DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

9/01/03

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: _Wood Preservers, Inc._____
Facility Address: _Route 3 North, Warsaw, VA 22572_____
Facility EPA ID #: _VAD003113750_____

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

__X___ If yes - check here and continue with #2 below.

_____ If no - re-evaluate existing data, or

_____ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"** [1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	_X_	___	___	**See Attachment 1**
				See Attachment 1
Air (indoors) [2]	___	_X_	___	**See Attachment 1**
Surface Soil (<2 ft)	_X_	___	___	**See Attachment 1**
Surface Water	___	_X_	___	**See Attachment 1**
Sediment	___	_	___	
Subsurf. Soil (>2 ft)	_X_	__	___	**See Attachment 1**
Air (outdoors)	___	_X_	___	**See Attachment 1**

_____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

_X___ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):_

See Attachment 1

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

	Potential **Human Receptors** (Under Current Conditions)						
"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	N	N	N	N			N
~~Air (indoors)~~							
Soil (surface, e.g., <2 ft)	N	Y	N	Y	N	N	N
~~Surface Water~~							
~~Soil (subsurface e.g., >2 ft)~~							
~~Air (outdoors)~~							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

_X___ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

See Attachment 2

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

__X__ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

See Attachment 3

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

Not Applicable

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

__**X**__ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the __**Wood Preservers, Inc**.__ facility, EPA ID #__**VAD003113750**____, located at ____**Warsaw, VA**_____ under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control."

____ IN - More information is needed to make a determination.

Completed by (Original Signed) Date __9/16/03___
Mark A. Campbell
Environmental Engineer Senior

Supervisor (Original signed) Date __9/16/03___
Leslie Romanchik
Manager, Office of Waste Permitting
Virginia Department of Environmental Quality

Locations where References may be found:

Commonwealth of Virginia
Department of Environmental Quality
Division of Waste Program Coordination
629 East Main St.
Richmond, Virginia

Contact telephone and e-mail numbers:

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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

ATTACHMENT 1

Groundwater: Groundwater monitoring activities conducted at the facility have identified elevated concentrations of organic constituents in shallow groundwater in the immediate vicinity of the closed Surface Impoundment. Table 1 summarizes groundwater constituents of concern. Table 2 summarizes groundwater quality results from the December 2002 sampling event. The results of the December 2002 groundwater sampling event are representative of historic monitoring results at the site.

Surface and Subsurface Soils : Site investigations have identified elevated concentrations of wood preserving-related inorganic constituents (chromium, arsenic, and copper), and organic constituents of coal tar creosote. Table 3 summarizes the maximum concentrations detected, and compares these concentrations with U.S. EPA Region III Risk-Based Concentrations (*"Phase II Groundwater Quality Assessment, Wood Preservers, Inc.*, February 1986").

Based on the *RCRA Facility Investigation Report, Wood Preservers, Inc*., June 2003. Figure 1 provides the location of each of the Solid Waste Management Units (SWMU) and Areas of Concern (AOC) under investigation. Table 4 summarizes the soil quality data collected at each of AOC/SWMU. The following information was found at each of the AOC/SWMU under investigation:

- **SWMU 3 - Former Spray Lagoon:** Naphthalene was detected in the Volatile Organic Compound (VOC) Method 8260 analysis at depths of 1.0 and 9.0 feet in Boring SWMU 3-01, and at a depth of 5.0 feet in Boring SWMU 3-02. The concentrations detected are notably below the Region III Residential and Industrial Risk-Based Concentrations (RBCs).

  No Semi-Volatile Organic Compounds (SVOCs) were detected in any of the SWMU 3 samples submitted for analysis.

  Arsenic, total chromium, copper, and lead were detected in samples collected from Boring SWMU 3-01 to a depth of 21.5 feet, and from Boring SWMU 3-02 to a depth of 5.5 feet. With the exception of the deep sample (from 21.5 feet), all of the arsenic concentrations detected exceed the Region III Residential RBC, and two of the arsenic concentrations exceed the Industrial RBC (SWMU 3-01 at 9 feet and SWMU 3-02 at 5 feet in depth). No total Chromium or copper concentrations exceed the Residential or Industrial RBCs.

- **SWMU 10 - Former Tank Farm:** Naphthalene was detected in the VOC Method 8260 analysis in the surface soil samples from Borings SWMU 10-04, 10-05, and 10-06. The concentrations detected were well below the Region III Residential and Industrial RBCs.

  Several SVOCs were detected in the surface soil samples from Borings SWMU 10-04, 10-05, and 10-06. However, none of the concentrations exceeded the Region III Residential and Industrial RBCs.

Arsenic, total chromium, and lead were detected in samples collected from the six borings located within SWMU 10. Concentrations generally decrease with depth in this area. The majority of arsenic concentrations exceed the Region III Residential RBC. Three of the arsenic concentrations in surface soil samples exceed the Region III Industrial RBC (Borings SWMU 10-01, 10-02, and SWMU 10-06). No total chromium or copper concentrations exceed the Residential or Industrial RBCs.

- **SWMU 11 - Hazardous Waste Drum Accumulation Area:** There were no VOCs detected in any of the SWMU 11 samples collected.

  Several SVOCs were detected in the surface soil sample from Boring SWMU 11-01; these concentrations are notably lower than the Region III Residential or Industrial RBCs.

  Arsenic, total chromium, copper, and lead were detected in the samples collected from Boring SWMU 11-01. However, none of the concentrations detected exceed the Region III Residential or Industrial RBCs.

- **SWMU 12 - Wood Fired Boiler (ash accumulation area):** There were no VOCs detected in any of the SWMU 12 samples collected.

  There were no SVOCs detected in any of the SWMU 12 samples collected.

  A number of inorganic constituents were detected, with concentrations generally decreasing with depth. The arsenic concentration in the surface soil sample and 5-foot depth sample from Boring SWMU 12-01 exceed the Region III Residential RBC, however, they do not exceed the Region III Industrial RBC. None of the other concentrations detected for any inorganic constituent exceed the Region III Residential or Industrial RBCs.

- **SWMU 13 - Boiler Ash Staging Pile:** There were no VOCs detected in any of the SWMU 13 samples collected.

  There were no SVOCs detected in any of the SWMU 13 samples collected.

  A number of inorganic constituents were detected, with concentrations generally decreasing with depth. The arsenic concentration in the 5-foot depth sample from Boring SWMU 13-02 and the 21-foot depth sample from Borings SWMU 13-01 and SWMU 13-02 exceed the Region III Residential RBC, however, they do not exceed the Region III Industrial RBC. None of the other concentrations for any inorganic constituent exceed the Region III Residential or Industrial RBCs.

