

# VOLUME II

## RISK ASSESSMENT INFORMAL TECHNICAL INFORMATION REPORT (ITIR)

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# VOLUME II

## BASELINE HUMAN HEALTH RISK ASSESSMENT

### TABLE OF CONTENTS

Section	Page No.
<b>Introduction</b> . . . . .	1
<b>Section 1.0 Selection of Chemicals of Potential Concern</b> . . . . .	1-1
1.1 Selection of Chemicals of Potential Concern in Site Soil . . . . .	1-2
1.2 Selection of Chemicals of Potential Concern in Surface Water . . . . .	1-4
1.3 Selection of Chemicals of Potential Concern in Groundwater . . . . .	1-4
1.4 Selection of Chemicals of Potential Concern in Air . . . . .	1-5
<b>Section 2.0 Exposure Assessment</b> . . . . .	2-1
2.1 Exposure Pathway Analysis . . . . .	2-1
2.2 Concentrations of Chemicals of Potential Concern at Points of Exposure . . . . .	2-1
2.2.1 Soil . . . . .	2-3
2.2.2 Surface Water . . . . .	2-3
2.2.3 Groundwater . . . . .	2-3
2.2.4 Air . . . . .	2-7
2.2.4.1 Air Emissions - Undisturbed Soil Scenarios . . . . .	2-7
2.2.4.2 Air Emissions - Construction Scenario . . . . .	2-10
2.2.4.3 Dispersion of Air Contaminants. . . . .	2-14
2.3 Intake Estimates . . . . .	2-16
<b>Section 3.0 Toxicity Assessment</b> . . . . .	3-1
3.1 Carcinogenic Toxicity Values . . . . .	3-1
3.2 Non-carcinogenic Toxicity Values . . . . .	3-2
3.3 Adjustment of Oral Toxicity Values to Dermal Toxicity Values . . . . .	3-5
<b>Section 4.0 Risk Characterization</b> . . . . .	4-1
Appendix A Risk Assessment ITIR References	
Appendix B Statistical Distributions for Site and Background Analytical Data	
Appendix C Comparison of Inorganic Concentrations for Site and Background	
Appendix D Statistics for Site and Background for Chemicals of Potential Concern	
Appendix E Solute Model Results	
Appendix F Input Parameters for Air Emissions Models	
Appendix G Chemical Concentrations in Air	
Appendix H Quantification of Exposure and Risk	
Appendix I IEUBK Model Results for the 0.5 to 7 Year Old Offsite Resident Child Exposure to Lead	

# VOLUME II

## BASELINE HUMAN HEALTH RISK ASSESSMENT

### LIST OF FIGURES

<b>Figure</b>		<b>Page No.</b>
Figure 1-1	Flow Chart of Statistical Methods Used to Compare Site Analytical Data to Background Data . . . . .	1-7

### LIST OF TABLES

<b>Table</b>		<b>Page No.</b>
Table 1-1	Chemicals of Potential Concern in Soil (All Sampled Depths) . . . . .	1-9
Table 1-2	Chemicals of Potential Concern in Surface Soil (0- to 3-foot Interval) . .	1-11
Table 1-3	Chemicals of Potential Concern in Subsurface Soil (0- to 12-foot Interval) . . . . .	1-13
Table 1-4	Chemicals of Potential Concern in Surface Water . . . . .	1-15
Table 1-5	Chemicals of Potential Concern in Groundwater: Shallow and Deep Zone . . . . .	1-17
Table 1-6	Volatile Organic Compounds of Potential Concern in Air . . . . .	1-19
Table 2-1	Potential Pathways of Exposure to Chemicals of Potential Concern . . . .	2-17
Table 2-2	Chemical Concentrations in Surface Soil (0 to 3 feet) at Receptors . . . .	2-19
Table 2-3	Chemical Concentrations in Subsurface Soil (0 to 12 feet) at Receptors .	2-23
Table 2-4	Chemical Concentrations in Surface Water at Receptors . . . . .	2-27
Table 2-5	Chemical Concentrations of Pesticides and Metals in the Shallow Groundwater Zone . . . . .	2-29
Table 2-6	Chemical Concentrations of Pesticides and Metals in the Deep Groundwater Zone . . . . .	2-31
Table 2-7	Solute Model Input Parameters . . . . .	2-33
Table 2-8	Chemical Concentrations at the Receptor Point Using Solute Model . . . .	2-35
Table 2-9	Model for Estimating Absorbed Dose for Current Recreational Users of Little Choconut Creek Through Dermal Absorption of Chemicals in Surface Water . . . . .	2-37
Table 2-10	Dermal Permeability Constants for Chemicals of Potential Concern in Groundwater and Surface Water . . . . .	2-39
Table 2-11	Model for Estimating Intake for Current Recreational Users of Little Choconut Creek Through Ingestion of Contaminated Fish . . . . .	2-41
Table 2-12	Bioconcentration Factors for Chemicals of Potential Concern in Surface Water . . . . .	2-43
Table 2-13	Model for Estimating Intake for Future Onsite Industrial Workers Through Incidental Ingestion of Chemicals in Surface Soil . . . . .	2-45

# VOLUME II

## BASELINE HUMAN HEALTH RISK ASSESSMENT

### LIST OF TABLES

Continued

Table		Page No.
Table 2-14	Model for Estimating Absorbed Dose for Future Onsite Industrial Workers Through Dermal Absorption of Chemicals in Surface Soil . . . . .	2-47
Table 2-15	Model for Estimating Intake for Future Onsite Industrial Workers Through Inhalation of Contaminated Fugitive Dust . . . . .	2-49
Table 2-16	Model for Estimating Intake for Future Onsite Industrial Workers Through Inhalation of Volatile Organic Compounds . . . . .	2-51
Table 2-17	Model for Estimating Intake for Future Onsite Industrial Workers Through Ingestion of Chemicals in Drinking Water . . . . .	2-53
Table 2-18	Model for Estimating Intake for Future Onsite Construction Workers Through Incidental Ingestion of Chemicals in Subsurface Soil . . . . .	2-55
Table 2-19	Model for Estimating Absorbed Dose for Future Onsite Construction Workers Through Dermal Absorption of Chemicals in Subsurface Soil . . . . .	2-57
Table 2-20	Model for Estimating Intake for Future Onsite Construction Workers Through Inhalation of Contaminated Fugitive Dust . . . . .	2-59
Table 2-21	Model for Estimating Intake for Future Onsite Construction Workers Through Inhalation of Volatile Organic Compounds . . . . .	2-61
Table 2-22	Model for Estimating Intake for Future Offsite 30-Year Residents Through Ingestion of Chemicals in Drinking Water . . . . .	2-63
Table 2-23	Model for Estimating Intake for Future Offsite 30-Year Residents Through Inhalation of Volatile Organic Compounds While Showering . . . . .	2-65
Table 2-24	Model for Estimating Absorbed Dose for Future Offsite 30-Year Residents Through Dermal Absorption of Chemicals in Shower Water . . . . .	2-67
Table 2-25	Model for Estimating Intake for Future Offsite 30-Year Residents Through Inhalation of Contaminated Fugitive Dust . . . . .	2-69
Table 2-26	Model for Estimating Intake for Future Offsite 30-Year Residents Through Inhalation of Volatile Organic Compounds . . . . .	2-71
Table 3-1	USEPA Weight-of-Evidence Classification System for Carcinogenicity . . . . .	3-7
Table 3-2	Toxicity Values: Potential Carcinogenic Effects (Oral) . . . . .	3-9
Table 3-3	Toxicity Values: Potential Carcinogenic Effects (Inhalation) . . . . .	3-11
Table 3-4	Toxicity Values: Potential Non-carcinogenic Effects (Oral) . . . . .	3-13
Table 3-5	Toxicity Values: Potential Non-carcinogenic Effects (Inhalation) . . . . .	3-19
Table 3-6	Toxicity Values Adjusted for Dermal Absorption of Chemicals of Potential Concern in Soil, Groundwater, and Surface Water . . . . .	3-25
Table 4-1	Relative Potency Factors for Carcinogenic PAHs . . . . .	4-5
Table 4-2	Total Human Receptor Cancer Risk . . . . .	4-7
Table 4-3	Total Human Receptor Hazard Index . . . . .	4-9

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# II. BASELINE HUMAN HEALTH RISK ASSESSMENT

## INTRODUCTION

**G**rowing public awareness of the potential risks to humans from chemicals in the environment has led to concern over permissible exposure limits. This awareness has generated a demand for a means of estimating risk and for limiting exposure in cases where risk is judged to be excessive. One outcome of such growing public awareness is the emergence of the field of risk assessment, which evaluates available data on exposure and toxicity of chemicals to estimate associated risks to humans and the environment. The National Contingency Plan requires that a quantitative baseline risk assessment be performed to evaluate the potential risks to human health and the environment associated with current and future land use conditions in the absence of remedial activity. This section is an Informal Technical Information Report (ITIR) for the baseline human health risk assessment for the Air Force Plant (AFP) 59 site.

A baseline human health risk assessment consists of four basic steps: data evaluation, exposure assessment, toxicity assessment, and risk characterization. This ITIR presents the data necessary to evaluate the risk assessment process; it does not present the full risk assessment text. Complete text will be included in the subsequent Remedial Investigation Report.

Several guidance documents were used as references for this effort. These documents include:

- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C., December 1989 (U.S. Environmental Protection Agency, December 1989).
- Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual, Supplemented Guidance, "Standard Default Exposure Factors", Interim Final, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C., March 1991 (U.S. Environmental Protection Agency, March 1990).
- Guidance for Data Useability in Risk Assessment (Part A), Final, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C., April 1992 (U.S. Environmental Protection Agency, April 1992).

- Handbook for the Installation Restoration Program (IRP), Remedial Investigations and Feasibility Studies (RI/FS), Air Force Center for Environmental Excellence, September, 1993 (Air Force Center for Environmental Excellence, September 1993).

The risk assessment ITIR is divided into the following major sections: Section 1.0 - Selection of Chemicals of Potential Concern, Section 2.0 - Exposure Assessment, Section 3.0 - Toxicity Assessment, and Section 4.0 - Risk Characterization. Section 1.0 presents tables of chemicals of potential concern for all media that can be contacted by receptors and the selection methodology. Section 2.0 presents a potential exposure pathway table, tables of chemical concentrations at receptors (i.e., exposure point concentrations) with a discussion of the methodology used for calculation of concentrations, groundwater and air modeling methodology and results, exposure model tables, and exposure estimates.

Section 3.0 presents tables of carcinogenic and noncarcinogenic toxicity values and the methodology used to select toxicity values. Section 4.0 presents summary tables of total human receptor cancer risk and hazard indices. The summary tables indicate which receptor risk values are unacceptable through benchmark comparisons and which exposure pathways and chemicals significantly contribute to unacceptable risk.



# SECTION 1.0

## SELECTION OF CHEMICALS OF POTENTIAL CONCERN

**T**he process used for selection of chemicals of potential concern in each medium (i.e., soil, groundwater, surface water, and air) for human receptors is described in this section. Contaminants identified as chemicals of potential concern in each medium are presented in tabular form.

The following references provided guidance for the selection process:

- Handbook for the Installation Restoration Program (IRP), Remedial Investigations and Feasibility Studies (RI/FS), Air Force Center for Environmental Excellence, September, 1993 (Air Force Center for Environmental Excellence, September 1993).
- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C., December, 1989 (U.S. Environmental Protection Agency, December 1989).

Analytical data compiled from environmental samples collected during the RI and selected additional site activities at AFP 59 were reviewed for usability in the human health risk assessment. Data sources included the following:

- Groundwater analytical data collected during the RI in December 1994.
- Soil analytical data collected during the RI in July, October, and November 1994.
- Soil analytical data collected by Martin Marietta in the vicinity of the plating room between July 1992 and November 1994.
- Surface water data collected during the RI in October 1994.

For human risk characterization, a methodical approach was used to select chemicals of potential concern within soil source areas, groundwater, and surface water. Risk Assessment Guidance for Superfund Volume I (U.S. Environmental Protection Agency, December 1989) and the Guidance for Data Useability in Risk Assessment (U.S. Environmental Protection Agency, April

1992), provided guidance for data useability in the risk assessment. Ten percent of the data collected by EARTH TECH were validated to USEPA Level IV. A data review of 100 percent of the data addressed holding times and blank contamination. Unqualified data and data assigned the following qualifiers were judged usable for the risk assessment.

- J** This indicates the associated value is estimated for analytes detected above the method detection limit.
- UJ** This indicates an estimated result for analytes not detected.

Data assigned U as a qualifier (i.e., blank contamination) were judged unusable for the risk assessment and rejected from further consideration.

### **1.1 Selection of Chemicals of Potential Concern in Site Soil**

For each source area, chemicals of potential concern were selected for the 0- to 3-foot soil interval (contacted by future onsite industrial workers), the 0- to 12-foot soil interval (contacted by future onsite construction workers), and for all sampled depths. Inorganic constituent concentrations detected at each site were compared with inorganic concentrations for background data. As described in the Conceptual Site Model ITIR, the following sample locations were selected to provide background data:

- DP18
- DP19

Inorganic analytes which were not detected in any site samples for any sampled depth were deleted from further consideration for the site. Inorganic analytes which were detected in one or more site samples, but which were not detected in background for each sampled depth of concern (0- to 3-foot, etc.), were retained as chemicals of potential concern for the particular site for the specific soil depth of concern.

For analytes detected in site and background samples, Figure 1-1 outlines the methodology used to compare site analytical data to background analytical data. For analytes having three or more analytical results, the Shapiro-Wilk statistical test was used to determine the data distribution of each analyte's concentrations. The Shapiro-Wilk test was conducted using the natural logarithms of the chemical concentrations. If the Shapiro-Wilk test did not reject a normal distribution for the natural logarithms of the concentrations, the distribution of concentrations was considered to be lognormal for that analyte. If the Shapiro-Wilk test rejected a normal distribution for the natural logarithms of the analyte's concentrations, the Shapiro-Wilk test was conducted on the untransformed analyte concentrations. If the Shapiro-Wilk test did not reject a normal distribution for the untransformed analyte concentrations, the distribution of its concentrations was considered to be normal. If the Shapiro-Wilk test rejected a normal distribution for the untransformed analyte concentrations, the distribution of its concentrations was considered to be non-normal. Analytes with less than three analytical results were assumed to have lognormal

distributions. Appendix B provides the statistical distribution results for inorganic chemicals detected in site and background data.

