**	-	-	-	-
		GW039905	8/24/1999			**30.2**	-	-	-	-	-	-	**9.35**	-	-	-	-	**2120**	-	-	-	-
(dup)		GW039906	8/24/1999			**29.4**	-	-	-	-	-	-	**9**	-	-	-	-	**2060**	-	-	-	-
		GW049906	11/16/1999			**28.7**	-	-	-	-	-	-	**7.9**	-	-	-	-	**2050**	-	-	-	-
MWA-9i	Acid Plant	GW019909	1/28/1999	40	45	**43.4**	-	-	-	-	-	-	**27.1**	-	-	-	-	**2860**	-	-	-	-
		GW029912	4/28/1999			**43.4**	-	-	-	-	-	-	**16**	-	-	-	-	**2770**	-	-	-	-
		GW039908	8/25/1999			**27.4**	-	-	-	-	-	-	**10.3**	-	-	-	-	**2210**	-	-	-	-
		GW049908	11/16/1999			**23.1**	-	-	-	-	-	-	**9.6**	-	-	-	-	**2230**	-	-	-	-
MWA-10i	Acid Plant	GW019911	1/28/1999	40.3	45.3	**70.1**	-	-	-	-	-	-	**13.4**	-	-	-	-	**947**	-	-	-	-
		GW029914	4/28/1999			**66.6**	-	-	-	-	-	-	**8.1**	-	-	-	-	**886**	-	-	-	-
		GW039911	8/25/1999			**45**	-	-	-	-	-	-	**6.15**	-	-	-	-	**821**	-	-	-	-
		GW049910	11/16/1999			**37.3**	-	-	-	-	-	-	**4.4**	-	-	-	-	**735**	-	-	-	-
MWA-11i	Acid Plant	GW019916	1/29/1999	46	51	**89.7**	-	-	-	-	-	-	**5.6**	-	-	-	-	**90.2**	-	-	-	-
		GW029905	4/27/1999			**89.5**	-	-	-	-	-	-	**6.6**	-	-	-	-	**82.7**	-	-	-	-
		GW039916	8/26/1999			**99.7**	-	-	-	-	-	-	**7.1**	-	-	-	-	**84.9**	-	-	-	-
		GW049914	11/17/1999			**110**	-	-	-	-	-	-	**7.4**	-	-	-	-	**93.8**	-	-	-	-
MWA-12i	Acid Plant	GW019902	1/26/1999	42	52	**50.8**	-	-	-	-	-	-	**5.6**	-	-	-	-	**22.6**	-	-	-	-
		GW029901	4/26/1999			**51.8**	-	-	-	-	-	-	**9.2**	-	-	-	-	**28.2**	-	-	-	-
		GW039901	8/23/1999			**52.7**	-	-	-	-	-	-	**6.25**	-	-	-	-	**23.9**	-	-	-	-
		GW049901	11/15/1999			**52.8**	-	-	-	-	-	-	**6.75**	-	-	-	-	**25.4**	-	-	-	-
MWA-13d	Acid Plant	GW019910	1/28/1999	51	53	**32**	-	-	-	-	-	-	**47.9**	-	-	-	-	**2380**	-	-	-	-
		GW029910	4/28/1999			**31.7**	-	-	-	-	-	-	**34**	-	-	-	-	**2280**	-	-	-	-
		GW039914	8/25/1999			**33.4**	-	-	-	-	-	-	**30.9**	-	-	-	-	**2450**	-	-	-	-
		GW049915	11/18/1999			**33**	-	-	-	-	-	-	**22**	-	-	-	-	**2400**	-	-	-	-
MWA-14i	Acid Plant	GW019904	1/27/1999	44.1	49.1	**4.72**	-	-	-	-	-	-	**10.5**	-	-	-	-	**2010**	-	-	-	-
		GW029903	4/27/1999			**3.87**	-	-	-	-	-	-	**9.2**	-	-	-	-	**1780**	-	-	-	-
		GW039904	8/23/1999			**4.01**	-	-	-	-	-	-	**8.1**	-	-	-	-	**1960**	-	-	-	-
		GW049904	11/15/1999			**3.41**	-	-	-	-	-	-	**7.2**	-	-	-	-	**1820**	-	-	-	-
MWA-15	Acid Plant	GW039917	8/26/1999	23.5	32.4	**5.44**	-	-	-	-	-	-	**7.5**	-	-	-	-	**1520**	-	-	-	-
		GW049913	11/17/1999			**6.44**	-	-	-	-	-	-	**7.8**	-	-	-	-	**1820**	-	-	-	-
MWA-15r	Acid Plant	MWA-15r	5/31/2001	22.4	32.4	-	**0.249**	**0.257**	0.0002 *U*	0.0002 *U*	**0.0432**	**0.0538**	-	-	-	-	-	-	-	-	**0.107**	**0.162**
		GW06100304	6/10/2003			-	**0.0788**	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		MWA15R100203	10/2/2003			-	-	**0.037**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-16i	Acid Plant	GW039913	8/25/1999	39.2	44.2	**25**	-	-	-	-	-	-	**31.4**	-	-	-	-	**6630**	-	-	-	-
		GW049912	11/17/1999			**23.3**	-	-	-	-	-	-	**26**	-	-	-	-	**5850**	-	-	-	-
		GW020109	6/12/2001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04100204	4/10/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06050301	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5-21
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Screen /Sample Depth (ft bgs)	Screen /Sample Depth (ft bgs)	Antimony (Total) 6020 (mg/L)	Antimony (Dissolved) 6020 (mg/L)	Arsenic (Total) 6020 (mg/L)	Arsenic (Dissolved) 6020 (mg/L)	Barium (Total) 6010B (mg/L)	Barium (Dissolved) 6010B (mg/L)	Beryllium (Total) 6020 (mg/L)	Beryllium (Dissolved) 6020 (mg/L)	Cadmium (Total) 6020 (mg/L)	Cadmium (Dissolved) 6020 (mg/L)	Calcium (Total) 6010B (mg/L)	Chromium (Total) 6020/6010B (mg/L)	Chromium (Dissolved) 6010B (mg/L)	Chromium, Hexavalent (Total) 6010B/7195 (mg/L)	Copper (Total) 6010B/6020 (mg/L)	Copper (Dissolved) 6010B/6020 (mg/L)	Iron (Total) 6010B (mg/L)	Iron (Dissolved) 6010B (mg/L)	Lead (Total) 7421 (mg/L)	Lead (Dissolved) 7421 (mg/L)
Preliminary Screening Levels						**1.6 a**	**1.6 a**	**0.1500 b,c**	**0.1500 b,c**	**NE**	**NE**	**0.0053 a**	**0.0053 a**	**0.000094 b,c,d**	**0.000094 b,c,d**	**NE**	**0.011 b,c,e**	**0.011 b,c,e**	**0.011 b,c**	**0.0027 b,c,d**	**0.0027 b,c,d**	**1 b**	**1 b**	**0.00054 b,c,d**	**0.00054 b,c,d**
MWA-17si	Acid Plant	GW039918	8/26/1999	33.6	35.1	-	-	-	-	-	-	-	-	-	-	**245**	-	-	-	-	-	**2.25**	-	-	-
		GW049916	11/18/1999			-	-	-	-	-	-	-	-	-	-	**303**	-	-	-	-	-	**3.69**	-	-	-
(dup)		GW049917	11/18/1999			-	-	-	-	-	-	-	-	-	-	**300**	-	-	-	-	-	**3.65**	-	-	-
MWA-18	Acid Plant	GW020110	6/13/2001	19.2	29.2	-	-	-	-	-	-	-	-	-	-	-	**0.021**	-	0.05 *UJ*	-	-	-	-	-	-
(dup)		GW020111	6/13/2001			-	-	-	-	-	-	-	-	-	-	-	**0.022**	-	0.05 *UJ*	-	-	-	-	-	-
		GW04040203	4/4/2002			-	-	-	-	-	-	-	-	-	-	-	**0.24**	-	-	-	-	-	-	-	-
MWA-19	Acid Plant	GW020112	6/13/2001	19.2	29.2	-	-	-	-	-	-	-	-	-	-	-	**0.033**	-	0.05 *UJ*	-	-	-	-	-	-
		GW04040204	4/4/2002			-	-	-	-	-	-	-	-	-	-	-	**0.825**	-	-	-	-	-	-	-	-
MWA-20	Acid Plant	GW020114	6/13/2001	24.7	34.7	-	-	-	-	-	-	-	-	-	-	-	**0.097**	-	**0.06**	-	-	-	-	-	-
		GW04090204	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	**0.18** *J*	-	-	-	-	-	-	-	-
NMP-1S	Acid Plant	NMP-1S	6/1/2001	19.5	29.5	-	-	-	-	**0.0612**	**0.0381**	-	-	-	-	-	**0.0082**	-	-	**0.0335**	**0.0171**	-	-	**0.0149**	**0.0052**
		NMP-1S	10/3/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5.44** *D*	-	-
NMP-1D	Acid Plant	NMP-1D	6/1/2001	29.1	34.1	-	-	-	-	**0.934**	**0.0252**	-	-	-	-	-	**0.0252**	**0.0059**	-	**0.0523**	**0.041**	-	-	**0.227**	**0.0472**
		NMP-1D	10/3/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**12.3** *D*	-	-
NMP-2S	Acid Plant	NMP-2S	6/1/2001	19.5	29.5	-	-	-	-	**1.01**	**0.0192**	-	-	-	-	-	**0.0101**	-	-	**0.0251**	**0.0162**	-	-	**0.758**	**0.0965**
NMP-2D	Acid Plant	NMP-2D	6/1/2001	31.5	36.5	-	-	-	-	**0.153**	**0.0223**	-	-	-	-	-	**0.0116**	**0.0059**	-	**0.0264**	**0.0216**	-	-	**0.0646**	**0.0177**
		NMP-2D	10/3/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**6.73** *D*	-	-
NMP-3S	Acid Plant	NMP-3S	5/31/2001	19.5	29.5	-	-	-	-	**1.83**	**0.0147**	-	-	-	-	-	**0.513**	-	-	**0.121**	**0.0202**	-	-	**0.269**	**0.002**
NMP-3D	Acid Plant	NMP-3D	6/1/2001	30	35	-	-	-	-	**0.368**	**0.0203**	-	-	-	-	-	**0.0136**	-	-	**0.0718**	**0.0661**	-	-	**0.124**	**0.0308**
NMP-3D		GW06110301	6/11/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.04**	-	-
NMP-4S	Acid Plant	NMP-4S	6/1/2001	19.5	29.5	-	-	-	-	**0.0583**	**0.0325**	-	-	-	-	-	**0.0182**	-	-	**0.0539**	**0.0668**	-	-	**0.0063**	**0.0668**
		NMP-4S	10/3/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**13.1** *D*	-	-
NMP-4D	Acid Plant	NMP-4D	6/1/2001	30	35	-	-	-	-	**0.33**	**0.0204**	-	-	-	-	-	**0.018**	-	-	**0.0499**	**0.0488**	-	-	**0.0357**	**0.0023**
		GW06100306	6/10/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3.71**	**3.74**	-	-
(dup)		GW06100307	6/10/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3.49**	**3.41**	-	-
		NMP-4D	10/3/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3.87** *D*	-	-
NMP-5S	Acid Plant	NMP-5S	6/1/2001	19.5	29.5	-	-	-	-	**0.104**	**0.0194**	-	-	-	-	-	-	-	-	**0.0233**	**0.0214**	-	-	**0.108**	**0.103**
NMP-5D	Acid Plant	NMP-5D	6/1/2001	28.5	33.5	-	-	-	-	**0.118**	**0.0213**	-	-	-	-	-	**0.0075**	-	-	**0.0326**	**0.0281**	-	-	**0.0715**	**0.0474**
		NMP-5D	10/3/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**17.1** *D*	-	-
NMP-6S	Acid Plant	NMP-6S	6/1/2001	19.5	29.5	-	-	-	-	**4.11**	**0.0586**	-	-	-	-	-	**0.0297**	-	-	**0.1**	-	-	-	**1.8**	-
NMP-6D	Acid Plant	NMP-6D	6/1/2001	28.5	33.5	-	-	-	-	**0.131**	**0.0485**	-	-	-	-	-	-	-	-	-	-	-	-	**0.0462**	**0.015**
PMP-1	Acid Plant	PMP-1-100203	10/2/2003	24	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**12.4** *D*	-	-
PMP-2	Acid Plant	PMP-2-100203	10/2/2003	23.8	33.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3.45** *D*	-	-
PMP-3	Acid Plant	PMP-3-100203	10/2/2003	25	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**10.2** *D*	-	-
MWA-23	Chlorate Plant	GW11140101	11/14/2001	15.5	25.5	-	-	-	-	-	-	-	-	-	-	-	0.00043 *UJ*	-	-	-	-	-	-	-	-
		GW04050202	4/5/2002			-	-	-	-	-	-	-	-	-	-	-	0.0012 *UJF*	-	-	-	-	-	-	-	-
		GW06040302	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	**0.00117**	-	-	-	-	-	**12.7**	-	-
MWA-24	Chlorate Plant	GW11150102	11/15/2001	24	34	-	-	-	-	-	-	-	-	-	-	-	**0.147** *J*	-	-	-	-	-	-	-	-
		GW04080201	4/8/2002			-	-	-	-	-	-	-	-	-	-	-	**0.2** *J*	-	-	-	-	-	-	-	-
MWA-25	Chlorate Plant	GW11150105	11/15/2001	24	34	-	-	-	-	-	-	-	-	-	-	-	**17.1** *J*	-	-	-	-	-	-	-	-
		GW04090201	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	**13** *J*	-	-	-	-	-	-	-	-
		GW06060302	6/6/2003			-	-	-	-	-	-	-	-	-	-	-	**9.79**	-	-	-	-	-	0.1 *UJ*	-	-
		MWA-25-120303	12/3/2003			-	-	-	-	-	-	-	-	-	-	**9.36**	**9.83**	**9.99**	**8.01**	-	-	-	0.15 *UJ*	-	-
MWA-26	Chlorate Plant	GW11150101	11/15/2001	21.2	31.2	-	-	-	-	-	-	-	-	-	-	-	0.00329 *UJ*	-	-	-	-	-	-	-	-
		GW04050201	4/5/2002			-	-	-	-	-	-	-	-	-	-	-	**0.015**	-	-	-	-	-	-	-	-
		GW06040303	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	**1.02**	-	-	-	-	-	-	-	-
MWA-27	Chlorate Plant	GW11150103	11/15/2001	24	34	-	-	-	-	-	-	-	-	-	-	-	**14.7** *J*	-	-	-	-	-	-	-	-
(dup)		GW11150104	11/15/2001			-	-	-	-	-	-	-	-	-	-	-	**16.1** *J*	-	-	-	-	-	-	-	-
		GW04090203	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	**21**	-	-	-	-	-	-	-	-
		GW06040304	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	**4.3**	-	-	-	-	-	0.1 *UJ*	-	-
		MWA-27-120303	12/3/2003			-	**0.00195**	-	**0.228**	-	-	-	0.001 *UJ*	-	0.00585 *UJ*	**7.54**	**8.65**	**7.74**	**7.64**	-	**0.08**	-	0.15 *UJ*	-	0.001 *UJ*
MWA-28i(d)	Chlorate Plant	GW11160103	11/16/2001	53.9	58.9	-	-	-	-	-	-	-	-	-	-	-	0.00135 *UJ*	-	-	-	-	-	-	-	-
		GW04090202	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	0.0012 *UJF*	-	-	-	-	-	-	-	-
		GW06060301	6/6/2003			-	-	-	-	-	-	-	-	-	-	-	0.001 *UJ*	-	-	-	-	-	-	-	-
MWA-29	Chlorate Plant	GW04080204	4/8/2002			-	-	-	-	-	-	-	-	-	-	-	0.0049 *UJ*	-	-	-	-	-	-	-	-
		GW06040306	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	**0.0284**	-	-	-	-	-	-	-	-
MWA-30	Chlorate Plant	GW04120203	4/12/2002			-	-	-	-	-	-	-	-	-	-	-	**1.3**	-	-	-	-	-	-	-	-
(dup)		GW04120204	4/12/2002			-	-	-	-	-	-	-	-	-	-	-	**1.2**	-	-	-	-	-	-	-	-
		GW06040308	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	**0.562**	-	-	-	-	-	**0.264**	-	-
MWA-31i(d)	Chlorate Plant	GW03060201	3/6/2002	34	36	-	-	-	-	-	-	-	-	-	-	-	**1.8** *J*	-	-	-	-	-	-	-	-
(dup)		GW03060202	3/6/2002	34	36	-	-	-	-	-	-	-	-	-	-	-	**1.3** *J*	-	-	-	-	-	-	-	-
		GW03070201	3/7/2002	40.2	42	-	-	-	-	-	-	-	-	-	-	-	**0.43**	-	-	-	-	-	-	-	-
		GW03070202	3/7/2002	46.2	48	-	-	-	-	-	-	-	-	-	-	-	**7** *J*	-	-	-	-	-	-	-	-
		GW03070203	3/7/2002	55.2	57	-	-	-	-	-	-	-	-	-	-	-	**1.6**	-	-	-	-	-	-	-	-
		GW04080205	4/8/2002			-	-	-	-	-	-	-	-	-	-	-	**0.01** *J*	-	-	-	-	-	-	-	-
		GW06040307	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	**1.15**	-	-	-	-	-	-	-	-
MWA-32i	Chlorate Plant	GW06040310	6/4/2003	37	42	-	-	-	-	-	-	-	-	-	-	-	**0.238**	-	-	-	-	-	-	-	-
MWA-33	Chlorate Plant	GW06110302	6/11/2003	20	30	-	-	-	-	-	-	-	-	-	-	-	**0.226**	-	-	-	-	**5.59**	**5.24**	-	-
(dup)		GW06110303	6/11/2003			-	-	-	-	-	-	-	-	-	-	-	**0.601**	-	-	-	-	**9.99**	**8.87**	-	-
		GW06050305	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	**0.532**	-	-	-	-	-	**2.27**	-	-
(dup)		GW06050306	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	**0.514**	-	-	-	-	-	-	-	-
MWA-34i	Chlorate Plant	GW06060305	6/6/2003	32	37	-	-	-	-	-	-	-	-	-	-	-	**0.142**	-	-	-	-	-	-	-	-
MWA-35	Chlorate Plant	MWA-35-120203	12/2/2003	23	33	-	-	-	-	-	-	-	-	-	-	**9.88**	**0.151**	**0.0862**	**0.078**	-	-	-	0.15 *UJ*	-	-
MWA-36	Chlorate Plant	MWA-36-120303	12/3/2003	23	33	**0.00310**	**0.00372**	**0.0981**	**0.101**	-	-	0.001 *UJ*	0.001 *UJ*	0.001 *UJ*	0.00529 *UJ*	**6.56**	**16**	**17.2**	**14.9**	**0.0548**	**0.0425**	-	0.15 *UJ*	0.001 *UJ*	0.001 *UJ*