- **AOC - Former Drip Pad:** Naphthalene was detected in the VOC method 8260 analysis in the surface soil sample from Boring AOC 1-01. The concentration detected is notably

below the Region III Residential and Industrial RBCs.

SVOCs were detected in samples collected from Borings AOC 1-01 and AOC 1-02. Several SVOCs in the surface soil sample from Boring AOC 1-01 exceed Region III Residential and Industrial RBCs. Pentachlorophenol in the surface soil sample from Boring AOC 1-02 exceeds the Region III Residential and Industrial RBCs.

Arsenic, total chromium, copper, and lead were detected in samples collected from AOC 1. Generally, these concentrations decrease with depth. Arsenic concentrations exceed the Region III Residential RBCs in a number of the surface and 5-foot depth interval samples. Arsenic concentrations exceed Region III Industrial RBCs in the surface soil samples from Borings AOC 1-01 and AOC 1-02, and in the 5-foot depth interval from Boring AOC 1-02. None of the other inorganic concentrations detected exceed the Region III Residential or Industrial RBCs.

- **AOC 2 - Old Treating Plant Area:** Naphthalene was detected in the VOC Method 8260 analysis in several of the surface soil and samples at depth from this AOC. With the exception of the concentration detected at Boring AOC 2-03 in the 21 foot depth interval, these concentrations are notably below the Region III Residential and Industrial RBCs. Naphthalene at the 21-foot depth in Boring AOC 2-03 exceeds the Region III Residential RBC, however, they do not exceed the Region III Industrial RBC. No other VOC concentrations detected exceed the Region III Residential or Industrial RBCs.

  SVOCs were detected at various depth intervals in multiple soil borings in AOC 2. For surface soils, concentrations exceeding Region III Residential RBCs were noted in Borings AOC 2-04 and AOC 2-05. None of these concentrations exceed the Region III Industrial RBCs. SVOCs exceed Region III Residential and Industrial RBCs at depth in Borings AOC 2-03 and AOC 2-05.

  Arsenic, total chromium, copper, and lead were detected in samples collected from the seven borings located within this AOC. With the exception of Boring AOC 2-02, concentration generally decrease with depth in this area. The majority of arsenic concentrations detected exceed the Region III Residential RBC. Three of the arsenic concentrations exceed the Region III Industrial RBCs (Borings AOC 2-02 at 21-feet, AOC 2-05 at 5-feet, and AOC 2-06 at 5-feet). The total chromium concentration for Boring AOC 2-02 at 21-feet also exceeded the Region III Residential RBC. No other inorganics detected exceed the Region III Residential or Industrial RBCs.

- **AOC 3 - Outdoor Treated Wood Storage Areas:** There were no VOCs detected in any of the AOC 3 soil samples collected.

  SVOCs were detected in the surface soil sample collected at Boring AOC 3-03. Several of the SVOC constituents detected in this sample exceed Region III Residential RBCs, while

benzo(a)pyrene exceeds the Region III Industrial RBC. The constituent bis(2-ethylhexyl)phthalate was detected at a low level in the 5-foot interval at Boring 3-03. This concentration is below the Region III Residential RBC. No other SVOCs were detected in any of the AOC 3 soil samples collected.

Arsenic, total chromium, copper, and lead were detected in soil samples collected from the six borings located within AOC 3. Concentrations generally decrease with depth. The majority of arsenic concentrations detected exceed the Region III Residential RBC. Two of the arsenic concentrations exceed the region III Industrial RBC (Borings AOC 3-03 at 1-foot, and AOC 3-06 at 5-feet). No other inorganics detected exceed Region III Residential or Industrial RBCs.

- **Former Treating Area Drainage Ditch:** There were no VOCs detected in any of the drainage ditch samples collected.

  Several SVOCs were detected at locations SED-01 and SED-02. Benzo(b)fluoranthene concentrations exceed the Region III Residential RBC in these samples, however, they do not exceed the Region III Industrial RBC. No other constituent concentrations detected in the drainage ditch samples exceed Region III Residential or Industrial RBCs.

  Arsenic, total chromium, copper, and lead were detected in sediment samples collected from the drainage ditch. Arsenic concentrations exceed the Region III Residential and Industrial RBCs. No other inorganics detected exceed the Region III Residential or Industrial RBCs.

Surface Water: Impacted groundwater does not discharge to surface water. Stormwater monitoring has identified detectable concentrations of inorganic wood preserving constituents (chromium, arsenic, and copper) in facility drainage ditch discharges during storm events. These discharges are within permit limitations, and are therefore protective of human health and the environment. The facility's discharges are managed under VPDES Permit No. VA0083127.

Subsurface Soil: Soil boring data collected at the facility indicates that soil quality, where impacted at or near the ground surface, generally improves with depth. Groundwater quality data from the facility suggests that no constituent sources to groundwater are present, other than in the closed surface impoundment area. Effects from this closed surface impoundment area are limited to shallow groundwater in the immediate vicinity of the surface impoundment (*"Semi-Annual Groundwater Monitoring and Remedial Measures Report, First Period 2001"* and *"Phase II Groundwater Quality Assessment, Wood Preservers, Inc., February 1986"*). See Table 4 for a summary of all of the subsurface soil sampling results conducted for the *RCRA Facility Investigation Report, Wood Preservers, Inc.*, June 2003.

Air: The organic wood preserving constituents present in site soils are not particularly volatile.

The determination is based on partitioning of groundwater concentrations to air, not direct measurements.

TABLE 1 -IDENTIFICATION OF KEY CONTAMINANTS

CONSTITUENT	GROUNDWATER MAXIMUM CONCENTRATION (µg/L)
Benzene	41.9
Ethylbenzene	90.4
Styrene	53.7
Toluene	83.6
Total Xylenes	160
Acenaphthene	560
Acenaphthylene	21
m-Cresol/p-Cresol	3,790
o-Cresol	823
2,4-Dimethylphenol	1,660
Fluoranthene	15
2-Methylnaphthalene	807
Naphthalene	8,480
Pentachlorophenol	93
Phenol	616
2,3,4,6-Tetrachlorophenol	16
Dibenzofuran	256
Fluorene	212
Phenanthrene	54
2,4-D	69.1
Arsenic (total)	60
Arsenic (dissolved)	ND
Chromium (total)	80
Chromium (dissolved)	ND
Copper (total)	30
Copper (dissolved)	ND
Barium (total)	150
Barium (dissolved)	120