For inorganic analytes with four or more analytical results in both site and background soil data sets (i.e., for the 0- to 12-foot interval and for all sample depths), either the Student's t test or the Wilcoxon Rank Sum test were used to statistically identify site inorganics which exceeded background levels. For a particular analyte, the Student's t test was used when both the site and background data sets were normally distributed. The Wilcoxon Rank Sum test was used if either the site or the background data set was not normally distributed.

The Student's t test is a parametric test which assumes the data being compared are normally distributed. Because false conclusions can result if this assumption is violated, the Student's t test was applied only when the site inorganic concentrations and the background concentrations were both normally distributed. The Wilcoxon Rank Sum test is a non-parametric test which does not assume a distributional model for the data being compared. As such, this test was only performed when either the site inorganic concentrations or background concentrations were lognormally or nonnormally distributed.

Both the Student's t and the Wilcoxon Rank Sum tests were conducted as upper one-sided tests at the 0.05 significance level (i.e., 95 percent confidence interval). The Student's t test produces a t statistic and a t probability. Analytes are determined to statistically exceed background if one-half of the t probability is less than 0.05 and the arithmetic mean for the site data is greater than the arithmetic mean for the background data. The Wilcoxon Rank Sum test produces a Z statistic and a Z probability. Analytes are determined to statistically exceed background if one-half the Z probability is less than 0.05 and the mean of the rank scores for the site data is greater than the mean of the rank scores for the background data.

For analytes having less than four analytical results for background (i.e., the 0- to 3-foot soil interval), the Student's t and Wilcoxon Rank Sum tests were not performed due to an insufficient number of background data points. In this case, the analyte's maximum concentration for the source area was compared to analyte's maximum concentration at background. The inorganic was retained as exceeding background if it's maximum concentration for the source area was greater than the maximum concentration for background. Appendix C provides the statistical comparison test results for each soil depth of concern for each site to justify the retention or deletion of inorganic analytes as chemicals of potential concern for the particular soil depth of concern.

All VOC, SVOC, and pesticide/PCB analytical data for soil were evaluated for each compound detected at a particular site. All analytes detected in one or more site samples at each depth of concern were retained as chemicals of potential concern for the site for that soil interval.

Table 1-1 presents a listing by source area of chemicals of potential concern for all sampled soil depths. Table 1-2 presents a listing by source area of chemicals of potential concern for the surface soil interval (0- to 3-foot interval). Table 1-3 presents a listing by source area of chemicals of potential concern for the subsurface soil interval (the 0- to 12-foot interval).

## 1.2 Selection of Chemicals of Potential Concern in Surface Water

Unfiltered surface water inorganic analyte concentrations detected in each surface water sample were compared with inorganic analyte concentrations for background data. Because there are only two background surface water sample locations (CR05 and CR06), maximum downgradient surface water inorganic analyte concentrations were compared to maximum upgradient (background) concentrations. Inorganic analytes in the downgradient samples that were greater than the maximum concentrations found in upgradient background samples were retained as exceeding background. Appendix C provides the comparison test results for the surface water data to justify the retention or deletion of inorganic analytes as chemicals of potential concern.

All VOC, SVOC, and pesticide/PCB analytical data for surface water were evaluated for each compound detected in the downgradient samples. All compounds detected in one or more downgradient surface water samples were retained as chemicals of potential concern.

Table 1-4 presents a listing of chemicals of potential concern for surface water.

## 1.3 Selection of Chemicals of Potential Concern in Groundwater

One round of unfiltered groundwater samples was collected in December 1994 as part of the RI field sampling effort. Two of the thirteen locations sampled (locations 1 and 10) are hydraulically upgradient of historic manufacturing activities and represent background conditions. At each of the 13 sampling locations, monitoring well pairs consisting of a well monitoring the shallow zone of the aquifer and a well monitoring the deep zone of the aquifer are present. As described in the Conceptual Site Model (Volume I), the shallow and deep zones of the aquifer are hydraulically separated across most of the plant. Additionally, groundwater contaminant concentrations are consistently higher in the shallow zone than the deep zone. Since horizontal migration appears to be more predominant than vertical migration, the two zones were considered separately during the risk assessment. To determine chemicals of potential concern, analytical results from the shallow wells at the plant were compared to shallow background well results, and analytical results from the deep wells were compared to deep background well results.

The methodology for determining inorganic chemicals of potential concern described below was applied to data from both the shallow and deep zones. Inorganic analytes which were not detected in any groundwater sample were deleted from further consideration. Inorganic analytes which were detected in one or more groundwater sample but which were not detected in background were retained as chemicals of potential concern for that zone. All other inorganic analytes were compared with background data by comparing maximum site concentrations to maximum background concentrations. Appendix C provides the comparison results for groundwater data to justify the inclusion or exclusion of an inorganic analyte as a chemical of potential concern in groundwater.

All VOC, SVOC, and pesticide/PCB analytical groundwater data were evaluated for each compound detected. All analytes detected in one or more groundwater samples were retained as a chemical of potential concern in the shallow or deep groundwater zone.

Table 1-5 presents a listing of the chemicals of potential concern for the shallow and deep groundwater zones.

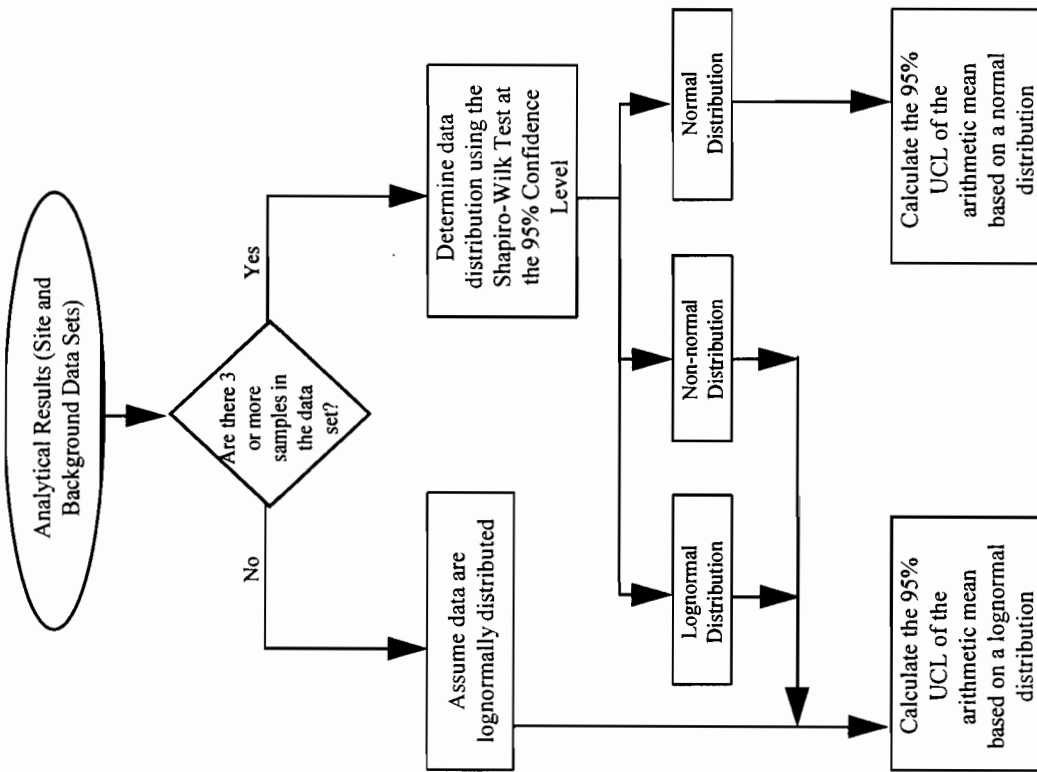
#### **1.4 Selection of Chemicals of Potential Concern in Air**

For future industrial workers and 30-year residents, chemicals of potential concern for fugitive dust are the chemicals of potential concern selected for site surface soil. The methodology for the selection of chemicals of potential concern for soil is described in Section 1.1. Table 1-2 presents a list of chemicals of potential concern for site surface soil. For future construction workers who may contact subsurface soil (i.e., the 0- to 12-foot interval), chemicals of potential concern for fugitive dust are the chemicals of potential concern selected for site subsurface soil. Table 1-3 presents a list of chemicals of potential concern selected for site subsurface soil.

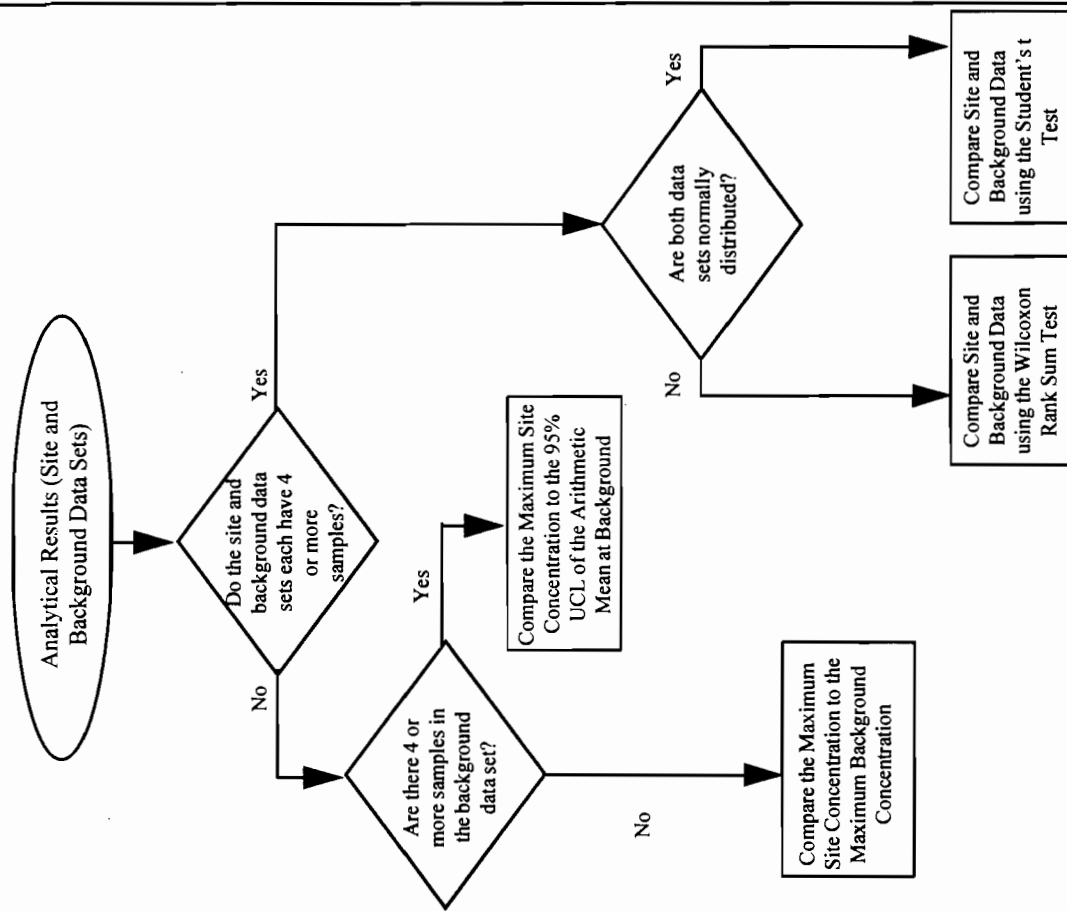
In addition to contaminated fugitive dust, organic soil contaminants may volatilize into soil air spaces and migrate to the soil surface where they are emitted into the atmosphere. All chemicals of concern in the 0- to 12-foot interval with a vapor pressure greater than 1 millimeter mercury (mm Hg) at standard temperature and pressure were assumed to have volatile emission potential and thus to be volatile chemicals of concern in air. The USEPA recommends a vapor pressure threshold of 10 mm Hg in the accidental release provisions of the Clean Air Act Amendments (Federal Register, 1994). Consequently, use of a volatile vapor pressure of 1 mm Hg is considered conservative. Table 1-6 presents a listing of the volatile chemicals of potential concern for air.

