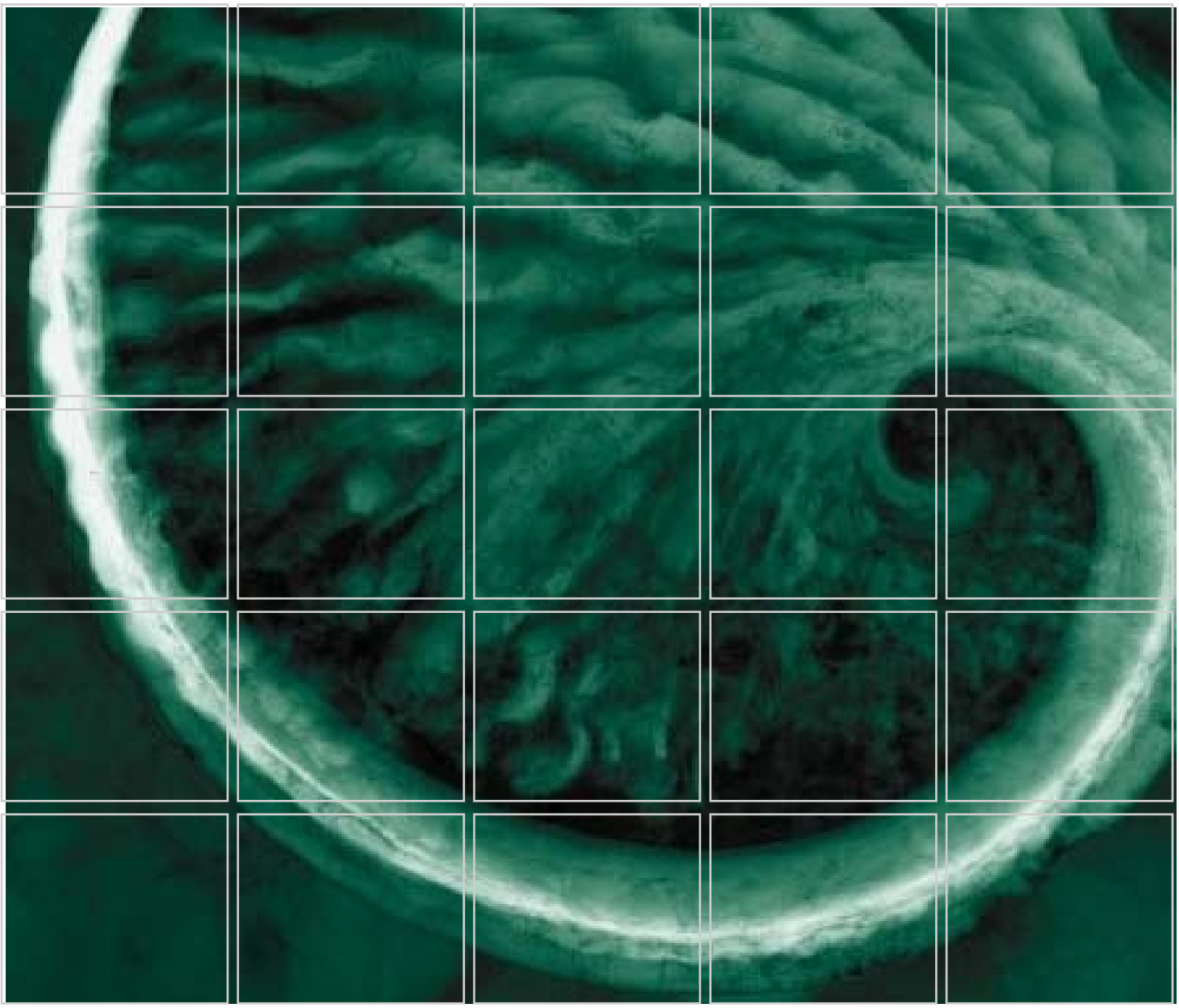

DRAFT Upland Hot Spot Evaluation - Rev. 2

Arkema, Inc. Facility
Portland, Oregon

May 2006

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May 2006

Project No. 0020423.90

David P. Edwards, P.G.
Principal

Erik C. Ipsen, P.E.
Project Manager

ERM-West, Inc.
915 118th Avenue S.E., Suite 130
Bellevue, Washington 98005
T: 425-462-8591
F: 425-455-3573

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1.0 INTRODUCTION

On behalf of Arkema, Inc. (Arkema), ERM-West, Inc. (ERM) has prepared this Hot Spot Evaluation to present the extent of potential Hot Spots of contamination for several contaminants present in soil and groundwater at the Arkema facility in Portland, Oregon (the "Site"). The purpose of this evaluation is to identify potential Hot Spots of contamination on the Upland portion of the Site, as defined by the Oregon Department of Environmental Quality (ODEQ) in the Oregon Revised Statute ([ORS] 465.315), the Hazardous Substance Remedial Action Rules (Oregon Cleanup Rules, Oregon Administrative Rule [OAR] 340-122), and the *Final Guidance for Identification of Hot Spots* (ODEQ 1998a).

2.0 HOT SPOT GUIDANCE SUMMARY

The Oregon Cleanup Rules require that certain actions be taken for "Hot Spots" of contamination. These actions are: (1) the identification of Hot Spots as part of the Remedial Investigation/Feasibility Study (FS), and (2) the treatment of Hot Spots, to the extent feasible, as part of a remedial action selected or approved by the Director of the ODEQ (ODEQ 1998a). The intent of the Hot Spot rule is to require treatment for the worst contamination only, as opposed to all contamination at the Site.

The treatment requirement for Hot Spots is subject to the remedy selection balancing factors and criteria outlined in the *ODEQ Feasibility Study Guidance* (ODEQ 1998b), which specifies that a higher threshold be applied in evaluating the reasonableness of costs for treating Hot Spots of contamination. Therefore, the purpose of identifying Hot Spots is to provide the information needed to evaluate the feasibility of various remedial action alternatives in light of the requirement to treat Hot Spots, if feasible (ODEQ 1998a).

For the purpose of simplifying the identification of Hot Spots, ODEQ developed a set of generic Hot Spot levels based on a set of presumptive conditions. These pre-calculated values are presented in the *Final Pre-Calculated Hot Spot Look-Up Tables* (ODEQ 2005). The generic Hot Spot levels may be used in place of site-specific calculations as long as the characteristics of the cleanup site are consistent with the conceptual site model used to develop the generic Hot Spot levels. For this evaluation, Site contaminant data were screened against the ODEQ generic Hot Spot levels to develop potential Hot Spots in groundwater and soil.

Further definition of Hot Spots depends on the medium that is contaminated. The sections below describe the specific guidelines for evaluating Hot Spots in groundwater and soil.

2.1 GROUNDWATER HOT SPOT BASIS

The Oregon Environmental Cleanup Rules define Hot Spots in groundwater as:

OAR 340-122-115(31)(a): For groundwater or surface water, hazardous substances having a significant adverse effect on beneficial uses of water or waters to which the hazardous substances would be reasonably likely to migrate and for which treatment is reasonably likely to restore or protect such beneficial uses within a reasonable time, as determined in a feasibility study.

Generally, a groundwater Hot Spot exists if contamination results in a significant adverse effect on the beneficial use of that resource and if restoration or protection of the beneficial use can occur within a reasonable amount of time (ODEQ 1998a). Determining the extent of groundwater Hot Spots requires evaluation of the beneficial uses of impacted groundwater and groundwater to which impacts may migrate, and evaluating the levels of site contaminants at which significant adverse effect to those beneficial uses would occur. If any significant adverse effects exist or are likely to occur in the future, it is necessary to determine if treatment is reasonably likely to restore or protect the beneficial uses within a reasonable period of time.

Initially, potential groundwater Hot Spots are identified based on the extent to which site contaminants are present at levels that have been determined to result in significant adverse effect to the beneficial uses. During the FS process, treatment of the potential Hot Spots is evaluated with respect to the ability to restore or prevent future impact to the beneficial uses of the groundwater, resulting in definition of the actual groundwater Hot Spots of contamination. The FS evaluates treatment alternatives for the Hot Spots, with a higher treatment cost threshold relative to areas of contamination outside of the Hot Spots.

ODEQ pre-calculated Hot Spot levels for groundwater are based on the significant adverse effect of contaminants on water for domestic drinking water use (ODEQ 2005). These levels are generally based on National Primary Drinking Water Standard Maximum Contaminant Levels (MCLs) and Secondary Drinking Water Standards, while the United States Environmental Protection Agency (EPA) Region 9 Preliminary Remediation Goals (PRGs) are used for constituents without MCLs or secondary drinking water standards.

In addition to the dissolved phase contaminants evaluated for the extent of the groundwater Hot Spots, the presence of dense non-aqueous phase liquid (DNAPL) present at the Site is addressed in the context of the groundwater Hot Spots in this evaluation, rather than as an issue of a

separate non-water medium. This is due to the limited mass of DNAPL observed and that the DNAPL observed consists mostly of chlorobenzene and is present within the area of the chlorobenzene groundwater plume.

2.2 *SOIL HOT SPOT BASIS*

The Oregon Environmental Cleanup Rules define Hot Spots in media other than water as:

> *OAR 340-122-115(31)(b): For media other than groundwater or surface water (e.g., contaminated soil, debris, sediments, and sludges; drummed waste; 'pools' of dense, non-aqueous phase liquids submerged beneath groundwater or in fractured bedrock; and non-aqueous phase liquids floating on groundwater), if hazardous substances present a risk to human health or the environment exceeding the acceptable risk level, the extent to which the hazardous substances:*
>
> *(A) Are present in concentrations exceeding risk-based concentrations corresponding to:*
>
> *(i) 100 times the acceptable risk level for human exposure to each individual carcinogen,*
>
> *(ii) 10 times the acceptable risk level for human exposure to each individual non-carcinogen,*
>
> *(iii) 10 times the acceptable risk level for individual ecological receptors or populations of ecological receptors to each individual hazardous substance;*
>
> *(B) Are reasonably likely to migrate to such an extent that the conditions specified in subsection (a) or paragraphs (b)(A) or (b)(C) would be created; or*
>
> *(C) Are not reliably containable, as determined in the feasibility study.*

According to ODEQ guidance, assessing a site for Hot Spots in media other than water first requires an evaluation of the site's baseline risk. The Baseline Risk Assessment for the Site has not yet been completed. However, at the request of ODEQ, this preliminary Hot Spot Evaluation has been performed to provide an initial assessment of conditions. The potential Hot Spots identified in this preliminary assessment will be refined based on the results of the Baseline Risk Assessment and the FS.

This evaluation focused on "highly-concentrated" Hot Spots in soil. "Highly mobile" and "not reliably containable" Hot Spots in soil were not evaluated at this stage. Highly mobile Hot Spots in soil will be evaluated following completion of the Baseline Risk Assessment when site-specific concentrations of contaminants in soil that are protective of groundwater can be calculated. Per ODEQ Hot Spot Guidance, not reliably containable Hot Spots are assessed during the evaluation of "long-term reliability" in the FS. Soil Hot Spots will be evaluated for the reliability of containment during the evaluation of remedial alternatives in the FS.

The assessment of "highly concentrated" soil Hot Spots is performed by comparing the concentration of each individual site contaminant to its "highly concentrated" Hot Spot level. The highly concentrated Hot Spot levels are risk-based concentrations corresponding to a given multiplier of the acceptable risk level, as described above.

Risk-based concentrations are a function of three variables: the target risk level, the various exposure factors applicable to a given exposure pathway and the contaminant's toxicity. In calculating highly concentrated Hot Spot levels, the target risk level is a given multiplier of the acceptable risk levels. The "highly concentrated" Hot Spot levels should not be mistaken as representing site risk since they do not consider the cumulative exposure from multiple contaminants or the contaminant distribution throughout the Site.

The ODEQ has developed pre-calculated highly concentrated Hot Spot levels for contaminants in soil for both residential and industrial land use scenarios (ODEQ 2005). The ODEQ pre-calculated highly concentrated Hot Spot levels are generally based on carcinogenic and non-carcinogenic EPA Region 9 Preliminary Remediation Goals, with the appropriate multipliers applied as listed above. The exposure scenarios used to develop the industrial pre-calculated Hot Spot levels include ingestion of soil, inhalation of volatiles, inhalation of particulates (for non-volatile contaminants), and dermal adsorption.

As described above for groundwater Hot Spots, DNAPL present at the Site is addressed in the context of the groundwater Hot Spots in this evaluation, as the DNAPL is generally present within the chlorobenzene groundwater plume.

3.0 DEVELOPMENT OF HOT SPOT LEVELS

The sections below describe how the ODEQ guidance was used to select or develop criteria to evaluate the extent of Hot Spots at the Site.

3.1 LAND AND BENEFICIAL WATER USE

The *Remedial Investigation Report, Lots 3 & 4 and Tract A, Revision 1* (RI Report; ERM 2005) presents a complete discussion of the Locality of the Facility (LOF) for the Site. In general, the LOF is the Arkema facility and the riverbank to the mean high Willamette River water level. Refinement of the LOF may be made following completion of the Baseline Risk Assessment or during the FS.

As described in the RI Report, the current and reasonably likely future land use in the LOF is well defined. The Site is located in the heart of the Guild's Lake Industrial Sanctuary, zoned and designated "IH" for heavy industrial use. Protection of this land use for the purpose of maintaining industrial land use has been adopted as part of Portland's Comprehensive Plan. As a result, future land use in the LOF will be industrial (ERM 2005).

The RI Report summarized the results of previous surveys conducted regarding beneficial use of water at the Site. Generally, groundwater is not currently used as a drinking water source. No existing drinking water production wells exist within the LOF or within a 1-mile radius of the LOF. The primary beneficial use of groundwater was determined to be recharge to the Willamette River and the basalt aquifer. The potential beneficial uses of nearby groundwater in the basalt aquifer include recharge to the Willamette River and industrial water supply. Use as drinking water is not expected to be a beneficial use of groundwater at the Site.

3.2 GROUNDWATER HOT SPOT LEVELS

As specified in the *ODEQ Hot Spot Guidance* (ODEQ 1998a), potential groundwater Hot Spots are identified based on the extent to which site contaminants are present at levels that have been determined to result in significant adverse effect to the beneficial uses. As described above and in

the RI Report, groundwater at the Site is not expected to have a beneficial use as drinking water. Despite this determination, the ODEQ pre-calculated Hot Spot levels for groundwater, which are based on drinking water as the beneficial use of groundwater and use the respective drinking water based MCLs and PRGs, were used for this evaluation. While this is not representative of the risk pathways associated with groundwater at the Site, the ODEQ pre-calculated Hot Spot levels were used to allow a preliminary development of a set of contaminants that may result in groundwater Hot Spots at the Site, and the respective areas of those potential Hot Spots. Following completion of the Baseline Risk Assessment for the Site, use and Site-specific Hot Spot levels may be developed to refine the Hot Spots for further evaluation during the FS.

Table 1 presents the Hot Spot levels for the groundwater contaminants for which the respective pre-calculated Hot Spot levels were determined to be exceeded at the Site.

3.3 SOIL HOT SPOT LEVELS

Based on the industrial land use of the Site, as described in Section 3.1, it is appropriate to use the ODEQ Pre-Calculated Hot Spot Look-Up Tables (ODEQ 2005) for highly concentrated Hot Spot levels in industrial land use soil. These highly concentrated Hot Spot levels are generally based on the EPA Region 9 Preliminary Remediation Goals, with a multiplier of 10 for non-carcinogenic contaminants and a multiplier of 100 for carcinogenic contaminants. In addition, a maximum ceiling limit of 100,000 milligrams per kilogram is applied to all contaminants.

Table 1 presents the Hot Spot levels for soil contaminants for which the respective pre-calculated Hot Spot levels were determined to be exceeded at the Site.

4.0 HOT SPOTS AT THE ARKEMA, PORTLAND FACILITY

The data presented in the *Upland Remedial Investigation Report, Lots 3 & 4 and Tract A, Revision 1* (RI Report; ERM 2005) were used to evaluate the presence of potential Hot Spots of contamination at the Site. In addition, groundwater data collected during several Interim Remedial Actions (IRMs) at the Site have also been included in the Hot Spot data set. In this section, the Hot Spot values for soil and groundwater presented in Section 3 are compared to the Site data for the Arkema, Portland, facility. The data used to evaluate the presence of Hot Spots include those presented in the RI Report (ERM 2005), as well as data collected through February 2006 during several IRMs performed at the Site. These IRMs include:

- Air sparging/soil vapor extraction (AS/SVE) IRM to treat DNAPL and chlorobenzene in the area of the former manufacturing process residue (MPR) pond and trench;
- In situ persulfate oxidation IRM performed in the area downgradient of the AS/SVE IRM; and
- In situ chemical reduction IRM to treat hexavalent chromium near and downgradient of the chlorate cell room.

The applicable tables from the RI Report were altered to use the respective Hot Spot levels in the place of the screening levels applied in the RI Report. Tables summarizing the groundwater performance data from the IRMs were also altered to screen the data against the respective Hot Spot levels. The resulting set of tables screening the data against the Hot Spot criteria are presented as Appendix A. The results of the screening performed in the Appendix A tables are summarized in Tables 2 through 7. Only the analytes that exceeded Hot Spot levels in the Appendix A tables were included in Tables 2 through 7.

The sections below present the results of the screening of the groundwater and soil data against the Hot Spot criteria presented in Table 1.

4.1 *GROUNDWATER HOT SPOTS*

The screening tables for groundwater are presented in Attachment A as Tables A-1 through A-9. Based on the results of the initial screening of groundwater results, the Attachment A tables were limited to a set that only include groundwater contaminants detected at concentrations exceeding respective Hot Spot criteria. The result of this exercise for the RI data is presented as Tables 2 through 5. Similarly, the screened IRM data are presented in Tables 6 and 7. That is, Tables 2 through 7 only present the results of analytes for which one or more samples exceeded the respective Hot Spot level.

Figures 1 and 2 present the groundwater Hot Spots for all contaminant groups for shallow zone and intermediate zone groundwater, respectively. For the development of the potential Hot Spots shown on Figures 1 and 2, and in greater detail on Figures B-1 through B-9, the most recent data collected from monitoring wells were used to characterize the extent of the Hot Spots.

Based on the results of the screening described above, contaminants detected at concentrations above their respective Hot Spot criteria for groundwater include pesticides, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals and other inorganic contaminants. Each family of contaminants that exceeded their respective screening criteria is summarized below:

- Pesticides in groundwater exceeded the Hot Spot criteria across the area near and downgradient of the MPR pond and trench. Predominant pesticides are 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT, while other compounds exceeding Hot Spot criteria include alpha-BHC, delta-BHC, Dieldrin, gamma-BHC, and heptachlor epoxide. Detections of these additional compounds at concentrations exceeding Hot Spot criteria were generally limited to localized areas. Tables 2 and 6 present pesticide exceedances in samples from the RI and IRMs, respectively. Figures B-3 and B-4 present the locations exceeding pesticide Hot Spot criteria in shallow zone and intermediate zone groundwater.

- The VOCs in groundwater exceeding Hot Spot criteria are predominantly chlorobenzene, chloroform, and tetrachloroethene. Several other VOCs exceeded Hot Spot criteria during the RI and IRM monitoring periods, but were either detected at limited locations across the Site, or were subsequently detected at concentrations below

Hot Spot criteria. VOCs are present above Hot Spot criteria in shallow zone and intermediate zone groundwater, with a single detection of chloroform above the Hot Spot level in the deep zone well MWA-32i(d). Tables 3 and 6 present VOC exceedances in samples from the RI and IRMs, respectively. Figures B-1 and B-2 present the locations exceeding VOC Hot Spot criteria in shallow zone and intermediate zone groundwater. In addition, the extent of sample locations where chlorobenzene DNAPL has been observed in shallow zone groundwater is shown on Figure B-1.

- Detections of SVOCs above Hot Spot criteria have been limited at the Site, with 2-chlorophenol being the compound detected at the greatest frequency. Table 4 presents the results of the Hot Spot screening for SVOCs in groundwater. Figures B-5 and B-6 present the locations exceeding SVOC Hot Spot criteria in shallow zone and intermediate zone groundwater.

- Several metals and other inorganic analytes exceeded their respective Hot Spot criteria. The primary metal exceeding Hot Spot criteria is chromium whereas perchlorate is the primary non-metal inorganic exceeding its Hot Spot criteria. Several other metals (arsenic, barium, iron, lead, manganese, and nickel) are detected above their Hot Spot criteria. Manganese and iron exceeded their Hot Spot criteria in the shallow, intermediate, and deep groundwater zones across the entire facility, but their respective Hot Spot criteria are based on secondary drinking water standards, rather than the health-based MCLs and PRGs used for most other metals. These metals, in addition to arsenic which also has widespread detections, are not the result of Site activities and appear to have background concentrations exceeding their respective Hot Spot criteria. Figures B-7, B-8, and B-9 present the locations exceeding metals and inorganics Hot Spot criteria in shallow zone, intermediate zone, and deep zone groundwater.

4.2 SOIL HOT SPOTS

The screening tables for soil are presented in Attachment A as Tables A-10 through A-21. Based on the results of the initial screening of soil results, the Attachment A tables were limited to a set that only include soil contaminants detected at concentrations exceeding respective Hot Spot criteria. The result of this exercise is presented as Tables 8 and 9. That is, Tables 8 and 9 only present the results of analytes for which one or more samples exceeded the respective Hot Spot level.

In contrast to the numerous analytes detected infrequently in groundwater above Hot Spot criteria, a limited list of compounds exceeds the Hot Spot criteria for soil at the Arkema Portland facility. As in the RI Report, the soil data presented in Tables 8 and 9 were evaluated for different depths; surface soil (0 to 1 foot below ground surface [ft bgs]) and subsurface soil (1 foot bgs and deeper). The soil from 1 foot bgs to the water table was further divided into soil from 1 to 4 ft bgs and from 4 ft bgs to the water table for delineation of Hot Spots, as shown on Figures 3 and 4.

The soil data include some samples collected prior to performance of soil excavation activities (i.e., soil removal IRMs) at the facility. These samples are from soil that was subsequently removed and are indicated as such in the tables. Soil within the extent of the excavations was considered removed, with the excavations backfilled with clean soil. However, soil from beneath the excavation of the former MPR pond, approximately 12 ft bgs, was considered a potential Hot Spot for DDT based on visual inspection and historic data not included in the RI. Also, soil at 1 foot bgs to the water table below the southwestern corner of Warehouse No. 3 above the extent of the former MPR pond was considered a potential Hot Spot for DDT based on visual evidence.

The individual compounds that exceeded their respective screening criteria are summarized below:

- Pesticides that exceeded their Hot Spot criteria in surface soil include 4,4'-DDE and 4,4'-DDT. Figure B-13 presents the locations exceeding pesticide Hot Spot criteria in surface soil (0 to 1 foot bgs). All Hot Spots of soil based on the presence of pesticides are shown on Figure 4.

- The pesticide 4,4'-DDT was detected in subsurface soil above its Hot Spot criteria at several locations and at various depths. Figures B-14 and B-15 present the locations exceeding pesticide Hot Spot criteria in subsurface soil at 1 to 4 ft bgs and at 4 ft bgs to the water table, respectively. All Hot Spots of soil based on the presence of pesticides are shown on Figure 4.

- The only VOC detected in soil above its Hot Spot criteria is chlorobenzene, which was detected in subsurface soil samples from several locations and at depths ranging 6 to 10 ft bgs. No VOCs exceeded Hot Spot criteria in surface soil. Figures B-10, B-11, and B-12 present the locations exceeding VOC Hot Spot criteria in surface soil and subsurface soil at 1 to 4 ft bgs (Figures B-10 and B-11, showing the

lack of exceedances of Hot Spot criteria) and at 4′ bgs to the water table (Figure B-12). All Hot Spots of soil based on the presence of VOCs are shown on Figure 3.

5.0 CONCLUSIONS

Based on the screening of soil and groundwater data from the Arkema Portland facility, potential Hot Spots of VOCs, SVOCs, pesticides, and metals/inorganics were identified in the areas shown on Figures 1 through 4. This evaluation was based on the screening of contaminant concentrations against the ODEQ pre-calculated Hot Spot criteria for soil and groundwater as a preliminary effort to outline the presence of potential Hot Spots and is not intended to present definitive areas requiring treatment. Following completion of an upland baseline risk assessment, the extent of Hot Spots will be further evaluated based on actual Site risks. This likely will reduce the area of some Hot Spots that are based on infrequent detection of some analytes and widespread detection of other analytes that appear to have background concentrations above Hot Spot criteria.

Additional specific conclusions drawn from this Hot Spot evaluation are listed below:

- Performance of a Baseline Risk Assessment will develop a concise list of primary contaminants which will allow refinement of potential Hot Spots in soil and groundwater.
- If appropriate, the Baseline Risk Assessment may allow development of more appropriate risk-based Hot Spot criteria that are specific to the Arkema, Portland, facility.
- Regional background concentrations and potential upgradient sources of some metals, including manganese, iron, and arsenic, should be considered and may lead to the elimination of several constituents as Hot Spots.

6.0 REFERENCES

ERM-West, Inc. 2005. *Upland Remedial Investigation Report, Lots 3 & 4 and Tract A, Revision 1.* December 2005.

Oregon Department of Environmental Quality (ODEQ) 1998a. *Final Guidance for Identification of Hot Spots.* July 1, 1998.

ODEQ 1998b. *ODEQ Feasibility Study Guidance*. April 23, 1998.

ODEQ 2005. *Final Pre-Calculated Hot Spot Look-Up Tables*. October 20, 1998 (Tables updated May 31, 2005).

Figures

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LEGEND

- Potential Acid Plant Area Source Areas
- VOCs Hot Spots in Shallow Zone Groundwater; Dashed Where Inferred
- SVOCs Hot Spots in Shallow Zone Groundwater; Dashed Where Inferred
- Pesticides Hot Spots in Shallow Zone Groundwater; Dashed Where Inferred
- Metals and Inorganics Hot Spots in Shallow Zone Groundwater; Dashed Where Inferred
- Approximate Extent of Residual DNAPL in the Shallow Groundwater Zone: Dashed Where Inferred
- Monitoring Well, Shallow Zone
- Monitoring Well, Shallow–Intermediate Zone
- Monitoring Well, Intermediate Zone
- Monitoring Well, Deep Zone

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 150
FEET

Figure 1
Groundwater Hot Spots
Shallow Zone
Arkema Inc.
Portland, Oregon

ERM 04/06

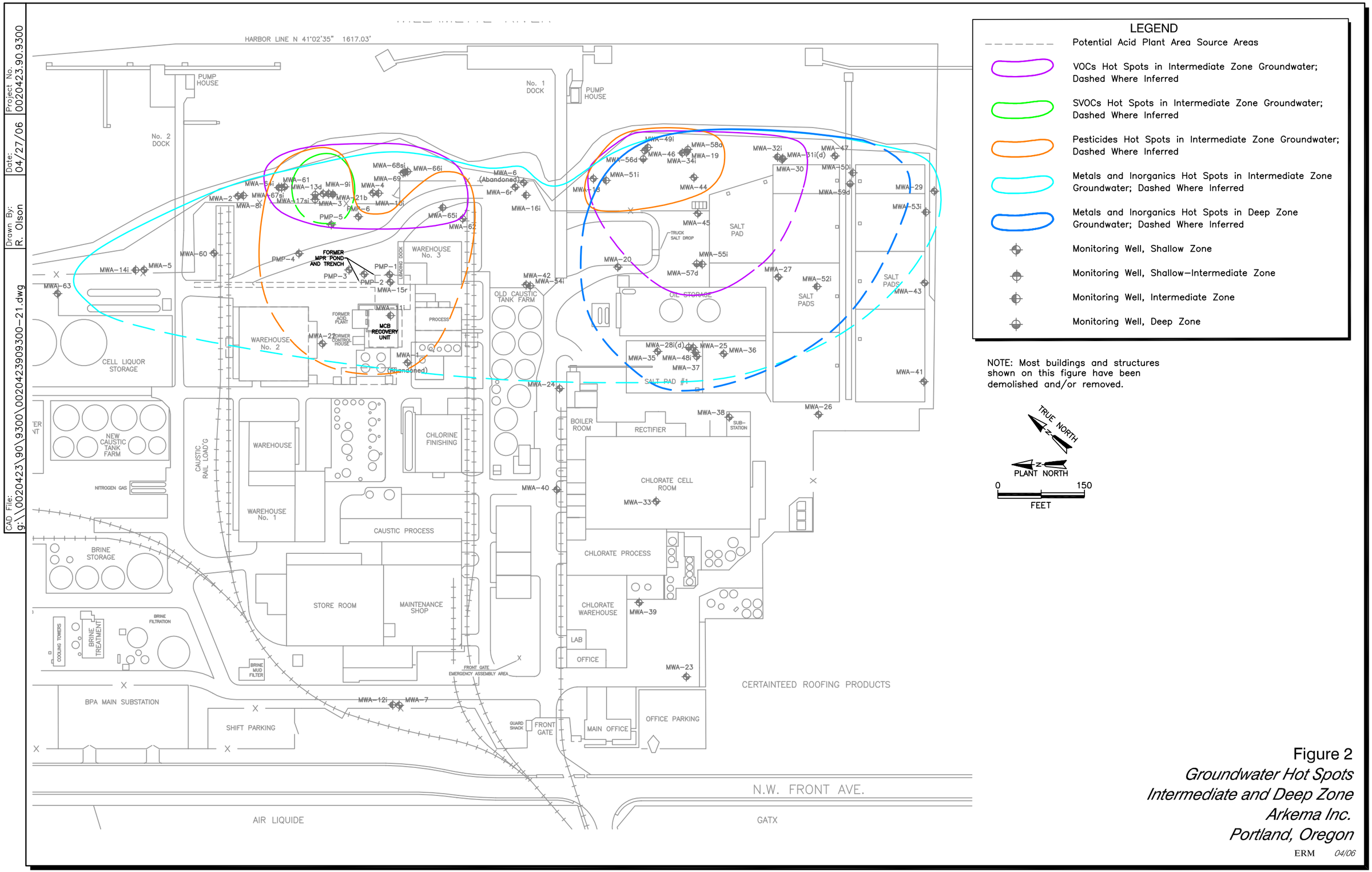

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Figure 2
Groundwater Hot Spots
Intermediate and Deep Zone
Arkema Inc.
Portland, Oregon

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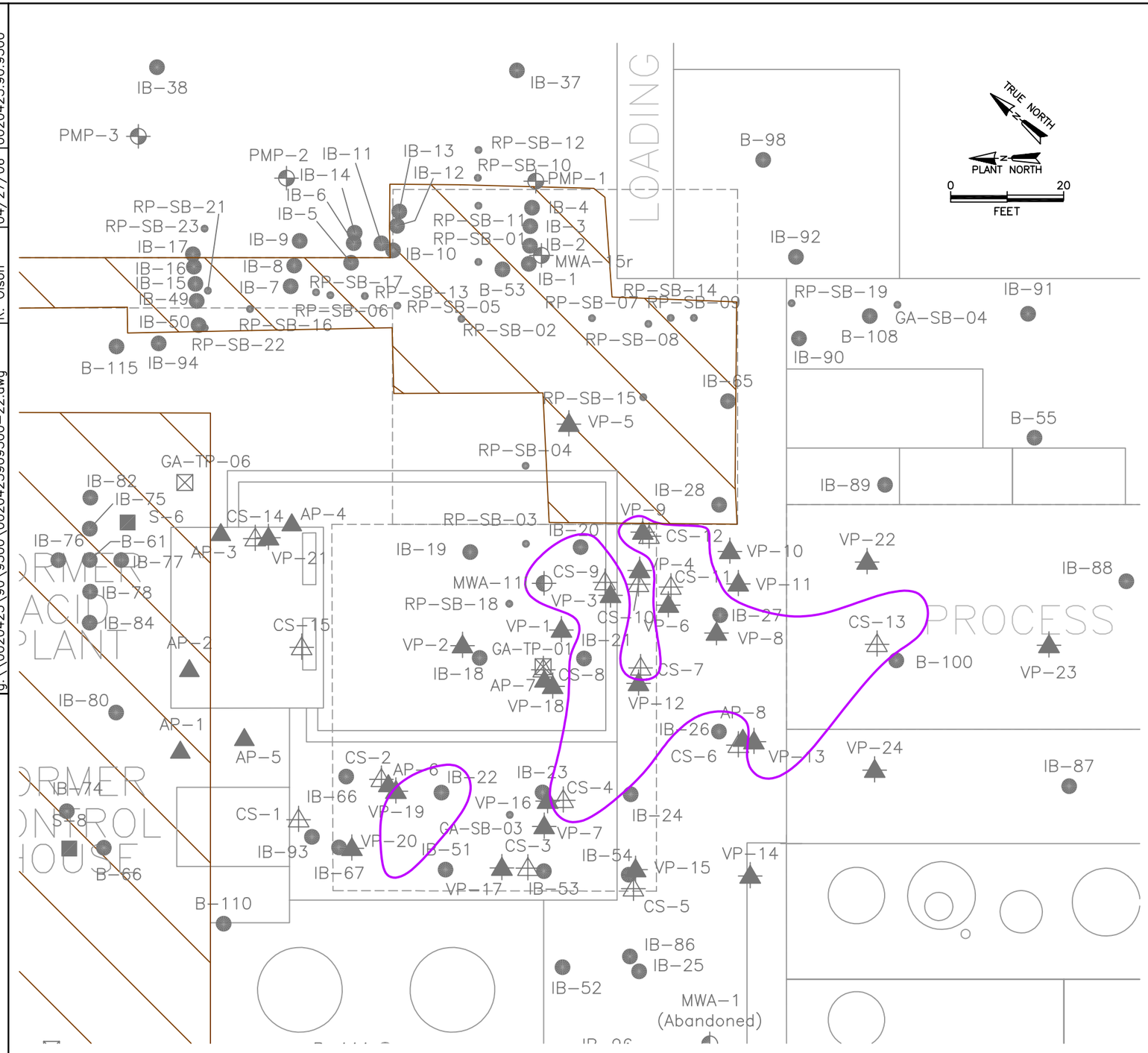
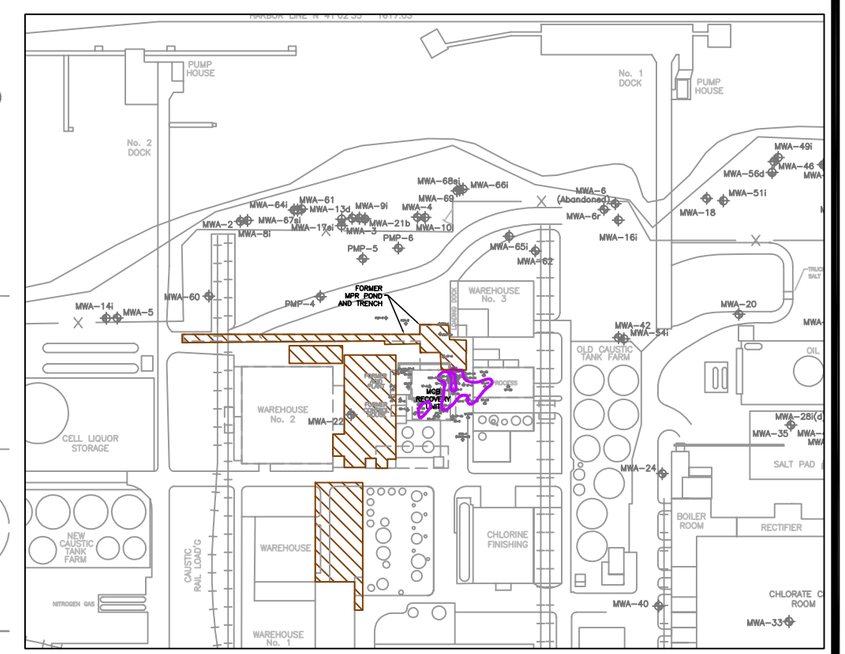


LEGEND

	Potential Acid Plant Area Source Areas
	Chlorobenzene Hot Spots in Soil (4 feet to water table)
	Area of Soil Excavated During Soil Removal IRM
MWA-3	Monitoring Well, Shallow Zone
MWA-17si	Monitoring Well, Shallow/Intermediate Zone
MWA-9i	Montoring Well, Intermediate Zone
MWA-13d	Monitoring Well, Deep Zone
MWA-21b	Monitoring Well, Basalt
IB-1	Soil Removal Interim Remedial Measure Boring
B-49	Remedial Investigation Soil Boring
CS-7	VES Confirmation Soil Boring
AP-7	VES Hand Auger Boring
VP-11	VEW Vapor Monitoring Point
S-5	Surface Soil Sample Location
RP-SB-03	Phase 1 Soil Boring Location
GA-SB-09	Phase 2 Soil Boring Location
GA-TP-01	Phase 1 Test Pit



NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

Figure 3
Chlorobenzene Hot Spots in Soil
Arkema Inc.
Portland, Oregon

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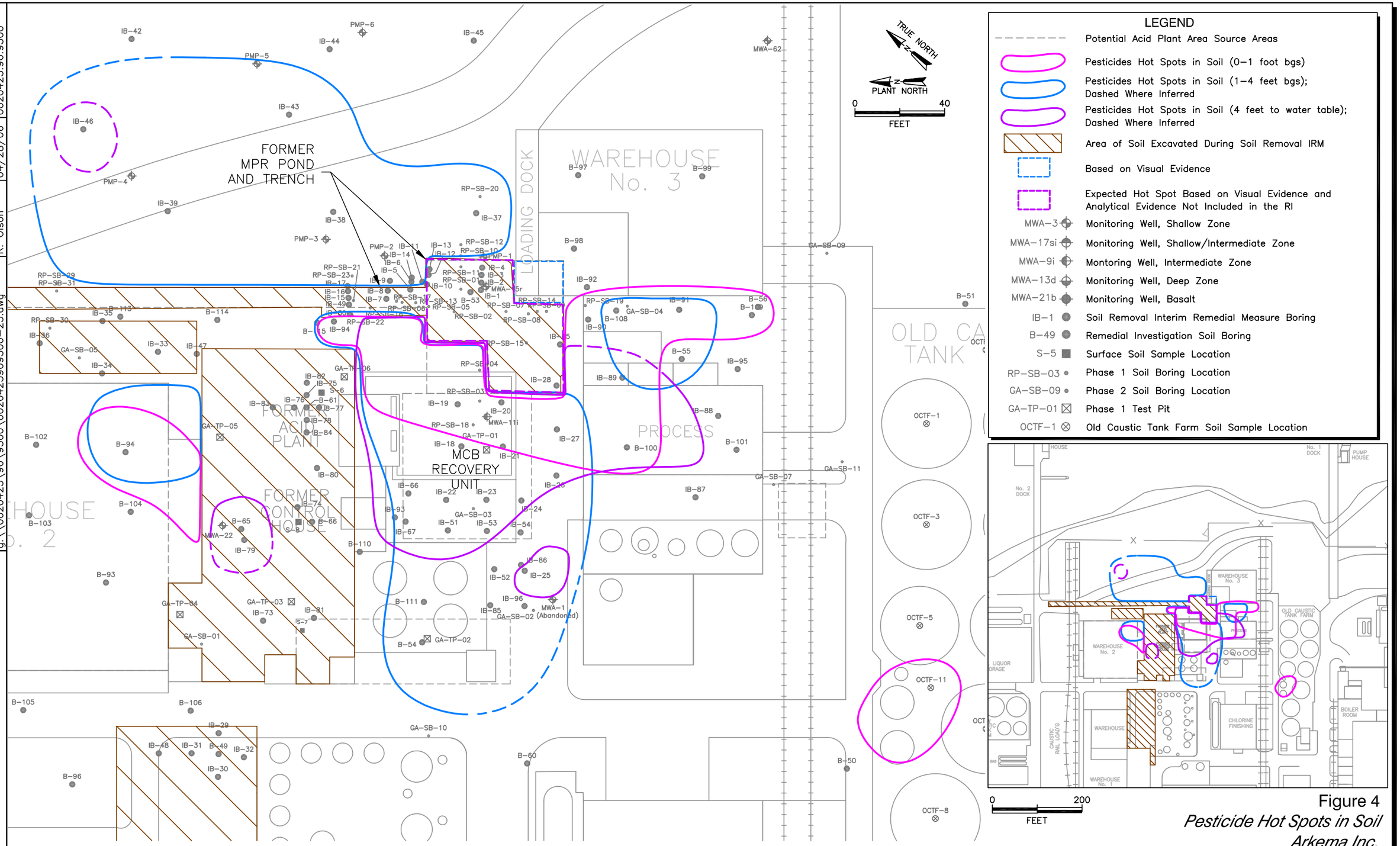

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

Figure 4
Pesticide Hot Spots in Soil
Arkema Inc.
Portland, Oregon

ERM 04/06

Tables

Table 1
Summary of Pre-Calculated Hot Spot Levels in Water and Soil
Arkema Portland Plant Hot Spot Evaluation

Contaminant of Interest	Matrix	Screening Level	Source
Pre-Calculated Hot Spot Levels in Water		*Significant Adverse Effect Level (µg/L)*	
Organochlorine Pesticides			
4,4'-DDD	Water	0.28	EPA Region 9 PRG[a]
4,4'-DDE	Water	0.20	EPA Region 9 PRG[a]
4,4'-DDT	Water	0.20	EPA Region 9 PRG[a]
alpha-BHC	Water	0.011	Value for alpha-HCH used
delta-BHC	Water	0.037	Value for alpha-BHC used
Dieldrin	Water	0.0042	ARL
Lindane (gamma-BHC)	Water	0.2	Value for Lindane (gamma HCH) used
Heptachlorepoxide	Water	0.2	MCL
Volatile Organic Compounds			
Chlorobenzene (MCB)	Water	100	MCL
Chloroform	Water	0.17	EPA Region 9 PRG[a]
1,1-dichloroethene (1,1-DCE)	Water	7	MCL
1,2-dichloroethane (1,2-DCA)	Water	5	MCL
Bromodichloromethane	Water	0.18	ARL
Carbon tetrachloride	Water	5	MCL
Chloroethane	Water	4.6	ARL
Chloromethane	Water	160	ARL
cis-1,2-dichloroethene	Water	70	MCL
Hexachlorobutadiene	Water	0.86	ARL
Methylene Chloride	Water	5	MCL
Tetrachloroethene (PCE)	Water	5	MCL
trans-1,3-dichloropropene	Water	0.4	ARL
Trichloroethene (TCE)	Water	5	MCL
Vinyl Chloride	Water	2	MCL
Semivolatile Organic Compounds (Fill Area Riverward of Acid Plant)			
Benz[a]anthracene	Water	0.092	EPA Region 9 PRG[a]
Benzo[b]fluoranthene	Water	0.092	EPA Region 9 PRG[a]
Indeno[1,2,3-cd] pyrene	Water	0.092	EPA Region 9 PRG[a]
1,4-Dichlorobenzene	Water	75	MCL
2-Chlorophenol	Water	30	ARL
Hexachlorobenzene	Water	0.86	ARL
Hexachloroethane	Water	4.8	ARL
Pentachlrophenol	Water	1.0	MCL
Metals			
Antimony	Water	6	MCL
Arsenic	Water	10	MCL
Barium	Water	2000	MCL
Berrylium	Water	4	MCL
Cadmium	Water	5	MCL
Copper	Water	1000	National Secondary Drinking Water Standard
Hexavalent Chromium[b]	Water	110	EPA Region 9 PRG[a]
Total Chromium	Water	100	MCL
Iron	Water	300	National Secondary Drinking Water Standard
Lead[b]	Water	15	National Primary Drinking Water Standard
Manganese	Water	50	National Secondary Drinking Water Standard
Mercury	Water	2.0	MCL
Nickel	Water	100	MCL
Zinc	Water	5,000	National Secondary Drinking Water Standard
Other Constituents			
Nitrate	Water	10000	ARL
Perchlorate	Water	24.5	EPA OSWER PRG[d]
Pre-Calculated Hot Spot Levels in Soil		*Industrial Highly Concentrated Hot Spot Level (mg/kg)*	
Organochlorine Pesticides			
4,4'-DDT	Soil	700	100 x EPA Region 9 PRG[c]
4,4'-DDD	Soil	1,000	100 x EPA Region 9 PRG[c]
4,4'-DDE	Soil	700	100 x EPA Region 9 PRG[c]
Volatile Organic Compounds			
Chlorobenzene (MCB)	Soil	5,300	10 x EPA Region 9 PRG[c]

Notes:
ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
a - USEPA Region IX PRG, October 2004
b - Acceptable risk level calculated using non-standard method (Hot Spot Tables)
c - USEPA Region IX PRGs, direct contact pathway, industrial soil, October 2004
d - Revised Perchlorate Hot Spot Level derived from January 26, 2006 USEPA Memorandum "Assessment Guidance for Perchlorate"

Table 2
Compounds Exceeding Hot Spot Criteria - Pesticides in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	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 alpha-BHC 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)
Hot Spot Screening Levels			**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.011 a,e**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**0.2 b,k**	**0.2 b**
MWA-1	Acid Plant	1/29/1999	0.11 *U*	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*	0.14 *UJ*	0.04 *UJ*
		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*	0.040 *UJ*	0.040 *UJ*
MWA-2	Acid Plant	1/27/1999	**0.32**	**0.13**	**0.04**	0.04 *U*	**0.18**	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
		4/27/1999	**0.70**	**0.34** *J*	0.04 *U*	0.04 *U*	**0.50**	**0.23** *J*	0.20 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
(dup)		4/27/1999	**0.80**	**0.19** *J*	0.04 *U*	0.04 *U*	**0.60**	**0.15** *J*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	**0.05**	0.04 *U*
		8/24/1999	**0.7**	0.4 *UJ*	0.4 *U*	0.4 *UJ*	0.4 *U*	0.4 *UJ*	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *UJ*	0.0 *U*	0.0 *U*
		11/16/1999	**0.39** *J*		0.04 *UJ*		0.24 *U*		0.04 *UJ*	0.04 *UJ*	0.04 *UJ*		0.20 *UJ*	0.04 *UJ*
		3/29/2001	**0.57**		0.10 *U*		0.10 *U*		0.46 *U*	0.10 *U*	0.10 *U*		0.10 *U*	0.10 *U*
		6/12/2001	**0.40**		**0.06**		0.05 *UJ*		0.05 *U*	0.05 *U*	0.05 *U*		0.15 *U*	0.05 *U*
		4/10/2002	**0.41**		0.10 *U*		0.10 *U*		0.10 *U*	0.21 *U*	0.10 *U*		**0.19**	0.10 *U*
		6/9/2003	4.00 *U*		8.00 *U*		8.00 *U*		4.00 *U*	10.00 *U*	8.00 *U*		4.00 *U*	4.00 *U*
MWA-3	Acid Plant	1/27/1999	0.090 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.210**	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.070**	0.040 *U*
		4/28/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.200**	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
		8/24/1999	**0.2**	0.0 *U*	**0.1**	0.0 *U*	**0.8**	**0.1**	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *U*
		11/16/1999	**0.07**		0.04 *U*		0.20 *U*		0.04 *U*	0.04 *U*	0.04 *U*		0.04 *U*	0.04 *U*
		3/29/2001	**0.2**		0.1 *U*		**0.4**		7.0 *U*	0.1 *U*	0.1 *U*		**0.2**	0.1 *U*
		6/14/2001	**0.32**		0.10 *U*		**0.58** *J*		**13.00** *J*	0.10 *U*	0.10 *U*		**0.23**	0.10 *U*
		4/15/2002	0.24 *U*		**0.12**		1.30 *U*		0.05 *U*	0.05 *U*	0.05 *U*		**0.17**	0.05 *U*
		6/9/2003	**0.086**		0.080 *U*		**0.362**		0.040 *U*	0.100 *U*	0.080 *U*		0.040 *U*	0.040 *U*
MWA-4	Acid Plant	1/28/1999	**11.0**	**2.1**	**0.2**	0.1 *U*	**0.8**	0.1 *U*	0.4 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*
(dup)		1/28/1999	**11.0**	**2.2**	1.0 *U*	0.1 *U*	1.0 *U*	0.1 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.1 *U*	1.0 *U*	1.0 *U*
		4/28/1999	**9.0**	**1.3**	**0.3**	**0.1**	**1.7**	**0.4**	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *U*
		8/25/1999	**7.0**	**0.8**	**0.4**	**0.1**	**1.5**	**0.3**	0.0 *U*	0.0 *U*	0.4 *U*	0.0 *U*	**0.2**	0.0 *U*
		11/16/1999	**4.0**		**0.1**		2.2 *U*		0.0 *U*	0.0 *U*	0.0 *U*		0.3 *U*	0.0 *U*
		3/29/2001	**7.0**		0.2 *U*		0.2 *U*		13.0 *U*	0.3 *U*	0.2 *U*		0.3 *U*	0.2 *U*
		6/14/2001	**6.7**		**0.1** *J*		**0.4** *J*		**11.0** *J*	0.4 *U*	0.1 *U*		0.4 *U*	0.1 *U*
		4/11/2002	**8.3**		**0.5** *J*		0.2 *U*		0.2 *U*	0.2 *U*	0.2 *U*		**0.7** *J*	0.2 *U*
		6/9/2003	**3.97**		**0.23**		0.09 *U*		0.04 *U*	0.11 *U*	0.09 *U*		0.04 *U*	0.04 *U*
MWA-5	Acid Plant	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*	0.040 *U*	0.040 *U*
		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*	0.040 *U*	0.040 *U*
		8/23/1999	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.10 *U*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *U*	0.04 *UJ*	0.04 *UJ*
		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*
		3/28/2001	0.020 *UR*		0.020 *UR*		0.020 *UR*		0.020 *UR*	0.020 *UR*	0.020 *UR*		0.020 *UR*	0.020 *UR*
		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*
		4/4/2002	0.0096 *U*		0.0096 *U*		0.0140 *U*		0.0096 *U*	0.0096 *U*	0.0096 *U*		0.0096 *U*	0.0096 *U*
		6/6/2003	0.0400 *U*		0.0800 *U*		**0.0916**		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*
MWA-6	Acid Plant	1/27/1999	**0.50**	0.40 *U*	**3.70**	**1.30**	**3.80**	**1.40**	0.40 *U*	0.40 *U*	**0.80**	**0.60**	0.40 *U*	0.40 *U*
		4/29/1999	**0.90** *J*	**0.04** *J*	**3.20** *J*	**0.29** *J*	**2.90** *J*	**0.36** *J*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*	0.04 *UJ*
MWA-6r	Acid Plant	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*
		11/17/1999	**0.06** *J*		**0.06** *J*		0.20 *U*		0.04 *UJ*	0.04 *UJ*	0.04 *UJ*		0.04 *UJ*	0.04 *UJ*
		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*
		6/12/2001	**0.059** *J*		**0.026** *J*		**0.110** *J*		0.010 *UR*	0.010 *UR*	0.010 *UR*		0.010 *UR*	0.010 *UR*
		4/10/2002	0.018 *U*		**0.068** *J*		0.110 *U*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *UJ*
		6/5/2003	0.040 *R*		0.080 *R*		**0.214** *J*		0.040 *R*	0.100 *R*	0.080 *R*		0.040 *R*	0.040 *R*

Table 2
Compounds Exceeding Hot Spot Criteria - Pesticides in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	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 alpha-BHC 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)
Hot Spot Screening Levels			**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.011 a,e**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**0.2 b,k**	**0.2 b**
MWA-7	Acid Plant	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*	0.040 *UJ*	0.040 *UJ*
		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*	0.040 *U*	0.040 *U*
		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*
		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*
		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*
		6/11/2001	0.015 *U*		0.010 *U*		0.010 *U*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		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*
		6/4/2003	0.0400 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0400 *UJ*	0.1000 *UJ*	0.0800 *UJ*		0.0400 *UJ*	0.0400 *UJ*
MWA-8i	Acid Plant	1/27/1999	**5.3** *J*	**2.4** *J*	**0.1** *J*	**0.0** *J*	**1.0** *J*	**0.6** *J*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*
		4/27/1999	**0.14** *J*	**0.16** *J*	0.04 *UR*	0.04 *UJ*	0.04 *UR*	0.04 *UJ*	0.04 *UR*	0.04 *UR*	0.04 *UR*	0.04 *UJ*	0.04 *UR*	0.04 *UR*
		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*
(dup)		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*
		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*
		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*
		6/12/2001	**0.11** *J*		0.01 *UR*		0.01 *UR*		0.01 *UR*	0.01 *UR*	0.01 *UR*		0.01 *UR*	0.01 *UR*
		4/10/2002	**0.080**		0.010 *U*		**0.012**		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		6/9/2003	0.040 *U*		0.080 *U*		0.080 *U*		0.040 *U*	0.100 *U*	0.080 *U*		0.040 *U*	0.040 *U*
MWA-9i	Acid Plant	1/28/1999	**20.0** *J*	**9.0** *J*	**0.4** *J*	**0.3** *J*	**9.0** *J*	**8.0** *J*	0.0 *UJ*	0.0 *UJ*	0.1 *UJ*	0.1 *UJ*	0.0 *UJ*	0.1 *UJ*
		4/28/1999	**10.0**	**2.8** *J*	**0.1**	0.0 *UJ*	**3.0**	**1.0** *J*	0.0 *U*	0.0 *U*	0.0 *U*	0.0 *UJ*	0.0 *U*	0.0 *U*
		8/25/1999	**4.5** *J*	**2.9** *J*	**0.1** *J*	**0.1** *J*	**0.6** *J*	**0.6** *J*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*
		11/16/1999	**1.9** *J*		0.0 *UR*		0.2 *U*		0.0 *UR*	0.0 *UR*	0.0 *UR*		0.0 *UR*	0.0 *UR*
		3/30/2001	**0.58**		0.10 *U*		0.10 *U*		7.50 *U*	0.10 *U*	0.10 *U*		0.10 *U*	0.10 *U*
		6/18/2001	**0.47** *J*		0.01 *UJ*		**0.02** *J*		0.01 *UJ*	0.02 *UJ*	0.01 *UJ*		0.01 *UJ*	0.01 *UJ*
		4/15/2002	**0.93** *J*		**0.07** *J*		0.15 *U*		0.05 *UR*	0.05 *UR*	0.05 *UR*		0.05 *UR*	0.05 *UR*
		6/9/2003	**1.1**		0.1 *U*		0.1 *U*		0.0 *U*	0.1 *U*	0.1 *U*		0.0 *U*	0.0 *U*
MWA-10i	Acid Plant	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*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
		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*	0.040 *U*	0.040 *U*
		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*
		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*
		3/29/2001	0.020 *U*		0.020 *U*		0.020 *U*		0.150 *U*	0.020 *U*	0.020 *U*		0.020 *U*	0.020 *U*
		6/14/2001	0.0097 *U*		0.0097 *U*		0.0097 *U*		**0.2000** *J*	0.0097 *U*	0.0097 *U*		0.0097 *U*	0.0097 *U*
		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*
		6/10/2003	0.0455 *UJ*		0.0909 *UJ*		0.0909 *UJ*		0.0455 *UJ*	0.1140 *UJ*	0.0909 *UJ*		0.0455 *UJ*	0.0455 *UJ*
MWA-11i	Acid Plant	1/29/1999	0.16 *U*	0.04 *U*	0.04 *U*	0.04 *U*	**0.20**	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
		4/27/1999	**0.19**	0.04 *U*	0.04 *U*	0.04 *U*	**0.08**	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*	0.04 *U*
		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*
		11/17/1999	**0.1** *J*		0.0 *UJ*		0.0 *UJ*		0.0 *UJ*	0.0 *UJ*	0.0 *UJ*		0.0 *UJ*	0.0 *UJ*
		3/30/2001	**0.25**		0.10 *U*		**0.70**		0.10 *U*	0.10 *U*	0.10 *U*		0.10 *U*	0.10 *U*
		6/15/2001	**0.22**		0.01 *U*		**0.34**		0.01 *U*	0.01 *U*	0.01 *U*		0.01 *U*	0.01 *U*
(dup)		6/15/2001	**0.25**		**0.01** *J*		**0.48**		**0.01**	0.01 *U*	0.01 *U*		0.01 *U*	0.01 *U*
		4/11/2002	0.16 *U*		0.01 *U*		0.09 *U*		0.01 *U*	0.01 *U*	0.01 *U*		0.01 *U*	0.01 *U*
		6/10/2003	1.2 *U*		0.1 *U*		0.6 *U*		0.0 *U*	0.1 *U*	0.1 *U*		0.0 *U*	0.0 *U*

Table 2
Compounds Exceeding Hot Spot Criteria - Pesticides in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	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 alpha-BHC 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)
Hot Spot Screening Levels			**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.011 a,e**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**0.2 b,k**	**0.2 b**
MWA-12i	Acid Plant	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*	0.040 *U*	0.040 *U*
		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*	0.040 *U*	0.040 *U*
		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*
		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*
		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*
		6/11/2001	0.010 *U*		0.010 *U*		0.010 *U*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.011 *U*
		4/3/2002	**0.016**		0.010 *U*		**0.037**		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		6/3/2003	0.040 *UJ*		0.080 *UJ*		0.080 *UJ*		0.040 *UJ*	0.100 *UJ*	0.080 *UJ*		0.040 *UJ*	0.040 *UJ*
MWA-13d	Acid Plant	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*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
		4/28/1999	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	**0.140**	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
		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*
		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*
		3/29/2001	**0.0620**		0.0200 *U*		**0.4300**		0.0200 *U*	0.0200 *U*	0.0200 *U*		0.0200 *U*	0.0200 *U*
		6/14/2001	**0.071**		0.010 *U*		**0.065** *J*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.011 *U*
		4/15/2002	**0.091**		0.010 *U*		**0.078**		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
(dup)		4/15/2002	**0.09**		0.01 *U*		**0.08**		0.01 *U*	0.01 *U*	0.01 *U*		0.01 *U*	0.01 *U*
		6/9/2003	**0.0807**		0.0800 *U*		0.0800 *U*		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*
MWA-14i	Acid Plant	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*	0.040 *U*	0.040 *U*	0.040 *U*	0.040 *U*
		4/27/1999	**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*	0.04 *U*	0.04 *U*
		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 *UJ*
		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*
		3/28/2001	**0.0730**		0.0200 *U*		0.0200 *U*		0.0200 *U*	0.0200 *U*	0.0200 *U*		0.0200 *U*	0.0200 *U*
(dup)		3/28/2001	**0.0540**		0.0200 *U*		0.0200 *U*		0.0200 *U*	0.0200 *U*	0.0200 *U*		0.0200 *U*	0.0200 *U*
		6/12/2001	**0.065**		0.010 *U*		0.010 *U*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		4/4/2002	**0.049**		0.010 *U*		0.010 *U*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		6/6/2003	**0.0439**		0.0800 *U*		0.0800 *U*		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*
MWA-15	Acid Plant	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*
		11/17/1999	**1.7**		**0.4**		**21.0**		0.0 *U*	0.0 *U*	0.8 *U*		0.0 *U*	0.0 *U*
MWA-15r	Acid Plant	3/30/2001	**37**		10 *U*		**450**		700 *U*	10 *U*	10 *U*		10 *U*	10 *U*
		5/31/2001	**2.2** *PD*		0.3 *U*		**60.0** *D*		0.1 *U*	0.5 *U*	0.2 *U*		0.3 *U*	0.5 *U*
		6/15/2001	**7.4**		1.0 *U*		**73.0** *J*		**420.0** *J*	1.0 *U*	1.0 *U*		1.0 *U*	1.0 *U*
		4/16/2002	**25**		**4** *J*		**75** *J*		1 *U*	1 *U*	1 *U*		**1.10**	1 *U*
		6/10/2003	**28.4** *J*		16.0 *U*		**113.0**		8.0 *U*	20.0 *U*	16.0 *U*		8.0 *U*	8.0 *U*
MWA-16i	Acid Plant	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*
		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*
		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*
		6/12/2001	**0.020**		0.010 *U*		0.010 *U*		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		4/10/2002	**0.015**		0.010 *U*		**0.013**		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
		6/5/2003	0.040 *R*		0.080 *R*		0.080 *R*		0.040 *R*	0.100 *R*	0.080 *R*		0.040 *R*	0.040 *R*
MWA-17si	Acid Plant	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*
		11/18/1999	**1.8** *J*		0.0 *UJ*		0.2 *U*		0.0 *UJ*	0.0 *UJ*	0.0 *UJ*		0.4 *UJ*	0.0 *UJ*
(dup)		11/18/1999	**1.7** *J*		0.0 *UJ*		0.2 *U*		0.0 *UJ*	0.0 *UJ*	0.0 *UJ*		0.4 *UJ*	0.0 *UJ*
		3/30/2001	**1.7**		1.0 *U*		1.0 *U*		3.0 *U*	1.0 *U*	1.0 *U*		1.0 *U*	1.0 *U*
		6/18/2001	**1.9** *J*		**0.3** *J*		**0.2**		0.1 *U*	0.1 *U*	0.1 *U*		0.1 *U*	0.2 *U*
		4/15/2002	**2**		**0** *J*		0 *U*		0 *U*	0 *U*	0 *U*		**0**	0 *U*
		6/9/2003	**1.44**		0.40 *U*		0.40 *U*		0.20 *U*	0.50 *U*	0.40 *U*		**0.39**	**0.43**

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Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	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 alpha-BHC 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)
Hot Spot Screening Levels			**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.011 a,e**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**0.2 b,k**	**0.2 b**
MWA-18	Acid Plant	3/27/2001	0.020 *UR*		0.020 *UR*		**0.046** *J*		0.020 *UR*	0.020 *UR*	0.020 *UR*		0.020 *UR*	0.020 *UR*
		6/13/2001	**0.015** *J*		0.009 *U*		0.026 *U*		0.009 *U*	0.009 *U*	0.009 *U*		0.009 *U*	0.009 *U*
		4/4/2002	0.0096 *U*		0.0096 *U*		0.0190 *U*		0.0096 *U*	0.0096 *U*	0.0096 *U*		0.0096 *U*	0.0096 *U*
		6/6/2003	0.0400 *U*		0.0800 *U*		0.0800 *U*		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*
MWA-19	Acid Plant	3/27/2001	0.020 *UJ*		0.020 *UJ*		**0.095** *J*		0.020 *UJ*	0.020 *UJ*	0.020 *UJ*		0.020 *UJ*	0.020 *UJ*
		6/13/2001	0.0099 *U*		0.0099 *U*		0.0160 *U*		0.0099 *U*	0.0099 *U*	0.0099 *U*		0.0099 *U*	0.0099 *U*
		4/4/2002	0.0097 *U*		0.0097 *U*		**0.1000**		0.0097 *U*	0.0097 *U*	0.0097 *U*		0.0097 *U*	0.0097 *U*
		6/6/2003	**0.0935**		0.0800 *U*		**0.2300**		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*
MWA-20	Acid Plant	3/27/2001	0.020 *UR*		0.020 *UR*		**0.088** *J*		0.020 *UR*	0.020 *UR*	0.020 *UR*		0.020 *UR*	0.020 *UR*
		6/13/2001	0.010 *UR*		0.010 *UR*		**0.052** *J*		0.010 *UR*	0.010 *UR*	0.010 *UR*		0.010 *UR*	0.010 *UR*
		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*
		6/5/2003	**0.0688** *J*		0.0800 *R*		**0.2130** *J*		0.0400 *R*	0.1000 *R*	0.0800 *R*		0.0400 *R*	0.0400 *R*
MWA-21b	Acid Plant	11/5/2001	**0.0070** *J*		0.0050 *UJ*		**0.0088** *J*		0.0050 *UJ*	0.0050 *UJ*	0.0050 *UJ*		0.0050 *UJ*	0.0050 *UJ*
(dup)		11/5/2001	**0.017** *J*		0.005 *UJ*		**0.022** *J*		0.005 *UJ*	0.005 *UJ*	0.005 *UJ*		0.005 *UJ*	0.005 *UJ*
		12/4/2001	**0.011** *J*		0.005 *U*		**0.007** *J*		0.005 *U*	0.005 *U*	0.005 *U*		0.005 *U*	0.005 *U*
(dup)		12/4/2001	**0.012** *J*		0.005 *U*		**0.019** *J*		0.005 *U*	0.005 *U*	0.005 *U*		0.005 *U*	0.005 *U*
		4/12/2002	**0.011**		0.010 *U*		**0.010**		0.010 *U*	0.010 *U*	0.010 *U*		0.010 *U*	0.010 *U*
MWA-22	Acid Plant	6/15/2001	**0.83**		0.10 *U*		**0.15**		0.21 *U*	0.10 *U*	0.10 *U*		0.10 *U*	0.10 *U*
		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*
		6/10/2003	0.13 *U*		0.08 *UJ*		0.35 *U*		0.04 *UJ*	0.10 *UJ*	0.08 *UJ*		0.04 *UJ*	0.04 *UJ*
NMP-1S	Acid Plant	6/1/2001	**22.0** *D*		1.1 *U*		41.0 *U*		0.8 *U*	0.5 *U*	0.1 *U*		0.3 *U*	0.5 *U*
NMP-1D	Acid Plant	6/1/2001	**52.0** *PD*		**8.1** *D*		**1,900.0** *D*		0.1 *U*	0.5 *U*	1.1 *U*		0.3 *U*	1.0 *U*
NMP-2S	Acid Plant	6/1/2001	**1.10** *D*		0.12 *U*		**22.00** *D*		0.08 *U*	0.50 *U*	0.12 *U*		1.50 *U*	0.49 *U*
NMP-2D	Acid Plant	6/1/2001	**2.80** *PD*		0.33 *U*		**71.00** *D*		0.08 *U*	0.47 *U*	0.25 *U*		0.24 *U*	0.47 *U*
NMP-3S	Acid Plant	5/31/2001	0.16 *U*		0.30 *U*		**13.00** *D*		0.08 *U*	0.54 *U*	0.12 *U*		0.25 *U*	0.54 *U*
NMP-3D	Acid Plant	6/1/2001	**0.63** *JPD*		0.33 *U*		**11.00** *D*		0.08 *U*	0.47 *U*	0.16 *U*		0.24 *U*	0.47 *U*
		6/11/2003	0.80 *U*		1.60 *U*		5.80 *U*		0.80 *U*	2.00 *U*	1.60 *U*		0.80 *U*	**1.15**
NMP-4S	Acid Plant	6/1/2001	**0.018** *JPD*		0.094 *U*		**1.3** *D*		0.0076 *U*	**0.088** *JD*	0.016 *U*		0.024 *U*	0.047 *U*
NMP-4D	Acid Plant	6/1/2001	**6,400** *PD*		**2,700** *D*		**120,000** *D*		18 *U*	160 *U*	240 *U*		51 *U*	160 *U*
		6/10/2003	**6.26** *J*		8.00 *U*		**282.00**		4.00 *U*	10.00 *U*	8.00 *U*		4.00 *U*	4.00 *U*
(dup)		6/10/2003	**8.86** *J*		8.00 *U*		**235.00**		4.00 *U*	10.00 *U*	8.00 *U*		4.00 *U*	4.00 *U*
NMP-5S	Acid Plant	6/1/2001	0.10 *U*		0.10 *U*		**1.30** *D*		0.01 *U*	**0.15** *D*	0.02 *U*		0.77 *U*	0.12 *U*
NMP-5D	Acid Plant	6/1/2001	**4.50** *PD*		**0.04** *JD*		**370.00** *D*		0.09 *U*	0.55 *U*	0.70 *U*		0.21 *U*	0.55 *U*
NMP-6S	Acid Plant	6/1/2001	**4.30** *D*		**1.90** *PD*		**30.00** *D*		0.09 *U*	1.10 *U*	0.13 *U*		1.10 *U*	0.57 *U*
NMP-6D	Acid Plant	6/1/2001	**2.00** *D*		**1.10** *PD*		**28.00** *D*		0.08 *U*	0.47 *U*	0.16 *U*		0.24 *U*	0.47 *U*
B-59	Acid Plant	8/3/1999	0.04 *U*		0.04 *U*		0.04 *U*		0.04 *U*	0.04 *U*	0.04 *U*		0.04 *U*	0.04 *U*
MWA-23	Chlorate Plant	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*
MWA-24	Chlorate Plant	11/15/2001	0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*	0.050 *UR*	0.050 *UR*		0.050 *UR*	0.050 *UR*
		6/5/2003	0.232 *U*		0.160 *U*		0.160 *U*		0.080 *U*	0.200 *U*	0.160 *U*		0.080 *U*	0.080 *U*
MWA-25	Chlorate Plant	11/15/2001	0.0050 *UJ*		0.0050 *UJ*		0.0120 *U*		0.0050 *UJ*	0.0050 *UJ*	0.0050 *UJ*		0.0050 *UJ*	0.0050 *UJ*
		4/9/2002	0.0096 *U*		0.0096 *U*		0.0096 *U*		0.0150 *U*	0.0096 *U*	0.0096 *U*		0.0096 *U*	0.0096 *U*
MWA-26	Chlorate Plant	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*
MWA-27	Chlorate Plant	11/15/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*	0.0050 *U*	0.0050 *U*		0.0050 *U*	0.0050 *U*
(dup)		11/15/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*	0.0050 *U*	0.0050 *U*		0.0050 *U*	0.0050 *U*
		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*

Table 2
Compounds Exceeding Hot Spot Criteria - Pesticides in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	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 alpha-BHC 8081A (µg/L)	Total delta-BHC 8081A (µg/L)	Total Dieldrin 8081A (µg/L)	Dissolved Dieldrin 8081A (µg/L)	Total gamma-BHC [Lindane] 8081A (µg/L)	Total Heptachlor epoxide 8081A (µg/L)
Hot Spot Screening Levels			**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.011 a,e**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**0.2 b,k**	**0.2 b**
MWA-28i(d)	Chlorate Plant	11/16/2001	0.0050 *U*		0.0050 *U*		0.0190 *U*		0.0050 *U*	0.0050 *U*	0.0050 *U*		0.0050 *U*	0.0050 *U*
		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*
MWA-29	Chlorate Plant	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*
		6/4/2003	0.0400 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0400 *UJ*	0.1000 *UJ*	0.0800 *UJ*		0.0400 *UJ*	0.0400 *UJ*
MWA-30	Chlorate Plant	4/12/2002	**0.16**		**0.02** *J*		**0.01**		0.01 *U*	0.01 *U*	0.01 *U*		0.01 *U*	0.01 *U*
(dup)		4/12/2002	**0.18**		**0.02** *J*		**0.01**		0.01 *U*	0.01 *U*	0.01 *U*		0.01 *U*	0.01 *U*
		6/4/2003	0.04 *UJ*		0.08 *UJ*		0.08 *UJ*		0.04 *UJ*	0.10 *UJ*	0.08 *UJ*		0.04 *UJ*	0.04 *UJ*
MWA-31i(d)	Chlorate Plant	4/8/2002	0.0097 *U*		0.0097 *U*		0.0097 *U*		0.0160 *U*	0.0097 *U*	0.0097 *U*		0.0097 *U*	0.0097 *U*
		6/4/2003	0.0400 *U*		0.0800 *U*		0.0800 *U*		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*
MWA-32i	Chlorate Plant	6/4/2003	0.0400 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0400 *UJ*	0.1000 *UJ*	0.0800 *UJ*		0.0400 *UJ*	0.0400 *UJ*
MWA-33	Chlorate Plant	6/5/2003	0.0400 *R*		0.0800 *R*		0.0800 *R*		0.0400 *R*	0.1000 *R*	0.0800 *R*		0.0400 *R*	0.0400 *R*
		6/11/2003	0.0400 *UJ*		0.0800 *UJ*		0.5180 *U*		0.0400 *UJ*	0.1000 *UJ*	0.0800 *UJ*		0.0400 *UJ*	0.0400 *UJ*
(dup)		6/11/2003	0.0400 *UJ*		0.0800 *UJ*		0.6780 *U*		0.0400 *UJ*	0.1000 *UJ*	0.0800 *UJ*		0.0400 *UJ*	0.0400 *UJ*
MWA-34i	Chlorate Plant	6/6/2003	**0.0892**		0.0800 *U*		**0.3270**		0.0400 *U*	0.1000 *U*	0.0800 *U*		0.0400 *U*	0.0400 *U*

Notes:
µg/L - micrograms per liter
ft bgs - feet below ground surface
U - Undetected at the detection limit shown
J - Estimated
R - Data Rejected, not used for delineation of hot spot
- 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 Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
e - Value for HCH (alpha) used
f - Value for Chlordane (technical) used
g - Value for HCH (beta) used
h - Value for HCH (technical) used
i - Value for endosulfan used
j - Value for endrin used
k - Value for HCH (gamma) Lindane used

Table 3
Compounds Exceeding Hot Spot Criteria - VOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	1,1-Dichloro-ethene 8260B (µg/L)	1,2-Dichloro-ethane 8260B (µg/L)	Bromodichloro-methane 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Vinyl chloride 8260B (µg/L)
Hot Spot Screening Levels			**7 b**	**5 b**	**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**70 b**	**0.86 a**	**5 b**	**0.4 a,f**	**5.0 b**	**2.0 b**
MWA-1	Acid Plant	1/29/1999	50 U	50 U	50 U	50 U	21000	50 U	50 U	50 U	200 U	50 U	50 U	50 U	50 U
		4/29/1999	0.5 U	0.5 U	0.5 U	0.5 U	10000	0.5 U	4.3 U	8.5	2 U	14	0.5 U	10	0.5 U
MWA-2	Acid Plant	1/27/1999	1 U	1 U	5	130	94	1 U	810	7	4 U	60	1 U	11	1 U
		4/27/1999	1 UJ	1 UJ	1 UJ	1 UJ	970 J	1 UR	9 U	1 UJ	5 UJ	7 J	1 UJ	2 J	1 UJ
(dup)		4/27/1999	2 UJ	2 UJ	2 UJ	2 UJ	730 J	2 UR	9 U	2 UJ	10 UJ	7 J	2 UJ	2 UJ	2 UJ
		8/24/1999	10 U	10 U	10 U	10 U	4400	10 U	13	10 U	40 U	10 U	10 U	10 U	10 U
		11/16/1999	5 U	5 U	5 U	5 U	2100	5 U	8.4	5 U	20 U	5.6	5 U	5 U	5 U
		3/29/2001	50 U	50 U	50 U	50 U	4300	50 U	50 U	50 U	200 U	50 U	50 U	50 U	50 U
		6/12/2001	10 U	10 U	10 U	10 U	4600	12	65	10 U	40 U	23	10 U	10 U	10 U
		4/10/2002	50 U	50 U	50 U	50 U	27000	50 UR	230	50 U	200 U	50 U	50 U	50 U	50 U
		6/9/2003	50 U	50 U	50 U	50 U	13700	50 U	144 U	50 U	200 U	50 U	50 U	50 U	50 U
MWA-3	Acid Plant	1/27/1999	0.5 U	0.5 U	0.5 U	0.5	0.5 U	0.5 U	24	0.6	2 U	18	0.5 U	3.5	0.5 U
		4/28/1999	0.5 U	0.5 U	0.7	0.5 U	0.5 U	0.5 UR	15	0.5 U	2 U	1.4	0.5 U	0.5 U	0.5 U
		8/24/1999	0.5 U	0.5 U	0.5 U	0.5 U	9.2	0.5 U	14	0.5 U	2 U	4.2	0.5 U	0.5 U	0.5 U
		11/16/1999	0.5 U	0.5 U	1.2	0.7	0.5 U	0.5 U	33	0.5 U	2 U	13	0.5 U	2.4	0.5 U
		3/29/2001	0.5 U	0.5 U	0.5 U	0.5 U	130	0.5 U	12	0.5 U	2 U	8.6	0.5 U	1.2	0.5 U
		6/14/2001	0.5 U	0.5 U	0.5 U	0.5 U	79	0.5 U	8.8 U	0.5 U	2 U	8.2	0.5 U	1.2	0.5 U
		4/15/2002	13 U	13 U	13 U	13 U	5400	13 U	47	13 U	50 U	21	13 U	13 U	13 U
		6/9/2003	0.5 U	0.5 U	0.5 U	0.5 U	176	0.74	7.65 U	4.45	2 U	14.7	0.5 U	5.54	0.5 U
MWA-4	Acid Plant	1/28/1999	0.5 U	0.5 U	0.5 U	0.5 U	33	0.5 U	3.8 U	1.2	2 U	3.5	0.5 U	2.1	0.5 U
(dup)		1/28/1999	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	34 J	0.5 UJ	3.6 U	1.2 J	2 UJ	3.6 J	0.5 UJ	2.2 J	0.5 UJ
		4/28/1999	0.5 U	0.5 U	0.5 U	0.5 U	17	0.5 UR	4.3 U	0.5 U	2 U	6.7	0.5 U	1.8	0.5 U
		8/25/1999	0.5 U	0.5 U	0.5 U	0.5 U	30	0.5 U	8.2	0.5 U	2 U	4.5	0.5 U	1.5	0.5 U
		11/16/1999	0.5 U	0.5 U	0.5 U	0.5 U	17 U	0.5 U	21	1	2 U	3.5	0.5 U	2	0.5 U
		3/29/2001	0.5 U	0.5 U	0.5 U	0.5 U	1100	0.86	9	1	2 U	16	0.5 U	2.7	0.5 U
		6/14/2001	10 U	10 U	10 U	10 U	800	10 U	10 U	10 U	40 U	10 U	10 U	10 U	10 U
		4/11/2002	2.5 U	2.5 U	2.5 U	2.5 U	1200	2.5 UR	12	2.5 U	10 U	7.8	2.5 U	2.5 U	2.5 U
		6/9/2003	2.5 U	2.5 U	2.5 U	2.5 U	646	2.5 U	4.55 U	2.5 U	10 U	2.75	2.5 U	2.5 U	2.5 U
MWA-5	Acid Plant	1/27/1999	7.3	0.5 U	0.5 U	0.5 U	46 J	6	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		4/27/1999	16	0.5 U	0.5 U	0.5 U	70	0.5 U	1.1 U	0.5 U	2 U	0.5 U	0.5 U	0.5	0.5 U
		8/23/1999	12	0.5 U	0.5 U	0.5 U	71	1.8	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5
		11/15/1999	6.2	0.5 U	0.5 U	0.5 U	45 U	5.2	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/28/2001	2.7	0.5 U	0.5 U	0.5 U	32	5.1	0.5 U	0.5 U	2 U	0.5 U	0.5 UJ	0.5 U	0.5 U
		6/12/2001	1.8	0.5 U	0.5 U	0.5 U	26	4.3	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		4/4/2002	4.2	0.5 U	0.5 U	0.5 U	34	2.6	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		6/6/2003	1.39	0.5 U	0.5 U	0.5 U	23.1	1.62	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
MWA-6	Acid Plant	1/27/1999	2 UJ	2 UJ	2 UJ	2 UJ	87 J	2 UJ	18 J	8 J	27 J	1000	2 UJ	14 J	10 J
		4/29/1999	0.5 U	0.5 U	0.5 U	0.5 U	82	5.6 J	11 U	17	25	150	0.5 U	22	32
MWA-6r	Acid Plant	8/25/1999	2 U	2 U	2 U	2 U	730	2 U	2 U	10	10 U	13	2 U	22	5
		11/17/1999	1 U	1 U	1 U	1 U	490	1.3	2.4	9.7	4 U	9.7	1 U	14	4
		3/28/2001	0.8 J	0.5 U	0.5 U	0.5 U	1700	2.4 J	3.5 J	17 J	2 U	17 J	0.5 UJ	21 J	6.6 J
		6/12/2001	5 U	5 U	5 U	5 U	2200	5 UR	5 U	18	20 U	17	5 U	25	8.9
		4/10/2002	5 U	5 U	5 U	5 U	2300	5 U	5 U	23	20 U	49	5 U	23	13
		6/5/2003	10 U	10 U	10 U	10 U	2620	10 U	14.2 U	67.2	40 U	223	10 U	38.8	28.4
MWA-7	Acid Plant	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	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		4/26/1999	0.5 U	0.5 U	0.5 U	0.5 U	2.4	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		8/23/1999	0.5 U	0.5 U	0.5 U	0.5 U	1.4 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		11/15/1999	0.5 U	0.5 U	0.5 U	0.5 U	2.4 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		3/26/2001	0.5 U	0.5 U	0.5 U	0.5 U	0.99	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		6/11/2001	0.5 U	0.5 U	0.5 U	0.5 U	2.2 U	0.5 UR	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		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	2 U	0.5 U	0.5 U	0.5 U	0.5 U
		6/4/2003	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	0.5 U	0.5 U	0.5 U	0.5 U