TABLE 2 - SUMMARY OF GROUNDWATER QUALITY RESULTS
December 2002

Sample ID	Units	Initial Back-ground	Groundwater Protection Standard	USEPA Region III RBC	M-2	M-4	M-5A	M-6A	M-8A	M-15
VOLATILE ORGANIC COMPOUNDS										
Benzene	µg/L	--	5	0.34	<1.0	<1.0	1.5	<1.0	<1.0	<1.0
Toluene	µg/L	--	1000	747	<1.0	<1.0	1.9	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	--	700	1340	<1.0	<1.0	3.7	<1.0	<1.0	<1.0
Xylenes	µg/L	--	10000	210	<3.0	<3.0	6.9	<3.0	<3.0	<3.0
Styrene	µg/L	--	100	1620	<1.0	<1.0	1.5	<1.0	<1.0	<1.0
SEMI-VOLATILE COMPOUNDS										
Pentachlorophenol	µg/L	5	5	0.558	<10	<10	13	<10	<10	<10
Acenaphthene	µg/L	2	939	365	<10	<10	85	<10	<10	<10
Fluorene	µg/L	0.2	626	243	<10	<10	53	<10	<10	<10
Naphthalene	µg/L	2.4	626	6.51	<10	<10	370A	<10	<10	<10
Phenanthrene	µg/L	0.5	--	1830	<10	<10	39	<10	<10	<10
Dibenzofuran	µg/L	--	8.94	12	<10	<10	47	<10	<10	<10
2-Methylnaphthalen	µg/L	--	44.7	122	<10	<10	65	<10	<10	<10
TOTAL METALS										
Barium	µg/L	--	--	2560	20	80	30	30	70	70
Chromium	µg/L	37.1	100	110	<10	<10	<10	<10	20	20
Copper	µg/L	14	1300	1460	20B	10B	20B	10B	20B	20B
DISSOLVED METALS										
Barium	µg/L	--	--	2560	10	80	20	30	<10	<10
Chromium	µg/L	17	100	110	<10	<10	<10	<10	<10	<10
Copper	µg/L	--	1300	1460	<10	<10	10B	<10	10B	10B

Note: Only detected constituents are shown on table.
µg/L - micrograms per liter
NA - compound not analyzed
A - Qualifier used if quantification of analyte is above the calibration curve.
B - Qualifier used if the analyte is not detected substantially above the level reported in laboratory blank.

TABLE 2 - SUMMARY OF GROUNDWATER QUALITY RESULTS (Cont'd)
December 2002

Sample ID	Units	Initial Back-ground	Groundwater Protection Standard	USEPA Region III RBC	M-20	M-21	M-22	M-23	M-24
VOLATILE ORGANIC COMPOUNDS									
Benzene	µg/L	--	5	0.34	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	µg/L	--	1000	747	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	--	700	1340	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes	µg/L	--	10000	210	<3.0	<3.0	<3.0	<3.0	<3.0
Styrene	µg/L	--	100	1620	<1.0	<1.0	<1.0	<1.0	<1.0
SEMI-VOLATILE COMPOUNDS									
Pentachlorophenol	µg/L	5	5	0.558	<10	<10	<10	<10	<10
Acenaphthene	µg/L	2	939	365	<10	<10	<10	<10	<10
Fluorene	µg/L	0.2	626	243	<10	<10	<10	<10	<10
Naphthalene	µg/L	2.4	626	6.51	<10	<10	<10	<10	<10
Phenanthrene	µg/L	0.5	--	1830	<10	<10	<10	<10	<10
Dibenzofuran	µg/L	--	8.94	12	<10	<10	<10	<10	<10
2-Methylnaphthalen	µg/L	--	44.7	122	<10	<10	<10	<10	<10
TOTAL METALS									
Barium	µg/L	--	--	2560	70	2790	250	1030	320
Chromium	µg/L	37.1	100	110	20	370	40	10	50
Copper	µg/L	14	1300	1460	20B	150	50B	10	50B
DISSOLVED METALS									
Barium	µg/L	--	--	2560	20	60	60	30	30
Chromium	µg/L	17	100	110	<10	<10	<10	<10	<10
Copper	µg/L	--	1300	1460	<10	<10	<10	10B	10B

Note: Only detected constituents are shown on table.
µg/L - micrograms per liter
NA - compound not analyzed
A - Qualifier used if quantification of analyte is above the calibration curve.
B - Qualifier used if the analyte is not detected substantially above the level reported in laboratory blank.

TABLE 3 - SOIL QUALITY DATA SUMMARY

CONSTITUENT	MAXIMUM SOIL VALUE (mg/kg)	AVERAGE SOIL VALUE (mg/kg)	REGION III RBC (mg/kg)
Chromium	474.2	81	6,100
Arsenic	263.7	50	3.8
Chrysene	417		780
Benz(a)anthracene	4,094		7.8
Acenaphthene	26		120,000
Fluroene	22		120,000
2,4-Dinitrotoluene	13		4,100
Pyrene	34		61,000

Notes: Data from *"Phase II Groundwater Quality Assessment,"* February 1986.
Region III RBCs are for Industrial Soil.

TABLE 4A - SUMMARY OF SOIL QUALITY RESULTS
VOLATILE ORGANIC COMPOUNDS

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU 3-01 1.00 FT 10/16/02	SWMU 3-01 9.00 FT 10/16/02	SWMU 3-02 5.00 FT 10/16/02	SWMU10-04 1.00 FT 10/16/02	SWMU10-05 1.00 FT 10/16/02
VOLATILE ORGANIC COMPOUNDS								
Toluene	mg/L	15600	409000	<0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	mg/L	7820	102000	<0.3	<0.3	<0.3	<0.3	<0.3
Xylenes	mg/L	15600	204000	<0.3	<0.3	<0.3	<0.3	<0.3
Styrene	mg/L	15600	409000	<0.3	<0.3	<0.3	<0.3	<0.3
Isopropylbenzene	mg/L	7820	204000	<0.3	<0.3	<0.3	<0.3	<0.3
1,3,5-Trimethylbenzene	mg/L	3910	102000	<0.3	<0.3	<0.3	<0.3	<0.3
1,2,4-Trimethylbenzene	mg/L	3910	102000	<0.3	<0.3	<0.3	<0.3	<0.3
p-Isopropyltoluene	mg/L			<0.3	<0.3	<0.3	<0.3	<0.3
n-Butylbnzene	mg/L	3130	81800	<0.3	<0.3	<0.3	<0.3	<0.3
Naphthalene	mg/L	1560	40900	0.3	0.3	2.8	0.3	19