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### Step 1: Determination of Data Distribution for all Data Sets and the Calculation of the 95% Upper Confidence Limit of the Arithmetic Mean



### Step 2: Comparison of Site Data to Background



..... **FIGURE 1-1**

**Flow Chart of Statistical Methods Used to Compare Site Analytical Data to Background Data**

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**TABLE 1-1**  
**CHEMICALS OF POTENTIAL CONCERN IN SOIL (ALL SAMPLED DEPTHS)**

PLATING ROOM		RESERVOIR			
Organics		Inorganics	Organics		Inorganics
Acenaphthene	Dichlorodifluoromethane	Cadmium	Aldrin	Endosulfan Sulfate	Copper
Acetone	Dieldrin	Cyanide	Alpha BHC (Alpha)	Endrin	Mercury
Aldrin	Endosulfan Sulfate	Mercury	Hexachlorocyclohexane)	Endrin Aldehyde	Molybdenum
Alpha Endosulfan	Fluoranthene	Molybdenum	Alpha Endosulfan	Fluoranthene	Selenium
Anthracene	Fluorene		Anthracene	Fluorene	Zinc
Benzo(a)anthracene	Gamma BHC (Lindane)		Benzo(a)anthracene	Gamma BHC (Lindane)	
Benzo(a)pyrene	Heptachlor		Benzo(a)pyrene	Heptachlor	
Benzo(b)fluoranthene	Methoxychlor		Benzo(b)fluoranthene	Heptachlor Epoxide	
Beta BHC (Beta)	Methylene Chloride		Benzo(g,h,i)perylene	Indeno(1,2,3-cd)pyrene	
Hexachlorocyclohexane)	p,p'-DDD		Beta BHC (Beta)	Methoxychlor	
Beta Endosulfan	p,p'-DDT		Hexachlorocyclohexane)	p,p'-DDD	
bis(2-Ethylhexyl)phthalate	PCB-1254 (Arochlor 1254)		Beta Endosulfan	p,p'-DDE	
Bromomethane	Phenanthrene		bis(2-Ethylhexyl)phthalate	p,p'-DDT	
Chrysene	Pyrene		Chrysene	PCB-1260 (Arochlor 1260)	
Delta BHC (Delta)	Tetrachloroethylene(PCE)		Delta BHC (Delta)	Phenanthrene	
Hexachlorocyclohexane)	1,1,1-Trichloroethane		Hexachlorocyclohexane)	Pyrene	
Dibenzofuran	Trichloroethylene (TCE)		Di-n-butylphthalate	1,1,1-Trichloroethane	
			Dieldrin	Trichloroethylene (TCE)	

**WASTE OIL TANK**

Organics		Inorganics
Acenaphthene	Fluorene	Barium
Aldrin	Gamma BHC (Lindane)	Mercury
Alpha Endosulfan	Heptachlor	Molybdenum
Anthracene	Indeno(1,2,3-cd)pyrene	
Benzo(a)anthracene	Isopropylbenzene(Cumene)	
Benzo(a)pyrene	Methoxychlor	
Benzo(b)fluoranthene	2-Methylnaphthalene	
Benzo(g,h,i)perylene	n-Butylbenzene	
Beta BHC (Beta)	n-Propylbenzene	
Hexachlorocyclohexane)	Naphthalene	
Beta Endosulfan	p-Cymene	
bis(2-Ethylhexyl)phthalate	(p-isopropyltoluene)	
Chloroethane	p,p'-DDD	
Chrysene	p,p'-DDT	
cis-1,2-Dichloroethylene	p,p'-DDE	
Delta BHC (Delta)	PCB-1260 (Arochlor 1260)	
Hexachlorocyclohexane)	PCB-1254 (Arochlor 1254)	
Di-n-butylphthalate	Phenanthrene	
Dibenz(a,h)anthracene	Pyrene	
Dibenzofuran	sec-Butylbenzene	
1,1-Dichloroethane	Toluene	
Dieldrin	1,1,1-Trichloroethane	
2,4-Dinitrotoluene	Trichloroethylene (TCE)	
Endosulfan Sulfate	1,2,4-Trimethylbenzene	
Endrin	1,3,5-Trimethylbenzene	
Endrin Aldehyde	(Mesitylene)	
Ethylbenzene	Vinyl Chloride	
Fluoranthene	Xylenes, Total	

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**TABLE 1-2**  
**CHEMICALS OF POTENTIAL CONCERN IN SURFACE SOIL**  
**(0- TO 3-FOOT INTERVAL)**

PLATING ROOM		RESERVOIR	
Organics	Inorganics	Organics	Inorganics
Acetone Aldrin Alpha Endosulfan Benzo(a)anthracene Beta BHC (Beta Hexachlorocyclohexane) Beta Endosulfan bis(2-Ethylhexyl)phthalate Chrysene Delta BHC (Delta Hexachlorocyclohexane) Dieldrin Endosulfan Sulfate Fluoranthene Gamma BHC (Lindane) Methoxychlor Methylene Chloride p,p'-DDD p,p'-DDT Pyrene Tetrachloroethylene (PCE) Trichloroethylene (TCE)	Arsenic Barium Beryllium Cadmium Chromium, Total Cobalt Copper Cyanide Lead Manganese Mercury Molybdenum Nickel Vanadium Zinc	Aldrin Alpha Endosulfan Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Beta Endosulfan bis(2-Ethylhexyl)phthalate Chrysene Delta BHC (Delta Hexachlorocyclohexane) Di-n-butylphthalate Dieldrin Endosulfan Sulfate Endrin Endrin Aldehyde Fluoranthene Gamma BHC (Lindane) Heptachlor Heptachlor Epoxide Methoxychlor p,p'-DDD p,p'-DDE p,p'-DDT Phenanthrene Pyrene Trichloroethylene (TCE)	Aluminum Chromium, Total Manganese Molybdenum

**WASTE OIL TANK**

Organics	Inorganics
Aldrin Alpha Endosulfan Beta BHC (Beta Hexachlorocyclohexane) Beta Endosulfan cis-1,2-Dichloroethylene Delta BHC (Delta Hexachlorocyclohexane) 1,1-Dichloroethane Dieldrin Endrin Aldehyde Heptachlor Naphthalene p,p'-DDD p,p'-DDE 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene (Mesitylene)	Aluminum Barium Chromium, Total Manganese Molybdenum

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**TABLE 1-3**  
**CHEMICALS OF POTENTIAL CONCERN IN SUBSURFACE SOIL**  
**(0- TO 12-FOOT INTERVAL)**

PLATING ROOM		RESERVOIR	
Organics	Inorganics	Organics	Inorganics
Acetone	Dichlorodifluoromethane	Aldrin	Endosulfan Sulfate
Acenaphthene	Dieldrin	Alpha BHC (Alpha Hexachlorocyclohexane)	Endrin
Aldrin	Endosulfan Sulfate	Hexachlorocyclohexane)	Endrin Aldehyde
Alpha Endosulfan	Fluoranthene	Alpha Endosulfan	Fluoranthene
Anthracene	Fluorene	Anthracene	Fluorene
Benzo(a)anthracene	Gamma BHC (Lindane)	Benzo(a)anthracene	Gamma BHC (Lindane)
Benzo(a)pyrene	Heptachlor	Benzo(a)pyrene	Heptachlor
Benzo(b)fluoranthene	Methoxychlor	Benzo(b)fluoranthene	Heptachlor Epoxide
Beta BHC (Beta Hexachlorocyclohexane)	Methylene Chloride	Benzo(g,h,i)perylene	Indeno(1,2,3-cd)pyrene
Beta Endosulfan	p,p'-DDD	Beta BHC (Beta Hexachlorocyclohexane)	Methoxychlor
bis(2-Ethylhexyl)phthalate	p,p'-DDT	Beta Endosulfan	p,p'-DDD
Bromomethane	PCB-1254 (Arochlor 1254)	bis(2-Ethylhexyl)phthalate	p,p'-DDE
Chrysene	Phenanthrene	Chrysene	p,p'-DDT
Delta BHC (Delta Hexachlorocyclohexane)	Pyrene	Delta BHC (Delta Hexachlorocyclohexane)	PCB-1260 (Arochlor 1260)
Dibenzofuran	Tetrachloroethylene (PCE)	Di-n-butylphthalate	Phenanthrene
	1,1,1-Trichloroethane	Dieldrin	Pyrene
	Trichloroethylene (TCE)		1,1,1-Trichloroethane
			Trichloroethylene (TCE)
			Copper
			Mercury
			Molybdenum
			Selenium
			Zinc

**WASTE OIL TANK**

Organics	Inorganics
Acenaphthene	Aluminum
Aldrin	Barium
Alpha Endosulfan	Mercury
Anthracene	Molybdenum
Benzo(a)anthracene	Zinc
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	
Beta BHC (Beta Hexachlorocyclohexane)	
Beta Endosulfan	
bis(2-Ethylhexyl)phthalate	
Chloroethane	
Chrysene	
cis-1,2-Dichloroethylene	
Delta BHC (Delta Hexachlorocyclohexane)	
Di-n-butylphthalate	
Dibenz(a,h)anthracene	
Dibenzofuran	
1,1-Dichloroethane	
Dieldrin	
2,4-Dinitrotoluene	
Endosulfan Sulfate	
Endrin	
Endrin Aldehyde	
Ethylbenzene	
Fluoranthene	
Fluorene	
Gamma BHC (Lindane)	
Heptachlor	
Indeno(1,2,3-cd)pyrene	
Isopropylbenzene (Cumene)	
Methoxychlor	
2-Methylnaphthalene	
n-Butylbenzene	
n-Propylbenzene	
Naphthalene	
p-Cymene(p-Isopropyltoluene)	
p,p'-DDD	
p,p'-DDE	
p,p'-DDT	
PCB-1254 (Arochlor 1254)	
Phenanthrene	
Pyrene	
sec-Butylbenzene	
Toluene	
1,1,1-Trichloroethane	
Trichloroethylene (TCE)	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene (Mesitylene)	
Vinyl Chloride	
Xylenes, Total	

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**TABLE 1-4**  
**CHEMICALS OF POTENTIAL CONCERN IN SURFACE WATER**

Organics	Inorganics
Bis(2-ethylhexyl)phthalate Bromodichloromethane Bromoform Chloroform Delta BHC Dibromochloromethane Dichlorodifluoromethane Endosulfan Sulfate Endrin Gamma BHC Heptachlor Epoxide p,p'-DDD	Arsenic Barium Chromium, Total Copper Lead Manganese Zinc

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**TABLE 1-5**  
**CHEMICALS OF POTENTIAL CONCERN IN GROUNDWATER:**  
**SHALLOW AND DEEP ZONE**

SHALLOW ZONE	
Organics	Inorganics
Aldrin	Aluminum
Alpha Endosulfan	Arsenic
Alpha BHC	Barium
Beta BHC	Beryllium
Beta Endosulfan	Chromium, Total
Bis(2-ethylhexyl)phthalate	Copper
Bromodichloromethane	Lead
Carbon Tetrachloride	Manganese
Chloroform (Trichloromethane)	Nickel
Chloroethane	Silver
cis-1,2-Dichloroethene	Vanadium
Delta BHC	Zinc
Di-n-butylphthalate	
1,1-Dichloroethane	
1,1-Dichloroethene	
Dieldrin	
Endosulfan Sulfate	
Endrin	
Endrin Aldehyde	
Ethylbenzene	
Gamma BHC	
Heptachlor	
Heptachlor Epoxide	
Isopropylbenzene (Cumene)	
Methoxychlor	
n-Propylbenzene	
Naphthalene	
p,p'-DDD	
p,p'-DDE	
p,p'-DDT	
Toluene	
trans-1,2-Dichloroethene	
1,1,1-Trichloroethane	
1,2,4-Trichlorobenzene	
Trichloroethylene (TCE)	
Trichlorofluoromethane	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Vinyl Chloride	
Xylenes, Total	

**TABLE 1-5**  
**CHEMICALS OF POTENTIAL CONCERN IN GROUNDWATER:**  
**SHALLOW AND DEEP ZONE**

Continued

DEEP ZONE	
Organics	Inorganics
Aldrin	Aluminum
Alpha BHC	Arsenic
Alpha Endosulfan	Barium
Beta BHC	Copper
Beta Endosulfan	Lead
Bis(2-ethylhexyl)phthalate	Manganese
Chloromethane	Thallium
cis-1,2-Dichloroethene	Vanadium
Delta BHC	Zinc
1,1-Dichloroethane	
Endosulfan Sulfate	
Endrin	
Endrin Aldehyde	
Ethylbenzene	
Gamma BHC	
Heptachlor Epoxide	
Methoxychlor	
p,p'-DDD	
p,p'-DDE	
p,p'-DDT	
1,1,1-Trichloroethane	
Trichloroethylene (TCE)	
1,3,5-Trimethylbenzene	
Vinyl Chloride	
Xylenes, Total	

**TABLE 1-6**  
**VOLATILE ORGANIC COMPOUNDS OF POTENTIAL CONCERN IN AIR**

PLATING ROOM	RESERVOIR
Organics	Organics
Acetone Bromomethane Dibenzofuran Dichlorodifluoromethane Methylene chloride Tetrachloroethylene (PCE) 1,1,1-Trichloroethane Trichloroethylene (TCE)	1,1,1-Trichloroethane Trichloroethylene (TCE)

**WASTE OIL TANK**

Organics
Chloroethane cis-1,2-Dichloroethylene Dibenzofuran 1,1-Dichloroethane Ethylbenzene Isopropylbenzene (Cumene) n-Propylbenzene n-Butylbenzene p-Cymene (p-isopropyltoluene) sec-Butylbenzene Toluene 1,1,1-Trichloroethane Trichloroethylene (TCE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene (Mesitylene) Vinyl Chloride Xylenes, Total

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# SECTION 2.0

## EXPOSURE ASSESSMENT

This section presents a pathway analysis in Section 2.1, chemical concentrations at receptors and the groundwater and air modeling results in Section 2.2, and exposure model summaries and exposure estimates in Section 2.3. Results are presented in tabular formats accompanied by a discussion of the methodology used in each assessment.

### 2.1 Exposure Pathway Analysis

Potential current and future human receptors who could contact contaminated media either at or migrating from the site have been identified in the Conceptual Site Model (Volume I). Table 2-1 presents potential exposure pathways for all identified receptors by contaminated media. Pathway completion is analyzed; justification for considering a potential pathway as complete or incomplete is provided.

### 2.2 Concentrations of Chemicals of Potential Concern at Points of Exposure

The arithmetic mean, 95 percent upper confidence limit (UCL) of the arithmetic mean or maximum value were to represent chemical concentrations in soil, groundwater, surface water, and air at appropriate human receptors. The following formula was used to quantify the arithmetic mean exposure point concentration at a receptor for each chemical of potential concern:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n C_i$$

Where:  $\bar{x}$  = Arithmetic mean concentration  
 $n$  = Number of samples  
 $C_i$  = Contaminant concentration.

The 95 percent UCL of the mean contaminant concentrations at receptors were quantified according to USEPA guidance (U.S. Environmental Protection Agency, May 1992). The 95 percent UCL of the arithmetic mean concentration for each chemical of potential concern was calculated based on the distribution (i.e., normal, lognormal or non-normal) of the analytical results (see Section 1.1). For chemicals having three or more analytical results, the Shapiro-Wilk distribution test was used to determine the distribution of analytical results for each chemical of potential concern. For chemicals having less than three analytical results, the

concentration distribution was assumed to be lognormal. For all concentrations of chemicals of potential concern that were reported as non-detectable concentrations (i.e., the chemical concentration did not exceed the laboratory detection limit), a value of one-half the detection limit was used for calculating exposure concentrations in accordance with USEPA guidance (U.S. Environmental Protection Agency, December 1989).

The following formula was used to quantify the 95 percent UCL of the arithmetic mean concentration for normally distributed data at a receptor:

$$95\% \text{ UCL of the arithmetic mean} = \bar{x} + (t_{0.95, n-1}) \left( \frac{s}{\sqrt{n}} \right)$$

Where:

$\bar{x}$	=	Arithmetic mean concentration
$t_{0.95, n-1}$	=	95 percent t distribution value for n-1 degrees of freedom
s	=	Standard deviation
n	=	Number of samples.