Table 5-21
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Screen /Sample Depth (ft bgs)	(ft bgs)	Magnesium (Total) 6010B (mg/L)	Manganese (Total) 6010B (mg/L)	Manganese (Dissolved) 6010B (mg/L)	Mercury (Total) 7470A (mg/L)	Mercury (Dissolved) 7470A (mg/L)	Nickel (Total) 6010B (mg/L)	Nickel (Dissolved) 6010B/6020 (mg/L)	Potassium (Total) 6010B (mg/L)	Selenium (Total) 6020 (mg/L)	Selenium (Dissolved) 6020 (mg/L)	Silver (Total) 6020 (mg/L)	Silver (Dissolved) 6020 (mg/L)	Sodium (Total) 6010B (mg/L)	Thallium (Total) 6020 (mg/L)	Thallium (Dissolved) 6020 (mg/L)	Zinc (Total) 6010B/6020 (mg/L)	Zinc (Dissolved) 6010B/6020 (mg/L)
Preliminary Screening Levels						NE	NE	NE	0.00077 b,c	0.00077 b,c	0.016 b,c,d	0.016 b,c,d	NE	0.005 b	0.005 b	0.0003 b,c,d,f	0.0003 b,c,d,f	NE	0.04 a	0.04 a	0.0365 b,c,d	0.0365 b,c,d
MWA-17si	Acid Plant	GW039918	8/26/1999	33.6	35.1	11.7	-	-	-	-	-	-	2.8	-	-	-	-	127	-	-	-	-
		GW049916	11/18/1999			8.91	-	-	-	-	-	-	4.2	-	-	-	-	217	-	-	-	-
(dup)		GW049917	11/18/1999			8.85	-	-	-	-	-	-	4.1	-	-	-	-	214	-	-	-	-
MWA-18	Acid Plant	GW020110	6/13/2001	19.2	29.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW020111	6/13/2001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04040203	4/4/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-19	Acid Plant	GW020112	6/13/2001	19.2	29.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04040204	4/4/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-20	Acid Plant	GW020114	6/13/2001	24.7	34.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04090204	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-1S	Acid Plant	NMP-1S	6/1/2001	19.5	29.5	-	0.368	0.347	0.0003	-	0.0328	0.0247	-	-	-	-	-	-	-	-	0.0839	0.0683
		NMP-1S	10/3/2003			-	-	0.1 *U*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-1D	Acid Plant	NMP-1D	6/1/2001	29.1	34.1	-	0.979	0.743	-	-	0.0973	0.895	-	-	-	-	-	-	-	-	0.586	0.737
		NMP-1D	10/3/2003			-	-	0.14 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-2S	Acid Plant	NMP-2S	6/1/2001	19.5	29.5	-	0.592	0.552	-	-	0.0264	0.0297	-	-	-	-	-	-	-	-	0.0606	0.0646
NMP-2D	Acid Plant	NMP-2D	6/1/2001	31.5	36.5	-	1.08	1	-	-	0.0555	0.0519	-	-	-	-	-	-	-	-	0.171	0.16
		NMP-2D	10/3/2003			-	-	0.44 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-3S	Acid Plant	NMP-3S	5/31/2001	19.5	29.5	-	1.1	0.748	0.0013	-	0.231	0.126	-	-	-	-	-	-	-	-	0.254	0.136
NMP-3D	Acid Plant	NMP-3D	6/1/2001	30	35	-	1.57	1.54	-	-	0.12	0.116	-	-	-	-	-	-	-	-	0.322	0.312
NMP-3D		GW06110301	6/11/2003			-	-	0.781	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-4S	Acid Plant	NMP-4S	6/1/2001	19.5	29.5	-	2.06	1.81	-	-	0.0619	0.0533	-	-	-	-	-	-	-	-	0.305	0.323
		NMP-4S	10/3/2003			-	-	0.32 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-4D	Acid Plant	NMP-4D	6/1/2001	30	35	-	1.5	1.38	-	-	0.145	0.128	-	-	-	-	-	-	-	-	0.216	0.199
		GW06100306	6/10/2003			-	0.473	0.463	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW06100307	6/10/2003			-	0.559	0.538	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NMP-4D	10/3/2003			-	-	0.14 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-5S	Acid Plant	NMP-5S	6/1/2001	19.5	29.5	-	0.565	0.51	-	-	-	-	-	-	-	-	-	-	-	-	0.0449	0.0453
NMP-5D	Acid Plant	NMP-5D	6/1/2001	28.5	33.5	-	0.673	0.655	-	-	0.0715	0.0708	-	-	-	-	-	-	-	-	0.15	0.145
		NMP-5D	10/3/2003			-	-	0.13 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NMP-6S	Acid Plant	NMP-6S	6/1/2001	19.5	29.5	-	0.169	0.0652	-	-	-	-	-	-	-	-	-	-	-	-	0.101	0.0133
NMP-6D	Acid Plant	NMP-6D	6/1/2001	28.5	33.5	-	0.588	0.668	-	-	0.0221	0.0299	-	-	-	-	-	-	-	-	0.0509	0.0529
PMP-1	Acid Plant	PMP-1-100203	10/2/2003	24	34	-	-	4.98 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-2	Acid Plant	PMP-2-100203	10/2/2003	23.8	33.8	-	-	0.42 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMP-3	Acid Plant	PMP-3-100203	10/2/2003	25	35	-	-	0.28 *D*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-23	Chlorate Plant	GW11140101	11/14/2001	15.5	25.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04050202	4/5/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06040302	6/4/2003			-	-	4.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-24	Chlorate Plant	GW11150102	11/15/2001	24	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04080201	4/8/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-25	Chlorate Plant	GW11150105	11/15/2001	24	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04090201	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06060302	6/6/2003			-	-	0.173	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		MWA-25-120303	12/3/2003			-	-	0.0255	-	-	-	-		-	-	-	-	-	-	-	-	-
MWA-26	Chlorate Plant	GW11150101	11/15/2001	21.2	31.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04050201	4/5/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06040303	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-27	Chlorate Plant	GW11150103	11/15/2001	24	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW11150104	11/15/2001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04090203	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06040304	6/4/2003			-	-	0.732	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		MWA-27-120303	12/3/2003			-	-	0.147	-	0.000646	-	0.0248		-	0.00539	-	0.001 *U*	-	-	0.001 *U*	-	0.005 *U*
MWA-28i(d)	Chlorate Plant	GW11160103	11/16/2001	53.9	58.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04090202	4/9/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06060301	6/6/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-29	Chlorate Plant	GW04080204	4/8/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06040306	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-30	Chlorate Plant	GW04120203	4/12/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW04120204	4/12/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06040308	6/4/2003			-	-	1.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-31i(d)	Chlorate Plant	GW03060201	3/6/2002	34	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW03060202	3/6/2002	34	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW03070201	3/7/2002	40.2	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW03070202	3/7/2002	46.2	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW03070203	3/7/2002	55.2	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW04080205	4/8/2002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06040307	6/4/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-32i	Chlorate Plant	GW06040310	6/4/2003	37	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-33	Chlorate Plant	GW06110302	6/11/2003	20	30	-	0.142	0.128	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW06110303	6/11/2003			-	0.219	0.199	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW06050305	6/5/2003			-	-	0.068	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW06050306	6/5/2003			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-34i	Chlorate Plant	GW06060305	6/6/2003	32	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-35	Chlorate Plant	MWA-35-120203	12/2/2003	23	33	-	-	0.0109	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWA-36	Chlorate Plant	MWA-36-120303	12/3/2003	23	33	-	-	0.0397	0.000339	0.000922	0.011	0.00965	-	0.002 *U*	0.00483	0.001 *U*	0.001 *U*	-	0.001 *U*	0.001 *U*	0.005 *U*	0.005 *U*

Table 5-21
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Screen /Sample Depth (ft bgs)	Screen /Sample Depth (ft bgs)	Antimony (Total) 6020 (mg/L)	Antimony (Dissolved) 6020 (mg/L)	Arsenic (Total) 6020 (mg/L)	Arsenic (Dissolved) 6020 (mg/L)	Barium (Total) 6010B (mg/L)	Barium (Dissolved) 6010B (mg/L)	Beryllium (Total) 6020 (mg/L)	Beryllium (Dissolved) 6020 (mg/L)	Cadmium (Total) 6020 (mg/L)	Cadmium (Dissolved) 6020 (mg/L)	Calcium (Total) 6010B (mg/L)	Chromium (Total) 6020/6010B (mg/L)	Chromium (Dissolved) 6010B (mg/L)	Chromium, Hexavalent (Total) 6010B/7195 (mg/L)	Copper (Total) 6010B/6020 (mg/L)	Copper (Dissolved) 6010B/6020 (mg/L)	Iron (Total) 6010B (mg/L)	Iron (Dissolved) 6010B (mg/L)	Lead (Total) 7421 (mg/L)	Lead (Dissolved) 7421 (mg/L)
Preliminary Screening Levels						**1.6 a**	**1.6 a**	**0.1500 b,c**	**0.1500 b,c**	**NE**	**NE**	**0.0053 a**	**0.0053 a**	**0.000094 b,c,d**	**0.000094 b,c,d**	**NE**	**0.011 b,c,e**	**0.011 b,c,e**	**0.011 b,c**	**0.0027 b,c,d**	**0.0027 b,c,d**	**1 b**	**1 b**	**0.00054 b,c,d**	**0.00054 b,c,d**
MWA-37	Chlorate Plant	MWA-37-120303	12/3/2003	23	33	**0.00233**	**0.00289**	**0.113**	**0.117**	-	-	0.001 *U*	0.001 *U*	0.00498 *U*	0.00487 *U*	**12**	**10.3**	**9.74**	**8.34**	**0.0995**	**0.0919**	-	0.15 *U*	0.001 *U*	0.001 *U*
MWA-38	Chlorate Plant	MWA-38-120303	12/3/2003	22	32	-	-	-	-	-	-	-	-	-	-	**129**	**1.79**	**1.75**	**1.63**	-	-	-	0.15 *U*	-	-
B-68	Chlorate Plant	GW050109	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	**0.0255**	-	-	-	-	-		-	-
B-69	Chlorate Plant	GW050105	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	**2.13**	-	-	-	-	-	-	-	-
B-70	Chlorate Plant	GW050106	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	**27.8**	-	-	-	-	-	-	-	-
(dup)		GW050107	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	**26.7**	-	-	-	-	-	-	-	-
B-71	Chlorate Plant	GW092501	9/25/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	0.15 *U*	-	-	-	-	-	-	-	-
B-72	Chlorate Plant	GW092502	9/25/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	**20** *J*	-	-	-	-	-	-	-	-
		GW092503	9/25/2001	47	50	-	-	-	-	-	-	-	-	-	-	-	**1.4** *J*	-	-	-	-	-	-	-	-
B-73	Chlorate Plant	GW092504	9/25/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	0.044 *U*	-	-	-	-	-	-	-	-
B-74	Chlorate Plant	GW092702	9/27/2001	16	20	-	-	-	-	-	-	-	-	-	-	-	**3.2**	-	-	-	-	-	-	-	-
B-75	Chlorate Plant	GW092703	9/27/2001	26	30	-	-	-	-	-	-	-	-	-	-	-	**5.6**	-	-	-	-	-	-	-	-
(dup)		GW092704	9/27/2001	26	30	-	-	-	-	-	-	-	-	-	-	-	**5.5**	-	-	-	-	-	-	-	-
B-76	Chlorate Plant	GW092705	9/27/2001	15	19	-	-	-	-	-	-	-	-	-	-	-	**21**	-	-	-	-	-	-	-	-
B-77	Chlorate Plant	GW092602	9/26/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	0.029 *U*	-	-	-	-	-	-	-	-
B-78	Chlorate Plant	GW092801	9/28/2001	18	22	-	-	-	-	-	-	-	-	-	-	-	**34**	-	-	-	-	-	-	-	-
B-79	Chlorate Plant	GW092804	9/28/2001	16	20	-	-	-	-	-	-	-	-	-	-	-	**1.5**	-	-	-	-	-	-	-	-
B-80	Chlorate Plant	GW092701	9/27/2001	16	20	-	-	-	-	-	-	-	-	-	-	-	**110** *J*	-	-	-	-	-	-	-	-
B-81	Chlorate Plant	GW092706	9/27/2001	15	19	-	-	-	-	-	-	-	-	-	-	-	**0.58**	-	-	-	-	-	-	-	-
B-82	Chlorate Plant	GW092807	9/28/2001	24	28	-	-	-	-	-	-	-	-	-	-	-	0.17 *U*	-	-	-	-	-	-	-	-
B-83	Chlorate Plant	GW092805	9/28/2001	18	22	-	-	-	-	-	-	-	-	-	-	-	**1.7**	-	-	-	-	-	-	-	-
B-84	Chlorate Plant	GW092601	9/26/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	0.35 *U*	-	-	-	-	-	-	-	-
B-85	Chlorate Plant	GW102501	10/25/2001	50	54	-	-	-	-	-	-	-	-	-	-	-	**1.8** *J*	-	-	-	-	-	-	-	-
B-86b	Chlorate Plant	GW1102011	11/2/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	**0.41** *J*	-	-	-	-	-	-	-	-
(dup)		GW1102012	11/2/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	**0.61** *J*	-	-	-	-	-	-	-	-
B-87	Chlorate Plant	GW1101011	11/1/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	**1** *J*	-	-	-	-	-	-	-	-
B-88	Chlorate Plant	GW1101012	11/1/2001	24	28	-	-	-	-	-	-	-	-	-	-	-	**7.8** *J*	-	-	-	-	-	-	-	-
B-90	Chlorate Plant	GW1105012	11/5/2001	24	28	-	-	-	-	-	-	-	-	-	-	-	**2** *J*	-	-	-	-	-	-	-	-
B-116	Chlorate Plant	GW12190101	12/19/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	0.41 *U*	-	-	-	-	-	-	-	-
B-117	Chlorate Plant	GW12190102	12/19/2001	26	30	-	-	-	-	-	-	-	-	-	-	-	1.5 *U*	-	-	-	-	-	-	-	-
B-118	Chlorate Plant	GW12190104	12/19/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	**5.3** *J*	-	-	-	-	-	-	-	-
(dup)		GW12190105	12/19/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	**4.9** *J*	-	-	-	-	-	-	-	-