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU10-06 0.50 FT 10/16/02	AOC 1-01 1.00 FT 10/16/02	AOC 2-02 21.00 FT 10/16/02	AOC 2-03 21.00 FT 10/16/02	AOC 2-04 1.00 FT 10/17/02	AOC 2-05 1.00 FT 10/16/02
VOLATILE ORGANIC COMPOUNDS									
Toluene	mg/L	15600	409000	<0.3	<0.3	<0.3	7.5	<0.3	<0.3
Ethylbenzene	mg/L	7820	102000	<0.3	<0.3	<0.3	25	<0.3	<0.3
Xylenes	mg/L	15600	204000	<0.3	<0.3	<0.3	46	<0.3	<0.3
Styrene	mg/L	15600	409000	<0.3	<0.3	<0.3	16	<0.3	<0.3
Isopropylbenzene	mg/L	7820	204000	<0.3	<0.3	<0.3	4.4	<0.3	<0.3
1,3,5-Trimethylbenzene	mg/L	3910	102000	<0.3	<0.3	<0.3	26	<0.3	<0.3
1,2,4-Trimethylbenzene	mg/L	3910	102000	<0.3	<0.3	<0.3	54A	<0.3	<0.3
p-Isopropyltoluene	mg/L			<0.3	<0.3	<0.3	11	<0.3	<0.3
n-Butylbnzene	mg/L	3130	81800	<0.3	<0.3	<0.3	5.3	<0.3	<0.3
Naphthalene	mg/L	1560	40900	11.3	0.4	1.2	4400	4.2	19

TABLE 4A - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
VOLATILE ORGANIC COMPOUNDS

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 2-05 5.00 FT 10/16/02	AOC 2-05 21.00 FT 10/16/02
VOLATILE ORGANIC COMPOUNDS					
Toluene	mg/L	15600	409000	<0.3	<0.3
Ethylbenzene	mg/L	7820	102000	<0.3	<0.3
Xylenes	mg/L	15600	204000	<0.3	<0.3
Styrene	mg/L	15600	409000	<0.3	<0.3
Isopropylbenzene	mg/L	7820	204000	<0.3	<0.3
1,3,5-Trimethylbenzene	mg/L	3910	102000	<0.3	<0.3
1,2,4-Trimethylbenzene	mg/L	3910	102000	<0.3	<0.3
p-Isopropyltoluene	mg/L			<0.3	<0.3
n-Butylbnzene	mg/L	3130	81800	<0.3	<0.3
Naphthalene	mg/L	1560	40900	2.9	0.9

TABLE 4B - SUMMARY OF SOIL QUALITY RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU10-04 1.00-1.50 FT 10/16/02	SWMU10-05 1.00-1.50 FT 10/16/02	SWMU10-06 0.25-0.75 FT 10/16/02	SWMU11-01 1.00-1.50 FT 10/17/02	AOC 1-01 1.00-1.50 FT 10/16/02
SEMI-VOLATILE ORGANIC COMPOUNDS								
Pentachlorophenol	mg/L	5.32	47.7	2.4	0.7	<40	<0.5	<2.0
Phenol	mg/L	23500	613200	0.6	<0.5	<40	<0.5	<2.0
2,3,4,6-Tetra-chlorophenol	mg/L	2350	61320	0.5	<0.5	<40	<0.5	<2.0
Acenaphthalene	mg/L	4690	123000	<0.5	1.2	<40	<0.5	<2.0
Acenaphthylene	mg/L			<0.5	<0.5	<40	<0.5	<2.0
Anthracene	mg/L	23500	613000	<0.5	<0.5	<40	<0.5	<2.0
Benz(a)anthracene	mg/L	0.875	7.84	<0.5	<0.5	50	<0.5	2.5
Benzo(b)-Fluoranthene	mg/L	0.875	7.84	<0.5	<0.5	57	<0.5	8.2
Benzo(k)-Fluoranthene	mg/L	8.75	78.4	<0.5	<0.5	<40	<0.5	2.7
Benzo(g,h,i)-Perylene	mg/L			<0.5	<0.5	<40	<0.5	<2.0
Benzo(a)pyrene	mg/L	0.0875	0.784	<0.5	<0.5	<40	<0.5	4.1
Chrysene	mg/L	87.5	784	<0.5	<0.5	75	<0.5	3.2
bis(2-Ethylhexyl)-phthalate	mg/L	45.6	409	<0.5	<0.5	<40	<0.5	<2.0
Fluoranthene	mg/L	3130	81800	<0.5	1.9	180	1.0	4.4
Fluorene	mg/L	3130	81800	<0.5	0.9	<40	<0.5	<2.0
Indeno(1,2,3-cd)-pyrene	mg/L	0.875	7.84	<0.5	<0.5	<40	<0.5	<2.0
Napththalene	mg/L	1560	40900	<0.5	0.8	<40	<0.5	<2.0
Phenanthrene	mg/L			<0.5	2.4	77	1.1	<2.0
Pyrene	mg/L	2350	61300	<0.5	1.1	120	0.5	2.8
Dibenzofuran	mg/L	156	2040	<0.5	0.7	<40	<0.5	<2.0
2-Methylnaph-thalene	mg/L	1560	40900	<0.5	0.5	<40	<0.5	<2.0

TABLE 4B - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
SEMI-VOLATILE ORGANIC COMPOUNDS