The following formula was used to quantify the 95 percent UCL of the arithmetic mean concentration for lognormally or non-normally distributed data at a receptor:

$$95\% \text{ UCL of the arithmetic mean} = e^{\left( \bar{x} + 0.5s^2 + sH/\sqrt{n-1} \right)}$$

Where:

e	=	Base of natural log, approximately equal to 2.718
$\bar{x}$	=	Mean of the natural logarithms of the analyte concentrations
s	=	Standard deviation of the natural logarithms of the analyte concentrations
H	=	H-statistic
n	=	Number of samples.

In those cases where the 95 percent UCL of the mean concentration exceeded the maximum detected concentration of a contaminant, the maximum detected concentration was used as the exposure concentration (U.S. Environmental Protection Agency, December 1989).

Xylene isomers were reported by the analytical laboratory as o-xylene and m,p-xylene concentrations. Isomer concentrations were combined to quantify a total xylene concentration. This procedure was implemented because toxicity values do not exist for both m,p-xylene and o-xylene. Toxicity values do exist for total xylenes. If only one isomer was detected in a sample, the detection limit of the other isomer was used to determine the concentration of total xylenes. If neither isomer was detected, one-half the detection limit of the isomer with the greatest detection limit was used to determine the total xylene concentration. If both isomers were detected in a sample, the concentrations were summed. By determining a total xylene concentration, intake and risk could be quantified for applicable exposure pathways.

### 2.2.1 Soil

Future onsite industrial workers who may contact chemicals in surface soil (i.e., the 0- to 3-foot soil interval) have been identified in the Conceptual Site Model. Table 2-2 presents concentrations of chemicals of potential concern in surface soil for these receptors at each source area. Future construction workers who may contact subsurface soil (i.e., the 0- to 12-foot soil interval) have also been identified in the Conceptual Site Model. Table 2-3 presents concentrations of chemicals of potential concern in the subsurface soil for these receptors at each source area.

### 2.2.2 Surface Water

Concentrations of chemicals of concern at receptors were calculated using unfiltered surface water data. Two completed exposure pathways for current surface water users were identified in Table 2-1 based on field observation of current uses of Little Choconut Creek. Concentrations of chemicals of potential concern in surface water at the receptor are provided in Table 2-4.

### 2.2.3 Groundwater

Concentrations of chemicals of potential concern at receptors were calculated using unfiltered groundwater data. The data from the shallow and deep zones of the aquifer beneath the plant were considered separately.

Groundwater modeling of VOCs and SVOCs was conducted to quantitatively evaluate the impact of groundwater contamination originating at AFP 59 on the Camden Street Wellfield. For pesticides and inorganics detected in onsite groundwater, future offsite concentrations were not modeled. Maximum detected concentrations were assumed to have migrated to the Camden Street Wellfield and were used in risk calculations. Chemical concentrations of pesticides and metals in the shallow and deep zone are presented in Tables 2-5 and 2-6, respectively.

In order to evaluate the impact of groundwater contamination originating at AFP 59 on the Camden Street Wellfield, a model capable of predicting maximum concentrations and travel times at the wellfield was required. The Solute Model, developed by the International Ground Water Modeling Center in Golden, Colorado, was selected. The model is a simplified one-dimensional, analytical solute transport model which is based on the advection-dispersion-retardation equation. The partial differential equation from which the model was developed is:

$$D \frac{\alpha^2 c}{\alpha x^2} - V \frac{\alpha c}{\alpha x} = R \frac{\alpha c}{\alpha t}$$

Where:      D      =      Coefficient of longitudinal dispersion  
                  R      =      Retardation factor  
                  x      =      Horizontal groundwater flow direction

V	=	Seepage velocity in the x direction
c	=	Concentration of solute in groundwater
t	=	Travel time.

The model was developed for one-dimensional, non-reactive contaminant transport. Contaminant fate mechanisms, such as biodegradation and area-specific sorption and retardation factors, are not fully addressed by this model. Consequently, modeling results from the Solute Model represent a conservative worst-case scenario. The following assumptions are inherent in the model:

- A homogeneous, isotropic aquifer
- A uniform saturated thickness
- A uniform velocity along the entire flowpath
- Steady-state, uniform groundwater flow
- No degradation.

**MODEL INPUT PARAMETERS.** Table 2-7 presents the input parameters used for the model. Two types of input parameters are represented in this table: parameters based on actual field measurements and parameters based on literature data. The field-based parameters include hydraulic conductivity, hydraulic gradient, groundwater velocity, and retardation. Parameters selected from the literature include longitudinal dispersion and effective porosity.

Due to the hydraulic separation of the shallow and deep zones of the aquifer (see Section 3.0 of the Conceptual Site Model), the shallow and deep zones were modeled separately. During modeling of the two aquifer zones, it was assumed that contaminants in both the shallow and deep zones migrated laterally to the wellfield, with no vertical migration of contamination. However, as discussed in the Conceptual Site Model, it was not possible to determine aquifer parameters such as hydraulic conductivity for the shallow zone of the aquifer. Based on results of existing studies in the immediate area, aquifer parameters determined for the deep zone of the aquifer have been applied to the shallow zone during modeling. Results presented in the Contaminant Source Investigation conducted by URS in 1992 show hydraulic conductivities to be very similar in the shallow and deep zones of the aquifer, supporting the application of deep zone parameters to the shallow zone.

The average hydraulic conductivity was determined using data from a pumping test conducted in December 1994. The analysis of the pumping test data is presented in Section 3.0 of the Conceptual Site Model. An average site hydraulic conductivity of 454.97 ft/day was calculated by averaging the hydraulic conductivities computed for those wells subjected to pump test analysis.

The hydraulic gradient used in the model was based on groundwater measurements collected in deep monitoring wells in the vicinity of AFP 59 on August 22-24, 1994. These measurements were used to generate the potentiometric map illustrated in Figure 3-13 of the Conceptual Site Model. The hydraulic gradient represents the difference in groundwater elevation between two





Retardation results from sorption of hydrophobic substances such as dissolved phase VOCs onto soil particles, chemical interactions between subsurface fluids in primary and secondary pores and the geologic media, and migration into discontinuous ("dead-end") pores by diffusion (Marquis *et al.*, 1992). To determine site-specific retardation factors, organic carbon results from soil samples collected below 10 feet bgs during the RI were used. Total organic carbon content varied from less than 645 ppm to 3,480 ppm. To account for the slower movement of dissolved VOCs in the aquifer, a retardation factor (Rd) was determined for each contaminant (see Table 2-7) using the following equation (Bouwer, 1991).

$$Rd = 1 + Kd (1-n)p/\theta$$

$$Kd = (Foc) (Koc)$$

- Where:
- Rd = Retardation factor
  - Kd = Distribution coefficient (contaminant specific)
  - Foc = Fraction of organic carbon (field tested as 0.002 g/g by averaging all site TOC results from samples collected below 10 feet)
  - Koc = Soil-water partition coefficient (contaminant specific)
  - n = Effective porosity (0.35)
  - p = Mass density of aquifer sediments (2.65 g/cm<sup>3</sup> (Bouwer, 1991))
  - θ = Volumetric water content of aquifer (0.25 at 100 percent saturation).

Biodegradation is the breakdown of chemical compounds by microorganisms and is controlled by environmental parameters such as temperature, pH, dissolved oxygen, salinity, nutrients, competing organisms, toxicity to organisms, and concentrations of organisms and compounds. Recent scientific investigations have documented significant reductions in VOC concentrations due to natural biodegradation in hydrogeological environments. In the modeling effort, contaminant reduction or transformation due to biodegradation was not considered. This assumption may result in higher dissolved concentrations at the potential receptors than would naturally occur. In addition, other natural attenuation mechanisms, such as volatilization, were not considered, again presumably resulting in higher predicted contaminant concentrations than would actually occur.

**MODEL RESULTS.** Table 2-8 presents the following information: maximum onsite contaminant concentrations detected during RI sampling; the sampling location at which the maximum concentrations were detected; the distance to Johnson City Well #2 (the receptor point) from the sampling location; maximum modeled concentrations at the receptor point; and modeled arrival times for the maximum concentrations. Results from the shallow and deep zones of the aquifer were modeled separately and are therefore presented separately in Table 2-8.

Groundwater concentrations used during modeling were the maximum concentrations detected onsite for each analyte regardless of the well location. As a result, analyte concentrations from

six different shallow wells and four different deep wells were used during the groundwater modeling (see Table 2-8). Monitoring well clusters 3 and 11 were the only locations where maximum contaminant concentrations were detected in both the shallow and deep zones of the aquifer. The variable distances from the different wells to Johnson City Well #2 was included in the model.

All VOCs and SVOCs detected during groundwater sampling were modeled with the exception of those contaminants for which no partitioning coefficient was available to determine the retardation factor. As shown in Table 2-7, of the 23 contaminants detected, only four (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, and n-propylbenzene) could not be modeled. The maximum detected concentrations for these analytes were used in risk calculations.

The objective of the modeling effort was to estimate the maximum concentration and time of arrival of each onsite contaminant at the receptor well (Johnson City Well #2) located downgradient of AFP 59. Table 2-8 presents a summary of the modeling results. Complete model runs are included in Appendix E.

Results from the Solute Model indicate that the contaminant arrival times vary from 1.23 to more than 40 years. Contaminants with higher retardation values took a considerably longer time to reach the receptor well. Maximum contaminant concentrations at Johnson City Well #2 varied from 0 to 159  $\mu\text{g/L}$  for the different contaminants.

Degradation processes and biodegradation would occur during the modeled time frame in the contaminant flow path, and inclusion of their effects in the modeling effort would have resulted in lower contaminant concentrations and longer travel time predictions. In addition, the one-dimensional model used for this effort does not account for dispersion, sorption, retardation, and biodegradation occurring in the transverse direction. Under these simulated conditions, the estimated contaminant concentrations predicted to reach the receptor well are presumed to be higher than expected under natural contaminant migration conditions.

#### **2.2.4 Air**

The methodology used for modeling of VOC and dust emissions is discussed for the undisturbed soil and construction scenarios in Sections 2.2.4.1 and 2.2.4.2, respectively. Section 2.2.4.3 presents a discussion of the air dispersion modeling. Concentrations of chemicals of potential concern in air for each receptor are provided in Appendix G.

**2.2.4.1 Air Emissions - Undisturbed Soil Scenarios.** Air emissions of VOCs will occur from soil *in-situ* as contaminant vapor migrates through the soil pore spaces to the surface of the site. Although emissions of VOCs are negligible under current conditions at AFP 59, where impermeable material (concrete, asphalt, buildings, etc), covers most of the site, future scenarios allow for the complete removal of such cover as a worst-case exposure.

Ideally, the concentration of a contaminant in the soil pore space gas is used to predict VOC emission rates. However, because soil gas concentrations were not available at AFP 59, the bulk concentration of each contaminant in the soil was used to model VOC emission rates. For each of the three source areas, the mean and 95 percent UCL concentration was calculated for each volatile contaminant in the 0 to 12 feet soil interval. (Concentrations at lower depths were assumed to have minimal impact on surface emissions due to both soil tortuosity considerations and generally lower concentrations.) A contaminant was assumed to be volatile if its vapor pressure at 25° was greater than 1 mm Hg.

The Shen Model (USEPA, January 1989) was used to determine emission rates for VOC chemicals of potential concern where the concentration of the contaminant in the soil is greater than the contaminant's saturation concentration.

Saturation concentration for a given contaminant is calculated as follows:

$$C_{sat} = K_d S n_{m,s} + S \theta_{m,s}$$

Where:	$C_{sat}$	=	Saturation concentration, mg/kg.
	$K_d$	=	Soil/water partition coefficient, 1/kg.
	$S$	=	Solubility of contaminant in water, mg/1-water.
	$n_{m,s}$	=	Soil moisture content for site s, weight fraction.
	$\theta_{m,s}$	=	Soil moisture content for site s, 1-water/kg-soil.

The Shen model applies Raoult's Law to relate contaminated material composition to emission rate. It assumes that the contaminated material is completely saturated with the constituent being analyzed.

The form of the Shen model used in this analysis is:

$$E_{i,s} = D_i C_{si} (p^{4/3}) \frac{M_{i,s}}{d_s} \times 10^4 \text{ cm}^2/\text{m}^2$$

Where:	$E_{i,s}$	=	Mean or 95% UCL emission rate of volatile chemical of concern <i>i</i> for site s, g/sec-m <sup>2</sup>
	$D_i$	=	Diffusion coefficient of volatile chemical of concern <i>i</i> in air, cm <sup>2</sup> /sec
	$C_{si}$	=	Saturation vapor concentration of volatile chemical of concern <i>i</i> , g/cm <sup>3</sup>
	$p$	=	Total soil porosity, dimensionless (assumed to be .375 for all sites)
	$M_{i,s}$	=	Mean or 95% UCL weight fraction of volatile chemical of concern <i>i</i> for site s, dimensionless
	$d_s$	=	Effective depth of soil cover (conservatively assumed to be 1 foot or 30.5 cm), cm.

This form of the Shen Model incorporates a worst-case porosity term representative of completely dry soil. The depth of clean soil cover was conservatively assumed to be 1 foot. The contaminant concentration in air at the surface was assumed to be equal to 0.

The Hwang-Falco model (USEPA, January 1992) was used to determine emission rates for VOC chemicals of potential concern where the concentration of the contaminant is less than the contaminant's saturation concentration. All contaminants are assumed to be in solution with the available soil moisture and adsorbed to soil particles within the soil matrix. This model accounts for depletion of the contaminant over time.