Notes:
mg/L - milligrams per liter
U - Undetected at the detection limit shown
J - Estimated
F - Field quality control sample criteria not met
D - Result reported from a dilution.
N - The Matrix Spike sample recovery is not within control limits.
- Value above preliminary screening level
- Data for this sample has not undergone validation
- Not analyzed/reported
a - Oregon DEQ Water Quality Guidance Values Summary, Table 33C, Freshwater, Chronic
b - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic
c - Value applies to the dissolved phase.
d - Value is hardness-dependent. Value displayed corresponds to a hardness of 25 mg/L
e - Value for hexavalent chromium used.
f - Chronic criterion not established, acute criterion used

Table 5-21
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Screen /Sample Depth (ft bgs)	Screen /Sample Depth (ft bgs)	Magnesium (Total) 6010B (mg/L)	Manganese (Total) 6010B (mg/L)	Manganese (Dissolved) 6010B (mg/L)	Mercury (Total) 7470A (mg/L)	Mercury (Dissolved) 7470A (mg/L)	Nickel (Total) 6010B (mg/L)	Nickel (Dissolved) 6010B/6020 (mg/L)	Potassium (Total) 6010B (mg/L)	Selenium (Total) 6020 (mg/L)	Selenium (Dissolved) 6020 (mg/L)	Silver (Total) 6020 (mg/L)	Silver (Dissolved) 6020 (mg/L)	Sodium (Total) 6010B (mg/L)	Thallium (Total) 6020 (mg/L)	Thallium (Dissolved) 6020 (mg/L)	Zinc (Total) 6010B/6020 (mg/L)	Zinc (Dissolved) 6010B/6020 (mg/L)
Preliminary Screening Levels						**NE**	**NE**	**NE**	**0.00077 b,c**	**0.00077 b,c**	**0.016 b,c,d**	**0.016 b,c,d**	**NE**	**0.005 b**	**0.005 b**	**0.0003 b,c,d,f**	**0.0003 b,c,d,f**	**NE**	**0.04 a**	**0.04 a**	**0.0365 b,c,d**	**0.0365 b,c,d**
MWA-37	Chlorate Plant	MWA-37-120303	12/3/2003	23	33	-	-	**0.0158**	**0.000806**	**0.000624**	**0.0195**	**0.0178**	-	0.002 *U*	0.00487 *U*	0.001 *U*	0.001 *U*	-	0.001 *U*	0.001 *U*	0.005 *U*	0.005 *U*
MWA-38	Chlorate Plant	MWA-38-120303	12/3/2003	22	32	-	-	**3.86**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-68	Chlorate Plant	GW050109	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-69	Chlorate Plant	GW050105	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-70	Chlorate Plant	GW050106	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW050107	5/3/2001	31	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-71	Chlorate Plant	GW092501	9/25/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-72	Chlorate Plant	GW092502	9/25/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		GW092503	9/25/2001	47	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-73	Chlorate Plant	GW092504	9/25/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-74	Chlorate Plant	GW092702	9/27/2001	16	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-75	Chlorate Plant	GW092703	9/27/2001	26	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW092704	9/27/2001	26	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-76	Chlorate Plant	GW092705	9/27/2001	15	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-77	Chlorate Plant	GW092602	9/26/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-78	Chlorate Plant	GW092801	9/28/2001	18	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-79	Chlorate Plant	GW092804	9/28/2001	16	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-80	Chlorate Plant	GW092701	9/27/2001	16	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-81	Chlorate Plant	GW092706	9/27/2001	15	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-82	Chlorate Plant	GW092807	9/28/2001	24	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-83	Chlorate Plant	GW092805	9/28/2001	18	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-84	Chlorate Plant	GW092601	9/26/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-85	Chlorate Plant	GW102501	10/25/2001	50	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-86b	Chlorate Plant	GW1102011	11/2/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW1102012	11/2/2001	32	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-87	Chlorate Plant	GW1101011	11/1/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-88	Chlorate Plant	GW1101012	11/1/2001	24	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-90	Chlorate Plant	GW1105012	11/5/2001	24	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-116	Chlorate Plant	GW12190101	12/19/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-117	Chlorate Plant	GW12190102	12/19/2001	26	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-118	Chlorate Plant	GW12190104	12/19/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW12190105	12/19/2001	28	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
mg/L - milligrams per liter
U - Undetected at the detection limit shown
J - Estimated
F - Field quality control sample criteria not met
D - Result reported from a dilution.
N - The Matrix Spike sample recovery is not within control limits.
- Value above preliminary screening level
- Data for this sample has not undergone validation
- Not analyzed/reported
a - Oregon DEQ Water Quality Guidance Values Summary, Table 33C, Freshwater, Chror
b - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic
c - Value applies to the dissolved phase.
d - Value is hardness-dependent. Value displayed corresponds to a hardness of 25 mg/L
e - Value for hexavalent chromium used.
f - Chronic criterion not established, acute criterion used

Table 5-22
Groundwater Analytical Results - Petroleum Hydrocarbons
Arkema Portland Plant Remedial Investigation

Boring Number	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Sample Number	Date	Diesel-Range Organics NWTPH-Dx (mg/L)	Heavy Oil-Range Organics NWTPH-Dx (mg/L)
Preliminary Screening Levels						**NE**	**NE**
B-55	Acid Plant	-	-	GWGX10	2/19/1999	0.1 *U*	-
B-56	Acid Plant	-	-	GWG011	2/19/1999	0.1 *U*	-
MWA-30	Chlorate Plant	19.1	29.1	GW06040308	6/4/2003	**0.642**	0.5 *U*
MWA-32ia	Chlorate Plant	37	42	GW06040310	6/4/2003	**0.342**	0.5 *U*
(dup)				GW06040311	6/4/2003	**0.32**	0.5 *U*

Notes:
Sample depth unspecified for B-55 and B-56; Groundwater observed at approximately 20 feet in both borings
mg/L - milligrams per liter
ft bgs - Feet below ground surface
U - Undetected at the detection limit shown
- Not analyzed
NE = Ecological-risk-based values not established.

Table 5-23
Subsurface Soil Analytical Results - Chromium
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Chromium 6020 (mg/kg)	Chromium, Hexavalent 3060A (mg/kg)
Preliminary Screening Levels					450 a	64 a
B-71	SO1140	9/25/01	0	4	**13 *J***	-
	SO1142	9/25/01	8	12	**20 *J***	1.6 *U*
	SO1144	9/25/01	16	20	**15 *J***	-
B-72	SO1149	9/25/01	0	4	**20 *J***	-
(dup)	SO1149XX	9/25/01	0	4	**15 *J***	-
	SO1152	9/25/01	12	16	**20 *J***	-
	SO1155	9/25/01	24	28	**25 *J***	-
	SO1157	9/25/01	32	36	**220 *J***	-
B-73	SO1161	9/25/01	0	4	**21 *J***	-
	SO1163	9/25/01	8	12	**13 *J***	-
	SO1165	9/25/01	16	20	**15 *J***	-
B-74	SO1206	9/27/01	0	4	**110 *J***	-
	SO1208	9/27/01	6	8	**240 *J***	-
	SO1210	9/27/01	10	12	**570 *J***	-
	SO1212	9/27/01	14	16	**190 *J***	-
	SO1213	9/27/01	16	20	**220 *J***	-
B-75	SO1215	9/27/01	0	4	**59 *J***	-
	SO1216	9/27/01	4	6	**77 *J***	-
	SO1218	9/27/01	8	10	**69 *J***	**9.7 *J***
	SO1220	9/27/01	12	14	**220 *J***	-
	SO1222	9/27/01	16	18	**85 *J***	-
	SO1224	9/27/01	20	22	**110 *J***	-
(dup)	SO1224XX	9/27/01	20	22	**130 *J***	-
	SO1226	9/27/01	24	28	**290 *J***	-
B-76	SO1227	9/27/01	2	4	**29 *J***	-
	SO1228	9/27/01	4	6	**52 *J***	-
	SO1230	9/27/01	8	10	**670 *J***	-
	SO1232	9/27/01	12	14	**1,100 *J***	-
	SO1234	9/27/01	16	18	**150 *J***	-
	SO1235	9/27/01	18	22	**120 *J***	-
B-77	SO1185	9/26/01	2	4	**79 *J***	-
	SO1186	9/26/01	4	6	**120 *J***	-
	SO1188	9/26/01	8	10	**170 *J***	**69 *J***
	SO1190	9/26/01	12	16	**410 *J***	-
	SO1192	9/26/01	18	20	**100 *J***	-
	SO1194	9/26/01	22	24	**130 *J***	-
B-78	SO1243	9/28/01	0	4	**31 *J***	-
	SO1244	9/28/01	4	6	**30 *J***	-
	SO1246	9/28/01	8	10	**21 *J***	-
	SO1248	9/28/01	12	14	**9.5 *J***	-
	SO1250	9/28/01	16	18	**36 *J***	-
	SO1252	9/28/01	20	24	**130 *J***	-
B-79	SO1253	9/28/01	0	4	**31 *J***	-
	SO1255	9/28/01	8	12	**21 *J***	-
	SO1257	9/28/01	16	20	**15 *J***	-
B-80	SO1197	9/26/01	0	4	**40 *J***	-
	SO1198	9/26/01	4	6	**76 *J***	-
(dup)	SO1198XX	9/26/01	4	6	**61 *J***	-
	SO1200	9/26/01	8	10	**220 *J***	**16 *J***
	SO1202	9/26/01	12	14	**93 *J***	-
	SO1204	9/26/01	16	20	**780 *J***	-

Table 5-23
Subsurface Soil Analytical Results - Chromium
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Chromium 6020 (mg/kg)	Chromium, Hexavalent 3060A (mg/kg)
Preliminary Screening Levels					450 a	64 a
B-81	SO1237	9/27/01	0	4	**36 *J***	-
	SO1239	9/27/01	8	12	**140 *J***	-
	SO1241	9/27/01	16	20	**260 *J***	-
B-82	SO1266	9/28/01	0	4	**14 *J***	-
	SO1268	9/28/01	8	12	**14 *J***	-
B-83	SO1258	9/28/01	0	4	**120 *J***	-
	SO1260	9/28/01	8	12	**160 *J***	-
B-84	SO1170	9/26/01	2	4	**130 *J***	-
(dup)	SO1170XX	9/26/01	2	4	**62 *J***	-
	SO1171	9/26/01	4	6	**73 *J***	-
	SO1173	9/26/01	8	10	**35 *J***	**30 *J***
	SO1175	9/26/01	12	14	**28 *J***	-
	SO1177	9/26/01	16	18	**34 *J***	-
	SO1179	9/26/01	20	22	**150 *J***	-
	SO1181	9/26/01	24	26	**100 *J***	-
	SO1183	9/26/01	28	32	**110 *J***	-
B-86	SO1378	11/1/01	0	4	**18 *J***	-
(dup)	SO1378XX	11/1/01	0	4	**17 *J***	-
	SO1379	11/1/01	4	8	**21 *J***	-
	SO1381	11/1/01	12	16	**28 *J***	-
B-87	SO1370	11/1/01	0	4	**17 *J***	-
	SO1371	11/1/01	4	8	**23 *J***	-
	SO1373	11/1/01	12	16	**10 *J***	-
B-88	SO1384	11/1/01	0	4	**180 *J***	-
	SO1386	11/1/01	6	8	**190 *J***	-
	SO1388	11/1/01	10	12	**1,600 *J***	-
	SO1390	11/1/01	14	16	**52 *J***	-
	SO1392	11/1/01	18	20	**21 *J***	-
	SO1394	11/1/01	22	24	**32 *J***	-
B-90	SO1475	11/5/01	2	4	**75 *J***	-
	SO1476	11/5/01	4	6	**75 *J***	-
	SO1478	11/5/01	8	10	**300 *J***	-
	SO1480	11/5/01	12	14	**120 *J***	-
	SO1482	11/5/01	16	18	**49 *J***	-
	SO1484	11/5/01	20	24	**33 *J***	-

Notes:
mg/kg - milligrams per kilogram
J - Estimated
U - Undetected at detection limit shown
- Value above preliminary screening level
- not analyzed
a - USEPA Region IX PRGs, direct contact pathway, industrial soil, October 2004

Table 5-24
Chlorate Plant Subsurface Soil Analytical Results-Petroleum Hydrocarbons
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Gasoline-Range Organics NWTPH-Gx (mg/kg)	Diesel-Range Organics NWTPH-Dx (mg/kg)	Heavy Oil-Range Organics NWTPH-Dx (mg/kg)
Preliminary Screening Levels					13,000 a	23,000 a	23,000 a,b
MWA-30	SO001700	3/5/2002	29.5	30	**150 *J***	**29,000**	**40,000**

Notes:
mg/kg - milligrams per kilogram
J - Estimated
- Value above preliminary screening level
a - ODEQ Risk-based Decision Making for the Remediation of Petroleum-contaminated Sites, Appendix A, September 22, 2003. Soil ingestion, dermal contact, and inhalation RBCs, construction worker.
b - Value for diesel-range organics used.