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 1-02 1.00-1.50 FT 10/16/02	AOC 1-02 5.00-5.50 FT 10/16/02	AOC 2-01 5.00-5.50 FT 10/17/02	AOC 2-02 21.00 FT - 21.50 FT 10/17/02	AOC 2-03 21.00 FT - 21.50 FT 10/16/02
SEMI-VOLATILE ORGANIC COMPOUNDS								
Pentachlorophenol	mg/L	5.32	47.7	180	0.8	<0.5	<0.5	<5.0
Phenol	mg/L	23500	613200	<10	<0.5	<0.5	<0.5	<5.0
2,3,4,6-Tetra-chlorophenol	mg/L	2350	61320	<10	<0.5	<0.5	<0.5	<5.0
Acenaphthalene	mg/L	4690	123000	<10	<0.5	<0.5	<0.5	<5.0
Acenaphthylene	mg/L			<10	<0.5	<0.5	<0.5	<5.0
Anthracene	mg/L	23500	613000	<10	<0.5	<0.5	<0.5	<5.0
Benz(a)anthracene	mg/L	0.875	7.84	<10	<0.5	<0.5	<0.5	<5.0
Benzo(b)-Fluoranthene	mg/L	0.875	7.84	<10	<0.5	<0.5	<0.5	<5.0
Benzo(k)-Fluoranthene	mg/L	8.75	78.4	<10	<0.5	<0.5	<0.5	<5.0
Benzo(g,h,i)-Perylene	mg/L			<10	<0.5	<0.5	<0.5	<5.0
Benzo(a)pyrene	mg/L	0.0875	0.784	<10	<0.5	<0.5	<0.5	<5.0
Chrysene	mg/L	87.5	784	<10	<0.5	<0.5	<0.5	<5.0
bis(2-Ethylhexyl)-phthalate	mg/L	45.6	409	<10	<0.5	0.5	<0.5	<5.0
Fluoranthene	mg/L	3130	81800	<10	<0.5	<0.5	<0.5	<5.0
Fluorene	mg/L	3130	81800	<10	<0.5	<0.5	<0.5	<5.0
Indeno(1,2,3-cd)-pyrene	mg/L	0.875	7.84	<10	<0.5	<0.5	<0.5	<5.0
Napththalene	mg/L	1560	40900	<10	<0.5	<0.5	0.8	5.3
Phenanthrene	mg/L			<10	<0.5	<0.5	<0.5	<5.0
Pyrene	mg/L	2350	61300	<10	<0.5	<0.5	<0.5	<5.0
Dibenzofuran	mg/L	156	2040	<10	<0.5	<0.5	<0.5	<5.0
2-Methylnaph-thalene	mg/L	1560	40900	<10	<0.5	<0.5	<0.5	<5.0

TABLE 4B - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
SEMI-VOLATILE ORGANIC COMPOUNDS

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 2-05 1.00-1.50 FT 10/16/02	AOC 2-05 5.00-5.50 FT 10/16/02	AOC 2-05 21.00 FT 21.50 FT 10/16/02	AOC 2-05 28.50 FT 29.00 FT 10/16/02	AOC 2-06 5.00-5.50 FT 10/16/02
SEMI-VOLATILE ORGANIC COMPOUNDS								
Pentachlorophenol	mg/L	5.32	47.7	12	43	<0.5	<6.0	1.4
Phenol	mg/L	23500	613200	<0.5	<5.0	<0.5	<6.0	<0.5
2,3,4,6-Tetra-chlorophenol	mg/L	2350	61320	<0.5	<5.0	<0.5	<6.0	<0.5
Acenaphthalene	mg/L	4690	123000	<0.5	30	70	1500	<0.5
Acenaphthylene	mg/L			<0.5	<5.0	<0.5	12	<0.5
Anthracene	mg/L	23500	613000	<0.5	5.1	<0.5	130	<0.5
Benz(a)anthracene	mg/L	0.875	7.84	<0.5	<5.0	1.8	42	<0.5
Benzo(b)-Fluoranthene	mg/L	0.875	7.84	<0.5	<5.0	1.2	33	<0.5
Benzo(k)-Fluoranthene	mg/L	8.75	78.4	<0.5	<5.0	0.6	16	<0.5
Benzo(g,h,i)-Perylene	mg/L			<0.5	<5.0	<0.5	<6.0	<0.5
Benzo(a)pyrene	mg/L	0.0875	0.784	<0.5	<5.0	0.8	14	<0.5
Chrysene	mg/L	87.5	784	<0.5	<5.0	1.7	42	<0.5
bis(2-Ethylhexyl)-phthalate	mg/L	45.6	409	<0.5	<5.0	<0.5	<6.0	<0.5
Fluoranthene	mg/L	3130	81800	<0.5	28	<0.5	330	<0.5
Fluorene	mg/L	3130	81800	<0.5	34	24J	620	<0.5
Indeno(1,2,3-cd)-pyrene	mg/L	0.875	7.84	<0.5	<5.0	<0.5	<6.0	<0.5
Napththalene	mg/L	1560	40900	0.6	33	350	7900	<0.5
Phenanthrene	mg/L			<0.5	60	33	1100	<0.5
Pyrene	mg/L	2350	61300	<0.5	16	<0.5	170A	<0.5
Dibenzofuran	mg/L	156	2040	<0.5	22	29J	790	<0.5
2-Methylnaph-thalene	mg/L	1560	40900	<0.5	20	150	4100	<0.5

TABLE 4B - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
SEMI-VOLATILE ORGANIC COMPOUNDS

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 3-03 1.00-1.50 FT 10/18/02	AOC 3-04 5.00-5.50 FT 10/17/02	AOC 3-05 18.00 FT 18.50 FT 10/15/02	SED-01 SURFACE 10/18/02	SED-02 SURFACE 10/18/02
SEMI-VOLATILE ORGANIC COMPOUNDS								
Pentachlorophenol	mg/L	5.32	47.7	<0.5	<0.5	<0.5	<0.5	<1.0
Phenol	mg/L	23500	613200	<0.5	<0.5	<0.5	<0.5	<1.0
2,3,4,6-Tetra-chlorophenol	mg/L	2350	61320	<0.5	<0.5	<0.5	<0.5	<1.0
Acenaphthalene	mg/L	4690	123000	<0.5	<0.5	<0.5	<0.5	<1.0
Acenaphthylene	mg/L			<0.5	<0.5	<0.5	<0.5	<1.0
Anthracene	mg/L	23500	613000	<0.5	<0.5	<0.5	<0.5	<1.0
Benz(a)anthracene	mg/L	0.875	7.84	1.0	<0.5	<0.5	<0.5	<1.0
Benzo(b)-Fluoranthene	mg/L	0.875	7.84	4.7	<0.5	<0.5	1.4	2.2
Benzo(k)-Fluoranthene	mg/L	8.75	78.4	1.8	<0.5	<0.5	0.6	<1.0
Benzo(g,h,i)-Perylene	mg/L			1.6	<0.5	<0.5	<0.5	<1.0
Benzo(a)pyrene	mg/L	0.0875	0.784	1.2	<0.5	<0.5	<0.5	<1.0
Chrysene	mg/L	87.5	784	3.1	<0.5	<0.5	0.7	1.2
bis(2-Ethylhexyl)-phthalate	mg/L	45.6	409	<0.5	0.7	<0.5	<0.5	<1.0
Fluoranthene	mg/L	3130	81800	4.3	<0.5	<0.5	1.0	1.5
Fluorene	mg/L	3130	81800	<0.5	<0.5	<0.5	<0.5	<1.0
Indeno(1,2,3-cd)-pyrene	mg/L	0.875	7.84	1.7	<0.5	<0.5	<0.5	<1.0
Napththalene	mg/L	1560	40900	<0.5	<0.5	0.9	<0.5	<1.0
Phenanthrene	mg/L			<0.5	<0.5	<0.5	<0.5	<1.0
Pyrene	mg/L	2350	61300	5.3	<0.5	<0.5	0.9	1.4
Dibenzofuran	mg/L	156	2040	<0.5	<0.5	<0.5	<0.5	<1.0
2-Methylnaph-thalene	mg/L	1560	40900	<0.5	<0.5	<0.5	<0.5	<1.0