Table 3
Compounds Exceeding Hot Spot Criteria - VOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	1,1-Dichloro-ethene 8260B (µg/L)	1,2-Dichloro-ethane 8260B (µg/L)	Bromodichloro-methane 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Vinyl chloride 8260B (µg/L)
Hot Spot Screening Levels			**7 b**	**5 b**	**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**70 b**	**0.86 a**	**5 b**	**0.4 a,f**	**5.0 b**	**2.0 b**
MWA-8i	Acid Plant	11/24/1998	25 *U*	25 *U*	25 *U*	25 *U*	**1700**	25 *U*	25 *U*	25 *U*	100 *U*	25 *U*	25 *U*	25 *U*	25 *U*
		1/27/1999	10 *U*	10 *U*	10 *U*	10 *U*	**4800**	10 *U*	10 *U*	10 *U*	40 *U*	**15**	10 *U*	**10**	10 *U*
		4/27/1999	12 *UJ*	12 *UJ*	12 *UJ*	12 *UJ*	**4300** *J*	12 *UR*	12 *UJ*	12 *UJ*	50 *UJ*	12 *UJ*	12 *UJ*	**20** *J*	12 *UJ*
		8/24/1999	5 *U*	5 *U*	5 *U*	5 *U*	**3400**	5 *U*	5 *U*	5 *U*	20 *U*	5 *U*	5 *U*	**8**	5 *U*
(dup)		8/24/1999	5 *U*	5 *U*	5 *U*	5 *U*	**2300**	5 *U*	5 *U*	5 *U*	20 *U*	**5**	5 *U*	**10**	5 *U*
		11/16/1999	5 *U*	5 *U*	5 *U*	5 *U*	**2800**	5 *U*	**9.2**	5 *U*	20 *U*	**7.4**	5 *U*	**9**	5 *U*
		3/29/2001	5 *U*	5 *U*	5 *U*	5 *U*	**4100**	5 *U*	5 *U*	**5.6**	20 *U*	**7**	5 *U*	**9.8**	5 *U*
		6/12/2001	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**1400**	2.5 *U*	2.5 *U*	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	**3.6**	2.5 *U*
		4/10/2002	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**940**	2.5 *UR*	2.5 *U*	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	**3.1**	2.5 *U*
		6/9/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**22.7**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-9i	Acid Plant	11/24/1998	500 *U*	500 *U*	500 *U*	500 *U*	**32000**	500 *U*	500 *U*	500 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
		1/28/1999	50 *U*	50 *U*	50 *U*	50 *U*	**38000**	50 *U*	**120**	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		4/28/1999	100 *UJ*	100 *UJ*	100 *UJ*	100 *UJ*	**29000** *J*	100 *UR*	**100** *J*	**160** *J*	400 *UJ*	100 *UJ*	100 *UJ*	100 *UJ*	100 *UJ*
		8/25/1999	100 *U*	100 *U*	100 *U*	100 *U*	**37000**	100 *U*	**110**	100 *U*	400 *U*	100 *U*	100 *U*	100 *U*	100 *U*
		11/16/1999	50 *U*	50 *U*	50 *U*	50 *U*	**27000**	50 *U*	**83**	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		3/30/2001	250 *U*	250 *U*	250 *U*	250 *U*	**28000**	250 *U*	250 *U*	250 *U*	1000 *U*	250 *U*	250 *U*	250 *U*	250 *U*
		6/18/2001	50 *U*	50 *U*	50 *U*	50 *U*	**29000**	50 *UR*	50 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		4/15/2002	50 *U*	50 *U*	50 *U*	50 *U*	**26000**	50 *U*	50 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		6/9/2003	100 *U*	100 *U*	100 *U*	100 *U*	**32100**	100 *U*	100 *U*	100 *U*	400 *U*	100 *U*	100 *U*	100 *U*	100 *U*
MWA-10i	Acid Plant	12/4/1998	5 *U*	5 *U*	5 *U*	5 *U*	**1900**	5 *U*	**11**	5 *U*	20 *U*	5 *U*	5 *U*	5 *U*	5 *U*
		1/28/1999	**0.8** *J*	**0.6** *J*	0.5 *U*	0.5 *U*	**8700** *J*	0.5 *U*	0.5 *U*	**0.9** *J*	2 *U*	**1** *J*	0.5 *U*	**0.9** *J*	0.5 *U*
		4/28/1999	50 *U*	50 *U*	50 *U*	50 *U*	**12000**	50 *UR*	50 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		8/25/1999	15 *U*	15 *U*	15 *U*	15 *U*	**6200**	15 *U*	15 *U*	15 *U*	60 *U*	15 *U*	15 *U*	15 *U*	15 *U*
		11/16/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	16 *U*	0.5 *U*	**24**	**1.1**	2 *U*	**3.7**	0.5 *U*	**2**	0.5 *U*
		3/29/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1400**	0.5 *U*	0.5 *U*	**0.51**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/14/2001	25 *U*	25 *U*	25 *U*	25 *U*	**2400**	25 *U*	25 *U*	25 *U*	100 *U*	25 *U*	25 *U*	25 *U*	25 *U*
		4/11/2002	50 *U*	50 *U*	50 *U*	50 *U*	**21000**	50 *UR*	50 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		6/10/2003	50 *U*	50 *U*	50 *U*	50 *U*	**15800**	50 *U*	50 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
MWA-11i	Acid Plant	12/7/1998	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**49**	0.5 *U*	**4**	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		1/29/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**2.5**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/27/1999	0.5 *UJ*	0.5 *UJ*	0.5 *UJ*	0.5 *UJ*	0.5 *UJ*	0.5 *UR*	0.5 *UJ*	0.5 *UJ*	2 *UJ*	0.5 *UJ*	0.5 *UJ*	0.5 *UJ*	0.5 *UJ*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		11/17/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	1 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/15/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UR*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
(dup)		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/11/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	1.4 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/10/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.71 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-12i	Acid Plant	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*	2 *U*	**0.6**	0.5 *U*	0.5 *U*	0.5 *U*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/11/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UR*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/3/2003	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*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*

Table 3
Compounds Exceeding Hot Spot Criteria - VOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	1,1-Dichloro-ethene 8260B (µg/L)	1,2-Dichloro-ethane 8260B (µg/L)	Bromodichloro-methane 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Vinyl chloride 8260B (µg/L)
Hot Spot Screening Levels			**7 b**	**5 b**	**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**70 b**	**0.86 a**	**5 b**	**0.4 a,f**	**5.0 b**	**2.0 b**
MWA-13d	Acid Plant	1/28/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**240**	0.5 *U*	0.7 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/28/1999	2 *UJ*	2 *UJ*	2 *UJ*	2 *UJ*	**950** *J*	2 *UR*	2 *UJ*	2 *UJ*	10 *UJ*	2 *UJ*	2 *UJ*	2 *UJ*	2 *UJ*
		8/25/1999	5 *U*	5 *U*	5 *U*	5 *U*	**1600**	5 *U*	5 *U*	5 *U*	20 *U*	5 *U*	5 *U*	5 *U*	5 *U*
		11/18/1999	2 *U*	2 *U*	2 *U*	2 *U*	**1600**	2 *U*	2 *U*	2 *U*	10 *U*	2 *U*	2 *U*	2 *U*	2 *U*
		3/29/2001	0.5 *U*	**0.61**	0.5 *U*	0.5 *U*	**1200**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/14/2001	13 *U*	13 *U*	13 *U*	13 *U*	**1200**	13 *U*	13 *U*	13 *U*	50 *U*	13 *U*	13 *U*	13 *U*	13 *U*
		4/15/2002	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**980**	2.5 *U*	2.5 *U*	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
(dup)		4/15/2002	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**1000**	2.5 *U*	2.5 *U*	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
		6/9/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**10.6**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-14i	Acid Plant	1/27/1999	**3.1**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1.2**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/27/1999	**3.2**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		8/23/1999	**1.8**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.5**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		11/15/1999	**2.4**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.9**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		3/28/2001	**1.7**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.58**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
(dup)		3/28/2001	**1.7**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.53**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/12/2001	**1.5**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.54**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/4/2002	**1.7**	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*	0.5 *U*	0.5 *U*	0.5 *U*
		6/6/2003	**1.25**	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*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-15	Acid Plant	8/26/1999	5 *UJ*	**13** *J*	5 *UJ*	**23** *J*	**180000** *J*	**210** *J*	**720** *J*	5 *UJ*	20 *UJ*	**59** *J*	5 *UJ*	5 *UJ*	5 *UJ*
		11/17/1999	25 *U*	25 *U*	25 *U*	25 *U*	**240000**	**220**	**950**	25 *U*	100 *U*	**100**	25 *U*	25 *U*	25 *U*
MWA-15r	Acid Plant	3/30/2001	500 *U*	500 *U*	500 *U*	500 *U*	**260000**	500 *U*	**620**	500 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
		5/31/2001					**190000** *D*		500 *U*						
		6/15/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**210000**	0.5 *U*	0.53 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/16/2002	100 *U*	100 *U*	100 *U*	100 *U*	**48000**	100 *U*	**530**	100 *U*	400 *U*	100 *U*	100 *U*	100 *U*	100 *U*
		6/10/2003	50 *U*	50 *U*	50 *U*	50 *U*	**13300**	50 *U*	219 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		10/2/2003					**180000** *D*								
MWA-16i	Acid Plant	8/25/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**140**	**0.7**	**1.1**	**0.6**	2 *U*	**2.7**	0.5 *U*	0.5 *U*	0.5 *U*
		11/17/1999	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**69**	**0.6**	**1.1**	**1**	2 *U*	**0.5**	0.5 *U*	**5.8**	0.5 *U*
		3/28/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**25**	0.5 *U*	0.5 *U*	**0.68**	2 *U*	0.5 *U*	0.5 *UJ*	0.5 *U*	0.5 *U*
		6/12/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**27**	0.5 *UR*	0.5 *U*	**0.6**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/10/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	20 *U*	0.5 *U*	0.5 *U*	**0.51**	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		6/5/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**17.5**	0.5 *U*	0.71 *U*	**0.51**	2 *U*	**5.78**	0.5 *U*	0.5 *U*	0.5 *U*
MWA-17si	Acid Plant	8/26/1999	5 *U*	5 *U*	5 *U*	5 *U*	**33000**	**6**	**62**	5 *U*	20 *U*	**20**	5 *U*	5 *U*	5 *U*
		11/18/1999	100 *U*	100 *U*	100 *U*	100 *U*	**55000**	100 *U*	**160**	100 *U*	400 *UJ*	100 *U*	100 *U*	100 *UJ*	100 *U*
(dup)		11/18/1999	100 *U*	100 *U*	100 *U*	100 *U*	**61000**	100 *U*	**160**	100 *U*	400 *UJ*	100 *U*	100 *U*	100 *UJ*	100 *U*
		3/30/2001	500 *U*	500 *U*	500 *U*	500 *U*	**91000**	500 *U*	500 *U*	500 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
		6/18/2001	130 *U*	130 *U*	130 *U*	130 *U*	**66000**	130 *UR*	**200**	130 *U*	500 *U*	130 *U*	130 *U*	130 *U*	130 *U*
		4/15/2002	250 *U*	250 *U*	250 *U*	250 *U*	**140000**	250 *U*	**530**	250 *U*	1000 *U*	250 *U*	250 *U*	250 *U*	250 *U*
		6/9/2003	500 *U*	500 *U*	500 *U*	500 *U*	**73200**	500 *U*	550 *U*	500 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
MWA-18	Acid Plant	3/27/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**41**	0.5 *U*	**0.59**	**1**	2 *U*	**1.8**	0.5 *U*	0.5 *U*	0.5 *U*
		6/13/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**34**	0.5 *UR*	0.63 *U*	**0.65**	2 *U*	**1.3**	0.5 *U*	0.5 *U*	0.5 *U*
		4/4/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**8.4**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	**0.82**	0.5 *U*	0.5 *U*	0.5 *U*
		6/6/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	3.06 *U*	0.5 *U*	11.7 *U*	0.5 *U*	2 *U*	**22**	0.5 *U*	**2.2**	0.5 *U*
MWA-19	Acid Plant	3/27/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**2.8**	0.5 *U*	2 *U*	**8.8**	0.5 *U*	**1.1**	0.5 *U*
		6/13/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UR*	1.8 *U*	0.5 *U*	2 *U*	**6.3**	0.5 *U*	**1**	0.5 *U*
		4/4/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1.8**	0.5 *U*	2 *U*	**9.3**	0.5 *U*	**1.5**	0.5 *U*
		6/6/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.64 *U*	0.5 *U*	1.8 *U*	0.5 *U*	2 *U*	**64**	0.5 *U*	9.25 *U*	0.5 *U*
MWA-20	Acid Plant	3/27/2001	50 *U*	50 *U*	50 *U*	50 *U*	**2700**	50 *U*	50 *U*	50 *U*	200 *U*	50 *U*	50 *U*	50 *U*	50 *U*
		6/13/2001	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**1100**	2.5 *UR*	2.5 *U*	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
		4/9/2002	5 *U*	5 *U*	5 *U*	5 *U*	**1900**	5 *U*	5 *U*	5 *U*	20 *U*	5 *U*	5 *U*	5 *U*	5 *U*
		6/5/2003	1 *U*	1 *U*	1 *U*	1 *U*	**215**	1 *U*	1 *U*	1 *U*	4 *U*	1 *U*	1 *U*	1 *U*	1 *U*

Table 3
Compounds Exceeding Hot Spot Criteria - VOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	1,1-Dichloro-ethene 8260B (µg/L)	1,2-Dichloro-ethane 8260B (µg/L)	Bromodichloro-methane 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Vinyl chloride 8260B (µg/L)
Hot Spot Screening Levels			**7 b**	**5 b**	**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**70 b**	**0.86 a**	**5 b**	**0.4 a,f**	**5.0 b**	**2.0 b**
MWA-21b	Acid Plant	11/5/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1.8**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
(dup)		11/5/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1.8**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		12/4/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1.8**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
(dup)		12/4/2001	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**2.2**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/12/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.69**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-22	Acid Plant	6/15/2001	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**38**	2.5 *U*	2.5 *U*	**45**	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**3.4**
		4/11/2002	1 *U*	1 *U*	1 *U*	1 *U*	**310**	1 *U*	1 *U*	**55**	4 *U*	1 *U*	1 *U*	1 *U*	**2.7**
		6/10/2003	1 *U*	1 *U*	1 *U*	1 *U*	**128**	1 *U*	1 *U*	**25.5**	4 *U*	1 *U*	1 *U*	1 *U*	**1.36**
NMP-1S	Acid Plant	6/1/2001					**29000** *D*		**310** *D*						
		10/3/2003					**55500** *D*								
NMP-1D	Acid Plant	6/1/2001					**190000** *D*		**510** *D*						
		10/3/2003					**159000** *D*								
NMP-2S	Acid Plant	6/1/2001					**23000** *D*		**270** *D*						
NMP-2D	Acid Plant	6/1/2001					**100000** *D*		**350** *D*						
		10/3/2003					**185000** *D*								
NMP-3S	Acid Plant	5/31/2001					**25000** *D*		**200** *D*						
NMP-3D	Acid Plant	6/1/2001					**120000** *D*		**480** *D*						
		6/11/2003	500 *U*	500 *U*	500 *U*	500 *U*	**127000** *D*	500 *U*	510 *U*	5600 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
NMP-4S	Acid Plant	6/1/2001					**100000** *D*		**700** *D*						
		10/3/2003					**111000** *D*								
NMP-4D	Acid Plant	6/1/2001					**200000** *D*		**1200** *D*						
		6/10/2003	500 *U*	500 *U*	500 *U*	500 *U*	**185000** *D*	500 *U*	1250 *U*	5600 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
(dup)		6/10/2003	500 *U*	500 *U*	500 *U*	500 *U*	**146000** *D*	500 *U*	1130 *U*	5600 *U*	2000 *U*	500 *U*	500 *U*	500 *U*	500 *U*
		10/3/2003					**147000** *D*								
NMP-5S	Acid Plant	6/1/2001					**46000** *D*		**560** *D*						
NMP-5D	Acid Plant	6/1/2001					**190000** *D*		**650** *D*						
		10/3/2003					**229000** *D*								
NMP-6S	Acid Plant	6/1/2001					**1900** *D*		**50** *D*						
NMP-6D	Acid Plant	6/1/2001					**23000** *D*		**180** *D*						
PMP-1	Acid Plant	10/2/2003					**205000** *D*								
PMP-2	Acid Plant	10/2/2003					**135000** *D*								
PMP-3	Acid Plant	10/2/2003					**44900** *D*								
B-55	Acid Plant	2/19/1999									250 *U*				
B-56	Acid Plant	2/19/1999									2 *U*				
B-59	Acid Plant	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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
B-60	Acid Plant	7/18/2000									2 *U*				
B-61	Acid Plant	7/17/2000									100 *U*				
B-64	Acid Plant	7/17/2000									100 *U*				
B-65	Acid Plant	5/2/2001									40 *U*				
B-67	Acid Plant	5/2/2001									2 *U*				
(dup)		5/2/2001									2 *UJ*				
APMIP-4	Acid Plant	2/14/2002					**89800**	5000 *U*	5000 *U*			5000 *U*			
APMIP-5	Acid Plant	2/14/2002					**268000**	10000 *U*	10000 *U*			10000 *U*			
APMIP-6	Acid Plant	2/13/2002					**174000**	**265**	**782**			**109**			
APMIP-7	Acid Plant	2/13/2002					**146000**	**150**	**793**			**138**			
APMIP-8	Acid Plant	2/14/2002					**109000**	5000 *U*	5000 *U*			5000 *U*			
APMIP-9	Acid Plant	2/13/2002					**35500**	100 *U*	**272**			100 *U*			
		2/13/2002					**159000**	5000 *U*	5000 *U*			5000 *U*			
APMIP-10	Acid Plant	2/13/2002					**502000**	**145**	**704**			**109**			
APMIP-11	Acid Plant	2/14/2002					**184000**	5000 *U*	5000 *U*			5000 *U*			
APMIP-12	Acid Plant	2/14/2002					**142000**	5000 *U*	5000 *U*			5000 *U*			
(dup)		2/14/2002					**147000**	5000 *U*	5000 *U*			5000 *U*			
APMIP-13	Acid Plant	2/14/2002					**155000**	5000 *U*	5000 *U*			5000 *U*			

Table 3
Compounds Exceeding Hot Spot Criteria - VOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	1,1-Dichloro-ethene 8260B (µg/L)	1,2-Dichloro-ethane 8260B (µg/L)	Bromodichloro-methane 8260B (µg/L)	Carbon tetrachloride 8260B (µg/L)	Chloro-benzene 8260B (µg/L)	Chloroethane 8260B (µg/L)	Chloroform 8260B (µg/L)	cis-1,2-Dichloro-ethene 8260B (µg/L)	Hexachloro-butadiene 8260B (µg/L)	Tetrachloro-ethene 8260B (µg/L)	trans-1,3-Dichloro-propene 8260B (µg/L)	Trichloro-ethene 8260B (µg/L)	Vinyl chloride 8260B (µg/L)
Hot Spot Screening Levels			**7 b**	**5 b**	**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**70 b**	**0.86 a**	**5 b**	**0.4 a,f**	**5.0 b**	**2.0 b**
APMIP-18	Acid Plant	2/14/2002						5000 *U*	5000 *U*			5000 *U*			
INT-5	Acid Plant	6/12/2002						500 *U*	500 *U*			500 *U*			
(dup)		6/12/2002						500 *U*	500 *U*			500 *U*			
INT-10	Acid Plant	6/11/2002						5 *U*	5 *U*			5 *U*			
INT-11	Acid Plant	6/28/2002					**80.9**	1 *U*	1 *U*			1 *U*			
MWA-23	Chlorate Plant	4/5/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**1.4**	0.5 *U*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	*U*	0.5 *U*
MWA-24	Chlorate Plant	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*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
MWA-25	Chlorate Plant	11/15/2001	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	5 *U*	**300**	5 *U*	20 *U*	5 *U*	5 *U*	5 *U*	5 *U*
		4/9/2002	0.5 *U*	0.5 *U*	**1.4**	0.5 *U*	**0.72**	0.5 *UR*	**290**	0.5 *U*	2 *U*	**1.3**	0.5 *U*	0.5 *U*	0.5 *U*
MWA-26	Chlorate Plant	4/5/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**0.66**	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-27	Chlorate Plant	11/15/2001	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**200**	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
(dup)		11/15/2001	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**190**	2.5 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
		4/9/2002	0.5 *U*	0.5 *U*	**1.4**	0.5 *U*	0.5 *U*	0.5 *U*	**240**	0.5 *U*	2 *U*	**0.59**	0.5 *U*	0.5 *U*	0.5 *U*
MWA-28i(d)	Chlorate Plant	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*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
		4/9/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UR*	0.5 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-29	Chlorate Plant	4/8/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *UR*	2.3 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-30	Chlorate Plant	4/12/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.62 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
(dup)		4/12/2002	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.6 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-31i(d)	Chlorate Plant	4/8/2002	0.5 *U*	0.5 *U*	**0.57**	0.5 *U*	0.5 *U*	0.5 *UR*	**71**	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-33a	Chlorate Plant	6/5/2003	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	2.51 *U*	0.5 *U*	0.8 *U*	0.5 *U*	2 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*
MWA-34i	Chlorate Plant	6/6/2003	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*	**666**	2.5 *U*	10.2 *U*	2.5 *U*	10 *U*	**3.3**	2.5 *U*	2.5 *U*	2.5 *U*

Notes:
mg/kg - milligrams per kilogram
ft bgs - feet below ground surface
U - Undetected at detection limit shown
R - Data Rejected, not used for delineation of hot spot
J - Estimated
D - The reported result is from a dilution.
- Value above Hot Spot Screening Level
- Data for this sample has not undergone validation
"-" - not analyzed/reported

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
f - Value for 1,3-Dichloropropene used
g - Value for Cumene (isopropylbenzene) used
h - Value for Total Xylenes used

Table 4
Compounds Exceeding Hot Spot Criteria - SVOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Analytical Method	1,4-Dichloro-benzene (µg/L)	2-Chlorophenol (µg/L)	Benzo[a]-anthracene (µg/L)	Benzo[b]-fluoranthene (µg/L)	Hexachloro-butadiene (µg/L)	Hexachloro-ethane (µg/L)	Indeno[1,2,3-cd] pyrene (µg/L)	Pentachloro-phenol (µg/L)
Hot Spot Screening Levels				**75 b**	**30 a**	**0.092 a**	**0.092 a**	**0.86 a**	**4.8 a**	**0.092 a**	**1.0 b**
MWA-1	Acid Plant	1/29/1999	8270 SIM	**10**	**39**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**1.3** *J*
		4/29/1999	8270 SIM	**11.0** *J*	**67.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**2.2**
MWA-2	Acid Plant	1/27/1999	8270 SIM	0.1 *U*	**1.6**	0.1 *U*	0.1 *U*	**0.3**	**4.0**	0.1 *U*	0.5 *UJ*
		4/27/1999	8270 SIM	**0.8** *J*	**2.7**	0.1 *U*	0.1 *U*	**0.1**	**0.5**	0.1 *U*	0.5 *U*
(dup)		4/27/1999	8270 SIM	**0.9** *J*	**2.8**	0.1 *U*	0.1 *U*	**0.1**	**0.5**	0.1 *U*	0.5 *U*
		8/24/1999	8270 SIM	**2.3** *J*	**5.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/16/1999	8270 SIM	**1.5** *J*	**4.7**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		3/29/2001	8270C	9.7 *U*	**11.0**	9.7 *U*	9.7 *U*	9.7 *UJ*	9.7 *U*	9.7 *U*	24.0 *U*
		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*	24.0 *U*
MWA-3	Acid Plant	1/27/1999	8270 SIM	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	**0.3**	0.1 *U*	0.1 *U*	0.5 *UJ*
		4/28/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/24/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	**0.1**	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/16/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	**0.2**	0.1 *U*	0.1 *U*	0.5 *UJ*
		3/29/2001	8270C	10 *U*	10 *U*	10 *U*	10 *U*	10 *UJ*	10 *U*	10 *U*	26 *U*
		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*	24.0 *U*
MWA-4	Acid Plant	1/28/1999	8270 SIM	**0.3**	0.5 *U*	**0.1**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
(dup)		1/28/1999	8270 SIM	**0.3**	0.5 *U*	**0.1**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		4/28/1999	8270 SIM	**0.4** *J*	0.5 *U*	**0.1**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/25/1999	8270 SIM	**0.3** *J*	0.5 *U*	**0.1**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*
		11/16/1999	8270 SIM	**0.3** *J*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		3/29/2001	8270C	10 *U*	**11**	10 *U*	10 *U*	10 *UJ*	10 *U*	10 *U*	25 *U*
		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*	24.0 *U*
MWA-5	Acid Plant	1/27/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		4/27/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/23/1999	8270 SIM	0.1 *UJ*	**0.6**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/15/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		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*	24.0 *U*
		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*	24.0 *U*
MWA-6	Acid Plant	1/27/1999	8270 SIM	0.10 *UJ*	**0.50**	0.10 *U*	0.10 *U*	**29.00**	**15.00**	0.10 *U*	**18.00**
		4/29/1999	8270 SIM	0.10 *UJ*	**1.00**	0.10 *U*	0.10 *U*	**23.00**	**0.60**	0.10 *U*	**12.00**
MWA-6r	Acid Plant	8/25/1999	SIM	0.1 *UJ*	**1.4**	0.1 *U*	0.1 *U*	**0.4**	**2.2**	0.1 *UJ*	0.5 *U*
		11/17/1999	SIM	0.1 *UJ*	**3.6**	**0.1**	0.1 *U*	**0.5**	**0.5**	0.1 *U*	0.5 *UJ*
		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*	24.0 *U*
		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*	24.0 *U*
MWA-7	Acid Plant	1/26/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		4/26/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/23/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/15/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		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*	24.0 *U*
		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*	24.0 *U*
MWA-8i	Acid Plant	1/27/1999	8270 SIM	**0.3**	**24.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		4/27/1999	8270 SIM	0.1 *UJ*	**42.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/24/1999	8270 SIM	0.1 *UJ*	**14.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
(dup)		8/24/1999	8270 SIM	0.1 *UJ*	**12.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/16/1999	8270 SIM	0.1 *UJ*	**19.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		3/29/2001	8270C	9.9 *U*	**27.0**	9.9 *U*	9.9 *U*	9.9 *UJ*	9.9 *U*	9.9 *U*	25.0 *U*
		6/12/2001	8270C	9.6 *U*	**15.0**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*
MWA-9i	Acid Plant	1/28/1999	8270 SIM	**8.0**	**77.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		4/28/1999	8270 SIM	**6.0** *J*	**91.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/25/1999	8270 SIM	**6.8** *J*	**80.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/16/1999	8270 SIM	**7.1** *J*	**72.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		3/30/2001	8270C	**14.0**	**180.0**	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	24.0 *U*
		6/18/2001	8270C	**13.0**	**180.0**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	24.0 *U*
MWA-10i	Acid Plant	1/28/1999	8270 SIM	**2.2**	**21.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		4/28/1999	8270 SIM	**2.8** *J*	**35.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/25/1999	8270 SIM	**2.4** *J*	**18.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*
		11/16/1999	8270 SIM	0.1 *UJ*	0.5 *U*	**0.2**	**0.2**	0.1 *U*	0.1 *U*	**0.2**	0.5 *UJ*
		3/29/2001	8270C	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *UJ*	9.5 *U*	9.5 *U*	24.0 *U*
		6/14/2001	8270C	9.6 *U*	**13.0**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*

Table 4
Compounds Exceeding Hot Spot Criteria - SVOCs in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Analytical Method	1,4-Dichloro-benzene (µg/L)	2-Chlorophenol (µg/L)	Benzo[a]-anthracene (µg/L)	Benzo[b]-fluoranthene (µg/L)	Hexachloro-butadiene (µg/L)	Hexachloro-ethane (µg/L)	Indeno[1,2,3-cd] pyrene (µg/L)	Pentachloro-phenol (µg/L)
Hot Spot Screening Levels				**75 b**	**30 a**	**0.092 a**	**0.092 a**	**0.86 a**	**4.8 a**	**0.092 a**	**1.0 b**
MWA-11i	Acid Plant	1/29/1999	8270 SIM	0.1 *U*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.5 *UJ*
		4/27/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/26/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*
		11/17/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		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*	24.0 *U*
		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*	25.0 *U*
(dup)		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*	24.0 *U*
MWA-12i	Acid Plant	1/26/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		4/26/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/23/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/15/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		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*	25.0 *U*
		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*	25.0 *U*
MWA-13d	Acid Plant	1/28/1999	8270 SIM	0.10 *U*	**0.70**	0.10 *U*	0.10 *U*	0.10 *U*	0.10 *U*	0.10 *U*	0.50 *UJ*
		4/28/1999	8270 SIM	**0.1** *J*	**1.3**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/25/1999	8270 SIM	0.1 *U*	**3.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*
		11/18/1999	8270 SIM	**0.3** *J*	**2.2**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		3/29/2001	8270C	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *UJ*	9.5 *U*	9.5 *U*	24.0 *U*
		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*	24.0 *U*
MWA-14i	Acid Plant	1/27/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		4/27/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		8/23/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		11/15/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		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*	24.0 *U*
(dup)		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*	24.0 *U*
		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*	24.0 *U*
MWA-15	Acid Plant	8/26/1999	8270 SIM	**53.0** *J*	**160.0**	0.1 *U*	0.1 *UR*	0.1 *U*	0.1 *U*	0.1 *UR*	**0.9**
		11/17/1999	8270 SIM	**83.0** *J*	**280.0**	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	**7.0** *J*
MWA-15r	Acid Plant	3/30/2001	8270C			9.5 *U*	95.0 *U*	9.5 *U*	9.5 *U*	95.0 *U*	24.0 *U*
		6/15/2001	8270C			9.5 *U*	19.0 *U*	9.5 *U*	9.5 *U*	19.0 *U*	24.0 *U*
MWA-16i	Acid Plant	8/25/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*
		11/17/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *UJ*
		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*	24.0 *U*
		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*	24.0 *U*
MWA-17si	Acid Plant	8/26/1999	8270 SIM	**13.0** *J*	**15.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.5 *U*
		11/18/1999	8270 SIM	**28.0** *J*		0.1 *U*	0.1 *U*	0.1 *U*	**0.3**	0.1 *U*	0.5 *UJ*
(dup)		11/18/1999	8270 SIM	**29.0** *J*		0.1 *U*	0.1 *U*	0.1 *U*	**0.3**	0.1 *U*	0.5 *UJ*
		3/30/2001	8270C	**49.0**		9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*
		6/18/2001	8270C	**36.0**		9.6 *U*	9.6 *U*	9.6 *U*	9.6 *UJ*	9.6 *U*	24.0 *U*
MWA-18	Acid Plant	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*	24.0 *U*
		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*	24.0 *U*
MWA-19	Acid Plant	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*	24.0 *U*
		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*	25.0 *U*
MWA-20	Acid Plant	3/27/2001	8270C	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	25 *U*
		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*	25.0 *U*
MWA-22	Acid Plant	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*	24.0 *U*
MWA-30	Chlorate Plant	6/4/2003	8270C			0.100 *U*	0.100 *U*			0.100 *U*	
MWA-32i	Chlorate Plant	6/4/2003	8270C			0 *U*	0 *U*			0 *UJ*	
(dup)		6/4/2003	8270C			0.1 *U*	0.1 *U*			0.1 *UJ*	
B-59	Acid Plant	8/3/1999	8270 SIM	0.1 *UJ*	0.5 *U*	0.1 *U*	0.1 *U*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.5 *U*

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown
J - Estimated
R - Data Rejected, not used for
- Value above preliminary screening level
- not analyzed
ft bgs - Feet below ground surface

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations

Table 5
Compounds Exceeding Hot Spot Criteria - Metals and Inorganics in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Arsenic (Total) 6020 (mg/L)	Arsenic (Dissolved) 6020 (mg/L)	Barium (Total) 6010B (mg/L)	Chromium (Total) 6020/6010B (mg/L)	Chromium (Dissolved) 6010B (mg/L)	Chromium, Hexavalent (Total) 6010B/7195 (mg/L)	Iron (Total) 6010B (mg/L)	Iron (Dissolved) 6010B (mg/L)	Lead (Total) 7421 (mg/L)	Lead (Dissolved) 7421 (mg/L)	Manganese (Total) 6010B (mg/L)	Manganese (Dissolved) 6010B (mg/L)	Nickel (Total) 6010B (mg/L)	Nickel (Dissolved) 0 (mg/L)	Nitrate .2 (mg/L)	Perchlorate 314.0 (mg/L)
Hot Spot Screening Levels			**0.010 b**	**0.010 b**	**2.0 b**	**0.10 b**	**0.10 b**	**0.110 a**	**0.30 c**	**0.30 c**	**0.015 d**	**0.015 d**	**0.050 c**	**0.050 c**	**0.10 b**	**0.10 b**	**10 a**	**0.0245 e**
MWA-1	Acid Plant	1/29/1999							**13.3**								**1.4**	
		4/29/1999							**10.4**								**1.1** *J*	
MWA-2	Acid Plant	1/27/1999							**0.044**								**0.3**	
		4/27/1999							**0.347**								**0.2** *J*	
(dup)		4/27/1999							**0.351**								**0.2** *J*	
		8/24/1999							**1.97**								0.2 *U*	
		11/16/1999							**1.24**								**4.3**	
		3/29/2001															**2.5**	
		6/12/2001															**6.1**	
		4/10/2002															**19**	
		6/9/2003								**11.8**				**1.16**			1 *U*	**1.4**
MWA-3	Acid Plant	1/27/1999							**0.078**								**0.8**	
		4/28/1999							0.065 *U*								0.2 *U*	
		8/24/1999							**1.32**								0.2 *U*	
		11/16/1999							**0.15**								**0.5**	
		3/29/2001															0.2 *U*	
		6/14/2001															0.1 *U*	
		4/15/2002															**2**	
		6/9/2003								0.1 *U*				**0.189**			**2.02**	0.092 *UF*
MWA-4	Acid Plant	1/28/1999							**8.14**								**0.3**	
(dup)		1/28/1999							**8.06**								**0.3**	
		4/28/1999							**1.71**								**0.2** *J*	
		8/25/1999							**1.98**								0.2 *U*	
		11/16/1999							**0.138**								**0.3**	
		3/29/2001															0.2 *U*	
		6/14/2001															0.1 *U*	
		4/11/2002				0.00079 *U*											**1**	
		6/9/2003				**0.00236**											1 *U*	0.1 *UF*
MWA-5	Acid Plant	1/27/1999							**24.3**								1 *U*	
		4/27/1999							**6.91**								0.5 *U*	
		8/23/1999							**9.29**								**0.3** *J*	
		11/15/1999							**12.5**								**1.5**	
		3/28/2001															**0.8**	
		6/12/2001															**1.3**	
		4/4/2002															**2.1**	
		4/4/2002																
		6/6/2003															1 *R*	
MWA-6	Acid Plant	1/27/1999							**92.2**								0.5 *U*	
MWA-6r	Acid Plant	8/25/1999							**6.86**								**1.5**	
		11/17/1999							**6.33**								**0.7**	
		3/28/2001															2 *U*	
		6/12/2001				**0.056**		**0.058**									2 *U*	
		4/10/2002				**0.11** *J*											2 *U*	
		6/5/2003				**0.0189**											**0.18**	0.027 *UF*
MWA-7	Acid Plant	1/26/1999							**66.2**								0.5 *U*	
		4/26/1999							**39.3**								1 *U*	
		8/23/1999							**26**								**0.3** *J*	
		11/15/1999							**26**								0.5 *U*	
		3/26/2001															**0.6** *J*	
		6/11/2001															1 *U*	
		4/3/2002															**1.8**	
		6/4/2003															0.1 *U*	
MWA-8i	Acid Plant	1/27/1999							**18.6**								5 *U*	
		4/27/1999							**22.4**								5 *UJ*	
		8/24/1999							**20.4**								5 *U*	
(dup)		8/24/1999							**19.5**								5 *U*	
		11/16/1999							**19.2**								**1.5**	
		3/29/2001															1 *U*	
		6/12/2001															2 *U*	
		4/10/2002															5 *U*	
		6/9/2003															1 *U*	0.02 *U*
MWA-9i	Acid Plant	1/28/1999							**22**								5 *U*	
		4/28/1999							**28.5**								5 *U*	
		8/25/1999							**19.4**								5 *U*	
		11/16/1999							**16.9**								2 *U*	
		3/30/2001															**1.1**	
		6/18/2001															**2.2**	
		4/15/2002															5 *U*	
		6/9/2003															1 *U*	**0.73**
MWA-10i	Acid Plant	1/28/1999							**11**								**0.6**	
		4/28/1999							**9.18**								2 *U*	
		8/25/1999							**5.88**								1 *U*	
		11/16/1999							**5.2**								**1.4**	
		3/29/2001															0.2 *U*	
		6/14/2001															2 *U*	
		4/11/2002															2 *U*	
		6/10/2003															1 *U*	**0.26**
MWA-11i	Acid Plant	1/29/1999							**23.4**								**0.3**	
		4/27/1999							**24.4**								**1.1** *J*	
		8/26/1999							**27**								1 *U*	
		11/17/1999							**28.9**								**1.5**	
		3/30/2001															0.5 *U*	
		6/15/2001															0.2 *U*	
		6/15/2001															0.5 *U*	
		4/11/2002															0.2 *UJ*	
		6/10/2003															1 *U*	0.02 *U*
MWA-12i	Acid Plant	1/26/1999							**9.99**								0.2 *U*	
		4/26/1999							**11.8**								**0.2**	
		8/23/1999							**9.96**								**0.3** *J*	
		11/15/1999							**14.1**								**0.3**	
		3/26/2001															0.1 *UJ*	
		6/11/2001															0.1 *U*	
		4/3/2002															0.1 *U*	
		6/3/2003															0.1 *UJ*	

Table 5
Compounds Exceeding Hot Spot Criteria - Metals and Inorganics in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Arsenic (Total) 6020 (mg/L)	Arsenic (Dissolved) 6020 (mg/L)	Barium (Total) 6010B (mg/L)	Chromium (Total) 6020/6010B (mg/L)	Chromium (Dissolved) 6010B (mg/L)	Chromium, Hexavalent (Total) 6010B/7195 (mg/L)	Iron (Total) 6010B (mg/L)	Iron (Dissolved) 6010B (mg/L)	Lead (Total) 7421 (mg/L)	Lead (Dissolved) 7421 (mg/L)	Manganese (Total) 6010B (mg/L)	Manganese (Dissolved) 6010B (mg/L)	Nickel (Total) 6010B (mg/L)	Nickel (Dissolved) 0 (mg/L)	Nitrate .2 (mg/L)	Perchlorate 314.0 (mg/L)
Hot Spot Screening Levels			**0.010 b**	**0.010 b**	**2.0 b**	**0.10 b**	**0.10 b**	**0.110 a**	**0.30 c**	**0.30 c**	**0.015 d**	**0.015 d**	**0.050 c**	**0.050 c**	**0.10 b**	**0.10 b**	**10 a**	**0.0245 e**
MWA-13d	Acid Plant	1/28/1999							**0.502**								5 *U*	
		4/28/1999							**2.58**								**2.1**	
		8/25/1999							**4.37**								2 *U*	
		11/18/1999							**2.44**								2 *U*	
		3/29/2001															0.2 *U*	
		6/14/2001															2 *U*	
		4/15/2002															5 *U*	
		4/15/2002															5 *U*	
		6/9/2003															1 *U*	0.02 *U*
MWA-14i	Acid Plant	1/27/1999							**2.53**								2 *U*	
		4/27/1999							**3.04**								2 *U*	
		8/23/1999							**2.21**								**0.3** *J*	
		11/15/1999							**1.68**								**2.9**	
		3/28/2001															**2.2**	
		3/28/2001															2 *U*	
		6/12/2001															**2.2**	
		6/12/2001																
		4/4/2002															**3.6**	
		6/6/2003															**1** *J*	
MWA-15	Acid Plant	8/26/1999							**3.92**								5 *U*	
		11/17/1999							**10.9**								**3**	
MWA-15r	Acid Plant	3/30/2001															**3.2**	
		5/31/2001			**0.0269**	**0.0119**	**0.0134**				**0.018**	**0.0173**	**0.249**	**0.257**	**0.0432**	**0.0538**		
		6/15/2001															**3**	
		4/16/2002															**5.9**	
		6/10/2003							**3.43**	**0.019**			**0.0788**	**0.011**			**10.4**	**0.35**
		10/2/2003		0.01 *U*						**5.34** *D*				**0.037**				
MWA-16i	Acid Plant	8/25/1999							**1.56**								10 *U*	
		11/17/1999							**0.759**								**3**	
		3/28/2001															2 *U*	
		6/12/2001				**0.007**		0.05 *U*									2 *U*	
		4/10/2002				**0.064** *J*											5 *U*	
		6/5/2003				**0.992**											0.1 *U*	0.033 *UF*
MWA-17si	Acid Plant	8/26/1999							**2.25**								0.5 *U*	
		11/18/1999							**3.69**								**0.8**	
(dup)		11/18/1999							**3.65**								**0.8**	
		3/30/2001															**0.7**	
		6/18/2001															**2.3**	
		4/15/2002															**4**	
		6/9/2003															**1.6**	**9.9**
MWA-18	Acid Plant	3/27/2001															2 *U*	
		6/13/2001				**0.021**		0.05 *UJ*									1 *U*	
(dup)		6/13/2001				**0.022**		0.05 *UJ*										
		4/4/2002				**0.24**											**2.3**	
		6/6/2003															**2.9** *J*	
MWA-19	Acid Plant	3/27/2001															**5.7**	
		6/13/2001				**0.033**		0.05 *UJ*									**5.5**	
		4/4/2002				**0.825**											**5.7**	
		6/6/2003															**1.8** *J*	0.082 *UF*
MWA-20	Acid Plant	3/27/2001															2 *U*	
		6/13/2001				**0.097**		**0.06**									2 *U*	
		4/9/2002				**0.18** *J*											**7.3**	
		6/5/2003															**0.77**	
MWA-21b	Acid Plant	4/12/2002															0.2 *UJ*	
MWA-22	Acid Plant	6/15/2001															5 *U*	
		4/11/2002															2 *UJ*	
		6/10/2003															1 *U*	
NMP-1S	Acid Plant	6/1/2001			**0.0612**	**0.0082**					**0.0149**	**0.0052**	**0.368**	**0.347**	**0.0328**	**0.0247**		
		10/3/2003								**5.44** *D*				0.1 *U*				
NMP-1D	Acid Plant	6/1/2001			**0.934**	**0.0252**	**0.0059**				**0.227**	**0.0472**	**0.979**	**0.743**	**0.0973**	**0.895**		
		10/3/2003								**12.3** *D*				**0.14** *D*				
NMP-2S	Acid Plant	6/1/2001			**1.01**	**0.0101**					**0.758**	**0.0965**	**0.592**	**0.552**	**0.0264**	**0.0297**		
NMP-2D	Acid Plant	6/1/2001			**0.153**	**0.0116**	**0.0059**				**0.0646**	**0.0177**	**1.08**	**1**	**0.0555**	**0.0519**		
		10/3/2003								**6.73** *D*				**0.44** *D*				
NMP-3S	Acid Plant	5/31/2001			**1.83**	**0.513**					**0.269**	**0.002**	**1.1**	**0.748**	**0.231**	**0.126**		
NMP-3D	Acid Plant	6/1/2001			**0.368**	**0.0136**					**0.124**	**0.0308**	**1.57**	**1.54**	**0.12**	**0.116**		
		6/11/2003								**1.04**				**0.781**			**3**	
NMP-4S	Acid Plant	6/1/2001			**0.0583**	**0.0182**					**0.0063**	**0.0668**	**2.06**	**1.81**	**0.0619**	**0.0533**		
		10/3/2003								**13.1** *D*				**0.32** *D*				
NMP-4D	Acid Plant	6/1/2001			**0.33**	**0.018**					**0.0357**	**0.0023**	**1.5**	**1.38**	**0.145**	**0.128**		
		6/10/2003							**3.71**	**3.74**			**0.473**	**0.463**			1 *U*	
(dup)		6/10/2003							**3.49**	**3.41**			**0.559**	**0.538**			1 *U*	
		10/3/2003								**3.87** *D*				**0.14** *D*				
NMP-5S	Acid Plant	6/1/2001			**0.104**						**0.108**	**0.103**	**0.565**	**0.51**				
NMP-5D	Acid Plant	6/1/2001			**0.118**	**0.0075**					**0.0715**	**0.0474**	**0.673**	**0.655**	**0.0715**	**0.0708**		
		10/3/2003								**17.1** *D*				**0.13** *D*				
NMP-6S	Acid Plant	6/1/2001			**4.11**	**0.0297**					**1.8**		**0.169**	**0.0652**				
NMP-6D	Acid Plant	6/1/2001			**0.131**						**0.0462**	**0.015**	**0.588**	**0.668**	**0.0221**	**0.0299**		
PMP-1	Acid Plant	10/2/2003								**12.4** *D*				**4.98** *D*				
PMP-2	Acid Plant	10/2/2003								**3.45** *D*				**0.42** *D*				
PMP-3	Acid Plant	10/2/2003								**10.2** *D*				**0.28** *D*				
MWA-23	Chlorate Plant	11/14/2001				0.00043 *U*												
		4/5/2002				**0.0012** *UF*											0.2 *U*	
		6/4/2003				**0.00117**				**12.7**				**4.22**			**0.69**	
		7/29/2003																0.02 *U*
MWA-24	Chlorate Plant	11/15/2001				**0.147** *J*												
		4/8/2002				**0.2** *J*											1 *U*	
		6/5/2003															0.1 *U*	
MWA-25	Chlorate Plant	11/15/2001				**17.1** *J*												
		4/9/2002				**13** *J*											5 *U*	
		6/6/2003				**9.79**				0.1 *U*				**0.173**			1 *R*	
		7/29/2003																**290** *NV*
		12/3/2003				**9.83**	**9.99**	**8.01**		0.15 *U*				**0.0255**				
MWA-26	Chlorate Plant	11/15/2001				0.00329 *U*												
		4/5/2002				**0.015**											**40**	
		6/4/2003				**1.02**											**0.65**	
		7/29/2003																**1.2** *NV*
MWA-27	Chlorate Plant	11/15/2001				**14.7** *J*												
(dup)		11/15/2001				**16.1** *J*												
		4/9/2002				**21**											**18**	
		6/4/2003				**4.3**				0.1 *U*				**0.732**			10 *U*	**210**
		12/3/2003		**0.228**		**8.65**	**7.74**	**7.64**		0.15 *U*		0.001 *U*		**0.147**		**0.0248**		

Table 5
Compounds Exceeding Hot Spot Criteria - Metals and Inorganics in Groundwater
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Arsenic (Total) 6020 (mg/L)	Arsenic (Dissolved) 6020 (mg/L)	Barium (Total) 6010B (mg/L)	Chromium (Total) 6020/6010B (mg/L)	Chromium (Dissolved) 6010B (mg/L)	Chromium, Hexavalent (Total) 6010B/7195 (mg/L)	Iron (Total) 6010B (mg/L)	Iron (Dissolved) 6010B (mg/L)	Lead (Total) 7421 (mg/L)	Lead (Dissolved) 7421 (mg/L)	Manganese (Total) 6010B (mg/L)	Manganese (Dissolved) 6010B (mg/L)	Nickel (Total) 6010B (mg/L)	Nickel (Dissolved) 0 (mg/L)	Nitrate .2 (mg/L)	Perchlorate 314.0 (mg/L)
Hot Spot Screening Levels			**0.010 b**	**0.010 b**	**2.0 b**	**0.10 b**	**0.10 b**	**0.110 a**	**0.30 c**	**0.30 c**	**0.015 d**	**0.015 d**	**0.050 c**	**0.050 c**	**0.10 b**	**0.10 b**	**10 a**	**0.0245 e**
MWA-28i(d)	Chlorate Plant	11/16/2001				0.00135 *U*												
		4/9/2002				**0.0012** *UF*											0.1 *U*	
		6/6/2003				0.001 *U*											0.1 *R*	
		7/29/2003																0.02 *U*
MWA-29	Chlorate Plant	4/8/2002				0.0049 *U*											10 *U*	
		6/4/2003				**0.0284**											10 *U*	0.11 *UF*
MWA-30	Chlorate Plant	4/12/2002				**1.3**											0.2 *UJ*	
(dup)		4/12/2002				**1.2**											0.2 *UJ*	
		6/4/2003				**0.562**				**0.264**				**1.19**			100 *U*	**7.9**
MWA-31i(d)	Chlorate Plant	3/6/2002				**1.8** *J*												
(dup)		3/6/2002				**1.3** *J*												
		3/7/2002				**0.43**												
		3/7/2002				**7** *J*												
		3/7/2002				**1.6**												
		4/8/2002				**0.01** *J*											10 *U*	
		6/4/2003				**1.15**											100 *U*	**4.7**
MWA-32i	Chlorate Plant	6/4/2003				**0.238**											100 *U*	**200**
MWA-33	Chlorate Plant	6/11/2003				**0.226**			**5.59**	**5.24**			**0.142**	**0.128**			1 *U*	**0.32**
(dup)		6/11/2003				**0.601**			**9.99**	**8.87**			**0.219**	**0.199**			1 *U*	**0.84**
		6/5/2003				**0.532**				**2.27**				**0.068**			**3.42** *J*	**0.54**
(dup)		6/5/2003				**0.514**											0.1 *UJ*	**0.57**
MWA-34i	Chlorate Plant	6/6/2003				**0.142**											1 *R*	**4.6**
MWA-35	Chlorate Plant	12/2/2003				**0.151**	**0.0862**	**0.078**		0.15 *U*				**0.0109**				
MWA-36	Chlorate Plant	12/3/2003	**0.09810**	**0.10100**		**16.00000**	**17.20000**	**14.90000**		0.15000 *U*	0.00100 *U*	0.00100 *U*		**0.03970**	**0.01100**	**0.00965**		
MWA-37	Chlorate Plant	12/3/2003	**0.113**	**0.117**		**10.3**	**9.74**	**8.34**		0.15 *U*	0.001 *U*	0.001 *U*		**0.0158**	**0.0195**	**0.0178**		
MWA-38	Chlorate Plant	12/3/2003				**1.79**	**1.75**	**1.63**		0.15 *U*				**3.86**				
B-67	Acid Plant	5/2/2001																
(dup)		5/2/2001																
B-68	Chlorate Plant	5/3/2001				**0.0255**												
B-69	Chlorate Plant	5/3/2001				**2.13**												
B-70	Chlorate Plant	5/3/2001				**27.8**												
(dup)		5/3/2001				**26.7**												
B-71	Chlorate Plant	9/25/2001				0.15 *U*												
B-72	Chlorate Plant	9/25/2001				**20** *J*												
		9/25/2001				**1.4** *J*												
B-73	Chlorate Plant	9/25/2001				0.044 *U*												
B-74	Chlorate Plant	9/27/2001				**3.2**												
B-75	Chlorate Plant	9/27/2001				**5.6**												
(dup)		9/27/2001				**5.5**												
B-76	Chlorate Plant	9/27/2001				**21**												
B-77	Chlorate Plant	9/26/2001				0.029 *U*												
B-78	Chlorate Plant	9/28/2001				**34**												
B-79	Chlorate Plant	9/28/2001				**1.5**												
B-80	Chlorate Plant	9/27/2001				**110** *J*												
B-81	Chlorate Plant	9/27/2001				**0.58**												
B-82	Chlorate Plant	9/28/2001				0.17 *U*												
B-83	Chlorate Plant	9/28/2001				**1.7**												
B-84	Chlorate Plant	9/26/2001				0.35 *U*												
B-85	Chlorate Plant	10/25/2001				**1.8** *J*												
B-86b	Chlorate Plant	11/2/2001				**0.41** *J*												
(dup)		11/2/2001				**0.61** *J*												
B-87	Chlorate Plant	11/1/2001				**1** *J*												
B-88	Chlorate Plant	11/1/2001				**7.8** *J*												
B-90	Chlorate Plant	11/5/2001				**2** *J*												
B-116	Chlorate Plant	12/19/2001				0.41 *U*												
B-117	Chlorate Plant	12/19/2001				1.5 *U*												
B-118	Chlorate Plant	12/19/2001				**5.3** *J*												
(dup)		12/19/2001				**4.9** *J*												
B-119	Ammonia Plant	6/12/2002																
(dup)		6/12/2002																

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 Hot Spot Screening Levels
- Data for this sample has not undergone validation
- Not analyzed/reported

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
e - Revised Perchlorate Hot Spot Level derived from January 26, 2006 USEPA Memorandum "Assessment Guidance for Perchlorate"

Table 6
Compounds Exceeding Hot Spot Criteria - VOCs and Pesticides in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Bromodichloro-methane (µg/L)	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	1,2-Dichloroethane (µg/L)	cis-1,2-Dichloroethene (µg/L)	Methylene chloride (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	DDT (µg/L)	DDD (µg/L)	DDE (µg/L)
Hot Spot Screening Levels		**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**160 a**	**5 b**	**70 b**	**5 b**	**5 b**	**5 b**	**2 b**	**0.2 a**	**0.28 a**	**0.2 a**
Shallow Zone																
MWA-2	11/10/2004			30200	ND (100)	236		ND (100)	ND (100)		ND (100)			ND (1.00)	ND (1.00)	ND (1.00)
	3/10/2005			15400	ND (50.0)	149		ND (50.0)	ND (50.0)		ND (50.0)			ND (5.00)	ND (5.00)	ND (5.00)
	6/22/2005	ND (<18.3)	ND (<14.0)	12200	ND (<32.7)	99	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	17 J	ND (<24.1)	ND (<15.2)	ND (<0.500)	3.35	ND (<5.00)
	9/15/2005	ND (<36.6)	ND (<28.0)	21900	ND (<65.4)	182	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	24 J	ND (<48.2)	ND (<30.4)	0.0789 J	0.187	ND (<0.00367)
	10/27/2005	ND (<36.6)	ND (<28.0)	23500	ND (<65.4)	204	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	ND (<0.236)	0.477	0.0965
	12/20/2005			16200	ND (65.4)	114		ND (28.4)	ND (34.0)		ND (21.8)			0.312	ND (0.239)	ND (0.239)
	1/13/2006	ND (<0.183)	ND (<0.140)	4.04	ND (<0.327)	2.37	ND (<0.159)	ND (<0.142)	1.55	ND (<1.00)	1.7	1.02	ND (<0.152)	ND (<0.0971)	0.510	ND (<0.0971)
MWA-3	11/10/2004			5770	ND (25.0)	82.0		ND (25.0)	ND (25.0)		ND (25.0)			2.63	3.11	0.819
	3/10/2005			6610	ND (25.0)	64.5		ND (25.0)	ND (25.0)		ND (25.0)			0.694	ND (0.50)	ND (0.500)
(dup)	3/10/2005			6810	ND (25.0)	63.0		ND (25.0)	ND (25.0)		ND (25.0)			0.891	0.478	ND (0.500)
	6/22/2005	ND (<9.15)	ND (<7.00)	7490	ND (<16.4)	88.5	ND (<7.95)	ND (<7.10)	ND (<8.50)	ND (<50.0)	15 J	ND (<12.0)	ND (<7.60)	0.318	ND (<0.500)	ND (<0.500)
(dup)	6/22/2005			7600	ND (25.0)	92.5		ND (25.0)	ND (25.0)		ND (25.0)			0.391	ND (1.00)	ND (1.00)
	9/15/2005	ND (<1.83)	ND (<1.40)	1110	4 J	80.2	ND (<1.59)	ND (<1.42)	ND (<1.70)	ND (<10.0)	10.1	ND (<2.41)	ND (<1.52)	1.39	0.418	0.186 J
	10/26/2005	ND (<0.915)	7.65	571	8.05	94.8	101	1.65 J	ND (<0.850)	ND (<5.00)	7.15	ND (<1.20)	ND (<0.760)	2.11	0.384	0.332
	11/22/2005	ND (<3.66)	4.8	1900	10.8	102	69.8	ND (<2.84)	ND (<3.40)	ND (<20.0)	7.40 J	ND (<4.82)	ND (<3.04)	0.715	0.201	0.122
	12/20/2005			1270	ND (6.54)	59.8		ND (2.84)	ND (3.40)		7.40 J			0.249	ND (0.243)	ND (0.243)
	1/13/2006	1.95 J	53.8	727	ND (<1.64)	235	ND (<0.795)	ND (<0.710)	ND (<0.850)	ND (<5.00)	37.6	4.35	ND (<0.760)	0.659	0.115	ND (<0.962)
MWA-4	7/29/2005	ND (<1.83)	ND (<1.40)	1040	ND (<3.27)	1.7 J	ND (<1.59)	ND (<1.42)	ND (<1.70)	ND (<10.0)	4.2 J	ND (<2.41)	ND (<1.52)	ND (<0.500)	11.8	ND (<0.500)
	10/26/2005	ND (<0.915)	ND (<0.700)	456	9.9	28.6	164	1.3 J	ND (<0.850)	8.65 J	2.7	ND (<1.20)	ND (<0.760)	ND (<0.236)	1.29	ND (<0.236)
	11/22/2005	ND (<0.366)	ND (<0.280)	252	5.8	21.8	95	0.84 J	ND (<0.340)	6.6 J	3.02	ND (<0.482)	ND (<0.304)	0.165	1.47	ND (<0.0952)
	1/13/2006	ND (<9.15)	ND (<7.00)	4250	17.5 J	31.5	9.5 J	ND (<7.10)	ND (<8.50)	ND (<50.0)	8 J	ND (<12.0)	ND (<7.60)	ND(<0.238)	3.42	ND(<0.238)
MWA-5	7/28/2005	ND (<0.266)	ND (<0.140)	11.5	2.76	ND (<0.143)	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	1.02	0.236	ND (<0.0500)
	10/27/2005	ND (<0.183)	ND (<0.140)	15.0	7.99	ND (<0.143)	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/2005	ND (<0.183)	ND (<0.140)	17.2	8.37	ND (<0.143)	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	1/16/2006	ND (<0.183)	ND (<0.140)	14.0	0.98	ND (<0.143)	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0495)	ND (<0.0495)	ND (<0.0495)
MWA-6R	8/1/2005	ND (<3.66)	ND (<2.80)	2970	ND (<6.54)	3.6 J	ND (<3.18)	ND (<2.84)	9 J	ND (<20.0)	17.4	14	5.2 J	0.0869 J	ND (<0.0500)	ND (<0.0500)
MWA-15R	11/10/2004			154000	ND (500)	ND (500)		ND (500)	ND (500)		ND (500)			75.4	27.7	ND (10.0)
(dup)	11/10/2004			156000	ND (500)	ND (500)		ND (500)	ND (500)		ND (500)			97.0	26.8	ND (10.0)
	3/10/2005			97000	ND (250)	ND (250)		ND (250)	ND (250)		ND (250)			534	79.7	ND (50.0)
	6/22/2005	ND (<183)	ND (<140)	87700	ND (<327)	ND (<143)	ND (<159)	ND (<142)	ND (<170)	ND (<1000)	ND (<109)	ND (<241)	ND (<152)	193	40.9	9.88
	9/16/2005	ND (<366)	ND (<280)	240000	ND (<654)	ND (<286)	ND (<318)	ND (<284)	ND (<340)	ND (<2000)	ND (<218)	ND (<482)	ND (<304)	317	39.3	6.03 J
(dup)	9/16/2005			228000	ND (654)	ND (286)		ND (284)	ND (340)		ND (218)			368	49.9	6.04 J
	12/21/2005			217000	ND (654)	ND (286)		ND (284)	ND (340)		ND (218)			86.5	10.1	1.53
MWA-18	8/3/2005	ND (<0.183)	ND (<0.140)	0.58	ND (<0.327)	0.26 J	ND (<0.159)	ND (<0.142)	0.23 J	ND (<1.00)	1.12	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-19	8/3/2005	ND (<0.183)	ND (<0.140)	3.14	ND (<0.327)	0.35 J	ND (<0.159)	ND (<0.142)	0.31 J	ND (<1.00)	13.3	2.62	ND (<0.152)	0.576	0.114	ND (<0.0500)
MWA-20	8/4/2005	ND (<1.83)	ND (<1.40)	1540	ND (<3.27)	ND (<1.43)	ND (<1.59)	ND (<1.42)	ND (1.70)	ND (<10.0)	ND (<1.09)	ND (<2.41)	ND (<1.52)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-22	8/1/2005	ND (<9.15)	ND (<7.00)	6460	ND (<16.4)	ND (<7.15)	ND (<7.95)	ND (<7.10)	68.5	ND (<50.0)	ND (<5.45)	ND (<12.0)	ND (<7.60)	1.29	0.115	ND (<0.0500)
MWA-30	8/3/2005	ND (<0.183)	ND (<0.140)	ND (<0.136)	0.37 J	2.13	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-42	8/2/2005	ND (<0.183)	ND (<0.140)	94	ND (<0.327)	1.28	ND (<0.159)	ND (<0.142)	0.26 J	ND (<1.00)	3.1	0.86	ND (<0.152)	ND (<0.250)	ND (<0.250)	ND (<0.250)
MWA-44	8/3/2005	ND (<0.915)	ND (<0.700)	851	ND (<1.64)	5.4	ND (<0.795)	ND (<0.710)	ND (<0.850)	ND (<5.00)	4.25	ND (<1.20)	ND(<0.760)	0.259	0.202	ND (<0.0500)
MWA-45	8/3/2005	ND (<0.183)	ND (<0.140)	62.9	ND (<0.327)	12	ND (<0.159)	ND (<0.142)	0.6	ND (<1.00)	3.06	0.34 J	ND (<0.152)	ND(0.500)	ND(0.500)	ND(0.500)
MWA-46	8/4/2005	ND (<0.183)	ND (<0.140)	40.2	ND (<0.327)	0.19 J	0.2 J	ND (<0.142)	0.74	ND (<1.00)	4.52	0.61	ND (<0.152)	0.611	ND (<0.0500)	ND (<0.0500)
MWA-60	8/2/2005	ND (<0.915)	ND (<0.700)	576	ND (<1.64)	ND (<0.715)	ND (<0.795)	ND (<0.710)	36.9	ND (<5.00)	ND (<0.545)	5.3	ND (<0.760)	0.383	ND (<0.0500)	ND (<0.0500)
	10/27/2005	ND (<0.915)	ND (<0.700)	667	ND (<1.64)	ND (<0.715)	ND (<0.795)	ND (<0.710)	29.3	ND (<5.00)	ND (<0.545)	6.55	ND (<0.760)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/2005	ND (<0.183)	ND (<0.140)	117	ND (<0.327)	6.22	3.76	ND (<0.142)	2.65	ND (<1.00)	0.46 J	3.05	ND (<0.152)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	1/16/2006	ND (<0.183)	ND (<0.140)	9.30	ND (<0.327)	7.5	0.27 J	ND (<0.142)	0.58	ND (<1.00)	0.74	1.52	ND (<0.152)	ND (<0.098)	ND (<0.098)	ND (<0.098)
MWA-61	8/1/2005	ND (<9.15)	ND (<7.00)	5710	ND (<16.4)	470	ND (<7.95)	ND (<7.10)	ND (<8.50)	ND (<50.0)	45	ND (<12.0)	ND (<7.60)	ND (<2.50)	ND (<2.50)	ND (<2.50)
	10/26/2005	ND (<9.15)	74	2100	ND (<16.4)	5590	21 J	ND (<7.10)	12 J	ND (<50.0)	161	16.5 J	ND (<7.60)	0.129	0.109	ND (<0.236)
	11/21/2005	ND (<18.3)	126	111	ND (<32.7)	19500	41 J	ND (<14.2)	22 J	ND (<100)	518	ND (<24.1)	ND (<15.2)	0.204	0.11	0.0551 J
	1/13/2006	ND (<91.5)	240 J	465	ND (<164)	56900	ND (<79.5)	ND (<71.0)	485	ND (<500)	1720	295	ND (<76.0)	0.124	0.545	ND (<0.0472)
MWA-62	8/2/2005	ND (<0.915)	ND (<0.700)	506	2.65	7.45	ND (<0.795)	ND (<0.710)	2.45 J	ND (<5.00)	17.2	1.85 J	ND(<0.760)	2040	25.3	26.5
	10/25/2005	ND (<1.83)	ND (<1.40)	1700	4.8 J	2.4 J	ND (<1.59)	ND (<1.42)	15.1	ND (<10.0)	11.7	7.3	ND (<1.52)	33.3	1.10	0.648
	11/22/2005	ND (<1.83)	ND (<1.40)	1370	ND (<3.27)	2.2 J	ND (<1.59)	ND (<1.42)	9.7	ND (<10.0)	22.1	6.1	ND (<1.52)	28.2	0.937	0.767
	1/16/2006	ND (<0.183)	ND (<0.140)	3.02	ND (<0.327)	3.79	ND (<0.159)	ND (<0.142)	0.55	ND (<1.00)	15.3	1.21	ND (<0.152)	13.8	0.381	0.340

Table 6
Compounds Exceeding Hot Spot Criteria - VOCs and Pesticides in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Bromodichloro-methane (µg/L)	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	1,2-Dichloroethane (µg/L)	cis-1,2-Dichloroethene (µg/L)	Methylene chloride (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	DDT (µg/L)	DDD (µg/L)	DDE (µg/L)
Hot Spot Screening Levels		**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**160 a**	**5 b**	**70 b**	**5 b**	**5 b**	**5 b**	**2 b**	**0.2 a**	**0.28 a**	**0.2 a**
MWA-63	7/27/2005	ND(<0.366)	0.44 J	ND (<0.272)	ND (<0.654)	115	ND (<0.318)	ND (<0.284)	82.5	ND (<2.00)	226	31.1	ND (<0.304)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
	10/27/2005	ND (<1.83)	ND (<1.40)	7.6	ND (<3.27)	1090	ND (<1.59)	ND (<1.42)	248	ND (<10.0)	744	101	5.1	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/2005	ND (<0.366)	0.88 J	ND (<0.272)	ND (<0.654)	269	ND (<0.318)	ND (<0.284)	208	ND (<2.00)	329	99.3	ND (<0.304)	0.0533 J	ND (<0.0495)	ND (<0.0495)
MWA-69	8/2/2005	ND (<9.15)	ND (<7.00)	9010	684	70.5	ND (<7.95)	ND (<7.10)	ND (<8.50)	ND (<50.0)	10.5 J	ND (<12.0)	ND (<7.60)	51.1	17.3	ND(<5.00)
	10/25/2005	ND (<3.66)	ND (<2.80)	2690	789	83.8	23.4 J	ND (<2.84)	5.6 J	ND (<20.0)	4.6 J	ND (<4.82)	ND (<3.04)	6.84	3.93	0.289
	11/22/2005	ND (<9.15)	ND (<7.00)	3640	806	81.5	37.5 J	ND (<7.10)	16 J	ND (<50.0)	6.5 J	ND (<12.0)	ND (<7.60)	9.33	4.36	0.425
	1/16/2006	ND (<0.183)	ND (<0.140)	166	37.6	4.21	7.26	0.93	13.5	2.06 J	1.52	3.44	0.52	29.5	8.64	0.838
NMP-3D	11/9/2004			93000	ND (250)	ND (250)		ND (250)	ND (250)		ND (250)			7.85	ND (5.00)	ND (5.00)
	3/10/2005			76600	ND (250)	ND (250)		ND (250)	ND (250)		ND (250)			17.4	ND (5.00)	ND (5.00)
	6/22/2005	ND (<91.5)	ND (<70.0)	45100	ND (<164)	140 J	ND (<79.5)	ND (<71.0)	ND (<85.0)	ND (<500)	ND (<54.5)	ND (<120)	ND (<3.04)	1.77	7.69	ND (<1.00)
	9/15/2005	ND (<18.3)	ND (<14.0)	11300	ND (<32.7)	49.0 J	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	ND (<10.9)	ND (<24.1)	ND (<15.2)	2.75	0.348 J	ND (<0.0367)
	12/21/2005			13400	ND (32.7)	62.0		ND (14.2)	ND (17.0)		ND (10.9)			6.65	0.801	ND (0.490)
NMP-4D	11/9/2004			53600	ND (250)	375		ND (250)	ND (250)		ND (250)			356	23.6	8.90
	3/11/2005			18400	86.0	434		ND (50.0)	ND (50.0)		ND (50.0)			96.1	11.5	ND (10.0)
	6/22/2005	ND (<9.15)	ND (<7.00)	8620	29.5	194	ND (<7.95)	ND (<7.10)	ND (<8.50)	ND (<50.0)	9.5	ND (<12.0)	ND (<7.60)	40.6	18.6	ND(<5.00)
	9/15/2005	ND (<91.5)	ND (<70.0)	42700	ND (<164)	615	ND (<79.5)	ND (<71.0)	ND (<85.0)	ND (<500)	ND (<54.5)	ND (<120)	ND (<76.0)	89.8	8.29	2.52 J
	12/21/2005			44900	ND (164)	645		ND (71.0)	ND (64.0)		ND (54.5)			37.9	4.42	1.12
PMP-4	11/10/2004			16000	ND (50.0)	69.0		ND (50.0)	ND (50.0)		ND (50.0)			14.9	ND (5.00)	ND (1.00)
	3/10/2005			111	0.630	14.0		ND (0.500)	ND (0.500)		1.18			10.8	0.89	ND (1.00)
	6/21/2005	ND (<0.183)	ND (<0.140)	69.9	ND (<0.327)	6.96	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	0.56	ND (<0.241)	ND (<0.152)	4.03	ND (<0.500)	ND (<0.500)
	9/15/2005	ND (<0.183)	ND (<0.140)	27	ND (<0.327)	0.780	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	0.16 J	ND (<0.241)	ND (<0.152)	6.95	0.21 J	0.0416 J
	10/27/2005	ND (<0.183)	ND (<0.140)	4.89	0.55	5.75	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	0.49 J	ND (<0.241)	ND (<0.152)	4.22	0.132	ND (<0.236)
	11/22/2005	ND (<0.915)	ND (<0.700)	736	ND (<1.64)	15.8	ND (<0.795)	ND (<0.710)	ND (<0.850)	ND (<5.00)	2.05 J	ND (<1.20)	ND (<0.760)	1.89	0.101	ND (<0.0476)
	12/20/2005			1.81	ND (0.327)	2.48		ND (0.142)	ND (0.170)		0.430 J			1.10	ND (0.485)	ND (0.485)
(dup)	12/20/2005			1.41	ND (0.327)	2.54		ND (0.142)	ND (0.128)		0.490 J			1.32	ND (0.476)	ND (0.476)
PMP-5	11/11/2004			97100	ND (500)	730		ND (500)	ND (500)		ND (500)			197	8.63	ND (10.0)
	3/11/2005			1480	34.3	266		5.8	ND (5.00)		9.80			24.7	ND (10.0)	ND (10.0)
	6/22/2005	ND (<0.183)	ND (<0.140)	ND (<0.136)	4.32	158	ND (<0.159)	2.63	ND (<0.170)	ND (<1.00)	4.77	ND (<0.241)	ND (<0.152)	39.6	2.26	ND (<5.00)
	9/15/2005	ND (<1.83)	ND (<1.40)	1010	11.7	188	ND (<1.59)	5.40	ND (<1.70)	ND (<10.0)	8.70	ND (<2.41)	ND (<1.52)	53.5	4.01	0.891 J
	10/27/2005	ND (<18.3)	ND (<14.0)	16900	ND (<32.7)	313	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	17 J	ND (<24.1)	ND (<15.2)	100	5.47	1.7
	11/22/2005	ND (<36.6)	ND (<28.8)	29000	ND (<65.4)	420	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	72.9	5.26	1.36
	12/20/2005			1560	ND (0.327)	166		4.70 J	ND (1.70)		10.40			39.1	2.49	ND (0.957)
PMP-6	11/11/2005			77400	ND (100)	370		ND (250)	ND (250)		ND (250)			13.6	ND (5.00)	ND (5.00)
	3/11/2005			31100	ND (250)	188		ND (100)	ND (100)		ND (100)			20.8	ND (5.00)	ND (5.00)
	6/22/2005	ND (<0.183)	ND (<0.140)	17.4	1.31	13	ND (<0.159)	0.32	ND (<0.170)	ND (<1.00)	0.41	ND (<0.241)	ND (<0.152)	5.56	0.862	ND (<0.500)
	9/14/2005	ND (<36.6)	ND (<28.0)	17100	ND (<65.4)	106	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	6.2	0.789 J	ND (<0.184)
	10/27/2005	ND (<36.6)	ND (<28.0)	18600	ND (<65.4)	118	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	8.84	1.07	0.256
	11/22/2005	ND (<9.15)	ND (<7.00)	8580	18.5 J	66	ND (<7.95)	ND (<7.10)	ND (<8.50)	ND (<50.0)	ND (<5.45)	ND (<12.0)	ND (<7.60)	3.44	0.549	0.145
	12/20/2005			13700	ND (65.4)	77		ND (14.2)	ND (17.0)		ND (10.9)			1.41	ND (0.472)	ND (0.472)
Shallow-Intermediate Zone																
MWA-17si	7/29/2005	ND (<133)	ND (<70.0)	58900	ND (<164)	560	ND (<79.5)	ND (<71.0)	ND (<85.0)	ND (<500)	65 J	ND (<120)	ND (<76.0)	ND (<5.00)	9.33	ND (<5.00)
	10/26/2005	ND (<18.3)	ND (<14.0)	13300	74	588	365	19 J	ND (<17.0)	ND (<100)	17 J	ND (<24.1)	ND (<15.2)	ND (<0.236)	0.344	0.123
	11/21/2005	ND (<36.6)	ND (<28.0)	27700	72 J	544	560	ND (<28.4)	ND (<34.0)	ND (<200)	34 J	ND (<48.2)	ND (<30.4)	0.0682 J	0.525	0.218
	1/13/2006	ND (<183)	ND (<140)	121000	ND (<327)	760	ND (<159)	ND (<142)	ND (<170)	ND (<1000)	ND (<109)	ND (<241)	ND (<152)	ND (<0.243)	0.851	ND (<0.243)
MWA-67si	8/1/2005	ND (<366)	1740	216000	ND (<654)	2180	ND (<318)	ND (<284)	ND (<340)	ND (<2000)	3460	ND (<482)	ND (<304)	ND (<5.00)	ND (<5.00)	ND (<5.00)
	10/27/2005	ND (<366)	540 J	198000	ND (<654)	2400	ND (<318)	ND (<284)	ND (<340)	ND (<2000)	1700	ND (<482)	ND (<304)	0.365	ND (<0.236)	ND (<0.236)
	11/21/2005	ND (<366)	820 J	191000	ND (<654)	2160	ND (<318)	ND (<284)	ND (<340)	ND (<2000)	1760	ND (<482)	ND (<304)	0.130	ND (<0.0472)	0.0593 J
	1/13/2006	ND (<366)	1720	201000	ND (<654)	2040	ND (<318)	ND (<284)	ND (<340)	ND (<2000)	2380	ND (<482)	ND (<304)	ND (<0.238)	ND (<0.238)	ND (<0.238)
MWA-68si	8/2/2005	ND (<36.6)	ND (<28.0)	21000	494	146	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	28 J	ND (<48.2)	ND (<30.4)	24.8	ND(<5.00)	ND (<5.00)
	10/25/2005	ND (<9.15)	ND (<7.00)	6300	376	112	196	ND (<7.10)	ND (<8.50)	ND (<50.0)	10 J	ND (<12.0)	ND (<7.60)	ND (<0.476)	ND (<0.476)	ND (<0.476)
	11/22/2005	ND (<9.15)	ND (<7.00)	6250	474	113	479	ND (<7.10)	ND (<8.50)	ND (<50.0)	10.5 J	ND (<12.0)	ND (<7.60)	ND (<0.238)	ND (<0.238)	0.529
	1/13/2006	ND (<18.3)	ND (<14.0)	15400	478	129	156 J	ND (<14.2)	ND (<17.0)	ND (<100)	19 J	ND (<24.1)	ND (<15.2)	0.526	ND (<0.721)	ND (<0.240)