Table 5-25
Groundwater Analytical Results - Conventional Parameters and Miscellaneous Constituents
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Sample/ Screen Depth (ft bgs)	Sample/ Screen Depth (ft bgs)	Bicarbonate 2320B (mg/L)	Carbonate 2320B (mg/L)	Total Alkalinity 310.1 (mg/L)	Ammonia-Nitrogen 350.1 (mg/L)	Nitrate 300.0/353.2 (mg/L)	Nitrite 300.0/353.2/ 354.1 (mg/L)	Total Organic Carbon 415.1/ 9060 mod. (mg/L)	Chloral Hydrate 551.1 (mg/L)	p-Chloro-benzene-sulfonic acid (mg/L)	Total Chloride 300.0 (mg/L)	Dissolved Methane RSK 175 (mg/L)	Perchlorate 314.0 (mg/L)	Sulfate 300.0 (mg/L)	Sulfide 9030.0 (mg/L)	Total Dissolved Solids 160.1 (mg/L)
Preliminary Screening Levels						NE	NE	NE	a	NE	NE	NE	NE	NE	230 b	NE	0.2 c	NE	NE	NE
MWA-1	Acid Plant	GW019915	1/29/1999	23	33	2.0 *U*	1,660	2,530	-	1.4	1.0 *U*	-	-	-	710	-	-	110.0	-	-
		GW029916	4/29/1999			2 *U*	1,580	2,410	-	1.1 *J*	5 *U*	-	-	-	961 *J*	-	-	115	-	-
MWA-2	Acid Plant	GW019907	1/27/1999	21.5	31.5	100	2 *U*	100	-	0.3	0.2 *U*	-	-	-	41.1	-	-	19.3	-	-
		GW029906	4/27/1999			94 *J*	2 *UJ*	94 *J*	-	0.2 *J*	0.2 *UJ*	-	0.0005 *U*	10 *U*	16.7	-	-	29.4 *J*	-	-
(dup)		GW029907	4/27/1999			96 *J*	2 *UJ*	96 *J*	-	0.2 *J*	0.2 *UJ*	-	0.0005 *U*	10 *U*	17.3	-	-	32.3 *J*	-	-
		GW039907	8/24/1999			58	2 *U*	58	-	0.2 *U*	0.2 *U*	-	-	-	33.8	-	-	135	-	-
		GW049905	11/16/1999			64	2 *U*	64	-	4.3	0.2 *U*	-	0.0005 *U*	-	41.7	-	-	78	-	-
		GW010111	3/29/2001			-	-	80	-	2.5	0.2 *UJ*	3.3	-	-	158 *J*	-	-	160	-	-
		GW020106	6/12/2001			-	-	95	-	6.1	2 *U*	4 *U*	-	-	380	-	-	150	-	-
		GW04100205	4/10/2002			-	-	21	-	19	10 *U*	6.8 *U*	-	-	1,400	-	-	650	-	-
		GW-060903-01	6/9/2003			-	-	43.5	-	1 *U*	1 *U*	6.05	-	-	981	0.0012 *U*	1.4	490 *J*	-	-
MWA-3	Acid Plant	GW019908	1/27/1999	20.7	30.7	321	2 *U*	321	-	0.8	0.2 *U*	-	-	-	39.8	-	-	12.3	-	-
		GW029911	4/28/1999			16	2 *U*	16	-	0.2 *U*	0.2 *U*	-	-	-	4	-	-	0.6 *J*	-	-
		GW039909	8/24/1999			82	2 *U*	82	-	0.2 *U*	0.2 *U*	-	-	-	10.5	-	-	4.2	-	-
		GW049907	11/16/1999			65	2 *U*	65	-	0.5	0.2 *U*	-	-	-	7.1	-	-	2	-	-
		GW010113	3/29/2001			-	-	91	-	0.2 *U*	0.2 *UJ*	2.3	-	-	48.3 *J*	-	-	242	-	-
		GW020115	6/14/2001			-	-	100	-	0.1 *U*	0.1 *U*	2.7 *U*	-	-	49	-	-	150	-	-
		GW04150203	4/15/2002			-	-	150	-	2	1 *U*	2.9 *U*	-	-	384	-	-	501	-	-
		GW-060903-04	6/9/2003			-	-	314	-	2.02	0.1 *U*	3.74	-	-	107	0.112	0.092 *UF*	46	-	-
MWA-4	Acid Plant	GW019912	1/28/1999	19.5	29.5	350	2 *U*	350	-	0.3	0.5 *U*	-	-	-	68.1	-	-	24.8	-	-
(dup)		GW019913	1/28/1999			348	2 *U*	348	-	0.3	0.5 *U*	-	-	-	70.1	-	-	25.4	-	-
		GW029913	4/28/1999			124	2 *U*	124	-	0.2 *J*	0.2 *U*	-	0.0005 *U*	10 *U*	12.8 *J*	-	-	3.3	-	-
		GW039910	8/25/1999			170	2 *U*	170	-	0.2 *U*	0.2 *U*	-	-	-	16.2	-	-	3.7	-	-
		GW049909	11/16/1999			320	2 *U*	320	-	0.3	0.5 *U*	-	0.0005 *U*	-	71.7	-	-	29	-	-
		GW010116	3/29/2001			-	-	299	-	0.2 *U*	0.2 *UJ*	5.7	-	-	39.7 *J*	-	-	196	-	-
		GW020117	6/14/2001			-	-	310	-	0.1 *U*	0.1 *U*	7 *U*	-	-	53	-	-	230	-	-
		GW04110201	4/11/2002			-	-	290	-	1	0.5 *U*	7.1 *U*	-	-	85	-	-	830	-	-
		GW-060903-07	6/9/2003			-	-	500	-	1 *U*	1 *U*	23.8	-	-	234	-	0.1 *UF*	299 *J*	-	-
MWA-5	Acid Plant	GW019905	1/27/1999	35.7	38.2	469	2 *U*	469	-	1 *U*	5 *U*	-	-	-	1,130	-	-	31.9 *J*	-	-
		GW029904	4/27/1999			465	2 *U*	465	-	0.5 *U*	2 *U*	-	-	-	445 *J*	-	-	42.2	-	-
		GW039903	8/23/1999			523	2 *U*	523	-	0.3 *J*	2 *U*	-	-	-	445	-	-	39.3	-	-
		GW049903	11/15/1999			464	2 *U*	464	-	1.5	2 *U*	-	-	-	701	-	-	20.1	-	-
		GW010110	3/28/2001			-	-	585	-	0.8	2 *U*	20.2	-	-	588	-	-	24.4	-	-
		GW020105	6/12/2001			-	-	630	15.4	1.3	2 *U*	25	-	-	830	-	-	20	-	-
		GW04040201	4/4/2002			-	-	620	16.9	2.1	2 *U*	27	-	-	620	-	-	8.6	-	-
(dup)		GW04040205	4/4/2002			-	-	-	19.7		-	-	-	-	-	-	-	-	-	-
		GW-060603-06	6/6/2003			-	-	742	-	1 *R*	1 *R*	23.2	-	-	859	-	-	10 *UJ*	-	-
MWA-6	Acid Plant	GW019901	1/27/1999	30.8	33.6	424	39	463	-	0.5 *U*	2 *U*	-	-	-	412	-	-	220 *J*	-	-
MWA-6r	Acid Plant	GW039912	8/25/1999	28.2	33.2	592	88	680	-	1.5	5 *U*	-	-	-	569	-	-	38.6	-	-
		GW049911	11/17/1999			652	100	752	-	0.7	2 *U*	-	0.002 *U*	-	713	-	-	49.9	-	-
		GW010107	3/28/2001			-	-	816	-	2 *U*	5 *U*	10.6	-	-	373	-	-	91.1	-	-
		GW020108	6/12/2001			-	-	170	-	2 *U*	5 *U*	15	-	-	990	-	-	100	-	-
		GW04100203	4/10/2002			-	-	1,000	-	2 *U*	10 *U*	170	-	-	1,500	-	-	110	-	-
		GW-060503-02	6/5/2003			-	-	894	-	0.18	10 *U*	16.2	-	-	1,850	-	0.027 *UF*	110	-	-
MWA-7	Acid Plant	GW019903	1/26/1999	30.3	32.8	372	2 *U*	372	-	0.5 *U*	0.5 *U*	-	-	-	303	-	-	491 *J*	-	-
		GW029902	4/26/1999			356	2 *U*	356	-	1 *U*	1 *U*	-	-	-	233 *J*	-	-	550	-	-
		GW039902	8/23/1999			410	2 *U*	410	-	0.3 *J*	0.5 *U*	-	-	-	238	-	-	172	-	-
		GW049902	11/15/1999			404	2 *U*	404	-	0.5 *U*	2 *U*	-	-	-	247	-	-	182	-	-
		GW010101	3/26/2001			-	-	422	-	0.6 *J*	0.5 *U*	16.8	-	-	197	-	-	72.5 *J*	-	-
		GW020101	6/11/2001			-	-	380	-	1 *U*	1 *U*	19	-	-	180	-	-	78	-	-
		GW04030201	4/3/2002			-	-	390	-	1.8	1 *U*	16	-	-	180	-	-	43	-	-
		GW-060403-01	6/4/2003			-	-	378	-	0.1 *U*	0.1 *U*	13.8	-	-	175	2.59	-	69.8	-	-
MWA-8i	Acid Plant	GW019906	1/27/1999	42	47	738	2 *U*	738	-	5 *U*	10 *U*	-	-	-	2,660	-	-	313	-	-
		GW029908	4/27/1999			790 *J*	2 *UJ*	790 *J*	-	5 *UJ*	10 *UJ*	-	-	-	2,290	-	-	223 *J*	-	-
		GW039905	8/24/1999			725	2 *U*	725	-	5 *U*	10 *U*	-	-	-	2,650	-	-	286	-	-
(dup)		GW039906	8/24/1999			720	2 *U*	720	-	5 *U*	10 *U*	-	-	-	2,590	-	-	293	-	-
		GW049906	11/16/1999			788	2 *U*	788	-	1.5	10 *U*	-	-	-	2,530	-	-	364	-	-
		GW010112	3/29/2001			-	-	858	-	1 *U*	0.4 *UJ*	122	-	-	1,660 *J*	-	-	163	-	-
		GW020107	6/12/2001			-	-	910	-	2 *U*	5 *U*	180	-	-	1,400	-	-	81	-	-
		GW04100206	4/10/2002			-	-	860	-	5 *U*	10 *U*	180	-	-	2,100	-	-	110	-	-
		GW-060903-02	6/9/2003			-	-	1,100	-	1 *U*	1 *U*	43.9	-	-	2,380	-	0.02 *U*	141 *J*	-	-
MWA-9i	Acid Plant	GW019909	1/28/1999	40	45	666	2 *U*	666	-	5 *U*	10 *U*	-	-	-	3,250	-	-	950	-	-
		GW029912	4/28/1999			590	2 *U*	590	-	5 *U*	10 *U*	-	0.0017	10 *U*	3,780	-	-	715 *J*	-	-
		GW039908	8/25/1999			605	2 *U*	605	-	5 *U*	10 *U*	-	-	-	2,790	-	-	565	-	-
		GW049908	11/16/1999			606	2 *U*	606	-	2 *U*	10 *U*	-	0.0035	-	2,510	-	-	501	-	-
		GW010120	3/30/2001			-	-	606	-	1.1	10 *U*	111	-	-	2,900 *J*	-	-	470	-	-
		GW020124	6/18/2001			-	-	590	-	2.2	5 *U*	140	-	-	3,500	-	-	440	-	-
		GW04150204	4/15/2002			-	-	686	-	5 *U*	10 *U*	200	-	-	3,400	-	-	463	-	-
		GW-060903-06	6/9/2003			-	-	650	-	1 *U*	10 *U*	49.6	-	-	2,860	-	0.73	495 *J*	-	-

Table 5-25
Groundwater Analytical Results - Conventional Parameters and Miscellaneous Constituents
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Sample/ Screen Depth (ft bgs)	Sample/ Screen Depth (ft bgs)	Bicarbonate 2320B (mg/L)	Carbonate 2320B (mg/L)	Total Alkalinity 310.1 (mg/L)	Ammonia-Nitrogen 350.1 (mg/L)	Nitrate 300.0/353.2 (mg/L)	Nitrite 300.0/353.2/ 354.1 (mg/L)	Total Organic Carbon 415.1/ 9060 mod. (mg/L)	Chloral Hydrate 551.1 (mg/L)	p-Chloro-benzene-sulfonic acid (mg/L)	Total Chloride 300.0 (mg/L)	Dissolved Methane RSK 175 (mg/L)	Perchlorate 314.0 (mg/L)	Sulfate 300.0 (mg/L)	Sulfide 9030.0 (mg/L)	Total Dissolved Solids 160.1 (mg/L)
Preliminary Screening Levels						NE	NE	NE	a	NE	NE	NE	NE	NE	230 b	NE	0.2 c	NE	NE	NE
MWA-10i	Acid Plant	GW019911	1/28/1999	40.3	45.3	564	2 U	564	-	0.6	5 U	-	-	-	1,160	-	-	237	-	-
		GW029914	4/28/1999			570	2 U	570	-	2 U	5 U	-	0.0005 U	10 U	1,160 J	-	-	246	-	-
		GW039911	8/25/1999			496	2 U	496	-	1 U	5 U	-	-	-	838	-	-	154	-	-
		GW049910	11/16/1999			491	2 U	491	-	1.4	2 U	-	0.0005 U	-	843	-	-	96.1	-	-
		GW010115	3/29/2001			-	-	534	-	0.2 U	0.2 UJ	22.1	-	-	964 J	-	-	35.3	-	-
		GW020118	6/14/2001			-	-	550	-	2 U	5 U	16 U	-	-	1,100	-	-	60	-	-
		GW04110202	4/11/2002			-	-	590	-	2 U	10 U	15	-	-	850	-	-	270	-	-
		GW-061003-06	6/10/2003			-	-	548	-	1 U	1 U	13.7	-	-	1,240	-	0.26	242	-	-
MWA-11i	Acid Plant	GW019916	1/29/1999	46	51	332	2 U	332	-	0.3	2 U	-	-	-	612	-	-	9.5	-	-
		GW029905	4/27/1999			318 J	2 UJ	318 J	-	1.1 J	2 UJ	-	-	-	637	-	-	8.1 J	-	-
		GW039916	8/26/1999			294	2 U	294	-	1 U	5 U	-	-	-	802	-	-	15.9	-	-
		GW049914	11/17/1999			324	2 U	324	-	1.5	2 U	-	-	-	963	-	-	17.2	-	-
		GW010118	3/30/2001			-	-	296	-	0.5 U	2 U	4.7 U	-	-	768 J	-	-	24.8	-	-
		GW020119	6/15/2001			-	-	310	-	0.2 U	1 U	4.3 U	-	-	770	-	-	28	-	-
(dup)		GW020120	6/15/2001			-	-	300	-	0.5 U	2 U	4.2 U	-	-	660	-	-	29	-	-
		GW04110204	4/11/2002			-	-	300	-	0.2 UJ	0.01 U	4.5 U	-	-	830	-	-	21 J	-	-
		GW-061003-03	6/10/2003			-	-	308	-	1 U	1 U	5.19	-	-	550	-	0.02 U	10 UJ	-	-
MWA-12i	Acid Plant	GW019902	1/26/1999	42	52	620	2 U	620	-	0.2 U	0.2 U	-	-	-	6	-	-	2.6 J	-	-
		GW029901	4/26/1999			616	2 U	616	-	0.2	0.2 U	-	-	-	17.9 J	-	-	18.5	-	-
		GW039901	8/23/1999			632	2 U	632	-	0.3 J	0.2 U	-	-	-	9.4	-	-	6	-	-
		GW049901	11/15/1999			620	2 U	620	-	0.3	0.2 U	-	-	-	9	-	-	6.6	-	-
		GW010102	3/26/2001			-	-	622	-	0.1 UJ	0.1 U	2.7	-	-	10.3	-	-	1.3 J	-	-
		GW020102	6/11/2001			-	-	590	-	0.1 U	0.1 U	3 U	-	-	6.3	-	-	0.3	-	-
		GW04030202	4/3/2002			-	-	650	-	0.1 U	0.2 U	1.9 U	-	-	5.6	-	-	0.3	-	-
		GW-060303-01	6/3/2003			-	-	445	-	0.1 UJ	0.1 UJ	5.38	-	-	14.5	-	-	1 U	-	-
MWA-13d	Acid Plant	GW019910	1/28/1999	51	53	607	2 U	607	-	5 U	10 U	-	-	-	3,100	-	-	274	-	-
		GW029910	4/28/1999			612	2 U	612	-	2.1	20 U	-	-	-	2,910	-	-	274 J	-	-
		GW039914	8/25/1999			565	2 U	565	-	2 U	10 U	-	-	-	3,070	-	-	273	-	-
		GW049915	11/18/1999			612	2 U	612	-	2 U	5 U	-	-	-	3,360	-	-	273	-	-
		GW010114	3/29/2001			-	-	586	-	0.2 U	0.2 UJ	9	-	-	3,070 J	-	-	240	-	-
		GW020116	6/14/2001			-	-	610	-	2 U	5 U	8.4 U	-	-	2,100	-	-	270	-	-
		GW04150201	4/15/2002			-	-	640	-	5 U	10 U	10	-	-	3,100	-	-	269	-	-
(dup)		GW04150202	4/15/2002			-	-	634	-	5 U	10 U	9.9	-	-	3,320	-	-	259	-	-
		GW-060903-03	6/9/2003			-	-	454	-	1 U	1 U	8.86	-	-	3,240	-	0.02 U	264 J	-	-
MWA-14i	Acid Plant	GW019904	1/27/1999	44.1	49.1	604	2 U	604	-	2 U	5 U	-	-	-	2,310	-	-	181 J	-	-
		GW029903	4/27/1999			605	2 U	605	-	2 U	10 U	-	-	-	1,460 J	-	-	176	-	-
		GW039904	8/23/1999			614	2 U	614	-	0.3 J	10 U	-	-	-	1,950	-	-	164	-	-
		GW049904	11/15/1999			624	2 U	624	-	2.9	10 U	-	-	-	2,190	-	-	185	-	-
		GW010108	3/28/2001			-	-	567	-	2.2	10 U	23.8	-	-	1,690	-	-	138	-	-
(dup)		GW010109	3/28/2001			-	-	576	-	2 U	10 U	17.3	-	-	2,080	-	-	137	-	-
		GW020103	6/12/2001			-	-	590	2.9	2.2	10 U	17	-	-	2,000	-	-	140	-	-
(dup)		GW020104	6/12/2001			-	-	-	2.7		-	-	-	-	-	-	-	-	-	-
		GW04040202	4/4/2002			-	-	590	2.4	3.6	5 U	19	-	-	2,200	-	-	130	-	-
		GW-060603-07	6/6/2003			-	-	668	-	1 J	1 R	18.9	-	-	1,720	-	-	105 J	-	-
MWA-15	Acid Plant	GW039917	8/26/1999	23.5	32.4	239	2 U	239	-	5 U	10 U	-	-	-	1,430	-	-	2,030	-	-
		GW049913	11/17/1999			260	2 U	260	-	3	10 U	-	0.047	-	1,780	-	-	1,980	-	-
MWA-15r	Acid Plant	GW010117	3/30/2001	22.4	32.4	-	-	2 U	-	3.2	5 U	43.1	-	-	1,960 J	-	-	1,810	-	-
		GW020121	6/15/2001			-	-	2 U	-	3	2 U	54	-	-	1,600	-	-	1,900	-	-
		GW04160201	4/16/2002			-	-	474	-	5.9	2 U	136	-	-	410	-	-	183	-	-
		GW-061003-04	6/10/2003			-	-	865	-	10.4	1 U	50.6	-	-	388	0.121	0.35	283	-	-
MWA-16i	Acid Plant	GW039913	8/25/1999	39.2	44.2	884	2 U	884	-	10 U	50 U	-	-	-	7,770	-	-	105	-	-
		GW049912	11/17/1999			803	2 U	803	-	3	25 U	-	-	-	7,760	-	-	105	-	-
		GW010106	3/28/2001			-	-	882	-	2 U	10 U	34.6	-	-	5,180	-	-	79.8	-	-
		GW020109	6/12/2001			-	-	900	-	2 U	20 U	66	-	-	4,900	-	-	78	-	-
		GW04100204	4/10/2002			-	-	940	-	5 U	10 U	110	-	-	3,700	-	-	93	-	-
		GW-060503-01	6/5/2003			-	-	710	-	0.1 U	10 U	29.7	-	-	2,180	-	0.033 UF	73	-	-
MWA-17si	Acid Plant	GW039918	8/26/1999	33.6	35.1	157	2 U	157	-	0.5 U	0.5 U	-	-	-	110	-	-	628	-	-
		GW049916	11/18/1999			27	2 U	27	-	0.8	2 U	-	0.011	-	215	-	-	850	-	-
(dup)		GW049917	11/18/1999			20	2 U	20	-	0.8	2 U	-	0.01	-	228	-	-	1,230	-	-
		GW010121	3/30/2001			-	-	6 U	-	0.7	2 U	26	-	-	922 J	-	-	1,070	-	-
		GW020123	6/18/2001			-	-	2 U	-	2.3	2 U	18 U	-	-	650	-	-	840	-	-
		GW04150205	4/15/2002			-	-	2 U	-	4	10 U	30.3	-	-	1,850	-	-	1,760	-	-
		GW-060903-05	6/9/2003			-	-	10 U	-	1.6	10 U	19.4	-	-	1,970	-	9.9	1,900 J	-	-
MWA-18	Acid Plant	GW010105	3/27/2001	19.2	29.2	-	-	884	-	2 U	5 U	142	-	-	1,200	-	-	41.8	-	-
		GW020110	6/13/2001			-	-	740	-	1 U	5 U	91	-	-	890 J	-	-	36	-	-
		GW04040203	4/4/2002			-	-	290	-	2.3	5 U	20	-	-	2,200	-	-	21	-	-
		GW-060603-03	6/6/2003			-	-	211	-	2.9 J	1 R	4.89	-	-	1,410	-	-	37.4 J	-	-
MWA-19	Acid Plant	GW010104	3/27/2001	19.2	29.2	-	-	410	-	5.7	20 U	58.8	-	-	5,540	-	-	75.4	-	-
		GW020112	6/13/2001			-	-	260	-	5.5	20 U	8.5 U	-	-	13,000 J	-	-	120	-	-
		GW04040204	4/4/2002			-	-	320	-	5.7	50 U	9.2	-	-	13,000	-	-	110	-	-
		GW-060603-04	6/6/2003			-	-	243	-	1.8 J	10 R	7.05	-	-	5,180	-	0.082 UF	61.2 J	-	-