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU 3-01 1.00-1.50 FT 10/16/02	SWMU 3-01 9.00-9.50 FT 10/16/02	SWMU 3-01 21.00 FT - 21.50 FT 10/16/02	SWMU3.02 1.00-1.50 FT 10/16/02	SWMU3-02 5.00-5.50 FT 10/16/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	2.4	4.7	<1.0	2.2	47
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	13	19	1	12	10
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	32	87	2.5	33	31
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			5.3	4.4	<1.0	5.6	5.7
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU10-0 1.00-1.50 FT 10/17/02	SWMU10-0 5.00-5.50 FT 10/17/02	SWMU10-0 21.00 FT - 21.50 FT 10/17/02	SWMU10-02 1.00-1.50 FT 10/16/02	SWMU10-02 5.00-5.50 FT 10/16/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	5.7	<1.0	<1.0	44	1.3
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	10	6.2	4.8	19	17
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	26	16	22	27	50
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			10	4.8	3	9.1	7.8
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU10-06 0.25-0.75 FT 10/16/02	SWMU10-02 21.00 FT-21.50 FT 10/17/02	SWMU10-03 5.00 -5.50 FT 10/16/02	SWMU10-03 18.00 FT-18.50 FT 10/16/02	SWMU10-04 1.00-1.50 FT 10/16/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	18	1.2	2.3	3.2	1.7
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	45	8.6	23	24	16
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	54	46	66	84	45
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			8.3	3.2	8.6	6.9	6.7
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU10-04 5.00-5.50 FT 10/16/02	SWMU10-04 21.00 FT-21.50 FT 10/17/02	SWMU10-05 1.00 -1.50 FT 10/16/02	SWMU10-05 5.00-5.50 FT 10/16/02	SWMU10-05 18.00 FT - 18.50 FT 10/16/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	2.6	<1.0	2.8	1.9	1
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	13	1.5	16	16	6.1
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	45	48	38	51	26
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			10	1.9	6.6	7.2	3.6
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU13-01 1.00-1.50 FT 10/15/02	SWMU10-06 5.00-5.50 FT 10/16/02	SWMU10-06 10.00FT - 10.50 FT 10/16/02	SWMU11-01 1.00-1.50 FT 10/17/02	SWMU11-01 5.00-5.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	13000	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	1.1	1.5	1.8	<1.0
Barium	mg/kg	5480	143000	25	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	<1.0	NA	NA	NA	NA
Calcium	mg/kg			33	NA	NA	NA	NA
Chromium	mg/kg	235	6130	24	12	28	18	9.2
Cobalt	mg/kg	1560	20400	1.9	NA	NA	NA	NA
Copper	mg/kg	3130	81800	3.1	36	45	47	25
Iron	mg/kg	23500	613000	7400	NA	NA	NA	NA
Lead	mg/kg			4.8	6.7	5.3	6.5	4.1
Magnesium	mg/kg			500	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	25	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	0.04	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	3.5	NA	NA	NA	NA
Potassium	mg/kg			1200	NA	NA	NA	NA
Selenium	mg/kg	391	10200	8.2	NA	NA	NA	NA
Sodium	mg/kg			65	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	25	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	8.2	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU11-01 21.00FT - 21.50FT 10/17/02	SWMU12-01 1.00-1.50 FT 10/17/02	SWMU12-01 5.00 -5.50 FT 10/16/02	SWMU13-01 5.00-5.50 FT 10/15/02	SWMU13-01 21.00FT- 21.50 FT 10/15/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	25000	25000	17000	4500
Arsenic	mg/kg	0.426	3.82	<1.0	1.7	1.7	<1.0	2.3
Barium	mg/kg	5480	143000	NA	79	29	22	7
Cadmium	mg/kg	78.2	2040	NA	<1.0	<1.0	<1.0	<1.0
Calcium	mg/kg			NA	650	96	15	7.2
Chromium	mg/kg	235	6130	5.2	19	20	13	9.8
Cobalt	mg/kg	1560	20400	NA	5	2	1.2	1.5
Copper	mg/kg	3130	81800	21	6.8	6.9	5.9	3.6
Iron	mg/kg	23500	613000	NA	16000	14000	3000	7800
Lead	mg/kg			2.5	7.2	8.5	5.9	4.1
Magnesium	mg/kg			NA	1300	690	470	84
Manganese	mg/kg	11000	40900	NA	100	17	10	9.8
Mercury	mg/kg	23.5	613	NA	0.035	0.023	0.013	<0.01
Nickel	mg/kg	1560	40900	NA	13	6	3.8	1.9
Potassium	mg/kg			NA	2500	900	2100	260
Selenium	mg/kg	391	10200	NA	9	5.9	4.3	3.5
Sodium	mg/kg			NA	560	35	67	<25
Vanadium	mg/kg	548	14300	NA	34	36	15	8.1
Zinc	mg/kg	23500	613000	NA	25	8.4	6.2	15