Table 6
Compounds Exceeding Hot Spot Criteria - VOCs and Pesticides in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Bromodichloro-methane (µg/L)	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	1,2-Dichloroethane (µg/L)	cis-1,2-Dichloroethene (µg/L)	Methylene chloride (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	DDT (µg/L)	DDD (µg/L)	DDE (µg/L)
Hot Spot Screening Levels		**0.18 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**160 a**	**5 b**	**70 b**	**5 b**	**5 b**	**5 b**	**2 b**	**0.2 a**	**0.28 a**	**0.2 a**
Intermediate Zone																
MWA-8i	11/10/2005			**23.7**	ND (0.50)	ND (0.50)		ND (0.50)	ND (0.50)		ND (0.50)			**0.59**	ND (0.100)	ND (0.100)
	3/10/2005			**185**	ND (1.00)	ND (1.00)		ND (1.00)	**1.58**		ND (1.00)			**0.138**	ND (0.100)	ND (0.100)
	6/21/2005	ND (<0.183)	ND (<0.140)	**26.6**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**0.17** J	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
	9/15/2005	ND (<0.183)	ND (<0.140)	**122**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**1.37**	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	**0.0243** J	ND (<0.00103)	ND (<0.00367)
	10/27/2005	ND (<0.366)	ND (<0.280)	**215**	ND (<0.654)	ND (<0.286)	ND (<0.318)	ND (<0.284)	**1.32**	ND (<2.00)	ND (<0.218)	ND (<0.482)	ND (<0.304)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/2005	ND (<0.183)	ND (<0.140)	**46.3**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**0.22** J	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	**0.0678** J	ND (<0.0472)	ND (<0.0472)
	12/20/2005			**24.5**	ND (0.327)	ND (0.143)		ND (0.142)	ND (0.170)		ND (0.109)			ND (0.957)	ND (0.957)	ND (0.957)
MWA-9i	11/10/2004			**36400**	ND (100)	ND (100)		ND (100)	ND (100)		ND (100)			ND (0.100)	**0.314**	ND (0.100)
	3/10/2005			**59500**	ND (250)	ND (250)		ND (250)	ND (250)		ND (250)			ND (0.500)	**1.550**	ND (0.500)
	6/22/2005	ND (<91.5)	ND (<70.0)	**65700**	ND (<164)	ND (<71.5)	ND (<79.5)	ND (<71.0)	ND (<85.0)	ND (<500)	ND (<54.5)	ND (<120)	ND (<76.0)	ND (<0.500)	**1.04**	ND (<0.500)
	9/15/2005	ND (<36.6)	ND (<28.0)	**30,500**	ND (<65.4)	ND (<28.6)	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	ND (<0.0370)	**0.625**	ND (<0.0184)
	10/26/2005	ND (<36.6)	ND (<28.0)	**35600**	ND (<65.4)	**52** J	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	ND (<0.236)	**0.94**	ND (<0.236)
	11/22/2005	ND (<36.6)	ND (<28.0)	**33700**	ND (<65.4)	**38** J	ND (<31.8)	ND (<28.4)	ND (<34.0)	ND (<200)	ND (<21.8)	ND (<48.2)	ND (<30.4)	ND (<0.0476)	**1.3**	**0.0573** J
	12/20/2005			**19700**	ND (65.4)	ND (28.6)		ND (28.4)	ND (34.0)					ND (0.0990)	**1.78**	ND (0.0990)
MWA-10i	7/29/2005	ND (<26.6)	ND (<14.0)	**12400**	ND (<32.7)	ND (<14.3)	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	ND (<10.9)	ND (<24.1)	ND (<15.2)	**0.504**	ND (<0.100)	ND (<0.100)
	10/26/2005	ND (<18.3)	ND (<14.0)	**16400**	ND (<32.7)	ND (<14.3)	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	ND (<10.9)	ND (<24.1)	ND (<15.2)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/22/2005	ND (<18.3)	ND (<14.0)	**16200**	ND (<32.7)	ND (<14.3)	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	ND (<10.9)	ND (<24.1)	ND (<15.2)	ND (<0.0476)	ND (<0.0476)	ND (<0.0476)
MWA-11i	8/1/2005	ND (<0.183)	ND (<0.140)	**0.81**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	ND (<0.170)	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	**0.0829** J	**0.593**	ND (<0.0500)
MWA-14i	7/28/2005	ND (<0.183)	ND (<0.140)	**0.51**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**0.32** J	ND (<1.00)	ND (<0.109)	ND (<0.241)	**0.16** J	**2.99**	**0.0745**	ND (<0.0500)
	10/27/2005	ND (<0.183)	ND (<0.140)	**1.04**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**0.38** J	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0472)	**0.0929** J	ND (<0.0472)
	11/21/2005	ND (<0.183)	ND (<0.140)	**0.42** J	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**0.31** J	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0495)	**0.0635** J	ND (<0.0495)
MWA-16i	8/2/2005	ND (<0.183)	ND (<0.140)	**47**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.142)	**0.78**	ND (<1.00)	ND (<0.109)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-32i	8/3/2005	ND (<0.183)	ND (<0.140)	**1.44**	ND (<0.327)	**126**	ND (<0.159)	ND (<0.142)	ND (<0.170)	**1.09** J	**0.83**	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-34i	8/3/2005	ND (<0.183)	ND (<1.40)	**1540**	ND (<3.27)	**8**	ND (<1.59)	ND (<1.42)	ND (<1.70)	ND (<10.0)	**2.3** J	ND (<2.41)	ND (<1.52)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-49i	8/3/2005	**4.75**	ND (<0.700)	**5.95**	ND (<1.64)	**597**	ND (<0.795)	ND (<0.710)	ND (<0.850)	ND (<5.00)	ND (<0.545)	ND (<1.20)	ND (<0.760)	**0.204**	ND (<0.0500)	ND (<0.0500)
MWA-51i	8/3/2005	ND (0.951)	ND (<0.700)	**845**	ND (<1.64)	**4.65**	ND (<0.795)	ND (<0.710)	ND (<0.850)	ND (<5.00)	ND (<0.545)	ND (<1.20)	ND (<0.760)	**1.21**	ND (<0.0500)	ND (<0.0500)
MWA-55i	8/3/2005	ND (<0.183)	ND (<0.140)	**34.5**	ND (<0.327)	**89.6**	ND (<0.159)	ND (<0.142)	**0.54**	**1.45** J	**0.81**	**0.31** J	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-64i	8/1/2005	ND (<3.66)	ND (<2.80)	**2320**	ND (<6.54)	**5** J	ND (<3.18)	ND (<2.84)	ND (<3.40)	ND (<20.0)	**153**	ND (<4.82)	ND (<3.04)	**0.309**	**0.207**	ND (<0.0500)
MWA-65i	8/2/2005	ND (<9.15)	ND (<7.00)	**6490**	ND (<16.4)	ND (<7.15)	ND (<7.95)	ND (<7.10)	ND (<8.50)	ND (<50.0)	ND (<5.45)	ND (<12.0)	ND (<7.60)	**48.1**	ND (<0.500)	ND (<0.500)
MWA-66i	8/2/2005	ND (<18.3)	ND (<14.0)	**12900**	ND (<32.7)	**25** J	ND (<15.9)	ND (<14.2)	ND (<17.0)	ND (<100)	ND (<10.9)	ND (<24.1)	ND (<15.2)	ND (<0.500)	ND (<0.500)	ND (<0.500)

Notes:

Hot Spot Screening Level Notes:
Cells with bold and shading exceed respective hot spot criteria
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations

Table 7
Compounds Exceeding Hot Spot Criteria - Metals in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
Shallow Zone													
MWA-2	7/28/05	ND (<0.00004)	0.0006 J	0.00076 J	ND (<0.0001)		**0.576**		0.00904	0.00024 J	**0.831**		
	10/27/05	ND (<0.000192)	0.00197	0.00113	ND (<0.000138)		**0.612**		0.00818	0.000252 J	**0.797**		
	1/13/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		ND(<0.00121)		0.0028 J	ND (<0.000553)	ND (<0.00180)		
MWA-3	7/28/05	0.00083 J	0.00019 J	ND (<0.000110)	0.00016 J		**0.226**		0.00908	0.00372	**1.51**		
	10/26/05	0.0005 J	0.00085 J	0.00127	0.00138		**0.592**		0.679	**0.5**	**0.433**		
	11/22/05	0.0002 J	0.00181	0.00359	0.00458		**0.709**		0.926	**0.754**	**0.642**		
	1/13/06	0.0041 J	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		0.0603		0.0636	0.00548 J	0.0375		
MWA-4	7/29/05	0.0011 J	0.00103	ND (<0.00007)	0.00021 J		0.00034 J		0.00167	0.00052 J	0.0117		
	10/26/05	0.00065 J	0.00086 J	0.00047 J	0.00276		0.00406		0.0963	0.00522	**0.191**		
	11/22/05	0.00049 J	ND(<0.000664)	0.00047 J	0.00156		0.0033		0.0528	0.0117	**0.11**		
	1/13/06	0.00125 J	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		0.00415 J		0.013 J	0.00343 J	0.0557		
MWA-5	7/28/05	ND (<0.00004)	0.00372	ND (<0.000110)	ND (<0.0001)		0.00563		0.00135	0.00084 J	0.00425		
	10/27/05	0.00024 J	**0.0101**	ND(<0.000377)	ND (<0.000138)		0.0149		0.028	0.00833	0.00647		
	11/21/05	0.000132 J	0.00639	ND (<0.000128)	ND (<0.0000714)		0.00878		0.0057	0.00215	0.00397		
	1/16/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		0.00629 J		0.0126 J	0.00111 J	ND (<0.00180)		
MWA-6r	05/05/05		ND(<0.000840)			0.02	**0.111**	0.0512 J				**0.37**	**0.22**
	07/12/05		0.0035 J			0.012	**0.152**	0.022				0.177	**0.19**
	08/01/05	ND (<0.0002)	0.0029 J	ND (<0.000110)	ND (<0.0001)		0.00555		0.00842	0.00049 J	0.0303		
	08/15/05		0.0019 J			0.0067	**0.137**	**0.112**				0.296	**0.209**
	09/09/05		0.0055 J			0.0070 J	0.0640 J	**0.505**				**0.351**	**0.27**
	12/07/05		0.00624			0.00512	0.0217	0.0171				**0.402**	**0.27**
	01/11/06		ND(<0.00332)			0.0013 J	0.0046 J	ND(<0.00455)				0.115	**0.121**
	02/09/06		ND(<0.00332)			0.0034 J	0.0122	ND(<0.00455)				0.125	**0.256**
MWA-15R	08/01/05	ND (<0.0002)	**0.0146**	ND (<0.000110)	ND (<0.0001)		0.0087		0.00509	0.00081 J	0.0232		
MWA-18	05/05/05		ND(<0.000840)			**0.113**	**3.22**	**0.833**				**4.09**	**0.277**
	07/14/05		0.0027 J			**0.154**	**2.45**	**0.676** [1]				**4.24**	**0.29**
	08/03/05	ND (<0.000200)	0.0023 J	ND (<0.000550)	ND (<0.000500)		0.04		0.0147	0.00036 J	**0.268**		
	08/16/05		0.0029 J			0.0103	**0.335**	**0.248**				**2.05**	**0.2**
	09/12/05		ND(<0.00900)			ND(<0.00800)	**1.1**	**1.18**				**2.43**	**0.213**
	12/08/05		**0.0166**			0.0016 J	0.0356	0.0059 J				**6.78**	**3.9**
	01/10/06		ND(<0.00664)			0.0020 J	0.0477	0.03				**3.25**	**1.92**
	02/13/06		0.0041 J			0.0027 J	0.0089	ND(<0.00455)				**30.9**	**37.6**
MWA-19	05/06/05		**0.0109** J			0.0469	**2.82**	**2.68**				**1.25**	**0.0754**
	07/13/05		0.00665			0.0275	**1.92**	**0.159**				**1.03**	**0.0733**
	08/03/05	0.00025 J	0.0074	ND (<0.000550)	ND (<0.000500)		0.0235		0.107	0.00116	**0.129**		
	08/17/05		ND(<0.00450)			0.0124	**0.864**	**0.407**				**1.49**	**0.41**
	09/13/05		ND(<0.00900)			0.0090 J	**1.3**	**0.824**				**4.44**	**0.17**
	12/08/05		**0.0154**			0.0428	**0.226**	0.101				**3.52**	**0.111**
	01/09/06		ND(<0.00664)			0.0116	0.052	0.0332				0.163	**0.0701**
	02/10/06		ND(<0.00332)			0.00775	0.0296	0.0121				**0.3640** B	**0.126**
MWA-20	05/09/05		**0.211**			0.0137	**0.417**	**0.436**				**0.707**	**0.106**
	07/13/05		**0.183**			0.00918	**0.713**	0.0741				**0.51**	0.0496
	08/03/05	0.00035 J	**0.242**	ND (<0.000550)	ND (<0.000500)		0.0114		0.0121	0.00082 J	0.0843		
	08/15/05		**0.24**			0.00396	**0.815**	**0.676**				**0.74**	**0.0745**
	09/07/05		**0.256**			ND(<0.00400)	**0.858**	**0.573**				**0.858**	**0.0551**
	12/12/05		**0.223**			0.00826	0.03	0.0097 J				**0.781**	**0.0574**
	01/10/06		**0.315**			**0.109**	**0.206**	0.0525				**0.86**	0.0191
	02/09/06		**0.109**			0.00965	0.0786	0.0438				**0.409**	0.048
MWA-22	08/01/05	0.00065 J	**0.522**	0.00019 J	ND (<0.0001)		0.0434		0.0223	0.00591	**0.15**		
MWA-23	05/04/05		**0.0285**			0.0008 J	0.0008 J	ND(<0.00455)				**6.67**	**2.52**
	07/12/05		**0.0271**			ND(0.00360)	ND(<0.000720)	ND(<0.00455)				**5.87**	**2.3**
	08/11/05		**0.024**			0.0004 J	0.0006 J	ND(<0.00455)				**7.12**	**2.52**
	09/06/05		**0.025**			ND(<0.0000800)	0.0004 J	ND(<0.00455)				**7.39**	**2.65**
	12/07/05		**0.0288**			ND(<0.000605)	ND(<0.000605)	ND(<0.00455)				**7.48**	**2.85**
	01/05/06		**0.0304**			0.0006 J	0.0006 J	ND(<0.00455)				**7.18**	**2.79**
	02/08/06		**0.023**			ND(<0.000605)	ND(<0.000605)	ND(<0.00455)				**5.5**	**2.27**
MWA-24	05/05/05		**2.73**			**0.161**	**0.177**	0.0528 J				**3.56**	**0.154**
	07/12/05		**2.37**			**0.167**	**0.185**	0.0541 J				**4.07**	**0.217**
	08/11/05		**2.26**			0.0649	**0.152**	0.0355				**5.05**	**0.238**
	09/07/05		**2.23**			**0.116**	**0.178**	0.0203				**6.78**	**0.279**
	12/07/05		**2.88**			**0.14**	**0.137**	0.0635				**5.09**	**0.25**
	01/11/06		**1.99**			**0.124**	**0.118**	0.0319				**3.98**	**0.257**
	02/08/06		**1.79**			**0.108**	**0.113**	0.0306				**3.7**	**0.212**

Table 7
Compounds Exceeding Hot Spot Criteria - Metals in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
MWA-25	05/10/05		0.0675			5.13	4.08	4.95				0.0180 J	3.52
	07/19/05		0.0374			0.185	0.276	0.146				0.6590 J	2.78
	08/11/05		0.0785			0.134	0.344	0.111				ND(<0.0480)	1.22
	09/08/05		0.055			0.158	0.306	NA				ND(<0.0480)	3.02
	9/23/2005[2]		NA			NA	NA	0.222				NA	NA
	12/14/05		0.144			0.278	0.412	0.0684				0.0919 J	1.17
	01/11/06		0.0192			0.133	0.194	0.0462				0.119	3.52
	02/14/06		0.00775			0.106	0.133	0.0541				0.0963 J	24.7
MWA-26	05/09/05		0.0143			0.355	0.15	0.152				7.52	0.498
	07/15/05		0.00661			0.085	0.256	0.143				0.266	0.16
	08/12/05		0.0114			0.132	0.309	0.0982				0.576	0.19
	09/07/05		0.0150 J			0.188	0.533	0.289				0.661	0.189
	12/08/05		0.0296			0.0027 J	0.00856	0.0029 J				0.463	0.0739
	01/05/06		0.033			0.0421	0.0525	0.0199				0.47	0.165
	02/08/06		0.0146			0.0026 J	0.029	0.0111				0.184	0.0295
MWA-27	05/09/05		0.276			1.49	2.08	1.6				0.199	0.0637
	07/19/05		0.124			0.492	0.732	0.123				0.0300 J	0.0383
	08/16/05		0.733			0.568	1.04	0.611				0.155	0.0873
	09/09/05		0.305			0.515	0.983	0.802				0.0963 J	0.0389
	12/12/05		0.0794			0.0202	0.0305	0.0050 J				0.0361 J	0.0608
	01/16/06		0.0586			0.0295	0.0387	0.0145				0.0184 J	0.123
	02/13/06		0.0213			0.0038 J	0.0053	ND(<0.00455)				0.216	0.656
MWA-29	05/09/05		ND(<0.00420)			ND(<0.00720)	0.022	0.0141				0.0123 J	0.18
	07/18/05		ND(<0.0208)			ND(<0.00360)	0.0056	ND(<0.00455)				0.0737 J	0.269
	08/12/05		ND(<0.000450)			0.0046 J	0.0569	ND(<0.00455)				0.0564 J	0.405
	09/12/05		ND(<0.00900)			0.0110 J	0.0940 J	0.107				0.1030 J	0.478
	12/08/05		0.0116			0.2	0.00214	0.186				8.69	0.216
	01/06/06		ND(<0.00664)			ND(<0.00121)	0.0344	0.0141				11.5	0.692
	02/08/06		0.0047			0.00321	0.0338	0.0195				13.6	0.751
MWA-30	05/06/05		ND(<0.0807)			0.0539	2.98	3.04				3.36	0.85
	07/18/05		ND(<0.00420)			ND(<0.00720)	0.0187	0.013				5.84	1.35
	08/03/05	0.0017 J	0.021 J	ND (<0.0110)	ND (<0.0100)		0.583		0.022 J	0.0472	0.0527		
	08/17/05		0.0192 J			0.0193 J	20.5	6.27				0.0626 J	2.1
	09/07/05		NA			NA	NA	NA				NA	NA
	12/07/05		NA			NA	NA	NA				NA	NA
	01/06/06		ND(<0.0332)			0.0594	0.181	0.0328				7.66	0.815
	02/10/06		0.0035 J			0.061	0.081	ND(<0.00455)				2.98 B	1.75
MWA-33	05/05/05		0.0896			0.0234	0.0476	0.0446				1.47	0.0336
	07/14/05		0.0767			0.0514	0.0720	0.0518				0.957	0.0663
	08/11/05		0.0664			0.0384	0.0565	0.0362				0.942	0.021
	09/07/05		0.0655			0.0125 J	0.0325 J	0.0297				0.756	0.0214
	12/08/05		0.0746			0.0409	0.0333	0.0175				1.65	0.0516
	01/11/06		0.0652			0.0154	0.0041 J	0.0087 J				0.691	0.0174
	02/08/06		0.0661			0.0156	0.0293	0.0148				0.889	0.023
MWA-35	05/10/05		0.133			0.24	0.316	0.222				1	0.155
	07/15/05		0.0973			0.147	0.41	0.0318				0.159	0.0477
	08/11/05		0.0823			0.135	0.273	0.0905				0.378	0.0889
	09/08/05		0.102			0.108	0.407	NA				0.536	0.149
	9/23/2005[2]		NA			NA	NA	0.303				NA	NA
	12/14/05		0.108			0.0911	0.146	ND(<0.0455)				0.371	0.0532
	01/12/06		0.0136			0.15	0.21	0.0887				1.74	0.857
	02/14/06		0.0108			0.0757	0.0985	0.15				0.147	0.478
MWA-36	05/10/05		0.058			7.12	6.45	6.34				0.162	0.456
	07/15/05		0.0582			0.126	0.175	0.12				0.173	0.199
	08/12/05		0.0274			0.036	0.102	0.0363				0.0530 J	0.108
	09/07/05		0.0150 J			0.0310 J	0.0420 J	0.0276				ND(<0.0480)	0.063
	12/14/05		0.0962			0.18	0.272	0.0759				0.0760 J	0.121
	01/11/06		0.0282			0.0298	0.0123 J	0.0098 J				0.0406 J	0.182
	02/13/06		0.008			0.114	0.117	0.0655				0.0431 J	0.602

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Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
MWA-37	05/10/05		**0.196**			**3.58**	**3.33**	**2.81**				0.115	**0.284**
	07/15/05		**0.172**			**3.18**	**2.46**	**0.239**				0.0829 J	**0.555**
	08/11/05		**0.12**			**4.02**	**4.51**	**2.87**				0.0521 J	**0.424**
	09/08/05		**0.11**			**3.88**	**4.93**	NA				ND(<0.0480)	**0.492**
	9/22/2005[2]		NA			NA	NA	**1.83**				NA	NA
	12/14/05		**0.0765**			**1.66**	**2.48**	**0.319**				0.192	**0.532**
	01/11/06		**0.0539**			**0.166**	**0.215**	0.0616				0.164	**1.09**
	02/14/06		**0.0168**			0.0199	0.028	0.0142				0.0333 J	**41.2**
MWA-38	05/09/05		**0.0997**			**9.27**	**8.07**	**9.16**				0.106	**0.828**
	07/14/05		**0.152**			**2.75**	**2.35**	**2.22**				**0.454**	0.0437
	08/12/05		**0.0806**			**1.38**	**1.64**	**1.17**				0.252	0.0325
	09/07/05		**0.0545**			**2.19**	**2.52**	**2.1**				0.257	0.0344
	12/12/05		**0.0738**			**0.616**	**0.47**	**0.398**				0.147	0.0416
	01/12/06		**0.0242**			**0.127**	**0.194**	**0.114**				0.112	**6.78**
	02/13/06		**0.0968**			0.0909	**0.163**	0.0726				0.241	**0.134**
MWA-39	05/05/05		**0.0115**			0.00147	0.00506	ND(<0.00455)				0.116	0.0141
	07/12/05		0.00912			ND(<0.00360)	0.00376	ND(<0.00455)				0.0858 J	0.0147
	08/11/05		0.0066			0.0010 J	0.00381	ND(<0.00455)				0.0672 J	0.0096 J
	09/06/05		0.00609			0.0006 J	0.00213	ND(<0.00455)				0.1020 J	0.0127
	12/07/05		0.00898			ND(<0.000605)	0.0011 J	ND(<0.00455)				0.0904 J	0.0105
	01/05/06		**0.011**			0.00132	0.00265	ND(<0.00455)				0.134	0.0106
	02/08/06		**0.0122**			ND(<0.000605)	0.0017 J	ND(<0.00455)				0.189	0.0098 J
MWA-40	05/05/05		**0.0601**			0.00364	0.0085	ND(<0.00455)				**0.387**	**0.0521**
	07/12/05		**0.0293**			ND(<0.00360)	0.0054	ND(<0.00455)				0.173	**0.0509**
	08/11/05		**0.0212**			0.0025	0.00477	ND(<0.00455)				0.163	**0.0513**
	09/07/05		**0.0260** J			ND(<0.00400)	ND(<0.00750)	0.0048 J				0.208	0.0498
	12/07/05		**0.0254**			0.0013 J	0.0026 J	ND(<0.00455)				0.154	0.0411
	01/11/06		**0.037**			ND(<0.000605)	ND(<0.00121)	ND(<0.00455)				0.198	**0.05**
	02/08/06		**0.0808**			0.0039 J	0.00776	ND(<0.00455)				**0.597**	**0.14**
MWA-41	05/09/05		ND(<0.00420)			ND(<0.00720)	ND(<0.00720)	ND(<0.00455)				0.0144 J	**1.19**
	07/15/05		ND(<0.00210)			ND(<0.00360)	ND(<0.00360)	ND(<0.00455)				0.0076 J	**0.835**
	08/12/05		0.0003 J			ND(<0.0000800)	ND(<0.00150)	ND(<0.00455)				ND(<0.0480)	**1.15**
	09/07/05		ND(<0.00450)			ND(<0.00400)	ND(<0.00750)	ND(<0.00455)				ND(<0.0480)	**1.32**
	12/08/05		ND(<0.000664)			ND(<0.000605)	ND(<0.000121)	0.0006 J				0.0046 J	**0.509**
	01/05/06		ND(<0.000664)			0.0006 J	0.0006 J	ND(<0.00455)				0.0080 J	**1.6**
	02/08/06		ND(<0.000664)			0.0002 J	0.0012 J	ND(<0.00455)				0.0092 J	**0.0642**
MWA-42	05/05/05		**0.811**			0.0902	**0.104**	0.0562				**7.23**	**0.668**
	07/12/05		**0.113**			0.00453	0.00872	ND(<0.00455)				0.2000 J	0.0479
	08/02/05	ND (<0.000200)	**0.101**	ND (<0.000110)	ND (<0.0001)		0.00409		0.001	0.00081 J	0.0191		
	08/15/05		**0.123**			0.00312	0.025	0.0119				**0.929**	**0.139**
	09/08/05		**0.0160** J			0.0165 J	0.0515	NA				**4.56**	**0.201**
	9/23/2005[2]		NA			NA	NA	0.0467				NA	NA
	12/07/05		**1.15**			0.0628	0.0726	0.0277				**4.59**	**0.364**
	01/11/06		**0.712**			0.035	0.0219	0.0058 J				**3.76**	**0.158**
	02/09/06		**0.0153**			0.0083	0.00907	0.0063 J				0.107	**0.279**
MWA-43	05/09/05		ND(<0.00420)			ND(<0.00720)	ND(<0.00720)	ND(<0.00455)				0.0130 J	**0.132**
	07/18/05		ND(<0.00210)			ND(<0.00360)	ND(<0.00360)	ND(<0.00455)				0.0576 J	**0.262**
	08/12/05		ND(<0.00450)			0.0010 J	0.0023 J	ND(<0.00455)				ND(<0.0480)	**0.557**
	09/07/05		ND(<0.00450)			0.0040 J	ND(<0.00750)	ND(<0.00455)				ND(<0.0480)	**0.233**
	12/08/05		0.00434			ND(<0.000605)	0.0009 J	0.0010 J				0.0449 J	**0.0547**
	01/05/06		0.00582			0.00135	0.00307	ND(<0.00455)				0.0455 J	0.0404
	02/08/06		0.00283			0.0007 J	0.0014 J	ND(<0.00455)				0.0933 J	**0.0556**
MWA-44	05/06/05		**0.21**			0.0709	0.0956	0.0885 J				**14.5**	**0.161**
	07/13/05		**0.0524**			0.0189	0.0628	0.0223				**1.46**	0.0425
	08/03/05	0.0009 J	**0.155**	ND (<0.00550)	**0.005** J		0.043 J		0.022 J	0.00149	0.0224		
	08/16/05		**0.155**			0.019	0.0718	0.0333				**0.93**	0.0207
	09/09/05		**0.197**			0.0150 J	0.0570 J	0.0425				**0.833**	0.021
	12/09/05		**0.122**			0.0144	0.028	0.0209				**0.691**	0.0244
	01/09/06		ND(<0.00664)			0.0066 J	0.026	0.0148				**1.13**	**0.52**
	02/10/06		**0.0822**			0.016	0.0236	0.0080 J				**1.70** B	**0.285**

Table 7
Compounds Exceeding Hot Spot Criteria - Metals in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
MWA-45	05/10/05		**0.123**			0.0183	0.0412	0.0771 J				**0.555**	0.0237
	07/13/05		**0.082**			0.043	0.0964	0.0228				**0.394**	0.032
	08/03/05	0.00055 J	**0.0828**	ND (<0.000550)	ND (<0.000500)		0.0359		0.0206	0.00063 J	0.0146		
	08/16/05		**0.0814**			0.0162	0.0511	0.0244				**0.731**	**0.112**
	09/09/05		**0.0785**			0.0135 J	0.0510 J	0.0403				**1.62**	**0.0601**
	12/12/05		**0.0574**			0.0622	0.0952	0.0168				**4.72**	**0.185**
	01/10/06		**0.103**			0.0762	0.0978	0.0325				**2.22**	**0.215**
	02/09/06		**0.0942**			0.0992	**0.148**	0.0418				**3.15**	**0.202**
MWA-46	05/06/05		**0.0451** J			0.0562	0.0683	0.0495 J				**4.62**	**0.443**
	07/14/05		**0.0381**			0.0449	0.072	0.0411				**3.61**	**0.269**
	08/04/05	0.0005 J	**0.035**	ND (<0.000550)	0.0005 J		0.0248		0.394	0.00349	**0.101**		
	08/16/05		**0.048**			0.0168	0.0652	0.0203				**3.78**	**0.349**
	09/13/05		**0.0600** J			ND(<0.00800)	0.0580 J	0.0433				**3.42**	**0.28**
	12/09/05		**0.0419**			0.0126	0.0252	0.0165				**1.29**	**0.154**
	01/09/06		0.0080 J			0.0028 J	0.0097	ND(<0.00455)				0.0770 J	0.0033 J
	02/13/06		**0.0157**			0.0035 J	0.0154	0.0051 J				0.269	0.0209
MWA-47	05/06/05		ND(<0.00420)			0.0125	ND(<0.00720)	ND(<0.00455)				0.0131 J	**0.171**
	07/19/05		ND(<0.0259)			0.0080 J	0.0049 J	ND(<0.0400)				0.0170 J	**0.139**
	08/17/05		ND(<0.00450)			0.00935	ND(<0.0150)	0.0046 J				ND(<0.0480)	**0.142**
	09/09/05		ND(<0.00450)			0.0255 J	ND(<0.0150)	ND(<0.00455)				ND(<0.0480)	0.0046 J
	12/12/05		**0.0121**			0.0083	0.0144	ND(<0.00455)				0.0143 J	**0.12**
	01/06/06		ND(<0.00664)			0.0020 J	0.057	0.0143				0.125	0.0207
	02/10/06		ND(<0.00332)			0.0044 J	0.0059	ND(<0.00455)				0.0344 J	**0.226**
MWA-60	08/02/05	ND (<0.0002)	0.00512	ND (<0.000110)	ND (<0.0001)		0.00305		0.0011	0.0006 J	0.0049		
	10/27/05	0.00033 J	0.00729	ND (<0.000377)	ND (<0.000138)		0.00144		0.0046	ND (<0.000224)	0.0056		
	11/21/05	0.000128 J	0.00266	ND (<0.000128)	ND (<0.0000714)		0.00384		0.0035	0.0005 J	0.0084		
	01/16/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		ND(<0.00121)		0.0027 J	0.0006 J	ND (<0.00180)		
MWA-61	08/01/05	ND (<0.0002)	0.00134	0.00026 J	0.00035 J		0.00062 J		0.00317	ND (<0.00008)	0.0411		
	10/26/05	ND (<0.000192)	0.00065 J	0.00345	0.00086 J		0.0109		0.133	0.00156	**0.1580**		
	11/21/05	0.000134 J	0.00191	**0.0041** J	0.000888 J		0.0083		0.109	0.00129	**0.1230**		
	01/13/06	ND (<0.00102)	ND (<0.00664)	ND (<0.00128)	0.000917 J		ND (<0.00121)		0.0107 J	ND (<0.000553)	0.0487		
MWA-62	08/02/05	**0.0113** J	0.0008 J	ND (<0.000110)	0.00013 J		0.00083 J		0.00375	**0.0876**	0.0188		
	10/25/05	0.0047	0.000936 J	ND (<0.000377)	0.000153 J		ND (<0.000720)		0.0109	**0.773**	0.0356		
	11/22/05	0.00387	0.00141	ND (<0.000128)	0.00012 J		0.0005 J		0.0102	**0.636**	0.0339		
	01/16/06	0.00208 J	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		0.00233 J		0.0108 J	**0.0666**	0.0868		
MWA-63	07/27/05	ND (<0.00004)	ND (<0.00009)	ND (<0.000110)	ND (<0.0001)		0.00174		0.00144	0.0002 J	0.0133		
	10/27/05	ND (<0.000192)	0.00093 J	ND (<0.000377)	ND (<0.000138)		ND (<0.000720)		0.00155 J	ND (<0.000224)	0.0106		
	11/21/05	ND (<0.000102)	ND (<0.000664)	ND (<0.000128)	ND (<0.0000714)		0.000164 J		0.00267	0.000388 J	0.00169 J		
MWA-69	08/02/05	0.00025 J	0.00632	ND (<0.000110)	0.00012 J		0.00166		0.000264	0.0008 J	0.0142		
	10/25/05	ND (<0.000192)	0.0013	**0.00657**	0.00493		0.0856		0.251	**0.0378**	**0.227**		
	11/22/05	0.00013 J	0.0086	**0.00655**	0.00397		0.0764		0.106	**0.0634**	**0.171**		
	01/16/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)		ND(<0.00121)		ND (<0.00133)	0.000655 J	0.026		
NMP-3D	08/01/05	0.00025 J	0.00056 J	0.00026 J	ND(<0.0001)		0.0102		0.0412	**0.0412**	0.0357		
NMP-4D	07/29/05	ND (<0.0009)	0.00094 J	ND (<0.00007)	ND (<0.000140)		0.00151		0.00604	0.00041 J	0.0181		
PMP-4	07/29/05	ND (<0.0009)	0.00083 J	0.00015 J	ND (<0.000140)		0.00108		0.0143	0.00075 J	0.00855		
	10/27/05	ND (<0.000192)	0.00203	ND (<0.000377)	ND (<0.000138)		0.00114		0.0217	0.000248 J	0.00637		
	11/22/05	ND (<0.000102)	0.00151	ND (<0.000128)	ND (<0.0000714)		0.00079 J		0.0243	0.0016	0.00745		
PMP-5	07/29/05	ND (<0.0009)	0.00084 J	0.00134	0.00035 J		0.0115		0.2	0.00233	**0.11**		
	10/27/05	ND (<0.000192)	0.00124	0.00084 J	ND (<0.000138)		0.0161		0.26	0.00154	0.0924		
	11/22/05	ND (<0.000102)	0.00276	0.0011	0.00028 J		0.017		0.24	0.00315	0.0837		
PMP-6	07/29/05	ND (<0.0009)	0.00056 J	0.00043 J	0.00023 J		0.00235		0.0164	0.00107	0.0407		
	10/27/05	ND (<0.000192)	0.00103	ND (<0.000377)	ND (<0.000138)		0.00301		0.0273	0.00169	0.0343		
	11/22/05	ND (<0.000102)	0.00328	0.00034 J	0.00012 J		0.00178		0.0222	0.00486	0.0274		
Shallow Intermediate Zone													
MWA-17si	07/29/05	ND (<0.0009)	0.00227	0.00123	0.0004 J		**3.19**		0.297	**0.0162**	**1.95**		
	10/26/05	0.00041 J	0.00316	**0.0089** J	ND (<0.000276)		**3.07**		**4.03**	**0.104**	**1.02**		
	11/21/05	ND (<0.000512)	**0.0127**	**0.00761**	0.00113 J		**2.22**		**4.13**	**0.0864**	**0.563**		
	01/13/06	ND (<0.00102)	ND(<0.00664)	0.0019 J	0.00104 J		**0.852**		**1.02**	**0.0441**	**0.263**		
MWA-67si	08/01/05	ND(<0.0002)	0.00263	**0.00421**	0.00167		0.0206		0.247	0.00291	**0.296**		
	10/27/05	ND (<0.000192)	0.0059	**0.00457**	0.00118		0.0301		ND (<0.000788)	0.000734 J	**0.361**		
	11/21/05	ND (<0.000102)	0.00756	**0.00451** J	0.00141		0.0204		0.245	0.000635 J	**0.289**		
	01/13/06	ND (<0.00102)	0.00912	**0.0042** J	0.00204 J		0.0202		0.328	0.00123 J	**0.343**		

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Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
MWA-68si	08/02/05	ND(<0.0002)	**0.0141**	ND (<0.000110)	ND (<0.000100)		0.00142		0.00159	0.0008 J	0.0214		
	10/25/05	0.0003 J	**0.0242**	**0.00963**	**0.00886**		**0.128**		**1.06**	**0.0638**	**0.145**		
	11/22/05	0.0002 J	**0.0254**	**0.011**	**0.00585**		**0.172**		0.957	0.00324	**0.15**		
	01/13/06	ND (<0.00102)	**0.019**	0.00309 J	0.00126 J		0.037		0.309	0.000923 J	0.0684		
Intermediate Zone													
MWA-8i	7/28/05	ND (<0.00004)	**0.0355**	0.00121	ND (<0.0001)		0.0162		0.00243	0.00363	0.0754		
	10/27/05	0.00074 J	**0.0947**	0.0017	ND (<0.000138)		**0.15**		0.0722	0.0124	**0.199**		
	11/21/05	0.000438 J	**0.0626**	0.00105 J	0.000156 J		0.0594		0.0362	0.00692	0.0608		
MWA-9i	7/29/05	0.0009 J	0.0036 J	0.00016 J	ND (<0.000140)		**0.401**		0.00232	0.00046 J	**5.98**		
	10/26/05	0.00051 J	**0.0746**	0.00054 J	ND (<0.000138)		**0.575**		0.0276	0.00153	**1.88**		
	11/22/05	ND (<0.000512)	**0.0234**	ND (<0.000640)	ND (<0.000357)		0.0866		0.0122	0.00105 J	**2.64**		
MWA-10i	7/29/05	ND (<0.0009)	**0.0125**	ND (<0.00007)	ND (<0.000140)		0.00233		0.00146	0.0003 J	0.0257		
	10/26/05	0.00064 J	0.00184	ND (<0.000377)	ND (<0.000138)		0.0305		0.00422	ND (<0.000224)	**0.947**		
	11/22/05	0.00018 J	**0.0147**	ND (<0.000128)	ND (<0.0000714)		0.0108		0.00165 J	0.00045 J	0.0155		
MWA-11i	8/1/05	ND (<0.0002)	**0.362**	ND (<0.000110)	ND (<0.0001)		0.00033 J		0.0013	0.00024 J	0.0144		
MWA-14i	7/28/05	ND (<0.00004)	**0.359**	ND (<0.000110)	ND (<0.0001)		**0.142**		0.00278	0.00029 J	**0.119**		
	10/27/05	ND (<0.000192)	**0.0597**	ND (<0.000377)	ND (<0.000138)		0.00593		0.0028	0.000279 J	**0.112**		
	11/21/05	0.000108 J	**0.035**	ND (<0.000128)	ND (<0.0000714)		0.0021		0.000849 J	0.000512 J	0.0258		
MWA-16i	05/05/05		0.00433			0.0421	**1.38**	**0.662**				**10.4**	**1.27**
	07/13/05		**0.0164**			0.0468	**1.02**	**0.395**				**5.7**	**1.23**
	08/02/05	0.00035 J	0.0067	0.00045 J	0.00071 J		0.0107		0.0303	0.00188	**0.261**		
	08/15/05		0.00482			0.0101	**0.921**	**0.378**				**5.58**	**1.23**
	09/09/05		0.0055 J			0.0150 J	**0.552**	**0.591**				**12.9**	**1.67**
	12/07/05		**0.0138**			0.0278	0.0579	0.0337				**16.9**	**3.23**
	01/11/06		**0.01**			0.0265	**0.313**	0.0828				**15**	**2.86**
	02/09/06		0.00895			0.0186	0.0473	0.0175				**15.3**	**4.18**
MWA-32i	05/06/05		ND(<0.00840)			0.0888	**0.247**	**0.176**				0.203	**0.166**
	07/18/05		ND(<0.0228)			0.0963	**0.349**	**0.119**				0.0894 J	**0.0884**
	08/03/05	0.0009 J	0.007 J	ND (<0.00550)	ND (<0.00500)		**0.148**		0.0355 J	0.0014	0.0192		
	08/17/05		ND(<0.00450)			0.0728	**0.25**	**0.555**				0.0646 J	**0.108**
	09/14/05		**0.0300** J			0.0810 J	**0.421**	**0.386**				ND(<0.240)	**0.148**
	12/09/05		**0.0912**			0.0166	0.0586	0.0144				ND(<0.0337)	0.0218 J
	01/06/06		**0.015**			0.0031 J	0.0389	0.0066 J				0.112	**0.0742**
	02/10/06		**0.0238**			0.0024 J	0.0229	0.0067 J				**4.08** B	**2.27**
MWA-34i	05/06/05		**0.504**			0.049	0.0567	0.0358				**1.26**	0.0089 J
	07/18/05		**0.524**			0.0664	**0.101**	0.0148				**1.58**	0.0069 J
	08/03/05	0.00115 J	**0.425**	ND (<0.000550)	ND (<0.000500)		0.0424		0.00675	0.00064 J	0.0355		
	08/17/05		**0.534**			0.0123	0.0250 J	**0.192**				**0.616**	**0.173**
	09/13/05		**0.417**			0.0210 J	0.0420 J	0.0269				**0.6600** J	ND(<0.0100)
	12/09/05		**0.706**			0.0318	0.0328	0.0302				**1.34**	0.0189
	01/09/06		**0.503**			0.0333	0.028	0.0135				**1.13**	0.0117
	02/10/06		**0.361**			0.0297	0.0403	0.0123				**1.18** B	0.0073 J
MWA-48i	05/10/05		ND(<0.0423)			0.0174	0.0222	0.0102				0.0323 J	**16.1**
	07/15/05		ND(<0.0224)			0.0173	0.0183	0.0079 J				0.0791 J	**17.8**
	08/11/05		ND(<0.00450)			**0.83**	0.0235	0.0050 J				ND(<0.0480)	**9.58**
	09/08/05		ND(<0.00450)			0.0415 J	0.0135 J	NA				ND(<0.0480)	**6.93**
	9/22/2005[2]		NA			NA	NA	0.0151				NA	NA
	12/14/05		ND(<0.00664)			0.0323	0.0463	0.0046 J				0.0966 J	**14.8**
	01/12/06		ND(<0.00332)			0.0224	0.0275	0.0068 J				0.0366 J	**8.47**
	02/14/06		ND(<0.00332)			0.0198	0.0237	ND(<0.00455)				0.0600 J	**18.4**
MWA-49i	05/06/05		ND(<0.00840)			0.0098 J	ND(<0.00720)	ND(<0.00455)				0.0247 J	**2.29**
	07/14/05		ND(<0.0271)			0.00624	0.00775	ND(<0.00455)				0.0237 J	**1.92**
	08/03/05	ND (<0.000200)	ND (<0.00450)	ND (<0.00550)	ND (<0.00500)		**0.122**		0.0485 J	0.00042 J	0.0307		
	08/16/05		ND(<0.00450)			0.0116	0.00855	ND(<0.00455)				0.0674 J	**2.05**
	09/13/05		ND(<0.00900)			0.0150 J	ND(<0.0150)	ND(<0.00455)				ND(<0.240)	**2.36**
	12/09/05		**0.0122**			ND(<0.000605)	0.0047 J	ND(<0.00455)				ND(<0.337)	**2.31**
	01/09/06		ND(<0.00664)			0.0039 J	0.0025 J	ND(<0.00455)				0.0156 J	**1.8**
	02/13/06		ND(<0.00332)			0.0039 J	0.00505	ND(<0.00455)				0.0237 J	**1.84**

Table 7
Compounds Exceeding Hot Spot Criteria - Metals in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
MWA-50i	05/06/05		ND(<0.00420)			0.00199	ND(<0.00720)	ND(<0.00455)				0.0144 J	**0.056**
	07/19/05		ND(<0.0235)			ND(<0.00720)	ND(<0.00720)	ND(<0.0200)				0.0171 J	**0.112**
	08/17/05		ND(<0.00450)			0.0030 J	ND(<0.00750)	ND(<0.00455)				ND(<0.0480)	**0.171**
	09/12/05		ND(<0.00900)			0.0110 J	ND(<0.0150)	ND(<0.00455)				ND(<0.0480)	**0.114**
	12/12/05		0.00948			ND(<0.000605)	0.0008 J	ND(<0.00455)				0.0126 J	**0.0744**
	01/06/06		ND(<0.00664)			0.0066 J	0.0104	ND(<0.00455)				0.0214 J	**0.0828**
	02/09/06		ND(<0.00332)			0.0009 J	0.0014 J	ND(<0.00455)				0.0198 J	**0.109**
MWA-51i	05/05/05		**1.33**			0.0832	**0.105**	0.0485				**5.02**	**0.195**
	07/14/05		**1.21**			0.0872	**0.11**	0.0631				**4.78**	**0.359**
	08/03/05	0.00055 J	**0.962**	ND (<0.00550)	0.005 J		**0.1**		0.104	0.00183	**0.187**		
	08/16/05		**1.05**			0.0186	0.089	0.0243				**4.16**	**0.219**
	09/13/05		**1.36**			0.0110 J	0.0510 J	0.0468				**3.35**	**0.168**
	12/08/05		**1.31**			0.069	0.0816	0.022				**4.71**	**0.167**
	01/10/06		**0.455**			0.0259	0.0375	ND(<0.00455)				**1.71**	**0.207**
	02/13/06		**0.4**			0.0431	0.0526	0.0107				**3.24**	**0.504**
MWA-52i	05/09/05		ND(<0.00420)			ND(<0.00720)	ND(<0.00720)	ND(<0.00455)				0.0233 J	**0.182**
	07/19/05		ND(<0.0275)			ND(<0.00720)	ND(<0.00720)	ND(<0.0200)				0.234	**0.2**
	08/16/05		0.0024 J			0.0051	0.00585	ND(<0.00455)				**1.43**	**0.23**
	09/09/05		ND(<0.00450)			0.0080 J	ND(<0.0150)	0.0056 J				**1.09**	**0.248**
	12/12/05		0.0084			ND(<0.000605)	0.0015 J	ND(<0.00455)				**0.323**	**0.303**
	01/06/06		ND(<0.00664)			ND(<0.00121)	ND(<0.00121)	ND(<0.00455)				0.131	**0.17**
	02/13/06		ND(<0.00332)			ND(<0.000605)	0.0010 J	ND(<0.00455)				**1.05**	**1.55**
MWA-53i	05/09/05		ND(<0.00420)			ND(<0.00720)	ND(<0.00720)	ND(<0.00455)				0.0113 J	**0.136**
	07/18/05		ND(0.0193)			ND(<0.00360)	ND(<0.00360)	ND(<0.00455)				0.0304 J	**0.166**
	08/12/05		ND(<0.000450)			0.0032 J	0.0035 J	ND(<0.00455)				ND(<0.0480)	**0.276**
	09/12/05		**0.0160** J			0.0230 J	ND(<0.0150)	ND(<0.00455)				ND(<0.0480)	**0.406**
	12/08/05		**0.0141**			ND(<0.00121)	0.00135	0.0011 J				**1.35**	**0.314**
	01/06/06		ND(<0.00664)			ND(<0.00121)	ND(<0.00121)	ND(<0.00455)				**2.22**	**0.238**
	02/08/06		0.0008 J			0.0004 J	0.0006 J	ND(<0.00455)				**0.663**	**0.303**
MWA-54i	05/05/05		**0.238**			0.0696	0.0966	0.0548				**2.96**	**0.152**
	07/12/05		**0.326**			ND(<0.00360)	ND(<0.00360)	ND(<0.136)				0.0105 J	0.0020 J
	08/15/05		**0.0783**			0.00524	0.0076 J	ND(<0.00455)				0.0949 J	**0.0629**
	09/08/05		**0.296**			0.0110 J	ND(<0.00750)	NA				ND(<0.0480)	**0.0937**
	9/23/2005[2]		NA			NA	NA	0.0063 J				NA	NA
	12/07/05		**0.0687**			0.0138	0.0182	0.0072 J				0.0632 J	**0.551**
	01/11/06		**0.145**			0.02	0.0274	0.0113				0.204	**0.245**
	02/09/06		**0.148**			0.0187	0.0318	0.0113				0.0465 J	**0.298**
MWA-55i	05/09/05		**0.106**			0.0673	0.0844	0.0259				0.0561 J	0.0075 J
	07/13/05		**0.0796**			**0.127**	**0.154**	0.0345				0.0563 J	0.0054 J
	08/03/05	0.00095 J	**0.0958**	ND (<0.000550)	ND (<0.000500)		**0.137**		0.0224	0.00061 J	0.0107		
	08/15/05		**0.0834**			0.00691	**0.117**	0.0234				0.0699 J	**0.698**
	09/12/05		**0.0820** J			0.0770 J	0.0890 J	0.0325				ND(<0.0480)	0.0086 J
	12/12/05		**0.13**			**0.127**	**0.164**	0.0293				0.1120 J	ND(<0.00640)
	01/12/06		0.005			0.0138	0.0184	0.0106				**0.313**	**1.74**
	02/09/06		0.0041 J			0.0636	0.0752	0.0242				**0.302**	**0.788**
MWA-64i	08/01/05	ND (<0.0002)	**0.0726** J	0.0003 J	ND (<0.0001)		0.0103		0.00073 J	0.0016	0.0239		
MWA-65i	08/02/05	ND (<0.0002)	0.0012 J	ND (<0.000110)	0.0001 J		0.0297		0.00119	0.00094 J	0.00732		
MWA-66i	08/02/05	ND (<0.0002)	0.0008 J	0.0003 J	0.0012		0.00131		0.00191	0.001	0.0416		
Deep Zone													
MWA-28i(d)	05/10/05		**0.454**			ND(<0.00720)	ND(<0.00720)	0.0103				**11.7**	**7.72**
	07/15/05		**0.404**			ND(<0.00360)	ND(<0.00360)	ND(<0.00455)				**11.9**	**8.18**
	08/11/05		**0.338**			0.0003 J	0.00231	ND(<0.00455)				**12.5**	**8.05**
	09/08/05		**0.349**			ND(<0.00400)	ND(<0.00750)	NA				**12.7**	**8.17**
	9/23/2005[2]		NA			NA	NA	ND(<0.00455)				NA	NA
	12/14/05		**0.439**			ND(<0.00121)	0.00242	ND(<0.00455)				**11.9**	**8.27**
	01/12/06		**0.355**			ND(<0.00121)	ND(<0.00121)	ND(<0.00455)				**9.88**	**6.88**
	02/14/06		**0.137**			ND(<0.000605)	0.0036 J	ND(<0.00455)				**4.86**	**8.37**
MWA-31i(d)	05/06/05		ND(<0.0822)			0.0265	**1.06**	**0.726**				0.0132 J	**89.1**
	07/18/05		ND(<0.0420)			ND(<0.00720)	**0.588**	**0.25**				0.106	**78.8**
	08/17/05		ND(<0.00900)			0.0266	**1.07**	**0.142**				**0.484**	**76.2**
	09/14/05		ND(<0.00900)			0.0920 J	**1.7**	**1.02**				ND(<0.240)	**55**
	12/09/05		**0.0454**			0.0423	**0.216**	0.0251				**1.57**	**98.4**
	01/09/06		ND(<0.0332)			0.0631	**0.185**	0.0453				**1.68**	**65.5**
	02/10/06		ND(<0.00332)			0.00565	**0.366**	0.104				**0.454** B	**81.2**

Table 7
Compounds Exceeding Hot Spot Criteria - Metals in Groundwater
Interim Remedial Measure Performance Data
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Total Chromium (mg/L)	Hexavalent Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Nickel (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.10 b**	**0.10 b**	**0.11 a**	**1.00 c**	**0.015 d**	**0.10 b**	**0.30 c**	**0.05 c**
MWA-56d	05/06/05		ND(<0.00840)			ND(<0.00647)	ND(<0.00720)	ND(<0.00455)				0.0604 J	**88.6**
	07/14/05		ND(<0.0203)			ND(<0.00360)	0.0019 J	0.0223				0.0132 J	**84.8**
	08/16/05		ND(<0.00900)			0.0052	0.0044 J	ND(<0.00455)				**0.322**	**89.2**
	09/13/05		ND(<0.00900)			0.0330 J	ND(<0.0150)	ND(<0.00455)				ND(<0.240)	**88**
	12/09/05		**0.0276**			0.0008 J	0.0011 J	ND(<0.00455)				ND(<0.337)	**90.6**
	01/09/06		ND(<0.00664)			ND(<0.00121)	0.0005 J	ND(<0.00455)				0.0076 J	**84.7**
	02/13/06		ND(<0.00332)			0.0008 J	0.0008 J	ND(<0.00455)				0.0584	**94.5**
MWA-57d	05/09/05		ND(<0.0436)			ND(<0.00720)	ND(<0.00720)	ND(<0.00455)				**0.821**	**28.1**
	07/13/05		ND(<0.0282)			ND(<0.00360)	ND(<0.00360)	ND(<0.00455)				0.0722 J	**31.6**
	08/15/05		ND(<0.000450)			0.0023 J	0.0040 J	0.0055 J				0.285	**35.9**
	09/12/05		ND(<0.00900)			0.0230 J	ND(<0.0150)	ND(<0.00455)				ND(<0.0480)	**36.1**
	12/12/05		ND(<0.0133)			ND(<0.000605)	0.0012 J	ND(<0.00455)				ND(<0.0337)	**37.4**
	01/12/06		0.0068			ND(<0.000605)	ND(<0.00121)	ND(<0.00455)				0.0142 J	**37.3**
	02/09/06		0.00735			ND(<0.000605)	0.00119	ND(<0.00455)				0.0155 J	**39.5**
MWA-58d	05/06/05		ND(<0.0760)			ND(<0.00815)	ND(<0.00720)	ND(<0.00455)				0.0483 J	**63.9**
	07/14/05		ND(<0.0420)			ND(<0.00360)	ND(<0.00360)	ND(<0.00455)				0.0200 J	**72**
	08/17/05		ND(<0.0450)			0.00655	ND(<0.0150)	ND(<0.00455)				0.293	**68.2**
	09/13/05		ND(<0.00900)			0.0850 J	ND(<0.0150)	ND(<0.00455)				ND(<0.240)	**76.8**
	12/09/05		**0.0322**			0.0025 J	0.0005 J	ND(<0.00455)				0.0831 J	**79**
	01/09/06		ND(<0.0332)			ND(<0.00121)	0.0005 J	ND(<0.00455)				0.0112 J	**75.8**
	02/10/06		ND(<0.00332)			ND(<0.000605)	0.0030 J	ND(<0.00455)				0.0281 J	**81.3**
MWA-59d	05/06/05		ND(<0.0819)			0.0142	ND(<0.00720)	ND(<0.00455)				0.0144 J	**86.3**
	07/19/05		ND(<0.0420)			0.0087 J	0.0079 J	ND(<0.0200)				0.0133 J	**97.8**
	08/17/05		ND(<0.00900)			0.0078	ND(<0.0150)	ND(<0.00455)				0.262	**72.9**
	09/12/05		ND(<0.00900)			0.0990 J	ND(<0.0150)	ND(<0.00455)				ND(<0.0480)	**96.8**
	12/12/05		**0.0524**			ND(<0.000605)	0.0016 J	ND(<0.00455)				0.0379 J	**75.7**
	01/06/06		ND(<0.0332)			ND(<0.00121)	0.0020 J	ND(<0.00455)				0.0062 J	**73.1**
	02/09/06		ND(<0.00332)			ND(<0.000605)	0.0012 J	ND(<0.00455)				0.0124 J	**88.4**

Notes:

B = Analyte detected in the method blank
J = Estimated Value
ND = Not Detected
NA = Not Applicable / Not Tested
1) Sample MWA-18-071405 was reprepped and reanalyzed due to significant inconsistencey observed between preliminary and baseline hexavalent chromium results. Sample was reanalyzed out of hold time.
2) Wells were resampled after original Hexavalent Chromium samples were analyzed outside of holding times
3) Well not sampled due to insufficient groundwater volume
4) Sample analyzed for chloride out of hold time.

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations

Table 8
Compounds Exceeding Hot Spot Criteria - Pesticides in Surface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**1000 a**	**700 a**	**700 a**
S-1	Acid Plant	SO0400	3/31/2000	0.4	0.7	X	**13**	**5,200**	**890**
S-2	Acid Plant	SO1041	5/1/2001	0	0.3		**0.013** *J*	**0.086**	**0.33**
S-3	Acid Plant	SO1042	5/1/2001	0	0.3		**0.054** *J*	**0.15** *J*	**1.8**
(dup)		SO1043	5/1/2001	0	0.3		**0.032** *J*	**0.087** *J*	**1.6**
S-4	Acid Plant	SO1040	5/1/2001	0	0.3		**0.049** *J*	**0.12**	**1.3**
S-5	Acid Plant	SO1044	5/1/2001	0	0.3		**0.16**	**0.39**	**2**
S-6	Acid Plant	SO1047	5/1/2001	0	0.3	X	**5.8** *J*	**4.1**	**260**
S-7	Acid Plant	SO1045	5/1/2001	0	0.3	X	**25** *J*	**40**	**1,600**
S-8	Acid Plant	SO1046	5/1/2001	0	0.3	X	**21** *J*	**12**	**1,600**
US-01	Acid Plant	SO0174	1/11/1999	0	0.5		**0.42**	**0.89**	**6.6**
US-02	Acid Plant	SO0178	1/11/1999	0	0.5		**0.113**	**0.151**	**1.9**
US-03	Acid Plant	SO0182	1/11/1999	0	0.5		**9.0**	**6.6**	**140**
B-51	Acid Plant	SO0129	1/11/1999	0.5	1		0.01 *U*	**0.197**	**1.8**
B-52	Acid Plant	SO0159	1/11/1999	0.5	1		0.01 *U*	0.01 *U*	**0.03**
B-57	Acid Plant	SO0314	8/3/1999	0	1	X	**0.32**	**29**	**23**
B-91	Acid Plant	SO1434	11/2/2001	0	0.5		**0.82** *J*	**2.1**	**120**
B-92	Acid Plant	SO1430	11/2/2001	0	0.5		**0.33** *J*	**0.83**	**39**
B-93	Acid Plant	SO1442	11/2/2001	0	0.5		**0.012** *J*	**0.53**	**1.0** *J*
B-94	Acid Plant	SO1438	11/2/2001	0	0.5		**8.8** *J*	**4.4**	**1,300**
B-95	Acid Plant	SO1422	11/2/2001	0	0.5		**0.066** *J*	**0.91**	**16**
B-96	Acid Plant	SO1426	11/2/2001	0	0.5		**2.2** *J*	**190**	**440**
B-97	Acid Plant	SO1410	11/2/2001	0	0.5		**0.0026**	**0.044**	**0.096**
B-98	Acid Plant	SO1414	11/2/2001	0	0.5		**0.023** *J*	0.036 *U*	**0.9**
B-99	Acid Plant	SO1418	11/2/2001	0	0.5		**0.0032**	**0.055**	**0.094** *J*
B-100	Acid Plant	SO1448	11/5/2001	0	0.5		**32** *J*	**8.5**	**3,300** *J*
(dup)		SO1448XX	11/5/2001	0	0.5		31 *U*	31 *U*	**2,600** *J*
B-101	Acid Plant	SO1461	11/5/2001	0	0.5		5.5 *U*	5.5 *U*	**230** *J*
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**
IB-36	Acid Plant	SO0725	5/18/2000	0	1	X	**1.9**	**2.3**	**340**
IB-41	Acid Plant	SO0750	5/18/2000	0	1		**2.4**	**3.9**	**200**
IB-47	Acid Plant	SO0512	5/19/2000	0	1	X	**1.7**	**6.9**	**330**
IB-73	Acid Plant	SO1121	8/15/2001	0.5	1	X	0.11 *U*	0.11 *U*	**1.4**
IB-74	Acid Plant	SO1115	8/15/2001	0.5	1	X	0.12 *U*	0.12 *U*	**1.7**
IB-79	Acid Plant	SO1118	8/15/2001	0.5	1	X	**72** *J*	**19**	**4,100**
IB-80	Acid Plant	SO1130	8/15/2001	0.5	1	X	5.4 *U*	5.4 *U*	**100**
IB-81	Acid Plant	SO1124	8/15/2001	0.5	1	X	0.11 *U*	**0.13**	**1**
OCTF-1	Old Caustic Tank Farm		1/28/2004	0	0.5		**0.0495**	**0.0564**	**0.291**
			1/28/2004	0.5	1		**0.0275**	**0.0235**	**0.0815**
OCTF-2	Old Caustic Tank Farm		1/28/2004	0	0.5		**39.6**	**5.95**	**17.7**
			1/28/2004	0.5	1		**4.59**	**0.48**	**1.81**

Table 8
Compounds Exceeding Hot Spot Criteria - Pesticides in Surface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**1000 a**	**700 a**	**700 a**
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 Hot Spot Screening Levels
- Data for this sample has not undergone validation

a - 100x USEPA Region IX PRG, October 2004

Table 9
Compounds Exceeding Hot Spot Criteria - Pesticides and VOCs in Subsurface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Chlorobenzene 8260B (mg/kg)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**5,300**
US-01	Acid Plant	SO0176	1/11/1999	2	2.5		**38**	**53**	**690**	
		SO0177	1/11/1999	2.5	4		**16** *J*	**8.5** *J*	**1,100** *J*	
US-02	Acid Plant	SO0180	1/11/1999	2	2.5		0.01 *U*	**0.012**	**0.239**	
US-03	Acid Plant	SO0184	1/11/1999	2	2.5		**1.1**	**3.2**	**25**	
B-49	Acid Plant	SO0151	1/11/1999	2	2.5	X	**48**	**44**	**3,600**	0.005 *U*
		SO0158	1/11/1999	7	8		0.015 *U*	0.015 *U*	**0.135** *J*	0.005 *U*
(dup)		SO0169	1/11/1999	7	8		0.012 *U*	**0.011** *J*	**0.299** *J*	0.005 *U*
B-50	Acid Plant	SO0145	1/11/1999	5	5.5		0.012 *U*	**0.018**	0.012 *U*	0.005 *U*
B-51	Acid Plant	SO0135	1/11/1999	5	5.5		**0.075**	**0.423**	**2.4**	0.005 *U*
B-52	Acid Plant	SO0165	1/11/1999	5	5.5		0.01 *U*	0.01 *U*	**0.048**	0.005 *U*
B-53	Acid Plant	SO0254	1/13/1999	4.5	6	X	**80**	**14**	**16,000**	**1.4**
B-54	Acid Plant	SO0306	2/19/1999	4	5		**0.26**	**1.3**	**21**	0.005 *U*
		SO0311	2/19/1999	9	10		**0.7**	**0.096**	**6.1**	**0.007**
B-55	Acid Plant	SO0276	2/19/1999	6	7		**36**	1 *U*	**297**	**4100**
		SO0281	2/19/1999	12	13		**0.289**	**0.021**	**2.8**	0.005 *U*
B-56	Acid Plant	SO0289	2/19/1999	4	5		**4.9**	**3.2**	**454**	**0.007**
		SO0300	2/19/1999	19	20		0.01 *U*	0.01 *U*	0.01 *U*	0.005 *U*
B-57	Acid Plant	SO0318	8/3/1999	4	5		**0.19**	**12**	**8.4**	
B-58	Acid Plant	SO0323	8/3/1999	1	2		0.02 *U*	**0.047**	**0.36**	
		SO0326	8/3/1999	4	5		**0.13**	**0.1**	**2.1**	
B-61	Acid Plant	SO0889	7/17/2000	5	6	X	**620**	**36**	**7,000**	
		SO0890	7/17/2000	6	7	X	**60** *J*	**8.2** *J*	**920** *J*	
		SO0891	7/17/2000	7	8		**1.0** *J*	**0.2** *J*	**33.0** *J*	
		SO0895	7/17/2000	11	12		**32** *J*	**3** *J*	**400** *J*	
		SO0905	7/17/2000	21	22		**1.2** *J*	**0.18** *J*	**21** *J*	
B-62	Acid Plant	SO0854	7/17/2000	4	5		**0.078**	**0.36**	**3.8**	
B-65	Acid Plant	SO1062	5/2/2001	12	14		**15** *J*	**3.8**	**760**	
B-66	Acid Plant	SO1050	5/2/2001	4	6		**2.1**	**0.86**	**84**	
		SO1054	5/2/2001	12	14		**1.6** *J*	**0.65**	**49**	
B-91	Acid Plant	SO1437	11/2/2001	0.5	1.5		0.054 *U*	0.1 *U*	**3.8** *J*	0.0058 *U*
B-92	Acid Plant	SO1433	11/2/2001	0.5	1.5		**0.004** *J*	**0.022**	**0.033** *J*	0.0059 *U*
B-93	Acid Plant	SO1445	11/2/2001	0.5	1.5		**0.0037** *J*	0.0048 *U*	**0.032**	0.0055 *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*
B-95	Acid Plant	SO1425	11/2/2001	0.5	1.5		0.012 *U*	0.027 *U*	**1.1**	0.0059 *U*
B-96	Acid Plant	SO1429	11/2/2001	0.5	1.5		0.06 *U*	**4.7**	**4.2**	0.006 *U*
B-97	Acid Plant	SO1413	11/2/2001	0.5	1.5		**0.0041** *J*	**0.11**	**0.17**	0.0052 *U*
B-98	Acid Plant	SO1417	11/2/2001	0.5	1.5		0.022 *U*	0.066 *U*	**1.6**	0.0056 *U*
B-99	Acid Plant	SO1421	11/2/2001	0.5	1.5		**0.0032** *J*	0.0012 *U*	0.008 *U*	0.0053 *U*
B-100	Acid Plant	SO1451	11/5/2001	0.5	1.5		**0.22**	**0.098**	**20**	**0.0011**
		SO1455	11/5/2001	8	10		**54** *J*	20 *U*	**1,500** *J*	**1,800**
		SO1457	11/5/2001	12	14		**19**	0.7 *U*	**390**	**2,600**
B-101	Acid Plant	SO1464	11/5/2001	0.5	1.5		**0.063** *J*	0.055 *U*	**5** *J*	**0.0023** *J*
(dup)		SO1464XX	11/5/2001	0.5	1.5					**0.0018**
		SO1470	11/5/2001	12	14		0.0012 *U*	0.0012 *U*	0.014 *U*	**12**
(dup)		SO1470XX	11/5/2001	12	14		**0.0086**	0.0024 *U*	**0.79** *J*	
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**	

Table 9
Compounds Exceeding Hot Spot Criteria - Pesticides and VOCs in Subsurface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Chlorobenzene 8260B (mg/kg)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**5,300**
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**	
		SO1608	12/20/2001	9.5	10.5					**0.37**
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**	
		SO1618	12/20/2001	9	10					0.0077 *U*
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 *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*	
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**	
IB-6	Acid Plant	SO0578	5/15/2000	1	2		**12**	**7.7**	**960**	
		SO0580	5/15/2000	3	4		0.05 *U*	0.05 *U*	**1.1**	
IB-17	Acid Plant	SO0682	5/16/2000	1	2	X	**18**	**13**	**1,700**	
IB-20	Acid Plant	SO0428	5/16/2000	3	4		**320**	**100**	**13,000**	
IB-21	Acid Plant	34-442COM	5/17/2000		10					**8,800** *J*
IB-25	Acid Plant	SO0472	5/17/2000	4	5		0.05 *U*	0.05 *U*	**0.87**	
		SO0475	5/17/2000	8	9		160 *U*	**86**	**3,900**	
IB-26	Acid Plant	77-486COM	5/17/2000	9	10					**2,900** *J*
IB-27	Acid Plant	SO0491	5/17/2000	5	6		**230**	**8.3**	**6,300**	
IB-37	Acid Plant	SO0733	5/18/2000	3	4		**16**	**2.3**	**1,400**	
IB-39	Acid Plant	SO0744	5/18/2000	4	5		0.37 *U*	**2.2**	**61**	
IB-43	Acid Plant	SO0760	5/18/2000	1	2		**96**	**70**	**5,100**	
IB-44	Acid Plant	SO0768	5/18/2000	4	5		**19**	**1.3**	**55**	
IB-46	Acid Plant	SO0779	5/19/2000	6	7		**68**	**29**	**6,500**	
IB-48	Acid Plant	SO0782	5/19/2000	1	2	X	0.25 *U*	**10**	**2.3**	
IB-51	Acid Plant	11-818COM	5/19/2000	9	10					**3,000** *J*
IB-77	Acid Plant	SO1110	8/15/2001	5	6	X	**540**	**38**	**6,200**	
IB-79	Acid Plant	SO1119	8/15/2001	1	1.5	X	**4.5** *J*	**2.3** *J*	**160** *J*	
IB-82	Acid Plant	SO1136	8/15/2001	5	6	X	0.006 *U*	0.006 *U*	**0.07**	
(dup)		SO1137	8/15/2001	5	6	X	0.0063 *U*	0.0063 *U*	**0.053**	
IB-83	Acid Plant	SO1138	8/15/2001	5	6	X	0.0058 *U*	0.0058 *U*	**0.029**	

Table 9
Compounds Exceeding Hot Spot Criteria - Pesticides and VOCs in Subsurface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Chlorobenzene 8260B (mg/kg)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**5,300**
IB-84	Acid Plant	SO1139	8/15/2001	5	6	X	0.0061 *U*	0.0061 *U*	**0.0074**	
IB-85	Acid Plant	SO1669	5/20/2002	8	10		**8.8** *J*	**2**	**500**	
IB-86	Acid Plant	SO1674	5/20/2002	8	10		**2.4**	**0.5**	**16**	
IB-87	Acid Plant	SO1650	5/20/2002	2	4		**10** *J*	**0.75** *J*	**280** *J*	
IB-88	Acid Plant	SO1658	5/20/2002	6	8		**14** *J*	**1.2** *J*	**460**	
		SO1659	5/20/2002	8	10		**0.028**	**0.0071** *J*	**2.1**	
IB-89	Acid Plant	SO1662	5/20/2002	6	8		**240** *J*	**63**	**9,000**	
		SO1663	5/20/2002	8	10		**48** *J*	**2.5**	**700**	
IB-90	Acid Plant	SO1675	5/20/2002	2	4		**13** *J*	**7.4**	**340**	
IB-91	Acid Plant	SO1679	5/20/2002	1	2		**91** *J*	**51** *J*	**4,200** *J*	
(dup)		SO1684	5/20/2002	1	2		**50** *J*	**14** *J*	**2,300** *J*	
		SO1680	5/20/2002	2	4		**7.3** *J*	**3.3**	**980**	
IB-93	Acid Plant	SO1694	5/20/2002	8	10		**200** *J*	**16**	**6,900**	
IB-94	Acid Plant	SO1685	5/20/2002	1	2		**4.5** *J*	**4.2**	**850**	
IB-95	Acid Plant	SO1696	5/20/2002	1	2		**13** *J*	**28** *J*	**390**	
		SO1698	5/20/2002	4	6		**5.6** *J*	**1.2** *J*	**270**	
IB-96	Acid Plant	SO1705	5/20/2002	8	10		**0.0096** *J*	**0.0049** *J*	**0.18**	
AP-2	Acid Plant	SO1074	6/7/2001		4	X (a)	**2.6**	**4.2**	**220**	
		SO1075	6/7/2001	4	6		**3.3** *J*	**2.5** *J*	**130** *J*	
AP-3	Acid Plant	SO1082	6/7/2001	8	10		**120** *J*	71 *UJ*	**2,600** *J*	
AP-4	Acid Plant	SO1083	6/7/2001		2		**40**	**15**	**2,400**	
AP-5	Acid Plant	SO1088	6/7/2001		2		**2.6**	**3.2**	**250**	
(dup)		SO1088D	6/7/2001		2		**2.8**	**3.5**	**300**	
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**	**1,100**
MWA-11i	Acid Plant	SO0074	11/30/1998	6	8		**430**	**23**	**31,000**	**15,000** *J*
		SO0083	12/1/1998	26	28		**22**	**2.4**	**230**	**880**
		SO0084	12/1/1998	28	30		**1.57**	**0.084**	**2.72**	**39**
MWA-18	Acid Plant	SO1010	2/6/2001	5	6.5		**1.2**	**5.5**	**38**	
		SO1011	2/6/2001	10	11.5		**0.21** *J*	**1.5**	**3.6**	
		SO1012	2/6/2001	15	16.5		**0.6**	**12**	**7.4**	
MWA-19	Acid Plant	SO1001	2/6/2001	10	11.5		0.005 *U*	**0.007**	**0.04**	
		SO1002	2/6/2001	15	16.5		**0.015**	**0.094**	**1**	
MWA-20	Acid Plant	SO1016	2/7/2001	5	6.5		0.005 *U*	0.005 *U*	**0.028**	
		SO1017	2/7/2001	10	11.5		**0.072** *J*	**0.041** *J*	**0.3** *J*	
(dup)		SO1027	2/7/2001	10	11.5		**0.014** *J*	**0.016** *J*	**0.033** *J*	
		SO1018	2/7/2001	15	16.5		0.005 *U*	0.005 *U*	**0.014**	
MWA-30	Chlorate Plant	SO001700	3/5/2002	29.5	30		**1.5**	**0.075**	0.038 *U*	**0.0056**
AP-1	Acid Plant	SO1072	6/7/2001	4	6					0.0066 *U*
AP-2	Acid Plant	SO1074	6/7/2001		4	X (a)				0.0058 *U*
AP-3	Acid Plant	SO1082	6/7/2001	8	10					**4** *J*
(dup)		SO1082D	6/7/2001	8	10					4.6 *UJ*
AP-4	Acid Plant	SO1087	6/7/2001	8	10					**4,400** *J*
AP-5	Acid Plant	SO1088	6/7/2001		2					0.0057 *U*
AP-6	Acid Plant	SO1103	7/26/2001	7.5	8					**4,000**

Table 9
Compounds Exceeding Hot Spot Criteria - Pesticides and VOCs in Subsurface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Chlorobenzene 8260B (mg/kg)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**5,300**
AP-7	Acid Plant	SO1106	7/26/2001	7	7.5					**480**
		SO1107	7/26/2001	7.5	8					**1,700**
AP-8	Acid Plant	SO1098	7/26/2001	7.5	8					**2,000**
VP-1	Acid Plant	-	6/26/2000	7.5	8					**520** *D*
VP-2	Acid Plant	-	6/26/2000	7.5	8					**1.6** *D*
VP-3	Acid Plant	-	6/26/2000	7.5	8					**5,600** *D*
VP-4	Acid Plant	-	6/26/2000	7.5	8					**4,600** *D*
VP-5	Acid Plant	-	6/26/2000	7.5	8	X				**1,500**
VP-6	Acid Plant	-	6/26/2000	7.5	8					**13,000** *D*
VP-7	Acid Plant	-	6/26/2000	7.5	8					**0.083**
VP-8	Acid Plant	-	6/26/2000	7.5	8					**5,400** *D*
VP-9	Acid Plant	-	11/30/2000	8	-					**11,000**
		-	11/30/2000	12	-					**570**
		-	11/30/2000	16	-					**420**
VP-10	Acid Plant	-	11/30/2000	8	-					**53**
		-	11/30/2000	12	-					**930**
		-	11/30/2000	16	-					**150**
VP-11	Acid Plant	-	11/30/2000	8	-					**9.8**
		-	11/30/2000	12	-					**860**
		-	11/30/2000	16	-					**11**
VP-12	Acid Plant	-	11/30/2000	8	-					**7,200**
		-	11/30/2000	12	-					**550**
		-	11/30/2000	16	-					**92**
VP-13	Acid Plant	-	11/30/2000	8	-					**8,700**
		-	11/30/2000	12	-					**500**
		-	11/30/2000	16	-					**14**
VP-14	Acid Plant	-	11/30/2000	8	-					**0.35**
		-	11/30/2000	12	-					**0.16**
		-	11/30/2000	16	-					**230**
VP-15	Acid Plant	-	11/30/2000	8	-					**13**
		-	11/30/2000	12	-					**110**
		-	11/30/2000	16	-					**9.6**
VP-16	Acid Plant	-	12/1/2000	8	-					**1,300**
		-	12/1/2000	12	-					**700**
		-	12/1/2000	16	-					**180**
VP-17	Acid Plant	-	12/1/2000	8	-					**2,300**
		-	12/1/2000	12	-					**580**
		-	12/1/2000	16	-					**73**
VP-18	Acid Plant	-	12/1/2000	8	-					**3,900**
		-	12/1/2000	12	-					**550**
		-	12/1/2000	16	-					**240**
VP-19	Acid Plant	-	12/1/2000	8	-					**7,900**
		-	12/1/2000	12	-					**670**
		-	12/1/2000	16	-					**7.3**
VP-20	Acid Plant	-	12/1/2000	8	-					**29**
		-	12/1/2000	12	-					**180**
		-	12/1/2000	16	-					**50**
VP-21	Acid Plant	SO1531	12/18/2001	7.5	8					**0.37** *J*
(dup)		SO1532	12/18/2001	7.5	8					**0.55**
		SO1534	12/18/2001	11.5	12					**22**
		SO1537	12/18/2001	15.5	16					**2.6** *J*

Table 9
Compounds Exceeding Hot Spot Criteria - Pesticides and VOCs in Subsurface Soil
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Chlorobenzene 8260B (mg/kg)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**5,300**
VP-22	Acid Plant	SO1521	12/17/2001	7.5	8					**0.4**
		SO1524	12/17/2001	11.5	12					**170**
		SO1527	12/17/2001	15.5	16					**40**
VP-23	Acid Plant	SO1511	12/17/2001	7.5	8					**310**
		SO1514	12/17/2001	11.5	12					**12**
		SO1517	12/17/2001	15.5	16					**410**
VP-24	Acid Plant	SO1501	12/17/2001	7.5	8					**0.17** *J*
		SO1504	12/17/2001	11.5	12					**0.31**
		SO1507	12/17/2001	15.5	16					**0.059**
CS-1	Acid Plant	-	5/8/2003	7.5	-					**0.298**
CS-2	Acid Plant	-	5/8/2003	8	-					**2110**
CS-3	Acid Plant	-	5/8/2003	8	-					**41.9**
CS-4	Acid Plant	-	5/8/2003	7	-					**7,370**
CS-5	Acid Plant	-	5/8/2003	8	-					**0.27**
CS-6	Acid Plant	-	5/8/2003	8	-					**3,220**
CS-7	Acid Plant	-	5/8/2003	8	-					**3,610**
CS-8	Acid Plant	-	5/8/2003	7.5	-					**4,280**
CS-9	Acid Plant	-	5/8/2003	8	-					**7,310**
CS-10	Acid Plant	-	5/8/2003	8	-					**2,310**
CS-11	Acid Plant	-	5/8/2003	8	-					**26,700**
CS-12	Acid Plant	-	5/8/2003	8	-					**12,500**
CS-13	Acid Plant	-	5/8/2003	8.5	-					**66,600**
CS-14	Acid Plant	-	5/8/2003	11	-					**11.3**
CS-15	Acid Plant	-	5/8/2003	7.5	-					**1.21**

Notes:
J - Estimated
mg/kg - milligrams per kilogram
R - Rejected
U - Undetected at detection limit shown
- not analyzed
- Value above Hot Spot Screening Level

a - Top 0-1 feet of soil removed during the soil removal IRM.