Table 5-25
Groundwater Analytical Results - Conventional Parameters and Miscellaneous Constituents
Arkema Portland Plant Remedial Investigation

Monitoring Well	Area of Investigation	Sample Number	Date	Sample/ Screen Depth (ft bgs)	Sample/ Screen Depth (ft bgs)	Bicarbonate 2320B (mg/L)	Carbonate 2320B (mg/L)	Total Alkalinity 310.1 (mg/L)	Ammonia-Nitrogen 350.1 (mg/L)	Nitrate 300.0/353.2 (mg/L)	Nitrite 300.0/353.2/ 354.1 (mg/L)	Total Organic Carbon 415.1/ 9060 mod. (mg/L)	Chloral Hydrate 551.1 (mg/L)	p-Chloro-benzene-sulfonic acid (mg/L)	Total Chloride 300.0 (mg/L)	Dissolved Methane RSK 175 (mg/L)	Perchlorate 314.0 (mg/L)	Sulfate 300.0 (mg/L)	Sulfide 9030.0 (mg/L)	Total Dissolved Solids 160.1 (mg/L)
Preliminary Screening Levels						NE	NE	NE	a	NE	NE	NE	NE	NE	230 b	NE	0.2 c	NE	NE	NE
MWA-20	Acid Plant	GW010103	3/27/2001	24.7	34.7	-	-	1,510	-	2 *U*	10 *U*	191	-	-	2,810	-	-	73.2	-	-
		GW020114	6/13/2001			-	-	310	-	2 *U*	5 *U*	220	-	-	1,800 *J*	-	-	90	-	-
		GW04090204	4/9/2002			-	-	2,100	-	7.3	10 *U*	330	-	-	1,100	-	-	65	-	-
		GW-060503-03	6/5/2003			-	-	780	-	0.77	10 *U*	20.8	-	-	1,500	-	-	52.3	-	-
MWA-21b	Acid Plant	GW04120202	4/12/2002	61	68.3	-	-	-	-	0.2 *UJ*	0.01 *U*	-	-	-	-	-	-	-	-	-
MWA-22	Acid Plant	GW020122	6/15/2001	24.7	34.7	-	-	5,100	-	5 *U*	5 *U*	360	-	-	4,900	-	-	820	-	-
		GW04110203	4/11/2002			-	-	5,700	-	2 *UJ*	0.01 *U*	230 *J*	-	-	5,400	-	-	1,000 *J*	-	-
		GW-061003-02	6/10/2003			-	-	5,720	-	1 *U*	10 *U*	439	-	-	6,210	-	-	1,190	-	-
MWA-23	Chlorate Plant	GW04050202	4/5/2002	15.2	25.2	-	-	130	-	0.2 *U*	0.2 *U*	4.5	-	-	69	-	-	260	-	-
		GW-060403-02	6/4/2003			-	-	153	-	0.69	0.1 *U*	4.59	-	-	43.4	0.0809	-	154	-	-
		GW-072903-01	7/29/2003			-	-	-	-	-	-	-	-	-	-	-	0.02 *U,N*	-	-	-
MWA-24	Chlorate Plant	GW04080201	4/8/2002	24	34	-	-	7,900	-	1 *U*	2 *U*	520	-	-	410	-	-	72	-	-
		GW-060503-04	6/5/2003			-	-	7,230	-	0.1 *U*	10 *U*	889	-	-	583	-	-	202	-	-
MWA-25	Chlorate Plant	GW04090201	4/9/2002	23.7	33.7	-	-	1,000	-	5 *U*	5 *U*	36	-	-	4,200	-	-	290	-	-
		GW-060603-02	6/6/2003			-	-	986	-	1 *R*	10 *R*	29	-	-	2,980	2.47	-	351 *J*	-	-
		GW-072903-04	7/29/2003			-	-	-	-	-	-	-	-	-	-	-	290 *NV*	-	-	-
		MWA-25	12/3/2003			-	-	-	-	-	-	55.5	-	-	-	-	-	244	0.38 *U*	14,900
MWA-26	Chlorate Plant	GW04050201	4/5/2002	21.2	31.2	-	-	240	-	40	0.5 *U*	19	-	-	170	-	-	72	-	-
		GW-060403-03	6/4/2003			-	-	219	-	0.65	0.1 *U*	8.32	-	-	632	-	-	73.6	-	-
		GW-072903-02	7/29/2003			-	-	-	-	-	-	-	-	-	-	-	1.2 *NV*	-	-	-
MWA-27	Chlorate Plant	GW04090203	4/9/2002	24	34	-	-	400	-	18	10 *U*	1.7 *U*	-	-	5,500	-	-	410	-	-
		GW-060403-04	6/4/2003			-	-	398	-	10 *U*	10 *U*	14.5	-	-	9,360	0.148	210	290	-	-
		MWA-27	12/3/2003	53.9	58.9	-	-	-	-	-	-	34.6	-	-	-	-	-	211	0.38 *U*	6720
MWA-28i(d)	Chlorate Plant	GW04090202	4/9/2002			-	-	280	-	0.1 *U*	0.2 *U*	3.6	-	-	5.3	-	-	0.2	-	-
		GW-060603-01	6/6/2003			-	-	295	-	0.1 *R*	0.1 *R*	4.01	-	-	5.36	-	-	1 *UJ*	-	-
		GW-072903-03	7/29/2003			-	-	-	-	-	-	-	-	-	-	-	0.02 *U,N*	-	-	-
MWA-29	Chlorate Plant	GW04080204	4/8/2002	24.9	34.9	-	-	190	-	10 *U*	100 *U*	3.2 *U*	-	-	22,000	-	-	300	-	-
		GW-060403-06	6/4/2003			-	-	212	-	10 *U*	10 *U*	7.53	-	-	11,700	-	0.11 *UF*	291	-	-
MWA-30	Chlorate Plant	GW04120203	4/12/2002	19.1	29.1	-	-	170	-	0.2 *UJ*	0.01 *U*	0.6	-	-	180,000	-	-	1,800 *J*	-	-
(dup)		GW04120204	4/12/2002			-	-	150	-	0.2 *UJ*	0.01 *U*	0.6	-	-	190,000	-	-	1,800 *J*	-	-
		GW-060403-08	6/4/2003			-	-	78.8	-	100 *U*	100 *U*	1 *U*	-	-	164,000	0.00218 *J*	7.9	1,530	-	-
MWA-31i(d)	Chlorate Plant	GW04080205	4/8/2002	54.8	59.8	-	-	160	-	10 *U*	200 *U*	2.4	-	-	39,000	-	-	330	-	-
		GW-060403-07	6/4/2003			-	-	147	-	100 *U*	100 *U*	1 *U*	-	-	61,100	-	4.7	381	-	-
MWA-32i	Chlorate Plant	GW-060403-10	6/4/2003	37	42	-	-	286	-	100 *U*	100 *U*	15.7	-	-	31,000	-	200	399	-	-
MWA-33	Chlorate Plant	GW-061103-02	6/11/2003	20	30	-	-	1,110	-	1 *U*	1 *U*	17.5	-	-	286	4.9	0.32	156	-	-
(dup)		GW-061103-03	6/11/2003			-	-	1,190	-	1 *U*	1 *U*	40.7	-	-	210	6.45	0.84	167	-	-
		GW-060503-05	6/5/2003			-	-	1,200	-	3.42 *J*	0.1 *UJ*	22.9	-	-	198	-	0.54	177	-	-
(dup)		GW-060503-06	6/5/2003			-	-	1,210	-	0.1 *UJ*	0.1 *UJ*	22.3	-	-	208	-	0.57	196	-	-
MWA-34i	Chlorate Plant	GW-060603-05	6/6/2003	32	37	-	-	1,950	-	1 *R*	1 *R*	34.5	-	-	3,040	-	4.6	80.3	-	-
MWW-35	Chlorate Plant	MWA-25	12/2/2003	23	33	-	-	-	-			30.3	-	-	-	-	-	139	0.38 *U*	21,200
MWW-36	Chlorate Plant	MWA-36	12/3/2003	23	33	-	-	-	-			27.3	-	-	-	-	-	270	0.38 *U*	9,570
MWW-37	Chlorate Plant	MWA-37	12/3/2003	23	33	-	-	-	-			44.8	-	-	-	-	-	282	0.38 *U*	16,400
MWW-38	Chlorate Plant	MWA-38	12/3/2003	22	32	-	-	-	-			15.4	-	-	-	-	-	292	0.38 *U*	8,030
NMP-1S	Acid Plant	NMP-1S-100303	10/3/2003	19.5	29.5	-	-	1.25 *U*					-	-	-	-	-	-	-	-
NMP-1D	Acid Plant	NMP-1D-100303	10/3/2003	29.1	34.1	-	-	1.25 *U*					-	-	-	-	-	-	-	-
NMP-2D	Acid Plant	NMP-2D-100303	10/3/2003	31.5	36.5	-	-	1.25 *U*					-	-	-	-	-	-	-	-
NMP-3D	Acid Plant	GW-061103-01	6/11/2003	30	35	-	-	50 *U*	-	3	1 *U*	28.8	-	-	2,260	1,440	-	2,900	-	-
NMP-4S	Acid Plant	NMP-4S-100303	10/3/2003			-	-	1.25 *U*	-	-	-	-	-	-	-	-	-	-	-	-
NMP-4D	Acid Plant	GW-061003-06	6/10/2003	30	35	-	-	25.4	-	1 *U*	1 *U*	37.6	-	-	2,180	1,030	-	3,470	-	-
(dup)		GW-061003-07	6/10/2003			-	-	22.5	-	1 *U*	1 *U*	39.9	-	-	2,150	1,060	-	3,500	-	-
		NMP-4D-100303	10/3/2003			-	-	281	-	-	-	-	-	-	-	-	-	-	-	-
NMP-5D	Acid Plant	NMP-5D-100303	10/3/2003	28.5	33.5	-	-	1.25 *U*	-	-	-	-	-	-	-	-	-	-	-	-
PMP-1	Acid Plant	PMP-1-100203	10/2/2003	24	34	-	-	19.2	-	-	-	-	-	-	-	-	-	-	-	-
PMP-2	Acid Plant	PMP-2-100203	10/2/2003	23.8	33.8	-	-	1,010	-	-	-	-	-	-	-	-	-	-	-	-
PMP-3	Acid Plant	PMP-3-100203	10/2/2003	25	35	-	-	187	-	-	-	-	-	-	-	-	-	-	-	-
B-67	Acid Plant	GW051002	5/2/2001	26	30	-	-	-	1.22	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW051003	5/2/2001			-	-	-	1.28	-	-	-	-	-	-	-	-	-	-	-
B-119	Ammonia Plant	GW06120205	6/12/2002	26	30	-	-	-	1.99	-	-	-	-	-	-	-	-	-	-	-
(dup)		GW06120206	6/12/2002			-	-	-	2.04	-	-	-	-	-	-	-	-	-	-	-

Notes:
mg/L - milligrams per liter
U - Undetected at the detection limit shown
J - Estimated
F - Field quality control criteria not met.
NV - Analytical laboratory data not validated.
- not analyzed/reported
- Value above preliminary screening level
- Data for this sample has not undergone validation
a - Chronic criterion is pH and temperature dependent. Criterion not calculated for site groundwater.
b - USEPA 2004 National Recommended Water Quality Criteria, freshwater, chronic
c - Oregon DEQ Calculated SLV, referenced in letter from Oregon DEQ to ATOFINA Chemicals, Inc, dated May 21, 2004

Table 5-26
Old Caustic Tank Farm Surface Soil Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation

Sample ID: Collection Date: Depth (ft-bgs): Units:	Preliminary Screening Levels[a] (mg/kg)	OCTF-1-0.5 1/28/04 0.5 (mg/kg)	OCTF-1-1.0 1/28/04 1.0 (mg/kg)	OCTF-3-0.5 1/28/04 0.5 (mg/kg)	OCTF-3-1.0 1/28/04 1.0 (mg/kg)	OCTF-9-0.5 1/28/04 0.5 (mg/kg)	OCTF-9-1.0 1/28/04 1.0 (mg/kg)
Acenaphthene	29,000	**0.238**	**0.243**	**0.939**	**2.29**	0.1 *U*	0.1 *U*
Acenaphthylene	NE	0.1 *U*	0.1 *U*	0.2 *U*	**0.214**	0.1 *U*	0.1 *U*
Anthracene	100,000	**0.143**	**0.139**	**1.94**	**3.84**	0.1 *U*	0.1 *U*
Benz(a) anthracene	2.1	**1.24**	**1.08**	**0.313**	**0.688**	**0.299**	**0.133**
Benzo(a)pyrene	0.21	**0.775**	**0.633**	**0.219**	**0.413**	**0.174**	0.1 *U*
Benzo(b)fluoranthene	2.1	**0.367**	**0.299**	0.2 *U*	**0.191**	0.1 *U*	0.1 *U*
Benzo(ghi)perylene	NE	**0.170**	**0.132**	**0.235**	**0.183**	**0.236**	0.1 *U*
Benzo (k) fluoranthene	21	**0.442**	**0.361**	0.2 *U*	**0.237**	0.1 *U*	0.1 *U*
Chrysene	210	**1.25**	**1.09**	**0.563**	**1.44**	**0.833**	**0.133**
Dibenz(a,h)anthracene	0.21	0.1 *U*	0.1 *U*	0.2 *U*	0.1 *U*	0.1 *U*	0.1 *U*
Fluoranthene	22,000	**0.387**	**0.403**	0.2 *U*	**0.474**	**0.153**	0.1 *U*
Fluorene	26,000	0.1 *U*	**0.118**	**0.391**	**1.07**	0.1 *U*	0.1 *U*
Indeno(1,2,3-cd)pyrene	2.1	0.1 *U*	0.1 *U*	0.2 *U*	0.1 *U*	0.1 *U*	0.1 *U*
Naphthalene	190	0.1 *U*	0.1 *U*	**0.250**	**0.711**	0.1 *U*	0.1 *U*
Phenanthrene	NE	**0.319**	**0.327**	**1.75**	**3.46**	**0.694**	0.1 *U*
Pyrene	29,000	**1.74**	**1.56**	**0.923**	**2.28**	**1.40**	**0.168**

Notes:
ft-bgs - Feet below ground surface
mg/kg - Milligrams per kilogram
- Value above preliminary screening level
- Data for this sample has not undergone validation
a - USEPA Region IX PRGs, Direct Contact Pathway, Industrial Soil

Table 5-27
Surface Soil Analytical Results - Petroleum Hydrocarbons
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Volatile-Range Organics NWTPH-VPH (mg/kg)	Diesel-Range Organics NWTPH-Dx (mg/kg)	Heavy Oil-Range Organics NWTPH-Dx (mg/kg)
Preliminary Screening Level					**13,000 a**	**23,000 a**	**23,000 a,b**
OCTF-1	OCTF-1-0.5	1/28/04	0	0.5	**7.62**	**2,840**	**4,750**
	OCTF-1-1.0	1/28/04	0.5	1	5 *U*	**1,470**	**3,620**
OCTF-2	OCTF-2-0.5	1/28/04	0	0.5	-	**661**	**3,600**
	OCTF-2-1.0	1/28/04	0.5	1	-	25 *U*	**573**
OCTF-3	OCTF-3-0.5	1/28/04	0	0.5	**115**	**1,790**	**2,550**
	OCTF-3-1.0	1/28/04	0.5	1	**219**	**2,150**	**2,340**
OCTF-4	OCTF-4-0.5	1/28/04	0	0.5	-	**749**	**3,450**
	OCTF-4-1.0	1/28/04	0.5	1	-	**650**	**2,860**
OCTF-5	OCTF-5-0.5	1/28/04	0	0.5	-	**1,910**	**3,210**
	OCTF-5-1.0	1/28/04	0.5	1	-	**652**	**1,320**
OCTF-6	OCTF-6-0.5	1/28/04	0	0.5	-	**805**	**3,460**
	OCTF-6-1.0	1/28/04	0.5	1	-	**246**	**873**
OCTF-7	OCTF-7-0.5	1/28/04	0	0.5	-	**777**	**770**
	OCTF-7-1.0	1/28/04	0.5	1	-	25 *U*	**63.5**
OCTF-8	OCTF-8-0.5	1/28/04	0	0.5	-	25 *U*	50 *U*
	OCTF-8-1.0	1/28/04	0.5	1	-	25 *U*	**56**
OCTF-9	OCTF-9-0.5	1/28/04	0	0.5	5 *U*	**514**	**1,580**
	OCTF-9-1.0	1/28/04	0.5	1	**5.27**	**817**	**3,480**
BPA-1	SO1821	6/27/2002	0.25	1.25	-	28 *U*	120 *U*
BPA-2	SO1822	6/27/2002	0.3	1.3	-	28 *U*	120 *U*
BPA-3	SO1823	6/27/2002	0.3	1.3	-	29 *U*	120 *U*
BPA-4	SO1824	6/27/2002	0.3	1.3	-	31 *U*	130 *U*
BPA-5	SO1825	6/28/2002	0.3	1.3	-	**190**	120 *U*
BPA-6	SO1826	6/28/2002	0.3	1.3	-	31 *U*	130 *U*
BPA-7	SO1827	6/28/2002	0.4	1.4	-	29 *U*	120 *U*
BPA-8	SO1828	6/28/2002	0.5	1.5	-	30 *U*	120 *U*
BPA-9	SO1829	6/28/2002	0.3	1.3	-	30 *U*	120 *U*
BPA-10	SO1830	6/28/2002	0.3	1.3	-	29 *U*	120 *U*
BPA-11	SO1831	6/28/2002	0.5	1.5	-	29 *U*	120 *U*
BPA-12	SO1832	6/28/2002	0.3	1.3	-	29 *U*	120 *U*
BPA-13	SO1833	6/28/2002	0.3	1.3	-	30 *U*	120 *U*
BPA-14	SO1834	6/29/2002	0.5	1.5	-	29 *U*	120 *U*
BPA-15	SO1835	6/29/2002	1	2	-	29 *U*	120 *U*
BPA-16	SO1836	6/29/2002	0.2	1.2	-	29 *U*	120 *U*
BPA-17	SO1837	6/29/2002	0.3	1.3	-	30 *U*	120 *U*
BPA-18	SO1838	6/29/2002	0.4	1.4	-	29 *U*	120 *U*
BPA-19	SO1839	6/29/2002	3	3.5	-	30 *U*	120 *U*
BPA-20	SO1840	6/29/2002	3	3.5	-	29 *U*	120 *U*
BPA-21	SO1841	6/29/2002	3	3.5	-	28 *U*	120 *U*
BPA-22	SO1843	6/29/2002	3	3.5	-	29 *U*	120 *U*
BPA-23	SO1844	6/29/2002	0	0	-	29 *U*	120 *U*

Table 5-27
Surface Soil Analytical Results - Petroleum Hydrocarbons
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Volatile-Range Organics NWTPH-VPH (mg/kg)	Diesel-Range Organics NWTPH-Dx (mg/kg)	Heavy Oil-Range Organics NWTPH-Dx (mg/kg)
Preliminary Screening Level					**13,000 a**	**23,000 a**	**23,000 a,b**
BPA-24	SO1845	6/29/2002	3	3.5	-	30 *U*	120 *U*
PD31&32B	SO1786	6/14/2002	0	0	-	28 *U*	120 *U*
PD31&32S	SO1787	6/14/2002	0	0	-	29 *U*	120 *U*
PD41-BE	SO1789	6/17/2002	0	0	-	**32**	120 *U*
PD41-BW	SO1791	6/17/2002	0	0	-	30 *U*	120 *U*
PD41-SE	SO1790	6/17/2002	0	0	-	**4,400** *J*	**480** *J*
PD41-SW	SO1792	6/17/2002	0	0	-	**3,400** *J*	**280** *J*
PD72-BE	SO1802	6/18/2002	0	0	-	29 *U*	120 *U*
PD72-BW	SO1801	6/18/2002	0	0	-	30 *U*	120 *U*
PD72-SE	SO1799	6/18/2002	0	0	-	**460**	**160**
PD72-SW	SO1798	6/18/2002	0	0	-	**14,000** *J*	**3,300** *J*
PD97-B	SO1806	6/19/2002	0	0	-	30 *U*	120 *U*
PD97-S	SO1803	6/19/2002	0	0	-	**65**	120 *U*

Notes:
mg/kg - milligrams per kilogram
J - Estimated
U - Undetected at detection limit shown
- not analyzed
- Data for this sample has not undergone validation
a - ODEQ Risk-based Decision Making for the Remediation of Petroleum-contaminated Sites, Appendix A, September 22, 2003. Soil ingestion, dermal contact, and inhalation RBCs, construction worker.
b - Value for diesel-range organics used.

Table 5-28
Former Transformer Pad Concrete Sampling Program
Arkema Portland Plant Remedial Investigation

Sample	Sample Type	Composited Samples	Date	Aroclor 1016 8082 mg/kg	Aroclor 1221 8082 mg/kg	Aroclor 1232 8082 mg/kg	Aroclor 1242 8082 mg/kg	Aroclor 1248 8082 mg/kg	Aroclor 1254 8082 mg/kg	Aroclor 1260 8082 mg/kg
TSCA PCB-Contaminated Material Screening Level				**50**	**50**	**50**	**50**	**50**	**50**	**50**
Pad A-Comp	Composite	21S, 22S, 23 OCB, 24TC, 26 OCB	1/29/2004	0.0946 *U*	0.189 *U*	0.0946 *U*	0.0946 *U*	0.0946 *U*	0.0946 *U*	0.0946 *U*
Pad B-Comp	Composite	9 OCB, 13 OCB, 40T, 55 OCB, 58 OCB	1/29/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	**0.231**
9 OCB	Discreet	NA	1/29/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*
13 OCB	Discreet	NA	1/29/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	**0.100**
40T	Discreet	NA	1/29/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*
55 OCB	Discreet	NA	1/29/2004	0.67 *U*	1.34 *U*	0.67 *U*	0.67 *U*	0.67 *U*	0.067 *U*	**1.85**
58 OCB	Discreet	NA	1/29/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*
Comp C	Composite	46T/47T, 48, 49	1/30/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*
Comp D	Composite	1T, 50/51T, 54T	1/30/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	**0.203**	0.067 *U*
1T	Discreet	NA	1/30/2004	0.67 *U*	1.34 *U*	0.67 *U*	0.67 *U*	0.67 *U*	**1.42**	**0.745**
50/51T	Discreet	NA	1/30/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*
54T	Discreet	NA	1/30/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*	0.067 *U*
Comp E	Composite	16T, 52	1/30/2004	0.067 *U*	0.134 *U*	0.067 *U*	0.067 *U*	1.34 *U*	13.4 *U*	0.067 *U*
16T	Discreet	NA	1/30/2004	0.222 *U*	0.254 *U*	0.222 *U*	0.222 *U*	0.0774 *U*	0.122 *U*	0.23 *U*
Comp F	Composite	57T, 62 OCB, 63 OCB	1/30/2004	0.134 *U*	0.268 *U*	0.134 *U*	0.134 *U*	0.134 *U*	0.134 *U*	0.134 *U*

Notes:
TSCA = Toxic Substances Control Act
All former transformer pads disposed off-site
U - Undetected at the detection limit shown.
NA - Not Applicable
mg/kg - Milligrams per kilogram
- Data for this sample has not undergone validation

Table 5-29
BPA Main Substation Surface Soil Analytical Results - PCBs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Aroclor 1016 8082 mg/kg	Aroclor 1221 8082 mg/kg	Aroclor 1232 8082 mg/kg	Aroclor 1242 8082 mg/kg	Aroclor 1248 8082 mg/kg	Aroclor 1254 8082 mg/kg	Aroclor 1260 8082 mg/kg
Preliminary Screening Levels					**21 a,b**	**0.74 a,b**	**0.74 a,b**	**0.74 a,b**	**0.74 a,b**	**0.74 a**	**0.74 a,b**
PENN-1	PENN-1-6	3/19/2002	0.5	0.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
PENN-2	PENN-2-6	3/19/2002	0.5	0.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
PENN-3	PENN-3-6	3/19/2002	0.5	0.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
PENN-4	PENN-4-6	3/19/2002	0.5	0.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
PENN-5	PENN-5-6	3/19/2002	0.5	0.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
	PENN-5-18	3/19/2002	1.5	1.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
PENN-6	PENN-6-6	3/19/2002	0.5	0.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
	PENN-6-18	3/19/2002	1.5	1.5	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*	0.05 *U*
BPA-1	SO1821	6/27/2002	0.25	1.25	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-2	SO1822	6/27/2002	0.3	1.3	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-3	SO1823	6/27/2002	0.3	1.3	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-4	SO1824	6/27/2002	0.3	1.3	0.13 *U*	0.25 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*
BPA-5	SO1825	6/28/2002	0.3	1.3	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-6	SO1826	6/28/2002	0.3	1.3	0.13 *U*	0.25 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*
BPA-7	SO1827	6/28/2002	0.4	1.4	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-8	SO1828	6/28/2002	0.5	1.5	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-9	SO1829	6/28/2002	0.3	1.3	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-10	SO1830	6/28/2002	0.3	1.3	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-11	SO1831	6/28/2002	0.5	1.5	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-12	SO1832	6/28/2002	0.3	1.3	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-13	SO1833	6/28/2002	0.3	1.3	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-14	SO1834	6/29/2002	0.5	1.5	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-15	SO1835	6/29/2002	1	2	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-16	SO1836	6/29/2002	0.2	1.2	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-17	SO1837	6/29/2002	0.3	1.3	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-18	SO1838	6/29/2002	0.4	1.4	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
BPA-19	SO1839	6/29/2002	3	3.5	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	**0.67** *J*	0.12 *U*	0.12 *U*
BPA-20	SO1840	6/29/2002	3	3.5	0.59 *U*	1.2 *U*	0.59 *U*	0.59 *U*	**8.5**	0.59 *U*	0.59 *U*
BPA-21	SO1841	6/29/2002	3	3.5	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	**0.42**	0.12 *U*	0.12 *U*
BPA-22	SO1843	6/29/2002	3	3.5	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	**0.15**	0.12 *U*	0.12 *U*
BPA-23	SO1844	6/29/2002	0	0	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	**0.32** *J*	0.12 *U*	0.12 *U*
BPA-24	SO1845	6/29/2002	3	3.5	0.59 *U*	1.2 *U*	0.59 *U*	0.59 *U*	**6.3** *J*	0.59 *U*	0.59 *U*
PD31&32B	SO1786	6/14/2002	0	0	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	**1.7**	0.12 *U*	0.12 *U*
PD31&32S	SO1787	6/14/2002	0	0	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	**4.6** *J*	0.12 *U*	0.12 *U*
PD41-BE	SO1789	6/17/2002	0	0	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
PD41-BW	SO1791	6/17/2002	0	0	0.13 *U*	0.25 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*
PD41-SE	SO1790	6/17/2002	0	0	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	**0.13**
PD41-SW	SO1792	6/17/2002	0	0	0.13 *U*	0.25 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*
PD72-BE	SO1802	6/18/2002	0	0	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
PD72-BW	SO1801	6/18/2002	0	0	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
PD72-SE	SO1799	6/18/2002	0	0	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
PD72-SW	SO1798	6/18/2002	0	0	0.13 *U*	0.25 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*	0.13 *U*
PD97-B	SO1806	6/19/2002	0	0	0.12 *U*	0.24 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*
PD97-S	SO1803	6/19/2002	0	0	0.12 *U*	0.23 *U*	0.12 *U*	0.12 *U*	0.12 *U*	0.12 *U*	**0.16**