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU13-02 1.00-1.50 FT 10/15/02	SWMU13-02 5.00-5.50 FT 10/15/02	SWMU13-02 21.00FT - 21.50 FT 10/16/02	AOC 1-01 1.00 FT-1.50 FT 10/16/02	AOC 1-01 5.00-5.50 FT 10/16/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	16000	15000	7100	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	1	3.5	6.8	1.7
Barium	mg/kg	5480	143000	35	25	9.6	NA	NA
Cadmium	mg/kg	78.2	2040	<1.0	<1.0	1.5	NA	NA
Calcium	mg/kg			140	15	15	NA	NA
Chromium	mg/kg	235	6130	12	11	9.5	140	13
Cobalt	mg/kg	1560	20400	6.1	1.7	2.1	NA	NA
Copper	mg/kg	3130	81800	5.2	6	7	56	34
Iron	mg/kg	23500	613000	10000	8500	21000	NA	NA
Lead	mg/kg			5.7	5.5	4	6.6	6.8
Magnesium	mg/kg			680	460	150	NA	NA
Manganese	mg/kg	11000	40900	85	22	16	NA	NA
Mercury	mg/kg	23.5	613	0.058	0.013	0.01	NA	NA
Nickel	mg/kg	1560	40900	7	5.1	2.8	NA	NA
Potassium	mg/kg			800	640	320	NA	NA
Selenium	mg/kg	391	10200	5.6	3.9	2.9	NA	NA
Sodium	mg/kg			35	24	<25	NA	NA
Vanadium	mg/kg	548	14300	23	20	13	NA	NA
Zinc	mg/kg	23500	613000	8.9	8.5	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SWMU12-01 17.00FT-17.50 FT 10/17/02	AOC 1-02 1.00-1.50 FT 10/16/02	AOC 1-02 5.00FT - 5.50 FT 10/16/02	AOC 1-02 21.00 FT-21.50 FT 10/16/02	AOC 1-03 1.00-1.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	5700	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	56	9	<1.0	1.4
Barium	mg/kg	5480	143000	12	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	<1.0	NA	NA	NA	NA
Calcium	mg/kg			10	NA	NA	NA	NA
Chromium	mg/kg	235	6130	7.3	190	29	7.5	11
Cobalt	mg/kg	1560	20400	1.2	NA	NA	NA	NA
Copper	mg/kg	3130	81800	3.1	96	100	25	27
Iron	mg/kg	23500	613000	6400	NA	NA	NA	NA
Lead	mg/kg			3.7	7.6	8.8	3.8	6.8
Magnesium	mg/kg			120	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	5.9	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	<0.01	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	2.4	NA	NA	NA	NA
Potassium	mg/kg			320	NA	NA	NA	NA
Selenium	mg/kg	391	10200	2.1	NA	NA	NA	NA
Sodium	mg/kg			<25	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	19	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	4.7	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 1-03 5.00-5.50 FT 10/17/02	AOC 1-03 21.00FT-21.50 FT 10/17/02	AOC 1-04 1.00FT - 1.50 FT 10/16/02	AOC 1-04 5.00 FT-5.50 FT 10/16/02	AOC 1-04 21.00FT-21.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	<1.0	1.7	<1.0	<1.0
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	8.1	5.2	11	8.4	3.5
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	26	12	29	23	11
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			3.8	2.3	7	4	2.2
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 1-05 1.00-1.50 FT 10/17/02	AOC 1-01 21.00FT-21.50 FT 10/16/02	AOC 1-05 5.00FT - 5.50 FT 10/17/02	AOC 1-05 21.00 FT-21.50 FT 10/16/02	AOC 1-06 1.00FT-1.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	<1.0	<1.0	<1.0	2.3
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	15	4.4	13	4.2	16
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	31	18	37	12	33
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			5.8	2.8	5.4	2.4	8.1
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC 1-06 1.00-1.50 FT 10/17/02	AOC 1-06 21.00FT-21.50 FT 10/16/02	AOC 2-01 1.00FT - 1.50 FT 10/17/02	AOC 2-01 5.00 FT-5.50 FT 10/17/02	AOC 2-01 21.00FT-21.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	1.9	1.0	1.2	1.7	<1.0
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	18	5.7	15	24	6
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	45	25	36	49	27
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			6.6	3.6	7.3	14	3.8
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC2-02 1.00-1.50 FT 10/17/02	AOC 2-03 1.00FT-1.50 FT 10/16/02	AOC 2-03 5.00FT - 5.50 FT 10/16/02	AOC 2-03 21.00 FT-21.50 FT 10/17/02	AOC 2-04 1.00FT-1.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	2.2	1.3	<1.0	3
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	8.1	16	12	5.4	18
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	25	51	34	46	52
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			4.3	7.1	5.3	2.5	7.5
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC2-04 5.00-5.50 FT 10/17/02	AOC 2-04 21.00FT-21.50 FT 10/16/02	AOC 2-05 1.00FT - 1.50 FT 10/16/02	AOC 2-05 5.00 FT-5.50 FT 10/16/02	AOC 2-05 21.00FT-21.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	2	<1.0	2	11	<1.0
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	14	14	23	37	6.1
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	41	23	57	160	27
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			6.1	3	7.5	7	3.9
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC2-06 1.00-1.50 FT 10/16/02	AOC 2-06 5.00FT-5.50 FT 10/16/02	AOC 2-06 21.00FT - 21.50 FT 10/16/02	AOC 2-07 1.00 FT-1.50 FT 10/17/02	AOC 2-07 5.00FT-5.50 FT 10/17/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	3.5	6.3	1.2	1.1	1.1
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	22	35	83	12	14
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	51	150	120	34	56
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			18	11	3.3	5.2	5.5
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC2-07 21.00 FT-21.50 FT 10/17/02	AOC 3-01 1.00FT-1.50 FT 10/18/02	AOC 3-01 5.00FT - 5.50 FT 10/18/02	AOC 3-01 18.00 FT-18.50 FT 10/18/02	AOC 3-02 1.00FT-1.50 FT 10/18/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	<1.0	1.6	<1.0	<1.0	<1.0
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	3	5.7	14	5.7	15
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	7.5	14	41	20	39
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			3.8	5.9	6.4	3.4	5.9
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC3-02 5.00 FT-5.50 FT 10/18/02	AOC 3-02 18.00FT-18.50 FT 10/18/02	AOC 3-03 1.00FT - 1.50 FT 10/18/02	AOC 3-03 5.00 FT-5.50 FT 10/18/02	AOC 3-03 18.00FT-18.50 FT 10/18/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	1.3	<1.0	45	4.7	<1.0
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	18	3.3	60	15	6
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	39	6.7	64	40	13
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			5.2	1.8	22	7.2	1.7
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC3-04 1.00 FT-1.50 FT 10/17/02	AOC 3-04 5.00FT-5.50 FT 10/18/02	AOC 3-04 18.00FT - 18.50 FT 10/18/02	AOC 3-05 1.00 FT-1.50 FT 10/15/02	AOC 3-05 5.00FT-5.50 FT 10/15/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	3.8	2.1	1.9	1.4	2
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	32	14	2.5	13	12
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	180	68	22	31	42
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			9.9	12	3.9	7	7.1
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	AOC3-05 18.00 FT-18.50 FT 10/15/02	AOC 3-06 1.00FT-1.50 FT 10/17/02	AOC 3-06 5.00FT - 5.50 FT 10/17/02	AOC 3-06 17.50 FT-18.00 FT 10/17/02	SED-01 SURFACE 10/18/02
TAL Metals								
Aluminum	mg/kg	78200	2040000	NA	NA	NA	NA	NA
Arsenic	mg/kg	0.426	3.82	1.6	2.4	4.1	<1.0	25
Barium	mg/kg	5480	143000	NA	NA	NA	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA	NA	NA	NA
Calcium	mg/kg			NA	NA	NA	NA	NA
Chromium	mg/kg	235	6130	2.3	17	21	1.4	56
Cobalt	mg/kg	1560	20400	NA	NA	NA	NA	NA
Copper	mg/kg	3130	81800	21	51	73	5.3	83
Iron	mg/kg	23500	613000	NA	NA	NA	NA	NA
Lead	mg/kg			1.5	8	7.6	1.1	6.8
Magnesium	mg/kg			NA	NA	NA	NA	NA
Manganese	mg/kg	11000	40900	NA	NA	NA	NA	NA
Mercury	mg/kg	23.5	613	NA	NA	NA	NA	NA
Nickel	mg/kg	1560	40900	NA	NA	NA	NA	NA
Potassium	mg/kg			NA	NA	NA	NA	NA
Selenium	mg/kg	391	10200	NA	NA	NA	NA	NA
Sodium	mg/kg			NA	NA	NA	NA	NA
Vanadium	mg/kg	548	14300	NA	NA	NA	NA	NA
Zinc	mg/kg	23500	613000	NA	NA	NA	NA	NA