Attachment A
Hot Spot Screening Tables

Table A-1
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.004 a**	**0.004 a**	**0.011 a,e**	**0.011 a,e**	**2.0 b,f**	**2.0 b,f**	**0.037 a,g**	**0.037 a,g**	**2.0 b,f**	**0.037 a,h**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**220 a,i,**	**220 a,i,**
MWA-1	Acid Plant	23	33	1/29/1999	0.11 U	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
				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	0.040 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	1/27/1999	**0.32**	**0.13**	**0.04**	0.04 U	**0.18**	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
				4/27/1999	**0.70**	**0.34** J	0.04 U	0.04 U	**0.50**	**0.23** J	0.04 U	0.04 U	0.20 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)				4/27/1999	**0.80**	**0.19** J	0.04 U	0.04 U	**0.60**	**0.15** J	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.11 U		0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
				8/24/1999	**0.7**	0.4 UJ	0.4 U	0.4 UJ	0.4 U	0.4 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.1 U	0.1 UJ		0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ
				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	
				3/29/2001	**0.57**		0.10 U		0.10 U		0.10 U		0.46 U		0.10 U		0.10 U			0.10 U		0.10 U		0.10 U	
				6/12/2001	**0.40**		**0.06**		0.05 UJ		0.05 U		0.05 U		0.05 U		0.05 U			0.05 U		0.05 U		0.05 U	
				4/10/2002	**0.41**		0.10 U		0.10 U		0.10 U		0.10 U		0.10 U		0.14 U			0.21 U		0.10 U		0.10 U	
				6/9/2003	4.00 U		8.00 U		8.00 U		8.00 U		4.00 U		4.00 U		4.00 U		50.00 U	10.00 U		8.00 U		2.00 U	
MWA-3	Acid Plant	20.7	30.7	1/27/1999	0.090 U	0.040 U	0.040 U	0.040 U	**0.210**	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	0.040 U	0.040 U	0.040 U	0.040 U
				4/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	**0.200**	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	0.040 U	0.040 U	0.040 U	0.040 U
				8/24/1999	**0.2**	0.0 U	**0.1**	0.0 U	**0.8**	**0.1**	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U		0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U
				11/16/1999	**0.07**		0.04 U		0.20 U		0.04 U		0.04 U		0.04 U		0.04 U			0.04 U		0.04 U		0.04 U	
				3/29/2001	**0.2**		0.1 U		**0.4**		0.1 U		7.0 U		0.1 U		0.1 U			0.1 U		0.1 U		0.1 U	
				6/14/2001	**0.32**		0.10 U		**0.58** J		0.10 U		**13.00** J		0.10 U		0.10 U			0.10 U		0.10 U		0.10 U	
				4/15/2002	0.24 U		**0.12**		1.30 U		0.05 U		0.05 U		0.05 U		0.05 U			0.05 U		0.05 U		0.05 U	
				6/9/2003	**0.086**		0.080 U		**0.362**		0.080 U		0.040 U		0.040 U		0.040 U		0.500 U	0.100 U		0.080 U		0.020 U	
MWA-4	Acid Plant	19.5	29.5	1/28/1999	**11.0**	**2.1**	**0.2**	0.1 U	**0.8**	0.1 U	0.1 U	0.1 U	0.4 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	0.1 U	0.1 U	0.1 U
(dup)				1/28/1999	**11.0**	**2.2**	1.0 U	0.1 U	1.0 U	0.1 U	1.0 U	0.1 U	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	1.0 U	0.1 U
				4/28/1999	**9.0**	**1.3**	**0.3**	**0.1**	**1.7**	**0.4**	0.0 U	0.0 U	0.0 U	0.0 U	**0.3**	0.0 U	0.0 U	0.0 U		0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U
				8/25/1999	**7.0**	**0.8**	**0.4**	**0.1**	**1.5**	**0.3**	0.0 U	0.0 U	0.0 U	0.0 U	0.4 U	0.0 U	0.1 U	0.0 U		0.0 U	0.0 U	0.4 U	0.0 U	0.4 U	0.0 U
				11/16/1999	**4.0**		**0.1**		2.2 U		0.0 U		0.0 U		**0.2**		0.0 U			0.0 U		0.0 U		0.0 U	
				3/29/2001	**7.0**		0.2 U		0.2 U		0.2 U		13.0 U		0.2 U		0.2 U			0.3 U		0.2 U		0.2 U	
				6/14/2001	**6.7**		**0.1** J		**0.4** J		0.1 U		**11.0** J		0.2 U		0.1 U			0.4 U		0.1 U		0.1 U	
				4/11/2002	**8.3**		**0.5** J		0.2 U		0.2 U		0.2 U		0.2 U		0.2 U			0.2 U		0.2 U		0.2 U	
				6/9/2003	**3.97**		**0.23**		0.09 U		0.09 U		0.04 U		0.04 U		0.04 U		0.56 U	0.11 U		0.09 U		0.02 U	
MWA-5	Acid Plant	35.7	38.2	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	0.040 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
				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	0.040 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
				8/23/1999	0.04 UJ	0.04 U	0.04 UJ	0.04 U	0.04 UJ	0.10 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
				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	
				3/28/2001	0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR			0.020 UR		0.020 UR		0.020 UR	
				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	
				4/4/2002	0.0096 U		0.0096 U		0.0140 U		0.0096 U		0.0096 U		0.0096 U		0.0096 U			0.0096 U		0.0096 U		0.0096 U	
				6/6/2003	0.0400 U		0.0800 U		**0.0916**		0.0800 U		0.0400 U		0.0400 U		0.0400 U		0.5000 U	0.1000 U		0.0800 U		0.0200 U	
MWA-6	Acid Plant	30.8	33.6	1/27/1999	**0.50**	0.40 U	**3.70**	**1.30**	**3.80**	**1.40**	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	**0.80**	**0.60**	0.40 U	0.40 U
				4/29/1999	**0.90** J	**0.04** J	**3.20** J	**0.29** J	**2.90** J	**0.36** 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
MWA-6r	Acid Plant	28.2	33.2	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
				11/17/1999	**0.06** J		**0.06** J		0.20 U		0.04 UJ		0.04 UJ		0.04 UJ		0.04 UJ			0.04 UJ		0.04 UJ		0.04 UJ	
				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	
				6/12/2001	**0.059** J		**0.026** J		**0.110** J		0.010 UR		0.010 UR		0.010 UR		0.010 UR			0.010 UR		0.010 UR		0.010 UR	
				4/10/2002	0.018 U		**0.068** J		0.110 U		0.010 U		0.010 U		0.010 UJ		0.010 U			0.010 U		0.010 U		0.010 UJ	
				6/5/2003	0.040 R		0.080 R		**0.214** J		0.080 R		0.040 R		0.040 R		0.040 R		0.500 R	0.100 R		0.080 R		0.020 R	
MWA-7	Acid Plant	30.3	32.8	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	0.040 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
				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	0.040 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
				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
				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	
				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	
				6/11/2001	0.015 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				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	
				6/4/2003	0.0400 UJ		0.0800 UJ		0.0800 UJ		0.0800 UJ		0.0400 UJ		0.0400 UJ		0.0400 UJ		0.5000 UJ	0.1000 UJ		0.0800 UJ		0.0200 UJ	
MWA-8i	Acid Plant	42	47	1/27/1999	**5.3** J	**2.4** J	**0.1** J	**0.0** J	**1.0** J	**0.6** J	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ		0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	**0.0** J
				4/27/1999	**0.14** J	**0.16** J	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ		0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ
				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)				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
				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	
				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	
				6/12/2001	**0.11** J		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR			0.01 UR		0.01 UR		0.01 UR	
				4/10/2002	**0.080**		0.010 U		**0.012**		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				6/9/2003	0.040 U		0.080 U		0.080 U		0.080 U		0.040 U		0.040 U		0.040 U		0.500 U	0.100 U		0.080 U		0.020 U	
MWA-9i	Acid Plant	40	45	1/28/1999	**20.0** J	**9.0** J	**0.4** J	**0.3** J	**9.0** J	**8.0** J	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.2 UJ	0.1 UJ	0.1 UJ	0.0 UJ		0.0 UJ	0.0 UJ	0.1 UJ	0.1 UJ	0.0 UJ	0.0 UJ
				4/28/1999	**10.0**	**2.8** J	**0.1**	0.0 UJ	**3.0**	**1.0** J	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ		0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ
				8/25/1999	**4.5** J	**2.9** J	**0.1** J	**0.1** J	**0.6** J	**0.6** J	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.1 UJ	0.1 UJ		0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ
				11/16/1999	**1.9** J		0.0 UR		0.2 U		0.0 UR		0.0 UR		0.0 UR		0.0 UR			0.0 UR		0.0 UR		0.0 UR	
				3/30/2001	**0.58**		0.10 U		0.10 U		0.10 U		7.50 U		0.10 U		0.10 U			0.10 U		0.10 U		0.10 U	
				6/18/2001	**0.47** J		0.01 UJ		**0.02** J		0.01 UJ		0.01 UJ		0.01 UJ		0.04 UJ			0.02 UJ		0.01 UJ		0.01 UJ	
				4/15/2002	**0.93** J		**0.07** 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	
				6/9/2003	**1.1**		0.1 U		0.1 U		0.1 U		0.0 U		0.0 U		0.0 U		0.6 U	0.1 U		0.1 U		0.0 U	
MWA-10i	Acid Plant	40.3	45.3	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	0.040 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	0.040 U
				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	0.040 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
				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
				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	
				3/29/2001	0.020 U		0.020 U		0.020 U		0.020 U		0.150 U		0.020 U		0.020 U			0.020 U		0.020 U		0.020 U	
				6/14/2001	0.0097 U		0.0097 U		0.0097 U		0.0097 U		**0.2000** J		0.0097 U		0.0097 U			0.0097 U		0.0097 U		0.0097 U	
				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	
				6/10/2003	0.0455 UJ		0.0909 UJ		0.0909 UJ		0.0909 UJ		0.0455 UJ		0.0455 UJ		0.0455 UJ		0.5680 UJ	0.1140 UJ		0.0909 UJ		0.0227 UJ	

Table A-1
Groundwater Analytical Results - Organochlorine Pe
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	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)
Hot Spot Screening Levels					220 a,i,	220 a,i,	220 a,j	220 a,i,	2.0 b	2.0 b	2.0 b,j	2.0 b,j	2.0 b,j	2.0 b,j	0.2 b,k	0.2 b,k	2.0 b,f	2.0 b,f	0.4 b	0.4 b	0.2 b	0.2 b	40 a	40 a	3.0 b	3.0 b
MWA-1	Acid Plant	23	33	1/29/1999	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	0.14 UJ	0.09 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.1 UJ	0.1 UJ	1 UJ	1 UJ
				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	0.040 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	1/27/1999	0.09 U	0.07 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	0.06 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
				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)				4/27/1999	0.04 U	0.05 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	0.04 U	0.10 U	0.10 U	1.00 U	4.00 U
				8/24/1999	0.4 U	0.4 UJ	0.4 U	0.4 UJ	0.4 U	0.4 UJ	0.4 U	0.4 UJ	0.4 U	0.4 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	1.0 U	1.0 UJ	10.0 U	10.0 UJ
				11/16/1999	0.04 UJ		0.04 UJ		0.04 UJ		0.04 UJ		0.04 UJ		0.20 UJ		0.04 UJ		0.04 UJ		0.04 UJ		0.10 UJ		1.00 UJ	
				3/29/2001	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		2.50 U	
				6/12/2001	0.05 U		0.05 U		0.05 U		0.05 U		0.05 U		0.15 U		0.05 U		0.16 UJ		0.05 U		0.05 UJ		2.50 U	
				4/10/2002	0.10 U		0.10 U		0.10 U		0.10 U		0.10 U		**0.19**		0.10 U		0.10 U		0.10 U		0.10 U		5.00 U	
				6/9/2003	8.00 U		10.00 U		8.00 U		16.00 U		8.00 U		4.00 U		4.00 U		8.00 U		4.00 U		50.00 U		200.00 U	
MWA-3	Acid Plant	20.7	30.7	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	**0.070**	**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
				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	0.040 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
				8/24/1999	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.1 U	0.1 U	1.0 U	1.0 U
				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	
				3/29/2001	0.1 U		0.1 U		0.1 U		0.1 U		0.1 U		**0.2**		0.1 U		0.1 U		0.1 U		0.1 U		2.5 U	
				6/14/2001	0.10 U		0.10 U		0.10 U		0.10 U		0.10 U		**0.23**		0.10 U		0.10 U		0.10 U		0.10 U		4.80 U	
				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	
				6/9/2003	0.080 U		0.100 U		0.080 U		0.160 U		0.080 U		0.040 U		0.040 U		0.080 U		0.040 U		0.500 U		2.000 U	
MWA-4	Acid Plant	19.5	29.5	1/28/1999	0.4 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	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	10.0 U	10.0 U
(dup)				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	1.0 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
				4/28/1999	0.0 U	0.0 U	**0.1**	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	0.1 U	0.1 U	1.0 U	1.0 U
				8/25/1999	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	**0.2**	**0.1**	0.1 U	0.0 U	0.0 U	0.0 U	0.0 U	0.0 U	1.0 U	1.0 U	10.0 U	10.0 U
				11/16/1999	0.0 U		0.0 U		0.0 U		0.0 U		0.0 U		0.3 U		0.0 U		0.0 U		0.0 U		0.1 U		1.0 U	
				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		5.0 U	
				6/14/2001	0.9 U		0.1 U		0.1 U		0.1 U		0.1 U		0.4 U		0.1 U		0.1 U		0.1 U		0.1 U		4.9 U	
				4/11/2002	0.2 U		0.2 U		0.2 U		0.2 U		0.2 U		**0.7** J		0.2 U		0.2 U		0.2 U		0.2 U		10.0 U	
				6/9/2003	0.09 U		0.11 U		0.09 U		0.18 U		0.09 U		0.04 U		0.04 U		0.09 U		0.04 U		0.56 U		2.25 U	
MWA-5	Acid Plant	35.7	38.2	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	0.040 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
				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	0.040 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
				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
				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	
				3/28/2001	0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.500 UR	
				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	
				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	
				6/6/2003	0.0800 U		0.1000 U		0.0800 U		0.1600 U		0.0800 U		0.0400 U		0.0400 U		0.0800 U		0.0400 U		0.5000 U		2.0000 U	
MWA-6	Acid Plant	30.8	33.6	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	0.40 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
				4/29/1999	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
MWA-6r	Acid Plant	28.2	33.2	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
				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	
				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	
				6/12/2001	0.010 UR		0.025 UR		0.010 UR		0.010 UR		0.011 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.490 UR	
				4/10/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 UJ		0.010 U		0.010 UJ		0.010 U		0.500 U	
				6/5/2003	0.080 R		0.100 R		0.080 R		0.160 R		0.080 R		0.040 R		0.040 R		0.080 R		0.040 R		0.500 R		2.000 R	
MWA-7	Acid Plant	30.3	32.8	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	0.040 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
				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	0.040 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
				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
				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	
				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	
				6/11/2001	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.011 U		0.010 U		0.010 U		0.480 U	
				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	
				6/4/2003	0.0800 UJ		0.1000 UJ		0.0800 UJ		0.1600 UJ		0.0800 UJ		0.0400 UJ		0.0400 UJ		0.0800 UJ		0.0400 UJ		0.5000 UJ		2.0000 UJ	
MWA-8i	Acid Plant	42	47	1/27/1999	0.2 UJ	0.1 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.1 UJ	0.1 UJ	1.0 UJ	1.0 UJ
				4/27/1999	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.04 UR	0.04 UJ	0.10 UR	0.10 UJ	1.00 UR	1.00 UJ
				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)				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
				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	
				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	
				6/12/2001	0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.01 UR		0.48 UR	
				4/10/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.490 U	
				6/9/2003	0.080 U		0.100 U		0.080 U		0.160 U		0.080 U		0.040 U		0.040 U		0.080 U		0.040 U		0.500 U		2.000 U	
MWA-9i	Acid Plant	40	45	1/28/1999	0.5 UJ	0.2 UJ	0.5 UJ	0.5 UJ	0.0 UJ	0.0 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.1 UJ	0.0 UJ	0.5 UJ	0.1 UJ	1.0 UJ	1.0 UJ
				4/28/1999	0.2 U	0.0 UJ	0.0 U	0.0 UJ	**0.1**	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.0 U	0.0 UJ	0.2 U	0.1 UJ	1.0 U	1.0 UJ
				8/25/1999	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.0 UJ	0.1 UJ	0.1 UJ	1.0 UJ	1.0 UJ
				11/16/1999	0.0 UR		0.0 UR		0.0 UR		0.0 UR		0.0 UR		0.0 UR		0.0 UR		0.0 UR		0.0 UR		0.1 UR		1.0 UR	
				3/30/2001	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		2.50 U	
				6/18/2001	0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.01 UJ		0.48 UJ	
				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	
				6/9/2003	0.1 U		0.1 U		0.1 U		0.2 U		0.1 U		0.0 U		0.0 U		0.1 U		0.0 U		0.6 U		2.3 U	
MWA-10i	Acid Plant	40.3	45.3	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	0.040 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
				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	0.040 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
				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
				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	
				3/29/2001	0.020 U		0.020 U		0.020 U		0.020 U		0.020 U		0.020 U		0.020 U		0.020 U		0.020 U		0.020 U		0.500 U	
				6/14/2001	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	
				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	
				6/10/2003	0.0909 UJ		0.1140 UJ		0.0909 UJ		0.1820 UJ		0.0909 UJ		0.0455 UJ		0.0455 UJ		0.0909 UJ		0.0455 UJ		0.5680 UJ		2.2700 UJ	

Table A-1
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.004 a**	**0.004 a**	**0.011 a,e**	**0.011 a,e**	**2.0 b,f**	**2.0 b,f**	**0.037 a,g**	**0.037 a,g**	**2.0 b,f**	**0.037 a,h**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**220 a,i,**	**220 a,i,**
MWA-11i	Acid Plant	46	51	1/29/1999	0.16 U	0.04 U	0.04 U	0.04 U	**0.20**	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
				4/27/1999	**0.19**	0.04 U	0.04 U	0.04 U	**0.08**	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
				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
				11/17/1999	**0.1** J		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ			0.0 UJ		0.0 UJ		0.0 UJ	
				3/30/2001	**0.25**		0.10 U		**0.70**		0.10 U		0.10 U		0.10 U		0.10 U			0.10 U		0.10 U		0.10 U	
				6/15/2001	**0.22**		0.01 U		**0.34**		0.01 U		0.01 U		0.01 U		0.01 U			0.01 U		0.01 U		0.01 U	
				6/15/2001	**0.25**		**0.01** J		**0.48**		0.01 U		**0.01**		0.01 U		0.01 U			0.01 U		0.01 U		0.01 U	
(dup)				4/11/2002	0.16 U		0.01 U		0.09 U		0.01 U		0.01 U		0.01 U		0.01 U			0.01 U		0.01 U		0.01 U	
				6/10/2003	1.2 U		0.1 U		0.6 U		0.1 U		0.0 U		0.0 U		0.0 U		0.5 U	0.1 U		0.1 U		0.0 U	
MWA-12i	Acid Plant	42	52	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	0.040 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
				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	0.040 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
				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
				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	
				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	
				6/11/2001	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				4/3/2002	**0.016**		0.010 U		**0.037**		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				6/3/2003	0.040 UJ		0.080 UJ		0.080 UJ		0.080 UJ		0.040 UJ		0.040 UJ		0.040 UJ		0.500 UJ	0.100 UJ		0.080 UJ		0.020 UJ	
MWA-13d	Acid Plant	51	53	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	0.040 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	0.040 U
				4/28/1999	0.040 U	0.040 U	0.040 U	0.040 U	**0.140**	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	0.040 U	0.040 U	0.040 U	0.040 U
				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
				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	
				3/29/2001	**0.0620**		0.0200 U		**0.4300**		0.0200 U		0.0200 U		0.0200 U		0.0200 U			0.0200 U		0.0200 U		0.0200 U	
				6/14/2001	**0.071**		0.010 U		**0.065** J		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				4/15/2002	**0.091**		0.010 U		**0.078**		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
(dup)				4/15/2002	**0.09**		0.01 U		**0.08**		0.01 U		0.01 U		0.01 U		0.01 U			0.01 U		0.01 U		0.01 U	
				6/9/2003	**0.0807**		0.0800 U		0.0800 U		0.0800 U		0.0400 U		0.0400 U		0.0400 U		0.5000 U	0.1000 U		0.0800 U		0.0200 U	
MWA-14i	Acid Plant	44.1	49.1	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	0.040 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	0.040 U
				4/27/1999	**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	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
				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 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
				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	
				3/28/2001	**0.0730**		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U			0.0200 U		0.0200 U		0.0200 U	
(dup)				3/28/2001	**0.0540**		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U			0.0200 U		0.0200 U		0.0200 U	
				6/12/2001	**0.065**		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				4/4/2002	**0.049**		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				6/6/2003	**0.0439**		0.0800 U		0.0800 U		0.0800 U		0.0400 U		0.0400 U		0.0400 U		0.5000 U	0.1000 U		0.0800 U		0.0200 U	
MWA-15	Acid Plant	23.5	32.4	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
				11/17/1999	**1.7**		**0.4**		**21.0**		0.0 U		0.0 U		0.0 U		0.0 U			0.0 U		0.8 U		0.2 U	
MWA-15r	Acid Plant	22.4	32.4	3/30/2001	**37**		10 U		**450**		10 U		700 U		10 U		10 U			10 U		10 U		10 U	
				5/31/2001	**2.2** PD		0.3 U		**60.0** D		0.4 U		0.1 U		0.1 U		**3.2** UI			0.5 U		**0.2** UI		0.2 U	
				6/15/2001	**7.4**		1.0 U		**73.0** J		1.0 U		**420.0** J		1.0 U		1.0 U			1.0 U		1.0 U		1.0 U	
				4/16/2002	**25**		**4** J		**75** J		1 U		1 U		1 U		1 U			1 U		1 U		1 U	
				6/10/2003	**28.4** J		16.0 U		**113.0**		16.0 U		8.0 U		8.0 U		8.0 U		100.0 U	20.0 U		16.0 U		**4.4**	
MWA-16i	Acid Plant	39.2	44.2	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
				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	
				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	
				6/12/2001	**0.020**		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				4/10/2002	**0.015**		0.010 U		**0.013**		0.011 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
				6/5/2003	0.040 R		0.080 R		0.080 R		0.080 R		0.040 R		0.040 R		0.040 R		0.500 R	0.100 R		0.080 R		0.020 R	
MWA-17si	Acid Plant	33.6	35.1	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
				11/18/1999	**1.8** J		0.0 UJ		0.2 U		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ			0.0 UJ		0.0 UJ		0.0 UJ	
(dup)				11/18/1999	**1.7** J		0.0 UJ		0.2 U		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ			0.0 UJ		0.0 UJ		0.0 UJ	
				3/30/2001	**1.7**		1.0 U		1.0 U		1.0 U		3.0 U		1.0 U		1.0 U			1.0 U		1.0 U		1.0 U	
				6/18/2001	**1.9** J		**0.3** J		**0.2**		0.1 U		0.1 U		0.1 U		0.1 U			0.1 U		0.1 U		0.1 U	
				4/15/2002	**2**		**0** J		0 U		0 U		0 U		0 U		0 U			0 U		0 U		0 U	
				6/9/2003	**1.44**		0.40 U		0.40 U		0.40 U		0.20 U		0.20 U		0.20 U		2.50 U	0.50 U		0.40 U		0.10 U	
MWA-18	Acid Plant	19.2	29.2	3/27/2001	0.020 UR		0.020 UR		**0.046** J		0.020 UR		0.020 UR		0.020 UR		0.020 UR			0.020 UR		0.020 UR		0.020 UR	
				6/13/2001	**0.015** J		0.009 U		0.026 U		0.009 U		0.009 U		0.009 U		0.009 U			0.009 U		0.009 U		0.009 U	
				4/4/2002	0.0096 U		0.0096 U		0.0190 U		0.0096 U		0.0096 U		0.0096 U		0.0096 U			0.0096 U		0.0096 U		0.0096 U	
				6/6/2003	0.0400 U		0.0800 U		0.0800 U		0.0800 U		0.0400 U		0.0400 U		0.0400 U		0.5000 U	0.1000 U		0.0800 U		0.0200 U	
MWA-19	Acid Plant	19.2	29.2	3/27/2001	0.020 UJ		0.020 UJ		**0.095** J		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ			0.020 UJ		0.020 UJ		0.020 UJ	
				6/13/2001	0.0099 U		0.0099 U		0.0160 U		0.0099 U		0.0099 U		0.0099 U		0.0099 U			0.0099 U		0.0099 U		0.0099 U	
				4/4/2002	0.0097 U		0.0097 U		**0.1000**		0.0097 U		0.0097 U		0.0097 U		0.0097 U			0.0097 U		0.0097 U		0.0097 U	
				6/6/2003	**0.0935**		0.0800 U		**0.2300**		0.0800 U		0.0400 U		0.0400 U		0.0400 U		0.5000 U	0.1000 U		0.0800 U		0.0200 U	
MWA-20	Acid Plant	24.7	34.7	3/27/2001	0.020 UR		0.020 UR		**0.088** J		0.020 UR		0.020 UR		0.020 UR		0.020 UR			0.020 UR		0.020 UR		0.020 UR	
				6/13/2001	0.010 UR		0.010 UR		**0.052** J		0.010 UR		0.010 UR		0.010 UR		0.010 UR			0.010 UR		0.010 UR		0.010 UR	
				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	
				6/5/2003	**0.0688** J		0.0800 R		**0.2130** J		0.0800 R		0.0400 R		0.0400 R		0.0400 R		0.5000 R	0.1000 R		0.0800 R		0.0200 R	
MWA-21b	Acid Plant	61	68.3	11/5/2001	**0.0070** J		0.0050 UJ		**0.0088** J		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ			0.0050 UJ		0.0050 UJ		0.0050 UJ	
(dup)				11/5/2001	**0.017** J		0.005 UJ		**0.022** J		0.005 UJ		0.005 UJ		0.005 UJ		0.005 UJ			0.005 UJ		0.005 UJ		0.005 UJ	
				12/4/2001	**0.011** J		0.005 U		**0.007** J		0.005 U		0.005 U		0.005 U		0.005 U			0.005 U		0.005 U		0.005 U	
(dup)				12/4/2001	**0.012** J		0.005 U		**0.019** J		0.005 U		0.005 U		0.005 U		0.005 U			0.005 U		0.005 U		0.005 U	
				4/12/2002	**0.011**		0.010 U		**0.010**		0.010 U		0.010 U		0.010 U		0.010 U			0.010 U		0.010 U		0.010 U	
MWA-22	Acid Plant	24.7	34.7	6/15/2001	**0.83**		0.10 U		**0.15**		0.10 U		0.21 U		0.10 U		0.10 U			0.10 U		0.10 U		0.10 U	
				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	
				6/10/2003	0.13 U		0.08 UJ		0.35 U		0.08 UJ		0.04 UJ		0.04 UJ		0.04 UJ		0.50 UJ	0.10 UJ		0.08 UJ		0.02 UJ	
NMP-1S	Acid Plant	19.5	29.5	6/1/2001	**22.0** D		**1.1** UI		41.0 U		0.4 U		0.8 U		0.2 U		**3.0** UI			0.5 U		0.1 U		0.2 U	
NMP-1D	Acid Plant	29.1	34.1	6/1/2001	**52.0** PD		**8.1** D		**1,900.0** D		0.4 U		0.1 U		**0.8** UI		**2.2** UI			0.5 U		**1.1** UI		0.2 U	
NMP-2S	Acid Plant	19.5	29.5	6/1/2001	**1.10** D		0.12 U		**22.00** D		0.39 U		0.08 U		0.12 U		**1.80** UI			**0.50** UI		0.12 U		0.17 U	
NMP-2D	Acid Plant	31.5	36.5	6/1/2001	**2.80** PD		0.33 U		**71.00** D		0.33 U		0.08 U		0.16 U		**1.30** UI			0.47 U		**0.25** UI		0.16 U	
NMP-3S	Acid Plant	19.5	29.5	5/31/2001	0.16 U		0.30 U		**13.00** D		0.39 U		0.08 U		0.12 U		**1.10** UI			0.54 U		0.12 U		0.17 U	
NMP-3D	Acid Plant	30	35	6/1/2001	**0.63** JPD		0.33 U		**11.00** D		0.33 U		0.08 U		0.16 U		**1.50** UI			0.47 U		0.16 U		0.16 U	
				6/11/2003	0.80 U		1.60 U		5.80 U		1.60 U		0.80 U		0.80 U		0.80 U		10.00 U	2.00 U		1.60 U		0.40 U	
NMP-4S	Acid Plant	19.5	29.5	6/1/2001	**0.018** JPD		**0.094** UI		**1.3** D		0.033 U		0.0076 U		0.016 U		0.02 U			**0.088** JD		0.016 U		0.016 U	

Table A-1
Groundwater Analytical Results - Organochlorine Pe
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	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)
Hot Spot Screening Levels					**220 a,i,**	**220 a,i,**	**220 a,j**	**220 a,i,**	**2.0 b**	**2.0 b**	**2.0 b,j**	**2.0 b,j**	**2.0 b,j**	**2.0 b,j**	**0.2 b,k**	**0.2 b,k**	**2.0 b,f**	**2.0 b,f**	**0.4 b**	**0.4 b**	**0.2 b**	**0.2 b**	**40 a**	**40 a**	**3.0 b**	**3.0 b**
MWA-11i	Acid Plant	46	51	1/29/1999	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	U
				4/27/1999	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
				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
				11/17/1999	0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.1 UJ		1.0 UJ	
				3/30/2001	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		2.50 U	
				6/15/2001	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		0.49 U	
(dup)				6/15/2001	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		0.48 U	
				4/11/2002	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		0.49 U	
				6/10/2003	0.1 U		0.1 U		0.1 U		0.2 U		0.1 U		0.0 U		0.0 U		0.1 U		0.0 U		0.5 U		2.0 U	
MWA-12i	Acid Plant	42	52	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	0.040 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
				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	0.040 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
				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
				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	
				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	
				6/11/2001	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 UJ		0.011 U		0.010 UJ		0.500 U	
				4/3/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.480 U	
				6/3/2003	0.080 UJ		0.100 UJ		0.080 UJ		0.160 UJ		0.080 UJ		0.040 UJ		0.040 UJ		0.080 UJ		0.040 UJ		0.500 UJ		2.000 UJ	
MWA-13d	Acid Plant	51	53	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	0.040 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
				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	0.040 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
				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
				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	
				3/29/2001	0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.5000 U	
				6/14/2001	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.011 U		0.010 U		0.490 U	
				4/15/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.490 U	
(dup)				4/15/2002	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		0.49 U	
				6/9/2003	0.0800 U		0.1000 U		0.0800 U		0.1600 U		0.0800 U		0.0400 U		0.0400 U		0.0800 U		0.0400 U		0.5000 U		2.0000 U	
MWA-14i	Acid Plant	44.1	49.1	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	0.040 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
				4/27/1999	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
				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
				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	
				3/28/2001	0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.5000 U	
(dup)				3/28/2001	0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.0200 U		0.5000 U	
				6/12/2001	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 UJ		0.010 U		0.010 UJ		0.480 U	
				4/4/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.480 U	
				6/6/2003	0.0800 U		0.1000 U		0.0800 U		0.1600 U		0.0800 U		0.0400 U		0.0400 U		0.0800 U		0.0400 U		0.5000 U		2.0000 U	
MWA-15	Acid Plant	23.5	32.4	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
				11/17/1999	6.0 U		0.0 U		0.0 U		0.0 U		0.0 U		0.0 U		0.0 U		0.1 U		0.0 U		0.1 U		1.0 U	
MWA-15r	Acid Plant	22.4	32.4	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	
				5/31/2001	**3.9** UJ		0.1 U		0.4 U		**0.3** UJ		0.2 U		0.3 U		0.1 U		0.5 U		0.5 U		0.3 U		5.4 U	
				6/15/2001	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		48.0 U	
				4/16/2002	1 U		1 U		1 U		1 U		1 U		**1**		1 U		1 U		1 U		1 U		50 U	
				6/10/2003	16.0 U		20.0 U		16.0 U		32.0 U		16.0 U		8.0 U		8.0 U		16.0 U		8.0 U		100.0 U		400.0 U	
MWA-16i	Acid Plant	39.2	44.2	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
				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	
				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	
				6/12/2001	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 UJ		0.490 U	
				4/10/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.480 U	
				6/5/2003	0.080 R		0.100 R		0.080 R		0.160 R		0.080 R		0.040 R		0.040 R		0.080 R		0.040 R		0.500 R		2.000 R	
MWA-17si	Acid Plant	33.6	35.1	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
				11/18/1999	0.1 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.4 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.1 UJ		1.0 UJ	
(dup)				11/18/1999	0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.4 UJ		0.0 UJ		0.0 UJ		0.0 UJ		0.1 UJ		1.0 UJ	
				3/30/2001	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		25.0 U	
				6/18/2001	1.8 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		0.1 U		5.0 U	
				4/15/2002	0 U		0 U		0 U		0 U		0 U		**0**		0 U		0 U		0 U		0 U		3 U	
				6/9/2003	0.40 U		0.50 U		0.40 U		0.80 U		0.40 U		**0.39**		0.20 U		0.40 U		**0.43**		2.50 U		10.00 U	
MWA-18	Acid Plant	19.2	29.2	3/27/2001	0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.500 UR	
				6/13/2001	0.009 U		0.009 U		0.009 U		0.009 U		0.009 U		0.009 U		0.009 U		0.009 U		0.009 U		0.009 U		0.470 U	
				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	
				6/6/2003	0.0800 U		0.1000 U		0.0800 U		0.1600 U		0.0800 U		0.0400 U		0.0400 U		0.0800 U		0.0400 U		0.5000 U		2.0000 U	
MWA-19	Acid Plant	19.2	29.2	3/27/2001	0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.020 UJ		0.500 UJ	
				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	
				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	
				6/6/2003	0.0800 U		0.1000 U		0.0800 U		0.1600 U		0.0800 U		0.0400 U		0.0400 U		0.0800 U		0.0400 U		0.5000 U		2.0000 U	
MWA-20	Acid Plant	24.7	34.7	3/27/2001	0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.020 UR		0.500 UR	
				6/13/2001	0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.010 UR		0.500 UR	
				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	
				6/5/2003	0.0800 R		0.1000 R		0.0800 R		0.1600 R		0.0800 R		0.0400 R		0.0400 R		0.0800 R		0.0400 R		0.5000 R		2.0000 R	
MWA-21b	Acid Plant	61	68.3	11/5/2001	0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ		0.0050 UJ	
(dup)				11/5/2001	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	
				12/4/2001	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	
(dup)				12/4/2001	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	
				4/12/2002	0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.010 U		0.500 U	
MWA-22	Acid Plant	24.7	34.7	6/15/2001	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		4.80 U	
				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	
				6/10/2003	0.08 UJ		0.10 UJ		0.08 UJ		0.16 UJ		0.08 UJ		0.04 UJ		0.04 UJ		0.08 UJ		0.04 UJ		0.50 UJ		2.00 UJ	
NMP-1S	Acid Plant	19.5	29.5	6/1/2001	**15.0** UJ		**0.1**		0.4 U		0.2 U		0.2 U		0.3 U		0.1 U		0.5 U		0.5 U		0.3 U		5.4 U	
NMP-1D	Acid Plant	29.1	34.1	6/1/2001	**6.7** UJ		0.1 U		0.4 U		0.2 U		0.2 U		0.3 U		0.1 U		0.4 U		**1.0** UJ		0.4 U		4.9 U	
NMP-2S	Acid Plant	19.5	29.5	6/1/2001	**2.60** UJ		0.06 U		0.40 U		0.24 U		0.15 U		**1.50** UJ		0.14 U		0.43 U		0.49 U		0.35 U		4.90 U	
NMP-2D	Acid Plant	31.5	36.5	6/1/2001	**2.90** UJ		0.06 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		4.70 U	
NMP-3S	Acid Plant	19.5	29.5	5/31/2001	**1.30** UJ		0.06 U		0.36 U		0.24 U		0.15 U		0.25 U		0.14 U		0.48 U		0.54 U		0.31 U		5.40 U	
NMP-3D	Acid Plant	30	35	6/1/2001	**2.00** UJ		0.06 U		0.34 U		**0.23**		0.19 U		0.24 U		0.13 U		0.46 U		0.47 U		0.29 U		4.70 U	
				6/11/2003	1.60 U		2.00 U		1.60 U		3.20 U		1.60 U		0.80 U		0.80 U		1.60 U		**1.15**		10.00 U		40.00 U	
NMP-4S	Acid Plant	19.5	29.5	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 A-1
Groundwater Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					**0.28 a**	**0.28 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.2 a**	**0.004 a**	**0.004 a**	**0.011 a,e**	**0.011 a,e**	**2.0 b,f**	**2.0 b,f**	**0.037 a,g**	**0.037 a,g**	**2.0 b,f**	**0.037 a,h**	**0.037 a,h**	**0.0042 a**	**0.0042 a**	**220 a,i,**	**220 a,i,**
NMP-4D	Acid Plant	30	35	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*	
				6/10/2003	**6.26** *J*		8.00 *U*		**282.00**		8.00 *U*		4.00 *U*		4.00 *U*		4.00 *U*		50.00 *U*	10.00 *U*		8.00 *U*		2.00 *U*	
(dup)				6/10/2003	**8.86** *J*		8.00 *U*		**235.00**		8.00 *U*		4.00 *U*		4.00 *U*		4.00 *U*		50.00 *U*	10.00 *U*		8.00 *U*		2.00 *U*	
NMP-5S	Acid Plant	19.5	29.5	6/1/2001	**0.10** *UI*		**0.10** *UI*		**1.30** *D*		0.03 *U*		0.01 *U*		0.02 *U*		0.02 *U*			**0.15** *D*		0.02 *U*		0.02 *U*	
NMP-5D	Acid Plant	28.5	33.5	6/1/2001	**4.50** *PD*		**0.04** *JD*		**370.00** *D*		0.40 *U*		0.09 *U*		0.17 *U*		**3.90** *UI*			0.55 *U*		**0.70** *UI*		0.22 *U*	
NMP-6S	Acid Plant	19.5	29.5	6/1/2001	**4.30** *D*		**1.90** *PD*		**30.00** *D*		0.37 *U*		0.09 *U*		0.13 *U*		**1.10** *UI*			**1.10** *UI*		0.13 *U*		0.18 *U*	
NMP-6D	Acid Plant	28.5	33.5	6/1/2001	**2.00** *D*		**1.10** *PD*		**28.00** *D*		0.33 *U*		0.08 *U*		0.16 *U*		**0.95** *UI*			0.47 *U*		0.16 *U*		0.16 *U*	
B-59	Acid Plant	20	24	8/3/1999	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*	
MWA-23	Chlorate Plant	15.2	25.2	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	11/15/2001	0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*			0.050 *UR*		0.050 *UR*		0.050 *UR*	
				6/5/2003	0.232 *U*		0.160 *U*		0.160 *U*		0.160 *U*		0.080 *U*		0.080 *U*		0.080 *U*		1.000 *U*	0.200 *U*		0.160 *U*		0.040 *U*	
MWA-25	Chlorate Plant	23.7	34	11/15/2001	0.0050 *UJ*		0.0050 *UJ*		0.0120 *U*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*			0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*	
				4/9/2002	0.0096 *U*		0.0096 *U*		0.0096 *U*		0.0096 *U*		0.0150 *U*		0.0096 *U*		0.0250 *U*			0.0096 *U*		0.0096 *U*		0.0096 *U*	
MWA-26	Chlorate Plant	21.2	33.7	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	11/15/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*			0.0050 *U*		0.0050 *U*		0.0050 *U*	
(dup)				11/15/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*			0.0050 *U*		0.0050 *U*		0.0050 *U*	
				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	11/16/2001	0.0050 *U*		0.0050 *U*		0.0190 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*			0.0050 *U*		0.0050 *U*		0.0050 *U*	
				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	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*	
				6/4/2003	0.0400 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.5000 *UJ*	0.1000 *UJ*		0.0800 *UJ*		0.0200 *UJ*	
MWA-30	Chlorate Plant	19.1	29.1	4/12/2002	**0.16**		**0.02** *J*		**0.01**		0.01 *U*		0.01 *U*		0.01 *U*		0.01 *U*			0.01 *U*		0.01 *U*		0.01 *U*	
(dup)				4/12/2002	**0.18**		**0.02** *J*		**0.01**		0.01 *U*		0.01 *U*		0.01 *U*		0.01 *U*			0.01 *U*		0.01 *U*		0.01 *U*	
				6/4/2003	0.04 *UJ*		0.08 *UJ*		0.08 *UJ*		0.08 *UJ*		0.04 *UJ*		0.04 *UJ*		0.04 *UJ*		0.50 *UJ*	0.10 *UJ*		0.08 *UJ*		0.02 *UJ*	
MWA-31i(d)	Chlorate Plant	54.8	59.8	4/8/2002	0.0097 *U*		0.0097 *U*		0.0097 *U*		0.0097 *U*		0.0160 *U*		0.0097 *U*		0.0097 *U*			0.0097 *U*		0.0097 *U*		0.0097 *U*	
				6/4/2003	0.0400 *U*		0.0800 *U*		0.0800 *U*		0.0800 *U*		0.0400 *U*		0.0400 *U*		0.0400 *U*		0.5000 *U*	0.1000 *U*		0.0800 *U*		0.0200 *U*	
MWA-32i	Chlorate Plant	37	42	6/4/2003	0.0400 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.5000 *UJ*	0.1000 *UJ*		0.0800 *UJ*		0.0200 *UJ*	
MWA-33	Chlorate Plant	20	30	6/5/2003	0.0400 *R*		0.0800 *R*		0.0800 *R*		0.0800 *R*		0.0400 *R*		0.0400 *R*		0.0400 *R*		0.5000 *R*	0.1000 *R*		0.0800 *R*		0.0200 *R*	
				6/11/2003	0.0400 *UJ*		0.0800 *UJ*		0.5180 *U*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.5000 *UJ*	0.1000 *UJ*		0.0800 *UJ*		0.0200 *UJ*	
(dup)				6/11/2003	0.0400 *UJ*		0.0800 *UJ*		0.6780 *U*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.5000 *UJ*	0.1000 *UJ*		0.0800 *UJ*		0.0200 *UJ*	
MWA-34i	Chlorate Plant	32	37	6/6/2003	**0.0892**		0.0800 *U*		**0.3270**		0.0800 *U*		0.0400 *U*		0.0400 *U*		0.0400 *U*		0.5000 *U*	0.1000 *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 - Data Rejected, not used for delineation of hot spot
- not analyzed
P - The GC or HPLC confirmation criteria was exceeded. The relative percent 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 exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
e - Value for HCH (alpha) used
f - Value for Chlordane (technical) used
g - Value for HCH (beta) used
h - Value for HCH (technical) used
i - Value for endosulfan used
j - Value for endrin used
k - Value for HCH (gamma) Lindane used

Table A-1
Groundwater Analytical Results - Organochlorine Pe
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Area of Investigation	Screen / Sample Depth ft bgs	Screen / Sample Depth ft bgs	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)
Hot Spot Screening Levels					220 a,i,	220 a,i,	220 a,j	220 a,i,	2.0 b	2.0 b	2.0 b,j	2.0 b,j	2.0 b,j	2.0 b,j	0.2 b,k	0.2 b,k	2.0 b,f	2.0 b,f	0.4 b	0.4 b	0.2 b	0.2 b	40 a	40 a	3.0 b	3.0 b
NMP-4D	Acid Plant	30	35	6/1/2001	**390** *UI*		14 *U*		81 *U*		44 *U*		34 *U*		51 *U*		31 *U*		98 *U*		160 *U*		74 *U*		1,600 *U*	
				6/10/2003	8.00 *U*		10.00 *U*		8.00 *U*		16.00 *U*		8.00 *U*		4.00 *U*		4.00 *U*		8.00 *U*		4.00 *U*		50.00 *U*		200.00 *U*	
(dup)				6/10/2003	8.00 *U*		10.00 *U*		8.00 *U*		16.00 *U*		8.00 *U*		4.00 *U*		4.00 *U*		8.00 *U*		4.00 *U*		50.00 *U*		200.00 *U*	
NMP-5S	Acid Plant	19.5	29.5	6/1/2001	**2.60** *UI*		**0.07** *UI*		**0.10** *UI*		**0.10** *UI*		0.02 *U*		**0.77** *UI*		**0.02** *JPD*		0.04 *U*		**0.12** *UI*		0.03 *U*		0.47 *U*	
NMP-5D	Acid Plant	28.5	33.5	6/1/2001	**5.20** *UI*		0.06 *U*		0.37 *U*		**0.27** *UI*		0.20 *U*		0.21 *U*		0.14 *U*		0.49 *U*		0.55 *U*		0.36 *U*		5.10 *U*	
NMP-6S	Acid Plant	19.5	29.5	6/1/2001	**4.10** *UI*		0.06 *U*		0.43 *U*		0.21 *U*		0.16 *U*		**1.10** *UI*		**0.15** *UI*		0.51 *U*		0.57 *U*		0.33 *U*		5.30 *U*	
NMP-6D	Acid Plant	28.5	33.5	6/1/2001	**1.90** *UI*		0.06 *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*		4.70 *U*	
B-59	Acid Plant	20	24	8/3/1999	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*	
MWA-23	Chlorate Plant	15.2	25.2	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	11/15/2001	0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*		0.050 *UR*	
				6/5/2003	0.160 *U*		0.200 *U*		0.160 *U*		0.320 *U*		0.160 *U*		0.080 *U*		0.080 *U*		0.160 *U*		0.080 *U*		1.000 *U*		4.000 *U*	
MWA-25	Chlorate Plant	23.7	34	11/15/2001	0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*		0.0050 *UJ*	
				4/9/2002	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-26	Chlorate Plant	21.2	33.7	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	11/15/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*	
(dup)				11/15/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*	
				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	11/16/2001	0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*		0.0050 *U*	
				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	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*	
				6/4/2003	0.0800 *UJ*		0.1000 *UJ*		0.0800 *UJ*		0.1600 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.5000 *UJ*		2.0000 *UJ*	
MWA-30	Chlorate Plant	19.1	29.1	4/12/2002	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*		0.48 *U*	
(dup)				4/12/2002	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*		0.50 *U*	
				6/4/2003	0.08 *UJ*		0.10 *UJ*		0.08 *UJ*		0.16 *UJ*		0.08 *UJ*		0.04 *UJ*		0.04 *UJ*		0.08 *UJ*		0.04 *UJ*		0.50 *UJ*		2.00 *UJ*	
MWA-31i(d)	Chlorate Plant	54.8	59.8	4/8/2002	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*	
				6/4/2003	0.0800 *U*		0.1000 *U*		0.0800 *U*		0.1600 *U*		0.0800 *U*		0.0400 *U*		0.0400 *U*		0.0800 *U*		0.0400 *U*		0.5000 *U*		2.0000 *U*	
MWA-32i	Chlorate Plant	37	42	6/4/2003	0.0800 *UJ*		0.1000 *UJ*		0.0800 *UJ*		0.1600 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.5000 *UJ*		2.0000 *UJ*	
MWA-33	Chlorate Plant	20	30	6/5/2003	0.0800 *R*		0.1000 *R*		0.0800 *R*		0.1600 *R*		0.0800 *R*		0.0400 *R*		0.0400 *R*		0.0800 *R*		0.0400 *R*		0.5000 *R*		2.0000 *R*	
				6/11/2003	0.0800 *UJ*		0.1000 *UJ*		0.0800 *UJ*		0.1600 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.5000 *UJ*		2.0000 *UJ*	
(dup)				6/11/2003	0.0800 *UJ*		0.1000 *UJ*		0.0800 *UJ*		0.1600 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.0400 *UJ*		0.0800 *UJ*		0.0400 *UJ*		0.5000 *UJ*		2.0000 *UJ*	
MWA-34i	Chlorate Plant	32	37	6/6/2003	0.0800 *U*		0.1000 *U*		0.0800 *U*		0.1600 *U*		0.0800 *U*		0.0400 *U*		0.0400 *U*		0.0800 *U*		0.0400 *U*		0.5000 *U*		2.0000 *U*	

Notes:
µg/L - micrograms per liter
ft bgs - feet below ground surface
U - Undetected at the detection limit shown
J - Estimated
R - Data Rejected, not used for delineation of hot spot
- not analyzed
P - The GC or HPLC confirmation criteria was exceeded. The rel
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
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validati

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(
b - MCL = Maximum Contaminant Levels; National Primary Dri
c - 2nd DW Std = Secondary Standards; National Secondary Drin
d - AL = Action Level; National Primary Drinking Water Regulat
e - Value for HCH (alpha) used
f - Value for Chlordane (technical) used
g - Value for HCH (beta) used
h - Value for HCH (technical) used
i - Value for endosulfan used
j - Value for endrin used
k - Value for HCH (gamma) Lindane used

Table A-2
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					**0.43 a**	**200 b**	**0.055 a**	**5 b**	**810 a**	**7 b**	**NE**	**NE**	**0.0056 a**	**12 a**	**0.20 b**	**0.050 b**	**5 b**	**5 b**
MWA-1	Acid Plant	23	33	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
				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
MWA-2	Acid Plant	21.5	31.5	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
				4/27/1999	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
(dup)				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
				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
				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
				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
				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
				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
				6/9/2003	50 U	50 U	50 U	50 U	50 U	50 U	50 U	100 U	50 U	100 U	200 U	50 U	50 U	50 U
MWA-3	Acid Plant	20.7	30.7	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
				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
				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
				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
				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
				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
				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
				6/9/2003	0.5 U	**0.53**	0.5 U	0.5 U	**1.62**	0.5 U	0.5 U	1 U	0.5 U	1 U	2 U	0.5 U	0.5 U	0.5 U
MWA-4	Acid Plant	19.5	29.5	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
(dup)				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
				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
				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
				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
				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
				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
				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
				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
MWA-5	Acid Plant	35.7	38.2	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
				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
				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
				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
				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
				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
				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
				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
MWA-6	Acid Plant	30.8	33.6	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
				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
MWA-6r	Acid Plant	28.2	33.2	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
				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
				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
				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
				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
				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
MWA-7	Acid Plant	30.3	32.8	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
				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
				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
				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
				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
				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
				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
				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
MWA-8i	Acid Plant	42	47	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
				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
				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
				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
(dup)				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
				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
				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
				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
				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
				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
MWA-9i	Acid Plant	40	45	11/24/1998	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2,000 U	500 U	2,000 U	2,000 U	2,000 U	500 U	500 U
				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
				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
				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
				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
				3/30/2001	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1,000 U	250 U	1,000 U	1,000 UJ	1,000 U	250 U	250 U
				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
				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
				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
MWA-10i	Acid Plant	40.3	45.3	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
				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
				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
				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
				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
				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
				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
				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
				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
MWA-11i	Acid Plant	46	51	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
				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
				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
				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
				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
				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
				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
(dup)				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
				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
				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
MWA-12i	Acid Plant	42	52	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
				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
				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
				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
				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
				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
				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
				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
MWA-13d	Acid Plant	51	53	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
				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
				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
				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
				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
				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
				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
(dup)				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
				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

Monitoring Well	Date	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)
Hot Spot Screening Levels		**12 a**	**120 a**	**NE**	**7,000 a**	**NE**	**NE**	**NE**	**NE**	**NE**	**5,000 a**	**5 b**	**20 a**	**0.13 a**	**0.18 a**	**8.5 a**	**8.7 a**	**1,000 a**	**5 b**
MWA-1	1/29/1999	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
	4/29/1999	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	1/27/1999	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**
	4/27/1999	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)	4/27/1999	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
	8/24/1999	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
	11/16/1999	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
	3/29/2001	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 U	50 U	50 U
	6/12/2001	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
	4/10/2002	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
	6/9/2003	100 U	50 U	50 U	1000 U	100 U	1000 U	100 U	200 U	500 U	2000 U	50 U	50 U	50 U	50 U	50 U	200 U	100 U	50 U
MWA-3	1/27/1999	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**
	4/28/1999	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
	8/24/1999	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
	11/16/1999	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**
	3/29/2001	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
	6/14/2001	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
	4/15/2002	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
	6/9/2003	1 U	0.5 U	0.5 U	10 U	1 U	10 U	1 U	2 U	5 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	1 U	0.5 U
MWA-4	1/28/1999	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)	1/28/1999	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
	4/28/1999	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
	8/25/1999	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
	11/16/1999	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
	3/29/2001	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
	6/14/2001	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
	4/11/2002	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
	6/9/2003	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	1/27/1999	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
	4/27/1999	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
	8/23/1999	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
	11/15/1999	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
	3/28/2001	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
	6/12/2001	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
	4/4/2002	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
	6/6/2003	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	1/27/1999	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
	4/29/1999	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	8/25/1999	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
	11/17/1999	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
	3/28/2001	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
	6/12/2001	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
	4/10/2002	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
	6/5/2003	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	1/26/1999	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
	4/26/1999	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
	8/23/1999	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
	11/15/1999	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
	3/26/2001	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
	6/11/2001	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
	4/3/2002	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
	6/4/2003	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	11/24/1998	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
	1/27/1999	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
	4/27/1999	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
	8/24/1999	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)	8/24/1999	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
	11/16/1999	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
	3/29/2001	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
	6/12/2001	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
	4/10/2002	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
	6/9/2003	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	11/24/1998	2,000 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
	1/28/1999	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
	4/28/1999	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
	8/25/1999	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
	11/16/1999	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
	3/30/2001	1,000 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
	6/18/2001	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
	4/15/2002	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
	6/9/2003	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	12/4/1998	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
	1/28/1999	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
	4/28/1999	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
	8/25/1999	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
	11/16/1999	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
	3/29/2001	2 U	0.5 U	0.5 U	20 UR	2 U	20 U	2 U	2 U	20 UR	20 UR	**0.68**	2 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
	6/14/2001	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
	4/11/2002	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
	6/10/2003	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	12/7/1998	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
	1/29/1999	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
	4/27/1999	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
	8/26/1999	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
	11/17/1999	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
	3/30/2001	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
	6/15/2001	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)	6/15/2001	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
	4/11/2002	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
	6/10/2003	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	1/26/1999	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
	4/26/1999	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
	8/23/1999	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
	11/15/1999	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
	3/26/2001	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
	6/11/2001	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
	4/3/2002	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
	6/3/2003	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	1/28/1999	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
	4/28/1999	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
	8/25/1999	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
	11/18/1999	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
	3/29/2001	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
	6/14/2001	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
	4/15/2002	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)	4/15/2002	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
	6/9/2003	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 A-2
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					100 b	4.6 a	0.17 a	160 a	70 b	0.40 a,f	0.13 a	NE	390 a	700 b	0.86 a	660 a,g	10000 b,h	11 a	5 b	6.2 a	240 a	240 a	10000 b,h	240 a	100 b	240 a	5 b	1,000 b	100 b, i,	0.4 a,f	5.0 b	1,300 a	2.0 b,j	10,000 b
MWA-1	Acid Plant	23	33	1/29/1999	21000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 UJ	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	
				4/29/1999	10000	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		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	
MWA-2	Acid Plant	21.5	31.5	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		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	
				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		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	
(dup)				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		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	
				8/24/1999	4400	10 U	13	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U		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	
				11/16/1999	2100	5 U	8.4	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	5.6	5 U	5 U	5 U	5 U	5 U	5 U	
				3/29/2001	4300	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	
				6/12/2001	4600	12	65	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U		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	
				4/10/2002	27000	50 UR	230	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U		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	
				6/9/2003	13700	50 U	144 U	200 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	100 U	100 U	500 U	200 U	500 U	100 U	50 U	100 U	50 U	100 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	
MWA-3	Acid Plant	20.7	30.7	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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				4/15/2002	5400	13 U	47	13 U	13 U	13 U	13 U	13 U	13 U	13 U	50 U	50 U	13 U		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	
				6/9/2003	176	0.74	7.65 U	2 U	4.45	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	2 U	1 U	1 U	5 U	2 U	5 U	1 U	0.5 U	1 U	0.5 U	1 U	14.7	0.5 U	0.5 U	0.5 U	5.54	0.5 U	0.5 U	
MWA-4	Acid Plant	19.5	29.5	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		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	
(dup)				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		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	
				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		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	
				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		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	
				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		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	
				3/29/2001	1100	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		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	
				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		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	
				4/11/2002	1200	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		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	
				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	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	
MWA-5	Acid Plant	35.7	38.2	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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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	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-6	Acid Plant	30.8	33.6	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		5 UJ	10 UJ	10 UJ	10 UJ	2 UJ	10 UJ	2 UJ	10 UJ	1000	3 J	2 UJ	2 UJ	14 J	2 UJ	10 J	
				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		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	
MWA-6r	Acid Plant	28.2	33.2	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		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	
				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		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	
				3/28/2001	1700	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		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	
				6/12/2001	2200	5 UR	5 U	5 U	18	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	17	5 U	15	5 U	25	5 U	8.9	
				4/10/2002	2300	5 U	5 U	5 U	23	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	49	5 U	17	5 U	23	5 U	13	
				6/5/2003	2620	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	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	
MWA-7	Acid Plant	30.3	32.8	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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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	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-8i	Acid Plant	42	47	11/24/1998	1700	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	100 U	100 U			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
				1/27/1999	4800	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	40 U	40 U	10 U		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	
				4/27/1999	4300 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		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	
				8/24/1999	3400	5 U	5 U	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	5 U	5 U	5 U	5 U	8	5 U	5 U	
(dup)				8/24/1999	2300	5 U	5 U	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	5	5 U	5 U	5 U	10	5 U	5 U	
				11/16/1999	2800	5 U	9.2	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	7.4	5 U	5 U	5 U	9	5 U	5 U	
				3/29/2001	4100	5 U	5 U	5 U	5.6	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	7	5 U	5 U	5 U	9.8	5 U	5 U	
				6/12/2001	1400	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		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	
				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		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	
				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	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-9i	Acid Plant	40	45	11/24/1998	32000	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2000 U	2000 U			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
				1/28/1999	38000	50 U	120	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	
				4/28/1999	29000 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		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	
				8/25/1999	37000	100 U	110	100 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	400 U	100 U		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	
				11/16/1999	27000	50 U	83	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	
				3/30/2001	28000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1000 U	1000 U	250 U		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	
				6/18/2001	29000	50 UR	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	
				4/15/2002	26000	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U		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	
				6/9/2003	32100	100 U	100 U	400 U	100 U	100 U	100 U	100 U	100 U	100 U	400 U	400 U	200 U	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	
MWA-10i	Acid Plant	40.3	45.3	12/4/1998	1900	5 U	11	5 U	5 U	5 U	5 U	5 U	5 U	5 U	20 U	20 U			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
				1/28/1999	8700 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		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	
				4/28/1999	12000	50 UR	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	
				8/25/1999	6200	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	60 U	60 U	15 U		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	
				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		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	
				3/29/2001	1400	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		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	
				6/14/2001	2400	25 U	25 U	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	25 U	25 U	25 U	25 U	25 U	25 U	25 U	
				4/11/2002	21000	50 UR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	200 U	200 U	50 U		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	
				6/10/2003	15800	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	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-11i	Acid Plant	46	51	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			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
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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)				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		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	
				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		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	
				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	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-12i	Acid Plant	42	52	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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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		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	
				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	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-13d	Acid Plant	51	53	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		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	
				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		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	
				8/25/1999	1600	5 U	5 U	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	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
				11/18/1999	1600	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		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	
				3/29/2001	1200	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	
				6/14/2001	1200	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	50 U	50 U	13 U		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	
				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		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	
(dup)				4/15/2002	1000	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		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	
				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	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 A-2
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					**0.43 a**	**200 b**	**0.055 a**	**5 b**	**810 a**	**7 b**	**NE**	**NE**	**0.0056 a**	**12 a**	**0.20 b**	**0.050 b**	**5 b**	**5 b**	**12 a**
MWA-14i	Acid Plant	44.1	49.1	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
				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
				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
				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
				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
(dup)				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
				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
				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
				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
MWA-15	Acid Plant	23.5	32.4	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
				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
MWA-15r	Acid Plant	22.4	32.4	3/30/2001	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2,000 U	500 U	2,000 U	2,000 UJ	2,000 U	500 U	500 U	2,000 U
				5/31/2001		500 U													
				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
				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
				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
				10/2/2003															
MWA-16i	Acid Plant	39..2	44.2	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
				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
				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
				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
				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
				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
MWA-17si	Acid Plant	33.6	35.1	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
				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
(dup)				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
				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	2,000 U	500 U	500 U	2000 U
				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
				4/15/2002	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1,000 U	250 U	1,000 U	1,000 U	1,000 U	250 U	250 U	1,000 U
				6/9/2003	500 U	500 U	500 U	500 U	500 U	500 U	500 U	1,000 U	500 U	1,000 U	2,000 U	500 U	500 U	500 U	1,000 U
MWA-18	Acid Plant	19.2	29.2	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
				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
				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
				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
MWA-19	Acid Plant	19.2	29.2	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
				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
				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
				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
MWA-20	Acid Plant	24.7	34.7	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
				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
				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
				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
MWA-21b	Acid Plant	61	68.3	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
(dup)				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
				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
(dup)				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
				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
MWA-22	Acid Plant	24.7	34.7	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
				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
				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
NMP-1S	Acid Plant	19.5	29.5	6/1/2001		**71** D													
				10/3/2003															
NMP-1D	Acid Plant	29.1	34.1	6/1/2001		500 U													
				10/3/2003															
NMP-2S	Acid Plant	19.5	29.5	6/1/2001		**110** D													
NMP-2D	Acid Plant	31.5	36.5	6/1/2001		250 U													
				10/3/2003															
NMP-3S	Acid Plant	19.5	29.5	5/31/2001		50 U													
NMP-3D	Acid Plant	30	35	6/1/2001		250 U													
				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
NMP-4S	Acid Plant	19.5	29.5	6/1/2001		250 U													
				10/3/2003															
NMP-4D	Acid Plant	30	35	6/1/2001		500 U													
				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
(dup)				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
				10/3/2003															
NMP-5S	Acid Plant	-	-	6/1/2001		100 U													
NMP-5D	Acid Plant	28.5	33.5	6/1/2001		500 U													
				10/3/2003															
NMP-6S	Acid Plant	-	-	6/1/2001		**7.5** D													
NMP-6D	Acid Plant	28.5	33.5	6/1/2001		50 U													
PMP-1	Acid Plant	24	34	10/2/2003															
PMP-2	Acid Plant	23.8	33.8	10/2/2003															
PMP-3	Acid Plant	25	35	10/2/2003															
B-55	Acid Plant	-	-	2/19/1999								250 U		250 U					250 U
B-56	Acid Plant	-	-	2/19/1999								2 U		2 U					2 U
B-59	Acid Plant	20	24	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
B-60	Acid Plant	9	13	7/18/2000								2 U		2 U					2 U
B-61	Acid Plant	24	28	7/17/2000								100 U		100 U					100 U
B-64	Acid Plant	24	28	7/17/2000								100 U		100 U					100 U
B-65	Acid Plant	26	30	5/2/2001								40 U		40 U					40 U
B-67	Acid Plant	26	30	5/2/2001								2 U		2 U					2 U
(dup)		26	30	5/2/2001								2 UJ		2 UJ					2 UJ
APMIP-4	Acid Plant	26.8	28.8	2/14/2002															
APMIP-5	Acid Plant	28.2	30.2	2/14/2002															
APMIP-6	Acid Plant	29.3	31.3	2/13/2002															
APMIP-7	Acid Plant	28.5	30.5	2/13/2002															
APMIP-8	Acid Plant	30.7	32.7	2/14/2002															
APMIP-9	Acid Plant	26.0	28.0	2/13/2002															
		29.6	31.6	2/13/2002															
APMIP-10	Acid Plant	30.5	32.5	2/13/2002															
APMIP-11	Acid Plant	31.2	33.2	2/14/2002															
APMIP-12	Acid Plant	29.6	31.6	2/14/2002															
(dup)		29.6	31.6	2/14/2002															
APMIP-13	Acid Plant	30.0	62.0	2/14/2002															
APMIP-18	Acid Plant	28.0	30.0	2/14/2002															
INT-5	Acid Plant	41	44	6/12/2002															
(dup)		41	44	6/12/2002															
INT-10	Acid Plant	41	44	6/11/2002															
INT-11	Acid Plant	41	46	6/28/2002															
MWA-23	Chlorate Plant	15.2	25.2	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 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U
MWA-24	Chlorate Plant	24	34	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 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U
MWA-25	Chlorate Plant	23.7	33.7	11/15/2001	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
				4/9/2002	0.5 U	0.5 U	0.5 U	0.5 U	**0.96**	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
MWA-26	Chlorate Plant	21.2	31.2	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 U	0.5 U	2 U	2 U	2 U	0.5 U	0.5 U	2 U
MWA-27	Chlorate Plant	24	34	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 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U
(dup)				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 U	2.5 U	10 U	10 U	10 U	2.5 U	2.5 U	10 U
				4/9/2002	0.5 U	0.5 U	0.5 U	0.5 U	**0.66**	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

Monitoring Well	Date	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)
Hot Spot Screening Levels		**120 a**	**NE**	**7,000 a**	**NE**	**NE**	**NE**	**NE**	**NE**	**5,000 a**	**5 b**	**20 a**	**0.13 a**	**0.18 a**	**8.5 a**	**8.7 a**	**1,000 a**	**5 b**
MWA-14i	1/27/1999	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
	4/27/1999	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
	8/23/1999	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
	11/15/1999	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
	3/28/2001	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)	3/28/2001	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
	6/12/2001	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
	4/4/2002	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
	6/6/2003	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	8/26/1999	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
	11/17/1999	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	3/30/2001	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
	5/31/2001										U							
	6/15/2001	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
	4/16/2002	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
	6/10/2003	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
	10/2/2003																	
MWA-16i	8/25/1999	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
	11/17/1999	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
	3/28/2001	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
	6/12/2001	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
	4/10/2002	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
	6/5/2003	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	8/26/1999	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
	11/18/1999	100 U	100 U	4,000 U	400 U	4,000 U	400 U	400 U	4,000 U	4,000 UJ	100 U	400 UJ	100 U	100 U	100 U	100 U	100 U	100 U
(dup)	11/18/1999	100 U	100 U	4,000 U	400 U	4,000 U	400 U	400 U	4,000 U	4,000 UJ	100 U	400 UJ	100 U	100 U	100 U	100 U	100 U	100 U
	3/30/2001	500 U	500 U	20,000 UR	2,000 U	20,000 U	2,000 U	2,000 U	20,000 UR	20,000 UR	500 U	2,000 U	500 U	500 U	500 UJ	500 U	500 U	500 U
	6/18/2001	130 U	130 U	5,000 UR	500 U	5,000 U	500 U	500 U	5,000 UR	5,000 UR	130 U	500 U	130 U	130 U	130 UJ	130 UJ	130 U	130 U
	4/15/2002	250 U	250 U	10,000 UR	1,000 U	10,000 U	1,000 U	1,000 U	10,000 UR	10,000 UR	250 U	1,000 U	250 U	250 U	250 U	250 U	250 U	250 U
	6/9/2003	500 U	500 U	10,000 U	1,000 U	10,000 U	1,000 U	2000 U	5,000 U	20,000 U	500 U	500 U	500 U	500 U	500 U	2,000 U	1,000 U	500 U
MWA-18	3/27/2001	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
	6/13/2001	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
	4/4/2002	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
	6/6/2003	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	3/27/2001	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
	6/13/2001	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
	4/4/2002	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
	6/6/2003	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	3/27/2001	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
	6/13/2001	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
	4/9/2002	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
	6/5/2003	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	11/5/2001	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)	11/5/2001	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
	12/4/2001	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)	12/4/2001	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
	4/12/2002	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	6/15/2001	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
	4/11/2002	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
	6/10/2003	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	6/1/2001																	
	10/3/2003																	
NMP-1D	6/1/2001																	
	10/3/2003																	
NMP-2S	6/1/2001																	
NMP-2D	6/1/2001																	
	10/3/2003																	
NMP-3S	5/31/2001																	
NMP-3D	6/1/2001																	
	6/11/2003	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	6/1/2001																	
	10/3/2003																	
NMP-4D	6/1/2001																	
	6/10/2003	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)	6/10/2003	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
	10/3/2003																	
NMP-5S	6/1/2001																	
NMP-5D	6/1/2001																	
	10/3/2003																	
NMP-6S	6/1/2001																	
NMP-6D	6/1/2001																	
PMP-1	10/2/2003																	
PMP-2	10/2/2003																	
PMP-3	10/2/2003																	
B-55	2/19/1999				250 U		250 U	250 U										
B-56	2/19/1999				2 U		2 U	2 U										
B-59	8/3/1999	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	7/18/2000				2 U		2 U	2 U										
B-61	7/17/2000				100 U		100 U	100 U										
B-64	7/17/2000				100 U		100 U	100 U										
B-65	5/2/2001				40 U		40 U	40 U										
B-67	5/2/2001				2 U		2 U	2 U										
(dup)	5/2/2001				2 UJ		2 UJ	2 UJ										
APMIP-4	2/14/2002																	
APMIP-5	2/14/2002																	
APMIP-6	2/13/2002																	
APMIP-7	2/13/2002																	
APMIP-8	2/14/2002																	
APMIP-9	2/13/2002																	
	2/13/2002																	
APMIP-10	2/13/2002																	
APMIP-11	2/14/2002																	
APMIP-12	2/14/2002																	
(dup)	2/14/2002																	
APMIP-13	2/14/2002																	
APMIP-18	2/14/2002																	
INT-5	6/12/2002																	
(dup)	6/12/2002																	
INT-10	6/11/2002																	
INT-11	6/28/2002																	
MWA-23	4/5/2002	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-24	11/15/2001	2.5 U	2.5 U	100 UR	10 U	100 U	10 U	10 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	11/15/2001	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
	4/9/2002	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	**1.4**	**0.68**	0.5 UJ	0.5 U	0.5 U
MWA-26	4/5/2002	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-27	11/15/2001	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)	11/15/2001	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
	4/9/2002	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	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U

Table A-2
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen/Sample Depth ft bgs	Screen/Sample Depth ft bgs	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)
Hot Spot Screening Levels					100 b	4.6 a	0.17 a	160 a	70 b	0.40 a,f	0.13 a	NE	390 a	700 b	0.86 a	660 a,g	10000 b,h	11 a	5 b	6.2 a	240 a	240 a	10000 b,h	240 a	100 b	240 a	5 b	1,000 b	100 b, i,	0.4 a,f	5.0 b	1,300 a	2.0 b,j	10,000 b
MWA-14i	Acid Plant	44.1	49.1	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	
				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	
				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	
				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	
				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)				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	
				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	
				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	
				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	8/26/1999	**180000** 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	
				11/17/1999	**240000**	**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	3/30/2001	**260000**	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	
				5/31/2001	**190000** D		500 U								*	*	*		*	*	*													
				6/15/2001	**210000**	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	
				4/16/2002	**48000**	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	
				6/10/2003	**13300**	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	
				10/2/2003	**180000** D																													
MWA-16i	Acid Plant	39..2	44.2	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	
				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	
				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	
				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	
				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	
				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	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	
				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)				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	
				3/30/2001	**91,000**	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	2,000 U	2,000 U	500 U		1,000 U	2,000 U	2,000 U	2,000 U	500 U	2,000 U	500 U	2,000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	
				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	
				4/15/2002	**140,000**	250 U	**530**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	1,000 U	1,000 U	250 U		1,000 U	1,000 U	1,000 U	1,000 U	250 U	1,000 U	250 U	1,000 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	
				6/9/2003	**73,200**	500 U	550 U	2,000 U	500 U	500 U	500 U	500 U	500 U	500 U	2,000 U	2,000 U	1,000 U	1000 U	5,000 U	2,000 U	5,000 U	1,000 U	500 U	1,000 U	500 U	1,000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	
MWA-18	Acid Plant	19.2	29.2	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	
				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	
				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	
				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	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	
				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	
				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	
				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	3/27/2001	**2700**	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	
				6/13/2001	**1100**	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	
				4/9/2002	**1900**	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	
				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	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)				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	
				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)				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	
				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	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**	
				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**	
				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	6/1/2001	**29000** D		**310** D																											
				10/3/2003	**55500** D																													
NMP-1D	Acid Plant	29.1	34.1	6/1/2001	**190000** D		**510** D																											
				10/3/2003	**159000** D																													
NMP-2S	Acid Plant	19.5	29.5	6/1/2001	**23000** D		**270** D																											
NMP-2D	Acid Plant	31.5	36.5	6/1/2001	**100000** D		**350** D																											
				10/3/2003	**185000** D																													
NMP-3S	Acid Plant	19.5	29.5	5/31/2001	**25000** D		**200** D																											
NMP-3D	Acid Plant	30	35	6/1/2001	**120000** D		**480** D																											
				6/11/2003	**127000** 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	6/1/2001	**100000** D		**700** D																											
				10/3/2003	**111000** D																													
NMP-4D	Acid Plant	30	35	6/1/2001	**200000** D		**1200** D																											
				6/10/2003	**185000** 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)				6/10/2003	**146000** 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	
				10/3/2003	**147000** D																													
NMP-5S	Acid Plant	-	-	6/1/2001	**46000** D		**560** D																											
NMP-5D	Acid Plant	28.5	33.5	6/1/2001	**190000** D		**650** D																											
				10/3/2003	**229000** D																													
NMP-6S	Acid Plant	-	-	6/1/2001	**1900** D		**50** D																											
NMP-6D	Acid Plant	28.5	33.5	6/1/2001	**23000** D		**180** D																											
PMP-1	Acid Plant	24	34	10/2/2003	**205000** D																													
PMP-2	Acid Plant	23.8	33.8	10/2/2003	**135000** D																													
PMP-3	Acid Plant	25	35	10/2/2003	**44900** D																													
B-55	Acid Plant	-	-	2/19/1999											250 U	250 U				250 U		250 U												
B-56	Acid Plant	-	-	2/19/1999											2 U	2 U				2 U		2 U												
B-59	Acid Plant	20	24	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	7/18/2000											2 U	2 U				2 U		2 U												
B-61	Acid Plant	24	28	7/17/2000											100 U	100 U				100 U		100 U												
B-64	Acid Plant	24	28	7/17/2000											100 U	100 U				100 U		100 U												
B-65	Acid Plant	26	30	5/2/2001											40 U	40 U				40 U		40 U												
B-67	Acid Plant	26	30	5/2/2001											2 U	2 U				2 U		2 U												
(dup)		26	30	5/2/2001											2 UJ	2 UJ				2 UJ		2 UJ												
APMIP-4	Acid Plant	26.8	28.8	2/14/2002	**89800**	5000 U	5000 U																				5000 U							
APMIP-5	Acid Plant	28.2	30.2	2/14/2002	**268000**	10000 U	10000 U																				10000 U							
APMIP-6	Acid Plant	29.3	31.3	2/13/2002	**174000**	**265**	**782**																				**109**							
APMIP-7	Acid Plant	28.5	30.5	2/13/2002	**146000**	**150**	**793**																				**138**							
APMIP-8	Acid Plant	30.7	32.7	2/14/2002	**109000**	5000 U	5000 U																				5000 U							
APMIP-9	Acid Plant	26.0	28.0	2/13/2002	**35500**	100 U	**272**																				100 U							
		29.6	31.6	2/13/2002	**159000**	5000 U	5000 U																				5000 U							
APMIP-10	Acid Plant	30.5	32.5	2/13/2002	**502000**	**145**	**704**																				**109**							
APMIP-11	Acid Plant	31.2	33.2	2/14/2002	**184000**	5000 U	5000 U																				5000 U							
APMIP-12	Acid Plant	29.6	31.6	2/14/2002	**142000**	5000 U	5000 U																				5000 U							
(dup)		29.6	31.6	2/14/2002	**147000**	5000 U	5000 U																				5000 U							
APMIP-13	Acid Plant	30.0	62.0	2/14/2002	**155000**	5000 U	5000 U																				5000 U							
APMIP-18	Acid Plant	28.0	30.0	2/14/2002	**48100**	5000 U	5000 U																				5000 U							
INT-5	Acid Plant	41	44	6/12/2002	**60900**	500 U	500 U																				500 U							
(dup)		41	44	6/12/2002	**61600**	500 U	500 U																				500 U							
INT-10	Acid Plant	41	44	6/11/2002	**446**	5 U	5 U																				5 U							
INT-11	Acid Plant	41	46	6/28/2002	**80.9**	1 U	1 U																				1 U							
MWA-23	Chlorate Plant	15.2	25.2	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 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	U	0.5 U	0.5 U	
MWA-24	Chlorate Plant	24	34	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 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	
MWA-25	Chlorate Plant	23.7	33.7	11/15/2001	5 U	5 U	**300**	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	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
				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 U	2 U	0.5 U		2 U	2 U	2 U	2 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	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 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-27	Chlorate Plant	24	34	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 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	
(dup)				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 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	
				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 U	2 U	0.5 U		2 U	2 U	2 U	2 U	0.5 U	2 U	0.5 U	2 U	**0.59**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	