The form of the Hwang-Falco model used in this analysis is:

$$E_{i,s} = \frac{2 P^{1/3} D_i K_{as,i} C_{i,s}}{\sqrt{\pi \alpha t}}$$

Where:

- $E_{i,s}$  = Mean or 95% UCL emission rate of component  $i$  for site  $s$ , g/s-m<sup>2</sup>.
- $P$  = Soil porosity, dimensionless (assumed to be .375 for all sites).
- $D_i$  = Diffusion coefficient of component  $i$  in air, cm<sup>2</sup>/m<sup>2</sup>.
- $K_{as,i}$  = Soil/air partition coefficient of chemical of concern  $i$ , g/cm<sup>3</sup>
- $C_{i,s}$  = Mean or 95% UCL soil concentration of contaminant  $i$  at site  $s$ , g/g.
- $t$  = Exposure interval, s ( $9.07 \times 10^8$  for 30 year exposure).

$$K_{as,i} = \frac{41 H}{K_{d,i}}$$

Where:

- $H$  = Henry's Law constant of component  $i$ , atm - m<sup>3</sup>/mole.
- $K_d$  = Soil/water partition coefficient, ml/g.
- 41 = Conversion factor to convert  $H$  to dimensionless form.

$$\alpha = \frac{P^{4/3} D_i}{P + \rho(1-P)/K_{as,i}}$$

Where:  $\rho$  = Particle density, g/cm<sup>3</sup> (2.65).

PM<sub>10</sub> (i.e., respirable particulate matter with an aerodynamic diameter of 10 microns or less) contaminant emission rates were calculated for all source areas and chemicals of potential concern. Volatile, semi-volatile, and non-volatile chemicals of concern can be adsorbed to soil

particles. Contaminated particles may be emitted from an area as particulate matter. Emissions at an undisturbed site may occur as fugitive dust caused by wind erosion. The following equation (USEPA, January 1992) was used to estimate contaminant particulate emissions:

$$E_{i,s} = (1 - V_s) \left[ \frac{[u]}{u_{t,s}} \right]^3 F(x)(C_{i,s})$$

Where:	$E_{i,s}$	=	Mean or 95% UCL $PM_{10}$ annual average emission rate of chemical of concern $i$ for site $s$ , $g/m^2$ -sec
	$V_s$	=	Fraction of site with continuous vegetative cover (equals 0 for bare soil; 0 was assumed for all sites as a worst case)
	$[u]$	=	Mean annual wind speed at 10 m height conservatively assumed to be 4.5 m/sec.
	$u_{t,s}$	=	Equivalent threshold value of wind speed at 7m anemometer height for site, m/sec
	$x$	=	$0.886 u_{t,s}/[u]$ (Empirical value)
	$F$	=	$0.18 (8x^3 + 12x)e^{-x^2} \times 10^{-5}$ $g/m^2$ -sec (Empirical value)
	$C_{i,s}$	=	Mean or 95% UCL fractional percent by weight of chemical of concern $i$ from bulk sample of surface material $s$ .

The threshold wind speed will depend on the mean soil particle size. A mean particle size of .475 mm, typical of sandy soil, was used for all sites. This form of the dust equation assumes an unlimited reservoir of erodible material.  $E_{i,s}$  was calculated based on mean and 95 percent UCL statistics for the 0- to 3- feet soil interval at each source area.

Specific input parameters for these models are presented in Appendix F.

**2.2.4.2 Air Emissions - Construction Scenario.** Air emissions from construction occur from VOC emissions and from  $PM_{10}$  emissions during the excavation of the site. The model used to calculate the VOC emissions from construction is found in the "Estimation of Air Impacts for the Excavation of Contaminated Soil" (USEPA, March 1992). The model used to calculate the  $PM_{10}$  emissions is found in the "Estimation of Air Impacts from Area Sources of Particulate Matter Emissions at Superfund Sites" (USEPA, April 1993). These two models calculate contaminant emission rates from bulk soil contaminant concentrations. Where available, field data were used to calculate the VOC and  $PM_{10}$  emission rates. For input parameters that were not known from field data, model defaults were used.

The construction scenario used to determine emission rates is taken from the VOC emission model (USEPA, March 1992). This standard construction scenario is based on excavating a 10m  $\times$  15m  $\times$  1m pit in one hour. The scoops from the backhoe are assumed to roughly maintain their shape (1m  $\times$  2m  $\times$  1m) when added to the pile. This produces a pile of 140  $m^2$  surface area which, when added to the 150  $m^2$  area of the pit, yields a total surface area of 290  $m^2$ .

From these values the emitting surface area, soil excavation rate, volume of soil moved, and time to excavate a given volume of soil are determined.

The emission rate for the  $i^{\text{th}}$  contaminant due to VOC emissions,  $ER_{i,VOC}$ , is calculated from the two terms,  $ER_{i,PS}$ , representing the emissions from the soil pore space, and  $ER_{i,DIFF}$ , representing the diffusion of the VOC from the excavated pit and the soil storage pile. The equations and the input parameters used in the VOC model are shown below.

$$\text{Equation(1)} \quad ER_{i,VOC} = ER_{i,PS} + ER_{i,DIFF}$$

Where:  $ER_{i,VOC}$  = Emission rate for contaminant  $i$  due to VOC emissions, g/sec

$$\text{Equation(2)} \quad ER_{i,PS} = \frac{P_i \times MW_i \times 10^6 \times E_{i,a} \times Q \times ExC}{R \times T}$$

Where:

- $ER_{i,PS}$  = Pore space emission rate for contaminant  $i$ , g/sec
- $P_i$  = Vapor pressure for contaminant  $i$ , mm Hg
- $MW_i$  = Molecular weight for contaminant  $i$ , g/g-mol
- $10^6$  = Conversion factor,  $\text{cm}^3/\text{m}^3$
- $E_{i,a}$  = Air filled porosity for contaminant  $i$ , dimensionless
- $Q$  = Excavation rate,  $\text{m}^3/\text{sec}$
- $ExC$  = Soil-gas to atmosphere exchange constant, dimensionless
- $R$  = Gas constant,  $\text{mm Hg-cm}^3 / \text{g-mol K}^\circ$
- $T$  = Ambient temperature,  $\text{K}^\circ$

If the porosity emission rate ( $ER_{i,PS}$ ) equation, Equation (2), yields a value that exceeds one-third the total mass of the contaminant in the pore space,  $M_{i,G}$ , then the following equation should be used to calculate the pore space emissions.

$$\text{Equation(3)} \quad ER_{i,PS} = \frac{M_{i,G}}{3 \times t_{sv}}$$

Where:  $M_{i,G}$  =  $C_i \times S_v \times 10^6$

And:

- $M_{i,G}$  = Total mass of contaminant  $i$  in soil, g
- $S_v$  = Volume of soil moved,  $\text{m}^3$
- $t_{sv}$  = Time to excavate a given volume of soil, sec
- $C_i$  = Bulk soil concentration for contaminant  $i$ ,  $\text{g}/\text{cm}^3$ .

The diffusion term,  $ER_{i,DIFF}$ , is given by Equation (4).

$$\text{Equation(4)} \quad ER_{i,\text{DIFF}} = \frac{C_i \times 10,000 \times SA}{\frac{E_{i,a}}{K_{i,eq} \times k_g} + \left[ \frac{\pi \times t}{D_{i,e} \times K_{i,eq}} \right]^{\frac{1}{2}}}$$

Where:  $ER_{i,\text{DIFF}}$  = Diffusivity emission rate for contaminant i, g/sec  
 $C_i$  = Bulk soil concentration for contaminant i, g/cm<sup>3</sup>  
 $SA$  = Emitting surface area, m<sup>2</sup>  
 $E_{i,a}$  = Air filled porosity for contaminant i, dimensionless

$$K_{i,eq} = \frac{P_i \times MW_i \times E_{i,a}}{R \times T \times C_i}$$

$K_{i,eq}$  = Relative saturation of soil-gas of contaminant i, dimensionless  
 $k_g$  = Gas-phase mass transfer coefficient, cm/sec  
 $t$  = Time increment for diffusivity emissions, sec (923 sec).

And:

$$D_{i,e} = \frac{D_{i,a} \times (E_{i,a})^{3.33}}{(E_T)^2}$$

$D_{i,e}$  = Effective diffusivity in air for contaminant i, cm<sup>2</sup>/sec  
 $D_{i,a}$  = Diffusivity in air for contaminant i, cm<sup>2</sup>/sec  
 $E_T$  = Total soil porosity, dimensionless.

The  $K_{i,eq}$  term represents the relative saturation of the soil-gas with respect to contaminant i and can not realistically exceed 1.0. If the equation for  $K_{i,eq}$  yields a value greater than 1.0, then 1.0 is used.

The  $ER_{i,\text{VOC}}$  emission rate was averaged over the one hour excavation time and assumed to be constant for the hour. For simplicity, the time at which the average emission rate occurs was used to calculate the diffusivity term of the VOC emissions,  $ER_{i,\text{DIFF}}$ , to yield the average emission rate for the hour. The time at which the average emission occurs was calculated to be approximately 923 seconds.



The pore space emissions and diffusivity emissions were added to obtain the overall emission rate, in g/sec, due to VOC emissions,  $ER_{i,VOC}$ . To obtain a flux (emission rate per unit area), the  $ER_{i,VOC}$  term was divided by the sum of the surface areas of the pile and the pit.

The values that were not available from field data are presented below. These values are defaults obtained from the model's construction scenario.

<b>INPUT VARIABLE DEFAULT/CONSTANT VALUES</b>		
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ExC	0.333	dimensionless
S <sub>v</sub>	150	m <sup>3</sup>
t <sub>sv</sub>	3600	sec
Q	0.0416	m <sup>3</sup> /sec
SA	290	m <sup>2</sup>
T	298	K°
R	62,361	mm Hg-cm <sup>3</sup> / g-mol K°
k <sub>g</sub>	0.15	cm/sec

The contaminant emission rate due to dust,  $ER_{i,DUST}$ , was calculated using the same construction scenario used by the VOC model. The equations used in the dust model with the input parameters are shown below.

Equation(5) 
$$ER_{i,DUST} = C^*_i \times \frac{k \times 0.0016 \times M_{KG} \times \left[ \frac{U}{2.2} \right]^{1.3}}{t_{sv} \times \left[ \frac{X}{2.0} \right]^{1.4}}$$

- Where:
- $ER_{i,DUST}$  = Emission rate for contaminant i due to dust emissions, g/sec
  - $C^*_i$  = Weight fraction of contaminant i in soil, g/g
  - k = Particle size multiplier, dimensionless
  - 0.0016 = Empirical constant, g/kg
  - $M_{KG}$  = Mass of waste handled, kg
  - U = Mean wind speed, m/sec

X	=	Percent moisture, %
2.2	=	Empirical constant, m/sec
2.0	=	Empirical constant, %
$t_{sv}$	=	Time to excavate the soil containing $M_{KG}$ of contaminant i, sec

For the 'model' construction scenario, the particle size considered for the dust emissions is  $PM_{10}$ . The particle size multiplier for  $PM_{10}$  that is used in Equation (5), k, is 0.35. The value used for the mean wind speed, U, is 1.75 m/sec.

As with the emission rate due to VOC emissions, the emission rate due to dust emissions is divided by the sum of the areas of the pit and the storage pile to yield a flux emission rate per unit area.

The mean and 95 percent UCL soil concentrations of each contaminant were available for each source area. From these concentrations, the above equations were used to calculate the emissions due to dust and, for the volatile compounds, the emissions due to VOCs. Each of these emission rates,  $ER_{VOC}$  and  $ER_{DUST}$ , were calculated for each area using both the mean and 95 percent UCL concentrations for each contaminant.

A standard construction scenario is used by the model to determine the mean and 95 percent UCL emission fluxes ( $g/sec-m^2$ ) for each contaminant due both to VOC and dust for each site. These emission fluxes are then assumed to be constant during the time the site is excavated. As stated in the exposure models in Section 2.3, the construction scenario that applies to the AFP 59 source areas is assumed to last for two months. The emission fluxes calculated from the standard construction scenario, then, are assumed to occur during the entire time that the construction scenario is under way (two months). Each area is assumed to be excavated to a depth of 12 feet over the entire area one time during the time of construction.

**2.2.4.3 Dispersion of Air Contaminants.** Contaminant concentrations in air were calculated by multiplying the site/contaminant-specific emission rates described above by an appropriate dilution factor. The dilution factor was calculated using the SCREEN2 dispersion model (USEPA, September 1992). The SCREEN2 model was run in the rural mode with no terrain adjustments.

SCREEN2 requires that area sources be square. Because the extent of the subsurface contamination is not clearly defined, the emitting area of the sites could not be exactly represented. Therefore, a square source area with area equal to the estimated extent of contamination was overlaid onto each site.

Two receptors were modeled for each of the three AFP 59 source areas. One receptor, representing a resident in the residential area immediately to the west of the plant, was common to all three areas. To represent this receptor, the distances from the edge of each source area to the boundary of the plant adjacent to the residential area was modeled. (Because the SCREEN2 model assumes that the wind is blowing directly from the source area to the receptor,

only the distance from the source area to the receptor is required as an input parameter.) The resulting concentrations were summed to obtain a total concentration at the residential receptor. Another receptor, representing an onsite worker, was placed as close to each source area as allowed by the model in order to obtain a maximum concentration from that source. The resulting three concentrations were summed to form a worst-case concentration to which any onsite worker potentially would be exposed.

To obtain a dilution factor, an emission rate of  $1 \times 10^{-6}$  g/sec- $m^2$  was modeled for each source area in a given site. The resulting modeled concentrations at receptors were used as dilution factors for those receptors. Actual concentrations due to site emissions for chemicals of potential concern for each human receptor are given by the following equation:

$$X_{i,s,r} = \left[ \frac{X}{Q} \right]_{s,r} \times E_{i,s} \times 10^3 \text{ mg/g}$$

Where:

$X_{i,s,r}$	=	concentration of chemical of concern $i$ due to site $s$ at receptor $r$ , $\text{mg}/\text{m}^3$
$(X/Q)_{s,r}$	=	dilution factor for site $s$ at receptor $r$ ,
		$\frac{\text{g}/\text{m}^6}{\text{g}/\text{sec}-\text{m}^2}$
$E_{i,s}$	=	emission rate for chemical of concern $i$ from site $s$ , $\text{g}/\text{sec}-\text{m}^2$ .

SCREEN2 analyzes a variety of hypothetical meteorological conditions to calculate a "worst case" one-hour average concentration. For future in situ scenarios, the one-hour average was multiplied by 0.1 to approximate an annual average concentration. For construction scenarios, the one-hour average concentration was used for the two month exposure period. This is because the construction worker is assumed to be in the center of the emitting area thus negating the effect of wind direction variability.

Both an arithmetic mean and 95% UCL concentration is calculated from the appropriate emission rate. Chemical concentrations of fugitive dust at receptors are presented in Appendix G-1. Chemical concentrations of VOCs at receptors are presented in Appendix G-2.