Table 5-29
BPA Main Substation Surface Soil Analytical Results - PCBs
Arkema Portland Plant Remedial Investigation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Aroclor 1016 8082 mg/kg	Aroclor 1221 8082 mg/kg	Aroclor 1232 8082 mg/kg	Aroclor 1242 8082 mg/kg	Aroclor 1248 8082 mg/kg	Aroclor 1254 8082 mg/kg	Aroclor 1260 8082 mg/kg
Preliminary Screening Levels					**21 a,b**	**0.74 a,b**	**0.74 a,b**	**0.74 a,b**	**0.74 a,b**	**0.74 a**	**0.74 a,b**
PENN-E-R1	02-58,916	9/19/2002	0	0	**4.5**	NT	NT	NT	NT	NT	NT
PENN-E-R2	02-58,917	9/20/2002	1.5	1.5	**1.7**	NT	NT	NT	NT	NT	NT
PENN-E-R3	02-58,918	9/21/2002	3.0	3.0	**1.2**	NT	NT	NT	NT	NT	NT
PENN-N-R1	02-58,919	9/22/2002	0	0	**2.4**	NT	NT	NT	NT	NT	NT
PENN-N-R2	02-58,920	9/23/2002	1.5	1.5	**0.32**	NT	NT	NT	NT	NT	NT
PENN-N-R3	02-58,921	9/24/2002	3.0	3.0	**0.42**	NT	NT	NT	NT	NT	NT
PENN-S-R1	02-58,922	9/25/2002	0	0	**4.4**	NT	NT	NT	NT	NT	NT
PENN-S-R2	02-58,923	9/26/2002	1.5	1.5	**2.7**	NT	NT	NT	NT	NT	NT
PENN-S-R3	02-58,924	9/27/2002	3.0	3.0	**0.16**	NT	NT	NT	NT	NT	NT
PENN-W-R1	02-58,913	9/28/2002	0	0	**2.5**	NT	NT	NT	NT	NT	NT
PENN-W-R2	02-58,914	9/29/2002	1.5	1.5	**0.67**	NT	NT	NT	NT	NT	NT
PENN-W-R3	02-58,915	9/30/2002	3.0	3.0	**0.23**	NT	NT	NT	NT	NT	NT
PENN-B1	02-58,925	10/1/2002	4.0	4.0	**3.1**	NT	NT	NT	NT	NT	NT
PENN-B2	02-58,926	10/2/2002	4.0	4.0	**0.16**	NT	NT	NT	NT	NT	NT
PENN-B3	02-58,927	10/3/2002	4.0	4.0	**1.4**	NT	NT	NT	NT	NT	NT
PENN-B4	02-58,928	10/4/2002	4.0	4.0	**0.17**	NT	NT	NT	NT	NT	NT
PENN-B5	02-58,929	10/5/2002	4.0	4.0	**0.15**	NT	NT	NT	NT	NT	NT
P-ROW-1	02-59,199	10/16/2002	0	0.5	NT	NT	NT	NT	NT	**0.18**	NT
P-ROW-2	02-59,200	10/17/2002	0	0.5	NT	NT	NT	NT	NT	**0.26**	NT
P-ROW-3	02-59,201	10/18/2002	0	0.5	NT	NT	NT	NT	NT	**0.86**	NT
P-ROW-4	02-59,202	10/19/2002	0	0.5	NT	NT	NT	NT	NT	**0.88**	NT
P-ROW-5	02-59,203	10/20/2002	0	0.5	NT	NT	NT	NT	NT	**0.91**	NT
P-ROW-6	02-59,204	10/21/2002	0	0.5	NT	NT	NT	NT	NT	**0.58**	NT
P-ROW-7	02-59,205	10/22/2002	0	0.5	NT	NT	NT	NT	NT	0.15 *U*	NT
P-ROW-8	02-59,206	10/23/2002	0	0.5	NT	NT	NT	NT	NT	0.15 *U*	NT

Notes:
U - Undetected at the detection limit shown.
NT - Not tested
mg/kg - Milligrams per kilogram
- Value above preliminary screening level.
- Data for this sample has not undergone validation
a - USEPA Region IX PRGs, direct contact pathway, industrial soil, October 2004
b - Value for high risk PCBs (e.g., Aroclor 1254) used.

Table 5-30
Storm Water Analytical Results - Field Parameters and Organochlorine Pesticides 1999 - 2001
Arkema Portland Plant Remedial Investigation

Sample Location		Manhole SW01						Manhole SW02					
Sample Number	Preliminary	SW019901	SW119901	SW119903 (dup)	SW129901	SW129904 (dup)	SW010101	SW019902	SW019903 (dup)	SW119902	SW129902	SW129903 (dup)	SW010102
Date	Screening Levels	1/22/1999	11/11/1999	11/11/1999	12/17/1999	12/17/1999	3/27/2001	1/22/1999	1/22/1999	11/11/1999	12/17/1999	12/17/1999	3/27/2001
Organochlorine Pesticides by USEPA Method 8081A (ug/L)													
4,4'-DDD - dissolved	0.001 a,b	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
4,4'-DDD - total	0.001 a,b	**1.1**	**0.3 *J***	**0.20 *J***	**0.3 *J***	**1.1 *J***	0.2 *U*	**2.7**	**2.3**	**0.8**	**0.5**	**0.6**	**0.0820 *J***
4,4'-DDE - dissolved	0.001 a,b	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
4,4'-DDE - total	0.001 a,b	**0.80**	**0.6 *J***	**0.5 *J***	**1 *J***	**2.1 *J***	**0.5**	**0.90**	**0.80**	**0.9**	**0.8**	**0.8**	**0.0230 *J***
4,4'-DDT - Dissolved	0.001 a,b	0.040 *U*	**0.40 *J***	**0.3 *J***	-	-	**0.090**	0.040 *U*	**0.14 *J***	**0.31 *J***	-	-	0.020 *UJ*
4,4'-DDT - Total	0.001 a,b	**8.0**	**6.3 *J***	**4 *J***	**10 *J***	**47 *J***	**8**	**20**	**18**	**32**	**20**	**21**	**0.28 *J***
Aldrin - Dissolved	3 c,d	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Aldrin - Total	3 c,d	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
alpha-BHC - Dissolved	100 c,e,f	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.0310 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.0210 *UJ*
alpha-BHC - Total	100 c,e,f	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
alpha-Chlordane - Dissolved	0.0043 a,g	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
alpha-Chlordane - Total	0.0043 a,g	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
beta-BHC - Dissolved	100 c,e,f	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.0520 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.0220 *UJ*
beta-BHC - Total	100 c,e,f	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.0210 *UJ*
delta-BHC - Dissolved	100 c,e,f	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
delta-BHC - Total	100 c,e,f	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Dieldrin - Dissolved	0.056 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Dieldrin - Total	0.056 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.080 *U*	0.080 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Endosulfan I - Dissolved	0.056 a,h	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Endosulfan I - Total	0.056 a,h	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Endosulfan II - Dissolved	0.056 a,h	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Endosulfan II - Total	0.056 a,h	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.06 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Endosulfan sulfate - Dissolved	0.056 a,i	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Endosulfan sulfate - Total	0.056 a,i	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Endrin - Dissolved	0.036 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Endrin - Total	0.036 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Endrin aldehyde - Dissolved	0.036 a,j	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Endrin aldehyde - Total	0.036 a,j	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Endrin ketone - Dissolved	0.036 a,j	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Endrin ketone - Total	0.036 a,j	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
gamma-BHC - Dissolved	0.08 d	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
gamma-BHC - Total	0.08 d	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
gamma-Chlordane - Dissolved	0.0043 a,g	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
gamma-Chlordane - Total	0.0043 a,g	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Heptachlor - Dissolved	0.0038 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Heptachlor - Total	0.0038 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Heptachlor epoxide - Dissolved	0.0038 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	-	-	0.020 *U*	0.040 *U*	0.040 *U*	0.04 *UJ*	-	-	0.020 *UJ*
Heptachlor epoxide - Total	0.0038 a	0.040 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.2 *U*	0.040 *U*	0.040 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.020 *UJ*
Methoxychlor - Dissolved	0.03 d	0.10 *U*	0.1 *UJ*	0.1 *UJ*	-	-	0.020 *U*	0.10 *U*	0.10 *U*	0.1 *UJ*	-	-	0.020 *UJ*
Methoxychlor - Total	0.03 d	0.10 *U*	0.1 *UJ*	0.1 *UJ*	0.1 *UJ*	0.2 *UJ*	0.2 *U*	0.10 *U*	0.10 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.21 *UJ*
Toxaphene - Dissolved	0.0002 a	1.0 *U*	1 *UJ*	1 *UJ*	-	-	0.5 *U*	1.0 *U*	1.0 *U*	1 *UJ*	-	-	0.75 *UJ*
Toxaphene - Total	0.0002 a	1.0 *U*	1 *UJ*	1 *UJ*	1 *UJ*	2.5 *UJ*	5 *U*	1.0 *U*	1.0 *U*	1 *U*	1 *U*	1 *U*	0.5 *UJ*
Field Parameters													
Temperature (Degrees C)		-	**16.6**	-	**13.2**	**11.3**	**12**	-	-	**14.3**	**10.8**	-	**9.9**
Dissolved Oxygen (mg/L)		-	**7.44**	-	**9.16**	**10.38**	**8.55**	-	-	**11.68**	**10.35**	-	**9.57**
Conductivity (ms/cm)		-	**96**	-	**41**	**33**	**62**	-	-	**108**	**62**	-	**51**
Oxidation-Reduction Potentional (mV)		-	**68**	-	**147**	**163**	**54**	-	-	**65**	**140**	-	**116**
Turbidity (NTU)		-	-	-		-	**29.6**	-	-	-	-	-	**15.36**

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown.
J - Estimated
- not analyzed/ measured
mg/L - milligrams per liter
ms/cm - microsemens per centimeter
mV - millivolts
NTU - Nephelometric Turbidity Units
a - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic
b - Criterion applies to the total concentration of DDT and its metabolites
c - Chronic criterion not established, acute criterion used
d - Oregon DEQ 2004 Water Quality Criteria Summary Tables 33A and 33B, Freshwater, Chronic
e - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshwater, Chronic
f - Value for technical BHC used
g - Value for chlordane used
h - Criterion applied to the sum of endosulfan I and endosulfan II
i - Value for endosulfan used
- Value above preliminary screening level

Table 5-31
Monthly Storm Water Characterization Analytical Results - February 2004 through March 2005
Arkema Portland Plant Remedial Investigation

Outfall/ Date	4,4'-DDD (µg/L)	4,4'-DDE (µg/L)	4,4'-DDT (µg/L)	Chloro-benzene (µg/L)	Acenaphth-ene (µg/L)	Acenaphth-ylene (µg/L)	Benz(a) anthracene (µg/L)	Benzo(b) fluor-anthene (µg/L)	Benzo(k)Fluo ranthene (µg/L)	Benzo (a) pyrene (µg/L)	Benzo (g,h,i) perylene (µg/L)	Chrysene (µg/L)	Dibenz (a,h) Anthracene (µg/L)	Fluorene (µg/L)	Indeno (1,2,3-cd)pyrene (µg/L)	Naphthalene (µg/L)	Pyrene (µg/L)	Aroclor 1016 (µg/L)	Aroclor 1221 (µg/L)	Aroclor 1232 (µg/L)	Aroclor 1242 (µg/L)	Aroclor 1248 (µg/L)	Aroclor 1254 (µg/L)	Aroclor 1260 (µg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (µg/L)	Hexavalent Chromium (µg/L)	Perchlorate (mg/L)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
Preliminary Screening Levels	**0.001 a,b**	**0.001 a,b**	**0.001 a,b**	**50 c**	**520 c**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**620 c**	**NE**	**0.014 a,d**	**0.014 a,d**	**0.014 a,d**	**0.014 a,d**	**0.014 a,d**	**0.014 a,d**	**0.014 a,d**	**1 a**	**NE**	**0.77 a,e**	**11.0 a,e**	**0.2 f**	**230 a**	**NE**
Outfall 001																															
Feb-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.546**	**0.0161**	-	-	-	-	-
Mar-04	0.04 *U*	**0.13**	**0.46 *D***	5 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	**11.4**	**0.184**	0.2 *U*	10 *U*	**0.0557**	**33.3**	**113**
Apr-04	0.039 *U*	**0.069**	**0.067**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.56**	**0.0456**	0.2 *U*	10 *B,U*	**0.0042**	**31.1**	**120**
May-04	0.039 *U*	0.039 *U*	0.039 *U*	5 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**0.935**	**0.0423**	0.2 *U*	10 *U*	**0.0184**	**45.6**	**162**
Jun-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Jul-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Aug-04	0.04 *U*	0.04 *U*	**0.073**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	**0.644**	**0.0266**	0.2 *U*	10 *U*	**0.222**	**38.6**	**170**
Sep-04	0.0098 *U*	**0.018**	**0.049**	5 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	**1.4**	**0.0746**	0.2 *U*	10 *U*	**0.608**	**55.4**	**208**
Oct-04	**0.077**	**0.17**	**0.58 *D***	5 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	1 *U*	2 *U*	1 *U*	1 *U*	1 *U*	1.7 *U*	1.0 *U*	**7.31**	**0.140**	0.2 *U*	10 *U*	**0.171**	**93.0**	**308**
Nov-04	**0.018**	**0.047**	**0.14**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.99**	**0.0691**	0.2 *U*	10 *U*	**0.314**	**62.9**	**280**
Dec-04	**0.062**	**0.76 *D***	**0.72 *D***	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.690**	**0.0290**	0.2 *U*	10 *U*	**0.280**	**21.7**	**113**
Jan-05	**0.038**	**0.20**	**0.36**	5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**4.530**	**0.0741**	0.2 *U*	10 *U*	**0.212**	**37.9**	**158**
Feb-05	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Mar-05	**0.040**	**0.37**	**0.45 *D***	5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	10 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.680**	**0.0356**	0.2 *U*	**10.1**	**0.084**	**19.4**	**204**
Outfall 002																															
Feb-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.05**	**0.0171**	-	-	-	-	-
Mar-04	0.045 *U*	**0.28**	**0.39**	5 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	10 *U*	10 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	**2.52**	**0.059**	**0.3**	10 *U*	**0.0051**	**16.8**	**324**
Apr-04	0.039 *U*	**0.044**	**0.19**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.6**	**0.0657**	0.2 *U*	10 *B,U*	**0.0101**	**4.2**	**71**
May-04	0.039 *U*	**0.28**	**0.49 *D***	5 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	**2.44**	**0.0479**	0.2 *U*	10 *U*	**0.0083**	**7.3**	**114**
Jun-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Jul-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Aug-04	0.039 *U*	**0.11**	**0.41 *D***	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	**1.360**	**0.0435**	0.2 *U*	10 *U*	**0.0088**	**7.5**	**124**
Sep-04	**0.014**	**0.11**	**0.33**	5 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	10 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	**1.5**	**0.0881**	0.2 *U*	10 *U*	**0.0042**	**6.7**	**110**
Oct-04	**0.082**	**0.26**	**0.87 *D***	5 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.6 *U*	9.7 *U*	0.20 *U*	0.39 *U*	0.2 *U*	0.2 *U*	0.20 *U*	0.20 *U*	0.75 *U*	**2.620**	**0.0385**	0.2 *U*	10 *U*	0.002 *U*	**2.6**	**69**
Nov-04	**0.016**	**0.10**	**0.30**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.370**	**0.0483**	0.2 *U*	10 *U*	**0.0166**	**6.1**	**106**
Dec-04	**0.035**	**0.25**	**0.69 *D***	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**0.810**	**0.0141**	0.2 *U*	10 *U*	**0.0042**	**2.5**	**42**
Jan-05	**0.038**	**0.28**	**0.80 *D***	5 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.890**	**0.0338**	0.2 *U*	10 *U*	**0.0031**	**0.7**	**29**
Feb-05	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Mar-05	**0.032**	**0.19**	**0.57 *D***	5 *U*	9.6 *U*	9.6 *U*	10 *U*	9.6 *U*	9.6 *U*	9.6 *U*	10 *U*	10 *U*	10 *U*	9.6 *U*	10 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**0.960**	**0.0205**	0.2 *U*	10 *U*	**0.0109**	**3.2**	**63**
Outfall 003																															
Feb-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.466**	**0.0093**	-	-	-	-	-
Mar-04	0.039 *U*	0.039 *U*	**0.21**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	10 *U*	9.6 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	**1.93**	**0.0735**	0.2 *U*	10 *U*	**0.0078**	**2.3**	**61**
Apr-04	0.039 *U*	**0.31**	**1.3 *D***	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	10 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**0.791**	**0.020**	0.2 *U*	10 *B,U*	**0.0266**	**3.4**	**43**
May-04	0.039 *U*	0.039 *U*	**0.063**	5 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	0.98 *U*	**0.609**	**0.0148**	0.2 *U*	10 *U*	**0.0021**	**3.7**	**68**
Jun-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Jul-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Aug-04	0.039 *U*	**0.044**	**0.27**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.430**	**0.0497**	0.2 *U*	10 *U*	**0.0179**	**20.6**	**180**
Sep-04	**0.046 *D***	**0.085 *D***	**0.47 *D***	5 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.050**	**0.0415**	0.2 *U*	10 *U*	**0.002**	**5.3**	**135**
Oct-04	**0.038**	**0.14**	**0.53 *D***	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.95 *U*	1.9 *U*	0.95 *U*	0.95 *U*	0.95 *U*	1.20 *U*	0.95 *U*	**5.940**	**0.0728**	0.2 *U*	10 *U*	**0.0082**	**47.7**	**356**
Nov-04	**0.017**	**0.057**	**0.16**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.390**	**0.0366**	0.2 *U*	10 *U*	0.002 *U*	**6.5**	**137**
Dec-04	**0.050**	**0.11**	**0.57 *D***	5 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	11 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.270**	**0.0374**	0.2 *U*	10 *U*	**0.0042**	**14.7**	**160**
Jan-05	**0.017**	**0.097**	**0.35**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**2.450**	**0.0382**	0.2 *U*	**11.2**	0.002 *U*	**6.6**	**111**
Feb-05	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Mar-05	**0.011**	**0.043**	**0.17**	5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.180**	**0.0229**	0.2 *U*	10 *U*	0.002 *U*	**7.1**	**107**
Outfall 004																															
Feb-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.58**	**0.0368**	-	-	-	-	-
Mar-04	0.0 *U*	**0.045**	**0.13**	5 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	0.99 *U*	**2.37**	**0.0874**	0.2 *U*	10 *U*	**0.0061**	**9.72**	**2050**
Apr-04	0.039 *U*	0.039 *U*	**0.058**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.730**	**0.0438**	0.2 *U*	**15.6 *B***	**0.0056**	**354**	**975**
May-04	0.039 *U*	0.039 *U*	**0.14**	5 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	**7.3**	**0.0989**	0.2	**10.2**	**0.0099**	**241**	**768**
Jun-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Jul-04	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Aug-04	0.039 *U*	0.039 *U*	**0.078**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	**2.222**	**0.0422**	0.2 *U*	**15.4**	**0.0116**	**58.1**	**280**
Sep-04	**0.025**	**0.064**	**0.29**	5 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	0.97 *U*	**5.950**	**0.0976**	0.2 *U*	**10.7**	**0.0084**	**131**	**440**
Oct-04	**0.082**	**0.16**	**0.61 *D***	5 *U*	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	**9.7**	9.7 *U*	**9.7**	0.24 *U*	0.39 *U*	0.22 *U*	0.20 *U*	0.31 *U*	0.41 *U*	0.37 *U*	**8.230**	**0.128**	0.2 *U*	**18.7**	**0.0407**	**37.2**	**206**
Nov-04	**0.0096**	**0.029**	**0.087**	5 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**4.860**	**0.0776**	0.2 *U*	**23.3**	**0.038**	**144**	**524**
Dec-04	**0.056**	**0.24**	**0.68 *D***	5 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	15 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**4.910**	**0.0821**	0.2 *U*	**26.4**	**0.038**	**69.1**	**408**
Jan-05	**0.041**	**0.11**	**0.4 *D***	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**3.840**	**0.0633**	0.2 *U*	**17.0**	**0.0059**	**58.9**	**298**
Feb-05	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*	*NF*
Mar-05	**0.023**	**0.052**	**0.16**	5 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	0.96 *U*	**1.670**	**0.0324**	0.2 *U*	**18.0**	**0.0029**	**43.9**	**280**