Table A-2
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth ft bgs	ft bgs	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)
Hot Spot Screening Levels					**0.43 a**	**200 b**	**0.055 a**	**5 b**	**810 a**	**7 b**	**NE**	**NE**	**0.0056 a**	**12 a**	**0.20 b**	**0.050 b**	**5 b**	**5 b**	**12 a**	**120 a**	**NE**	**7,000 a**	**NE**	**NE**	**NE**	**NE**	**NE**	**5,000 a**	**5 b**	**20 a**	**0.13 a**	**0.18 a**	**8.5 a**	**8.7 a**	**1,000 a**	**5 b**
MWA-28i(d)	Chlorate Plant	53.9	58.9	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 *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*	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*
				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 *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*	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*
MWA-29	Chlorate Plant	24.9	34.9	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 *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*	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*
MWA-30	Chlorate Plant	19.1	29.1	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*	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)				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*	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-31i(d)	Chlorate Plant	54.8	59.8	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 *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*	2 *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	6/5/2003	0.5 *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	6/6/2003	2.5 *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:
ug/L - micrograms per liter
ft bgs - feet below ground surface
U - Undetected at detection limit shown
R - Data Rejected, not used for delineation of hot spot
J - Estimated
D - The reported result is from a dilution.
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation
"-" - not analyzed/reported

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
f - Value for 1,3-Dichloropropene used
g - Value for Cumene (isopropylbenzene) used
h - Value for Total Xylenes used
i - Value for 1,2-Dichloroethylene (trans) used
j - Value for Vinyl chloride (child/adult)+++ used

Table A-2
Groundwater Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen/ Sample Depth ft bgs	Screen/ Sample Depth ft bgs	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)
Hot Spot Screening Levels					**100 b**	**4.6 a**	**0.17 a**	**160 a**	**70 b**	**0.40 a,f**	**0.13 a**	**NE**	**390 a**	**700 b**	**0.86 a**	**660 a,g**	**10000 b,h**	**11 a**	**5 b**	**6.2 a**	**240 a**	**240 a**	**10000 b,h**	**240 a**	**100 b**	**240 a**	**5 b**	**1,000 b**	**100 b, i,**	**0.4 a,f**	**5.0 b**	**1,300 a**	**2.0 b,j**	**10,000 b**
MWA-28i(d)	Chlorate Plant	53.9	58.9	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 *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*	
				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 *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-29	Chlorate Plant	24.9	34.9	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 *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-30	Chlorate Plant	19.1	29.1	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 *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*	
(dup)				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 *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-31i(d)	Chlorate Plant	54.8	59.8	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 *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-33a	Chlorate Plant	20	30	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	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:
ug/L - micrograms per liter
ft bgs - feet below ground surface
U - Undetected at detection limit shown
R - Data Rejected, not used for delineation of hot spot
J - Estimated
D - The reported result is from a dilution.
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone vali
"-" - not analyzed/reported

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122
b - MCL = Maximum Contaminant Levels; National Primar
c - 2nd DW Std = Secondary Standards; National Secondary
d - AL = Action Level; National Primary Drinking Water Re
f - Value for 1,3-Dichloropropene used
g - Value for Cumene (isopropylbenzene) used
h - Value for Total Xylenes used
i - Value for 1,2-Dichloroethylene (trans) used
j - Value for Vinyl chloride (child/adult)+++ used

Table A-3
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	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)
Hot Spot Screening Levels						**70 b**	**600 b**	**180 a**	**75 b**	**3,600 a**	**3.6 a**	**110 a**	**730 a**	**73 a**	**73 a**	**36 a**	**NE**	**30 a**	**NE**	**NE**	**1,800 a**	**110 a**	**NE**	**100,000 a**	**NE**	**180 a,e**	**180 a,e**	**3.2 a**	**NE**
MWA-1	Acid Plant	23	33	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	0.1 U	0.1 U	**39**	1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**67**	**4.5**		0.5 U	0.1 U
				4/29/1999	8270 SIM	0.1 UJ	**4.3**	**0.2**	**11.0** J	0.5 U	**1.9**	**1.8**	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**67.0**	1.0 U	**0.1**	0.5 U	0.1 U	0.5 U	0.1 U	**110.0**	**4.5**		0.5 U	0.1 U
MWA-2	Acid Plant	21.5	31.5	1/27/1999	8270 SIM	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	**1.6**	1.0 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	0.1 U
				4/27/1999	8270 SIM	0.1 UJ	**0.3**	0.1 U	**0.8** J	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**2.7**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**2.9**	0.5 U		0.5 U	0.1 U
(dup)				4/27/1999	8270 SIM	0.1 UJ	**0.3**	0.1 U	**0.9** J	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**2.8**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**2.9**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**5.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**10.0**	**0.7**		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**4.7**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**15.0**	0.5 U		0.5 U	0.1 U
				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	24.0 U	9.7 U	9.7 U	9.7 U	**11.0**	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U			9.7 U	24.0 U	9.7 U
				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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U				24.0 U	9.7 U
MWA-3	Acid Plant	20.7	30.7	1/27/1999	8270 SIM	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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	0.1 U
				4/28/1999	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	5.0 UR	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				3/29/2001	8270C	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	26 U	10 U	10 U	10 U	10 U	26 U	10 U	10 U	26 U	10 U	26 U			10 U	26 U	10 U
				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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U				24.0 U	9.7 U
MWA-4	Acid Plant	19.5	29.5	1/28/1999	8270 SIM	0.1 U	**0.1**	0.1 U	**0.3**	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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	0.1 U
(dup)				1/28/1999	8270 SIM	0.1 U	**0.1**	0.1 U	**0.3**	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	**0.5**	0.5 U		0.5 U	0.1 U
				4/28/1999	8270 SIM	**0.1** J	**0.1**	0.1 U	**0.4** J	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				3/29/2001	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	**11**	25 U	10 U	10 U	25 U	10 U	25 U			10 U	25 U	10 U
				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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U				24.0 U	9.7 U
MWA-5	Acid Plant	35.7	38.2	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	0.5 U	5.0 UJ	0.1 UJ	0.1 U	0.1 U	0.5 U	1.0 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	**0.5**	0.5 U		0.5 U	0.1 U
				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	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	0.5 U	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**0.8**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**0.6**	1.0 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
				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	5.0 U	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	24.0 U				24.0 U	9.5 U
				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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U				24.0 U	9.7 U
MWA-6	Acid Plant	30.8	33.6	1/27/1999	8270 SIM	0.10 UJ	0.10 U	0.10 U	0.10 UJ	0.50 U	0.50 U	0.50 U	0.50 U	5.00 UJ	0.10 UJ	0.10 U	0.10 U	**0.50**	1.00 U	0.10 U	0.50 U	0.10 U	0.50 UR	0.10 U	0.50 U	0.50 U		0.50 U	0.10 U
				4/29/1999	8270 SIM	0.10 UJ	0.10 U	0.10 U	0.10 UJ	0.50 U	0.50 U	0.50 U	0.50 U	5.00 UR	0.10 U	0.10 U	0.10 U	**1.00**	1.00 U	0.10 U	0.50 U	0.10 U	0.50 U	0.10 U	0.50 U	0.50 U		0.50 U	0.10 U
MWA-6r	Acid Plant	28.2	33.2	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	5.0 UJ	0.1 U	0.1 U	0.1 U	**1.4**	1.0 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
				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	5.0 U	0.1 U	0.1 U	0.1 U	**3.6**	1.0 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
				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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U				24.0 U	9.7 U
				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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U				24.0 U	9.6 U
MWA-7	Acid Plant	30.3	32.8	1/26/1999	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	5.0 UJ	0.1 UJ	0.1 U	0.1 U	0.5 U	1.0 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	0.1 U
				4/26/1999	8270 SIM	0.1 UJ	**0.6**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	**0.8**	5.0 UR	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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**	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 UJ			9.6 U	24.0 U	9.6 U
				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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U				24.0 U	9.6 U
MWA-8i	Acid Plant	42	47	1/27/1999	8270 SIM	0.1 U	**0.5**	0.1 U	**0.3**	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	**24.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	**42.0**	0.5 U		0.5 U	0.1 U
				4/27/1999	8270 SIM	0.1 UJ	**0.5**	0.1 U	0.1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**42.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**40.0**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**14.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**16.0**	0.5 U		0.5 U	0.1 U
(dup)				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**12.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**17.0**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**19.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**18.0**	0.5 U		0.5 U	0.1 U
				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	25.0 U	9.9 U	9.9 U	9.9 U	**27.0**	25.0 U	9.9 U	9.9 U	25.0 U	9.9 U	25.0 U			9.9 U	25.0 U	9.9 U
				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	24.0 U	9.6 U	9.6 U	9.6 U	**15.0**	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U				24.0 U	9.6 U
MWA-9i	Acid Plant	40	45	1/28/1999	8270 SIM	0.1 U	**4.8**	**0.1**	**8.0**	0.5 U	0.5 U	**3.3**	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	**77.0**	1.0 U	**0.2**	0.5 U	0.1 U	0.5 UR	0.1 U	**110.0**	0.5 U		0.5 U	0.1 U
				4/28/1999	8270 SIM	0.1 UJ	**3.5**	0.1 U	**6.0** J	0.5 U	0.5 U	**2.7**	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**91.0**	1.0 U	**0.1**	0.5 U	0.1 U	0.5 U	0.1 U	**120.0**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**80.0**	1.0 U	**0.2**	0.5 U	0.1 U	0.5 U	0.1 U	**150.0**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**72.0**	1.0 U	**0.2**	0.5 U	0.1 U	0.5 U	0.1 U	**70.0**	0.5 U		0.5 U	0.1 U
				3/30/2001	8270C	9.7 U	9.7 U	9.7 U	**14.0**	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U	**180.0**	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U			9.7 U	24.0 UJ	9.7 U
				6/18/2001	8270C	9.6 U	9.6 U	9.6 U	**13.0**	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U	**180.0**	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U				24.0 U	9.6 U
MWA-10i	Acid Plant	40.3	45.3	1/28/1999	8270 SIM	0.1 U	**1.2**	0.1 U	**2.2**	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UJ	0.1 U	0.1 U	0.1 U	**21.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 UR	0.1 U	**52.0**	0.5 U		0.5 U	0.1 U
				4/28/1999	8270 SIM	0.1 UJ	**1.6**	0.1 U	**2.8** J	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**35.0**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**120.0**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**18.0**	1.0 UJ	0.1 U	0.5 U	0.1 U	0.5 U	0.1 UJ	**18.0**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	24.0 U			9.5 U	24.0 UJ	9.5 U
				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	24.0 U	9.6 U	9.6 U	9.6 U	**13.0**	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U				24.0 U	9.6 U
MWA-11i	Acid Plant	46	51	1/29/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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	0.1 U
				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	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 U	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U			9.6 U	24.0 UJ	9.6 U
				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	25.0 U	9.8 U	9.8 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	25.0 U	9.8 U	25.0 U				25.0 U	9.8 U
(dup)				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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	24.0 U				24.0 U	9.6 U
MWA-12i	Acid Plant	42	52	1/26/1999	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	5.0 UJ	0.1 UJ	0.1 U	0.1 U	0.5 U	1.0 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	0.1 U
				4/26/1999	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	5.0 UR	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	0.5 U	1.0 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
				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	25.0 U	9.9 U	9.9 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	25.0 U	9.9 U	25.0 UJ			9.9 U	25.0 U	9.9 U
				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	25.0 U	9.8 U	9.8 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	25.0 U	9.8 U	25.0 U				25.0 U	9.8 U
MWA-13d	Acid Plant	51	53	1/28/1999	8270 SIM	0.10 U	0.10 U	0.10 U	0.10 U	0.50 U	0.50 U	0.50 U	0.50 U	5.00 UJ	0.10 U	0.10 U	0.10 U	**0.70**	1.00 U	0.10 U	0.50 U	0.10 U	0.50 UR	0.10 U	**0.50**	0.50 U		0.50 U	0.10 U
				4/28/1999	8270 SIM	0.1 UJ	0.1 U	0.1 U	**0.1** J	0.5 U	0.5 U	0.5 U	0.5 U	5.0 UR	0.1 U	0.1 U	0.1 U	**1.3**	1.0 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U	**4.2**	0.5 U		0.5 U	0.1 U
				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	5.0 UJ	0.1 U	0.1 U	0.1 U	**3.0**	1.0 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
				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	5.0 U	0.1 U	0.1 U	0.1 U	**2.2**	1.0 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
				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	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	24.0 U			9.5 U	24.0 U	9.5 U
				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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	24.0 U				24.0 U	9.7 U

Table A-3
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Date	4-Chloro-3-methylphenol (µg/L)	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)
Hot Spot Screening Levels					**NE**	**150 a**	**NE**	**180 a**	**3.2 a**	**NE**	**370 a**	**NE**	**12 a**	**1,800 a**	**0.092 a**	**0.2 b**	**0.092 a**	**NE**	**0.92 a**	**150,000 a**	**11,000 a**	**NE**	**100 a**	**0.27 a**	**6 b**	**7,300 a**	**3.4 a**	**9.2 a**
MWA-1	Acid Plant	23	33	1/29/1999	0.5 U	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	**25** J	1 U	0.1 U	0.1 U	0.1 U	2 U	0.1 U	0.1 U	0.1 U
				4/29/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.1**	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**7.0**	1.0 U	0.1 U	0.1 U	0.1 U	0.3 U	0.1 U	0.1 U	0.1 U
MWA-2	Acid Plant	21.5	31.5	1/27/1999	0.5 U	0.5 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	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/27/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	1.0 U	0.1 U	0.1 U	0.1 U
(dup)				4/27/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	12.0 U	0.1 U	0.1 U	0.1 U
				8/24/1999	0.5 U	0.5 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	5.0 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
				11/16/1999	0.5 U	0.5 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	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
				3/29/2001	9.7 U	9.7 U	9.7 U		24.0 U	24.0 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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U		9.7 U
				6/12/2001	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	24.0 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	24.0 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	1/27/1999	0.5 U	0.5 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	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/28/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.3 U	0.1 U	0.1 U	0.1 U
				8/24/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	**0.5**	0.1 U
				11/16/1999	0.5 U	0.5 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	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
				3/29/2001	10 U	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
				6/14/2001	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	24.0 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	24.0 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	1/28/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	0.1 U	0.1 U		**0.2**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	**0.3**	0.1 U
(dup)				1/28/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	0.1 U	0.1 U		**0.2**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	**0.3**	0.1 U
				4/28/1999	0.5 U	0.5 U	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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.3 U	0.1 U	**0.1**	**0.1**
				8/25/1999	0.5 U	0.5 U	0.1 U		0.5 UJ	1.0 U	0.1 U	0.1 U		**0.1**	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	5.0 UJ	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	**0.1**	**0.1**
				11/16/1999	0.5 U	0.5 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	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
				3/29/2001	10 U	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
				6/14/2001	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	24.0 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	24.0 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	1/27/1999	0.5 U	0.5 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	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	3.0 U	0.1 U	0.1 U	0.1 U
				4/27/1999	0.5 U	0.5 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	5.0 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
				8/23/1999	0.5 U	0.5 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	5.0 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
				11/15/1999	0.5 U	0.5 UJ	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	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
				3/28/2001	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	24.0 U	9.5 U	9.5 U	24.0 UJ	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U		9.5 U
				6/12/2001	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	24.0 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	24.0 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	1/27/1999	0.50 U	0.50 U	0.10 U		0.50 U	1.00 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	5.00 UR	1.00 U	0.10 U	0.10 U	0.10 U	2.00 U	**0.10**	**0.10**	**0.10**
				4/29/1999	0.50 U	0.50 U	0.10 U		0.50 U	1.00 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	5.00 U	1.00 U	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	**0.50**	0.10 U
MWA-6r	Acid Plant	28.2	33.2	8/25/1999	0.5 U	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	5.0 UJ	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	**0.1**
				11/17/1999	0.5 U	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	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	**0.3**
				3/28/2001	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	24.0 U	9.7 U	9.7 U	24.0 UJ	9.7 U	9.7 U	9.7 U	9.7 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		9.7 U
				6/12/2001	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	24.0 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	24.0 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	1/26/1999	0.5 U	0.5 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	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	**0.2**	0.1 U	0.1 U
				4/26/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.4 U	0.1 U	0.1 U	0.1 U
				8/23/1999	0.5 U	0.5 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	5.0 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
				11/15/1999	0.5 U	0.5 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	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
				3/26/2001	9.6 U	9.6 U	9.6 U		24.0 U	24.0 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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U		9.6 U
				6/11/2001	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	24.0 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	24.0 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	1/27/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.2**	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/27/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.4**	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.6 U	0.1 U	0.1 U	0.1 U
				8/24/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 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	5.0 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
(dup)				8/24/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 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	5.0 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
				11/16/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 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	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				3/29/2001	9.9 U	9.9 U	9.9 U		25.0 U	25.0 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U		9.9 U
				6/12/2001	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	24.0 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	24.0 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	1/28/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.4**	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**12.0** J	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/28/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.3**	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	5.0 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
				8/25/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.3**	0.1 U		**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**14.0**	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				11/16/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 U	**0.4**	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**12.0**	1.0 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
				3/30/2001	9.7 U	9.7 U	9.7 U		24.0 U	24.0 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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U		9.7 U
				6/18/2001	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	24.0 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	24.0 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	1/28/1999	0.5 U	0.5 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	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/28/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.6 U	0.1 U	0.1 U	0.1 U
				8/25/1999	0.5 U	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	5.0 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
				11/16/1999	0.5 U	0.5 U	0.1 U		0.5 U	1.0 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**
				3/29/2001	9.5 U	9.5 U	9.5 U		24.0 U	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U		9.5 U
				6/14/2001	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	24.0 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	24.0 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	1/29/1999	0.5 UJ	0.5 UJ	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	5.0 UR	1.0 U	0.1 UJ	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/27/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.4 U	0.1 U	0.1 U	0.1 U
				8/26/1999	0.5 U	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	5.0 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
				11/17/1999	0.5 U	0.5 UJ	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	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
				3/30/2001	9.6 U	9.6 U	9.6 U		24.0 U	24.0 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	24.0 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U		9.6 U
				6/15/2001	9.8 U	9.8 U	9.8 U	9.8 U	25.0 U	25.0 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U		9.8 U
(dup)				6/15/2001	9.6 U	9.6 U	9.6 U	9.6 U	24.0 U	24.0 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	24.0 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	1/26/1999	0.5 U	0.5 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	5.0 UR	1.0 U	0.1 U	0.1 U	0.1 U	2.0 U	0.1 U	0.1 U	0.1 U
				4/26/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	0.8 U	0.1 U	0.1 U	0.1 U
				8/23/1999	0.5 U	0.5 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	5.0 U	1.0 U	0.1 U	0.1 U	0.1 U	**0.7**	0.1 U	0.1 U	0.1 U
				11/15/1999	0.5 U	0.5 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	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
				3/26/2001	9.9 U	9.9 U	9.9 U		25.0 U	25.0 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U		9.9 U
				6/11/2001	9.8 U	9.8 U	9.8 U	9.8 U	25.0 U	25.0 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	25.0 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	1/28/1999	0.50 U	0.50 U	0.10 U		0.50 U	1.00 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	5.00 UR	1.00 U	0.10 U	0.10 U	0.10 U	2.00 U	0.10 U	0.10 U	0.10 U
				4/28/1999	0.5 U	0.5 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	5.0 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
				8/25/1999	0.5 U	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	5.0 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
				11/18/1999	0.5 U	0.5 UJ	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	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
				3/29/2001	9.5 U	9.5 U	9.5 U		24.0 U	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U		9.5 U
				6/14/2001	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	24.0 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	24.0 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U		9.7 U

Table A-3
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen/ Sample Depth (ft bgs)	(ft bgs)	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)
Hot Spot Screening Levels					**0.0092 a**	**12 a**	**29,000 a**	**360,000 a**	**3,600 a,f**	**1500 a**	**1,500 a**	**240 a**	**1.0 b**	**0.86 a**	**50 b**	**4.8 a**	**0.092 a**	**71 a**	**6.2 a**	**3.4 a**	**0.0013 a**	**0.0096 a**	**14 a**	**1.0 b**	**NE**	**11,000 a**	**180 a**
MWA-1	Acid Plant	23	33	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
				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	1.0 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**	**0.2**
MWA-2	Acid Plant	21.5	31.5	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**	1.0 U	**4.0**	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
				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**	1.0 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)				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**	1.0 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
				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	1.0 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
				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	1.0 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
				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	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
				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 UJ	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
MWA-3	Acid Plant	20.7	30.7	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**	1.0 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
				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	1.0 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 U
				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**	1.0 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
				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**	1.0 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
				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
				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	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
MWA-4	Acid Plant	19.5	29.5	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	1.0 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)				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	1.0 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**
				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	1.0 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**
				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	1.0 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**
				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	1.0 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
				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
				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	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
MWA-5	Acid Plant	35.7	38.2	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	1.0 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**
				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	1.0 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
				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	1.0 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
				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	1.0 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
				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	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U
				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	24.0 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	1/27/1999	0.10 U	0.10 U	**0.10**	0.10 U	0.10 U	0.10 U	**0.50**	0.10 U	**0.10**	**29.00**	1.00 U	**15.00**	0.10 U	0.10 U	**0.10**	0.10 U		0.10 U	0.10 U	**18.00**	0.10 U	0.50 U	**0.40**
				4/29/1999	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.10 U	**0.30**	0.10 U	0.10 U	**23.00**	1.00 UJ	**0.60**	0.10 U	0.10 U	**0.20**	0.10 U		0.10 U	0.10 U	**12.00**	**0.30**	0.50 U	**0.20**
MWA-6r	Acid Plant	28.2	33.2	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**	1.0 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**
				11/17/1999	0.1 U	0.1 U	**0.1**	0.1 U	0.1 U	0.1 U	**1.0**	0.1 U	0.1 U	**0.5**	1.0 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**
				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	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
MWA-7	Acid Plant	30.3	32.8	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	1.0 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
				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	0.1 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	0.5 U	0.1 U	0.5 U	0.1 U
				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	1.0 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
				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	1.0 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
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
MWA-8i	Acid Plant	42	47	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	1.0 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**
				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	0.1 U	1.0 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**
				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	1.0 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)				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	1.0 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
				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	1.0 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**
				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	25.0 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	9.9 U
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
MWA-9i	Acid Plant	40	45	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	1.0 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**	**0.5**
				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	1.0 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**
				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	1.0 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**	**0.6**
				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	1.0 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**	**0.5**
				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	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
MWA-10i	Acid Plant	40.3	45.3	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	1.0 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
				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	1.0 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**
				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	1.0 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**
				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	1.0 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**
				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	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
MWA-11i	Acid Plant	46	51	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 UJ	1.0 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
				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	1.0 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
				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	1.0 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
				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	1.0 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
				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
				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	25.0 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	9.8 U
(dup)				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	24.0 U	9.6 U	9.6 U	24.0 U	9.6 U	9.6 U	9.6 U
MWA-12i	Acid Plant	42	52	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	1.0 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
				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	1.0 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
				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	1.0 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
				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	1.0 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
				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	25.0 U	9.9 U	9.9 U	25.0 U	9.9 U	9.9 U	9.9 U
				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	25.0 U	9.8 U	9.8 U	25.0 U	9.8 U	9.8 U	9.8 U
MWA-13d	Acid Plant	51	53	1/28/1999	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	1.00 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	0.10 U	0.50 UJ	0.10 U	0.50 U	0.10 U
				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	1.0 U	0.1 U	0.1 U	0.1 U	**0.1**	0.1 U		0.1 U	0.1 U	0.5 U	0.1 U	0.5 U	0.1 U
				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	1.0 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
				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	1.0 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
				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	24.0 U	9.5 U	9.5 U	24.0 U	9.5 U	9.5 U	9.5 U
				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	24.0 U	9.7 U	9.7 U	24.0 U	9.7 U	9.7 U	9.7 U

Table A-3
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	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)
Hot Spot Screening Levels						**70 b**	**600 b**	**180 a**	**75 b**	**3,600 a**	**3.6 a**	**110 a**	**730 a**	**73 a**	**73 a**	**36 a**	**NE**	**30 a**	**NE**	**NE**	**1,800 a**	**110 a**	**NE**	**100,000 a**	**NE**	**180 a,e**	**180 a,e**	**3.2 a**	**NE**
MWA-14i	Acid Plant	44.1	49.1	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*	0.5 *U*	5.0 *UJ*	0.1 *UJ*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *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*	0.1 *U*
				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*	0.5 *U*	5.0 *UR*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *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*
				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*	5.0 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *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*
				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*	5.0 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *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*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*				24.0 *U*	9.6 *U*
(dup)				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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*				24.0 *U*	9.6 *U*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*				24.0 *U*	9.6 *U*
MWA-15	Acid Plant	23.5	32.4	8/26/1999	8270 SIM	0.1 *UJ*	**7.9**	**1.4**	**53.0** *J*	0.5 *U*	**1.2**	**3.4**	0.5 *U*	5.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**160.0**	1.0 *U*	**0.1**	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**160.0**	**2.2**		0.5 *U*	0.1 *U*
				11/17/1999	8270 SIM	0.5 *UJ*	**13.0**	**2.8**	**83.0** *J*	2.5 *U*	2.5 *U*	**3.0**	2.5 *UJ*	25.0 *U*	0.5 *U*	0.5 *U*	0.5 *U*		5.0 *U*	0.5 *U*	2.5 *U*	0.5 *U*	2.5 *UJ*	0.5 *U*	**290.0**	**3.0**		2.5 *U*	0.5 *U*
MWA-15r	Acid Plant	22.4	32.4	3/30/2001	8270C	9.5 *U*	**22.0**	9.5 *U*	**83.0**	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*		24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	24.0 *U*			9.5 *U*	24.0 *UJ*	9.5 *U*
				6/15/2001	8270C	9.5 *U*	**22.0**	9.5 *U*	**80.0**	9.5 *U*	9.5 *U*	**12.0**	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*		24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	24.0 *U*				24.0 *U*	9.5 *U*
MWA-16i	Acid Plant	39.2	44.2	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*	5.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *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*
				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*	5.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *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*
				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*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	24.0 *U*				24.0 *U*	9.5 *U*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*				24.0 *U*	9.6 *U*
MWA-17si	Acid Plant	33.6	35.1	8/26/1999	8270 SIM	0.1 *UJ*	**3.3**	**0.3**	**13.0** *J*	0.5 *U*	**0.5**	**2.5**	0.5 *U*	5.0 *UJ*	0.1 *U*	0.1 *U*	0.1 *U*	**15.0**	1.0 *UJ*	0.1 *U*	0.5 *U*	0.1 *U*	0.5 *U*	0.1 *UJ*	**27.0**	0.5 *U*		0.5 *U*	0.1 *U*
				11/18/1999	8270 SIM	0.1 *UJ*	**7.2**	**0.8**	**28.0** *J*	0.5 *U*	**0.9**	**1.0**	0.5 *UJ*	5.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**42.0**	1.0 *U*	**0.2**	0.5 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	**52.0**	0.5 *U*		0.5 *U*	0.1 *U*
(dup)				11/18/1999	8270 SIM	0.1 *UJ*	**7.4**	**0.9**	**29.0** *J*	0.5 *U*	**1.0**	**1.0**	0.5 *UJ*	5.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**41.0**	1.0 *U*	**0.2**	0.5 *U*	0.1 *U*	0.5 *UJ*	0.1 *U*	**52.0**	0.5 *U*		0.5 *U*	0.1 *U*
				3/30/2001	8270C	9.6 *U*	**13.0**	9.6 *U*	**49.0**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	**74.0**	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*			9.6 *U*	24.0 *UJ*	9.6 *U*
				6/18/2001	8270C	9.6 *U*	9.6 *U*	9.6 *U*	**36.0**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	**55.0**	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*				24.0 *U*	9.6 *U*
MWA-18	Acid Plant	19.2	29.2	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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *UJ*			9.6 *U*	24.0 *U*	9.6 *U*
				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*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	24.0 *U*				24.0 *U*	9.5 *U*
MWA-19	Acid Plant	19.2	29.2	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*	24.0 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	24.0 *U*	9.7 *U*	9.7 *U*	24.0 *U*	9.7 *U*	24.0 *UJ*			9.7 *U*	24.0 *U*	9.7 *U*
				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*	25.0 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	25.0 *U*				25.0 *U*	9.8 *U*
MWA-20	Acid Plant	24.7	34.7	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*
				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*	25.0 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	25.0 *U*				25.0 *U*	9.8 *U*
MWA-22	Acid Plant	24.7	34.7	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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	24.0 *U*				24.0 *U*	9.6 *U*
MWA-30	Chlorate Plant	19.1	29.1	6/4/2003	8270C																								
MWA-32i	Chlorate Plant	37	42	6/4/2003	8270C																								
(dup)				6/4/2003	8270C																								
B-59	Acid Plant	20	24	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*	5.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	1.0 *U*	0.1 *U*	**1.1**	0.1 *U*	0.5 *U*	0.1 *UJ*			4.7 *U*	0.5 *U*	0.1 *U*

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown
J - Estimated
R - Data Rejected, not used for delineation of h
- Value exceeds Hot Spot Screening Level
- not analyzed
ft bgs - Feet below ground surface

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
e - Value for 4-Methylphenol used
f - Value for Dibutyl pthalates used

Table A-3
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen / Sample Depth (ft bgs)	(ft bgs)	Date	4-Chloro-3-methylphenol (µg/L)	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)
Hot Spot Screening Levels					**NE**	**150 a**	**NE**	**180 a**	**3.2 a**	**NE**	**370 a**	**NE**	**12 a**	**1,800 a**	**0.092 a**	**0.2 b**	**0.092 a**	**NE**	**0.92 a**	**150,000 a**	**11,000 a**	**NE**	**100 a**	**0.27 a**	**6 b**	**7,300 a**	**3.4 a**	**9.2 a**
MWA-14i	Acid Plant	44.1	49.1	1/27/1999	0.5 *U*	0.5 *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*	5.0 *UR*	1.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	2.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*
				4/27/1999	0.5 *U*	0.5 *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*	5.0 *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*
				8/23/1999	0.5 *U*	0.5 *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*	5.0 *U*	1.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**1.2**	0.1 *U*	0.1 *U*	0.1 *U*
				11/15/1999	0.5 *U*	0.5 *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*	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*
				3/28/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *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*		9.6 *U*
(dup)				3/28/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *UJ*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *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*		9.6 *U*
				6/12/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	24.0 *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*	24.0 *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	8/26/1999	0.5 *U*	0.5 *U*	0.1 *U*		0.5 *U*	1.0 *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*	**130.0** *J*	1.0 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**3.6**	0.1 *U*	0.1 *U*	0.1 *U*
				11/17/1999	2.5 *U*	2.5 *UJ*	0.5 *U*		2.5 *U*	5.0 *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*	**140.0**	5.0 *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	3/30/2001	9.5 *U*	9.5 *U*	9.5 *U*		24.0 *U*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	95.0 *U*	95.0 *U*	95.0 *U*	95.0 *U*	**170.0**	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*		9.5 *U*
				6/15/2001	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	19.0 *U*	19.0 *U*	19.0 *U*	19.0 *U*	**130.0**	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	8/25/1999	0.5 *U*	0.5 *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 *UJ*	0.1 *UJ*	0.1 *U*	5.0 *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*
				11/17/1999	0.5 *U*	0.5 *UJ*	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*	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*
				3/28/2001	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *UJ*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*		9.5 *U*
				6/12/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	24.0 *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*	24.0 *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	8/26/1999	0.5 *U*	0.5 *U*	0.1 *U*		0.5 *UJ*	1.0 *U*	**0.3**	0.1 *U*		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**12.0** *J*	**2.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	**0.1**	**0.4**	0.1 *U*
				11/18/1999	0.5 *U*	0.5 *UJ*	0.1 *U*		0.5 *U*	1.0 *U*	**0.2**	0.1 *U*		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**18.0**	**3.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**0.2** *J*	0.1 *U*
(dup)				11/18/1999	0.5 *U*	0.5 *UJ*	0.1 *U*		0.5 *U*	1.0 *U*	**0.2**	0.1 *U*		0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	0.1 *U*	**16.0**	**3.0**	0.1 *U*	0.1 *U*	0.1 *U*	0.5 *U*	0.1 *U*	**0.2**	0.1 *U*
				3/30/2001	9.6 *U*	9.6 *U*	9.6 *U*		24.0 *U*	24.0 *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*	**32.0**	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*		9.6 *U*
				6/18/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	24.0 *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*	24.0 *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	3/27/2001	9.6 *U*	9.6 *U*	9.6 *U*		24.0 *U*	24.0 *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*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*		9.6 *U*
				6/13/2001	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *U*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	24.0 *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	3/27/2001	9.7 *U*	9.7 *U*	9.7 *U*		24.0 *U*	24.0 *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*	24.0 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*		9.7 *U*
				6/13/2001	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25.0 *U*	25.0 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25.0 *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	3/27/2001	10 *U*	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*
				6/13/2001	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25.0 *U*	25.0 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	9.8 *U*	25.0 *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	6/15/2001	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	24.0 *U*	24.0 *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*	24.0 *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	6/4/2003							0.100 *U*	0.100 *U*		0.100 *U*	0.100 *U*	0.100 *U*	0.100 *U*	0.100 *U*	0.100 *U*									0.100 *U*
MWA-32i	Chlorate Plant	37	42	6/4/2003							**0**	0 *U*		**0**	0 *U*	0 *U*	0 *U*	0 *UJ*	0 *U*									0 *U*
(dup)				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	8/3/1999	0.5 *U*	0.5 *U*	0.1 *U*		0.5 *U*	1.0 *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*	**34.0**	**1.0**	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 - Data Rejected, not used for delineation of h
- Value exceeds Hot Spot Screening Level
- not analyzed
ft bgs - Feet below ground surface

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(
b - MCL = Maximum Contaminant Levels; National Primary Drin
c - 2nd DW Std = Secondary Standards; National Secondary Drin
d - AL = Action Level; National Primary Drinking Water Regulat
e - Value for 4-Methylphenol used
f - Value for Dibutyl pthalates used

Table A-3
Groundwater Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Screen/ Sample Depth (ft bgs)	(ft bgs)	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)
Hot Spot Screening Levels					**0.0092 a**	**12 a**	**29,000 a**	**360,000 a**	**3,600 a,f**	**1500 a**	**1,500 a**	**240 a**	**1.0 b**	**0.86 a**	**50 b**	**4.8 a**	**0.092 a**	**71 a**	**6.2 a**	**3.4 a**	**0.0013 a**	**0.0096 a**	**14 a**	**1.0 b**	**NE**	**11,000 a**	**180 a**
MWA-14i	Acid Plant	44.1	49.1	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*	1.0 *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*
				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*	1.0 *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*
				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*	1.0 *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*
				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*	1.0 *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*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
(dup)				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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
MWA-15	Acid Plant	23.5	32.4	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*	1.0 *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**	0.1 *U*
				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*	5.0 *UJ*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*	0.5 *U*		0.5 *U*	0.5 *U*	**7.0** *J*	0.5 *U*	**19.0**	0.5 *U*
MWA-15r	Acid Plant	22.4	32.4	3/30/2001	95.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	95.0 *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*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	**32.0**	9.5 *U*
				6/15/2001	19.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	19.0 *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*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	**31.0**	9.5 *U*
MWA-16i	Acid Plant	39.2	44.2	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*	1.0 *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*
				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*	1.0 *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**
				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*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
MWA-17si	Acid Plant	33.6	35.1	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*	1.0 *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**
				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*	1.0 *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*	**1.0** *J*	**0.2**
(dup)				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*	1.0 *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**	**1.8** *J*	**0.2**
				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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
				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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
MWA-18	Acid Plant	19.2	29.2	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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	9.6 *U*	9.6 *U*
				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*	24.0 *U*	9.5 *U*	9.5 *U*	24.0 *U*	9.5 *U*	9.5 *U*	9.5 *U*
MWA-19	Acid Plant	19.2	29.2	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*	24.0 *U*	9.7 *U*	9.7 *U*	24.0 *U*	9.7 *U*	9.7 *U*	9.7 *U*
				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*	25.0 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	9.8 *U*	9.8 *U*
MWA-20	Acid Plant	24.7	34.7	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*
				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*	25.0 *U*	9.8 *U*	9.8 *U*	25.0 *U*	9.8 *U*	9.8 *U*	9.8 *U*
MWA-22	Acid Plant	24.7	34.7	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*	24.0 *U*	9.6 *U*	9.6 *U*	24.0 *U*	9.6 *U*	**95.0**	9.6 *U*
MWA-30	Chlorate Plant	19.1	29.1	6/4/2003	0.200 *U*						0.100 *U*	0.100 *U*					0.100 *U*		0.100 *U*						0.110 *U*		0.100 *U*
MWA-32i	Chlorate Plant	37	42	6/4/2003	0 *U*						0 *U*	**0**					0 *UJ*		**1**						**1**		**0**
(dup)				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	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*	1.0 *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**	0.1 *U*

Notes:
µg/L - micrograms per liter
U - Undetected at the detection limit shown
J - Estimated
R - Data Rejected, not used for delineation of h
- Value exceeds Hot Spot Screening Level
- not analyzed
ft bgs - Feet below ground surface

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(
b - MCL = Maximum Contaminant Levels; National Primary Drin
c - 2nd DW Std = Secondary Standards; National Secondary Drin
d - AL = Action Level; National Primary Drinking Water Regulat
e - Value for 4-Methylphenol used
f - Value for Dibutyl pthalates used

Table A-4
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	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)
Hot Spot Screening Levels					0.0060 b	0.0060 b	0.010 b	0.010 b	2.0 b	2.0 b	0.0040 b	0.0040 b	0.0050 b	0.0050 b	NE	0.10 b	0.10 b	0.110 a	1.0 c	1.0 c	0.30 c	0.30 c	0.015 d	0.015 d
MWA-1	Acid Plant	1/29/1999	23	33											10.5						13.3			
		4/29/1999													9.14						10.4			
MWA-2	Acid Plant	1/27/1999	21.5	31.5											23.4						0.044			
		4/27/1999													10.7						0.347			
(dup)		4/27/1999													10.8						0.351			
		8/24/1999													29						1.97			
		11/16/1999													19.3						1.24			
		6/9/2003																				11.8		
MWA-3	Acid Plant	1/27/1999	20.7	30.7											96.6						0.078			
		4/28/1999													4.58						0.065 *U*			
		8/24/1999													26.5						1.32			
		11/16/1999													20.2						0.15			
		6/9/2003																				0.1 *U*		
MWA-4	Acid Plant	1/28/1999	19.5	29.5											102						8.14			
(dup)		1/28/1999													101						8.06			
		4/28/1999													32.4						1.71			
		8/25/1999													47.2						1.98			
		11/16/1999													121						0.138			
		4/11/2002														0.00079 *U*								
		6/9/2003														0.00236								
MWA-5	Acid Plant	1/27/1999	35.7	38.2											140						24.3			
		4/27/1999													30.4						6.91			
		8/23/1999													37.4						9.29			
		11/15/1999													53.4						12.5			
MWA-6	Acid Plant	1/27/1999	30.8	33.6											13.3						92.2			
MWA-6r	Acid Plant	8/25/1999	28.2	33.2											19.3						6.86			
		11/17/1999													16.4						6.33			
		6/12/2001														0.056		0.058						
		4/10/2002														0.11 *J*								
		6/5/2003														0.0189								
MWA-7	Acid Plant	1/26/1999	30.3	32.8											78.7						66.2			
		4/26/1999													48						39.3			
		8/23/1999													36						26			
		11/15/1999													41						26			
MWA-8i	Acid Plant	1/27/1999	42	47											140						18.6			
		4/27/1999													97.7						22.4			
		8/24/1999													99						20.4			
(dup)		8/24/1999													96.5						19.5			
		11/16/1999													95.8						19.2			
MWA-9i	Acid Plant	1/28/1999	40	45											218						22			
		4/28/1999													274						28.5			
		8/25/1999													182						19.4			
		11/16/1999													163						16.9			
MWA-10i	Acid Plant	1/28/1999	40.3	45.3											107						11			
		4/28/1999													104						9.18			
		8/25/1999													76						5.88			
		11/16/1999													64.7						5.2			
MWA-11i	Acid Plant	1/29/1999	46	51											227						23.4			
		4/27/1999													231						24.4			
		8/26/1999													252						27			
		11/17/1999													274						28.9			
MWA-12i	Acid Plant	1/26/1999	42	52											136						9.99			
		4/26/1999													143						11.8			
		8/23/1999													140						9.96			
		11/15/1999													137						14.1			
MWA-13d	Acid Plant	1/28/1999	51	53											114						0.502			
		4/28/1999													115						2.58			
		8/25/1999													119						4.37			
		11/18/1999													114						2.44			
MWA-14i	Acid Plant	1/27/1999	44.1	49.1											20						2.53			
		4/27/1999													16.9						3.04			
		8/23/1999													16.4						2.21			
		11/15/1999													14.6						1.68			
MWA-15	Acid Plant	8/26/1999	23.5	32.4											567						3.92			
		11/17/1999													58.9						10.9			
MWA-15r	Acid Plant	5/31/2001	22.4	32.4					0.0269	0.0184						0.0119	0.0134		0.0757	0.0608			0.018	0.0173
		6/10/2003																			3.43	0.019		
		10/2/2003				0.05 *U*		0.01 *U*														5.34 *D*		
MWA-16i	Acid Plant	8/25/1999	39.2	44.2											81.1						1.56			
		11/17/1999													66.6						0.759			
		6/12/2001														0.007		0.05 *U*						
		4/10/2002														0.064 *J*								
		6/5/2003														0.992								

Table A-4
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	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)
Hot Spot Screening Levels					**NE**	**0.050 c**	**0.050 c**	**0.0020 b**	**0.0020 b**	**0.10 b**	**0.10 b**	**NE**	**0.050 b**	**0.050 b**	**0.10 c**	**0.10 c**	**NE**	**0.0024 a**	**0.0024 a**	**5.0 c**	**5.0 c**
MWA-1	Acid Plant	1/29/1999	23	33	**0.16**							2 *U*					**1860**				
		4/29/1999			**0.197**							2 *U*					**1750**				
MWA-2	Acid Plant	1/27/1999	21.5	31.5	**7.14**							2 *U*					**49.3**				
		4/27/1999			**2.3**							2 *U*					**52.5**				
(dup)		4/27/1999			**2.4**							2 *U*					**51.7**				
		8/24/1999			**1.27**							2 *U*					**91.9**				
		11/16/1999			**1.69**							2 *U*					**85.3**				
		6/9/2003					**1.16**														
MWA-3	Acid Plant	1/27/1999	20.7	30.7	**13.1**							2 *U*					**40.8**				
		4/28/1999			**0.651**							2 *U*					**3.29**				
		8/24/1999			**3.92**							2 *U*					**11.6**				
		11/16/1999			**2.42**							2 *U*					**10.1**				
		6/9/2003					**0.189**														
MWA-4	Acid Plant	1/28/1999	19.5	29.5	**29.8**							**3.5**					**29.5**				
(dup)		1/28/1999			**29.5**							**3.7**					**29.1**				
		4/28/1999			**8.22**							**1.7**					**15.8**				
		8/25/1999			**11.6**							**2.1**					**19.4**				
		11/16/1999			**22.6**							**2.8**					**45.6**				
		4/11/2002																			
		6/9/2003																			
MWA-5	Acid Plant	1/27/1999	35.7	38.2	**48.5**							**9.4**					**771**				
		4/27/1999			**10.6**							**3.4**					**438**				
		8/23/1999			**14.1**							**4.2**					**462**				
		11/15/1999			**19.5**							**5.4**					**614**				
MWA-6	Acid Plant	1/27/1999	30.8	33.6	**11.5**							**4.1**					**606**				
MWA-6r	Acid Plant	8/25/1999	28.2	33.2	**4.02**							**5.53**					**1120**				
		11/17/1999			**3.03**							**4**					**897**				
		6/12/2001																			
		4/10/2002																			
		6/5/2003																			
MWA-7	Acid Plant	1/26/1999	30.3	32.8	**28.9**							**5**					**431**				
		4/26/1999			**14**							**3.7**					**455**				
		8/23/1999			**9.88**							**2.8**					**381**				
		11/15/1999			**9.93**							**3.1**					**373**				
MWA-8i	Acid Plant	1/27/1999	42	47	**47.1**							**10.1**					**2210**				
		4/27/1999			**29**							**8.1**					**1870**				
		8/24/1999			**30.2**							**9.35**					**2120**				
(dup)		8/24/1999			**29.4**							**9**					**2060**				
		11/16/1999			**28.7**							**7.9**					**2050**				
MWA-9i	Acid Plant	1/28/1999	40	45	**43.4**							**27.1**					**2860**				
		4/28/1999			**43.4**							**16**					**2770**				
		8/25/1999			**27.4**							**10.3**					**2210**				
		11/16/1999			**23.1**							**9.6**					**2230**				
MWA-10i	Acid Plant	1/28/1999	40.3	45.3	**70.1**							**13.4**					**947**				
		4/28/1999			**66.6**							**8.1**					**886**				
		8/25/1999			**45**							**6.15**					**821**				
		11/16/1999			**37.3**							**4.4**					**735**				
MWA-11i	Acid Plant	1/29/1999	46	51	**89.7**							**5.6**					**90.2**				
		4/27/1999			**89.5**							**6.6**					**82.7**				
		8/26/1999			**99.7**							**7.1**					**84.9**				
		11/17/1999			**110**							**7.4**					**93.8**				
MWA-12i	Acid Plant	1/26/1999	42	52	**50.8**							**5.6**					**22.6**				
		4/26/1999			**51.8**							**9.2**					**28.2**				
		8/23/1999			**52.7**							**6.25**					**23.9**				
		11/15/1999			**52.8**							**6.75**					**25.4**				
MWA-13d	Acid Plant	1/28/1999	51	53	**32**							**47.9**					**2380**				
		4/28/1999			**31.7**							**34**					**2280**				
		8/25/1999			**33.4**							**30.9**					**2450**				
		11/18/1999			**33**							**22**					**2400**				
MWA-14i	Acid Plant	1/27/1999	44.1	49.1	**4.72**							**10.5**					**2010**				
		4/27/1999			**3.87**							**9.2**					**1780**				
		8/23/1999			**4.01**							**8.1**					**1960**				
		11/15/1999			**3.41**							**7.2**					**1820**				
MWA-15	Acid Plant	8/26/1999	23.5	32.4	**5.44**							**7.5**					**1520**				
		11/17/1999			**6.44**							**7.8**					**1820**				
MWA-15r	Acid Plant	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**
		6/10/2003				**0.0788**	**0.011**														
		10/2/2003					**0.037**														
MWA-16i	Acid Plant	8/25/1999	39.2	44.2	**25**							**31.4**					**6630**				
		11/17/1999			**23.3**							**26**					**5850**				
		6/12/2001																			
		4/10/2002																			
		6/5/2003																			

Table A-4
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	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)
Hot Spot Screening Levels					0.0060 b	0.0060 b	0.010 b	0.010 b	2.0 b	2.0 b	0.0040 b	0.0040 b	0.0050 b	0.0050 b	NE	0.10 b	0.10 b	0.110 a	1.0 c	1.0 c	0.30 c	0.30 c	0.015 d	0.015 d
MWA-17si	Acid Plant	8/26/1999	33.6	35.1											245						2.25			
		11/18/1999													303						3.69			
(dup)		11/18/1999													300						3.65			
MWA-18	Acid Plant	6/13/2001	19.2	29.2												0.021		0.05 UJ						
(dup)		6/13/2001														0.022		0.05 UJ						
		4/4/2002														0.24								
MWA-19	Acid Plant	6/13/2001	19.2	29.2												0.033		0.05 UJ						
		4/4/2002														0.825								
MWA-20	Acid Plant	6/13/2001	24.7	34.7												0.097		0.06						
		4/9/2002														0.18 J								
NMP-1S	Acid Plant	6/1/2001	19.5	29.5					0.0612	0.0381						0.0082			0.0335	0.0171			0.0149	0.0052
		10/3/2003																				5.44 D		
NMP-1D	Acid Plant	6/1/2001	29.1	34.1					0.934	0.0252						0.0252	0.0059		0.0523	0.041			0.227	0.0472
		10/3/2003																				12.3 D		
NMP-2S	Acid Plant	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	6/1/2001	31.5	36.5					0.153	0.0223						0.0116	0.0059		0.0264	0.0216			0.0646	0.0177
		10/3/2003																				6.73 D		
NMP-3S	Acid Plant	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	6/1/2001	30	35					0.368	0.0203						0.0136			0.0718	0.0661			0.124	0.0308
		6/11/2003																				1.04		
NMP-4S	Acid Plant	6/1/2001	19.5	29.5					0.0583	0.0325						0.0182			0.0539	0.0668			0.0063	0.0668
		10/3/2003																				13.1 D		
NMP-4D	Acid Plant	6/1/2001	30	35					0.33	0.0204						0.018			0.0499	0.0488			0.0357	0.0023
		6/10/2003																			3.71	3.74		
(dup)		6/10/2003																			3.49	3.41		
		10/3/2003																				3.87 D		
NMP-5S	Acid Plant	6/1/2001	19.5	29.5					0.104	0.0194									0.0233	0.0214			0.108	0.103
NMP-5D	Acid Plant	6/1/2001	28.5	33.5					0.118	0.0213						0.0075			0.0326	0.0281			0.0715	0.0474
		10/3/2003																				17.1 D		
NMP-6S	Acid Plant	6/1/2001	19.5	29.5					4.11	0.0586						0.0297			0.1				1.8	
NMP-6D	Acid Plant	6/1/2001	28.5	33.5					0.131	0.0485													0.0462	0.015
PMP-1	Acid Plant	10/2/2003	24	34																		12.4 D		
PMP-2	Acid Plant	10/2/2003	23.8	33.8																		3.45 D		
PMP-3	Acid Plant	10/2/2003	25	35																		10.2 D		
MWA-23	Chlorate Plant	11/14/2001	15.5	25.5												0.00043 U								
		4/5/2002														0.0012 UF								
		6/4/2003														0.00117						12.7		
MWA-24	Chlorate Plant	11/15/2001	24	34												0.147 J								
		4/8/2002														0.2 J								
MWA-25	Chlorate Plant	11/15/2001	24	34												17.1 J								
		4/9/2002														13 J								
		6/6/2003														9.79						0.1 U		
		12/3/2003													9.36	9.83	9.99	8.01				0.15 U		
MWA-26	Chlorate Plant	11/15/2001	21.2	31.2												0.00329 U								
		4/5/2002														0.015								
		6/4/2003														1.02								
MWA-27	Chlorate Plant	11/15/2001	24	34												14.7 J								
(dup)		11/15/2001														16.1 J								
		4/9/2002														21								
		6/4/2003														4.3						0.1 U		
		12/3/2003				0.00195		0.228				0.001 U		0.00585 U	7.54	8.65	7.74	7.64		0.08		0.15 U		0.001 U
MWA-28i(d)	Chlorate Plant	11/16/2001	53.9	58.9												0.00135 U								
		4/9/2002														0.0012 UF								
		6/6/2003														0.001 U								
MWA-29	Chlorate Plant	4/8/2002														0.0049 U								
		6/4/2003														0.0284								
MWA-30	Chlorate Plant	4/12/2002														1.3								
(dup)		4/12/2002														1.2								
		6/4/2003														0.562						0.264		
MWA-31i(d)	Chlorate Plant	3/6/2002	34	36												1.8 J								
(dup)		3/6/2002	34	36												1.3 J								
		3/7/2002	40.2	42												0.43								
		3/7/2002	46.2	48												7 J								
		3/7/2002	55.2	57												1.6								
		4/8/2002														0.01 J								
		6/4/2003														1.15								
MWA-32i	Chlorate Plant	6/4/2003	37	42												0.238								
MWA-33	Chlorate Plant	6/11/2003	20	30												0.226					5.59	5.24		
(dup)		6/11/2003														0.601					9.99	8.87		
		6/5/2003														0.532						2.27		
(dup)		6/5/2003														0.514								
MWA-34i	Chlorate Plant	6/6/2003	32	37												0.142								
MWA-35	Chlorate Plant	12/2/2003	23	33											9.88	0.151	0.0862	0.078				0.15 U		

Table A-4
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	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)
Hot Spot Screening Levels					**NE**	**0.050 c**	**0.050 c**	**0.0020 b**	**0.0020 b**	**0.10 b**	**0.10 b**	**NE**	**0.050 b**	**0.050 b**	**0.10 c**	**0.10 c**	**NE**	**0.0024 a**	**0.0024 a**	**5.0 c**	**5.0 c**
MWA-17si	Acid Plant	8/26/1999	33.6	35.1	**11.7**							**2.8**					**127**				
		11/18/1999			**8.91**							**4.2**					**217**				
(dup)		11/18/1999			**8.85**							**4.1**					**214**				
MWA-18	Acid Plant	6/13/2001	19.2	29.2																	
(dup)		6/13/2001																			
		4/4/2002																			
MWA-19	Acid Plant	6/13/2001	19.2	29.2																	
		4/4/2002																			
MWA-20	Acid Plant	6/13/2001	24.7	34.7																	
		4/9/2002																			
NMP-1S	Acid Plant	6/1/2001	19.5	29.5		**0.368**	**0.347**	**0.0003**		**0.0328**	**0.0247**									**0.0839**	**0.0683**
		10/3/2003					0.1 *U*														
NMP-1D	Acid Plant	6/1/2001	29.1	34.1		**0.979**	**0.743**			**0.0973**	**0.895**									**0.586**	**0.737**
		10/3/2003					**0.14** *D*														
NMP-2S	Acid Plant	6/1/2001	19.5	29.5		**0.592**	**0.552**			**0.0264**	**0.0297**									**0.0606**	**0.0646**
NMP-2D	Acid Plant	6/1/2001	31.5	36.5		**1.08**	**1**			**0.0555**	**0.0519**									**0.171**	**0.16**
		10/3/2003					**0.44** *D*														
NMP-3S	Acid Plant	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	6/1/2001	30	35		**1.57**	**1.54**			**0.12**	**0.116**									**0.322**	**0.312**
		6/11/2003					**0.781**														
NMP-4S	Acid Plant	6/1/2001	19.5	29.5		**2.06**	**1.81**			**0.0619**	**0.0533**									**0.305**	**0.323**
		10/3/2003					**0.32** *D*														
NMP-4D	Acid Plant	6/1/2001	30	35		**1.5**	**1.38**			**0.145**	**0.128**									**0.216**	**0.199**
		6/10/2003				**0.473**	**0.463**														
(dup)		6/10/2003				**0.559**	**0.538**														
		10/3/2003					**0.14** *D*														
NMP-5S	Acid Plant	6/1/2001	19.5	29.5		**0.565**	**0.51**													**0.0449**	**0.0453**
NMP-5D	Acid Plant	6/1/2001	28.5	33.5		**0.673**	**0.655**			**0.0715**	**0.0708**									**0.15**	**0.145**
		10/3/2003					**0.13** *D*														
NMP-6S	Acid Plant	6/1/2001	19.5	29.5		**0.169**	**0.0652**													**0.101**	**0.0133**
NMP-6D	Acid Plant	6/1/2001	28.5	33.5		**0.588**	**0.668**			**0.0221**	**0.0299**									**0.0509**	**0.0529**
PMP-1	Acid Plant	10/2/2003	24	34			**4.98** *D*														
PMP-2	Acid Plant	10/2/2003	23.8	33.8			**0.42** *D*														
PMP-3	Acid Plant	10/2/2003	25	35			**0.28** *D*														
MWA-23	Chlorate Plant	11/14/2001	15.5	25.5																	
		4/5/2002																			
		6/4/2003					**4.22**														
MWA-24	Chlorate Plant	11/15/2001	24	34																	
		4/8/2002																			
MWA-25	Chlorate Plant	11/15/2001	24	34																	
		4/9/2002																			
		6/6/2003					**0.173**														
		12/3/2003					**0.0255**														
MWA-26	Chlorate Plant	11/15/2001	21.2	31.2																	
		4/5/2002																			
		6/4/2003																			
MWA-27	Chlorate Plant	11/15/2001	24	34																	
(dup)		11/15/2001																			
		4/9/2002																			
		6/4/2003					**0.732**														
		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	11/16/2001	53.9	58.9																	
		4/9/2002																			
		6/6/2003																			
MWA-29	Chlorate Plant	4/8/2002																			
		6/4/2003																			
MWA-30	Chlorate Plant	4/12/2002																			
(dup)		4/12/2002																			
		6/4/2003					**1.19**														
MWA-31i(d)	Chlorate Plant	3/6/2002	34	36																	
(dup)		3/6/2002	34	36																	
		3/7/2002	40.2	42																	
		3/7/2002	46.2	48																	
		3/7/2002	55.2	57																	
		4/8/2002																			
		6/4/2003																			
MWA-32i	Chlorate Plant	6/4/2003	37	42																	
MWA-33	Chlorate Plant	6/11/2003	20	30		**0.142**	**0.128**														
(dup)		6/11/2003				**0.219**	**0.199**														
		6/5/2003					**0.068**														
(dup)		6/5/2003																			
MWA-34i	Chlorate Plant	6/6/2003	32	37																	
MWA-35	Chlorate Plant	12/2/2003	23	33			**0.0109**														

Table A-4
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	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)
Hot Spot Screening Levels					**0.0060 b**	**0.0060 b**	**0.010 b**	**0.010 b**	**2.0 b**	**2.0 b**	**0.0040 b**	**0.0040 b**	**0.0050 b**	**0.0050 b**	**NE**	**0.10 b**	**0.10 b**	**0.110 a**	**1.0 c**	**1.0 c**	**0.30 c**	**0.30 c**	**0.015 d**	**0.015 d**
MWA-36	Chlorate Plant	12/3/2003	23	33	**0.00310**	**0.00372**	**0.09810**	**0.10100**			0.00100 *U*	0.00100 *U*	0.00100 *U*	0.00529 *U*	**6.56000**	**16.00000**	**17.20000**	**14.90000**	**0.05480**	**0.04250**		0.15000 *U*	0.00100 *U*	0.00100 *U*
MWA-37	Chlorate Plant	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	12/3/2003	22	32											**129**	**1.79**	**1.75**	**1.63**				0.15 *U*		
B-68	Chlorate Plant	5/3/2001	31	36												**0.0255**								
B-69	Chlorate Plant	5/3/2001	31	36												**2.13**								
B-70	Chlorate Plant	5/3/2001	31	36												**27.8**								
(dup)		5/3/2001	31	36												**26.7**								
B-71	Chlorate Plant	9/25/2001	32	36												0.15 *U*								
B-72	Chlorate Plant	9/25/2001	32	36												**20** *J*								
		9/25/2001	47	50												**1.4** *J*								
B-73	Chlorate Plant	9/25/2001	28	32												0.044 *U*								
B-74	Chlorate Plant	9/27/2001	16	20												**3.2**								
B-75	Chlorate Plant	9/27/2001	26	30												**5.6**								
(dup)		9/27/2001	26	30												**5.5**								
B-76	Chlorate Plant	9/27/2001	15	19												**21**								
B-77	Chlorate Plant	9/26/2001	28	32												0.029 *U*								
B-78	Chlorate Plant	9/28/2001	18	22												**34**								
B-79	Chlorate Plant	9/28/2001	16	20												**1.5**								
B-80	Chlorate Plant	9/27/2001	16	20												**110** *J*								
B-81	Chlorate Plant	9/27/2001	15	19												**0.58**								
B-82	Chlorate Plant	9/28/2001	24	28												0.17 *U*								
B-83	Chlorate Plant	9/28/2001	18	22												**1.7**								
B-84	Chlorate Plant	9/26/2001	28	32												0.35 *U*								
B-85	Chlorate Plant	10/25/2001	50	54												**1.8** *J*								
B-86b	Chlorate Plant	11/2/2001	32	36												**0.41** *J*								
(dup)		11/2/2001	32	36												**0.61** *J*								
B-87	Chlorate Plant	11/1/2001	28	32												**1** *J*								
B-88	Chlorate Plant	11/1/2001	24	28												**7.8** *J*								
B-90	Chlorate Plant	11/5/2001	24	28												**2** *J*								
B-116	Chlorate Plant	12/19/2001	28	32												0.41 *U*								
B-117	Chlorate Plant	12/19/2001	26	30												1.5 *U*								
B-118	Chlorate Plant	12/19/2001	28	32												**5.3** *J*								
(dup)		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 exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation
- Not analyzed/reported

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations

Table A-4
Groundwater Analytical Results - Metals
Arkema Portland Plant Remedial Investigation
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	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)
Hot Spot Screening Levels					**NE**	**0.050 c**	**0.050 c**	**0.0020 b**	**0.0020 b**	**0.10 b**	**0.10 b**	**NE**	**0.050 b**	**0.050 b**	**0.10 c**	**0.10 c**	**NE**	**0.0024 a**	**0.0024 a**	**5.0 c**	**5.0 c**
MWA-36	Chlorate Plant	12/3/2003	23	33			**0.03970**	**0.00034**	**0.00092**	**0.01100**	**0.00965**		0.00200 *UI*	**0.00483**	0.00100 *UI*	0.00100 *UI*		0.00100 *UI*	0.00100 *UI*	0.00500 *UI*	0.00500 *UI*
MWA-37	Chlorate Plant	12/3/2003	23	33			**0.0158**	**0.000806**	**0.000624**	**0.0195**	**0.0178**		0.002 *UI*	0.00487 *UI*	0.001 *UI*	0.001 *UI*		0.001 *UI*	0.001 *UI*	0.005 *UI*	0.005 *UI*
MWA-38	Chlorate Plant	12/3/2003	22	32			**3.86**														
B-68	Chlorate Plant	5/3/2001	31	36																	
B-69	Chlorate Plant	5/3/2001	31	36																	
B-70	Chlorate Plant	5/3/2001	31	36																	
(dup)		5/3/2001	31	36																	
B-71	Chlorate Plant	9/25/2001	32	36																	
B-72	Chlorate Plant	9/25/2001	32	36																	
		9/25/2001	47	50																	
B-73	Chlorate Plant	9/25/2001	28	32																	
B-74	Chlorate Plant	9/27/2001	16	20																	
B-75	Chlorate Plant	9/27/2001	26	30																	
(dup)		9/27/2001	26	30																	
B-76	Chlorate Plant	9/27/2001	15	19																	
B-77	Chlorate Plant	9/26/2001	28	32																	
B-78	Chlorate Plant	9/28/2001	18	22																	
B-79	Chlorate Plant	9/28/2001	16	20																	
B-80	Chlorate Plant	9/27/2001	16	20																	
B-81	Chlorate Plant	9/27/2001	15	19																	
B-82	Chlorate Plant	9/28/2001	24	28																	
B-83	Chlorate Plant	9/28/2001	18	22																	
B-84	Chlorate Plant	9/26/2001	28	32																	
B-85	Chlorate Plant	10/25/2001	50	54																	
B-86b	Chlorate Plant	11/2/2001	32	36																	
(dup)		11/2/2001	32	36																	
B-87	Chlorate Plant	11/1/2001	28	32																	
B-88	Chlorate Plant	11/1/2001	24	28																	
B-90	Chlorate Plant	11/5/2001	24	28																	
B-116	Chlorate Plant	12/19/2001	28	32																	
B-117	Chlorate Plant	12/19/2001	26	30																	
B-118	Chlorate Plant	12/19/2001	28	32																	
(dup)		12/19/2001	28	32																	

Notes:
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D - Result reported from a dilution.
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Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinki
c - 2nd DW Std = Secondary Standards; National Secondary Drinkin
d - AL = Action Level; National Primary Drinking Water Regulation

Table A-5
Groundwater Analytical Results
In Situ Air Sparging/Soil Vapor Extraction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Acetone (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (ug/L)	cis-1,2-Dichlorethene (ug/L)	Tetrachlorethene (ug/L)	DDD (ug/L)	DDE (ug/L)	DDT (ug/L)
Hot Spot Screening Level			5,500 a	100 b	4.6 a	0.17 a	810 a	5.0 b	70 b	5.0 b	0.28 a	0.20 a	0.20 a
MWA-2	MWA-2-111004	11/10/04	ND (4,000)	30,200	ND (100)	236	ND (100)	ND (100)	ND (100)	ND (100)	ND (1.00)	ND (1.00)	ND (1.00)
	MWA-2-031005	3/10/05	ND (2,000)	15,400	ND (50.0)	149	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	ND (5.00)	ND (5.00)	ND (5.00)
	MWA-2-062205	6/22/05	ND (2,000)	12,200	ND (50.0)	99	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	3.35	ND (1.00)	ND (1.00)
	MWA-2-091505	9/15/05	ND (4,000)	21,900	ND (100)	182	ND (100)	ND (100)	ND (100)	24.0 J	0.187	ND (0.00367)	0.0789 J
	MWA-2-122005	12/20/05	ND (468)	16,200	ND (65.4)	114	ND (31.4)	ND (28.4)	ND (34.0)	ND (21.8)	ND (0.239)	ND (0.239)	0.312
MWA-3	MWA-3-111004	11/10/04	ND (1,000)	5,770	ND (25.0)	82.0	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	3.11	0.819	2.63
	MWA-3-031005	3/10/05	ND (1,000)	6,610	ND (25.0)	64.5	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (0.50)	ND (0.500)	0.694
(dup)	MWA-3-031005-D	3/10/05	ND (1,000)	6,810	ND (25.0)	63.0	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	0.478	ND (0.500)	0.891
	MWA-3-062205	6/22/05	ND (1,000)	7,490	ND (25.0)	88.5	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (1.00)	ND (1.00)	0.318
(dup)	MWA-3-062205-D	6/22/05	ND (1,000)	7,600	ND (25.0)	92.5	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (1.00)	ND (1.00)	0.391
	MWA-3-091505	9/15/05	ND (23.4)	1,110	4.00 J	80.2	ND (1.57)	ND (1.42)	ND (1.70)	10.1	0.418	0.186 J	1.39
	MWA-3-122005	12/20/05	126 J	1,270	ND (6.54)	59.8	ND (3.14)	ND (2.84)	ND (3.40)	7.40 J	ND (0.243)	ND (0.243)	0.249
NMP-3D	NMP-3D-110904	11/9/04	ND (10,000)	93,000	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (5.00)	ND (5.00)	7.85
	NMP-3D-031005	3/10/05	ND (10,000)	76,600	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (5.00)	ND (5.00)	17.4
	NMP-3D-062205	6/22/05	ND (10,000)	45,100	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	7.69	ND (2.00)	1.77
	NMP-3D-091505	9/15/05	ND (234)	11,300	ND (32.7)	49.0 J	ND (15.7)	ND (14.2)	ND (17.0)	ND (10.9)	0.348 J	ND (0.0367)	2.75
	NPM-3D-122105	12/21/05	ND (234)	13,400	ND (32.7)	62.0	ND (15.7)	ND (14.2)	ND (17.0)	ND (10.9)	0.801	ND (0.490)	6.65
NMP-4D	NMP-4D-110904	11/9/04	ND (10,000)	53,600	ND (250)	375	ND (250)	ND (250)	ND (250)	ND (250)	23.6	8.90	356
	NMP-4D-031105	3/11/05	ND (2,000)	18,400	86.0	434	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	11.5	ND (10.0)	96.1
	NMP-4D-062205	6/22/05	ND (1,000)	8,620	29.5	194	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	18.6	ND (10.0)	40.6
	NMP-4D-091505	9/15/05	ND (1,170)	42,700	ND (164)	615	ND (78.5)	ND (71.0)	ND (85.0)	ND (54.5)	8.29	2.52 J	89.8
	NMP-4D-122105	12/21/05	ND (1,170)	44,900	ND (164)	645	ND (78.5)	ND (71.0)	ND (64.0)	ND (54.5)	4.42	1.12	37.9
PMP-4	PMP-4-111004	11/10/04	ND (2,000)	16,000	ND (50.0)	69.0	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	ND (5.00)	ND (1.00)	14.9
	PMP-4-031005	3/10/05	35.7	111	0.630	14.0	ND (0.500)	ND (0.500)	ND (0.500)	1.18	0.89	ND (1.00)	10.8
	PMP-4-062105	6/21/05	ND (20.0)	69.9	ND (0.500)	6.96	ND (0.500)	ND (0.500)	ND (0.500)	0.56	ND (1.00)	ND (1.00)	4.0
	PMP-4-091505	9/15/05	ND (20.0)	27.0	ND (0.500)	0.780	ND (0.500)	ND (0.500)	ND (0.500)	0.160 J	0.210 J	0.0416 J	6.95
	PMP-4-122005	12/20/05	ND (2.34)	1.81	ND (0.327)	2.48	ND (0.157)	ND (0.142)	ND (0.170)	0.430 J	ND (0.485)	ND (0.485)	1.10
(dup)	PMP-4-122005-D	12/20/05	ND (2.34)	1.41	ND (0.327)	2.54	ND (0.157)	ND (0.142)	ND (0.128)	0.490 J	ND (0.476)	ND (0.476)	1.32
PMP-5	PMP-5-111004	11/11/04	ND (20,000)	97,100	ND (500)	730	ND (500)	ND (500)	ND (500)	ND (500)	8.63	ND (10.0)	197
	PMP-5-031105	3/11/05	ND (200)	1,480	34.3	266	ND (5.00)	5.80	ND (5.00)	9.80	ND (10.0)	ND (10.0)	24.7
	PMP-5-062205	6/22/05	ND (20.0)	ND (0.500)	4.32	158	ND (0.500)	2.63	ND (0.500)	4.77	2.26	ND (10.0)	39.6
	PMP-5-091505	9/15/05	ND (200)	1,010	11.7	188	ND (5.00)	5.40	ND (5.00)	8.70	4.01	0.891 J	53.5
	PMP-5-122005	12/20/05	ND (23.4)	1,560	7.60	166	ND (1.57)	4.70 J	ND (1.70)	10.40	2.49	ND (0.957)	39.1
PMP-6	PMP-6-111004	11/11/04	ND (10,000)	77,400	ND (250)	370	ND (250)	ND (250)	ND (250)	ND (250)	ND (5.00)	ND (5.00)	13.6
	PMP-6-031105	3/11/05	ND (4,000)	31,100	ND (100)	188	ND (100)	ND (100)	ND (100)	ND (100)	ND (5.00)	ND (5.00)	20.8
	PMP-6-062205	6/22/05	ND (20.0)	17.4	1.31	13	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	0.862	ND (1.00)	5.6
	PMP-6-091405	9/14/05	ND (4,000)	17,100	ND (100)	106	ND (100)	ND (100)	ND (100)	ND (100)	0.789 J	ND (4.00)	6.20
	PMP-6-122005	12/20/05	ND (234)	13,700	ND (32.7)	77	ND (15.7)	ND (14.2)	ND (17.0)	ND (10.9)	ND (0.472)	ND (0.472)	1.41
MWA-8i	MWA-8i-111004	11/10/04	ND (20.0)	23.7	ND (0.50)	ND (0.50)	0.930	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.100)	ND (0.100)	0.59
	MWA-8i-031005	3/10/05	ND (40.0)	185	ND (1.00)	ND (1.00)	1.02	ND (1.00)	1.58	ND (1.00)	ND (0.100)	ND (0.100)	0.138
	MWA-8i-062105	6/21/05	ND (20.0)	26.6	ND (0.500)	ND (0.500)	0.66	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.1)	ND (0.1)	ND (0.1)
	MWA-81-091505	9/15/05	ND (2.34)	122	ND (0.327)	ND (0.143)	0.82	ND (0.142)	1.37	ND (0.109)	ND (0.00103)	ND (0.00367)	0.0243 J
	MWA-8i-122005	12/20/05	ND (2.34)	24.5	ND (0.327)	ND (0.143)	0.77	ND (0.142)	ND (0.170)	ND (0.109)	ND (0.957)	ND (0.957)	ND (0.957)
MWA-9i	MWA-9i-111004	11/10/04	ND (4,000)	36,400	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	0.314	ND (0.100)	ND (0.100)
	MWA-9i-031005	3/10/05	ND (10,000)	59,500	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	1.550	ND (0.500)	ND (0.500)
	MWA-9i-062205	6/22/05	ND (10,000)	65,700	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	1.04	ND (1.00)	ND (1.00)
	MWA-9i-091505	9/15/05	ND (468)	30,500	ND (65.4)	ND (28.6)	ND (31.4)	ND (28.4)	ND (34.0)	ND (21.8)	0.625	ND (0.0184)	ND (0.0370)
	MWA-9i-122005	12/20/05	ND (468)	19,700	ND (65.4)	ND (28.6)	ND (31.4)	ND (28.4)	ND (34.0)	ND (218)	1.78	ND (0.0990)	ND (0.0990)
MWA-15r	MWA-15r-111004	11/10/04	ND (20,000)	154,000	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	27.7	ND (10.0)	75.4
(dup)	MWA-15r-111004-D	11/10/04	ND (20,000)	156,000	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	26.8	ND (10.0)	97.0
	MWA-15r-031005	3/10/05	ND (10,000)	97,000	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	79.7	ND (50.0)	534
	MWA-15r-062205	6/22/05	ND (20,000)	87,700	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	ND (500)	40.9	9.88	193
	MWA-15r-091605	9/16/05	ND (4,680)	240,000	ND (654)	ND (286)	ND (314)	ND (284)	ND (340)	ND (218)	39.3	6.03 J	317
(dup)	MWA-15r-d-091605	9/16/05	ND (4,680)	228,000	ND (654)	ND (286)	ND (314)	ND (284)	ND (340)	ND (218)	49.9	6.04 J	368
	MWA-15r-122105	12/21/05	ND (4,680)	217,000	ND (654)	ND (286)	ND (314)	ND (284)	ND (340)	ND (218)	10.1	1.53	86.5

Notes:

ug/L - micrograms per liter
ft bgs - feet below ground surface
ND - Not detected at referenced detection limit
J - Estimated
D - The reported result is from a dilution.
- Value exceeds Hot Spot Screening Level
"-" - not analyzed/reported