For the construction scenario, the emitting area was assumed to be of constant size and moving with the receptor (the construction worker). The emitting area was assumed to be square with a diagonal equal to 10 meters. This is the length of the trench dug over the six minute emitting period (the amount of time assumed to elapse before the excavated material is covered). The receptor was placed in the center of this area. Since the construction worker was assumed to be in the center of the emitting area, the source was divided into four equal smaller squares, and the receptor was placed as close to one of these smaller squares as allowed by the SCREEN2 model. Contribution from the other three sources was represented by using the one

hour average generated by SCREEN2 as the two month average, thus negating the effect of changing wind direction (i.e., the construction worker would always be downwind of one quarter of the emitting area).

### 2.3 Intake Estimates

Intake values were estimated for completed exposure pathways identified in Table 2-1. EARTH TECH developed software programs using Arity Prolog to calculate receptor intake values for each identified exposure pathway.

Chronic Daily Intake (CDIs) were estimated for current recreational users of Little Choconut Creek, future onsite industrial workers, and future offsite 30-year residents. Subchronic Daily Intakes (SDIs) were estimated for future onsite construction workers. In accordance with USEPA Guidance, CDIs were estimated for exposure of 7 years to a lifetime and SDIs were estimated for exposure of 2 weeks to 7 years (U.S. Environmental Protection Agency, December 1989).

The basic formula used to estimate CDI or SDI is the following:

$$CDI \text{ or } SDI \text{ (mg/kg-day)} = C \times \frac{CR \times EF \times ED}{BW} \times \frac{1}{AT}$$

Where:	CDI or SDI	=	CDI or SDI by the receptor in mg/kg body weight-day
	C	=	Chemical concentration; the arithmetic mean, 95 percent UCL of the mean, or maximum concentration contacted over the exposure period
	CR	=	Contact Rate; the amount of contaminated media contacted per unit time or event
	EF	=	Exposure Frequency (days/year)
	ED	=	Exposure Duration (years)
	BW	=	Body weight of receptor; the average body weight over the exposure period (kg)
	AT	=	Averaging Time; period over which the exposure is averaged (days).

Tables 2-9 through 2-26 present formulas and assumptions used to model intake values for each complete exposure pathway. Standard default exposure factors were used to estimate intake where applicable. Guidance provided by the USEPA was used for selection of standard default exposure factors. Reasonable assumptions were made to quantify site-specific exposure factors.

Using the exposure models and factors presented in Tables 2-9 through 2-26, chemical intake values (i.e., exposure values) were estimated for identified receptors. Estimated current and future intake values are presented in Appendix H.

**TABLE 2-1  
POTENTIAL PATHWAYS OF EXPOSURE TO CHEMICALS OF POTENTIAL CONCERN**

<b>CURRENT LAND USE CONDITIONS</b>			
<b>Medium</b>	<b>Route of Exposure</b>	<b>Receptor</b>	<b>Complete Pathway</b>
Surface Water (offsite)	Dermal absorption while wading	Recreational users (i.e., 7 through 15 year age range) of Little Choconut Creek	Yes. Recreational users have been observed who are wading in the creek while fishing.
Surface Water (offsite)	Incidental Ingestion while swimming	Recreational users of Little Choconut Creek	No. Creek is too shallow to allow swimming.
Fish (offsite)	Ingestion	Recreational users of Little Choconut Creek	Yes. Recreational users have been observed fishing in the creek.
Soil (onsite)	Incidental Ingestion Dermal absorption	Industrial (plant) workers	No. Site soil is 98% covered by impermeable material (i.e., building material and the asphalt parking lot).
Air (onsite)	Inhalation of VOCs Inhalation of fugitive dust	Industrial (plant) workers	No. Site soil is 98% covered by impermeable material (i.e., building material and the asphalt parking lot).
Air (offsite)	Inhalation of VOCs Inhalation of fugitive dust	Residents	No. Site soil is 98% covered by impermeable material (i.e., building material and the asphalt parking lot).
Groundwater (onsite)	Ingestion	Industrial (plant) workers	No. Potable supply wells are not located on site.
Groundwater (offsite)	Ingestion Inhalation while showering Dermal absorption while showering	Residents; Industrial (plant) workers	No. It is unknown if onsite groundwater contamination has reached the offsite Johnson City Municipal Wellfield.

**TABLE 2-1  
POTENTIAL PATHWAYS OF EXPOSURE TO CHEMICALS OF POTENTIAL CONCERN**

Continued

FUTURE LAND USE CONDITIONS			
Medium	Route of Exposure	Receptor	Complete Pathway
Soil (onsite)	Dermal absorption Incidental ingestion	Industrial workers	Yes, assuming industrial development occurs on site and soil is exposed.
Soil (onsite)	Dermal absorption Incidental ingestion	Construction workers	Yes, assuming industrial development occurs on site which requires excavation.
Air (onsite)	Inhalation of VOCs Inhalation of fugitive dust	Industrial workers	Yes, assuming industrial development occurs on site and soil is exposed.
Air (onsite)	Inhalation of VOCs Inhalation of fugitive dust	Construction workers	Yes, assuming industrial development occurs on site which requires excavation.
Air (offsite)	Inhalation of VOCs Inhalation of fugitive dust	30-year residents	Yes, assuming industrial development occurs on site and soil is exposed.
Groundwater (offsite)	Ingestion	Industrial workers	Yes. Groundwater contamination could reach supply wells in the Johnson City Municipal Wellfield in the future.
Groundwater (offsite)	Ingestion Dermal absorption while showering Inhalation while showering	30-year residents	Yes. Groundwater contamination could reach supply wells in the Johnson City Municipal Wellfield in the future.
Groundwater (onsite)	Ingestion Dermal absorption while showering Inhalation while showering	Industrial workers; 30-year residents	No. It is highly unlikely that potable supply wells will be developed on site.
Vegetation, fruit (onsite)	Ingestion	30-year residents	No. Future development is assumed to be industrial.
Soil (onsite); air (onsite)	Incidental Ingestion Dermal absorption Inhalation of VOCs Inhalation of fugitive dust	30-year residents	No. Future development in assumed to be industrial.

Table 2-2  
Plating Room  
Chemical Concentrations in Surface Soil (0 to 3 feet) at Receptors

Receptor: Future Onsite Industrial Workers		Arithmetic Mean Concentration mg/kg	95% UCL Concentration mg/kg
Chemical Category	Chemical		
Inorganics	ARSENIC	10.08	11.04
	BARIUM	41.12	45.85
	BERYLLIUM	0.48	0.52
	CADMIUM	4.2	3.5
	CHROMIUM, TOTAL	48.7	77.5
	COBALT	4.9	5.8
	COPPER	64.3	64.5
	CYANIDE	0.60	0.72
	LEAD	352.8	280.7
	MANGANESE	371.6	434.1
	MERCURY	0.06	0.08
	MOLYBDENUM	681.6	4060.0 (a)
	NICKEL	40.5	60.6
	VANADIUM	7.4	9.5
ZINC	272.0	138.1	
Pesticides/PCBs	ALDRIN	0.013	0.000044 (a)
	ALPHA ENDOSULFAN	0.0006	0.0011 (a)
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.014	0.0003 (a)
	BETA ENDOSULFAN	0.007	0.0006 (a)
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.013	0.0001 (a)
	DIELDRIN	0.014	0.0001 (a)
	ENDOSULFAN SULFATE	0.015	0.0016 (a)
	GAMMA BHC (LINDANE)	0.013	0.0001 (a)
	METHOXYCHLOR	0.016	0.0045 (a)
	p,p'-DDD	0.004	0.001 (a)
	p,p'-DDT	0.002	0.0006 (a)
	Semi-Volatile Organics	BENZO(a)ANTHRACENE	0.17
bis(2-ETHYLHEXYL) PHTHALATE		0.30	0.42 (a)
CHRYSENE		0.19	0.066 (a)
FLUORANTHENE		0.16	0.11 (a)
PYRENE		0.16	0.075 (a)
Volatile Organics	ACETONE	0.263	0.429
	METHYLENE CHLORIDE	0.003	0.004
	TETRACHLOROETHYLENE(PCE)	0.003	0.0012 (a)
	TRICHLOROETHYLENE (TCE)	0.010	0.014

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.

Table 2-2  
Reservoir  
Chemical Concentrations in Surface Soil (0 to 3 feet) at Receptors

Receptor: Future Onsite Industrial Workers		Arithmetic Mean Concentration mg/kg	95% UCL Concentration mg/kg	
Chemical Category	Chemical			
Inorganics	ALUMINUM	7830	13400.0	(a)
	CHROMIUM, TOTAL	9.5	15.6	(a)
	MANGANESE	354.3	418.0	(a)
	MOLYBDENUM	11.7	17.9	(a)
Pesticides/PCBs	ALDRIN	0.004	0.0015	(a)
	ALPHA ENDOSULFAN	0.0002	0.0002	
	BETA ENDOSULFAN	0.007	0.0003	(a)
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0005	0.0009	(a)
	DIELDRIN	0.002	0.0036	(a)
	ENDOSULFAN SULFATE	0.006	0.0032	(a)
	ENDRIN	0.003	0.0007	(a)
	ENDRIN ALDEHYDE	0.007	0.014	(a)
	GAMMA BHC (LINDANE)	0.0011	0.0004	(a)
	HEPTACHLOR	0.0013	0.0021	(a)
	HEPTACHLOR EPOXIDE	0.004	0.0049	(a)
	METHOXYCHLOR	0.009	0.0016	(a)
	p,p'-DDD	0.002	0.0006	(a)
	p,p'-DDE	0.002	0.001	(a)
p,p'-DDT	0.001	0.0013	(a)	
Semi-Volatile Organics	BENZO(a)ANTHRACENE	0.17	0.2	(a)
	BENZO(a)PYRENE	0.15	0.14	(a)
	BENZO(b)FLUORANTHENE	0.18	0.29	(a)
	bis(2-ETHYLHEXYL) PHTHALATE	0.29	0.2	(a)
	CHRYSENE	0.23	0.2	(a)
	DI-n-BUTYL PHTHALATE	0.4	0.086	(a)
	FLUORANTHENE	0.17	0.3	(a)
	PHENANTHRENE	0.15	0.074	(a)
	PYRENE	0.18	0.29	(a)
Volatile Organics	TRICHLOROETHYLENE (TCE)	0.008	0.0084	(a)

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.



Table 2-2  
Waste Oil Tanks  
Chemical Concentrations in Surface Soil (0 to 3 feet) at Receptors

Receptor: Future Onsite Industrial Workers		Arithmetic Mean Concentration mg/kg	95% UCL Concentration mg/kg
Chemical Category	Chemical		
Inorganics	ALUMINUM	10797	11500.0 (a)
	BARIUM	59.90	74.9 (a)
	CHROMIUM, TOTAL	12.8	13.6 (a)
	MANGANESE	499.0	678.0 (a)
	MOLYBDENUM	9.0	14.8 (a)
Pesticides/PCBs	ALDRIN	0.004	0.0005 (a)
	ALPHA ENDOSULFAN	0.0020	0.0003 (a)
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.003	0.0011 (a)
	BETA ENDOSULFAN	0.004	0.0004 (a)
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0006	0.001 (a)
	DIELDRIN	0.003	0.0039 (a)
	ENDRIN ALDEHYDE	0.020	0.043 (a)
	HEPTACHLOR	0.0010	0.0001 (a)
	p,p'-DDD	0.003	0.0056 (a)
	p,p'-DDE	0.001	0.001 (a)
Semi-Volatile Organics	NAPHTHALENE	0.12	0.15 (a)
Volatile Organics	1,1-DICHLOROETHANE	0.006	0.0018 (a)
	1,2,4-TRIMETHYLBENZENE	0.007	0.0026 (a)
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.007	0.0046 (a)
	cis-1,2-DICHLOROETHYLENE	0.010	0.013 (a)

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.

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Table 2-3  
Plating Room  
Chemical Concentrations in Subsurface Soil (0 to 12 feet) at Receptors

Receptor: Future Onsite Construction Workers		Arithmetic Mean Concentration mg/kg	95% UCL Concentration mg/kg
Chemical Category	Chemical		
Inorganics	CADMIUM	3.3	2.4
	CYANIDE	0.51	0.59
	MERCURY	0.08	0.12
	MOLYBDENUM	259.5	167.9
Pesticides/PCBs	ALDRIN	0.009	0.000044 (a)
	ALPHA ENDOSULFAN	0.0020	0.0011 (a)
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.009	0.0003 (a)
	BETA ENDOSULFAN	0.010	0.0006 (a)
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.005	0.0001 (a)
	DIELDRIN	0.008	0.0002 (a)
	ENDOSULFAN SULFATE	0.009	0.0016 (a)
	GAMMA BHC (LINDANE)	0.006	0.0002 (a)
	HEPTACHLOR	0.008	0.000032 (a)
	METHOXYCHLOR	0.014	0.013 (a)
	p,p'-DDD	0.005	0.0022 (a)
	p,p'-DDT	0.003	0.0006 (a)
	PCB-1254 (AROCHLOR 1254)	0.035	0.074
Semi-Volatile Organics	ACENAPHTHENE	0.19	0.15 (a)
	ANTHRACENE	0.22	0.25
	BENZO(a)ANTHRACENE	0.34	0.37
	BENZO(a)PYRENE	0.25	0.28
	BENZO(b)FLUORANTHENE	0.35	0.35
	bis(2-ETHYLHEXYL) PHTHALATE	0.32	0.37
	CHRYSENE	0.4	0.5
	DIBENZOFURAN	0.18	0.043 (a)
	FLUORANTHENE	0.41	0.38
	FLUORENE	0.18	0.11 (a)
	PHENANTHRENE	0.31	0.33
	PYRENE	0.43	0.41
	Volatile Organics	1,1,1-TRICHLOROETHANE	0.019
ACETONE		0.245	0.437
BROMOMETHANE		0.019	0.014
DICHLORODIFLUOROMETHANE		0.054	0.0014 (a)
METHYLENE CHLORIDE		0.023	0.008 (a)
TETRACHLOROETHYLENE(PCE)		0.019	0.0012 (a)
TRICHLOROETHYLENE (TCE)		0.024	0.028

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.