TABLE 4C - SUMMARY OF SOIL QUALITY RESULTS (Cont'd)
Inorganic Constituents

Sample ID	Units	USEPA Region III RBC Residential	USEPA Region III RBC Industrial	SED-02 SURFACE 10/18/02	SED-03 SURFACE 10/18/02
TAL Metals					
Aluminum	mg/kg	78200	2040000	NA	NA
Arsenic	mg/kg	0.426	3.82	13	4.7
Barium	mg/kg	5480	143000	NA	NA
Cadmium	mg/kg	78.2	2040	NA	NA
Calcium	mg/kg			NA	NA
Chromium	mg/kg	235	6130	27	20
Cobalt	mg/kg	1560	20400	NA	NA
Copper	mg/kg	3130	81800	51	44
Iron	mg/kg	23500	613000	NA	NA
Lead	mg/kg			8.3	7.9
Magnesium	mg/kg			NA	NA
Manganese	mg/kg	11000	40900	NA	NA
Mercury	mg/kg	23.5	613	NA	NA
Nickel	mg/kg	1560	40900	NA	NA
Potassium	mg/kg			NA	NA
Selenium	mg/kg	391	10200	NA	NA
Sodium	mg/kg			NA	NA
Vanadium	mg/kg	548	14300	NA	NA
Zinc	mg/kg	23500	613000	NA	NA

ATTACHMENT 2

A RCRA Facility Investigation (RFI) was performed at the facility under a Facility Lead Agreement during October and November 2002. The information collected during the RFI was used to update the EI forms and to provide further basis for any EI determinations.

Groundwater Quality and Potential Pathways: Groundwater quality condition have been well documented at the facility (see various groundwater quality assessment and routine groundwater monitoring reports). There is also substantial information available that demonstrates that there is no current human exposure to contaminated groundwater. In addition, there is no potential for human exposure to contaminated groundwater given the absence of surface water discharge of constituents and the high level of segregation between the shallow groundwater unit at the site and the much deeper artesian aquifer that serves as a local water supply source.

Surface Soil Quality and Potential Pathways: There is environmental quality data available for surface soils at the facility. Data from a soil characterization study of the former wood treating cylinder area indicates that creosote-related constituents are found in the upper four (4) feet. The dense clay material upon which the former wood treating process area was constructed has restricted the presence of constituents to these shallow soils in this area. It is also important to note that the former wood treating operations area is either covered by structures with concrete floors, or by pavement and/or three or more feet of crushed stone. As a result, the extent of open surface soils is limited in this area.

All other areas where wood preserving chemicals are handled or used are paved. Treated wood is handled in a number of unpaved areas at the facility, but is under roof. As a result, the general extent of constituents in surface soils is expected to be extremely limited across the facility.

The plant operates a boiler on-site to provide steam for plant operations. The fuel for the boiler is untreated wood scraps and saw dust. Therefore, the potential for formation of dioxin and furans and their deposition at the facility are very limited.

Potential exposures to constituents that may be present in surface soils are also expected to be extremely limited. Plant workers generally operate heavy equipment or work inside the current (enclosed and paved) wood treating process area, and are unlikely to come into routine contact with the limited extent of affected surface soils. Exposure of plant employees to constituents associated with windblown soils is controlled by pavement in potential source areas and dust suppression in the form of routine sprinkling of plant roadways during dry weather. Construction workers engaged in activities at the plant would also be expected to have little or no potential for exposure to the limited extent of affected surface soils. The plant operates on three shifts, and is controlled by security guards, which effectively eliminates the potential for trespasser exposure to potentially affected surface soils.

Surface Water Quality and Potential Pathways: There is no discharge of affected groundwater to surface water. Stormwater runoff quality is also regulated by the facility's VPDES permit (No.

VA0083127). this permit, which was recently renewed by VDEQ, requires monthly surface water monitoring at two outfalls. During the permit renewal process, analytical data from the previous five-year period were evaluated to determine permit conditions. These data supported the decision to continue monitoring storm water without the imposition of surface water quality controls. Consequently, surface water quality is not an issue at the facility.

Potential exposures to surface water would be limited to the worker and trespasser scenarios; however, it is highly unlikely that either a worker or a trespasser would come into contact with the drainage from the plant outfalls.

Subsurface Soil Quality and Potential Pathways: As with the evaluation of surface soil quality, the extent of affected subsurface soils is expected to be limited. Potential exposures are expected to be limited to construction workers, and would be sporadic in nature, if they would occur at all. The potential for exposure of construction workers to constituents associated with windblown soils can be readily controlled through dust suppression measures. As a result, exposure to contaminated subsurface soils are not expected to be a significant issue at the facility.

Outdoor Air Quality and Potential Pathways: The constituents of interest at the site are not particularly volatile. The determination is based on partitioning of groundwater concentrations to air, not direct measurements.

ATTACHMENT 3

As described in Attachments 1 and 2, the extent of hazardous waste constituents in the various environmental media is extremely limited in nature. Potential exposure pathways are generally limited to plant employees who are not expected to be present in affected areas on a routine basis, or who would be present in vehicles or equipment. Exposure of plant employees to constituents associated with windblown soils is controlled by pavement in potential source areas and dust suppression in the form of routine sprinkling of plant roadways during dry weather. Other potential exposure scenarios are the trespasser and construction worker; potential exposures under either of these scenarios are expected to be extremely limited in nature based on control of the property, and the infrequent occurrence of construction activities.