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations

Table A-6
Groundwater Organic Analytical Results
Persulfate Oxidation Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Acetone (µg/L)	Benzene (µg/L)	Bromochloro-methane (µg/L)	Bromodichloro-methane (µg/L)	Carbon disulfide (µg/L)	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	Dibromochloro-methane (µg/L)	Dibromo-methane (µg/L)	1,2-Dichlorobenzene (µg/L)	1,4-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)
Hot Spot Screening Levels		**5500 a**	**5 b**	**NE**	**0.18 a**	**1000 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**160 a**	**390 a**	**NE**	**600 b**	**75 b**	**810 a**
Shallow Zone																
MWA-2	6/22/05	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**12200**	ND (<32.7)	**99**	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
	9/15/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**21900**	ND (<65.4)	**182**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
	10/27/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**23500**	ND (<65.4)	**204**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
	1/13/06	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**4.04**	ND (<0.327)	**2.37**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
MWA-3	6/22/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND(<11.6)	ND (<7.00)	**7490**	ND (<16.4)	**88.5**	ND (<7.95)	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
	9/15/05	ND (<23.4)	ND (<1.47)	ND (<2.66)	ND (<1.83)	ND (<2.33)	ND (<1.40)	**1110**	**4 J**	**80.2**	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.0859)	ND (<1.87)	ND (<1.57)
	10/26/05	**162**	ND (<0.735)	ND (<1.33)	ND (<0.915)	**1.55 J**	**7.65**	**571**	**8.05**	**94.8**	**101**	ND (<0.665)	ND (<0.585)	**0.9 J**	**2.2 J**	**0.95 J**
	11/22/05	**261**	ND (<2.94)	ND (<5.32)	ND (<3.66)	ND (<4.66)	**4.8**	**1900**	**10.8**	**102**	**69.8**	ND (<2.66)	ND (<2.34)	ND (<1.72)	ND (<3.74)	ND (<3.14)
	1/13/06	ND (<11.7)	ND (<0.735)	ND (<1.33)	**1.95 J**	ND (<1.16)	**53.8**	**727**	ND (<1.64)	**235**	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	ND (<0.785)
MWA-4	7/29/05	ND (<23.4)	ND (<1.47)	ND (<2.66)	ND (<1.83)	ND (<2.33)	ND (<1.40)	**1040**	ND (<3.27)	**1.7 J**	ND (<1.59)	ND (<1.33)	ND (<1.17)	**1.7 J**	**3.5 J**	ND (<1.57)
	10/26/05	**49.4 J**	ND (<0.735)	ND (<1.33)	ND (<0.915)	ND (<1.16)	ND (<0.700)	**456**	**9.9**	**28.6**	**164**	ND (<0.665)	ND (<0.585)	**1.65 J**	**3.8**	**1.8 J**
	11/22/05	**80.9**	ND (<0.294)	ND (<0.532)	ND (<0.366)	ND (<0.466)	ND (<0.280)	**252**	**5.8**	**21.8**	**95**	ND (<0.266)	ND (<0.234)	**0.9 J**	**2.04**	**1.06**
	1/13/06	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**4250**	**17.5 J**	**31.5**	**9.5 J**	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
MWA-5	7/28/05	**16.5 J**	ND (<0.147)	ND (<0.333)	ND (<0.266)	ND (<0.233)	ND (<0.140)	**11.5**	**2.76**	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**0.77**
	10/27/05	**3.16 J**	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**15.0**	**7.99**	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**1.82**
	11/21/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**17.2**	**8.37**	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**0.98**
	1/16/06	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**14.0**	**0.98**	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**0.6**
MWA-6R	8/1/05	ND (<46.8)	ND (<2.94)	ND (<5.32)	ND (<3.66)	ND (<4.66)	ND (<2.80)	**2970**	ND (<6.54)	**3.6 J**	ND (<3.18)	ND (<2.66)	ND (<2.34)	ND (<1.72)	ND (<3.74)	ND (<3.14)
MWA-15R	6/22/05	ND (<2340)	ND (<147)	ND (<266)	ND (<183)	ND (<233)	ND (<140)	**87700**	ND (<327)	ND (<143)	ND (<159)	ND (<133)	ND (<117)	ND (<85.9)	ND (<187)	ND (<157)
	9/16/05	ND (<4680)	ND (<294)	ND (<532)	ND (<366)	ND (<466)	ND (<280)	**240000**	ND (<654)	ND (<286)	ND (<318)	ND (<266)	ND (<234)	ND (<172)	ND (<374)	ND (<314)
MWA-18	8/3/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**0.58**	ND (<0.327)	**0.26 J**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
MWA-19	8/3/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	**0.33 J**	ND (<0.140)	**3.14**	ND (<0.327)	**0.35 J**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.0187)	**0.85**
MWA-20	8/4/05	ND (<23.4)	ND (<1.47)	ND (<2.66)	ND (<1.83)	**2.4 J**	ND (<1.40)	**1540**	ND (<3.27)	ND (<1.43)	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.859)	ND (<1.87)	ND (<1.57)
MWA-22	8/1/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND(<11.6)	ND (<7.00)	**6460**	ND (<16.4)	ND (<7.15)	ND (<7.95)	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
MWA-30	8/3/05	**34.2**	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	ND (<0.136)	**0.37 J**	**2.13**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
MWA-42	8/2/05	**13.9 J**	**0.18 J**	ND (<0.266)	ND (<0.183)	**1.06**	ND (<0.140)	**94**	ND (<0.327)	**1.28**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**0.17 J**
MWA-44	8/3/05	ND (<11.7)	**1.45 J**	ND (<1.33)	ND (<0.915)	ND (<1.16)	ND (<0.700)	**851**	ND (<1.64)	**5.4**	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	**1.6 J**
MWA-45	8/3/05	ND (<2.34)	**1.41**	ND (<0.266)	ND (<0.183)	**2.56**	ND (<0.140)	**62.9**	ND (<0.327)	**12**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**1.54**
MWA-46	8/4/05	ND (<2.34)	**0.45 J**	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**40.2**	ND (<0.327)	**0.19 J**	**0.2 J**	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**2.52**
MWA-60	8/2/05	ND (<11.7)	**1.65 J**	ND (<1.33)	ND (<0.915)	ND (<1.16)	ND (<0.700)	**576**	ND (<1.64)	ND (<0.715)	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	**3**
	10/27/05	ND (<11.7)	**1.1 J**	ND (<1.33)	ND (<0.915)	ND (<1.16)	ND (<0.700)	**667**	ND (<1.64)	ND (<0.715)	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	ND (<0.785)
	11/21/05	**57.4**	**0.17 J**	ND (<0.266)	ND (<0.183)	**0.3 J**	ND (<0.140)	**117**	ND (<0.327)	**6.22**	**3.76**	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**0.88**
	1/16/06	**5.94 J**	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**9.30**	ND (<0.327)	**7.5**	**0.27 J**	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	**0.44 J**
MWA-61	8/1/05	**250 J**	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**5710**	ND (<16.4)	**470**	ND (<7.95)	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
	10/26/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	**74**	**2100**	ND (<16.4)	**5590**	**21 J**	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
	11/21/05	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	**126**	**111**	ND (<32.7)	**19500**	**41 J**	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
	1/13/06	ND (<1170)	ND (<73.5)	ND (<133)	ND (<91.5)	ND (<116)	**240 J**	**465**	ND (<164)	**56900**	ND (<79.5)	ND (<66.5)	ND (<58.5)	ND (<43.0)	ND (<93.5)	ND (<78.5)
MWA-62	8/2/05	ND (<11.7)	ND (<0.735)	ND (<1.33)	ND (<0.915)	ND (<1.16)	ND (<0.700)	**506**	**2.65**	**7.45**	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	ND (<0.785)
	10/25/05	ND (<23.4)	ND (<1.47)	ND (<2.66)	ND (<1.83)	ND (<2.33)	ND (<1.40)	**1700**	**4.8 J**	**2.4 J**	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.859)	ND (<1.87)	ND (<1.57)
	11/22/05	**51.5 J**	ND (<1.47)	ND (<2.66)	ND (<1.83)	ND (<2.33)	ND (<1.40)	**1370**	ND (<3.27)	**2.2 J**	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.859)	ND (<1.87)	ND (<1.57)
	1/16/06	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**3.02**	ND (<0.327)	**3.79**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
MWA-63	7/27/05	ND (<4.68)	ND (<0.294)	ND(<0.532)	ND(<0.366)	**6.84 B**	**0.44 J**	ND (<0.272)	ND (<0.654)	**115**	ND (<0.318)	ND (<0.266)	ND (<0.234)	ND (<0.172)	ND (<0.374)	**0.7 J**
	10/27/05	ND (<23.4)	ND (<1.47)	ND (<2.66)	ND (<1.83)	ND (<2.33)	ND (<1.40)	**7.6**	ND (<3.27)	**1090**	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.859)	ND (<1.87)	**2.6 J**
	11/21/05	ND (<4.68)	ND (<0.294)	ND (<0.532)	ND (<0.366)	ND (<0.466)	**0.88 J**	ND (<0.272)	ND (<0.654)	**269**	ND (<0.318)	ND (<0.266)	ND (<0.234)	ND (<0.172)	ND (<0.374)	**0.94 J**
MWA-69	8/2/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**9010**	**684**	**70.5**	ND (<7.95)	ND (<6.65)	ND (<5.85)	**18 J**	**59**	ND (<7.85)
	10/25/05	**70.6 J**	ND (<2.94)	ND (<5.32)	ND (<3.66)	ND (<4.66)	ND (<2.80)	**2690**	**789**	**83.8**	**23.4 J**	ND (<2.66)	ND (<2.34)	**11.6**	**42.4**	**5.2 J**
	11/22/05	**213 J**	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**3640**	**806**	**81.5**	**37.5 J**	ND (<6.65)	ND (<5.85)	**10 J**	**38.5**	ND (<7.85)
	1/16/06	**13.8 J**	**1.16**	ND (<0.266)	ND (<0.183)	**0.55 J**	ND (<0.140)	**166**	**37.6**	**4.21**	**7.26**	ND (<0.133)	ND (<0.117)	**0.7**	**2.9**	**0.41 J**

Table A-6
Groundwater Organic Anal
Persulfate Oxidation Interi
Arkema Portland Plant Hot

Well Number	Date	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichlorethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Methylene chloride (µg/L)	Naphthalene (µg/L)	Tetrachlorethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	DDT (µg/L)	DDD (µg/L)	DDE (µg/L)
Hot Spot Screening Levels		**5 b**	**7 b**	**70 b**	**100 b**	**5 b**	**NE**	**5 b**	**1000 b**	**200 b**	**5 b**	**2 b**	**0.2 a**	**0.28 a**	**0.2 a**
Shallow Zone															
MWA-2	6/22/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	**17** J	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	ND (<0.500)	**3.35**	ND (<5.00)
	9/15/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	**24** J	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	**0.0789 J**	**0.187**	ND (<0.00367)
	10/27/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	ND (<0.236)	**0.477**	**0.0965**
	1/13/06	ND (<0.142)	ND (<0.197)	**1.55**	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**1.7**	ND (<0.155)	ND (<0.0859)	**1.02**	ND (<0.152)	ND (<0.0971)	**0.510**	ND (<0.0971)
MWA-3	6/22/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**15** J	ND (<7.75)	**7** J	ND (<12.0)	ND (<7.60)	**0.318**	ND (<0.500)	ND (<0.500)
	9/15/05	ND (<1.42)	ND (<1.97)	ND (<1.70)	ND (<1.75)	ND (<10.0)	ND (<0.989)	**10.1**	ND (<1.55)	**3.1** J	ND (<2.41)	ND (<1.52)	**1.39**	**0.418**	**0.186** J
	10/26/05	**1.65** J	ND (<0.985)	ND (<0.850)	ND (<0.875)	ND (<5.00)	ND (<0.494)	**7.15**	ND (<0.775)	**2.55**	ND (<1.20)	ND (<0.760)	**2.11**	**0.384**	**0.332**
	11/22/05	ND (<2.84)	ND (<3.94)	ND (<3.40)	ND (<3.50)	ND (<20.0)	ND (<1.98)	**7.4** J	ND (<3.10)	**6** J	ND (<4.82)	ND (<3.04)	**0.715**	**0.201**	**0.122**
	1/13/06	ND (<0.710)	ND (<0.985)	ND (<0.850)	ND (<0.875)	ND (<5.00)	ND (<0.494)	**37.6**	ND (<0.775)	**0.65**	**4.35**	ND (<0.760)	**0.659**	**0.115**	ND (<0.962)
MWA-4	7/29/05	ND (<1.42)	ND (<1.97)	ND (<1.70)	ND (1.75)	ND (<10.0)	ND (<0.989)	**4.2** J	ND (<1.55)	ND (<0.859)	ND (<2.41)	ND (<1.52)	ND (<0.500)	**11.8**	ND (<0.500)
	10/26/05	**1.3** J	ND (<0.985)	ND (<0.850)	ND (<0.875)	**8.65** J	ND (<0.494)	**2.7**	ND (<0.775)	**0.9** J	ND (<1.20)	ND (<0.760)	ND (<0.236)	**1.29**	ND (<0.236)
	11/22/05	**0.84** J	ND (<0.394)	ND (<0.340)	ND (<0.350)	**6.6** J	ND (<0.198)	**3.02**	ND (<0.310)	**0.82** J	ND (<0.482)	ND (<0.304)	**0.165**	**1.47**	ND (<0.0952)
	1/13/06	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**8** J	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	ND(<0.238)	**3.42**	ND(<0.238)
MWA-5	7/28/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	**0.21** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**1.02**	**0.236**	ND (<0.0500)
	10/27/05	ND (<0.142)	**0.31** J	ND (<0.170)	ND (<0.175)	ND (<1.00)	**1.14** J	ND (<0.109)	**0.52**	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/05	ND (<0.142)	**0.42** J	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	**0.23** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	1/16/06	ND (<0.142)	**0.27** J	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0495)	ND (<0.0495)	ND (<0.0495)
MWA-6R	8/1/05	ND (<2.84)	ND (<3.94)	**9** J	**12.4**	ND (<20.0)	ND (<1.98)	**17.4**	ND (<3.10)	ND (<1.72)	**14**	**5.2** J	**0.0869** J	ND (<0.0500)	ND (<0.0500)
MWA-15R	6/22/05	ND (<142)	ND (<197)	ND (<170)	ND (<175)	ND (<1000)	ND (<98.9)	ND (<109)	ND (<155)	ND (<85.9)	ND (<241)	ND (<152)	**193**	**40.9**	**9.88**
	9/16/05	ND (<284)	ND (<394)	ND (<340)	ND (<350)	ND (<2000)	ND (<198)	ND (<218)	ND (<310)	ND (<172)	ND (<482)	ND (<304)	**317**	**39.3**	**6.03** J
MWA-18	8/3/05	ND (<0.142)	ND (<0.197)	**0.23** J	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**1.12**	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-19	8/3/05	ND (<0.142)	ND (<0.197)	**0.31** J	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**13.3**	ND (<0.155)	ND (<0.0859)	**2.62**	ND (<0.152)	**0.576**	0.114	ND (<0.0500)
MWA-20	8/4/05	ND (<1.42)	ND (<1.97)	ND (1.70)	ND (<1.75)	ND (<10.0)	ND (<0.989)	ND (<1.09)	ND (<1.55)	ND (<0.859)	ND (<2.41)	ND (<1.52)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-22	8/1/05	ND (<7.10)	ND (<9.85)	**68.5**	ND (<8.75)	ND (<50.0)	ND (<4.94)	ND (<5.45)	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	**1.29**	**0.115**	ND (<0.0500)
MWA-30	8/3/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	**0.83** J	ND (<0.109)	**0.37** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-42	8/2/05	ND (<0.142)	ND (<0.197)	**0.26** J	**0.25** J	ND (<1.00)	ND (<0.0989)	**3.1**	**0.24** J	ND (<0.0859)	**0.86**	ND (<0.152)	ND (<0.250)	ND (<0.250)	ND (<0.250)
MWA-44	8/3/05	ND (<0.710)	ND (<0.985)	ND (<0.850)	ND (<0.875)	ND (<5.00)	ND (<0.494)	**4.25**	ND (<0.775)	ND (<0.430)	ND (<1.20)	ND(<0.760)	**0.259**	**0.202**	ND (<0.0500)
MWA-45	8/3/05	ND (<0.142)	ND (<0.197)	**0.6**	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**3.06**	**0.93**	ND (<0.0859)	**0.34** J	ND (<0.152)	ND(0.500)	ND(0.500)	ND(0.500)
MWA-46	8/4/05	ND (<0.142)	ND (<0.197)	**0.74**	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**4.52**	ND (<0.155)	ND (<0.0859)	**0.61**	ND (<0.152)	**0.611**	ND (<0.0500)	ND (<0.0500)
MWA-60	8/2/05	ND (<0.710)	**1.3** J	**36.9**	ND (<0.875)	ND (<5.00)	ND (<0.494)	ND (<0.545)	ND (<0.775)	ND (<0.430)	**5.3**	ND (<0.760)	**0.383**	ND (<0.0500)	ND (<0.0500)
	10/27/05	ND (<0.710)	ND (<0.985)	**29.3**	ND (<0.875)	ND (<5.00)	ND (<0.494)	ND (<0.545)	ND (<0.775)	ND (<0.430)	**6.55**	ND (<0.760)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/05	ND (<0.142)	ND (<0.197)	**2.65**	**0.3** J	ND (<1.00)	ND (<0.0989)	**0.46** J	ND (<0.155)	**0.8**	**3.05**	ND (<0.152)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	1/16/06	ND (<0.142)	ND (<0.197)	**0.58**	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**0.74**	ND (<0.155)	**0.24** J	**1.52**	ND (<0.152)	ND (<0.098)	ND (<0.098)	ND (<0.098)
MWA-61	8/1/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**45**	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	ND (<2.50)	ND (<2.50)	ND (<2.50)
	10/26/05	ND (<7.10)	ND (<9.85)	**12** J	ND (<8.75)	ND (<50.0)	ND (<4.94)	**161**	ND (<7.75)	ND (<4.30)	**16.5** J	ND (<7.60)	**0.129**	**0.109**	ND (<0.236)
	11/21/05	ND (<14.2)	ND (<19.7)	**22** J	ND (<17.5)	ND (<100)	ND (<9.89)	**518**	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	**0.204**	**0.11**	**0.0551** J
	1/13/06	ND (<71.0)	ND (<98.5)	**485**	ND (<87.5)	ND (<500)	**770 J**	**1720**	**220 J**	ND (<43.0)	**295**	ND (<76.0)	**0.124**	**0.545**	ND (<0.0472)
MWA-62	8/2/05	ND (<0.710)	ND (<0.985)	**2.45** J	ND (<0.875)	ND (<5.00)	ND (0.494)	**17.2**	ND (<0.775)	ND (<0.430)	**1.85** J	ND(<0.760)	**2040**	**25.3**	**26.5**
	10/25/05	ND (<1.42)	ND (<1.97)	**15.1**	ND (<1.75)	ND (<10.0)	ND (<0.989)	**11.7**	ND (<1.55)	ND (<0.859)	**7.3**	ND (<1.52)	**33.3**	**1.10**	**0.648**
	11/22/05	ND (<1.42)	ND (<1.97)	**9.7**	ND (<1.75)	ND (<10.0)	ND (<0.989)	**22.1**	ND (<1.55)	ND (<0.859)	**6.1**	ND (<1.52)	**28.2**	**0.937**	**0.767**
	1/16/06	ND (<0.142)	ND (<0.197)	**0.55**	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**15.3**	ND (<0.155)	ND (<0.0859)	**1.21**	ND (<0.152)	**13.8**	**0.381**	**0.340**
MWA-63	7/27/05	ND (<0.284)	**0.8** J	**82.5**	**0.68** J	ND (<2.00)	ND (<0.198)	**226**	ND (<0.310)	ND (<0.172)	**31.1**	ND (<0.304)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
	10/27/05	ND (<1.42)	**2.8** J	**248**	**1.9** J	ND (<10.0)	ND (<0.989)	**744**	ND (<1.55)	ND (<0.859)	**101**	**5.1**	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/21/05	ND (<0.284)	**1.2**	**208**	**1.2**	ND (<2.00)	ND (<0.198)	**329**	ND (<0.310)	ND (<0.172)	**99.3**	ND (<0.304)	**0.0533** J	ND (<0.0495)	ND (<0.0495)
MWA-69	8/2/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**10.5** J	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	**51.1**	**17.3**	ND(<5.00)
	10/25/05	ND (<2.84)	ND (<3.94)	**5.6** J	ND (<3.50)	ND (<20.0)	ND (<1.98)	**4.6** J	ND (<3.10)	ND (<1.72)	ND (<4.82)	ND (<3.04)	**6.84**	**3.93**	**0.289**
	11/22/05	ND (<7.10)	ND (<9.85)	**16** J	ND (<8.75)	ND (<50.0)	ND (<4.94)	**6.5** J	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	**9.33**	**4.36**	**0.425**
	1/16/06	**0.93**	ND (<0.197)	**13.5**	**0.7**	**2.06** J	**1.27** J	**1.52**	**0.26** J	ND (<0.0859)	**3.44**	**0.52**	**29.5**	**8.64**	**0.838**

Table A-6
Groundwater Organic Analytical Results
Persulfate Oxidation Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Acetone (µg/L)	Benzene (µg/L)	Bromochloro-methane (µg/L)	Bromodichloro-methane (µg/L)	Carbon disulfide (µg/L)	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	Dibromochloro-methane (µg/L)	Dibromo-methane (µg/L)	1,2-Dichlorobenzene (µg/L)	1,4-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)
Hot Spot Screening Levels		**5500 a**	**5 b**	**NE**	**0.18 a**	**1000 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**160 a**	**390 a**	**NE**	**600 b**	**75 b**	**810 a**
NMP-3D	6/22/05	ND (<1170)	ND (<73.5)	ND (<133)	ND (<91.5)	ND (<116)	ND (<70.0)	**45100**	ND (<164)	**140 J**	ND (<79.5)	ND (<66.5)	ND (<58.5)	ND (<43.0)	ND (<93.5)	ND (<78.5)
	9/15/05	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**11300**	ND (<32.7)	**49 J**	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
NMP-4D	6/22/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**8620**	**29.5**	**194**	ND (<7.95)	ND (<6.65)	ND (<5.85)	**5 J**	ND (<9.35)	ND (<7.85)
	9/15/05	ND (<1170)	ND (<73.5)	ND (<133)	ND (<91.5)	ND (<116)	ND (<70.0)	**42700**	ND (<164)	**615**	ND (<79.5)	ND (<66.5)	ND (<58.5)	ND (<43.0)	ND (<93.5)	ND (<78.5)
PMP-4	6/21/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**69.9**	ND (<0.327)	**6.96**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
	9/15/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**27**	ND (<0.327)	**0.78**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
	10/27/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**4.89**	**0.55**	**5.75**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
	11/22/05	**20.2 J**	ND (<0.735)	ND (<1.33)	ND (<0.915)	ND (<1.16)	ND (<0.700)	**736**	ND (<1.64)	**15.8**	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	ND (<0.785)
PMP-5	6/22/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	ND (<0.136)	**4.32**	**158**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
	9/15/05	ND (<23.4)	ND (<1.47)	ND (<2.66)	ND (<1.83)	ND (<2.33)	ND (<1.40)	**1010**	**11.7**	**188**	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.0859)	ND (<1.87)	ND (<1.57)
	10/27/05	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**16900**	ND (<32.7)	**313**	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
	11/22/05	**490 J**	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.8)	**29000**	ND (<65.4)	**420**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
PMP-6	6/22/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**17.4**	**1.31**	**13**	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
	9/14/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**17100**	ND (<65.4)	**106**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
	10/27/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**18600**	ND (<65.4)	**118**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
	11/22/05	**292 J**	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**8580**	**18.5 J**	**66**	ND (<7.95)	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
MWA-17si	7/29/05	**2460 J**	ND (<73.5)	ND (<166)	ND (<133)	ND (<116)	ND (<70.0)	**58900**	ND (<164)	**560**	ND (<79.5)	ND (<66.5)	ND (<58.5)	ND (<43.0)	ND (<93.5)	ND (<78.5)
	10/26/05	**382 J**	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**13300**	**74**	**588**	**365**	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
	11/21/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**27700**	**72 J**	**544**	**560**	ND (<26.6)	ND (23.4)	ND (<17.2)	**40 J**	ND (<31.4)
	1/13/06	ND (<2340)	ND (<147)	ND (<266)	ND (<183)	ND (<233)	ND (<140)	**121000**	ND (<327)	**760**	ND (<159)	ND (<133)	ND (<117)	ND (<85.9)	ND (<187)	ND (<157)
MWA-67si	8/1/05	ND (<4680)	ND (<294)	ND (<532)	ND (<366)	ND (<466)	**1740**	**216000**	ND (<654)	**2180**	ND (<318)	ND (<266)	ND (<234)	ND (<172)	ND (<374)	ND (<314)
	10/27/05	ND (<4680)	ND (<294)	ND (<532)	ND (<366)	ND (<466)	**540 J**	**198000**	ND (<654)	**2400**	ND (<318)	ND (<266)	ND (<234)	ND (<172)	ND (<374)	ND (<314)
	11/21/05	ND (<4680)	ND (<294)	ND (<532)	ND (<366)	ND (<466)	**820 J**	**191000**	ND (<654)	**2160**	ND (<318)	ND (<266)	ND (<234)	ND (<172)	ND (<374)	ND (<314)
	1/13/06	ND (<4680)	ND (<294)	ND (<532)	ND (<366)	ND (<466)	**1720**	**201000**	ND (<654)	**2040**	ND (<318)	ND (<266)	ND (<234)	ND (<172)	ND (<374)	ND (<314)
MWA-68si	8/2/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**21000**	**494**	**146**	ND (<31.8)	ND (<26.6)	ND (<23.4)	**20 J**	**54 J**	ND (<31.4)
	10/25/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**6300**	**376**	**112**	**196**	ND (<6.65)	ND (<5.85)	**13 J**	**31.5**	ND (<7.85)
	11/22/05	**190 J**	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**6250**	**474**	**113**	**479**	ND (<6.65)	ND (<5.85)	**9 J**	**25.5**	ND (<7.85)
	1/13/06	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**15400**	**478**	**129**	**156 J**	ND (<13.3)	ND (<11.7)	**13 J**	ND (<18.7)	ND (<15.7)
Intermediate Zone																
MWA-8i	6/21/05	**16 J**	**0.22 J**	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**26.6**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.24 J**	ND (<0.187)	**0.66**
	10/27/05	ND (<4.68)	**0.48 J**	ND (<0.532)	ND (<0.366)	ND (<0.466)	ND (<0.280)	**215**	ND (<0.654)	ND (<0.286)	ND (<0.318)	ND (<0.266)	ND (<0.234)	**0.3 J**	ND (<0.374)	**0.8 J**
	9/15/05	ND (<2.34)	**0.66**	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**122**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.36 J**	ND (<0.187)	**0.82**
	11/21/05	ND (<2.34)	**0.33 J**	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**46.3**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.27 J**	ND (<0.187)	**0.88**
MWA-9i	6/22/05	ND (<1170)	ND (<73.5)	ND (<133)	ND (<91.5)	ND (<116)	ND (<70.0)	**65700**	ND (<164)	ND (<71.5)	ND (<79.5)	ND (<66.5)	ND (<58.5)	ND (<43.0)	ND (<93.5)	ND (<78.5)
	9/15/05	ND (<468)	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**30,500**	ND (<65.4)	ND (<28.6)	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
	10/26/05	**514 J**	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**35600**	ND (<65.4)	**52 J**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
	11/22/05	**1260 J**	ND (<29.4)	ND (<53.2)	ND (<36.6)	ND (<46.6)	ND (<28.0)	**33700**	ND (<65.4)	**38 J**	ND (<31.8)	ND (<26.6)	ND (<23.4)	ND (<17.2)	ND (<37.4)	ND (<31.4)
MWA-10i	7/29/05	ND (<234)	ND (<14.7)	ND (<33.3)	ND (<26.6)	ND (<23.3)	ND (<14.0)	**12400**	ND (<32.7)	ND (<14.3)	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
	10/26/05	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**16400**	ND (<32.7)	ND (<14.3)	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
	11/22/05	**244 J**	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**16200**	ND (<32.7)	ND (<14.3)	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)
MWA-11i	8/1/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**0.81**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	ND (<0.0859)	ND (<0.187)	ND (<0.157)
MWA-14i	7/28/05	**10.4 J**	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**0.51**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.13 J**	ND (<0.187)	**1.38**
	10/27/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**1.04**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.15 J**	ND (<0.187)	**1.43**
	11/21/05	ND (<2.34)	ND (<0.147)	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**0.42 J**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.1 J**	ND (<0.187)	**1.44**
MWA-16i	8/2/05	**26.8**	**0.4 J**	ND (<0.266)	ND (<0.183)	ND (<0.233)	ND (<0.140)	**47**	ND (<0.327)	ND (<0.143)	ND (<0.159)	ND (<0.133)	ND (<0.117)	**ND (<0.0859)**	ND (<0.187)	**0.84**

Table A-6
Groundwater Organic Anal
Persulfate Oxidation Interi
Arkema Portland Plant Hot

Well Number	Date	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichlorethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Methylene chloride (µg/L)	Naphthalene (µg/L)	Tetrachlorethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	DDT (µg/L)	DDD (µg/L)	DDE (µg/L)
Hot Spot Screening Levels		**5 b**	**7 b**	**70 b**	**100 b**	**5 b**	**NE**	**5 b**	**1000 b**	**200 b**	**5 b**	**2 b**	**0.2 a**	**0.28 a**	**0.2 a**
NMP-3D	6/22/05	ND (<71.0)	ND (<98.5)	ND (<85.0)	ND (<87.5)	ND (<500)	ND (<49.4)	ND (<54.5)	ND (<77.5)	ND (<43.0)	ND (<120)	ND (<3.04)	**1.77**	**7.69**	ND (<1.00)
	9/15/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	ND (<10.9)	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	**2.75**	**0.348** J	ND (<0.0367)
NMP-4D	6/22/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**9.5**	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	**40.6**	**18.6**	ND(<5.00)
	9/15/05	ND (<71.0)	ND (<98.5)	ND (<85.0)	ND (<87.5)	ND (<500)	ND (<49.4)	ND (<54.5)	ND (<77.5)	ND (<43.0)	ND (<120)	ND (<76.0)	**89.8**	**8.29**	**2.52** J
PMP-4	6/21/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**0.56**	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**4.03**	ND (<0.500)	ND (<0.500)
	9/15/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**0.16** J	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**6.95**	**0.21** J	**0.0416** J
	10/27/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**0.49** J	**0.21** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**4.22**	**0.132**	ND (<0.236)
	11/22/05	ND (<0.710)	ND (<0.985)	ND (<0.850)	ND (<0.875)	ND (<5.00)	ND (<0.494)	**2.05** J	ND (<0.775)	ND (<0.430)	ND (<1.20)	ND (<0.760)	**1.89**	**0.101**	ND (<0.0476)
PMP-5	6/22/05	**2.63**	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**4.77**	ND (<0.155)	**0.37** J	ND (<0.241)	ND (<0.152)	**39.6**	**2.26**	ND (<5.00)
	9/15/05	**5.40**	ND (<1.97)	ND (<1.70)	ND (<1.75)	ND (<10.0)	ND (<0.989)	**8.70**	ND (<1.55)	ND (<0.859)	ND (<2.41)	ND (<1.52)	**53.5**	**4.01**	**0.891** J
	10/27/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	**17** J	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	**100**	**5.47**	**1.7**
	11/22/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	**72.9**	**5.26**	**1.36**
PMP-6	6/22/05	0.32	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	ND (<0.0989)	**0.41**	ND (<0.155)	**0.41**	ND (<0.241)	ND (<0.152)	**5.56**	**0.862**	ND (<0.500)
	9/14/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	**6.2**	**0.789** J	ND (<0.184)
	10/27/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	**8.84**	**1.07**	**0.256**
	11/22/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	ND (<5.45)	ND (<7.75)	**7.5** J	ND (<12.0)	ND (<7.60)	**3.44**	**0.549**	**0.145**
MWA-17si	7/29/05	ND (<71.0)	ND (<98.5)	ND (<85.0)	ND (<87.5)	ND (<500)	ND (<49.4)	**65** J	ND (<77.5)	ND (<43.0)	ND (<120)	ND (<76.0)	ND (<5.00)	**9.33**	ND (<5.00)
	10/26/05	**19** J	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	**17** J	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	ND (<0.236)	**0.344**	**0.123**
	11/21/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	**34** J	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	**0.0682** J	**0.525**	**0.218**
	1/13/06	ND (<142)	ND (<197)	ND (<170)	ND (<175)	ND (<1000)	ND (<98.9)	ND (<109)	**200**	ND (<85.9)	ND (<241)	ND (<152)	ND (<0.243)	**0.851**	ND (<0.243)
MWA-67si	8/1/05	ND (<284)	ND (<394)	ND (<340)	ND (<350)	ND (<2000)	ND (<198)	**3460**	ND (<310)	ND (<172)	ND (<482)	ND (<304)	ND (<5.00)	ND (<5.00)	ND (<5.00)
	10/27/05	ND (<284)	ND (<394)	ND (<340)	ND (<350)	ND (<2000)	ND (<198)	**1700**	ND (<310)	ND (<172)	ND (<482)	ND (<304)	**0.365**	ND (<0.236)	ND (<0.236)
	11/21/05	ND (<284)	ND (<394)	ND (<340)	ND (<350)	ND (<2000)	ND (<198)	**1760**	ND (<310)	ND (<172)	ND (<482)	ND (<304)	**0.130**	ND (<0.0472)	**0.0593** J
	1/13/06	ND (<284)	ND (<394)	ND (<340)	ND (<350)	ND (<2000)	ND (<198)	**2380**	ND (<310)	ND (<172)	ND (<482)	ND (<304)	ND (<0.238)	ND (<0.238)	ND (<0.238)
MWA-68si	8/2/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	**28** J	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	**24.8**	ND(<5.00)	ND (<5.00)
	10/25/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**10** J	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	ND (<0.476)	ND (<0.476)	ND (<0.476)
	11/22/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	**10.5** J	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	ND (<0.238)	ND (<0.238)	**0.529**
	1/13/06	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	**19** J	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	**0.526**	ND (<0.721)	ND (<0.240)
Intermediate Zone															
MWA-8i	6/21/05	ND (<0.142)	ND (<0.197)	**0.17** J	ND (<0.175)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
	10/27/05	ND (<0.284)	ND (<0.394)	**1.32**	ND (<0.350)	ND (<2.00)	ND (<0.198)	ND (<0.218)	**0.58** J	ND (<0.172)	ND (<0.482)	ND (<0.304)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	9/15/05	ND (<0.142)	ND (<0.197)	**1.37**	ND (<0.175)	ND (<1.00)	**0.36** J	ND (<0.109)	**1.91**	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**0.0243** J	ND (<0.00103)	ND (<0.00367)
	11/21/05	ND (<0.142)	ND (<0.197)	**0.22** J	ND (<0.175)	ND (<1.00)	**0.29** J	ND (<0.109)	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**0.0678** J	ND (<0.0472)	ND (<0.0472)
MWA-9i	6/22/05	ND (<71.0)	ND (<98.5)	ND (<85.0)	ND (<87.5)	ND (<500)	ND (<49.4)	ND (<54.5)	ND (<7.75)	ND (<43.0)	ND (<120)	ND (<76.0)	ND (<0.500)	**1.04**	ND (<0.500)
	9/15/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	ND (<0.0370)	**0.625**	ND (<0.0184)
	10/26/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	ND (<0.236)	**0.94**	ND (<0.236)
	11/22/05	ND (<28.4)	ND (<39.4)	ND (<34.0)	ND (<35.0)	ND (<200)	ND (<19.8)	ND (<21.8)	ND (<31.0)	ND (<17.2)	ND (<48.2)	ND (<30.4)	ND (<0.0476)	**1.3**	**0.0573** J
MWA-10i	7/29/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	ND (<10.9)	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	**0.504**	ND (<0.100)	ND (<0.100)
	10/26/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	ND (<10.9)	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	ND (<0.0472)	ND (<0.0472)	ND (<0.0472)
	11/22/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	ND (<10.9)	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	ND (<0.0476)	ND (<0.0476)	ND (<0.0476)
MWA-11i	8/1/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	ND (<1.00)	**0.24** J	ND (<0.109)	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	**0.0829** J	**0.593**	ND (<0.0500)
MWA-14i	7/28/05	ND (<0.142)	**1.21**	**0.32** J	ND (<0.266)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	**0.16** J	ND (<0.0859)	ND (<0.241)	**0.16** J	**2.99**	**0.0745**	ND (<0.0500)
	10/27/05	ND (<0.142)	**1.26**	**0.38** J	ND (<0.175)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	**0.18** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0472)	**0.0929** J	ND (<0.0472)
	11/21/05	ND (<0.142)	**1.04**	**0.31** J	ND (<0.175)	ND (<1.00)	ND (<0.0989)	ND (<0.109)	ND (<0.155)	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0495)	**0.0635** J	ND (<0.0495)
MWA-16i	8/2/05	ND (<0.142)	ND (<0.197)	**0.78**	**0.56**	ND (<1.00)	ND (<0.0989)	ND (<0.109)	**0.21** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)

Table A-6
Groundwater Organic Analytical Results
Persulfate Oxidation Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Acetone (µg/L)	Benzene (µg/L)	Bromochloro-methane (µg/L)	Bromodichloro-methane (µg/L)	Carbon disulfide (µg/L)	Carbon tetrachloride (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	Dibromochloro-methane (µg/L)	Dibromo-methane (µg/L)	1,2-Dichlorobenzene (µg/L)	1,4-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)
Hot Spot Screening Levels		**5500 a**	**5 b**	**NE**	**0.18 a**	**1000 a**	**5 b**	**100 b**	**4.6 a**	**0.17 a**	**160 a**	**390 a**	**NE**	**600 b**	**75 b**	**810 a**
MWA-32i	8/3/05	ND (<2.34)	**0.27** J	ND (<0.266)	ND (<0.183)	**0.25** J	ND (<0.140)	**1.44**	ND (<0.327)	**126**	ND (<0.159)	ND (<0.133)	ND (<0.117)	**0.31** J	ND (<0.187)	**0.67**
MWA-34i	8/3/05	ND (<23.4)	**4** J	ND (<2.66)	ND (<0.183)	ND (<2.33)	ND (<1.40)	**1540**	ND (<3.27)	**8**	ND (<1.59)	ND (<1.33)	ND (<1.17)	ND (<0.859)	ND (<1.87)	**1.8** J
MWA-49i	8/3/05	ND (<11.7)	**1** J	ND (<1.33)	**4.75**	**8.2**	ND (<0.700)	**5.95**	ND (<1.64)	**597**	ND (<0.795)	**2.3** J	ND (<0.585)	ND (<0.430)	ND (<0.935)	**1.15** J
MWA-51i	8/3/05	ND (<11.7)	**1.45** J	ND (<1.33)	ND (0.951)	ND (<1.16)	ND (<0.700)	**845**	ND (<1.64)	**4.65**	ND (<0.795)	ND (<0.665)	ND (<0.585)	ND (<0.430)	ND (<0.935)	**1.85** J
MWA-55i	8/3/05	ND (<2.34)	**0.85**	**0.45** J	ND (<0.183)	**3.01**	ND (<0.140)	**34.5**	ND (<0.327)	**89.6**	ND (<0.159)	ND (<0.133)	**1.38**	**0.13** J	ND(0.500)	**1.29**
MWA-64i	8/1/05	ND (<46.8)	ND (<2.94)	ND (<5.32)	ND (<3.66)	ND(<4.66)	ND (<2.80)	**2320**	ND (<6.54)	**5** J	ND (<3.18)	ND (<2.66)	ND (<2.34)	ND (<1.72)	ND (<3.74)	ND (<3.14)
MWA-65i	8/2/05	ND (<117)	ND (<7.35)	ND (<13.3)	ND (<9.15)	ND (<11.6)	ND (<7.00)	**6490**	ND (<16.4)	ND (<7.15)	ND (<7.95)	ND (<6.65)	ND (<5.85)	ND (<4.30)	ND (<9.35)	ND (<7.85)
MWA-66i	8/2/05	ND (<234)	ND (<14.7)	ND (<26.6)	ND (<18.3)	ND (<23.3)	ND (<14.0)	**12900**	ND (<32.7)	**25** J	ND (<15.9)	ND (<13.3)	ND (<11.7)	ND (<8.59)	ND (<18.7)	ND (<15.7)

Notes:

ug/L - micrograms per liter
ND - Not detected at referenced detection limit
J - Estimated
D - The reported result is from a dilution.
- Value exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations

Table A-6
Groundwater Organic Anal
Persulfate Oxidation Interi
Arkema Portland Plant Hot

Well Number	Date	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichlorethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Methylene chloride (µg/L)	Naphthalene (µg/L)	Tetrachlorethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)	DDT (µg/L)	DDD (µg/L)	DDE (µg/L)
Hot Spot Screening Levels		**5 b**	**7 b**	**70 b**	**100 b**	**5 b**	**NE**	**5 b**	**1000 b**	**200 b**	**5 b**	**2 b**	**0.2 a**	**0.28 a**	**0.2 a**
MWA-32i	8/3/05	ND (<0.142)	ND (<0.197)	ND (<0.170)	ND (<0.175)	**1.09** J	ND (<0.0989)	**0.83**	**0.17** J	ND (<0.0859)	ND (<0.241)	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-34i	8/3/05	ND (<1.42)	ND (<1.97)	ND (<1.70)	ND (<1.75)	ND (<10.0)	ND (<0.989)	**2.3** J	**2.3** J	ND (<0.859)	ND (<2.41)	ND (<1.52)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-49i	8/3/05	ND (<0.710)	ND (<0.985)	ND (<0.850)	ND (<0.875)	ND (<5.00)	ND (<0.494)	ND (<0.545)	ND (<0.775)	ND (<0.430)	ND (<1.20)	ND (<0.760)	**0.204**	ND (<0.0500)	ND (<0.0500)
MWA-51i	8/3/05	ND (<0.710)	ND (<0.985)	ND (<0.850)	ND (<0.875)	ND (<5.00)	ND (<0.494)	ND (<0.545)	ND (<0.775)	ND (<0.430)	ND (<1.20)	ND (<0.760)	**1.21**	ND (<0.0500)	ND (<0.0500)
MWA-55i	8/3/05	ND (<0.142)	ND (<0.197)	**0.54**	ND (<0.175)	**1.45** J	ND (<0.0989)	**0.81**	**0.39** J	**0.1** J	**0.31** J	ND (<0.152)	ND (<0.0500)	ND (<0.0500)	ND (<0.0500)
MWA-64i	8/1/05	ND (<2.84)	ND (<3.94)	ND (<3.40)	ND (<3.50)	ND (<20.0)	ND (<1.98)	**153**	ND (<3.10)	ND (<1.72)	ND (<4.82)	ND (<3.04)	**0.309**	**0.207**	ND (<0.0500)
MWA-65i	8/2/05	ND (<7.10)	ND (<9.85)	ND (<8.50)	ND (<8.75)	ND (<50.0)	ND (<4.94)	ND (<5.45)	ND (<7.75)	ND (<4.30)	ND (<12.0)	ND (<7.60)	**48.1**	ND (<0.500)	ND (<0.500)
MWA-66i	8/2/05	ND (<14.2)	ND (<19.7)	ND (<17.0)	ND (<17.5)	ND (<100)	ND (<9.89)	ND (<10.9)	ND (<15.5)	ND (<8.59)	ND (<24.1)	ND (<15.2)	ND (<0.500)	ND (<0.500)	ND (<0.500)

Notes:

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D - The reported result is from a dilution.
- Value exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established
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b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations

Table A-7
Groundwater Inorganic Analytical Results
Persulfate Oxidation Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Mercury (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Thallium (mg/L)	Dissolved Zinc (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.1 b**	**1 c**	**0.015 d**	**0.002 b**	**0.1 b**	**0.05 b**	**0.1 c**	**0.0024 a**	**5 c**	**NE**
Shallow Zone															
MWA-2	7/28/05	ND (<0.00004)	0.0006 J	0.00076 J	ND (<0.0001)	**0.576**	0.00904	0.00024 J	ND (<0.00005)	**0.831**	0.00063 J	ND (<0.00008)	ND (<0.00008)	0.0836	649
	10/27/05	ND (<0.000192)	0.00197	0.00113	ND (<0.000138)	**0.612**	0.00818	0.000252 J	ND (<0.0000630)	**0.797**	0.00174 J	ND (<0.0000566)	ND (<0.0000307)	0.128	664
	1/13/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	ND(<0.00121)	0.0028 J	ND (<0.000553)	ND (<0.0000630)	ND (<0.00180)	ND (<0.00284)	ND (<0.00121)	ND (<0.000181)	ND (<0.00469)	53.2
MWA-3	7/28/05	0.00083 J	0.00019 J	ND (<0.000110)	0.00016 J	**0.226**	0.00908	0.00372	ND (<0.00005)	**1.51**	0.00099 J	ND (<0.00008)	ND (<0.00008)	0.105	1030
	10/26/05	0.0005 J	0.00085 J	0.00127	0.00138	**0.592**	0.679	**0.5**	ND (<0.0000630)	**0.433**	0.00475	0.00137	0.00016 J	1.41	2610
	11/22/05	0.0002 J	0.00181	0.00359	0.00458	**0.709**	0.926	**0.754**	ND (<0.0000630)	**0.642**	0.0015 J	0.00161	0.00023 J	2.37	3440
	1/13/06	0.0041 J	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	0.0603	0.0636	0.00548 J	ND (<0.0000630)	0.0375	ND (<0.00284)	ND (<0.00121)	ND (<0.000181)	0.558	510
MWA-4	7/29/05	0.0011 J	0.00103	ND (<0.00007)	0.00021 J	0.00034 J	0.00167	0.00052 J	ND (<0.00005)	0.0117	0.00157	ND (<0.00170)	ND (<0.00100)	0.00874 J	459
	10/26/05	0.00065 J	0.00086 J	0.00047 J	0.00276	0.00406	0.0963	0.00522	ND (<0.0000630)	**0.191**	0.00526	ND (<0.0000566)	0.00016 J	0.14	2390
	11/22/05	0.00049 J	ND(<0.000664)	0.00047 J	0.00156	0.0033	0.0528	0.0117	ND (<0.0000630)	**0.11**	0.00095 J	ND (<0.000121)	0.00017 J	0.108	2010
	1/13/06	0.00125 J	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	0.00415 J	0.013 J	0.00343 J	ND (<0.0000630)	0.0557	ND (<0.00284)	ND (<0.00121)	0.00019 J	0.0518	1760
MWA-5	7/28/05	ND (<0.00004)	0.00372	ND (<0.000110)	ND (<0.0001)	0.00563	0.00135	0.00084 J	ND (<0.00005)	0.00425	ND (<0.000320)	ND (<0.00008)	ND (<0.00008)	ND (<0.0001)	0.16 J
	10/27/05	0.00024 J	**0.0101**	ND(<0.000377)	ND (<0.000138)	0.0149	0.028	0.00833	ND (<0.0000630)	0.00647	0.00167 J	0.000131 J	ND (<0.0000181)	0.00463 J	ND (<0.0419)
	11/21/05	0.000132 J	0.00639	ND (<0.000128)	ND (<0.0000714)	0.00878	0.0057	0.00215	ND (<0.0000630)	0.00397	0.000565 J	ND (0.000121)	ND (<0.0000181)	0.00433 J	ND (<0.0838)
	1/16/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	0.00629 J	0.0126 J	0.00111 J	ND (<0.0000630)	ND (<0.00180)	ND (<0.00284)	ND (<0.00121)	ND (<0.000181)	ND (<0.00469)	0.39
MWA-6R	8/1/05	ND (<0.0002)	0.0029 J	ND (<0.000110)	ND (<0.0001)	0.00555	0.00842	0.00049 J	ND (<0.00005)	0.0303	ND (<0.00160)	ND (<0.00008)	0.00019 J	0.00187 J	126
MWA-15R	8/1/05	ND (<0.0002)	**0.0146**	ND (<0.000110)	ND (<0.0001)	0.00871	0.00509	0.00081 J	ND (<0.00005)	0.0232	0.00135	ND (<0.00008)	ND (<0.00008)	0.000335 J	752
MWA-18	8/3/05	ND (<0.000200)	0.0023 J	ND (<0.000550)	ND (<0.000500)	0.04	0.0147	0.00036 J	ND (<0.00005)	**0.268**	ND (<0.00160)	ND (<0.000400)	ND (<0.00008)	0.00357 J	26.7
MWA-19	8/3/05	0.00025 J	0.0074	ND (<0.000550)	ND (<0.000500)	0.0235	0.107	0.00116	0.000769	**0.129**	0.0017	ND (<0.000400)	0.00018 J	0.00351 J	89.3
MWA-20	8/3/05	0.00035 J	**0.242**	ND (<0.000550)	ND (<0.000500)	0.0114	0.0121	0.00082 J	ND (<0.00005)	0.0843	ND (0.00160)	ND (<0.000400)	ND (<0.00008)	0.0027 J	36.8
MWA-22	8/1/05	0.00065 J	**0.522**	0.00019 J	ND (<0.0001)	0.0434	0.0223	0.00591	0.000705	**0.15**	ND (<0.00160)	ND (<0.00008)	ND (<0.00008)	0.00739 J	674
MWA-30	8/3/05	0.0017 J	**0.021** J	ND (<0.0110)	ND (<0.0100)	**0.583**	0.022 J	**0.0472**	ND (<0.00005)	0.0527	ND (<0.0320)	ND (<0.00800)	0.00016 J	0.0552	785
MWA-42	8/2/05	ND (<0.000200)	**0.101**	ND (<0.000110)	ND (<0.0001)	0.00409	0.001	0.00081 J	ND (<0.00005)	0.0191	0.00078 J	ND (<0.00008)	ND (<0.00008)	0.00356 J	232
MWA-44	8/3/05	0.0009 J	**0.155**	ND (<0.00550)	**0.005** J	0.043 J	0.022 J	0.00149	0.0000808 J	0.0224	ND (<0.0160)	ND (<0.00400)	ND (<0.00008)	0.0019 J	260
MWA-45	8/3/05	0.00055 J	**0.0828**	ND (<0.000550)	ND (<0.000500)	0.0359	0.0206	0.00063 J	0.000115 J	0.0146	ND (<0.00160)	ND (<0.000400)	ND (<0.00008)	0.00629 J	227
MWA-46	8/4/05	0.0005 J	**0.035**	ND (<0.000550)	0.0005 J	0.0248	0.394	0.00349	0.00182	**0.101**	ND (<0.00160)	ND (<0.000400)	ND (<0.00008)	0.00693 J	47.9
MWA-60	8/2/05	ND (<0.0002)	0.00512	ND (<0.000110)	ND (<0.0001)	0.00305	0.00106	0.00058 J	ND (<0.00005)	0.00487	ND (<0.000320)	ND (<0.00008)	ND (<0.00008)	0.00431 J	91.8
	10/27/05	0.00033 J	0.00729	ND (<0.000377)	ND (<0.000138)	0.00144	0.00456	ND (<0.000224)	ND (<0.0000630)	0.00555	ND (<0.000876)	ND (<0.0000566)	0.00004 J	0.00497 J	874
	11/21/05	0.000128 J	0.00266	ND (<0.000128)	ND (<0.0000714)	0.00384	0.00349	0.000493 J	ND (<0.0000630)	0.00835	0.00101 J	ND (<0.000121)	0.000106 J	0.0126	1310
	1/16/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	ND(<0.00121)	0.00267 J	0.000565 J	ND (<0.0000630)	ND (<0.00180)	ND (<0.00284)	ND (<0.00121)	ND (<0.000181)	ND (<0.00469)	380
MWA-61	8/1/05	ND (<0.0002)	0.00134	0.00026 J	0.00035 J	0.00062 J	0.00317	ND (<0.00008)	ND (<0.00005)	0.0411	0.0021	ND (<0.00008)	ND (<0.00008)	0.0531	1620
	10/26/05	ND (<0.000192)	0.00065 J	0.00345	0.00086 J	0.0109	0.133	0.00156	ND (<0.0000630)	**0.158**	0.0044	ND (<0.0000566)	0.00021 J	0.219	2490
	11/21/05	0.000134 J	0.00191	**0.0041** J	0.000888 J	0.0083	0.109	0.00129	ND (<0.0000630)	**0.123**	0.00177 J	ND (<0.000121)	0.000614 J	0.163	2590
	1/13/06	ND (<0.00102)	ND (<0.00664)	ND (<0.00128)	0.000917 J	ND (<0.00121)	0.0107 J	ND (<0.000553)	ND (<0.0000630)	0.0487	ND (<0.00284)	ND (<0.00121)	ND (<0.000181)	0.0381 J	631
MWA-62	8/2/05	**0.0113** J	0.0008 J	ND (<0.000110)	0.00013 J	0.00083 J	0.00375	**0.0876**	ND (<0.00005)	0.0188	ND (<0.000320)	ND (<0.00008)	ND (<0.00008)	0.017	28.1
	10/25/05	0.0047	0.000936 J	ND (<0.000377)	0.000153 J	ND (<0.000720)	0.0109	**0.773**	ND (<0.0000630)	0.0356	ND (<0.000876)	ND (<0.0000566)	ND (<0.0000307	0.0282	77.8
	11/22/05	0.00387	0.00141	ND (<0.000128)	0.00012 J	0.0005 J	0.0102	**0.636**	ND (<0.0000630)	0.0339	ND (<0.000284)	ND (<0.000121)	0.00015 J	0.0281	70.5
	1/16/06	0.00208 J	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	0.00233 J	0.0108 J	**0.0666**	ND (<0.0000630)	0.0868	0.00538 J	ND (<0.00121)	ND (<0.000181)	0.0365 J	808
MWA-63	7/27/05	ND (<0.00004)	ND (<0.00009)	ND (<0.000110)	ND (<0.0001)	0.00174	0.00144	0.0002 J	ND (<0.00005)	0.0133	0.0009 J	ND (<0.00008)	0.00025 J	0.00264 J	21.6
	10/27/05	ND (<0.000192)	0.00093 J	ND (<0.000377)	ND (<0.000138)	ND (<0.000720)	0.00155 J	ND (<0.000224)	ND (<0.0000630)	0.0106	ND (<0.000876)	ND (<0.0000566)	ND (<0.0000307)	0.00418 J	23
	11/21/05	ND (<0.000102)	ND (<0.000664)	ND (<0.000128)	ND (<0.0000714)	0.000164 J	0.00267	0.000388 J	ND (<0.0000630)	0.00169 J	0.000306 J	ND (<0.000121)	ND (<0.0000181)	0.00308 J	33.7
MWA-69	8/2/05	0.00025 J	0.00632	ND (<0.000110)	0.00012 J	0.00166	0.000264	0.0008 J	0.000387	0.0142	0.00292	ND (<0.00008)	ND (<0.00008)	0.0146	2600
	10/25/05	ND (<0.000192)	0.0013	**0.00657**	0.00493	0.0856	0.251	**0.0378**	ND (<0.0000630)	**0.227**	0.0129	0.000097 J	0.00008 J	0.503	4060
	11/22/05	0.00013 J	0.0086	**0.00655**	0.00397	0.0764	0.106	**0.0634**	ND (<0.0000630)	**0.171**	0.00178 J	ND (<0.000121)	0.00019 J	0.442	3740
	1/16/06	ND (<0.00102)	ND(<0.00664)	ND (<0.00128)	ND (<0.000714)	ND(<0.00121)	ND (<0.00133)	0.000655 J	ND (<0.0000630)	0.026	ND (<0.00284)	ND (<0.00121)	ND (<0.000181)	0.0326 J	2970
NMP-3D	8/1/05	0.00025 J	0.00056 J	0.00026 J	ND(<0.0001)	0.0102	0.0412	**0.0412**	ND (<0.00005)	0.0357	0.00402	0.00054 J	0.00078 J	0.0194	2330
NMP-4D	7/29/05	ND (<0.0009)	0.00094 J	ND (<0.00007)	ND (<0.000140)	0.00151	0.00604	0.00041 J	ND (<0.00005)	0.0181	0.00429	ND (<0.000170)	ND (<0.00100)	0.00825 J	2420
PMP-4	7/29/05	ND (<0.0009)	0.00083 J	0.00015 J	ND (<0.000140)	0.00108	0.0143	0.00075 J	0.000111 J	0.00855	0.00037 J	ND (<0.000170)	ND (<0.00100)	0.016	337
	10/27/05	ND (<0.000192)	0.00203	ND (<0.000377)	ND (<0.000138)	0.00114	0.0217	0.000248 J	ND (<0.0000630)	0.00637	ND (<0.000876)	ND (<0.0000566)	0.00009 J	0.0136	397
	11/22/05	ND (<0.000102)	0.00151	ND (<0.000128)	ND (<0.0000714)	0.00079 J	0.0243	0.0016	ND (<0.0000630)	0.00745	ND (<0.000284)	ND (<0.000121)	0.00011 J	0.0167	341
PMP-5	7/29/05	ND (<0.0009)	0.00084 J	0.00134	0.00035 J	0.0115	0.2	0.00233	ND (<0.00005)	**0.11**	0.00493	ND (<0.000170)	ND (<0.00100)	0.197	2640
	10/27/05	ND (<0.000192)	0.00124	0.00084 J	ND (<0.000138)	0.0161	0.26	0.00154	ND (<0.0000630)	0.0924	0.00487	0.000208 J	0.00053 J	0.144	2870
	11/22/05	ND (<0.000102)	0.00276	0.0011	0.00028 J	0.017	0.24	0.00315	ND (<0.0000630)	0.0837	0.00125 J	0.00019 J	0.00063 J	0.16	2920
PMP-6	7/29/05	ND (<0.0009)	0.00056 J	0.00043 J	0.00023 J	0.00235	0.0164	0.00107	0.000161 J	0.0407	0.00516	ND (<0.000170)	ND (<0.00100)	0.048	2050
	10/27/05	ND (<0.000192)	0.00103	ND (<0.000377)	ND (<0.000138)	0.00301	0.0273	0.00169	ND (<0.0000630)	0.0343	0.00511	ND (<0.0000566)	0.00035 J	0.0305	2040
	11/22/05	ND (<0.000102)	0.00328	0.00034 J	0.00012 J	0.00178	0.0222	0.00486	ND (<0.0000630)	0.0274	0.00068 J	ND (<0.000121)	0.00039 J	0.0306	1980

Table A-7
Groundwater Inorganic Analytical Results
Persulfate Oxidation Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Date	Dissolved Antimony (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Beryllium (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Mercury (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Thallium (mg/L)	Dissolved Zinc (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels		**0.006 b**	**0.01 b**	**0.004 b**	**0.005 b**	**0.1 b**	**1 c**	**0.015 d**	**0.002 b**	**0.1 b**	**0.05 b**	**0.1 c**	**0.0024 a**	**5 c**	**NE**
Shallow Intermediate Zone															
MWA-17si	7/29/05	ND (<0.0009)	0.00227	0.00123	0.0004 J	**3.19**	0.297	**0.0162**	ND (<0.00005)	**1.95**	0.00543	ND (<0.000170)	0.00033 J	0.245	3200
	10/26/05	0.00041 J	0.00316	**0.0089** J	ND (<0.000276)	**3.07**	**4.03**	**0.104**	ND (<0.0000630)	**1.02**	0.0161	0.00172	0.00061 J	0.793	7480
	11/21/05	ND (<0.000512)	**0.0127**	**0.00761**	0.00113 J	**2.22**	**4.13**	**0.0864**	ND (<0.0000630)	**0.563**	0.00422	0.00106 J	0.000534 J	0.935	8140
	1/13/06	ND (<0.00102)	ND(<0.00664)	0.0019 J	0.00104 J	**0.852**	**1.02**	**0.0441**	ND (<0.0000630)	**0.263**	ND (<0.00284)	ND (<0.00121)	0.000578 J	0.374	4640
MWA-67si	8/1/05	ND(<0.0002)	0.00263	**0.00421**	0.00167	0.0206	0.247	0.00291	ND (<0.00005)	**0.296**	0.00207	0.00039 J	0.00087 J	0.844	3460
	10/27/05	ND (<0.000192)	0.0059	**0.00457**	0.00118	0.0301	ND (<0.000788)	0.000734 J	ND (<0.0000630)	**0.361**	0.00771	0.000718 J	0.00042 J	0.64	3470
	11/21/05	ND (<0.000102)	0.00756	**0.00451** J	0.00141	0.0204	0.245	0.000635 J	ND (<0.0000630)	**0.289**	0.0022	0.000576 J	0.000377 J	0.592	2860
	1/13/06	ND (<0.00102)	0.00912	**0.0042** J	0.00204 J	0.0202	0.328	0.00123 J	0.0000695 J	**0.343**	ND (<0.00284)	ND (<0.00121)	0.000656 J	0.923	3460
MWA-68si	8/2/05	ND(<0.0002)	**0.0141**	ND (<0.000110)	ND (<0.000100)	0.00142	0.00159	0.0008 J	ND (<0.00005)	0.0214	0.00291	ND (<0.00008)	ND (<0.00008)	0.0811	3360
	10/25/05	0.0003 J	**0.0242**	**0.00963**	**0.00886**	**0.128**	**1.06**	**0.0638**	0.0000948 J	**0.145**	0.0128	ND (<0.0000566)	ND (<0.000724)	0.692	5950
	11/22/05	0.0002 J	**0.0254**	**0.011**	**0.00585**	**0.172**	0.957	0.00324	ND (<0.0000630)	**0.15**	0.00186 J	ND (<0.000121)	0.00011 J	0.573	6310
	1/13/06	ND (<0.00102)	**0.019**	0.00309 J	0.00126 J	0.037	0.309	0.000923 J	0.00019 J	0.0684	ND (<0.00284)	ND (<0.00121)	0.000428 J	0.354	4630
Intermediate Zone															
MWA-8i	7/28/05	ND (<0.00004)	**0.0355**	0.00121	ND (<0.0001)	0.0162	0.00243	0.00363	ND (<0.00005)	0.0754	ND (<0.000320)	ND (<0.00008)	ND (<0.00008)	0.00848 J	69.3
	10/27/05	0.00074 J	**0.0947**	0.0017	ND (<0.000138)	**0.15**	0.0722	0.0124	0.000157 J	**0.199**	0.00195 J	0.000411 J	0.00009 J	0.0109	75
	11/21/05	0.000438 J	**0.0626**	0.00105 J	0.000156 J	0.0594	0.0362	0.00692	0.0000836 J	0.0608	0.00141 J	0.000251 J	0.0000403 J	0.00879	77.5
MWA-9i	7/29/05	0.0009 J	0.0036 J	0.00016 J	ND (<0.000140)	**0.401**	0.00232	0.00046 J	ND (<0.00005)	**5.98**	ND (<0.00290)	ND (<0.000170)	ND (<0.00100)	0.00925 J	866
	10/26/05	0.00051 J	**0.0746**	0.00054 J	ND (<0.000138)	**0.575**	0.0276	0.00153	0.0000737 J	**1.88**	ND (<0.000876)	0.000151 J	0.00004 J	0.0197	653
	11/22/05	ND (<0.000512)	**0.0234**	ND (<0.000640)	ND (<0.000357)	0.0866	0.0122	0.00105 J	0.000126 J	**2.64**	ND (<0.00142)	ND (<0.000606)	0.0001 J	0.0101 J	630
MWA-10i	7/29/05	ND (<0.0009)	**0.0125**	ND (<0.00007)	ND (<0.000140)	0.00233	0.00146	0.0003 J	ND (<0.00005)	0.0257	ND (<0.00290)	ND (<0.000170)	ND (<0.00100)	ND (<0.00313)	231
	10/26/05	0.00064 J	0.00184	ND (<0.000377)	ND (<0.000138)	0.0305	0.00422	ND (<0.000224)	ND (<0.0000630)	**0.947**	0.00105 J	ND (<0.0000566)	0.00008 J	0.00461 J	448
	11/22/05	0.00018 J	**0.0147**	ND (<0.000128)	ND (<0.0000714)	0.0108	0.00165 J	0.00045 J	ND (<0.0000630)	0.0155	ND (<0.000284)	ND (<0.000121)	0.00003 J	0.00205	383
MWA-11i	8/1/05	ND (<0.0002)	**0.362**	ND (<0.000110)	ND (<0.0001)	0.00033 J	0.0013	0.00024 J	ND (<0.00005)	0.0144	0.00091 J	ND (<0.00008)	ND (<0.00008)	0.00366 J	7.06
MWA-14i	7/28/05	ND (<0.00004)	**0.359**	ND (<0.000110)	ND (<0.0001)	**0.142**	0.00278	0.00029 J	ND (<0.00005)	**0.119**	ND (<0.000320)	ND (<0.00008)	ND (<0.00008)	ND (<0.0001)	92.8
	10/27/05	ND (<0.000192)	**0.0597**	ND (<0.000377)	ND (<0.000138)	0.00593	0.0028	0.000279 J	ND (<0.0000630)	**0.112**	0.0017 J	ND (<0.0000566)	ND (<0.0000181)	0.00608	71.2
	11/21/05	0.000108 J	**0.035**	ND (<0.000128)	ND (<0.0000714)	0.0021	0.000849 J	0.000512 J	ND (<0.0000630)	0.0258	0.000402 J	ND (<0.000121)	0.0000206 J	0.00457 J	92.9
MWA-16i	8/2/05	0.00035 J	0.0067	0.00045 J	0.00071 J	0.0107	0.0303	0.00188	0.000106 J	**0.261**	0.0021 J	ND (<0.00008)	0.00011 J	0.00724 J	204
MWA-32i	8/3/05	0.0009 J	0.007 J	ND (<0.00550)	ND (<0.00500)	**0.148**	0.0355 J	0.0014	ND (<0.00005)	0.0192	ND (<0.0160)	ND (<0.00400)	0.00013 J	0.00805 J	448
MWA-34i	8/3/05	0.00115 J	**0.425**	ND (<0.000550)	ND (<0.000500)	0.0424	0.00675	0.00064 J	ND (<0.00005)	0.0355	ND (<0.00160)	ND (<0.000400)	ND (<0.00008)	0.00139 J	358
MWA-49i	8/3/05	ND (<0.000200)	ND (<0.00450)	ND (<0.00550)	ND (<0.00500)	**0.122**	0.0485 J	0.00042 J	ND (<0.00005)	0.0307	ND (<0.0160)	ND (<0.00400)	0.00008 J	0.0107	193
MWA-51i	8/3/05	0.00055 J	**0.962**	ND (<0.00550)	**0.005** J	**0.1**	0.104	0.00183	0.00148	**0.187**	ND (<0.0160)	ND (<0.00400)	0.00058 J	0.00868 J	237
MWA-55i	8/3/05	0.00095 J	**0.0958**	ND (<0.000550)	ND (<0.000500)	**0.137**	0.0224	0.00061 J	0.0000979 J	0.0107	ND (<0.00160)	ND (<0.000400)	ND (<0.00008)	0.00098 J	142
MWA-64i	8/1/05	ND (<0.0002)	**0.0726**	0.00027 J	ND (<0.0001)	0.0103	0.00073 J	0.0016	ND (<0.00005)	0.0239	ND (<0.00160)	ND (<0.00008)	ND (<0.00008)	0.0108	174
MWA-65i	8/2/05	ND (<0.0002)	0.00116 J	ND (<0.000110)	0.00014 J	0.0297	0.00119	0.00094 J	ND (<0.00005)	0.00732	0.00078 J	ND (<0.00008)	ND (<0.00008)	0.00719 J	313
MWA-66i	8/2/05	ND (<0.0002)	0.00081 J	0.00031 J	0.00117	0.00131	0.00191	0.001	ND (<0.00005)	0.0416	ND (<0.000320)	ND (<0.00008)	ND (<0.00008)	0.108	915

Notes:

ug/L - micrograms per liter
ND - Not detected at referenced detection limit
J - Estimated
D - The reported result is from a dilution.
- Value exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
Shallow Zone													
MWA-6r	MWA-6r-050505	05/05/05	**0.111**	ND(<0.000840)	48.7	0.02	**0.37**	**0.22**	0.0512 J	ND(<0.100)	8200	NA	121
	MWA-6r-071205	07/12/05	**0.152**	0.0035 J	48.9	0.012	0.177	**0.19**	0.022	119	8240	NA	131
	MWA-6r-081505	08/15/05	**0.137**	0.0019 J	50.4	0.0067	0.296	**0.209**	**0.112**	ND(<0.100)	8550	NA	130
	MWA-6r-090905	09/09/05	0.0640 J	0.0055 J	60.7	0.0070 J	**0.351**	**0.27**	**0.505**	ND(<0.0500)	8170	3960	136
	MWA-6r-120705	12/07/05	0.0217	0.00624	63	0.00512	**0.402**	**0.27**	0.0171	ND(<0.0200)	7820	NA	140
	MWA-6r-011106	01/11/06	0.0046 J	ND(<0.00332)	30.8	0.0013 J	0.115	**0.121**	ND(<0.00455)	ND(<0.0100)	2900	NA	80.7
	MWA-6r-020906	02/09/06	0.0122	ND(<0.00332)	58.6	0.0034 J	0.125	**0.256**	ND(<0.00455)	ND(<0.0300)	5120	NA	105
MWA-18	MWA-18i-050505	05/05/05	**3.22**	ND(<0.000840)	21.7	**0.113**	**4.09**	**0.277**	**0.833**	ND(<0.100)	NA	612	25.4
	MWA-18-071405	07/14/05	**2.45**	0.0027 J	43.9	**0.154**	**4.24**	**0.29**	**0.676** [1]	ND(<0.200)	2460	NA	40
	MWA-18-081605	08/16/05	**0.335**	0.0029 J	20.7	0.0103	**2.05**	**0.2**	**0.248**	ND(<0.0200)	1490	NA	25.9
	MWA-18-091205	09/12/05	**1.1**	ND(<0.00900)	13.9	ND(<0.00800)	**2.43**	**0.213**	**1.18**	ND(<0.0500)	1470	410[(4)]	23.5
	MWA-18-120805	12/08/05	0.0356	**0.0166**	360	0.0016 J	**6.78**	**3.9**	0.0059 J	ND(<0.0100)	2400	NA	835
	MWA-18-011006	01/10/06	0.0477	ND(<0.00664)	50.3	0.0020 J	**3.25**	**1.92**	0.03	0.197 J	705	NA	178
	MWA-18-021306	02/13/06	0.0089	0.0041 J	311 B	0.0027 J	**30.9**	**37.6**	ND(<0.00455)	0.814	2550	NA	1240
MWA-19	MWA-19-050605	05/06/05	**2.82**	**0.0109 J**	14.3	0.0469	**1.25**	**0.0754**	**2.68**	ND(<0.100)	4580	2100	86.9
	MWA-19-071305	07/13/05	**1.92**	0.00665	28.2	0.0275	**1.03**	**0.0733**	**0.159**	ND(<0.0500)	4970	NA	93.5
	MWA-19-081705	08/17/05	**0.864**	ND(<0.00450)	22.9	0.0124	**1.49**	**0.41**	**0.407**	ND(<0.100)	3880	NA	95.6
	MWA-19-091305	09/13/05	**1.3**	ND(<0.00900)	18.8	0.0090 J	**4.44**	**0.17**	**0.824**	ND(<0.100)	3660	1240	59
	MWA-19-120805	12/08/05	**0.226**	**0.0154**	10.3	0.0428	**3.52**	**0.111**	0.101	0.0857 J	3000	NA	48.3
	MWA-19-010906	01/09/06	0.052	ND(<0.00664)	588	0.0116	0.163	**0.0701**	0.0332	ND(<0.0100)	11700	NA	110
	MWA-19-021006	02/10/06	0.0296	ND(<0.00332)	215 B	0.00775	**0.364 B**	**0.126**	0.0121	ND(<0.0150)	7780	NA	307
MWA-20	MWA-20-050905	05/09/05	**0.417**	**0.211**	11.4	0.0137	**0.707**	**0.106**	**0.436**	ND(<0.100)	3980	NA	123
	MWA-20-071305	07/13/05	**0.713**	**0.183**	7.33	0.00918	**0.51**	0.0496	0.0741	ND(<0.100)	2660	NA	37.3
	MWA-20-081505	08/15/05	**0.815**	**0.24**	5.94	0.00396	**0.74**	**0.0745**	**0.676**	ND(<0.0500)	2310	NA	24.4
	MWA-20-090705	09/07/05	**0.858**	**0.256**	4.33	ND(<0.00400)	**0.858**	**0.0551**	**0.573**	ND(<0.0200)	2050	NA	36.7
	MWA-20-121205	12/12/05	0.03	**0.223**	5.31	0.00826	**0.781**	**0.0574**	0.0097 J	ND(<0.0500)	2750	NA	93.4
	MWA-20-011006	01/10/06	**0.206**	**0.315**	2.11	**0.109**	**0.86**	0.0191	0.0525	ND(<0.0500)	12600	NA	882
	MWA-20-020906	02/09/06	0.0786	**0.109**	6.46	0.00965	**0.409**	0.048	0.0438	ND(<0.0750)	3420	NA	233
MWA-23	MWA-23-050405	05/04/05	0.0008 J	**0.0285**	30.8	0.0008 J	**6.67**	**2.52**	ND(<0.00455)	ND(<0.0100)	380	26.1	47.3
	MWA-23-071205	07/12/05	ND(<0.000720)	**0.0271**	28.6	ND(0.00360)	**5.87**	**2.3**	ND(<0.00455)	ND(<0.0100)	370	NA	50.9
	MWA-23-081105	08/11/05	0.0006 J	**0.024**	29.9	0.0004 J	**7.12**	**2.52**	ND(<0.00455)	ND(<0.0100)	384	NA	53.6
	MWA-23-090605	09/06/05	0.0004 J	**0.025**	31.6	ND(<0.0000800)	**7.39**	**2.65**	ND(<0.00455)	ND(<0.0100)	377	NA	59.3
	MWA-23-120705	12/07/05	ND(<0.000605)	**0.0288**	34.9	ND(<0.000605)	**7.48**	**2.85**	ND(<0.00455)	ND(<0.0100)	408	NA	61.2
	MWA-23-010506	01/05/06	0.0006 J	**0.0304**	33.7	0.0006 J	**7.18**	**2.79**	ND(<0.00455)	ND(<0.0100)	420	NA	55
	MWA-23-020806	02/08/06	ND(<0.000605)	**0.023**	29.9	ND(<0.000605)	**5.5**	**2.27**	ND(<0.00455)	ND(<0.0150)	345	NA	30.8
MWA-24	MWA-24-050505	05/05/05	**0.177**	**2.73**	17.7	**0.161**	**3.56**	**0.154**	0.0528 J	4.7	15000	529	208
	MWA-24-071205	07/12/05	**0.185**	**2.37**	16.9	**0.167**	**4.07**	**0.217**	0.0541 J	8.13	15100	NA	105
	MWA-24-081105	08/11/05	**0.152**	**2.26**	20.9	0.0649	**5.05**	**0.238**	0.0355	14.4	15200	NA	87.6
	MWA-24-090705	09/07/05	**0.178**	**2.23**	24.5	**0.116**	**6.78**	**0.279**	0.0203	1.15 J	14400	NA	60.4
	MWA-24-120705	12/07/05	**0.137**	**2.88**	19.4	**0.14**	**5.09**	**0.25**	0.0635	8.88	12900	NA	63.9
	MWA-24-011106	01/11/06	**0.118**	**1.99**	15.8	**0.124**	**3.98**	**0.257**	0.0319	5.02	12800	NA	151
	MWA-24-020806	02/08/06	**0.113**	**1.79**	12.9	**0.108**	**3.7**	**0.212**	0.0306	7.94	13600	NA	314

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
MWA-25	MWA-25-051005	05/10/05	**4.08**	**0.0675**	165	**5.13**	0.0180 J	**3.52**	**4.95**	ND(<0.0200)	18300	5070	472
	MWA-25-071905	07/19/05	**0.276**	**0.0374**	132	**0.185**	**0.6590 J**	**2.78**	**0.146**	0.0841 J	17500	NA	748
	MWA-25-081105	08/11/05	**0.344**	**0.0785**	89	**0.134**	ND(<0.0480)	**1.22**	**0.111**	ND(<0.0100)	18000	NA	685
	MWA-25-090805	09/08/05	**0.306**	**0.055**	114	**0.158**	ND(<0.0480)	**3.02**	NA	ND(<0.0100)	15900	4210	563
	MWA-25-092305	9/23/2005[2]	NA	NA	NA	NA	NA	NA	**0.222**	NA	NA	NA	NA
	MWA-25-121405	12/14/05	**0.412**	**0.144**	53.8	**0.278**	0.0919 J	**1.17**	0.0684	ND(<0.0200)	17300	NA	1090
	MWA-25-011106	01/11/06	**0.194**	**0.0192**	91.9	**0.133**	0.119	**3.52**	0.0462	0.170 J	17500	NA	3420
	MWA-25-021406	02/14/06	**0.133**	0.00775	358	**0.106**	0.0963 J	**24.7**	0.0541	0.203 J	11700	NA	3270
MWA-26	MWA-26-050905	05/09/05	**0.15**	**0.0143**	4.04	**0.355**	**7.52**	**0.498**	**0.152**	ND(<0.0100)	2080	NA	76.5
	MWA-26-071505	07/15/05	**0.256**	0.00661	3.93	0.085	0.266	**0.16**	**0.143**	ND(<0.0100)	2740	NA	89
	MWA-26-081205	08/12/05	**0.309**	**0.0114**	3.15	**0.132**	**0.576**	**0.19**	0.0982	ND(<0.0100)	2020	NA	93.4
	MWA-26-090705	09/07/05	**0.533**	**0.0150 J**	3.06	**0.188**	**0.661**	**0.189**	**0.289**	ND(<0.0100)	1830	NA	87.1
	MWA-26-120805	12/08/05	0.00856	**0.0296**	2.61	0.0027 J	**0.463**	**0.0739**	0.0029 J	ND(<0.0100)	1320	NA	141
	MWA-26-010506	01/05/06	0.0525	**0.033**	4.01	0.0421	**0.47**	**0.165**	0.0199	ND(<0.0100)	1060	NA	80.6
	MWA-26-020806	02/08/06	0.029	**0.0146**	1.03	0.0026 J	0.184	0.0295	0.0111	0.0264 J	1020	NA	145
MWA-27	MWA-27-050905	05/09/05	**2.08**	**0.276**	4.74	**1.49**	0.199	**0.0637**	**1.6**	ND(<0.100)	6310	2530	215
	MWA-27-071905	07/19/05	**0.732**	**0.124**	11.5	**0.492**	0.0300 J	0.0383	**0.123**	0.0302 J	10000	NA	224
	MWA-27-081605	08/16/05	**1.04**	**0.733**	4.23	**0.568**	0.155	**0.0873**	**0.611**	ND(<0.100)	5340	NA	254
	MWA-27-090905	09/09/05	**0.983**	**0.305**	3.34	**0.515**	0.0963 J	0.0389	**0.802**	ND(<0.0200)	5840	856	890
	MWA-27-121205	12/12/05	0.0305	**0.0794**	11.6	0.0202	0.0361 J	**0.0608**	0.0050 J	ND(<0.0100)	11700	NA	1760
	MWA-27-011606	01/16/06	0.0387	**0.0586**	11.7	0.0295	0.0184 J	**0.123**	0.0145	ND(<0.0100)	13600	NA	1780
	MWA-27-021306	02/13/06	0.0053	**0.0213**	118 B	0.0038 J	0.216	**0.656**	ND(<0.00455)	ND(<0.0150)	27300	NA	1470
MWA-29	MWA-29-050905	05/09/05	0.022	ND(<0.00420)	7.93	ND(<0.00720)	0.0123 J	**0.18**	0.0141	ND(<0.0100)	16100	9100	148
	MWA-29-071805	07/18/05	0.0056	ND(<0.0208)	12.4	ND(<0.00360)	0.0737 J	**0.269**	ND(<0.00455)	ND(<0.0100)	21400	NA	147
	MWA-29-081205	08/12/05	0.0569	ND(<0.000450)	17.4	0.0046 J	0.0564 J	**0.405**	ND(<0.00455)	ND(<0.0100)	23900	NA	342
	MWA-29-091205	09/12/05	0.0940 J	ND(<0.00900)	70.5	0.0110 J	0.1030 J	**0.478**	0.107	ND(<0.0100)	20900	12600[4]	297
	MWA-29-120805	12/08/05	0.00214	**0.0116**	27.8	**0.2**	**8.69**	**0.216**	**0.186**	0.156J	17600	NA	1090
	MWA-29-010606	01/06/06	0.0344	ND(<0.00664)	24.1	ND(<0.00121)	**11.5**	**0.692**	0.0141	0.24	11300	NA	901
	MWA-29-020806	02/08/06	0.0338	0.0047	62.1	0.00321	**13.6**	**0.751**	0.0195	0.0992 J	15100	NA	937
MWA-30	MWA-30-050605	05/06/05	**2.98**	ND(<0.0807)	88.8	0.0539	**3.36**	**0.85**	**3.04**	ND(<0.100)	170000	104000	777
	MWA-30-071805	07/18/05	0.0187	ND(<0.00420)	245	ND(<0.00720)	**5.84**	**1.35**	0.013	ND(<0.0100)	183000	NA	843
	MWA-30-081705	08/17/05	**20.5**	**0.0192 J**	121	0.0193 J	0.0626 J	**2.1**	**6.27**	1.79 J	164000	NA	734
	NA[3]	09/07/05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	NA[3]	12/07/05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MWA-30-010606	01/06/06	**0.181**	ND(<0.0332)	816	0.0594	**7.66**	**0.815**	0.0328	ND(<0.0100)	125000	NA	1380
	MWA-30-011006	02/10/06	0.081	0.0035 J	222 b	0.061	**2.98 B**	**1.75**	ND(<0.00455)	ND(<0.0150)	128000	NA	1140
MWA-33	MWA-33-050505	05/05/05	0.0476	**0.0896**	1.32	0.0234	**1.47**	0.0336	0.0446	ND(<0.0100)	2400	NA	160
	MWA-33-071405	07/14/05	0.0720	**0.0767**	1.05	0.0514	**0.957**	**0.0663**	0.0518	ND(<0.0100)	2460	NA	162
	MWA-33-081105	08/11/05	0.0565	**0.0664**	0.399	0.0384	**0.942**	0.021	0.0362	ND(<0.0500)	2460	NA	164
	MWA-33-090705	09/07/05	0.0325 J	**0.0655**	0.325	0.0125 J	**0.756**	0.0214	0.0297	ND(<0.0200)	2410	NA	161
	MWA-33-120805	12/08/05	0.0333	**0.0746**	0.457	0.0409	**1.65**	**0.0516**	0.0175	ND(<0.0200)	2370	NA	148
	MWA-33-011106	01/11/06	0.0041 J	**0.0652**	0.234	0.0154	**0.691**	0.0174	0.0087 J	ND(<0.0100)	2440	NA	130
	MWA-33-020806	02/08/06	0.0293	**0.0661**	0.318	0.0156	**0.889**	0.023	0.0148	ND(<0.0300)	2380	NA	116