Table 2-3  
Reservoir  
Chemical Concentrations in Subsurface Soil (0 to 12 feet) at Receptors

Receptor: Future Onsite Construction Workers		Arithmetic Mean Concentration mg/kg	95% UCL Concentration mg/kg
Chemical Category	Chemical		
Inorganics	COPPER	46.5	63.0
	MERCURY	0.17	0.20
	MOLYBDENUM	11.9	16.2
	SELENIUM	0.7	0.56 (a)
	ZINC	178.9	277.2
Pesticides/PCBs	ALDRIN	0.004	0.0015 (a)
	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0001 (a)
	ALPHA ENDOSULFAN	0.0011	0.0009 (a)
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.006	0.0006 (a)
	BETA ENDOSULFAN	0.008	0.0053 (a)
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0004	0.0006
	DIELDRIN	0.003	0.0036 (a)
	ENDOSULFAN SULFATE	0.004	0.0032 (a)
	ENDRIN	0.004	0.0024 (a)
	ENDRIN ALDEHYDE	0.005	0.014 (a)
	GAMMA BHC (LINDANE)	0.0010	0.0004 (a)
	HEPTACHLOR	0.0012	0.0015
	HEPTACHLOR EPOXIDE	0.005	0.0049 (a)
	METHOXYCHLOR	0.013	0.024 (a)
	p,p'-DDD	0.002	0.0061 (a)
	p,p'-DDE	0.005	0.001 (a)
	p,p'-DDT	0.003	0.0049 (a)
PCB-1260 (AROCHLOR 1260)	0.04	0.04	
Semi-Volatile Organics	ANTHRACENE	0.23	0.14 (a)
	BENZO(a)ANTHRACENE	0.22	0.43
	BENZO(a)PYRENE	0.20	0.24
	BENZO(b)FLUORANTHENE	0.25	0.36
	BENZO(g,h,i)PERYLENE	0.21	0.15 (a)
	bis(2-ETHYLHEXYL) PHTHALATE	0.3	0.2 (a)
	CHRYSENE	0.3	0.4
	DI-n-BUTYL PHTHALATE	0.5	0.086 (a)
	FLUORANTHENE	0.25	0.42
	FLUORENE	0.18	0.052 (a)
	INDENO(1,2,3-c,d)PYRENE	0.4	0.16 (a)
	PHENANTHRENE	0.21	0.34
	PYRENE	0.25	0.42
Volatile Organics	1,1,1-TRICHLOROETHANE	0.009	0.003 (a)
	TRICHLOROETHYLENE (TCE)	0.011	0.013

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.

Table 2-3  
Waste Oil Tanks  
Chemical Concentrations in Subsurface Soil (0 to 12 feet) at Receptors

Receptor: Future Onsite Construction Workers		Arithmetic Mean Concentration mg/kg	95% UCL Concentration mg/kg
Chemical Category	Chemical		
Inorganics	ALUMINUM	10703	11409
	BARIUM	57.69	68.41
	MERCURY	0.17	0.12 (a)
	MOLYBDENUM	11.0	14.4
	ZINC	93.7	116.2
Pesticides/PCBs	ALDRIN	0.007	0.0012 (a)
	ALPHA ENDOSULFAN	0.003	0.0028 (a)
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.007	0.0043 (a)
	BETA ENDOSULFAN	0.01	0.0004 (a)
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0007	0.0015 (a)
	DIELDRIN	0.007	0.0039 (a)
	ENDOSULFAN SULFATE	0.01	0.013 (a)
	ENDRIN	0.007	0.0088 (a)
	ENDRIN ALDEHYDE	0.011	0.043 (a)
	GAMMA BHC (LINDANE)	0.002	0.0006 (a)
	HEPTACHLOR	0.002	0.0001 (a)
	METHOXYCHLOR	0.014	0.0066 (a)
	p,p'-DDD	0.007	0.0056 (a)
	p,p'-DDE	0.009	0.0028 (a)
	p,p'-DDT	0.007	0.008 (a)
PCB-1254 (AROCHLOR 1254)	0.03	0.03	
Semi-Volatile Organics	2,4-DINITROTOLUENE	0.5	0.41 (a)
	2-METHYLNAPHTHALENE	0.3	0.3
	ACENAPHTHENE	0.5	0.29 (a)
	ANTHRACENE	0.6	0.42 (a)
	BENZO(a)ANTHRACENE	0.6	0.9
	BENZO(a)PYRENE	0.4	0.7
	BENZO(b)FLUORANTHENE	0.5	0.8
	BENZO(g,h,i)PERYLENE	0.5	0.49 (a)
	bis(2-ETHYLHEXYL) PHTHALATE	0.4	0.4
	CHRYSENE	0.8	1.0 (a)
	DI-n-BUTYL PHTHALATE	1	0.06 (a)
	DIBENZ(a,h)ANTHRACENE	0.5	0.11 (a)
	DIBENZOFURAN	0.5	0.36 (a)
	FLUORANTHENE	0.5	1.0
	FLUORENE	0.4	0.45 (a)
	INDENO(1,2,3-c,d)PYRENE	0.8	0.45 (a)
	NAPHTHALENE	0.3	0.7
	PHENANTHRENE	0.5	0.7
	PYRENE	0.6	1.0
Volatile Organics	1,1,1-TRICHLOROETHANE	0.008	0.0025 (a)
	1,1-DICHLOROETHANE	0.007	0.011
	1,2,4-TRIMETHYLBENZENE	0.012	0.015
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.020	0.024
	CHLOROETHANE	0.011	0.0045 (a)
	cis-1,2-DICHLOROETHYLENE	0.015	0.023
	ETHYLBENZENE	0.008	0.0013 (a)
	ISOPROPYLBENZENE (CUMENE)	0.009	0.0027 (a)
	n-BUTYLBENZENE	0.011	0.013
	n-PROPYLBENZENE	0.008	0.0078 (a)
	P-CYMENE (p-ISOPROPYLTOLUENE)	0.011	0.013
	SEC-BUTYLBENZENE	0.009	0.011
	TOLUENE	0.008	0.0013 (a)
	TRICHLOROETHYLENE (TCE)	0.009	0.012
	VINYL CHLORIDE	0.009	0.010
XYLENES, TOTAL	0.009	0.011	

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.

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Table 2-4  
Little Choconut Creek  
Chemical Concentrations in Surface Water at Receptors

Receptor: Current Recreational Users of Little Choconut Creek		Arithmetic Mean Concentration ug/l	95% UCL Concentration ug/l	
Chemical Category	Chemical			
Inorganics	ARSENIC	4.6	2.9	(a)
	BARIUM	41.4	64.0	(a)
	CHROMIUM, TOTAL	8.3	6.0	(a)
	COPPER	7.8	13.3	(a)
	LEAD	3.6	3.2	(a)
	MANGANESE	16.9	34.5	(a)
	ZINC	19.7	29.9	(a)
Volatile Organics	BROMODICHLOROMETHANE	0.37	0.6	(a)
	BROMOFORM	0.53	1.1	(a)
	CHLOROFORM	0.36	0.33	(a)
	DIBROMOCHLOROMETHANE	0.49	0.96	(a)
	DICHLORODIFLUOROMETHANE	0.5	0.38	(a)
Pesticides/PCBs	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0012	0.0018	(a)
	ENDOSULFAN SULFATE	0.05	0.01	(a)
	ENDRIN	0.018	0.0031	(a)
	GAMMA BHC (LINDANE)	0.013	0.013	(a)
	HEPTACHLOR EPOXIDE	0.018	0.003	(a)
	p,p'-DDD	0.016	0.018	(a)
Semi-Volatile Organics	bis(2-ETHYLHEXYL) PHTHALATE	6	3.0	(a)

(a) Since the one-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean exceeded the maximum, the maximum is used.

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Table 2-5  
Chemical Concentrations of Pesticides and Metals in the Shallow Groundwater Zone

Receptor: Future Offsite 30-year Residents; Future Onsite Industrial Workers		Maximum Concentration ug/l
Chemical Category	Chemical	
Inorganics	ALUMINUM	5020.0
	ARSENIC	10.5
	BARIUM	344.0
	BERYLLIUM	1.1
	CHROMIUM, TOTAL	27.2
	COPPER	52.9
	LEAD	79.6
	MANGANESE	4000.0
	NICKEL	47.5
	SILVER	10.0
	VANADIUM	12.4
ZINC	34.9	
Pesticides/PCBs	ALDRIN	0.0015
	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0005
	ALPHA ENDOSULFAN	0.0015
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.01
	BETA ENDOSULFAN	0.0041
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.007
	DIELDRIN	0.001
	ENDOSULFAN SULFATE	0.0014
	ENDRIN	0.0062
	ENDRIN ALDEHYDE	0.0075
	GAMMA BHC (LINDANE)	0.0043
	HEPTACHLOR	0.0022
	HEPTACHLOR EPOXIDE	0.0036
	METHOXYCHLOR	0.0096
	p,p'-DDD	0.0082
	p,p'-DDE	0.0033
p,p'-DDT	0.0007	

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**Table 2-6**  
**Chemical Concentrations of Pesticides and Metals in the Deep Groundwater Zone**

Receptor: Future Offsite 30-year Residents; Future Onsite Industrial Workers		Maximum Concentration ug/l
Chemical Category	Chemical	
Inorganics	ALUMINUM	1000.0
	ARSENIC	11.9
	BARIUM	222.0
	COPPER	2.9
	LEAD	6.0
	MANGANESE	1440.0
	THALLIUM	46.8
	VANADIUM	6.0
	ZINC	33.9
Pesticides/PCBs	ALDRIN	0.0025
	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0051
	ALPHA ENDOSULFAN	0.0013
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0089
	BETA ENDOSULFAN	0.0051
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.011
	ENDOSULFAN SULFATE	0.0068
	ENDRIN	0.001
	ENDRIN ALDEHYDE	0.003
	GAMMA BHC (LINDANE)	0.0012
	HEPTACHLOR EPOXIDE	0.0065
	METHOXYCHLOR	0.09
	p,p'-DDD	0.0019
	p,p'-DDE	0.15
	p,p'-DDT	0.016

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**TABLE 2-7**  
**SOLUTE MODEL INPUT PARAMETERS**

<b>PHYSICAL AND CHEMICAL PARAMETERS</b>		
Average Hydraulic Conductivity (feet/day)	454.97	
Hydraulic Gradient (dimensionless)	0.003	
Effective Porosity (dimensionless)	0.35	
Groundwater Velocity (feet/day)	3.9	
Longitudinal Dispersion (feet)	50	
Contaminant	Partition Coefficient (Koc) (mL/g)	Retardation Factor (Rd) (Dimensionless)
1,1,1-Trichloroethane	152	3.7
1,1-Dichloroethane	30	1.5
1,1-Dichloroethene	65	2.16
1,2,4-Trichlorobenzene	9200	165
1,2,4-Trimethylbenzene	NA	NA
1,3,5-Trimethylbenzene	NA	NA
Bromodichloromethane	61	2.1
Carbon Tetrachloride	439	8.8
Chloroethane	37#	1.6
Chloromethane	35	1.6
Cis-1,2-dichloroethene	49	1.8
Ethylbenzene	1100	20
Isopropylbenzene	NA	NA
Naphthalene	940*	17.8
n-Propylbenzene	NA	NA
Toluene	250*	5.4
Trans-1,2-dichloroethene	59	2.0
Trichloroethene	126	3.2
Trichlorofluoromethane	159	3.84
Trichloromethane (Chloroform)	47	1.8
Vinyl Chloride	8.2*	1.1
Total Xylenes	268	5.8
Bis(2-ethylhexyl)phthalate	2E09	> 1000
Di-n-butylphthalate	162#	3.9

**Key:** NA = Not Available

\*Determining soil response action levels EPA/540/2-89/057.

#New York State Department of Environmental Conservation HWR-94-4046, January 24, 1994.

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**TABLE 2-8**  
**CHEMICAL CONCENTRATIONS IN GROUNDWATER AT THE RECEPTOR**  
**POINT USING SOLUTE MODEL**

Contaminant	Maximum Onsite Concentration (µg/L)	Location of Site Maximum	Distance to the Receptor Point Johnson City Well #2 (Feet)	Maximum Concentration at Receptor Point Johnson City Well #2 (µg/L)	Maximum Concentration Arrival Time (Years)
Bromodichloromethane	0.38	SW3	999	0.26	2.0
Trichloromethane	0.46	SW3	999	0.37	1.64
1,1,1-Trichloroethane	20	SW4	1747	7.5	4.5
1,1-Dichloroethene	2.1	SW4	1747	1.28	2.8
1,2,4-Trichlorobenzene	2.7	SW4	1747	0	>40
Trichloroethene	370	SW4	1747	159	4.1
Trichlorofluoromethane	2.8	SW4	1747	1.0	4.9
Di-n-butylphthalate	1.6	SW6	1140	0.72	3.2
1,1-Dichloroethane	33	SW7	1433	26.3	2.0
Carbon Tetrachloride	0.6	SW7	1433	0.11	8.6
Chloroethane	4.2	SW7	1433	3.3	2.0
cis-1,2-dichloroethene	150	SW7	1433	106	2.0
Vinyl Chloride	6.2	SW7	1433	5.6	1.6
Trans-1,2-dichloroethene	0.3	SW7	1433	0.20	3.9
1,2,4-Trimethylbenzene	15	SW11	2018	NA	NA
1,3,5-Trimethylbenzene	36	SW11	2018	NA	NA
Ethylbenzene	0.68	SW11	2018	0.04	26.5
Isopropylbenzene	1.0	SW11	2018	NA	NA
Naphthalene	2.8	SW11	2018	0.21	24
n-Propylbenzene	0.90	SW11	2018	NA	NA
Toluene	1.3	SW11	2018	0.31	7.4
Total Xylenes	6.9	SW11	2018	1.78	8.2
Bis(2-ethylhexyl)phthalate	1.5	SW12	1598	0	>40
1,1,1-Trichloroethane	1.2	DPW	1449	0.48	4.1
1,1-Dichloroethane	2.4	DPW	1449	1.9	2.0
Trichloroethene	4.0	DPW	1449	1.8	3.2
cis-1,2-dichloroethene	36	DW3	999	29.7	1.64
Vinyl Chloride	0.28	DW3	999	0.26	1.23
Total Xylenes	0.54	DW9	964	0.18	3.6
Ethylbenzene	0.40	DW9	964	0.04	11.9
1,3,5-Trimethylbenzene	0.78	DW11	2018	NA	NA
Chloromethane	0.38	DW11	2018	0.25	2.4
Bis(2-ethylhexyl)phthalate	5.9	DW11	2018	0	>40