Notes:
NF - No Flow
B - Result is total chromium. However, redox analysis indicated the chromium was likely in a trivalent state.
D - Reported result is from a dilution
U - Undetected at detection limit shown
ug/L - micrograms per liter
mg/L - milligrams per liter
- Not analyzed
NE - Not established
- Value above preliminary screening level
- Data for this sample has not undergone validation
a - USEPA 2004 National Recommended Water Quality Criteria, Freshwater, Chronic
b - Criterion applies to the total concentration of DDT and it's metabolites
c - Oregon DEQ 2004 Water Quality Guidance Values Summary Table 33C, Freshwater, Chronic
d - Criterion applied to total PCBs
e - Value applies to the dissolved phase.
f - Oregon DEQ Calculated SLV, referenced in letter from Oregon DEQ to ATOFINA Chemicals, Inc, dated May 21, 2004

Table 6-1
List of Constituents of Interest
Arkema Portland Plant Remedial Investigation

Upland Soil COIs	Groundwater and Stormwater COIs		Riverbank and Beach Soil COIs
1,1,1-Trichloroethane	1,1,1-Trichloroethane	Chloromethane	Acenaphthene
1,2,4-Trimethylbenzene	1,1-Dichloroethane	Chrysene	Alpha-BHC
1,2-Dichlorobenzene	1,1-Dichloroethene	cis-1,2-Dichloroethene	Benz[a]anthracene
1,3-Dichlorobenzene	1,2,4-Trichlorobenzene	DDD	Benzo[a]pyrene
1,4-Dichlorobenzene	1,2-Dichlorobenzene	DDE	Benzo[b]fluoranthene
4-Isopropyltoluene	1,2-Dichloroethane	DDT	Benzo[g,h,i]perylene
Acenaphthene	1,3-Dichlorobenzene	Delta-BHC	Benzo[k]fluoranthene
Acenaphthylene	1,4-Dichlorobenzene	Dibenzofuran	Bis[2-Ethylhexyl]phthalate
Acetone	2,4,5-Trichlorophenol	Dieldrin	Cadmium
Alpha-BHC	2,4,6-Trichlorophenol	Diethyl phthalate	Chromium-total
Anthracene	2,4-Dichlorophenol	Dimethyl phthalate	Crysene
Benz[a]anthracene	2,4-Dimethylphenol	Di-n-butyl phthalate	DDD
Benzo[a]pyrene	2-Butanone	Endosulfan I	DDE
Benzo[b]fluoranthene	2-Chlorophenol	Endosulfan sulfate	DDT
Benzo[ghi]perylene	2-Methylnaphthalene	Endrin	Dibenz[a,h]anthracene
Benzo[k]fluoranthene	2-Methylphenol	Endrinaldehyde	Fluoranthene
Bromobenzene	3- and 4-Chlorophenol	Fluoranthene	Hexachloroethane
Chlorobenzene	3- and 4-Methylphenol	Fluorene	Indeno[1,2,3-cd]pyrene
Chloroform	4-Isopropyltoluene	Gamma-BHC [Lindane]	Lead
Chromium-Hexavalent	Acenapthene	Gamma-chlordane	Naphthalene
Chromium-Total	Acetone	Heptachlor epoxide	Pyrene
Chrysene	Alpha-BHC	Hexachlorobenzene	Tetrachloroethene
DDD	Alpha-Chlordane	Hexachlorobutadiene	Zinc
DDE	Ammonia-nitrogen	Hexachloroethane	
DDT	Anthracene	Hexavalent chromium	
Delta-BHC	Antimony	Indeno [1,2,3-cd] pyrene	
Endrin	Arsenic	Iron	
Ethylbenzene	Barium	Isophrone	
Fluoranthene	Benz[a]anthracene	Lead	
Fluorene	Benzene	Mercury	
Gamma-BHC [Lindane]	Benzo[a]pyrene	Methylene chloride	
Gamma-Chlordane	Benzo[b]fluoranthene	Naphthalene	
Hexachloroethane	Benzo[ghi]perylene	Nickel	
Lead	Benzo[k]fluoranthene	Pentachlorophenol	
Methoxychlor	Benzoic acid	Perchlorate	
Naphthalene	Benzyl alcohol	Petroleum hydrocarbons (diesel-range)	
Perchlorate[a]	bis[2-ethylhexyl]phthalate	Phenanthrene	
Petroleum hydrocarbons (gasoline-,	Bromodichloromethane	Phenol	
diesel-, and heavy-oil-range)	Bromoform	Pyrene	
Phenanthrene	Butylbenzyl phthalate	Selenium	
Polychlorinated Biphenyls (PCBs)	Carbazole	Tetrachloroethene	
Pyrene	Carbon disulfide	Toluene	
Tetrachloroethene	Carbon tetrachloride	trans-1,2-Dichloroethene	
Toluene	Chloride[b]	Trichloroethene	
Trichloroethene	Chlorobenzene	Trichlorofluoromethane	
Xylenes	Chloroethane	Vinyl chloride	
Zinc	Chloroform	Xylenes	
	Chromium-total	Zinc	
	Copper		

Notes:
a - Perchlorate in soils to be evaluated during the risk assessment/feasibility study process
b - Chloride not to be carried through the risk assessment, but to be evaluated during the Source Control Evaluation (SCE)
- Detected in one or more samples above the preliminary screening level

Table 6-2
Chemical Properties of Selected COIs
Arkema Portland Plant Remedial Investigation

Constituent	CAS Number	Aqueous Solubility (mg/L)	Log K_{oc}	Henry's Law Coefficient (atm-m3/mole)	Vapor Pressure (mm Hg)	Vapor Density (g/L)
4,4'-DDT	50-29-3	0.0031 to 0.0034 [a,b]	5.14 to 6.26	3.8×10^{-5}	7.26×10^{-7} [c]	13.6×10^{-9} [c]
4,4'-DDD	72-54-8	0.16 [a,d]	4.64	2.16×10^{-5}	1.02×0^{-6} [c]	17.2×10^{-9} [c]
4,4'-DDE	72-55-9	0.0013 to 0.040 [b]	5.39 to 6.00	2.34×10^{-5}	6.49×10^{-6} [c]	109×10^{-9} [c]
Chlorobenzene	108-90-7	500 [a,e]	1.68 to 2.52	3.93×10^{-3}	11.8 [b]	4.6 [b]
Perchlorate (Ammonium Perchlorate)	7790-98-9	250,000 [f]	NA	NA	0	NA
Chromium (III) (Chromium Sulfate)	7440-47-3	Insoluble [g]	NA	NA	0	NA
Chromium (VI) (Sodium Dichromate)	7440-47-3	2.3×10^{6} [g]	NA	NA	0	NA

Notes:

[a] Verschueren, K. 1983. Handbook of environmental data on organic chemicals. 2nd Edition. Van Nostrand Reinhold Company Inc., New York, NY

[b] Result at 25 °C

[c] Result at 30 °C

[d] Result at 24 °C

[e] Result at 20 °C

[f] Result at 25 °C. Source: Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization (2002 External Review Draft). USEPA Office of Research and Development. NCEA-1-0503. January 16, 2002.

[g] Result for sodium dichromate at 0 °C. Source: Toxicological Profile for Chromium. U.S. Dept. of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry. September 2000.

[h] Result at 20 °C. Source: Mallinckrodt Baker, Inc. Material Safety Data Sheet #S3338, 01/12/04.

CAS = Chemical Abstract Services

COI = Constituent of interest

NA = Not available/not applicable

Table 6-3
Storm Water Drain System and Groundwater Elevation Comparison
Arkema Portland Plant Remedial Investigation

Manhole Number[1]	Invert Elevation (ft)	Invert Depth[2] (ft bgs)	Nearest Monitoring Well	Minimum Depth to Water[3] (ft from TOC)	Maximum Depth to Water[3] (ft from TOC)	Minimum Elevation Difference[4] (ft)	Maximum Eleavation Difference[4] (ft)	Storm Drain Above Groundwater? (Yes/No)
M.H. 1	87.25	12.8	MWA-5	20.83	31.21	8.1	18.5	Yes
M.H. 2	84.91	15.1	MWA-3	16.53	31.17	1.4	16.1	Yes
M.H. 3	86.76	13.2	MWA-15r	24.48	27.07	11.2	13.8	Yes
M.H. 4	89.09	10.9	MWA-22	21.68	24.35	10.8	13.4	Yes
M.H. 5	84.67	15.3	MWA-6r	21.93	27.78	6.6	12.5	Yes
M.H. 6	85.25	14.8	MWA-20	29.18	32.21	14.4	17.5	Yes
M.H. 7	90.42	9.6	MWA-24	15.18	24.88	5.6	15.3	Yes
M.H. 8	86.48	13.5	MWA-24	15.18	24.88	1.7	11.4	Yes
M.H. 9	85.66	14.3	MWA-20	29.18	32.21	14.8	17.9	Yes
M.H. 10	86.16	13.8	MWA-25	25.42	28.21	11.6	14.4	Yes
M.H. 11	89.00	11.0	MWA-26	22.97	28.07	12.0	17.1	Yes

Notes:
1) See Figure 1-6 for storm drain system manhole locations.
2) Invert depth = Average plant elevation (100.0 feet) - Invert elevation.
3) Minium and maximum depths to water in monitoring wells taken from Table 4-2.
4) Minimum and maximum elevation difference = Mimimum and maximum depth to water - Invert depth.

Table 7-1
Summary of Interim Remedial Measures and Pilot Studies
Arkema Portland Plant Remedial Investigation

IRM/Pilot Study	Area Addressed	Target Constituents	General Scope	Date	References
Phase I Soil Removal IRM	Shallow Acid Plant Area Soils (Areas A, B, and C - see Figure 7-1)	DDT in soil (>1,200 mg/kg)	3,800 tons of DDT-impacted soil removed from three areas at varying depths: Area A: 12 ft bgs; Area B: 2.5 ft bgs; Area C: 1 ft bgs.	September 2000 to November 2000	*Interim Remedial Measures Work Plan, Acid Plant Area, ATOFINA Chemicals, Inc., Portland Facility* (Exponent 2000); *Interim Remedial Measures Implementation Report, ATOFINA Facility, Portland, Oregon* (ERM 2001)
Phase II Soil Removal IRM	Shallow Acid Plant Area Soils (Area D - see Figure 7-1)	DDT in soil (>1,200 mg/kg)	915 tons of DDT-impacted soil removed to a depth of 1 foot over entire Area D and up to 7 feet in the vicinity of soil boring B-61.	November 2001	*Phase II Soil Interim Remedial Measure Workplan, ATOFINA Chemicals, Portland, Oregon* (ERM 2001); *Phase II Soil Interim Remedial Measure, ATOFINA Chemicals, Inc., Portland, Oregon* (ERM 2002)
MCB Recovery Unit Soil Vapor Extraction System (VES)	MCB Recovery Unit Area	Chlorobenzene (MCB) in soil (>2,000 mg/kg)	5 horizontal vapor extraction wells installed at a depth of approximately 6 feet bgs. Soil sampling before, during, and after operation in 47 hand auger and direct-push borings.	December 2000 to May 2003	*Workplan for Full-Scale Vapor Extraction System* (ERM 2000); *Voluntary Cleanup Program Quarterly Progress Reports* (Arkema 1999 to Present); *Confirmation Soil Sampling Summary Report* (ERM 2003)
In-Situ Sodium Persulfate Pilot Study	Former MPR Pond Area	MCB and DDT in groundwater	2,500 lbs of 4% sodium persulfate solution injected into three direct-push injection points. Performance monitoring for three months after injections.	May 2001 to August 2001	*In-Situ Sodium Persulfate Pilot Study Work Plan, ATOFINA Chemicals, Portland, Oregon* (ERM 2001)
DNAPL Pilot Study	Former MPR Pond Area	MCB in groundwater	Soil vapor extraction (SVE) coupled with in situ air sparging (IAS). 2 SVE and 2 IAS wells.	September 2003 to March 2004	*Dense Non-Aqueous Phase Liquid Remediation Pilot Study Work Plan, Acid Plant Area, ATOFINA Chemicals Facility, Portland, Oregon* (ERM 2003); *Dense Non-Aqueous Phase Liquid Remediation Pilot Study Completion Report, ATOFINA Chemicals, Inc. Facility, Portland, Oregon* (ERM 2004)
Hexavalent Chromium Reduction Pilot Study	Area of highest Cr[VI] concentrations in Chlorate Plant Area	Cr[VI] in groundwater	2,500 gallons of 10% calcium polysulfide (CAS) solution injected into each of 5 injection wells. Performance monitoring for three months after injections.	November 2003 to April 2004	*Hexavalent Chromium Reduction Pilot Study Work Plan, Chlorate Plant Area, ATOFINA Chemicals Facility, Portland, Oregon* (ERM 2003); *Addendum to Final Hexavalent Chromium Reduction Pilot Study Work Plan* (ERM 2003); *Hexavalent Chromium Reduction Pilot Study Completion Report, ATOFINA Chemicals, Inc. Facility, Portland, Oregon* (ERM 2004)
Perchlorate Bioremediation Bench Study	Chlorate Plant Area	Perchlorate in groundwater	Test efficacy of various nutrient amendments for the bioremediation of perchlorate in several microcosms	October 2003 to Present	*Scope of Work for Bench-Scale Testing of In Situ Bioremediation to Treat Perchlorate in Groundwater at the Former ATOFINA Chemicals, Inc. Facility in Portland, Oregon* (GeoSyntec letter dated 26 September 2003).