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
MWA-35	MWA-35-051005	05/10/05	**0.316**	**0.133**	3.82	**0.24**	**1**	**0.155**	**0.222**	ND(<0.100)	5680	NA	143
	MWA-35-071505	07/15/05	**0.41**	**0.0973**	2.96	**0.147**	0.159	0.0477	0.0318	605	12700	NA	82.7
	MWA-35-081105	08/11/05	**0.273**	**0.0823**	1.68	**0.135**	**0.378**	**0.0889**	0.0905	ND(<0.0500)	3660	NA	98.6
	MWA-32-090805	09/08/05	**0.407**	**0.102**	3.71	**0.108**	**0.536**	**0.149**	NA	ND(<0.100)	3920	775	143
	MWA-35-092305	9/23/2005[2]	NA	NA	NA	NA	NA	NA	**0.303**	NA	NA	NA	NA
	MWA-35-121405	12/14/05	**0.146**	**0.108**	2.34	0.0911	**0.371**	**0.0532**	ND(<0.0455)	ND(<0.0200)	5020	NA	301
	MWA-35-011206	01/12/06	**0.21**	**0.0136**	15.7	**0.15**	**1.74**	**0.857**	0.0887	ND(<0.0100)	10700	NA	2620
	MWA-35-021406	02/14/06	0.0985	**0.0108**	13.1	0.0757	0.147	**0.478**	**0.15**	0.205 J	12700	NA	2410
MWA-36	MWA-36-051005	05/10/05	**6.45**	**0.058**	112	**7.12**	0.162	**0.456**	**6.34**	ND(<0.0200)	8350	NA	628
	MWA-36-071505	07/15/05	**0.175**	**0.0582**	53	**0.126**	0.173	**0.199**	**0.12**	0.0643	7970	NA	696
	MWA-36-081205	08/12/05	**0.102**	**0.0274**	45.6	0.036	0.0530 J	**0.108**	0.0363	ND(<0.0100)	7700	NA	962
	MWA-36-090705	09/07/05	0.0420 J	**0.0150 J**	32.6	0.0310 J	ND(<0.0480)	**0.063**	0.0276	ND(<0.0100)	7840	NA	1490
	MWA-36-121405	12/14/05	**0.272**	**0.0962**	25.8	**0.18**	0.0760 J	**0.121**	0.0759	0.210 J	8700	NA	436
	MWA-36-011106	01/11/06	0.0123 J	**0.0282**	349	0.0298	0.0406 J	**0.182**	0.0098 J	ND(<0.0100)	8060	NA	2240
	MWA-36-021306	02/13/06	**0.117**	0.008	511 b	**0.114**	0.0431 J	**0.602**	0.0655	ND(<0.0150)	6440	NA	2700
MWA-37	MWA-37-051005	05/10/05	**3.33**	**0.196**	31.2	**3.58**	0.115	**0.284**	**2.81**	ND(<0.100)	12800	NA	325
	MWA-37-071505	07/15/05	**2.46**	**0.172**	25.2	**3.18**	0.0829 J	**0.555**	**0.239**	ND(<0.0500)	12900	NA	425
	MWA-37-081105	08/11/05	**4.51**	**0.12**	36.1	**4.02**	0.0521 J	**0.424**	**2.87**	ND(<0.0500)	11800	NA	388
	MWA-37-090805	09/08/05	**4.93**	**0.11**	25.2	**3.88**	ND(<0.0480)	**0.492**	NA	ND(<0.0500)	11500	2050	342
	MWA-37-092205	9/22/2005[2]	NA	NA	NA	NA	NA	NA	**1.83**	NA	NA	NA	NA
	MWA-37-121405	12/14/05	**2.48**	**0.0765**	128	**1.66**	0.192	**0.532**	**0.319**	0.367 J	13700	NA	1830
	MWA-37-011106	01/11/06	**0.215**	**0.0539**	151	**0.166**	0.164	**1.09**	0.0616	0.0853 J	15200	NA	2700
	MWA-37-021406	02/14/06	0.028	**0.0168**	455	0.0199	0.0333 J	**41.2**	0.0142	ND(<0.0300)	13700	NA	1730
MWA-38	MWA-38-050905	05/09/05	**8.07**	**0.0997**	32	**9.27**	0.106	**0.828**	**9.16**	ND(<0.0200)	6620	NA	203
	MWA-38-071405	07/14/05	**2.35**	**0.152**	5.53	**2.75**	**0.454**	0.0437	**2.22**	ND(<0.0100)	3420	NA	139
	MWA-38-081205	08/12/05	**1.64**	**0.0806**	4.82	**1.38**	0.252	0.0325	**1.17**	0.0206 J	3590	NA	118
	MWA-38-090705	09/07/05	**2.52**	**0.0545**	6.62	**2.19**	0.257	0.0344	**2.1**	ND(<0.0200)	4630	NA	189
	MWA-38-121205	12/12/05	**0.47**	**0.0738**	8.48	**0.616**	0.147	0.0416	**0.398**	ND(<0.0200)	5100	NA	484
	MWA-38-011206	01/12/06	**0.194**	**0.0242**	258	**0.127**	0.112	**6.78**	**0.114**	ND(<0.0100)	6540	NA	1330
	MWA-38-021306	02/13/06	**0.163**	**0.0968**	3.45	0.0909	0.241	**0.134**	0.0726	ND(<0.0300)	2020	NA	308
MWA-39	MWA-39-050505	05/05/05	0.00506	**0.0115**	0.53	0.00147	0.116	0.0141	ND(<0.00455)	1.4	1020	NA	49.5
	MWA-39-071205	07/12/05	0.00376	0.00912	0.396	ND(<0.00360)	0.0858 J	0.0147	ND(<0.00455)	0.306	908	NA	58.7
	MWA-39-081105	08/11/05	0.00381	0.0066	0.452	0.0010 J	0.0672 J	0.0096 J	ND(<0.00455)	0.248	915	NA	65.2
	MWA-39-090605	09/06/05	0.00213	0.00609	0.438	0.0006 J	0.1020 J	0.0127	ND(<0.00455)	1.19	893	NA	73.2
	MWA-39-120705	12/07/05	0.0011 J	0.00898	0.4	ND(<0.000605)	0.0904 J	0.0105	ND(<0.00455)	0.945	876	NA	79.7
	MWA-39-010506	01/05/06	0.00265	**0.011**	0.373	0.00132	0.134	0.0106	ND(<0.00455)	0.497	855	NA	73.4
	MWA-39-020806	02/08/06	0.0017 J	**0.0122**	1.12	ND(<0.000605)	0.189	0.0098 J	ND(<0.00455)	0.190 J	2400	NA	69.2
MWA-40	MWA-40-050505	05/05/05	0.0085	**0.0601**	3.42	0.00364	**0.387**	**0.0521**	ND(<0.00455)	0.244	1180	NA	26.2
	MWA-40-071205	07/12/05	0.0054	**0.0293**	2.93	ND(<0.00360)	0.173	**0.0509**	ND(<0.00455)	1.1	835	NA	12.4
	MWA-40-081105	08/11/05	0.00477	**0.0212**	4.29	0.0025	0.163	**0.0513**	ND(<0.00455)	1.09	865	NA	11
	MWA-40-090705	09/07/05	ND(<0.00750)	**0.0260 J**	3.96	ND(<0.00400)	0.208	0.0498	0.0048 J	1.27	893	NA	11
	MWA-40-120705	12/07/05	0.0026 J	**0.0254**	3.94	0.0013 J	0.154	0.0411	ND(<0.00455)	2	894	NA	9.28
	MWA-40-011106	01/11/06	ND(<0.00121)	**0.037**	4.5	ND(<0.000605)	0.198	**0.05**	ND(<0.00455)	3.7	980	NA	14.7
	MWA-40-020806	02/08/06	0.00776	**0.0808**	6.66	0.0039 J	**0.597**	**0.14**	ND(<0.00455)	6.9	1160	NA	19.8

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
MWA-41	MWA-41-050905	05/09/05	ND(<0.00720)	ND(<0.00420)	35.7	ND(<0.00720)	0.0144 J	**1.19**	ND(<0.00455)	ND(<0.0100)	240	NA	15.5
	MWA-41-071505	07/15/05	ND(<0.00360)	ND(<0.00210)	48.3	ND(<0.00360)	0.0076 J	**0.835**	ND(<0.00455)	ND(<0.0100)	320	NA	38.6
	MWA-41-081205	08/12/05	ND(<0.00150)	0.0003 J	39.2	ND(<0.0000800)	ND(<0.0480)	**1.15**	ND(<0.00455)	ND(<0.0100)	310	NA	18.2
	MWA-41-090705	09/07/05	ND(<0.00750)	ND(<0.00450)	44.2	ND(<0.00400)	ND(<0.0480)	**1.32**	ND(<0.00455)	ND(<0.0100)	319	NA	19.6
	MWA-41-120805	12/08/05	ND(<0.000121)	ND(<0.000664)	30.7	ND(<0.000605)	0.0046 J	**0.509**	0.0006 J	ND(<0.0100)	260	NA	16.9
	MWA-41-010506	01/05/06	0.0006 J	ND(<0.000664)	68	0.0006 J	0.0080 J	**1.6**	ND(<0.00455)	ND(<0.0100)	517	NA	120
	MWA-41-020806	02/08/06	0.0012 J	ND(<0.000664)	16.6	0.0002 J	0.0092 J	**0.0642**	ND(<0.00455)	ND(<0.0150)	400	NA	18.7
MWA-42	MWA-42-050505	05/05/05	**0.104**	**0.811**	24.5	0.0902	**7.23**	**0.668**	0.0562	ND(<0.100)	6170	NA	321
	MWA-42-071205	07/12/05	0.00872	**0.113**	33.2	0.00453	0.2000 J	0.0479	ND(<0.00455)	0.0114 J	1740	NA	83.5
	MWA-42-081505	08/15/05	0.025	**0.123**	39.2	0.00312	**0.929**	**0.139**	0.0119	2.34	2790	NA	195
	MWA-42-090805	09/08/05	0.0515	**0.0160 J**	27.5	0.0165 J	**4.56**	**0.201**	NA	4.41	4600	913	383
	MWA-42-092305	9/23/2005[2]	NA	NA	NA	NA	NA	NA	0.0467	NA	NA	NA	NA
	MWA-42-120705	12/07/05	0.0726	**1.15**	32.5	0.0628	**4.59**	**0.364**	0.0277	86.7	9360	NA	809
	MWA-42-011106	01/11/06	0.0219	**0.712**	32.1	0.035	**3.76**	**0.158**	0.0058 J	58.3	7160	NA	969
	MWA-42-020906	02/09/06	0.00907	**0.0153**	66.8	0.0083	0.107	**0.279**	0.0063 J	0.0530 J	1920	NA	198
MWA-43	MWA-43-050905	05/09/05	ND(<0.00720)	ND(<0.00420)	2.51	ND(<0.00720)	0.0130 J	**0.132**	ND(<0.00455)	0.0102	5850	NA	109
	MWA-43-071805	07/18/05	ND(<0.00360)	ND(<0.00210)	3.65	ND(<0.00360)	0.0576 J	**0.262**	ND(<0.00455)	ND(<0.0100)	7040	NA	113
	MWA-43-081205	08/12/05	0.0023 J	ND(<0.00450)	7.58	0.0010 J	ND(<0.0480)	**0.557**	ND(<0.00455)	ND(<0.0100)	10800	NA	181
	MWA-43-090705	09/07/05	ND(<0.00750)	ND(<0.00450)	3.46	0.0040 J	ND(<0.0480)	**0.233**	ND(<0.00455)	0.0599 J	6230	NA	168
	MWA-43-120805	12/08/05	0.0009 J	0.00434	0.971	ND(<0.000605)	0.0449 J	**0.0547**	0.0010 J	ND(<0.0100)	3530	NA	210
	MWA-43-010506	01/05/06	0.00307	0.00582	0.797	0.00135	0.0455 J	0.0404	ND(<0.00455)	ND(<0.0100)	2890	NA	151
	MWA-43-020806	02/08/06	0.0014 J	0.00283	2.12	0.0007 J	0.0933 J	**0.0556**	ND(<0.00455)	ND(<0.0150)	6640	NA	125
MWA-44	MWA-44-050605	05/06/05	0.0956	**0.21**	3.93	0.0709	**14.5**	**0.161**	0.0885 J	ND(<0.100)	6950	NA	270
	MWA-44-071305	07/13/05	0.0628	**0.0524**	3.46	0.0189	**1.46**	0.0425	0.0223	0.149 J	5730	NA	176
	MWA-44-081605	08/16/05	0.0718	**0.155**	2.99	0.019	**0.93**	0.0207	0.0333	ND(<0.100)	5840	NA	263
	MWA-44-090905	09/09/05	0.0570 J	**0.197**	2.95	0.0150 J	**0.833**	0.021	0.0425	ND(<0.0500)	5500	2380	271
	MWA-44-120905	12/09/05	0.028	**0.122**	1.96	0.0144	**0.691**	0.0244	0.0209	ND(<0.0500)	5070	NA	424
	MWA-44-010906	01/09/06	0.026	ND(<0.00664)	7.1	0.0066 J	**1.13**	**0.52**	0.0148	ND(<0.0200)	5980	NA	697
	MWA-44-021006	02/10/06	0.0236	**0.0822**	4.94 B	0.016	**1.70 B**	**0.285**	0.0080 J	ND(<0.0750)	5250	NA	420
MWA-45	MWA-45-051005	05/10/05	0.0412	**0.123**	1.35	0.0183	**0.555**	0.0237	0.0771 J	ND(<0.0500)	3310	NA	62.1
	MWA-45-071305	07/13/05	0.0964	**0.082**	1.43	0.043	**0.394**	0.032	0.0228	ND(<0.0500)	4740	NA	104
	MWA-45-081605	08/16/05	0.0511	**0.0814**	1.27	0.0162	**0.731**	**0.112**	0.0244	ND(<0.100)	4780	NA	240
	MWA-45-090905	09/09/05	0.0510 J	**0.0785**	1.07	0.0135 J	**1.62**	**0.0601**	0.0403	ND(<0.0500)	3920	1550	271
	MWA-45-121205	12/12/05	0.0952	**0.0574**	5.96	0.0622	**4.72**	**0.185**	0.0168	0.194 J	4060	NA	856
	MWA-45-011006	01/10/06	0.0978	**0.103**	6.62	0.0762	**2.22**	**0.215**	0.0325	0.941 J	4480	NA	699
	MWA-45-020906	02/09/06	**0.148**	**0.0942**	4.41	0.0992	**3.15**	**0.202**	0.0418	ND(<0.0750)	4840	NA	1100
MWA-46	MWA-46-050605	05/06/05	0.0683	**0.0451 J**	6.19	0.0562	**4.62**	**0.443**	0.0495 J	ND(<0.100)	5120	NA	63
	MWA-46-071405	07/14/05	0.072	**0.0381**	4.28	0.0449	**3.61**	**0.269**	0.0411	ND(<0.0500)	4090	NA	51.1
	MWA-46-081605	08/16/05	0.0652	**0.048**	5.01	0.0168	**3.78**	**0.349**	0.0203	ND(<0.100)	3570	NA	46.1
	MWA-46-091305	09/13/05	0.0580 J	**0.0600 J**	3.34	ND(<0.00800)	**3.42**	**0.28**	0.0433	ND(<0.100)	3260	1250	42.1
	MWA-46-120905	12/09/05	0.0252	**0.0419**	2.24	0.0126	**1.29**	**0.154**	0.0165	ND(<0.100)	3760	NA	141
	MWA-46-010906	01/09/06	0.0097	0.0080 J	10.7	0.0028 J	0.0770 J	0.0033 J	ND(<0.00455)	0.0322 J	640	NA	26
	MWA-46-021306	02/13/06	0.0154	**0.0157**	15.0 B	0.0035 J	0.269	0.0209	0.0051 J	ND(<0.0300)	1260	NA	238

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
MWA-47	MWA-47-050605	05/06/05	ND(<0.00720)	ND(<0.00420)	9.86	0.0125	0.0131 J	**0.171**	ND(<0.00455)	ND(<0.0100)	20500	NA	200
	MWA-47-071905	07/19/05	0.0049 J	ND(<0.0259)	12	0.0080 J	0.0170 J	**0.139**	ND(<0.0400)	ND(<0.0100)	18700	NA	211
	MWA-47-081705	08/17/05	ND(<0.0150)	ND(<0.00450)	8.94	0.00935	ND(<0.0480)	**0.142**	0.0046 J	ND(<0.0100)	18700	NA	301
	MWA-47-090905	09/09/05	ND(<0.0150)	ND(<0.00450)	14.4	0.0255 J	ND(<0.0480)	0.0046 J	ND(<0.00455)	ND(<0.0100)	18700	9690	328
	MWA-47-121205	12/12/05	0.0144	**0.0121**	8.17	0.0083	0.0143 J	**0.12**	ND(<0.00455)	ND(<0.0100)	17700	NA	728
	MWA-47-010606	01/06/06	0.057	ND(<0.00664)	1.6	0.0020 J	0.125	0.0207	0.0143	0.376 J	4890	NA	113
	MWA-47-021006	02/10/06	0.0059	ND(<0.00332)	18.7 B	0.0044 J	0.0344 J	**0.226**	ND(<0.00455)	ND(<0.0150)	21300	NA	473
Intermediate Zone													
MWA-16i	MWA-16i-050505	05/05/05	**1.38**	0.00433	26.2	0.0421	**10.4**	**1.27**	**0.662**	ND(<0.100)	5150	NA	309
	MWA-16i-071305	07/13/05	**1.02**	**0.0164**	31.7	0.0468	**5.7**	**1.23**	**0.395**	ND(<0.100)	6910	NA	189
	MWA-16i-081505	08/15/05	**0.921**	0.00482	31.9	0.0101	**5.58**	**1.23**	**0.378**	ND(<0.100)	6570	NA	197
	MWA-16i-090905	09/09/05	**0.552**	0.0055 J	38.6	0.0150 J	**12.9**	**1.67**	**0.591**	ND(<0.100)	6860	2250	178
	MWA-16i-120705	12/07/05	0.0579	**0.0138**	53.3	0.0278	**16.9**	**3.23**	0.0337	ND(<0.0500)	6770	NA	2050
	MWA-16i-011106	01/11/06	**0.313**	**0.01**	45.9	0.0265	**15**	**2.86**	0.0828	ND(<0.100)	6780	NA	2790
	MWA-16i-020906	02/09/06	0.0473	0.00895	75.9	0.0186	**15.3**	**4.18**	0.0175	ND(<0.0750)	6780	NA	2510
MWA-32i	MWA-32i-050605	05/06/05	**0.247**	ND(<0.00840)	11.7	0.0888	0.203	**0.166**	**0.176**	ND(<0.0200)	34000	17600	292
	MWA-32i-071805	07/18/05	**0.349**	ND(<0.0228)	12.1	0.0963	0.0894 J	**0.0884**	**0.119**	ND(<0.0100)	29100	NA	360
	MWA-32i-081705	08/17/05	**0.25**	ND(<0.00450)	11.9	0.0728	0.0646 J	**0.108**	**0.555**	ND(<0.0100)	28000	NA	412
	MWA-32i-091405	09/14/05	**0.421**	**0.0300 J**	14.7	0.0810 J	ND(<0.240)	**0.148**	**0.386**	ND(<0.0100)	28100	13700	443
	MWA-32i-120905	12/09/05	0.0586	**0.0912**	408	0.0166	ND(<0.0337)	0.0218 J	0.0144	63.3	68600	NA	960
	MWA-32i-010606	01/06/06	0.0389	**0.015**	467	0.0031 J	0.112	**0.0742**	0.0066 J	ND(<0.0100)	115000	NA	1080
	MWA-32i-021006	02/10/06	0.0229	**0.0238**	340 B	0.0024 J	**4.08 B**	**2.27**	0.0067 J	ND(<0.0150)	146000	NA	1040
MWA-34i	MWA-34i-050605	05/06/05	0.0567	**0.504**	1.18	0.049	**1.26**	0.0089 J	0.0358	ND(<0.100)	11600	5260	387
	MWA-34i-071805	07/18/05	**0.101**	**0.524**	1.15	0.0664	**1.58**	0.0069 J	0.0148	ND(<0.0500)	13400	NA	337
	MWA-34i-081705	08/17/05	0.0250 J	**0.534**	4.69	0.0123	**0.616**	**0.173**	**0.192**	ND(<0.100)	8290	NA	294
	MWA-34i-091305	09/13/05	0.0420 J	**0.417**	2.58	0.0210 J	**0.6600 J**	ND(<0.0100)	0.0269	ND(<0.100)	10400	4580	406
	MWA-34i-120905	12/09/05	0.0328	**0.706**	1.87	0.0318	**1.34**	0.0189	0.0302	ND(<0.100)	6890	NA	250
	MWA-34i-010906	01/09/06	0.028	**0.503**	4.08	0.0333	**1.13**	0.0117	0.0135	ND(<0.0500)	8440	NA	373
	MWA-34i-021006	02/10/06	0.0403	**0.361**	4.24 B	0.0297	**1.18 B**	0.0073 J	0.0123	ND(<0.0750)	8930	NA	551
MWA-48i	MWA-48i-051005	05/10/05	0.0222	ND(<0.0423)	254	0.0174	0.0323 J	**16.1**	0.0102	0.0206 J	39200	NA	1240
	MWA-48i-071505	07/15/05	0.0183	ND(<0.0224)	490	0.0173	0.0791 J	**17.8**	0.0079 J	ND(<0.0100)	37700	NA	2350
	MWA-48I-081105	08/11/05	0.0235	ND(<0.00450)	728	**0.83**	ND(<0.0480)	**9.58**	0.0050 J	0.115 J	7780	NA	1770
	MWA-48i-090805	09/08/05	0.0135 J	ND(<0.00450)	415	0.0415 J	ND(<0.0480)	**6.93**	NA	ND(<0.0100)	38200	18400	1690
	MWA-48i-092205	9/22/2005 (2)	NA	NA	NA	NA	NA	NA	0.0151	NA	NA	NA	NA
	MWA-48i-121405	12/14/05	0.0463	ND(<0.00664)	315	0.0323	0.0966 J	**14.8**	0.0046 J	ND(<0.0100)	31100	NA	1420
	MWA-48i-011206	01/12/06	0.0275	ND(<0.00332)	310	0.0224	0.0366 J	**8.47**	0.0068 J	ND(<0.0100)	30200	NA	1380
	MWA-48i-021406	02/14/06	0.0237	ND(<0.00332)	311	0.0198	0.0600 J	**18.4**	ND(<0.00455)	ND(<0.0150)	29600	NA	1150
MWA-49i	MWA-49i-050605	05/06/05	ND(<0.00720)	ND(<0.00840)	87.3	0.0098 J	0.0247 J	**2.29**	ND(<0.00455)	0.0252 J	26600	NA	203
	MWA-49i-071405	07/14/05	0.00775	ND(<0.0271)	78.1	0.00624	0.0237 J	**1.92**	ND(<0.00455)	ND(<0.0100)	25300	NA	204
	MWA-49i-081605	08/16/05	0.00855	ND(<0.00450)	78.2	0.0116	0.0674 J	**2.05**	ND(<0.00455)	ND(<0.0100)	26200	NA	202
	MWA-49i-091305	09/13/05	ND(<0.0150)	ND(<0.00900)	92.9	0.0150 J	ND(<0.240)	**2.36**	ND(<0.00455)	ND(<0.0100)	25700	10600	197
	MWA-49i-120905	12/09/05	0.0047 J	**0.0122**	87.3	ND(<0.000605)	ND(<0.337)	**2.31**	ND(<0.00455)	ND(<0.0100)	24400	NA	193
	MWA-49i-010906	01/09/06	0.0025 J	ND(<0.00664)	65.7	0.0039 J	0.0156 J	**1.8**	ND(<0.00455)	ND(<0.0100)	23000	NA	188
	MWA-49i-021306	02/13/06	0.00505	ND(<0.00332)	74.3 B	0.0039 J	0.0237 J	**1.84**	ND(<0.00455)	ND(<0.0150)	22500	NA	265

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
MWA-50i	MWA-50i-050605	05/06/05	ND(<0.00720)	ND(<0.00420)	6.55	0.00199	0.0144 J	**0.056**	ND(<0.00455)	ND(<0.100)	17000	NA	140
	MWA-50i-071905	07/19/05	ND(<0.00720)	ND(<0.0235)	16.1	ND(<0.00720)	0.0171 J	**0.112**	ND(<0.0200)	ND(<0.0100)	22000	NA	153
	MWA-50i-081705	08/17/05	ND(<0.00750)	ND(<0.00450)	16.7	0.0030 J	ND(<0.0480)	**0.171**	ND(<0.00455)	ND(<0.0100)	24700	NA	173
	MWA-50i-091205	09/12/05	ND(<0.0150)	ND(<0.00900)	10.8	0.0110 J	ND(<0.0480)	**0.114**	ND(<0.00455)	ND(<0.0100)	19800	11800[4]	210
	MWA-50i-121205	12/12/05	0.0008 J	0.00948	7.62	ND(<0.000605)	0.0126 J	**0.0744**	ND(<0.00455)	ND(<0.0100)	16600	NA	398
	MWA-50i-010606	01/06/06	0.0104	ND(<0.00664)	8.12	0.0066 J	0.0214 J	**0.0828**	ND(<0.00455)	ND(<0.0100)	17400	NA	475
	MWA-50i-020906	02/09/06	0.0014 J	ND(<0.00332)	11.5	0.0009 J	0.0198 J	**0.109**	ND(<0.00455)	ND(<0.0150)	18700	NA	374
MWA-51i	MWA-51i-050505	05/05/05	**0.105**	**1.33**	10.6	0.0832	**5.02**	**0.195**	0.0485	ND(<0.100)	15700	NA	190
	MWA-51i-071405	07/14/05	**0.11**	**1.21**	13.2	0.0872	**4.78**	**0.359**	0.0631	ND(<0.0100)	18400	NA	223
	MWA-51i-081605	08/16/05	0.089	**1.05**	8.66	0.0186	**4.16**	**0.219**	0.0243	ND(<0.100)	18200	NA	272
	MWA-51i-091305	09/13/05	0.0510 J	**1.36**	7.38	0.0110 J	**3.35**	**0.168**	0.0468	ND(<0.100)	17400	8910	315
	MWA-51i-120805	12/08/05	0.0816	**1.31**	5.72	0.069	**4.71**	**0.167**	0.022	ND(<0.100)	16900	NA	323
	MWA-51i-011006	01/10/06	0.0375	**0.455**	7.14	0.0259	**1.71**	**0.207**	ND(<0.00455)	ND(<0.0500)	16000	NA	378
	MWA-51i-021306	02/13/06	0.0526	**0.4**	12.9 B	0.0431	**3.24**	**0.504**	0.0107	ND(<0.150)	16400	NA	314
MWA-52i	MWA-52i-050905	05/09/05	ND(<0.00720)	ND(<0.00420)	9.41	ND(<0.00720)	0.0233 J	**0.182**	ND(<0.00455)	ND(<0.0100)	8670	NA	200
	MWA-52i-071905	07/19/05	ND(<0.00720)	ND(<0.0275)	18.5	ND(<0.00720)	0.234	**0.2**	ND(<0.0200)	ND(<0.0100)	11500	NA	342
	MWA-52i-081605	08/16/05	0.00585	0.0024 J	8.5	0.0051	**1.43**	**0.23**	ND(<0.00455)	ND(<0.0100)	8490	NA	385
	MWA-52i-090905	09/09/05	ND(<0.0150)	ND(<0.00450)	7.73	0.0080 J	**1.09**	**0.248**	0.0056 J	ND(<0.0100)	7970	4030	433
	MWA-52i-121205	12/12/05	0.0015 J	0.0084	10.1	ND(<0.000605)	**0.323**	**0.303**	ND(<0.00455)	ND(<0.0100)	8440	NA	441
	MWA-52i-010606	01/06/06	ND(<0.00121)	ND(<0.00664)	4.87	ND(<0.00121)	0.131	**0.17**	ND(<0.00455)	ND(<0.0100)	6600	NA	564
	MWA-52i-021306	02/13/06	0.0010 J	ND(<0.00332)	34.8 B	ND(<0.000605)	**1.05**	**1.55**	ND(<0.00455)	ND(<0.0150)	11900	NA	484
MWA-53i	MWA-53i-050905	05/09/05	ND(<0.00720)	ND(<0.00420)	11.3	ND(<0.00720)	0.0113 J	**0.136**	ND(<0.00455)	0.0125 J	16900	NA	219
	MWA-53i-071805	07/18/05	ND(<0.00360)	ND(0.0193)	10.1	ND(<0.00360)	0.0304 J	**0.166**	ND(<0.00455)	ND(<0.0100)	20000	NA	226
	MWA-53i-081205	08/12/05	0.0035 J	ND(<0.000450)	14.9	0.0032 J	ND(<0.0480)	**0.276**	ND(<0.00455)	ND(<0.0100)	23400	NA	298
	MWA-53i-091205	09/12/05	ND(<0.0150)	**0.0160 J**	42.5	0.0230 J	ND(<0.0480)	**0.406**	ND(<0.00455)	ND(<0.0100)	23900	14300[4]	435
	MWA-53i-120805	12/08/05	0.00135	**0.0141**	108	ND(<0.00121)	**1.35**	**0.314**	0.0011 J	0.654	24900	NA	1080
	MWA-53i-010606	01/06/06	ND(<0.00121)	ND(<0.00664)	29.2	ND(<0.00121)	**2.22**	**0.238**	ND(<0.00455)	ND(<0.0100)	15000	NA	955
	MWA-53i-020806	02/08/06	0.0006 J	0.0008 J	58.5	0.0004 J	**0.663**	**0.303**	ND(<0.00455)	ND(<0.0150)	20500	NA	849
MWA-54i	MWA-54i-050505	05/05/05	0.0966	**0.238**	42.5	0.0696	**2.96**	**0.152**	0.0548	0.102 J	7060	NA	312
	MWA-54i-071205	07/12/05	ND(<0.00360)	**0.326**	2620	ND(<0.00360)	0.0105 J	0.0020 J	ND(<0.136)	ND(<0.0200)	14900	NA	31.4
	MWA-54i-081505	08/15/05	0.0076 J	**0.0783**	922	0.00524	0.0949 J	**0.0629**	ND(<0.00455)	175	12500	NA	264
	MWA-54i-090805	09/08/05	ND(<0.00750)	**0.296**	703	0.0110 J	ND(<0.0480)	**0.0937**	NA	82.4	12100	5540	750
	MWA-54i-092305	9/23/2005[2]	NA	NA	NA	NA	NA	NA	0.0063 J	NA	NA	NA	NA
	MWA-54i-120705	12/07/05	0.0182	**0.0687**	451	0.0138	0.0632 J	**0.551**	0.0072 J	10.6	9670	NA	1560
	MWA-54i-011106	01/11/06	0.0274	**0.145**	327	0.02	0.204	**0.245**	0.0113	8.03	7660	NA	1210
	MWA-54i-020906	02/09/06	0.0318	**0.148**	296	0.0187	0.0465 J	**0.298**	0.0113	18.1	7470	NA	1110
MWA-55i	MWA-55i-050905	05/09/05	0.0844	**0.106**	8.7	0.0673	0.0561 J	0.0075 J	0.0259	ND(<0.0200)	30800	NA	287
	MWA-55i-071305	07/13/05	**0.154**	**0.0796**	5.39	**0.127**	0.0563 J	0.0054 J	0.0345	ND(<0.0100)	27400	NA	153
	MWA-55i-081505	08/15/05	**0.117**	**0.0834**	13	0.00691	0.0699 J	**0.698**	0.0234	0.147 J	26900	NA	187
	MWA-55i-091205	09/12/05	0.0890 J	**0.0820 J**	6.29	0.0770 J	ND(<0.0480)	0.0086 J	0.0325	ND(<0.0200)	28800	14600[4]	250
	MWA-55i-121205	12/12/05	**0.164**	**0.13**	46.5	**0.127**	0.1120 J	ND(<0.00640)	0.0293	3.51	27100	NA	670
	MWA-55i-011206	01/12/06	0.0184	0.005	514	0.0138	**0.313**	**1.74**	0.0106	0.119 J	28600	NA	1640
	MWA-55i-020906	02/09/06	0.0752	0.0041 J	199	0.0636	**0.302**	**0.788**	0.0242	0.0737 J	27000	NA	1560

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
Deep Zone													
MWA-28i(d)	MWA-28i-051005	05/10/05	ND(<0.00720)	**0.454**	70.5	ND(<0.00720)	**11.7**	**7.72**	0.0103	ND(<0.0100)	453	5.04	ND(<0.0570)
	MWA-28i-071505	07/15/05	ND(<0.00360)	**0.404**	71.3	ND(<0.00360)	**11.9**	**8.18**	ND(<0.00455)	ND(<0.0100)	420	NA	ND(<0.0419)
	MWA-28i-081105	08/11/05	0.00231	**0.338**	70.9	0.0003 J	**12.5**	**8.05**	ND(<0.00455)	ND(<0.0100)	430	NA	ND(<0.0419)
	MWA-28i-090805	09/08/05	ND(<0.00750)	**0.349**	71.7	ND(<0.00400)	**12.7**	**8.17**	NA	ND(<0.0100)	413	5.18	ND(<0.0419)
	MWA-28i-092305	9/23/2005[2]	NA	NA	NA	NA	NA	NA	ND(<0.00455)	NA	NA	NA	NA
	MWA-28i-121405	12/14/05	0.00242	**0.439**	72.8	ND(<0.00121)	**11.9**	**8.27**	ND(<0.00455)	ND(<0.0100)	420	NA	ND(<0.0419)
	MWA-28i-011206	01/12/06	ND(<0.00121)	**0.355**	60.6	ND(<0.00121)	**9.88**	**6.88**	ND(<0.00455)	ND(<0.0100)	430	NA	ND(<0.0419)
	MWA-28i-021406	02/14/06	0.0036 J	**0.137**	72.4	ND(<0.000605)	**4.86**	**8.37**	ND(<0.00455)	ND(<0.0150)	460	NA	4.29
MWA-31i(d)	MWA-31i-050605	05/06/05	**1.06**	ND(<0.0822)	1130	0.0265	0.0132 J	**89.1**	**0.726**	0.0969 J	106000	62100	301
	MWA-31i-071805	07/18/05	**0.588**	ND(<0.0420)	1470	ND(<0.00720)	0.106	**78.8**	**0.25**	0.0518 J	104000	NA	312
	MWA-31i-081705	08/17/05	**1.07**	ND(<0.00900)	1080	0.0266	**0.484**	**76.2**	**0.142**	0.0945 J	102000	NA	300
	MWA-31i-091405	09/14/05	**1.7**	ND(<0.00900)	812	0.0920 J	ND(<0.240)	**55**	**1.02**	0.0714 J	97600	57900	258
	MWA-31i(d)-120905	12/09/05	**0.216**	**0.0454**	1230	0.0423	**1.57**	**98.4**	0.0251	0.832	90700	NA	263
	MWA-31i-010906	01/09/06	**0.185**	ND(<0.0332)	961	0.0631	**1.68**	**65.5**	0.0453	0.218	95600	NA	334
	MWA-31i(d)-021006	02/10/06	**0.366**	ND(<0.00332)	1100 B	0.00565	**0.454 B**	**81.2**	0.104	0.296	91800	NA	523
MWA-56d	MWA-56d-050605	05/06/05	ND(<0.00720)	ND(<0.00840)	1340	ND(<0.00647)	0.0604 J	**88.6**	ND(<0.00455)	0.0761 J	64100	NA	166
	MWA-56d-071405	07/14/05	0.0019 J	ND(<0.0203)	1280	ND(<0.00360)	0.0132 J	**84.8**	0.0223	0.0737 J	57900	NA	174
	MWA-56d-081605	08/16/05	0.0044 J	ND(<0.00900)	1310	0.0052	**0.322**	**89.2**	ND(<0.00455)	ND(<0.0200)	60900	NA	165
	MWA-56d-091305	09/13/05	ND(<0.0150)	ND(<0.00900)	1360	0.0330 J	ND(<0.240)	**88**	ND(<0.00455)	0.113 J	57700	30800	180
	MWA-56d-120905	12/09/05	0.0011 J	**0.0276**	1360	0.0008 J	ND(<0.337)	**90.6**	ND(<0.00455)	0.103 J	56300	NA	157
	MWA-56d-010906	01/09/06	0.0005 J	ND(<0.00664)	1270	ND(<0.00121)	0.0076 J	**84.7**	ND(<0.00455)	0.158 J	55000	NA	157
	MWA-56d-021306	02/13/06	0.0008 J	ND(<0.00332)	1190 B	0.0008 J	0.0584	**94.5**	ND(<0.00455)	0.0449 J	55100	NA	149
MWA-57d	MWA-57d-050905	05/09/05	ND(<0.00720)	ND(<0.0436)	284	ND(<0.00720)	**0.821**	**28.1**	ND(<0.00455)	ND(<0.0200)	31200	NA	93.0 J
	MWA-57d-071305	07/13/05	ND(<0.00360)	ND(<0.0282)	296	ND(<0.00360)	0.0722 J	**31.6**	ND(<0.00455)	ND(<0.0100)	29500	NA	82.9
	MWA-57d-081505	08/15/05	0.0040 J	ND(<0.000450)	303	0.0023 J	0.285	**35.9**	0.0055 J	ND(<0.0100)	30200	NA	86.5
	MWA-57d-091205	09/12/05	ND(<0.0150)	ND(<0.00900)	378	0.0230 J	ND(<0.0480)	**36.1**	ND(<0.00455)	ND(<0.0100)	32500	18900[4] J	99.0 J
	MWA--57d-121205	12/12/05	0.0012 J	ND(<0.0133)	333	ND(<0.000605)	ND(<0.0337)	**37.4**	ND(<0.00455)	ND(<0.0100)	37000	NA	99.2
	MWA-57d-011206	01/12/06	ND(<0.00121)	0.0068	333	ND(<0.000605)	0.0142 J	**37.3**	ND(<0.00455)	ND(<0.0100)	36300	NA	102
	MWA-57d-020906	02/09/06	0.00119	0.00735	375	ND(<0.000605)	0.0155 J	**39.5**	ND(<0.00455)	ND(<0.0300)	40500	NA	116
MWA-58d	MWA-58d-050605	05/06/05	ND(<0.00720)	ND(<0.0760)	874	ND(<0.00815)	0.0483 J	**63.9**	ND(<0.00455)	ND(<0.0100)	112000	NA	380
	MWA-58d-071405	07/14/05	ND(<0.00360)	ND(<0.0420)	1220	ND(<0.00360)	0.0200 J	**72**	ND(<0.00455)	0.0322 J	108000	NA	405
	MWA-58d-081705	08/17/05	ND(<0.0150)	ND(<0.0450)	1020	0.00655	0.293	**68.2**	ND(<0.00455)	0.0518 J	106000	NA	365
	MWA-58d-091305	09/13/05	ND(<0.0150)	ND(<0.00900)	1160	0.0850 J	ND(<0.240)	**76.8**	ND(<0.00455)	0.0194 J	108000	60700	363
	MWA-58d-120905	12/09/05	0.0005 J	**0.0322**	1270	0.0025 J	0.0831 J	**79**	ND(<0.00455)	ND(<0.0100)	102000	NA	352
	MWA-58d-010906	01/09/06	0.0005 J	ND(<0.0332)	1170	ND(<0.00121)	0.0112 J	**75.8**	ND(<0.00455)	0.0691 J	103000	NA	376
	MWA-58d-021006	02/10/06	0.0030 J	ND(<0.00332)	1180 B	ND(<0.000605)	0.0281 J	**81.3**	ND(<0.00455)	0.0483 J	99500	NA	359

Table A-8
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Portland Plant Hot Spot Evaluation

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
Hot Spot Screening Levels			**0.10 b**	**0.01 b**	**NE**	**0.10 b**	**0.30 c**	**0.05 c**	**0.11 a**	**NE**	**NE**	**NE**	**NE**
MWA-59d	MWA-59d-050605	05/06/05	ND(<0.00720)	ND(<0.0819)	885	0.0142	0.0144 J	**86.3**	ND(<0.00455)	0.0264 J	105000	NA	293
	MWA-59d-071905	07/19/05	0.0079 J	ND(<0.0420)	1130	0.0087 J	0.0133 J	**97.8**	ND(<0.0200)	ND(<0.0100)	122000	NA	412
	MWA-59d-081705	08/17/05	ND(<0.0150)	ND(<0.00900)	816	0.0078	0.262	**72.9**	ND(<0.00455)	ND(<0.0100)	124000	NA	390
	MWA-59d-091205	09/12/05	ND(<0.0150)	ND(<0.00900)	1020	0.0990 J	ND(<0.0480)	**96.8**	ND(<0.00455)	ND(<0.0100)	132000	80500[4]	413
	MWA-59d-121205	12/12/05	0.0016 J	**0.0524**	822	ND(<0.000605)	0.0379 J	**75.7**	ND(<0.00455)	ND(<0.0100)	134000	NA	418
	MWA-59d-010606	01/06/06	0.0020 J	ND(<0.0332)	800	ND(<0.00121)	0.0062 J	**73.1**	ND(<0.00455)	ND(<0.0100)	134000	NA	391
	MWA-59d-020906	02/09/06	0.0012 J	ND(<0.00332)	977	ND(<0.000605)	0.0124 J	**88.4**	ND(<0.00455)	ND(<0.0150)	137000	NA	433

Notes:

B = Analyte detected in the method blank
J = Estimated Value
ND = Not Detected
NA = Not Applicable / Not Tested
1) Sample was reanalyzed out of hold time.
2) Wells were resampled after original Hexavalent Chromium samples were analyzed outside of holding times
3) Well not sampled due to insufficient groundwater volume
4) Sample analyzed for chloride out of hold time.

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations

Table A-9
Groundwater Analytical Results - Conventional Parameters and Miscellaneous Constituents
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Sample/ Screen Depth (ft bgs)	(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)
Hot Spot Screening Levels					NE	NE	NE	NE	10 a	1 a	NE	NE	NE	NE	NE	0.0245 a	NE	NE	NE
MWA-1	Acid Plant	1/29/1999	23	33	2.0 U	1660.0	2530.0		1.4	1.0 U				710.0			110.0		
		4/29/1999			2.0 U	1580.0	2410.0		1.1 J	5.0 U				961.0 J			115.0		
MWA-2	Acid Plant	1/27/1999	21.5	31.5	100	2 U	100		0.3	0.2 U				41.1			19.3		
		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)		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		
		8/24/1999			58	2 U	58		0.2 U	0.2 U				33.8			135		
		11/16/1999			64	2 U	64		4.3	0.2 U		0.0005 U		41.7			78		
		3/29/2001					80		2.5	0.2 UJ	3.3			158 J			160		
		6/12/2001					95		6.1	2 U	4 U			380			150		
		4/10/2002					21		19	10 U	6.8 U			1400			650		
		6/9/2003					43.5		1 U	1 U	6.05			981	0.0012 U	1.4	490 J		
MWA-3	Acid Plant	1/27/1999	20.7	30.7	321	2 U	321		0.8	0.2 U				39.8			12.3		
		4/28/1999			16	2 U	16		0.2 U	0.2 U				4			0.6 J		
		8/24/1999			82	2 U	82		0.2 U	0.2 U				10.5			4.2		
		11/16/1999			65	2 U	65		0.5	0.2 U				7.1			2		
		3/29/2001					91		0.2 U	0.2 UJ	2.3			48.3 J			242		
		6/14/2001					100		0.1 U	0.1 U	2.7 U			49			150		
		4/15/2002					150		2	1 U	2.9 U			384			501		
		6/9/2003					314		2.02	0.1 U	3.74			107	0.112	0.092 UF	46		
MWA-4	Acid Plant	1/28/1999	19.5	29.5	350	2 U	350		0.3	0.5 U				68.1			24.8		
(dup)		1/28/1999			348	2 U	348		0.3	0.5 U				70.1			25.4		
		4/28/1999			124	2 U	124		0.2 J	0.2 U		0.0005 U	10 U	12.8 J			3.3		
		8/25/1999			170	2 U	170		0.2 U	0.2 U				16.2			3.7		
		11/16/1999			320	2 U	320		0.3	0.5 U		0.0005 U		71.7			29		
		3/29/2001					299		0.2 U	0.2 UJ	5.7			39.7 J			196		
		6/14/2001					310		0.1 U	0.1 U	7 U			53			230		
		4/11/2002					290		1	0.5 U	7.1 U			85			830		
		6/9/2003					500		1 U	1 U	23.8			234		0.1 UF	299 J		
MWA-5	Acid Plant	1/27/1999	35.7	38.2	469	2 U	469		1 U	5 U				1130			31.9 J		
		4/27/1999			465	2 U	465		0.5 U	2 U				445 J			42.2		
		8/23/1999			523	2 U	523		0.3 J	2 U				445			39.3		
		11/15/1999			464	2 U	464		1.5	2 U				701			20.1		
		3/28/2001					585		0.8	2 U	20.2			588			24.4		
		6/12/2001					630	15.4	1.3	2 U	25			830			20		
		4/4/2002					620	16.9	2.1	2 U	27			620			8.6		
(dup)		4/4/2002						19.7											
		6/6/2003					742		1 R	1 R	23.2			859			10 UJ		
MWA-6	Acid Plant	1/27/1999	30.8	33.6	424	39	463		0.5 U	2 U				412			220 J		
MWA-6r	Acid Plant	8/25/1999	28.2	33.2	592	88	680		1.5	5 U				569			38.6		
		11/17/1999			652	100	752		0.7	2 U		0.002 U		713			49.9		
		3/28/2001					816		2 U	5 U	10.6			373			91.1		
		6/12/2001					170		2 U	5 U	15			990			100		
		4/10/2002					1000		2 U	10 U	170			1500			110		
		6/5/2003					894		0.18	10 U	16.2			1850		0.027 UF	110		
MWA-7	Acid Plant	1/26/1999	30.3	32.8	372	2 U	372		0.5 U	0.5 U				303			491 J		
		4/26/1999			356	2 U	356		1 U	1 U				233 J			550		
		8/23/1999			410	2 U	410		0.3 J	0.5 U				238			172		
		11/15/1999			404	2 U	404		0.5 U	2 U				247			182		
		3/26/2001					422		0.6 J	0.5 U	16.8			197			72.5 J		
		6/11/2001					380		1 U	1 U	19			180			78		
		4/3/2002					390		1.8	1 U	16			180			43		
		6/4/2003					378		0.1 U	0.1 U	13.8			175	2.59		69.8		
MWA-8i	Acid Plant	1/27/1999	42	47	738	2 U	738		5 U	10 U				2660			313		
		4/27/1999			790 J	2 UJ	790 J		5 UJ	10 UJ				2290			223 J		
		8/24/1999			725	2 U	725		5 U	10 U				2650			286		
(dup)		8/24/1999			720	2 U	720		5 U	10 U				2590			293		
		11/16/1999			788	2 U	788		1.5	10 U				2530			364		
		3/29/2001					858		1 U	0.4 UJ	122			1660 J			163		
		6/12/2001					910		2 U	5 U	180			1400			81		
		4/10/2002					860		5 U	10 U	180			2100			110		
		6/9/2003					1100		1 U	1 U	43.9			2380		0.02 U	141 J		
MWA-9i	Acid Plant	1/28/1999	40	45	666	2 U	666		5 U	10 U				3250			950		
		4/28/1999			590	2 U	590		5 U	10 U		0.0017	10 U	3780			715 J		
		8/25/1999			605	2 U	605		5 U	10 U				2790			565		
		11/16/1999			606	2 U	606		2 U	10 U		0.0035		2510			501		
		3/30/2001					606		1.1	10 U	111			2900 J			470		
		6/18/2001					590		2.2	5 U	140			3500			440		
		4/15/2002					686		5 U	10 U	200			3400			463		
		6/9/2003					650		1 U	10 U	49.6			2860		0.73	495 J		

Table A-9
Groundwater Analytical Results - Conventional Parameters and Miscellaneous Constituents
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Sample/ Screen Depth (ft bgs)	(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)
Hot Spot Screening Levels					NE	NE	NE	NE	10 a	1 a	NE	NE	NE	NE	NE	0.0245 a	NE	NE	NE
MWA-10i	Acid Plant	1/28/1999	40.3	45.3	564	2 U	564		0.6	5 U				1160			237		
		4/28/1999			570	2 U	570		2 U	5 U		0.0005 U	10 U	1160 J			246		
		8/25/1999			496	2 U	496		1 U	5 U				838			154		
		11/16/1999			491	2 U	491		1.4	2 U		0.0005 U		843			96.1		
		3/29/2001					534		0.2 U	0.2 UJ	22.1			964 J			35.3		
		6/14/2001					550		2 U	5 U	16 U			1100			60		
		4/11/2002					590		2 U	10 U	15			850			270		
		6/10/2003					548		1 U	1 U	13.7			1240		0.26	242		
MWA-11i	Acid Plant	1/29/1999	46	51	332	2 U	332		0.3	2 U				612			9.5		
		4/27/1999			318 J	2 UJ	318 J		1.1 J	2 UJ				637			8.1 J		
		8/26/1999			294	2 U	294		1 U	5 U				802			15.9		
		11/17/1999			324	2 U	324		1.5	2 U				963			17.2		
		3/30/2001					296		0.5 U	2 U	4.7 U			768 J			24.8		
		6/15/2001					310		0.2 U	1 U	4.3 U			770			28		
(dup)		6/15/2001					300		0.5 U	2 U	4.2 U			660			29		
		4/11/2002					300		0.2 UJ	0.01 U	4.5 U			830			21 J		
		6/10/2003					308		1 U	1 U	5.19			550		0.02 U	10 UJ		
MWA-12i	Acid Plant	1/26/1999	42	52	620	2 U	620		0.2 U	0.2 U				6			2.6 J		
		4/26/1999			616	2 U	616		0.2	0.2 U				17.9 J			18.5		
		8/23/1999			632	2 U	632		0.3 J	0.2 U				9.4			6		
		11/15/1999			620	2 U	620		0.3	0.2 U				9			6.6		
		3/26/2001					622		0.1 UJ	0.1 U	2.7			10.3			1.3 J		
		6/11/2001					590		0.1 U	0.1 U	3 U			6.3			0.3		
		4/3/2002					650		0.1 U	0.2 U	1.9 U			5.6			0.3		
		6/3/2003					445		0.1 UJ	0.1 UJ	5.38			14.5			1 U		
MWA-13d	Acid Plant	1/28/1999	51	53	607	2 U	607		5 U	10 U				3100			274		
		4/28/1999			612	2 U	612		2.1	20 U				2910			274 J		
		8/25/1999			565	2 U	565		2 U	10 U				3070			273		
		11/18/1999			612	2 U	612		2 U	5 U				3360			273		
		3/29/2001					586		0.2 U	0.2 UJ	9			3070 J			240		
		6/14/2001					610		2 U	5 U	8.4 U			2100			270		
		4/15/2002					640		5 U	10 U	10			3100			269		
(dup)		4/15/2002					634		5 U	10 U	9.9			3320			259		
		6/9/2003					454		1 U	1 U	8.86			3240		0.02 U	264 J		
MWA-14i	Acid Plant	1/27/1999	44.1	49.1	604	2 U	604		2 U	5 U				2310			181 J		
		4/27/1999			605	2 U	605		2 U	10 U				1460 J			176		
		8/23/1999			614	2 U	614		0.3 J	10 U				1950			164		
		11/15/1999			624	2 U	624		2.9	10 U				2190			185		
		3/28/2001					567		2.2	10 U	23.8			1690			138		
(dup)		3/28/2001					576		2 U	10 U	17.3			2080			137		
		6/12/2001					590	2.9	2.2	10 U	17			2000			140		
(dup)		6/12/2001						2.7											
		4/4/2002					590	2.4	3.6	5 U	19			2200			130		
		6/6/2003					668		1 J	1 R	18.9			1720			105 J		
MWA-15	Acid Plant	8/26/1999	23.5	32.4	239	2 U	239		5 U	10 U				1430			2030		
		11/17/1999			260	2 U	260		3	10 U		0.047		1780			1980		
MWA-15r	Acid Plant	3/30/2001	22.4	32.4			2 U		3.2	5 U	43.1			1960 J			1810		
		6/15/2001					2 U		3	2 U	54			1600			1900		
		4/16/2002					474		5.9	2 U	136			410			183		
		6/10/2003					865		10.4	1 U	50.6			388	0.121	0.35	283		
MWA-16i	Acid Plant	8/25/1999	39.2	44.2	884	2 U	884		10 U	50 U				7770			105		
		11/17/1999			803	2 U	803		3	25 U				7760			105		
		3/28/2001					882		2 U	10 U	34.6			5180			79.8		
		6/12/2001					900		2 U	20 U	66			4900			78		
		4/10/2002					940		5 U	10 U	110			3700			93		
		6/5/2003					710		0.1 U	10 U	29.7			2180		0.033 UF	73		
MWA-17si	Acid Plant	8/26/1999	33.6	35.1	157	2 U	157		0.5 U	0.5 U				110			628		
		11/18/1999			27	2 U	27		0.8	2 U		0.011		215			850		
(dup)		11/18/1999			20	2 U	20		0.8	2 U		0.01		228			1230		
		3/30/2001					6 U		0.7	2 U	26			922 J			1070		
		6/18/2001					2 U		2.3	2 U	18 U			650			840		
		4/15/2002					2 U		4	10 U	30.3			1850			1760		
		6/9/2003					10 U		1.6	10 U	19.4			1970		9.9	1900 J		
MWA-18	Acid Plant	3/27/2001	19.2	29.2			884		2 U	5 U	142			1200			41.8		
		6/13/2001					740		1 U	5 U	91			890 J			36		
		4/4/2002					290		2.3	5 U	20			2200			21		
		6/6/2003					211		2.9 J	1 R	4.89			1410			37.4 J		
MWA-19	Acid Plant	3/27/2001	19.2	29.2			410		5.7	20 U	58.8			5540			75.4		
		6/13/2001					260		5.5	20 U	8.5 U			13000 J			120		
		4/4/2002					320		5.7	50 U	9.2			13000			110		
		6/6/2003					243		1.8 J	10 R	7.05			5180		0.082 UF	61.2 J		

Table A-9
Groundwater Analytical Results - Conventional Parameters and Miscellaneous Constituents
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Monitoring Well	Area of Investigation	Date	Sample/ Screen Depth (ft bgs)	(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)
Hot Spot Screening Levels					NE	NE	NE	NE	10 a	1 a	NE	NE	NE	NE	NE	0.0245 a	NE	NE	NE
MWA-20	Acid Plant	3/27/2001	24.7	34.7			1510		2 U	10 U	191			2810			73.2		
		6/13/2001					310		2 U	5 U	220			1800 J			90		
		4/9/2002					2100		7.3	10 U	330			1100			65		
		6/5/2003					780		0.77	10 U	20.8			1500			52.3		
MWA-21b	Acid Plant	4/12/2002	61	68.3					0.2 UJ	0.01 U									
MWA-22	Acid Plant	6/15/2001	24.7	34.7			5100		5 U	5 U	360			4900			820		
		4/11/2002					5700		2 UJ	0.01 U	230 J			5400			1000 J		
		6/10/2003					5720		1 U	10 U	439			6210			1190		
MWA-23	Chlorate Plant	4/5/2002	15.2	25.2			130		0.2 U	0.2 U	4.5			69			260		
		6/4/2003					153		0.69	0.1 U	4.59			43.4	0.0809		154		
		7/29/2003														0.02 U,NV			
MWA-24	Chlorate Plant	4/8/2002	24	34			7900		1 U	2 U	520			410			72		
		6/5/2003					7230		0.1 U	10 U	889			583			202		
MWA-25	Chlorate Plant	4/9/2002	23.7	33.7			1000		5 U	5 U	36			4200			290		
		6/6/2003					986		1 R	10 R	29			2980	2.47		351 J		
		7/29/2003														290 NV			
		12/3/2003									55.5						244	0.38 U	14900
MWA-26	Chlorate Plant	4/5/2002	21.2	31.2			240		40	0.5 U	19			170			72		
		6/4/2003					219		0.65	0.1 U	8.32			632			73.6		
		7/29/2003														1.2 NV			
MWA-27	Chlorate Plant	4/9/2002	24	34			400		18	10 U	1.7 U			5500			410		
		6/4/2003					398		10 U	10 U	14.5			9360	0.148	210	290		
		12/3/2003	53.9	58.9							34.6						211	0.38 U	6720
MWA-28i(d)	Chlorate Plant	4/9/2002					280		0.1 U	0.2 U	3.6			5.3			0.2		
		6/6/2003					295		0.1 R	0.1 R	4.01			5.36			1 UJ		
		7/29/2003														0.02 U,NV			
MWA-29	Chlorate Plant	4/8/2002	24.9	34.9			190		10 U	100 U	3.2 U			22000			300		
		6/4/2003					212		10 U	10 U	7.53			11700		0.11 UF	291		
MWA-30	Chlorate Plant	4/12/2002	19.1	29.1			170		0.2 UJ	0.01 U	0.6			180000			1800 J		
(dup)		4/12/2002					150		0.2 UJ	0.01 U	0.6			190000			1800 J		
		6/4/2003					78.8		100 U	100 U	1 U			164000	0.00218 J	7.9	1530		
MWA-31i(d)	Chlorate Plant	4/8/2002	54.8	59.8			160		10 U	200 U	2.4			39000			330		
		6/4/2003					147		100 U	100 U	1 U			61100		4.7	381		
MWA-32i	Chlorate Plant	6/4/2003	37	42			286		100 U	100 U	15.7			31000		200	399		
MWA-33	Chlorate Plant	6/11/2003	20	30			1110		1 U	1 U	17.5			286	4.9	0.32	156		
(dup)		6/11/2003					1190		1 U	1 U	40.7			210	6.45	0.84	167		
		6/5/2003					1200		3.42 J	0.1 UJ	22.9			198		0.54	177		
(dup)		6/5/2003					1210		0.1 UJ	0.1 UJ	22.3			208		0.57	196		
MWA-34i	Chlorate Plant	6/6/2003	32	37			1950		1 R	1 R	34.5			3040		4.6	80.3		
MWW-35	Chlorate Plant	12/2/2003	23	33							30.3						139	0.38 U	21200
MWW-36	Chlorate Plant	12/3/2003	23	33							27.3						270	0.38 U	9570
MWW-37	Chlorate Plant	12/3/2003	23	33							44.8						282	0.38 U	16400
MWW-38	Chlorate Plant	12/3/2003	22	32							15.4						292	0.38 U	8030
NMP-1S	Acid Plant	10/3/2003	19.5	29.5			1.25 U												
NMP-1D	Acid Plant	10/3/2003	29.1	34.1			1.25 U												
NMP-2D	Acid Plant	10/3/2003	31.5	36.5			1.25 U												
NMP-3D	Acid Plant	6/11/2003	30	35			50 U		3	1 U	28.8			2260	1440		2900		
NMP-4S	Acid Plant	10/3/2003					1.25 U												
NMP-4D	Acid Plant	6/10/2003	30	35			25.4		1 U	1 U	37.6			2180	1030		3470		
(dup)		6/10/2003					22.5		1 U	1 U	39.9			2150	1060		3500		
		10/3/2003					281												
NMP-5D	Acid Plant	10/3/2003	28.5	33.5			1.25 U												
PMP-1	Acid Plant	10/2/2003	24	34			19.2												
PMP-2	Acid Plant	10/2/2003	23.8	33.8			1010												
PMP-3	Acid Plant	10/2/2003	25	35			187												
B-67	Acid Plant	5/2/2001	26	30				1.22											
(dup)		5/2/2001						1.28											
B-119	Ammonia Plant	6/12/2002	26	30				1.99											
(dup)		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.
R - Data Rejected, not used for delineation of hot spot
NV - Analytical laboratory data not validated.
- not analyzed/rep - Value above Hot Spot Screening Level A1
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - ARL = Acceptable Risk Level; as defined in OAR 340-122-115(1)
b - MCL = Maximum Contaminant Levels; National Primary Drinking Water Regulations
c - 2nd DW Std = Secondary Standards; National Secondary Drinking Water Regulations
d - AL = Action Level; National Primary Drinking Water Regulations
e - Revised Perchlorate Hot Spot Level derived from January 26, 2006 USEPA Memorandum "Assessment Guidance for Perchlorate"

Table A-10
Surface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Endrin 8081A (mg/kg)	Methoxychlor 8081A (mg/kg)
Hot Spot Screening Levels							**1000**	**700**	**700**	**1,800**	**31,000**
S-1	Acid Plant	SO0400	3/31/2000	0.4	0.7	X	**13**	**5,200**	**890**	5 *U*	5 *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*
S-3	Acid Plant	SO1042	5/1/2001	0	0.3		**0.054** *J*	**0.15** *J*	**1.8**	0.0053 *U*	0.0065 *U*
(dup)		SO1043	5/1/2001	0	0.3		**0.032** *J*	**0.087** *J*	**1.6**	0.0055 *U*	**0.0073**
S-4	Acid Plant	SO1040	5/1/2001	0	0.3		**0.049** *J*	**0.12**	**1.3**	0.0058 *U*	0.0058 *U*
S-5	Acid Plant	SO1044	5/1/2001	0	0.3		**0.16**	**0.39**	**2**	0.0065 *U*	0.0065 *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*
S-7	Acid Plant	SO1045	5/1/2001	0	0.3	X	**25** *J*	**40**	**1,600**	5.9 *U*	5.9 *U*
S-8	Acid Plant	SO1046	5/1/2001	0	0.3	X	**21** *J*	**12**	**1,600**	1.2 *U*	1.2 *U*
US-01	Acid Plant	SO0174	1/11/1999	0	0.5		**0.42**	**0.89**	**6.6**	0.1 *U*	0.2 *U*
US-02	Acid Plant	SO0178	1/11/1999	0	0.5		**0.113**	**0.151**	**1.9**	0.01 *U*	0.02 *U*
US-03	Acid Plant	SO0182	1/11/1999	0	0.5		**9.0**	**6.6**	**140**	1.1 *U*	2.0 *U*
B-51	Acid Plant	SO0129	1/11/1999	0.5	1		0.01 *U*	**0.197**	**1.8**	0.01 *U*	0.02 *U*
B-52	Acid Plant	SO0159	1/11/1999	0.5	1		0.01 *U*	0.01 *U*	**0.03**	0.01 *U*	0.02 *U*
B-57	Acid Plant	SO0314	8/3/1999	0	1	X	**0.32**	**29**	**23**	0.02 *U*	0.04 *U*
B-91	Acid Plant	SO1434	11/2/2001	0	0.5		**0.82** *J*	**2.1**	**120**	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*
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*
B-94	Acid Plant	SO1438	11/2/2001	0	0.5		**8.8** *J*	**4.4**	**1,300**	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*
B-96	Acid Plant	SO1426	11/2/2001	0	0.5		**2.2** *J*	**190**	**440**	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*
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*
B-99	Acid Plant	SO1418	11/2/2001	0	0.5		**0.0032**	**0.055**	**0.094** *J*	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*
(dup)		SO1448XX	11/5/2001	0	0.5		31 *U*	31 *U*	**2,600** *J*	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*
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**	**1.5**	0.25 *U*
IB-36	Acid Plant	SO0725	5/18/2000	0	1	X	**1.9**	**2.3**	**340**	0.5 *U*	0.5 *U*
IB-41	Acid Plant	SO0750	5/18/2000	0	1		**2.4**	**3.9**	**200**	0.25 *U*	0.25 *U*
IB-47	Acid Plant	SO0512	5/19/2000	0	1	X	**1.7**	**6.9**	**330**	0.44 *U*	0.25 *U*
IB-73	Acid Plant	SO1121	8/15/2001	0.5	1	X	0.11 *U*	0.11 *U*	**1.4**	0.29 *U*	0.11 *U*
IB-74	Acid Plant	SO1115	8/15/2001	0.5	1	X	0.12 *U*	0.12 *U*	**1.7**	0.39 *U*	0.12 *U*
IB-79	Acid Plant	SO1118	8/15/2001	0.5	1	X	**72** *J*	**19**	**4,100**	5.8 *U*	5.8 *U*
IB-80	Acid Plant	SO1130	8/15/2001	0.5	1	X	5.4 *U*	5.4 *U*	**100**	13 *U*	5.4 *U*
IB-81	Acid Plant	SO1124	8/15/2001	0.5	1	X	0.11 *U*	**0.13**	**1**	0.32 *U*	0.11 *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*	-	-

Table A-10
Surface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)	Endrin 8081A (mg/kg)	Methoxychlor 8081A (mg/kg)
Hot Spot Screening Levels							**1000**	**700**	**700**	**1,800**	**31,000**
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 exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Table A-11
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels						**730**	**69,000**	**93**	**160**	**17,000**	**4,100**	**NE**	**7.6**	**1,700**	**110**	**6.3**	**60**	**74**
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
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established

Table A-11
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels						**3,600**	**NE**	**NE**	**100,000**	**NE**	**100,000**	**140**	**920**	**180**	**180**	**22,000**	**130**	**12,000**
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
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established

Table A-11
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels						**55**	**5,300**	**650**	**47**	**1,600**	**1,500**	**180 a**	**260**	**NE**	**3,100**	**74,000**	**9,000 b**	**2,100**
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
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established

Table A-11
Surface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels						**22,000**	**9,000 b**	**16,000**	**100,000**	**20,000**	**130**	**22,000**	**2,300**	**180 a**	**11**	**13,000**	**75 c**
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
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established

Table A-12
Surface Soil Analytical Results - Metals
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Sample Location	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Chromium 6010B (mg/kg)	Lead 6010B (mg/kg)	Zinc 6010B (mg/kg)
Hot Spot Screening Levels						**45,000 a**	**NE**	**100,000**
IB-44	Acid Plant	SO0764	5/18/2000	0	1	**85.7**	**47.9**	**394** *J*
OCTF-1	Old Caustic Tank Farm	OCTF-1-0.5	1/28/2004	0	0.5	**9.12**	**3.15**	-
OCTF-1	Old Caustic Tank Farm	OCTF-1-1.0	1/28/2004	0.5	1	**8.98**	**2.32**	-
OCTF-3	Old Caustic Tank Farm	OCTF-3-0.5	1/28/2004	0	0.5	**17.8**	**8.64**	-
OCTF-3	Old Caustic Tank Farm	OCTF-3-1.0	1/28/2003	0.5	1	**13.4**	**8.5**	-
OCTF-9	Old Caustic Tank Farm	OCTF-9-0.5	1/28/2004	0	0.5	**6.29**	**6.14**	-
OCTF-9	Old Caustic Tank Farm	OCTF-9-1.0	1/28/2004	0.5	1	**10**	**8.75**	-

Notes:
U - Undetected at the detection limit shown
J - Estimated
- Not analyzed
- Value exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for Total Chromium (1:6 ratio Cr VI:CrIII) used

Table A-13
Subsurface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**10**	**36 a**	**650 c**	**130 b**	**130 d**	**11**	**37,000 e**	**37,000 e**	**37,000 e**	**1,800 f**	**1,800 f**	**1,800 f**	**170 g**	**650 c**	**38**	**19**	**31,000**	**160**
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 *U*
US-03	Acid Plant	SO0184	1/11/1999	2	2.5		**1.1**	**3.2**	**25**	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*	2 *U*	100 *U*
B-49	Acid Plant	SO0151	1/11/1999	2	2.5	X	**48**	**44**	**3,600**	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	4.1 *U*	2 *U*	2 *U*	4 *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 *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 *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 *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 *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 *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 *U*
B-55	Acid Plant	SO0276	2/19/1999	6	7		**36**	1 *U*	**297**	1 *U*	**1.6**	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*	2 *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 *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 *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 *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 *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 *U*
B-61	Acid Plant	SO0889	7/17/2000	5	6	X	**620**	**36**	**7,000**	0.05 *U*	35 *UJ*	5 *U*	0.05 *U*	**0.19**	5 *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 *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*	**0.2** *J*	**33.0** *J*	0.0 *UJ*	0.0 *UJ*		0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*	0.0 *UJ*		0.0 *UJ*	0.0 *UJ*	0.2 *UJ*	0.7 *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** *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**																		
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*																		

Table A-13
Subsurface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**10**	**36 a**	**650 c**	**130 b**	**130 d**	**11**	**37,000 e**	**37,000 e**	**37,000 e**	**1,800 f**	**1,800 f**	**1,800 f**	**170 g**	**650 c**	**38**	**19**	**31,000**	**160**
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 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																		
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	0.5	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	0.5	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	1	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	1	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		4	X (h)	**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	2,000 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		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		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		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

Table A-13
Subsurface Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**1,000**	**700**	**700**	**10**	**36 a**	**650 c**	**130 b**	**130 d**	**11**	**37,000 e**	**37,000 e**	**37,000 e**	**1,800 f**	**1,800 f**	**1,800 f**	**170 g**	**650 c**	**38**	**19**	**31,000**	**160**
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
- Value exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for HCH (alpha) used
b - Value for HCH (beta) used
c - Value for Chlordane (technical) used
d - Value for HCH (technical) used
e - Value for Endosulfan used
f - Value for Endrin used
g - Value for HCH (gamma) Lindane used
h - Top 0-1 feet of soil removed during the soil removal IRM.

Table A-14
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**730**	**69,000**	**93**	**160**	**17,000**	**4100**	**NE**	**7.6**	**110**	**6.3**	**41,000**	**21,000**	**790**	**60**	**74**	**3,600**	**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	9	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	9	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	9	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		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		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 *U*
VP-10	Acid Plant	-	11/30/2000	8	-			0.075 *U*									**3.3**	**0.22**	**8.2**					0.3 *U*
		-	11/30/2000	12	-			**2.1**									0.76 *U*	0.76 *U*	**1.3**					3 *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 A-14
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**NE**	**100,000**	**NE**	**100,000**	**140**	**920**	**180**	**NE**	**22,000**	**130**	**12,000**	**55**	**5,300**	**650**	**47**	**1,600**	**1,500**	**180 a**	**260**	**NE**
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*	**4100**	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*	**1800**	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*	**2600**	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	9	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*	**8800** *J*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*	270 *UJ*
IB-26	Acid Plant	477-486COMP	5/17/2000	9	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*	**2900** *J*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*	66 *UJ*
IB-51	Acid Plant	811-818COMP	5/19/2000	9	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*	**3000** *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*	**1100**	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*	**15000** *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		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*	**4400** *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		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*	2700 *UR*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *U*	67 *UJ*	67 *U*	67 *U*	**4000**	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*	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*	2600 *UR*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *U*	64 *UJ*	64 *U*	64 *U*	**1700**	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*	2700 *UR*	68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	68 *U*	68 *UJ*	68 *U*	68 *U*	**2000**	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														**5600** *D*		25 *U*					
VP-4	Acid Plant	-	6/26/2000	7.5	8														**4600** *D*		25 *U*					
VP-5	Acid Plant	-	6/26/2000	7.5	8	X													**1500**		25 *U*					
VP-6	Acid Plant	-	6/26/2000	7.5	8														**13000** *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														**5400** *D*		50 *U*					
VP-9	Acid Plant	-	11/30/2000	8	-					31 *U*									**11000**		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 A-14
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**3,100**	**74,000**	**9,000 b**	**2,100**	**1,900**	**22,000**	**9,000 b**	**16,000**	**100,000**	**20,000**	**130**	**22,000**	**2,300**	**180 a**	**11**	**13,000**	**75**	**9,000**
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	9	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	9	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	9	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		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*	0.38 *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		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 *U*						0.74 *U*							
VP-10	Acid Plant	-	11/30/2000	8	-				0.075 *U*		0.3 *U*						**0.87**							
		-	11/30/2000	12	-				0.76 *U*		3 *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 A-14
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**730**	**69,000**	**93**	**160**	**17,000**	**4100**	**NE**	**7.6**	**110**	**6.3**	**41,000**	**21,000**	**790**	**60**	**74**	**3,600**	**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 *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		0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	1.5 *U*	1.5 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *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		0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.56 *U*	0.56 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *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*	1,000 *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	-		1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	5,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *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 exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for 1,3-Dichloropropene used
b - Value for Total Xylenes used

Table A-14
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**NE**	**100,000**	**NE**	**100,000**	**140**	**920**	**180**	**NE**	**22,000**	**130**	**12,000**	**55**	**5,300**	**650**	**47**	**1,600**	**1,500**	**180 a**	**260**	**NE**
VP-12	Acid Plant	-	11/30/2000	8	-					27 *U*									**7200**		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*									**8700**		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*									**1300**		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*									**2300**		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*									**3900**		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*									**7900**		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*	0.37 *U*	1.5 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	**40**	0.37 *UR*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *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*	0.14 *U*	0.56 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	**12**	0.14 *UR*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *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 *U*	2 *U*	2 *U*	2 *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*	**7370**	1 *U*	1 *U*	5 *U*	1 *U*	1 *U*	1 *U*	1 *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*	5,000 *U*	5,000 *U*	5,000 *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 *U*	50 *U*	50 *U*	50 *U*
CS-7	Acid Plant	-	5/8/2003	8	-		50 *U*	5,000 *U*	5,000 *U*	5,000 *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 *U*	50 *U*	50 *U*	50 *U*
CS-8	Acid Plant	-	5/8/2003	7.5	-		2,000 *U*	2,000 *U*	2,000 *U*	2,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	**4,280**	200 *U*	200 *U*	1,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-9	Acid Plant	-	5/8/2003	8	-		2,000 *U*	2,000 *U*	2,000 *U*	2,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	**7,310**	200 *U*	200 *U*	1,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-10	Acid Plant	-	5/8/2003	8	-		50 *U*	5,000 *U*	5,000 *U*	5,000 *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 *U*	50 *U*	50 *U*	50 *U*
CS-11	Acid Plant	-	5/8/2003	8	-		2,000 *U*	2,000 *U*	2,000 *U*	2,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	**26,700**	200 *U*	200 *U*	1,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-12	Acid Plant	-	5/8/2003	8	-		2,000 *U*	2,000 *U*	2,000 *U*	2,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	200 *U*	**12,500**	200 *U*	200 *U*	1,000 *U*	200 *U*	200 *U*	200 *U*	200 *U*
CS-13	Acid Plant	-	5/8/2003	8.5	-		10,000 *U*	10,000 *U*	10,000 *U*	10,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	**66,600**	1,000 *U*	1,000 *U*	5,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *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 exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for 1,3-Dichloropropene used
b - Value for Total Xylenes used

Table A-14
Subsurface Soil Analyical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels							**3,100**	**74,000**	**9,000 b**	**2,100**	**1,900**	**22,000**	**9,000 b**	**16,000**	**100,000**	**20,000**	**130**	**22,000**	**2,300**	**180 a**	**11**	**13,000**	**75**	**9,000**
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 *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		0.37 *U*	0.37 *U*	0.037 *U*	0.73 *U*	0.37 *U*	1.5 *U*	0.37 *U*	1.5 *U*	0.37 *U*	1.5 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *U*	0.37 *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		0.14 *U*	0.14 *U*	0.14 *U*	0.28 *U*	0.14 *U*	0.56 *U*	0.14 *U*	0.56 *U*	0.14 *U*	0.56 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *U*	0.14 *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 *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 *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 *U*	2 *U*	4 *U*	20 *U*	2 *U*	2 *U*	2 *U*	2 *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*	2 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	**5.63**	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	
CS-5	Acid Plant	-	5/8/2003	8	-		0.1 *U*	0.1 *U*	0.2 *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*	0.1 *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*	100 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *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*	100 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *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*	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 *U*	50 *U*	100 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *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*	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	-		1,000 *U*	1,000 *U*	2,000 *U*	10,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	1,000 *U*	
CS-14	Acid Plant	-	5/8/2003	11	-		0.1 *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*	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 *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 exceeds Hot Spot Screening Level
- Data for this sample has not undergone validation

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for 1,3-Dichloropropene used
b - Value for Total Xylenes used

Table A-15
Riverbank and Beach Soil Analytical Results - Organochlorine Pesticides
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels						**1,000**	**700**	**700**	**10**	**36 a**	**650 b**	**130 c**	**130 d**	**11**	**37,000 e**	**37,000 e**	**37,000 e**	**1,800 f**	**1,800 f**	**1,800 f**	**170 g**	**650 b**	**38**	**19**	**31,000**	**160**
RB-1	Beach	-	12/23/1998		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		0.3	**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		0.3	**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		0.3	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		0.3	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		0.3	**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		0.5	**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		0.5	**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		0.5	**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		0.5	**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		0.5	**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		0.5	**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		0.5	**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 exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for HCH (alpha) used
b - Value for Chlordane (technical) used
c - Value for HCH (beta) used
d - Value for HCH (technical) used
e - Value for Endosulfan used
f - Value for Endrin used
g - Value for HCH (gamma) Lindane used

Table A-16
Beach Soil Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number Sample Matrix Date Sampled Sample Interval Depth Method (Units)	Hot Spot Screening Levels		RB-1 Beach 11/23/1998 0-0.3 ft 8260B (mg/kg)	RB-1 Beach 11/23/1998 0.3-0.7 ft 8260B (mg/kg)	RB-2 Beach 11/23/1998 0-0.3 ft 8260B (mg/kg)	RB-2 Beach 11/23/1998 0.3-0.7 ft 8260B (mg/kg)	RB-3 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-3 Beach 11/24/1998 0.3-1 ft 8260B (mg/kg)	RB-4 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-4 Beach 11/24/1998 0.3-1.1 ft 8260B (mg/kg)	RB-5 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-5 Beach 11/24/1998 0.3-0.8 ft 8260B (mg/kg)	RB-6 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-6 Beach 11/24/1998 0.3-1.9 ft 8260B (mg/kg)
1,1,1,2-Tetrachloroethane	**730**		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	**69,000**		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	**93**		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	**160**		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	**17,000**		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	**4,100**		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	**NE**		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	**NE**		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	**7.6**		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	**1,700**		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	**110**		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	**60**		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	**74**		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	**700**		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	**3,600**		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	**NE**		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	**NE**		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	**NE**		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	**NE**		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	**140**		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	**920**		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	**NE**		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	**180**		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	**22,000**		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	**130**		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	**12,000**		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	**55**		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	**5,300**		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	**NE**		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	**650**		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	**47**		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	**1,600**		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	**1,500**		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	**180**	**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*

Table A-16
Beach Soil Analytical Results - VOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number Sample Matrix Date Sampled Sample Interval Depth Method (Units)	Hot Spot Screening Levels		RB-1 Beach 11/23/1998 0-0.3 ft 8260B (mg/kg)	RB-1 Beach 11/23/1998 0.3-0.7 ft 8260B (mg/kg)	RB-2 Beach 11/23/1998 0-0.3 ft 8260B (mg/kg)	RB-2 Beach 11/23/1998 0.3-0.7 ft 8260B (mg/kg)	RB-3 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-3 Beach 11/24/1998 0.3-1 ft 8260B (mg/kg)	RB-4 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-4 Beach 11/24/1998 0.3-1.1 ft 8260B (mg/kg)	RB-5 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-5 Beach 11/24/1998 0.3-0.8 ft 8260B (mg/kg)	RB-6 Beach 11/24/1998 0-0.3 ft 8260B (mg/kg)	RB-6 Beach 11/24/1998 0.3-1.9 ft 8260B (mg/kg)
Dibromomethane	**NE**		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	**3,100**		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	**74,000**		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	**NE**		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	**20,000**	**b**	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	**9,000**	**c**	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	**2,100.0**		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	**22,000**		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	**22,000**		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	**9,000**	**c**	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	**NE**		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	**16,000**		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	**100,000**		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	**20,000**		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	**130**		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	**22,000**		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	**2,300**		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	**180**	**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*
Trichloroethene	**11**		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	**13,000**		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	**75**		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
- Value exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established

a - Value for 1,3-Dichloropropene used
b - Value for Cumene (isopropylbenzene) used
c - Value for Total Xylenes used

Table A-17
Riverbank and Beach Soil Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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	Hot Spot	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	**2,200**	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	**41,000**	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	**21,000**	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	**790**	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	**100,000**	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	**620**	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	**18,000**	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	**100,000**	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	**12,000**	-	-	-	-	-	-	-	-	-	-	-	-	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	**6,200**	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	**2,400**	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	**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-Methylphenol	**100,000**	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	**18,000**	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	**380.0**	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	**1,800**	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	**25,000**	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	**8,200**	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	**NE**	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	**100,000**	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	**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
Aniline	**30,000**	-	-	-	-	-	-	-	-	-	-	-	-	5 U	0.99 U	0.98 U	0.99 U	0.97 U	0.99 U	0.97 U
Anthracene	**100,000**	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	**210**	**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	**21**	**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	**210**	**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	**NE**	**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	**2,100**	**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**	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**	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	**58**	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	**740.0**	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	**12,000**	**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**	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	**21,000**	**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	**21**	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	**16,000**	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	**100,000**	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	**100,000**	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	**100,000**	-	-	-	-	-	-	-	-	-	-	-	-	2 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Di-n-octyl phthalate	**100,000**	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	**100,000**	**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	**100,000**	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

Table A-17
Riverbank and Beach Soil Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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	Hot Spot	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)
Hexachlorobenzene	110	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	1,800	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*
Hexachlorocyclopentadiene	37,000	-	-	-	-	-	-	-	-	-	-	-	-	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Hexachloroethane	6,200	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	210	**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	51,000	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	1,900	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	1,000	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	1,300	-	-	-	-	-	-	-	-	-	-	-	-	10 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*
N-Nitrosodi-n-propylamine	9,600	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	14	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	900	-	-	-	-	-	-	-	-	-	-	-	-	10 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*	2 *U*
Phenanthrene	NE	-	-	-	-	-	-	-	-	-	-	-	-	2 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*	0.3 *U*
Phenol	100,000	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	100,000	**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 exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established

Table A-18
Riverbank Soil Analytical Results - Metals
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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)
Hot Spot Screening Levels					**4,500**	**45,000 a**	**NE**	**100,000**
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 exceeds Hot Spot Screening Level

Hot Spot Screening Level Notes:
NE - Not Established
a - Value for Total Chromium (1:6 ratio Cr VI:CrIII) used

Table A-19
Subsurface Soil Analytical Results - Chromium
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Chromium 6020 (mg/kg)	Chromium, Hexavalent 3060A (mg/kg)
Hot Spot Screening Levels					45,000 **a**	6,400 **b**
B-71	SO1140	9/25/01		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		4	**20** *J*	
(dup)	SO1149XX	9/25/01		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		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		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		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*	69.0 *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		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		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		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*	16.0 *J*
	SO1202	9/26/01	12	14	**93** *J*	
	SO1204	9/26/01	16	20	**780** *J*	

Table A-19
Subsurface Soil Analytical Results - Chromium
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Chromium 6020 (mg/kg)	Chromium, Hexavalent 3060A (mg/kg)
Hot Spot Screening Levels					45,000 **a**	6,400 **b**
B-81	SO1237	9/27/01		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		4	**14** *J*	
	SO1268	9/28/01	8	12	**14** *J*	
B-83	SO1258	9/28/01		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*	30.0 *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		4	**18** *J*	
(dup)	SO1378XX	11/1/01		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		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		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
- not analyzed
- Value exceeds Hot Spot Screening Level
Hot Spot Screening Level Notes:
a - Value for Total Chromium (1:6 ratio Cr VI:CrIII)+++ used
b - Value for Chromium VI+++ used

Table A-20
Old Caustic Tank Farm Surface Soil Analytical Results - SVOCs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

Sample ID: Collection Date: Depth (ft-bgs): Units:	Hot Spot Screening Levels (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	100,000	**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	210	**1.24**	**1.08**	**0.313**	**0.688**	**0.299**	**0.133**
Benzo(a)pyrene	21	**0.775**	**0.633**	**0.219**	**0.413**	**0.174**	0.1 *U*
Benzo(b)fluoranthene	210	**0.367**	**0.299**	0.2 *U*	**0.191**	0.1 *U*	0.1 *U*
Benzo(ghi)perylene	NE	**0.17**	**0.132**	**0.235**	**0.183**	**0.236**	0.1 *U*
Benzo (k) fluoranthene	2,100	**0.442**	**0.361**	0.2 *U*	**0.237**	0.1 *U*	0.1 *U*
Chrysene	21,000	**1.25**	**1.09**	**0.563**	**1.44**	**0.833**	**0.133**
Dibenz(a,h)anthracene	21	0.1 *U*	0.1 *U*	0.2 *U*	0.1 *U*	0.1 *U*	0.1 *U*
Fluoranthene	100,000	**0.387**	**0.403**	0.2 *U*	**0.474**	**0.153**	0.1 *U*
Fluorene	100,000	0.1 *U*	**0.118**	**0.391**	**1.07**	0.1 *U*	0.1 *U*
Indeno(1,2,3-cd)pyrene	210	0.1 *U*	0.1 *U*	0.2 *U*	0.1 *U*	0.1 *U*	0.1 *U*
Naphthalene	1,900	0.1 *U*	0.1 *U*	**0.25**	**0.711**	0.1 *U*	0.1 *U*
Phenanthrene	NE	**0.319**	**0.327**	**1.75**	**3.46**	**0.694**	0.1 *U*
Pyrene	100,000	**1.74**	**1.56**	**0.923**	**2.28**	**1.4**	**0.168**

Notes:
ft-bgs - Feet below ground surface
mg/kg - Milligrams per kilogram

Table A-21
BPA Main Substation Surface Soil Analytical Results - PCBs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

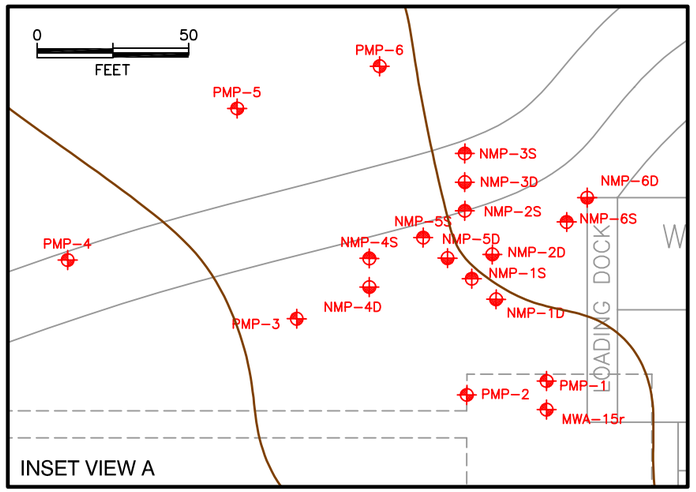
Boring Number	Sample Number	Date	Upper Depth (ft)	Lower Depth (ft)	Aroclor 1016 8082 mg/kg	Aroclor 1221 8082 mg/kg	Aroclor 1232 8082 mg/kg	Aroclor 1242 8082 mg/kg	Aroclor 1248 8082 mg/kg	Aroclor 1254 8082 mg/kg	Aroclor 1260 8082 mg/kg
Hot Spot Screening Level					**370 a,b**	**74 a,c**	**74 a,c**	**74 a,c**	**74 a,c**	**74 a,c**	**74 a,c**
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**
PENN-E-R1	02-58,916	9/19/2002	0	0	**4.5**	NT	NT	NT	NT	NT	NT

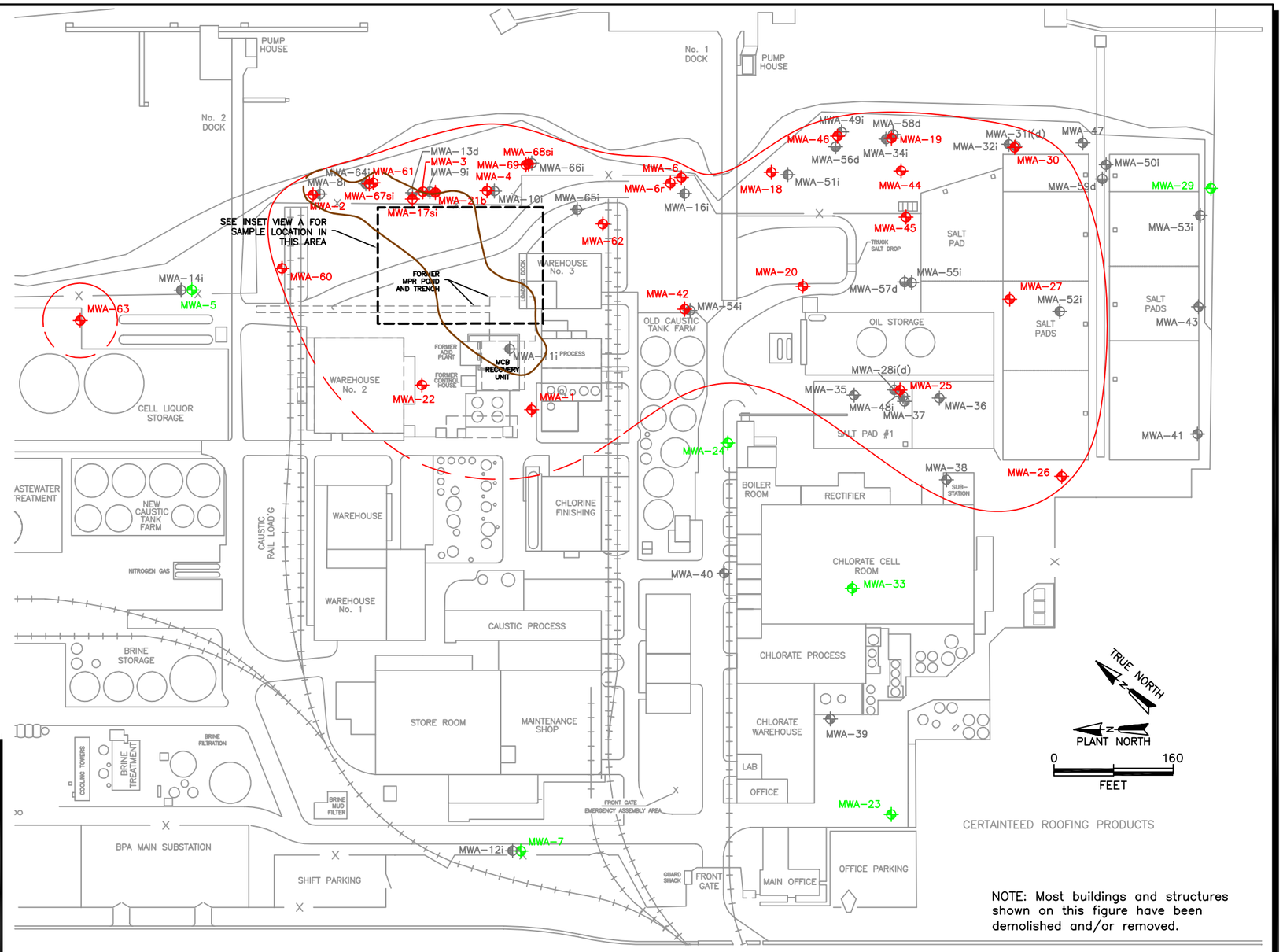
Table A-21
BPA Main Substation Surface Soil Analytical Results - PCBs
Arkema Portland Plant Remedial Investigation Data
Arkema Portland Plant Hot Spot Evaluation

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
Hot Spot Screening Level					**370 a,b**	**74 a,c**	**74 a,c**	**74 a,c**	**74 a,c**	**74 a,c**	**74 a,c**
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 exceeds Hot Spot 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 low risk PCBs (e.g., Aroclor 1016) used.
c - Value for high risk PCBs (e.g., Aroclor 1254) used.

Attachment B
Hot Spot Screening Figures





NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 — Monitoring Well, Shallow Zone
- MWA-17si — Monitoring Well, Shallow/Intermediate Zone
- MWA-9i — Montoring Well, Intermediate Zone
- MWA-13d — Monitoring Well, Deep Zone
- MWA-21b — Monitoring Well, Basalt
- Approximate Extent of Residual DNAPL in the Shallow Groundwater Zone: Dashed Where Inferred
- Hot Spot Boundary – VOCs in Shallow Zone Groundwater; Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

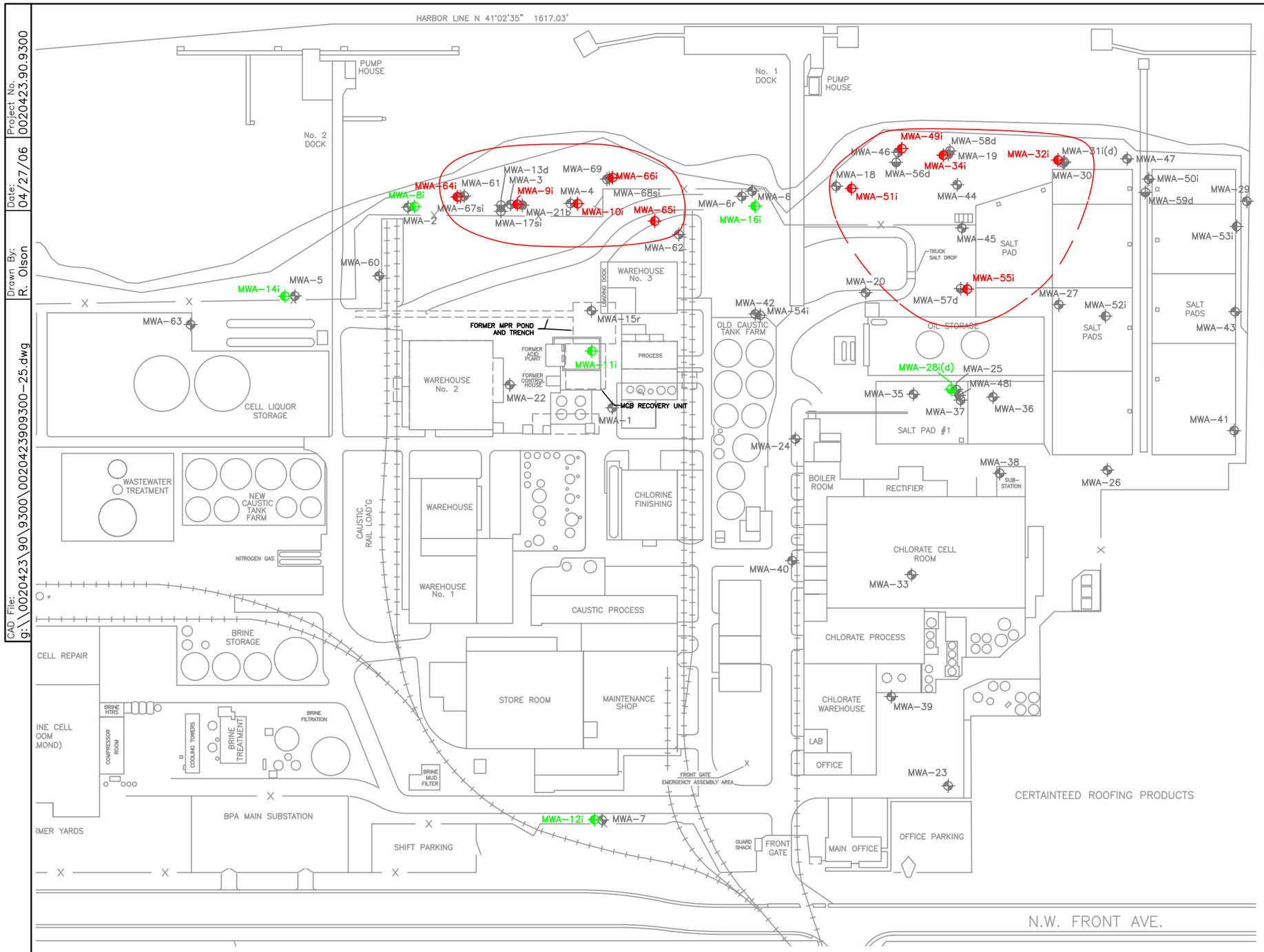
Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

Figure B-1
VOC Hot Spots in Groundwater
Shallow Zone
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: g:\0020423\90\9300\0020423909300-24.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 Monitoring Well, Shallow Zone
- MWA-17si Monitoring Well, Shallow/Intermediate Zone
- MWA-9i Montoring Well, Intermediate Zone
- MWA-13d Monitoring Well, Deep Zone
- MWA-21b Monitoring Well, Basalt
- Hot Spot Boundary – VOCs in Intermediate Zone Groundwater; Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

Figure B-2
VOC Hot Spot in Groundwater
Intermediate Zone
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: g:\0020423\90\9300\00204239093 00-25.dwg

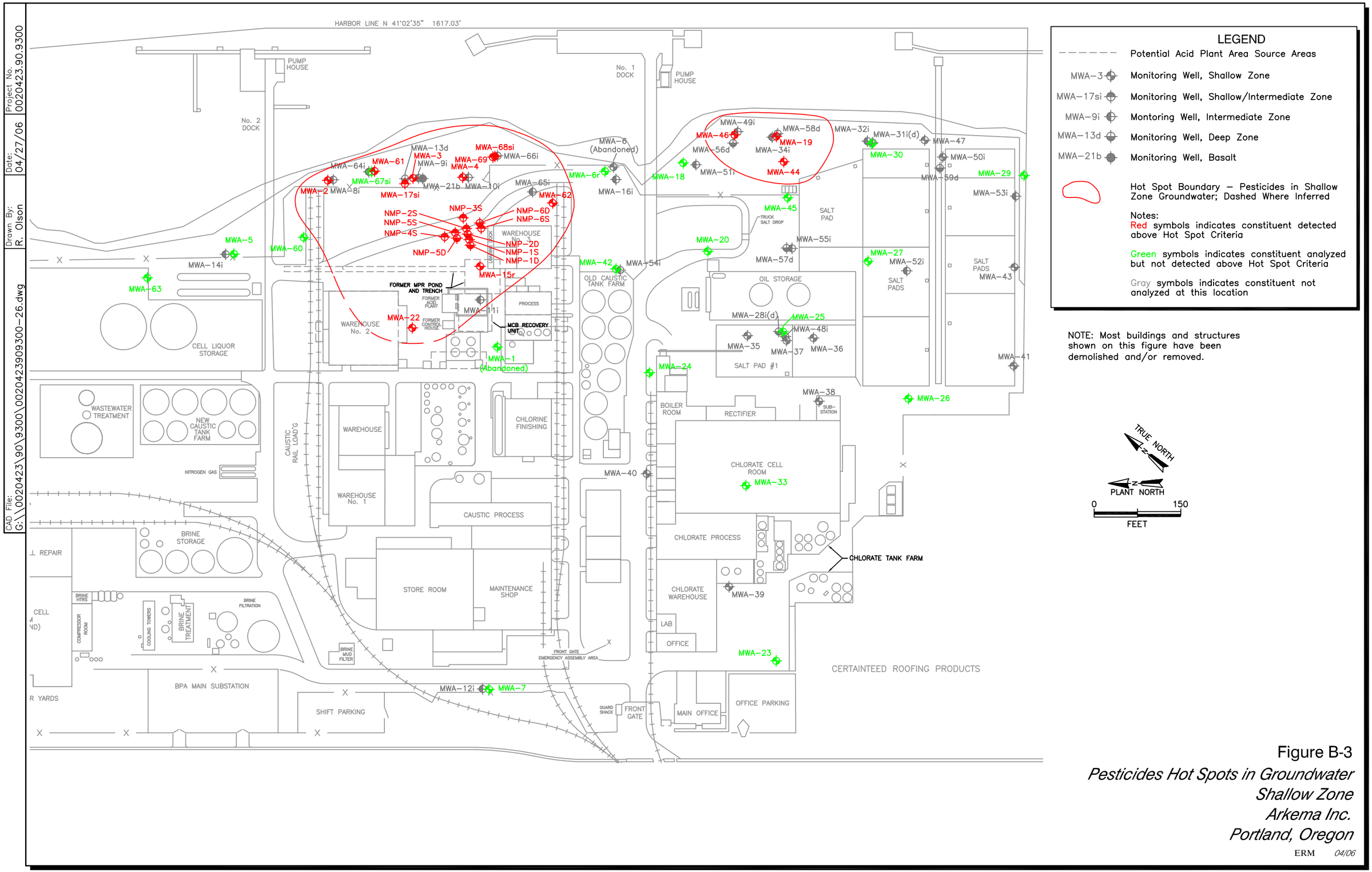
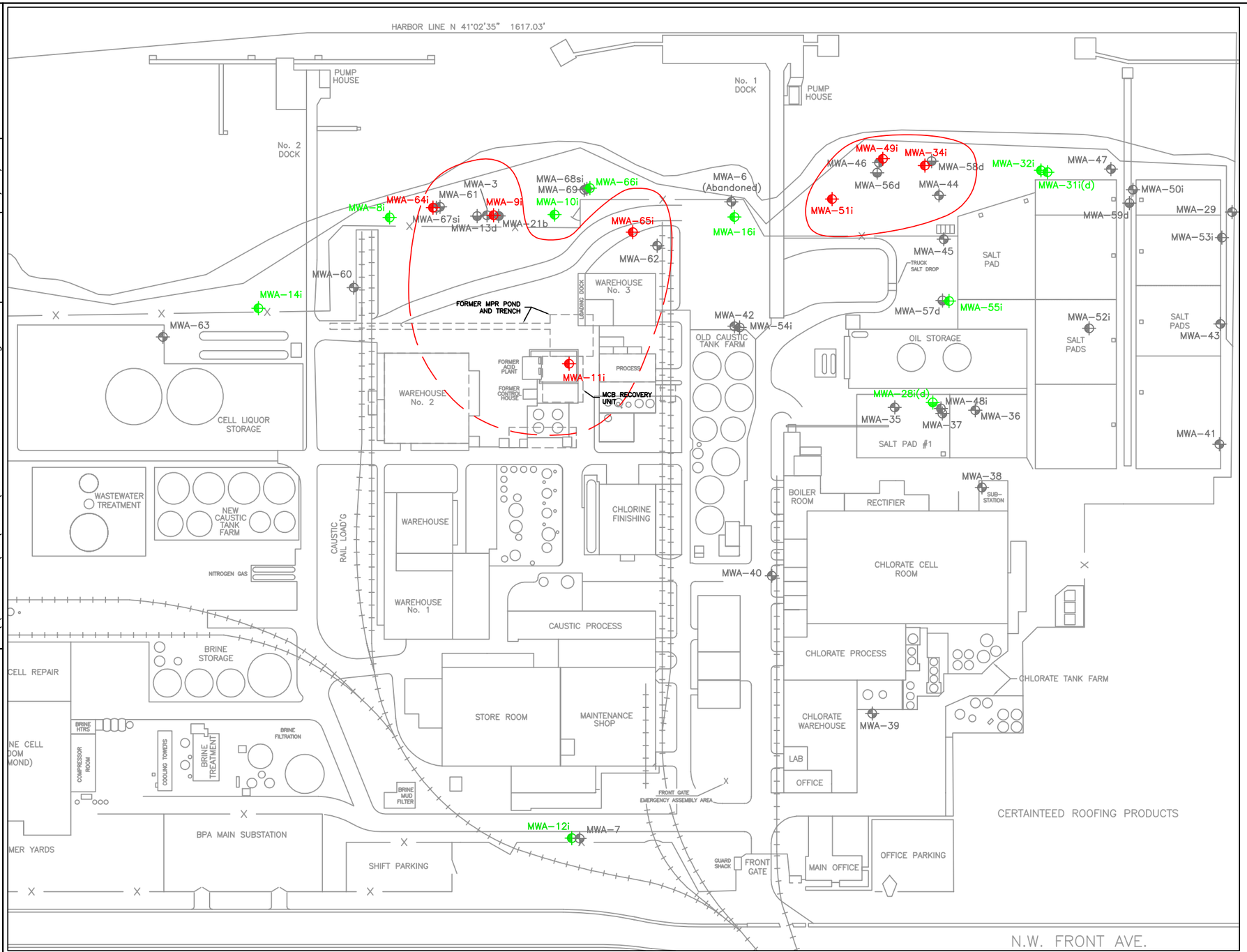


Figure B-3

Pesticides Hot Spots in Groundwater
Shallow Zone
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-27.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 Monitoring Well, Shallow Zone
- MWA-17si Monitoring Well, Shallow/Intermediate Zone
- MWA-9i Montoring Well, Intermediate Zone
- MWA-13d Monitoring Well, Deep Zone
- MWA-21b Monitoring Well, Basalt
- Hot Spot Boundary – Pesticides in Intermediate Zone Groundwater; Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

The preliminary screening level for total DDT, DDD, and DDE is 0.001 $\mu g/L$ (USEPA 2004 NRWQC, Freshwater, Chronic).

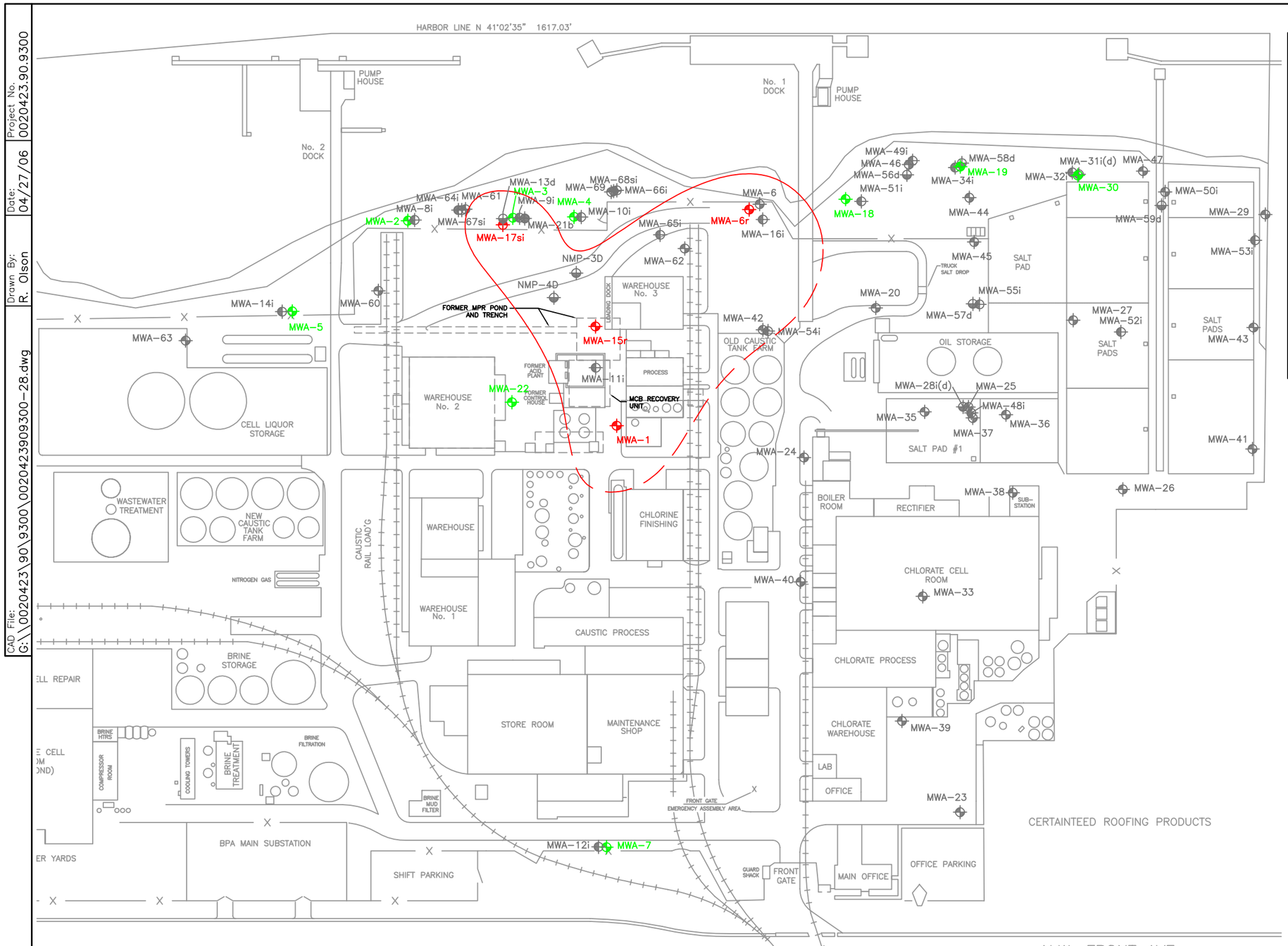
Note:
Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 150
FEET

Figure B-4
Pesticides Hot Spots in Groundwater
Intermediate Zone
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-28.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 Monitoring Well, Shallow Zone
- MWA-17si Monitoring Well, Shallow/Intermediate Zone
- MWA-9i Montoring Well, Intermediate Zone
- MWA-13d Monitoring Well, Deep Zone
- MWA-21b Monitoring Well, Basalt
- Hot Spot Boundary – SVOCs in Shallow Zone Groundwater; Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

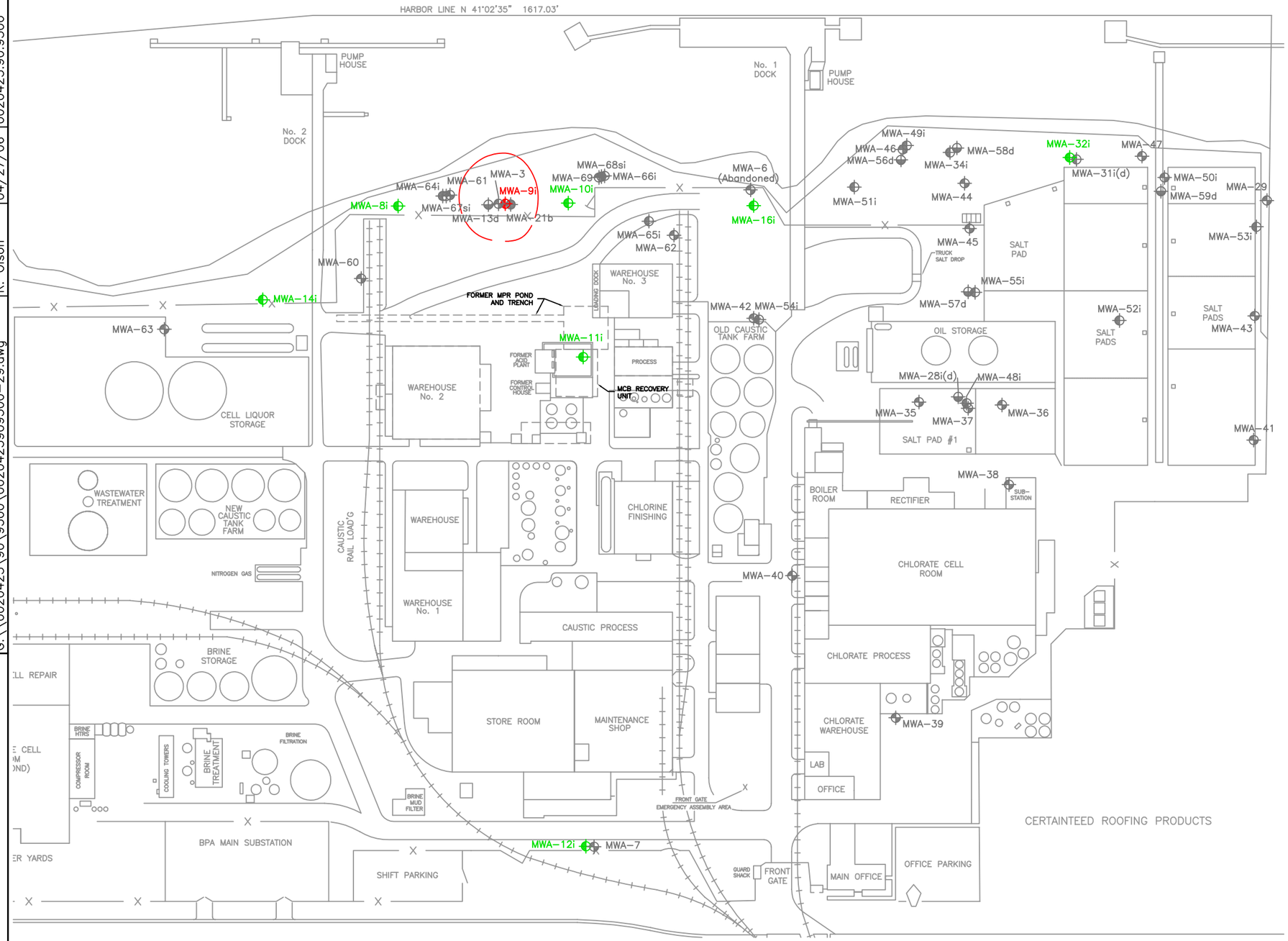
Gray symbols indicates constituent not analyzed at this location

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 150
FEET

Figure B-5
SVOCs Hot Spots in Groundwater
Shallow Zone
Arkema Inc.
Portland, Oregon

ERM 04/06



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 Monitoring Well, Shallow Zone
- MWA-17si Monitoring Well, Shallow/Intermediate Zone
- MWA-9i Montoring Well, Intermediate Zone
- MWA-13d Monitoring Well, Deep Zone
- MWA-21b Monitoring Well, Basalt
- Hot Spot Boundary – SVOCs in Intermediate Zone Groundwater: Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

Figure B-6

SVOCs Hot Spots in Groundwater Intermediate Zone
Arkema Inc.
Portland, Oregon

ERM 04/06

CAD File: G:\0020423\90\9300\002042390930O-29.dwg
Drawn By: R. Olson
Date: 04/27/06
Project No. 0020423.90.9300

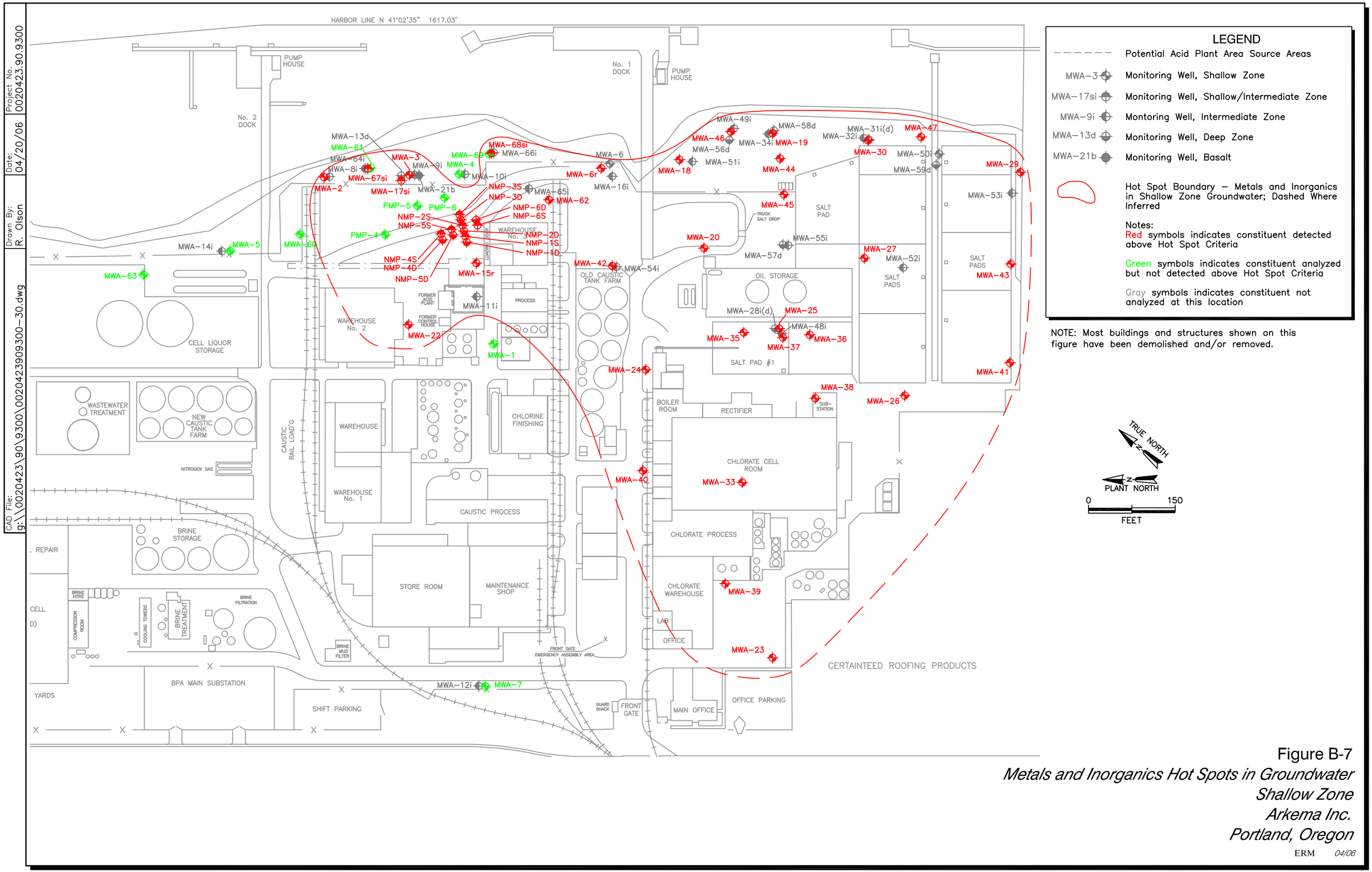


Figure B-7

Metals and Inorganics Hot Spots in Groundwater
Shallow Zone
Arkema Inc.
Portland, Oregon

ERM 04/06

CAD File: g:\0020423\90\9300\0020423909300–30.dwg
Drawn By: R. Olson
Date: 04/20/06
Project No. 0020423.90.9300

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
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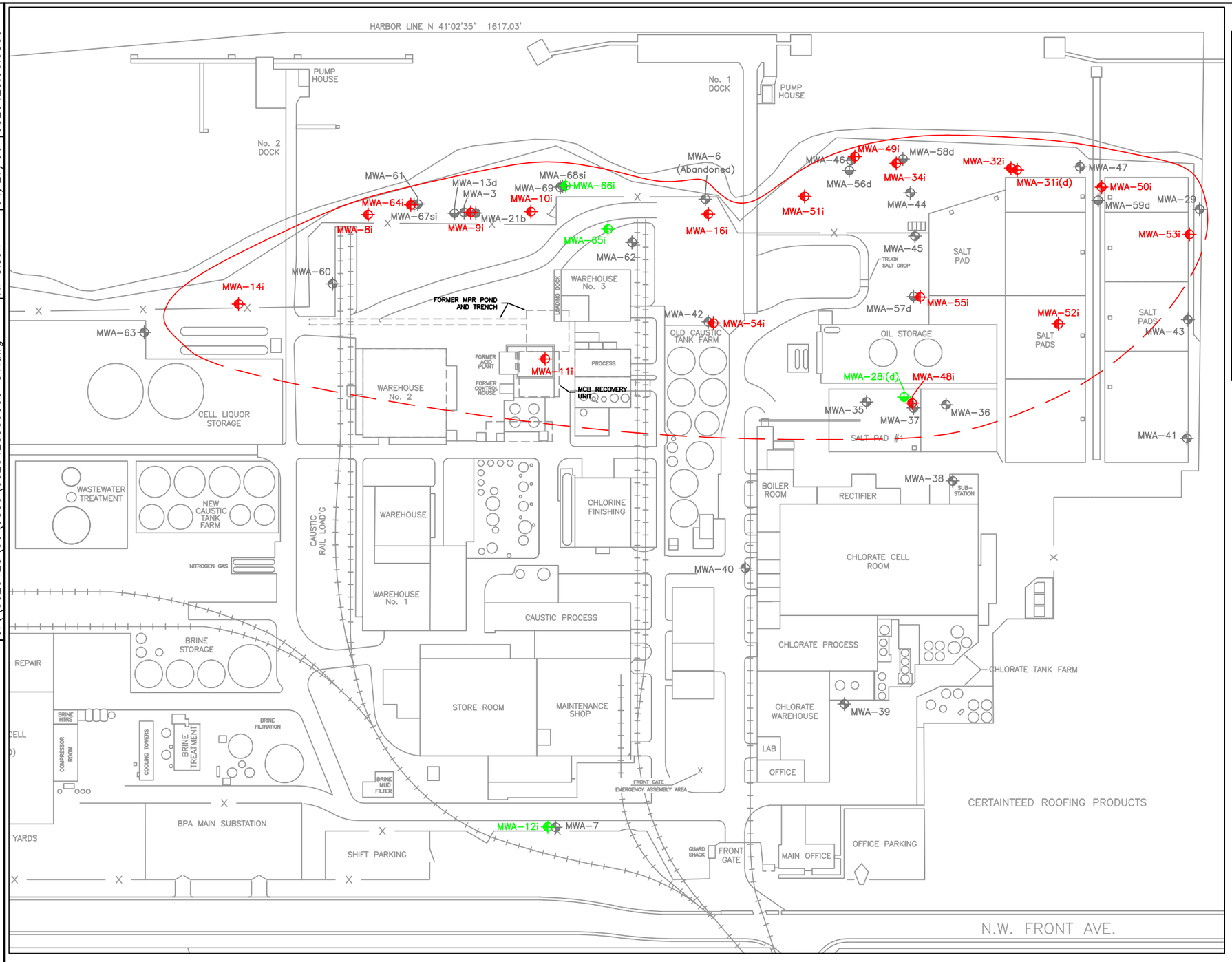


LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 — Monitoring Well, Shallow Zone
- MWA-17si — Monitoring Well, Shallow/Intermediate Zone
- MWA-9i — Montoring Well, Intermediate Zone
- MWA-13d — Monitoring Well, Deep Zone
- MWA-21b — Monitoring Well, Basalt
- Hot Spot Boundary – Metals and Inorganics in Intermediate Zone Groundwater; Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

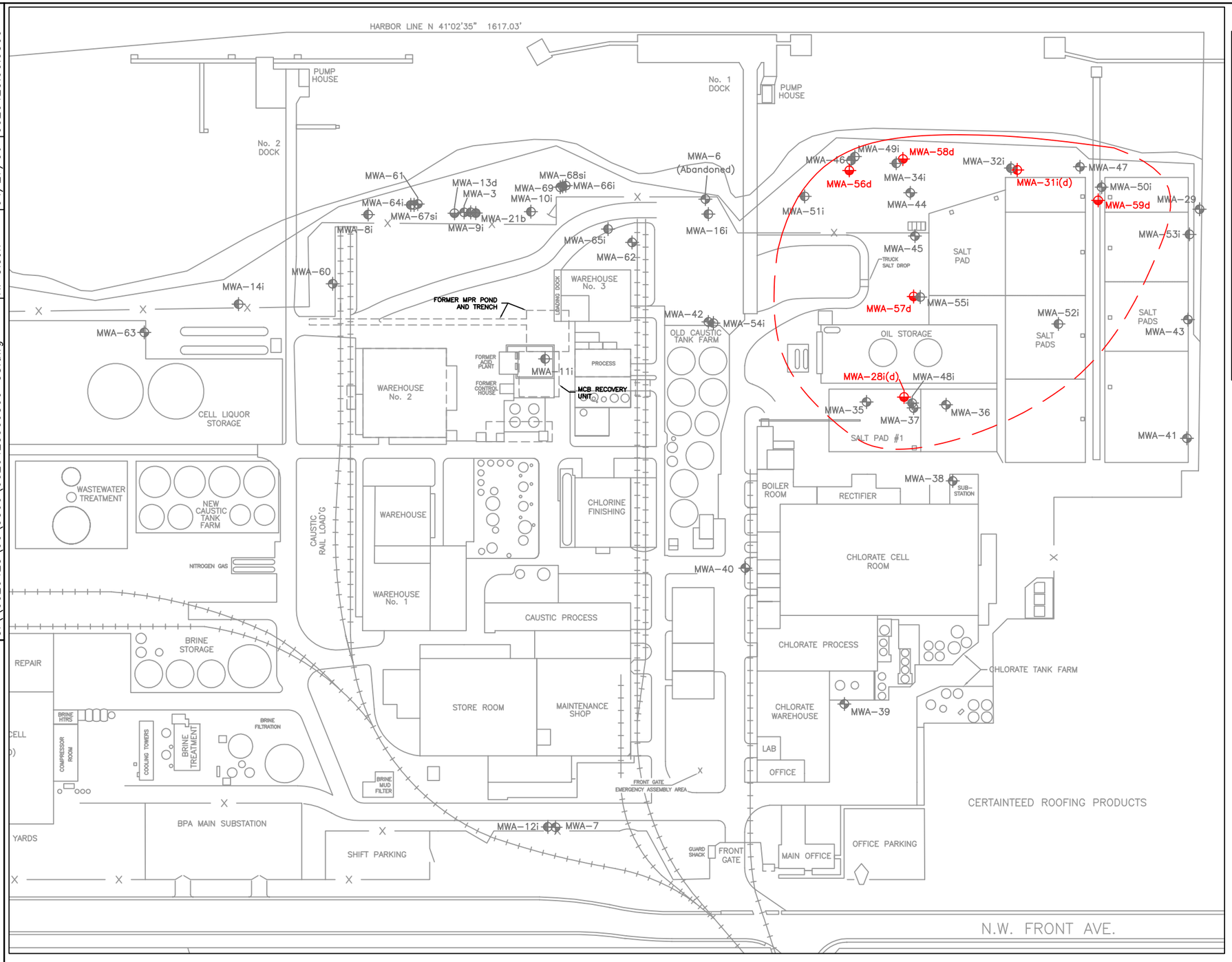
NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 150
FEET

Figure B-8
Metals and Inorganics in Groundwater
Intermediate Zone
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-38.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 — Monitoring Well, Shallow Zone
- MWA-17si — Monitoring Well, Shallow/Intermediate Zone
- MWA-9i — Montoring Well, Intermediate Zone
- MWA-13d — Monitoring Well, Deep Zone
- MWA-21b — Monitoring Well, Basalt
- Hot Spot Boundary – Metals and Inorganics in Deep Zone Groundwater; Dashed Where Inferred

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

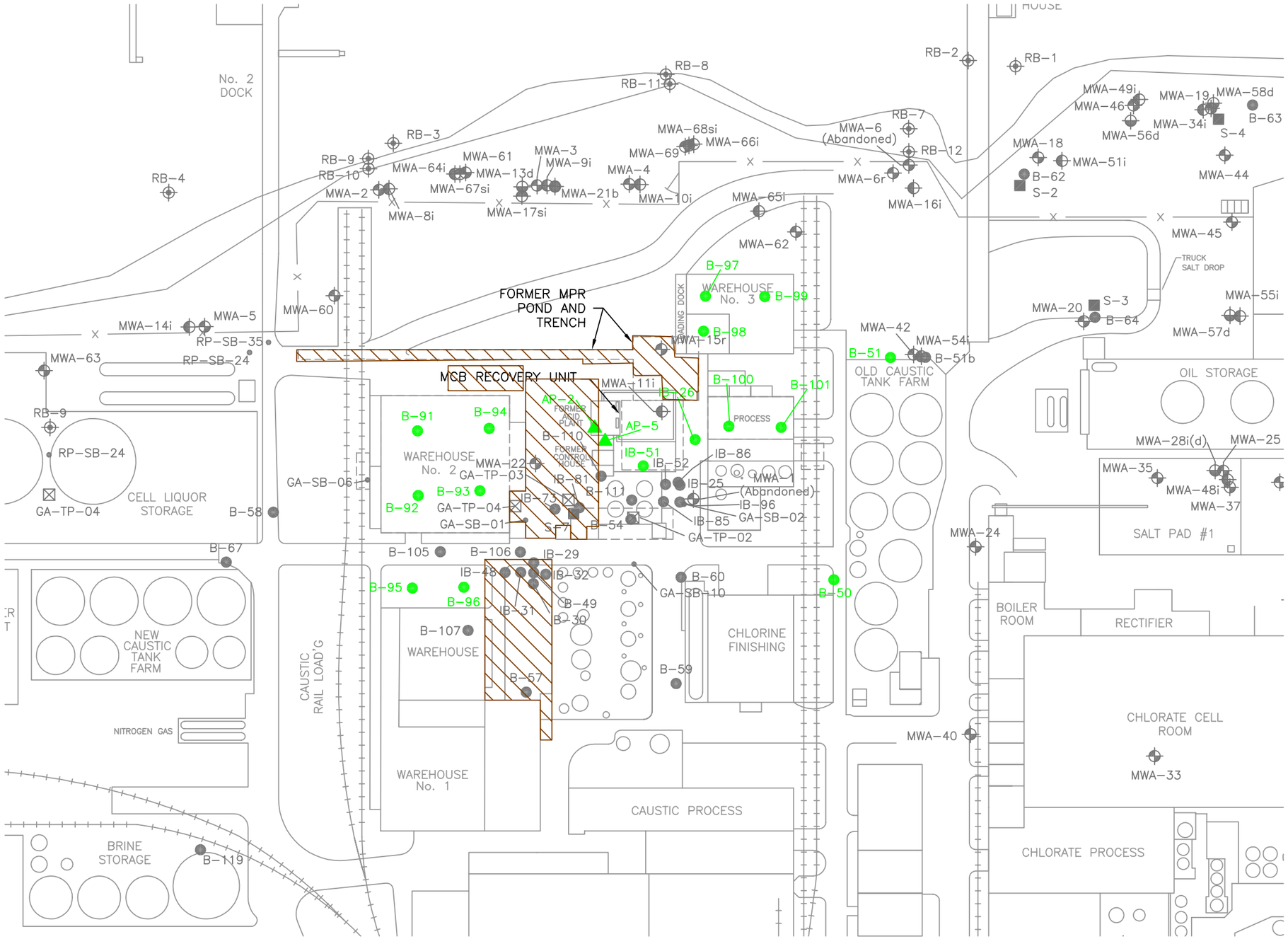
NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 150
FEET

Figure B-9
Metals and Inorganics in Groundwater
Deep Zone
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-32.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 — Monitoring Well, Shallow Zone
- MWA-17si — Monitoring Well, Shallow/Intermediate Zone
- MWA-9i — Montoring Well, Intermediate Zone
- MWA-13d — Monitoring Well, Deep Zone
- MWA-21b — Monitoring Well, Basalt
- IB-1 — Soil Removal Interim Remedial Measure Boring
- B-49 — Remedial Investigation Soil Boring
- S-5 — Surface Soil sample Location
- RB-1 — Riverbank Soil Sample
- RP-SB-03 — Phase 1 Soil Boring Location
- GA-SB-09 — Phase 2 Soil Boring Location
- GA-TP-01 — Phase 1 Test Pit
- Area of Soil Excavated During Soil Removal IRM

Notes:
Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

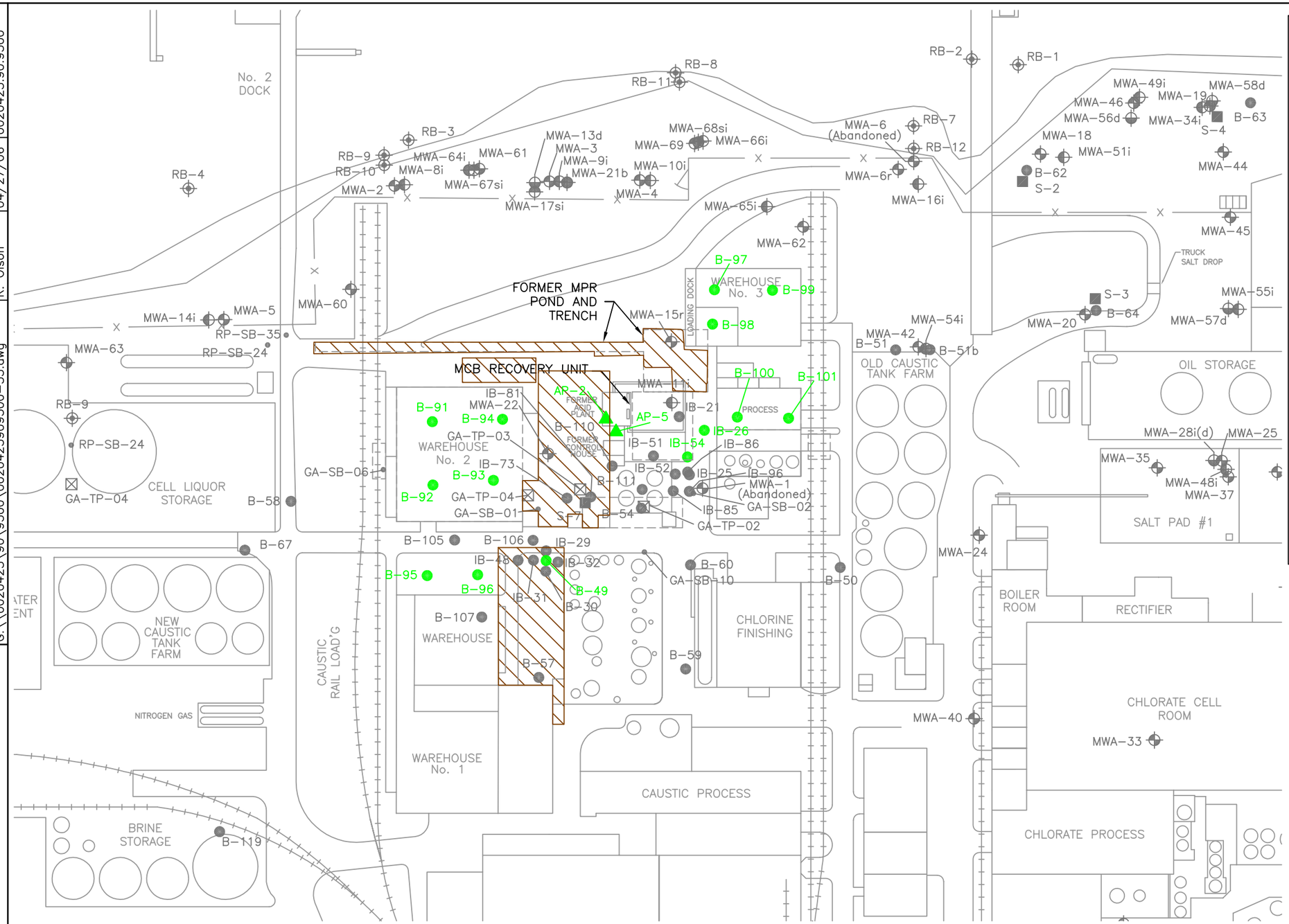
Gray symbols indicates constituent not analyzed at this location

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 100
FEET

Figure B-10
Chlorobenzene Hot Spots in Soil (0-1.0 feet bgs)
Arkema Inc.
Portland, Oregon

ERM 04/06



LEGEND

- - - - - - -	Potential Acid Plant Area Source Areas
MWA-3	Monitoring Well, Shallow Zone
MWA-17si	Monitoring Well, Shallow/Intermediate Zone
MWA-9i	Montoring Well, Intermediate Zone
MWA-13d	Monitoring Well, Deep Zone
MWA-21b	Monitoring Well, Basalt
IB-1	Soil Removal Interim Remedial Measure Boring
B-49	Remedial Investigation Soil Boring
S-5	Surface Soil sample Location
RB-1	Riverbank Soil Sample
RP-SB-03	Phase 1 Soil Boring Location
GA-SB-09	Phase 2 Soil Boring Location
GA-TP-01	Phase 1 Test Pit
	Area of Soil Excavated During Soil Removal IRM

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

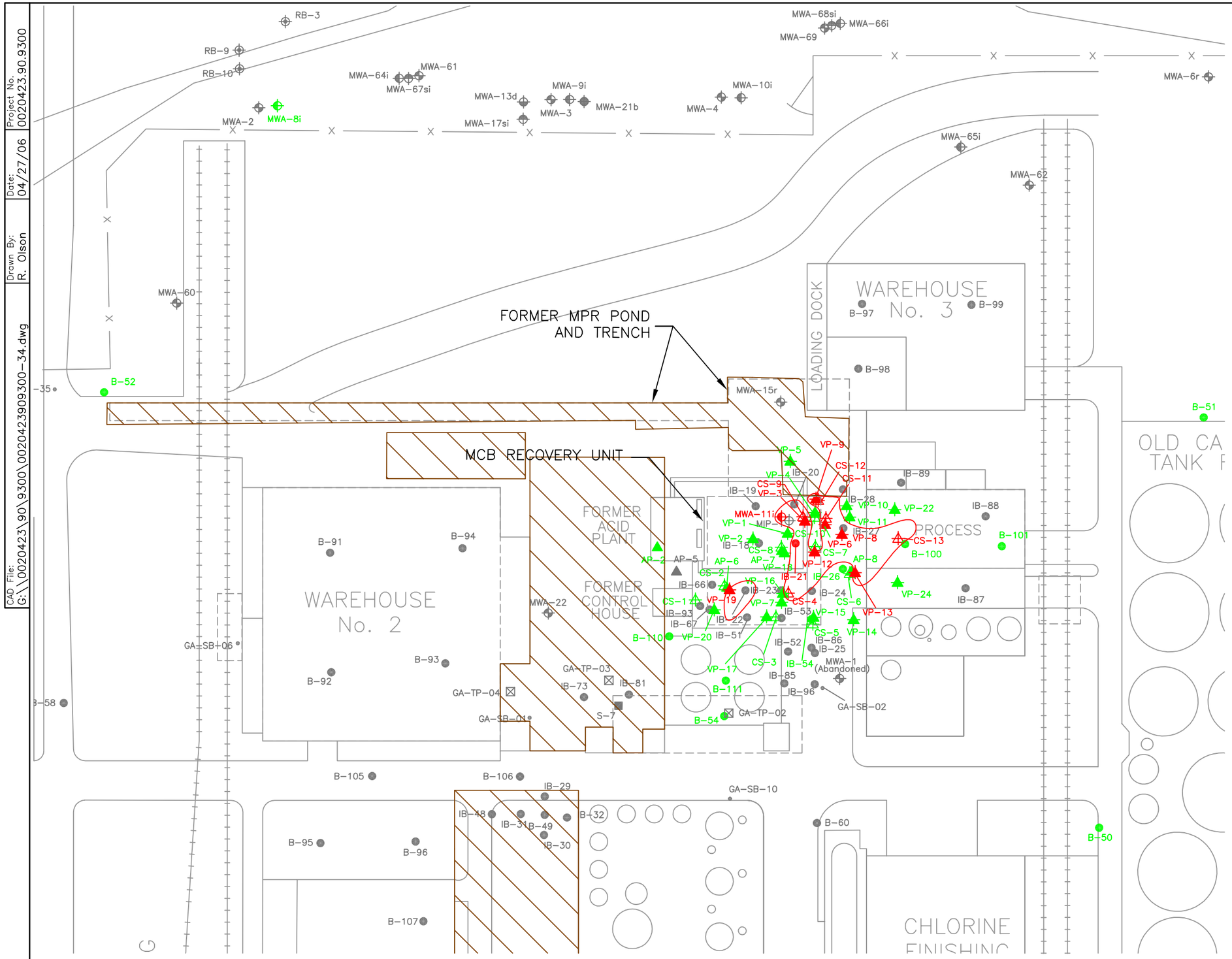
Gray symbols indicates constituent not analyzed at this location

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

Figure B-11
Chlorobenzene Hot Spot in Soil
(1.0-4.0 feet bgs)
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-33.dwg



LEGEND

- - - - - -	Potential Acid Plant Area Source Areas
MWA-3	Monitoring Well, Shallow Zone
MWA-17si	Monitoring Well, Shallow/Intermediate Zone
MWA-9i	Montoring Well, Intermediate Zone
MWA-13d	Monitoring Well, Deep Zone
MWA-21b	Monitoring Well, Basalt
IB-1	Soil Removal Interim Remedial Measure Boring
B-49	Remedial Investigation Soil Boring
CS-13	VES Confirmation Soil Boring
AP-7	VES Hand Auger Boring
VP-11	VEW Vapor Monitoring Point
RB-1	Riverbank Soil Sample
GA-SB-09	Phase 2 Soil Boring Location
GA-TP-01	Phase 1 Test Pit
	Area of Soil Excavated During Soil Removal IRM
	Hot Spot Boundary – Chlorobenzene in Soil (4 feet bgs to water table)

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH

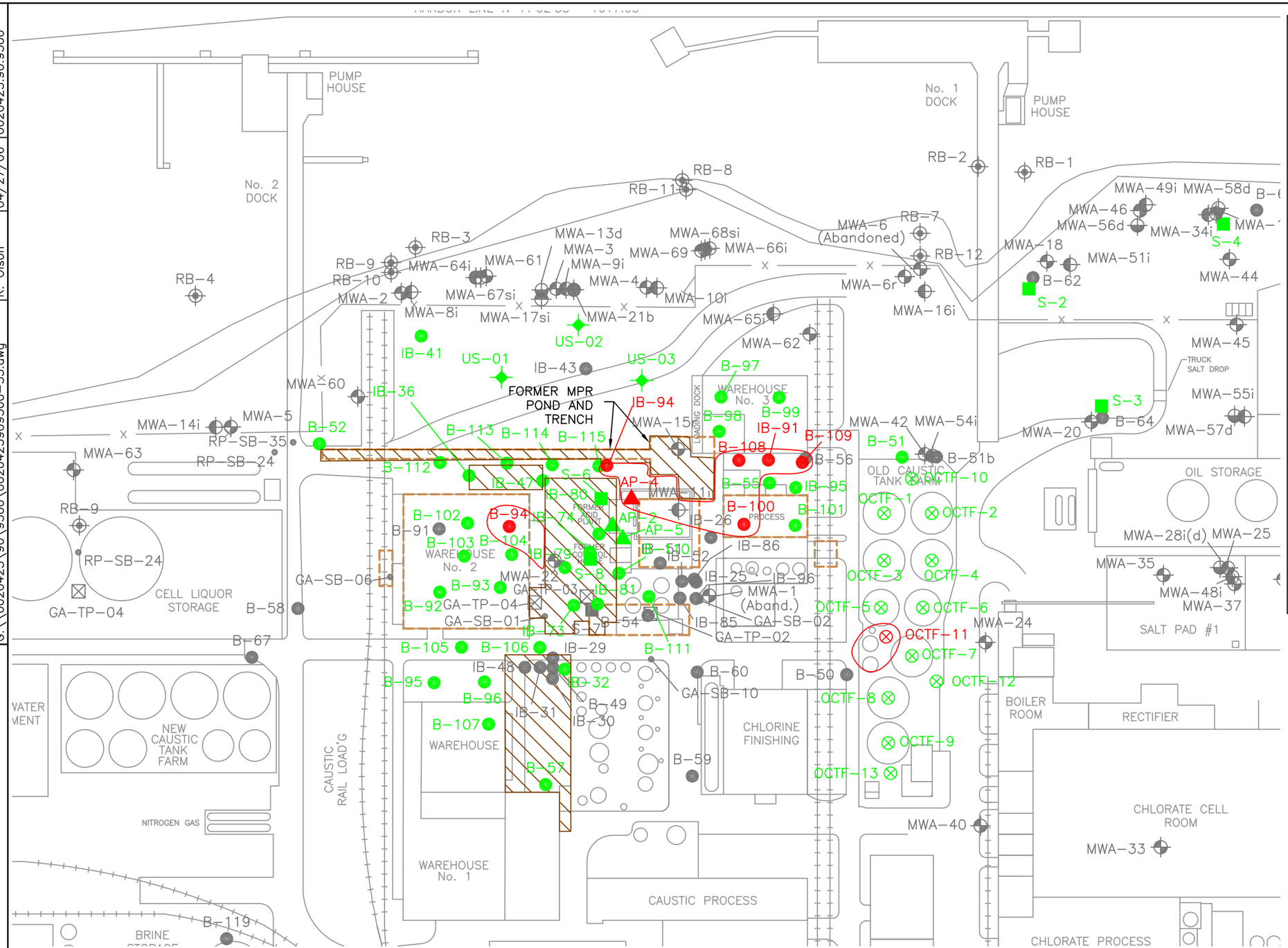
PLANT NORTH

0 50
FEET

Figure B-12
Chlorobenzene Hot Spots in Soil
(4.0 feet bgs to Water Table)
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-34.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 — Monitoring Well, Shallow Zone
- MWA-17si — Monitoring Well, Shallow/Intermediate Zone
- MWA-9i — Montoring Well, Intermediate Zone
- MWA-13d — Monitoring Well, Deep Zone
- MWA-21b — Monitoring Well, Basalt
- IB-1 — Soil Removal Interim Remedial Measure Boring
- B-49 — Remedial Investigation Soil Boring
- RB-1 — Riverbank Soil Sample
- RP-SB-03 — Phase 1 Soil Boring Location
- GA-SB-09 — Phase 2 Soil Boring Location
- GA-TP-01 — Phase 1 Test Pit
- OCTF-1 — Old Caustic Tank Farm Soil Boring Location
- Area of Soil Excavated During Soil Removal IRM
- Hot Spot Boundary – Pesticides in Soil (0–1 feet bgs)

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

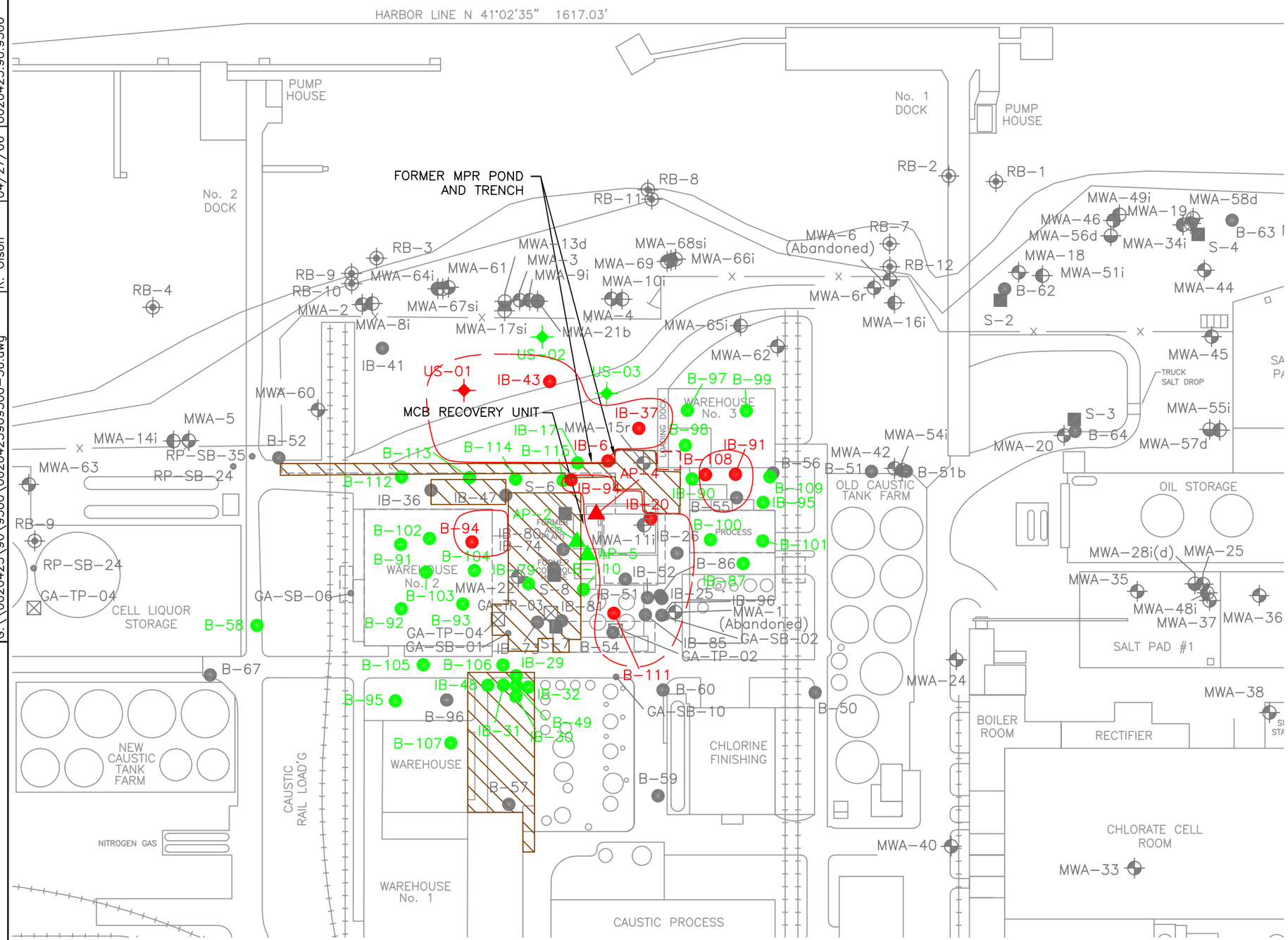
NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 100
FEET

Figure B-13
Pesticides Hot Spots in Soil (0-1.0 feet bgs)
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-35.dwg



LEGEND

- Potential Acid Plant Area Source Areas
- MWA-3 — Monitoring Well, Shallow Zone
- MWA-17si — Monitoring Well, Shallow/Intermediate Zone
- MWA-9i — Montoring Well, Intermediate Zone
- MWA-13d — Monitoring Well, Deep Zone
- MWA-21b — Monitoring Well, Basalt
- IB-1 — Soil Removal Interim Remedial Measure Boring
- B-49 — Remedial Investigation Soil Boring
- RB-1 — Riverbank Soil Sample
- RP-SB-03 — Phase 2 Soil Boring Location
- GA-SB-09 — Phase 1 Test Pit
- GA-TP-01 — Old Caustic Tank Farm Soil Boring Location
- Area of Soil Excavated During Soil Removal IRM
- Hot Spot Boundary – Pesticides in Soil (1–4 feet bgs); Dashed Where Inferred
- Expected Hot Spot Based on Visual Evidence

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria

Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria

Gray symbols indicates constituent not analyzed at this location

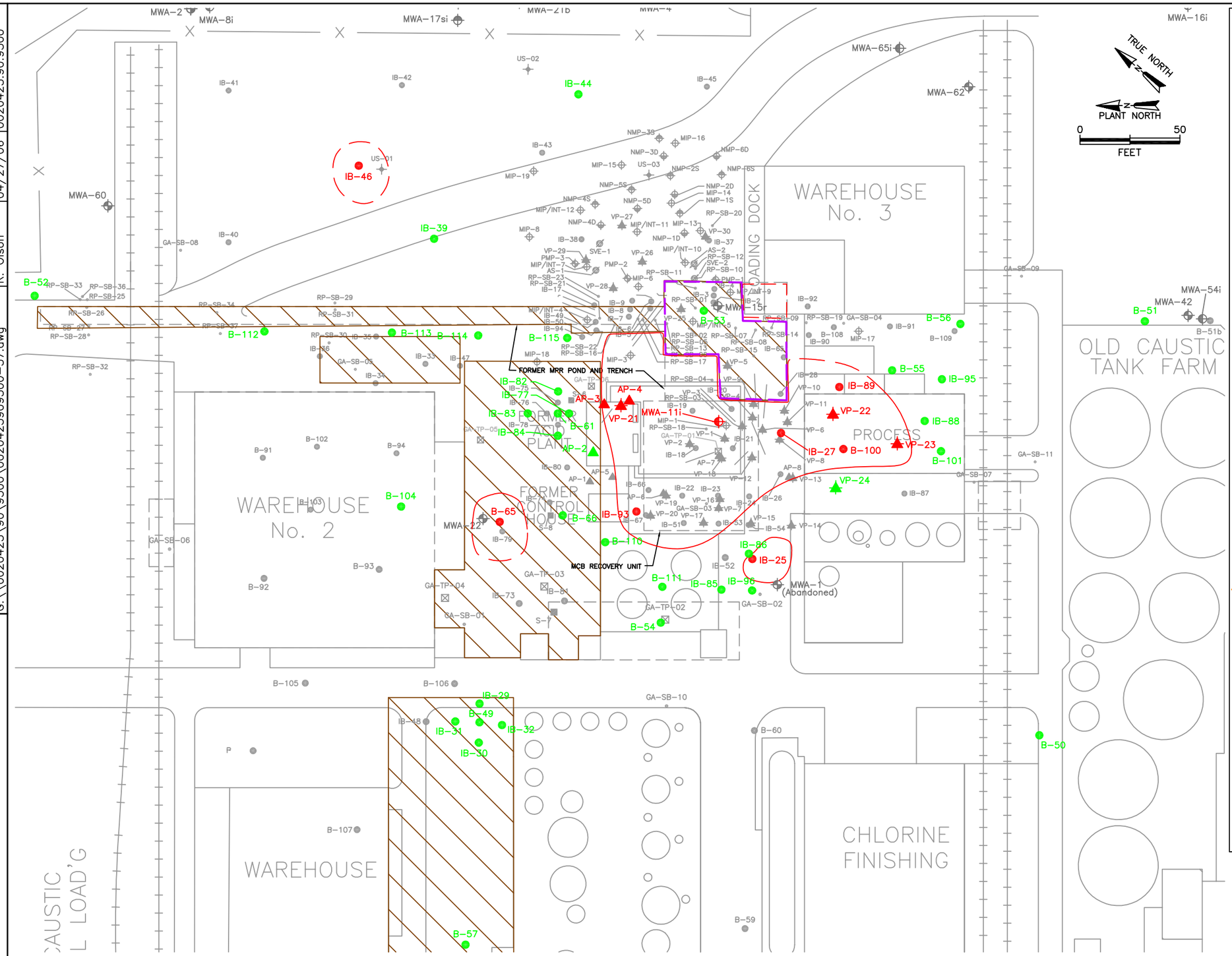
NOTE: Most buildings and structures shown on this figure have been demolished and/or removed.

TRUE NORTH
PLANT NORTH
0 100
FEET

Figure B-14
Pesticides Hot Spots in Soil (1.0-4.0 feet bgs)
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-36.dwg



LEGEND

MWA-3	Monitoring Well, Shallow Zone
MWA-17si	Monitoring Well, Shallow/Intermediate Zone
MWA-9i	Montoring Well, Intermediate Zone
MWA-13d	Monitoring Well, Deep Zone
MWA-21b	Monitoring Well, Basalt
IB-1	Soil Removal Interim Remedial Measure Boring
B-49	Remedial Investigation Soil Boring
S-5	Surface Soil sample Location
AP-7	VES Hand Auger Boring
CS-13	VES Confirmation Soil Boring
VP-23	VES Vapor Monitoring Point
VP-30	DNAPL Pilot Study Vapor Monitoring Point
NMP-4S NMP-4D	Shallow Zone Monitoring Well, Persulfate Pilot Study
MIP/INT-5	Phase 1 DNAPL Investigation MIP Soil Boring
PMP-1	DNAPL Pilot Study Perfomance Monitoring Well
AS-1 SVE-1	DNAPL IRM Sparging/ SVE Boring
US-1	Unpaved Area Soil Boring Location
RB-1	Riverbank Soil Sample
RP-SB-03	Phase 1 Soil Boring Location
GA-SB-09	Phase 2 Soil Boring Location
GA-TP-01	Phase 1 Test Pit
	Potential Acid Plant Area Source Areas
	Area of Soil Excavated During Soil Removal IRM
	Hot Spot Boundary – Pesticides in Soil (4 feet to water table); Dashed Where Inferred
	Expected Hot Spot Based on Visual Evidence
	Expected Hot Spot Based on Visual Evidence and Analytical Evidence Not Included in the RI

Notes:
Red symbols indicates constituent detected above Hot Spot Criteria
Green symbols indicates constituent analyzed but not detected above Hot Spot Criteria
Gray symbols indicates constituent not analyzed at this location

Figure B-15
Pesticides Hot Spots in Soil
(4.0 feet bgs to Water Table)
Arkema Inc.
Portland, Oregon

ERM 04/06

Project No. 0020423.90.9300
Date: 04/27/06
Drawn By: R. Olson
CAD File: G:\0020423\90\9300\0020423909300-37.dwg