Key: NA = Not Modeled

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**TABLE 2-9**  
**MODEL FOR ESTIMATING ABSORBED DOSE FOR CURRENT**  
**RECREATIONAL USERS OF LITTLE CHOCONUT CREEK THROUGH**  
**DERMAL ABSORPTION OF CHEMICALS IN SURFACE WATER**

$$\text{Absorbed Chronic Dose (mg/kg-day)} = \frac{CW \times SA \times PC \times ET \times EF \times ED \times CF}{BW \times AT}$$

**Where:**

CW	=	Chemical concentration in surface water (mg/L).
SA	=	Skin surface area available for contact (cm <sup>2</sup> ).
PC	=	Chemical specific dermal permeability constant (cm/hr).
ET	=	Exposure time (hours/day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
CF	=	Volumetric conversion factor for water (1 liter/1000 cm <sup>3</sup> ).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Concentrations in surface water (CW) are represented by the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean.
- The exposed skin surface area (SA) of recreational users wading in Little Choconut Creek is 3800 cm<sup>2</sup>/event (forearms, hands, lower legs, feet) (USEPA, July 1989). It is assumed that the exposed skin surface area is 30% of the total body surface area. The total body surface area was calculated as the average for boys and girls ages 7 through 15 for the 50th percentile.
- Chemical specific dermal permeability constants are presented in Table 2-10.
- The exposure time (ET) is 2.6 hours/day (USEPA, January 1992).
- A recreational user is assumed to be exposed (EF) for 64 days/year, or 4 days/week for the 16 warmest weeks of the spring and summer.
- The duration of exposure (ED) for a recreational user is 9 years (i.e., a child 7 through 15 years old).
- A child weighs 41.0 kg (BW) (USEPA, July 1989). This is an average of body weights for children in the age group (7 through 15 years old) that were assumed to be wading in Little Choconut Creek.
- The averaging time (AT) is 9 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-10**  
**DERMAL PERMEABILITY CONSTANTS FOR CHEMICALS OF POTENTIAL**  
**CONCERN IN GROUNDWATER AND SURFACE WATER**

Chemical	Permeability Constant (PC) (cm/hr)
1,1-Dichloroethane	$8.9 \times 10^{-3}$ (b)
1,1-Dichloroethene	$1.6 \times 10^{-2}$ (b)
1,1,1-Trichloroethane	$1.7 \times 10^{-2}$ (b)
1,2,4-Trichlorobenzene	$1.0 \times 10^{-1}$ (b)
1,2,4-Trimethylbenzene	$1 \times 10^{-3}$ (c)
1,3,5-Trimethylbenzene	$1 \times 10^{-3}$ (c)
Aldrin	$1.6 \times 10^{-3}$ (b)
Alpha Endosulfan	$1.0 \times 10^{-3}$ (c)
Alpha-BHC	$1.0 \times 10^{-3}$ (c)
Aluminum	$1 \times 10^{-3}$ (c)
Arsenic	$1 \times 10^{-3}$ (c)
Barium	$1 \times 10^{-3}$ (c)
Beryllium	$1 \times 10^{-3}$ (c)
Beta BHC	$1.0 \times 10^{-3}$ (c)
Beta Endosulfan	$1.0 \times 10^{-3}$ (c)
Bis(2-ethylhexyl)phthalate	$1 \times 10^{-3}$ (c)
Bromodichloromethane	$5.8 \times 10^{-3}$ (b)
Bromoform	$2.6 \times 10^{-3}$ (b)
Carbon Tetrachloride	$2.2 \times 10^{-2}$ (b)
Chloroethane	$8.0 \times 10^{-3}$ (b)
Chloroform (Trichloromethane)	$1 \times 10^{-1}$ (a)
Chloromethane	$4.2 \times 10^{-3}$ (b)
Chromium (as Sodium Chromate)	$2 \times 10^{-3}$ (a)
cis-1,2-Dichloroethene	$1 \times 10^{-2}$ (b)
Copper	$1 \times 10^{-3}$ (c)
Delta BHC	$1.0 \times 10^{-3}$ (c)
Di-n-butylphthalate	$1.0 \times 10^{-3}$ (c)
Dibromochloromethane	$1 \times 10^{-3}$ (c)
Dichlorodifluoromethane	$1.2 \times 10^{-2}$ (b)
Dieldrin	$1.6 \times 10^{-2}$ (b)
Endosulfan Sulfate	$1.0 \times 10^{-3}$ (c)
Endrin Aldehyde	$1.6 \times 10^{-2}$ (d)

**TABLE 2-10**  
**DERMAL PERMEABILITY CONSTANTS FOR CHEMICALS OF POTENTIAL**  
**CONCERN IN GROUNDWATER AND SURFACE WATER**

Continued

Chemical	Permeability Constant (PC) (cm/hr)
Endrin	$1.6 \times 10^{-2}$ (b)
Ethylbenzene	1 (a)
Gamma BHC	$1.0 \times 10^{-3}$ (c)
Heptachlor	$1.1 \times 10^{-2}$ (b)
Heptachlor Epoxide	$1.1 \times 10^{-2}$ (e)
Isopropylbenzene (Cumene)	$1 \times 10^{-3}$ (c)
Lead	$4.0 \times 10^{-6}$ (a)
Manganese	$1 \times 10^{-3}$ (c)
Methoxychlor	$1.0 \times 10^{-3}$ (c)
n-Propylbenzene	$1.0 \times 10^{-3}$ (c)
Naphthalene	$6.9 \times 10^{-2}$ (b)
Nickel	$1 \times 10^{-4}$ (a)
p,p'-DDD	$2.8 \times 10^{-1}$ (b)
p,p'-DDE	$2.4 \times 10^{-1}$ (b)
p,p'-DDT	$4.3 \times 10^{-1}$ (b)
Silver	$6 \times 10^{-4}$ (a)
Thallium	$1 \times 10^{-3}$ (c)
Toluene	1 (a)
trans-1,2-Dichloroethene	$1 \times 10^{-2}$ (b)
Trichloroethylene (TCE)	$2 \times 10^{-1}$ (a)
Trichlorofluoromethane	$1.7 \times 10^{-2}$ (b)
Vanadium	$1 \times 10^{-3}$ (c)
Vinyl Chloride	$7.3 \times 10^{-3}$ (b)
Xylenes, Total	$1 \times 10^{-3}$ (f)
Zinc	$6 \times 10^{-4}$ (a)

(a) Experimentally measured PC (Table 5-3 of U.S. EPA, 1992a).

(b) Predicted PC (Table 5-7 of U.S. EPA, 1992a).

(c) Experimentally measured PC value for water used in the absence of chemical-specific experimental or predicted PC values (Table 5-3 or 5-7, respectively, of U.S. EPA, 1992a), unless otherwise noted.

(d) Endrin used as surrogate.

(e) Heptachlor used as surrogate.

(f) Toluene used as surrogate.

**TABLE 2-11**  
**MODEL FOR ESTIMATING INTAKE FOR CURRENT RECREATIONAL USERS**  
**OF LITTLE CHOCONUT CREEK THROUGH INGESTION OF CONTAMINATED**  
**FISH**

$$CDI \text{ (mg/kg-day)} = \frac{CF \times IR \times FI \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CF	=	Contaminant concentration in fish (mg/kg).
IR	=	Ingestion rate (mg/day).
FI	=	Fraction ingested from contaminated source (unitless).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Contaminant concentrations in fish (CF) are represented by  $SW \times BCF$  where SW is the arithmetic mean or the 95% UCL of the measured surface water chemical concentration (mg/L) and BCF is the fish bioconcentration factor (L/kg) for that chemical. Chemical BCFs are presented in Table 2-12.
- The fish ingestion rate (IR) is 0.054 kg/day for a recreational user for fish caught on the Little Choconut Creek by a 7 to 15 year old recreational user (USEPA, March 1991).
- The fraction ingestion (FI) from fish is assumed to be 1.
- An adult recreational user is exposed (EF) for 350 days/year (USEPA, March 1991).
- The duration of exposure (ED) for an adult recreational user is 30 years (USEPA, March 1991).
- An adult recreational user weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 30 years  $\times$  365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years  $\times$  365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-12**  
**BIOCONCENTRATION FACTORS FOR CHEMICALS OF POTENTIAL**  
**CONCERN IN SURFACE WATER**

Chemical	Bioconcentration Factor (BCF)
Arsenic	8.5 <sup>(a)</sup> <sup>(f)</sup>
Barium	100 <sup>(b)</sup>
Bis(2-ethylhexylphthalate)	851 <sup>(l)</sup>
Bromodichloromethane	1 <sup>(j)</sup> <sup>(f)</sup>
Bromoform	37.4 <sup>(j)</sup>
Chloroform	7 <sup>(a)</sup> <sup>(f)</sup>
Chromium <sup>(g)</sup>	1 <sup>(a)</sup>
Copper	55 <sup>(e)</sup> <sup>(f)</sup>
p,p'-DDD	12,000 <sup>(d)</sup>
Delta BHC	319 <sup>(h)</sup>
Dibromochloromethane	1.1 <sup>(j)</sup> <sup>(f)</sup>
Dichlorodifluoromethane	26 <sup>(k)</sup>
Endosulfan Sulfate	8.8 <sup>(i)</sup>
Endrin	700 <sup>(c)</sup>
Gamma BHC	319 <sup>(b)</sup>
Heptachlor Epoxide	4,500 <sup>(m)</sup>
Lead	42 <sup>(a)</sup>
Manganese	350 <sup>(b)</sup> <sup>(f)</sup>
Zinc	1,000 <sup>(d)</sup>

- (a) ATSDR Toxicity Profile for Specified Compound, 1993.
- (b) ATSDR Toxicity Profile for Specified Compound, 1992.
- (c) ATSDR Toxicity Profile for Specified Compound, 1994 (Draft Report).
- (d) ATSDR Toxicity Profile for Specified Compound, 1992 (Draft Report).
- (e) ATSDR Toxicity Profile for Specified Compound, 1990.
- (f) Midpoint was calculated from a range of BCFs.
- (g) BCF for Chromium 6+ was used.
- (h) Gamma BHC used as surrogate. See (a).
- (i) Endosulfan used as surrogate. See (a).
- (j) Retrieved from Hazardous Substances Data Bank (HSDB), 1993.
- (k) Retrieved from Hazardous Substances Data Bank (HSDB), 1995.
- (l) Howard, 1989.
- (m) Howard, 1991.

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**TABLE 2-13**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE INDUSTRIAL**  
**WORKERS THROUGH INCIDENTAL INGESTION OF CHEMICALS IN**  
**SURFACE SOIL**

$$CDI \text{ (mg/kg-day)} = \frac{CS \times IR \times CF \times FI \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CS	=	Concentration in the surface soil (mg/kg) (i.e., 0 to 3 feet below land surface).
IR	=	Ingestion rate (mg/day).
CF	=	Conversion factor (10 <sup>-6</sup> kg/mg).
FI	=	Fraction ingested from contaminated source (unitless).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Contaminant concentrations in surface soil (CS) are represented by the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean.
- A soil ingestion rate (IR) of 50 mg/day is used for an industrial worker (USEPA, March 1991).
- The fraction ingested from the contaminated source (FI) is assumed to be 1.
- An industrial worker is exposed (EF) for a total of 250 days/year, or 5 days/week for 50 weeks/year (USEPA, March 1991). The industrial worker is assumed to be exposed to chemicals within each of three source areas for 1/3 of 250 days/year, or 83.3 days/year.
- The duration of exposure (ED) for an industrial worker is 25 years (USEPA, March 1991).
- An industrial worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 25 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-14**  
**MODEL FOR ESTIMATING ABSORBED DOSE FOR FUTURE ONSITE**  
**INDUSTRIAL WORKERS THROUGH DERMAL ABSORPTION OF CHEMICALS**  
**IN SURFACE SOIL**

$$\text{Absorbed Chronic Dose (mg/kg-day)} = \frac{CS \times CF \times SA \times AF \times ABS \times EF \times ED}{BW \times AT}$$

**Where:**

CS	=	Concentration in the surface soil (mg/kg) (i.e., 0 to 3 feet below land surface).
CF	=	Conversion factor (10 <sup>-6</sup> kg/mg).
SA	=	Skin surface area available for contact (cm <sup>2</sup> /event).
AF	=	Soil to skin adherence factor (mg/cm <sup>2</sup> skin).
ABS	=	Absorption factor (unitless).
EF	=	Exposure frequency (events/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Concentrations in surface soil (CS) are represented by the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean.
- The exposed skin surface area (SA) is 5,800 cm<sup>2</sup>/event (head, hands, forearms, lower legs) (USEPA, January 1992).
- Soil to skin adherence factor (AF) is 1.0 mg/cm<sup>2</sup>; this is a reasonable upper value (USEPA, January 1992).
- The absorption factor (ABS) is 0.25 (25%) for VOCs, 0.10 (10%) for SVOCs and pesticides, and 0.01 (1%) for inorganics (Ryan, *et al.*, November 1987).
- An industrial worker is exposed (EF) for a total of 250 events/year, 1 event/day, 5 events/week for 50 weeks/year. The industrial worker is assumed to be exposed to chemicals within each of three source areas for 1/3 of 250 events/year or 83.3 events/year.
- The duration of exposure (ED) for an industrial worker is 25 years (USEPA, March 1991).
- An industrial worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 25 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-15**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE**  
**INDUSTRIAL WORKERS THROUGH INHALATION OF**  
**CONTAMINATED FUGITIVE DUST**

$$CDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CA	=	Dust contaminant concentration in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The dust contaminant concentration in air (CA) is the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean. CA represents modeled outdoor air concentrations. It was assumed that the indoor air concentration inhaled by a worker is equal to the modeled outdoor concentration.
- The inhalation rate (IR) for an industrial worker is 20 m<sup>3</sup>/8-hour day (USEPA, March 1991).
- An industrial worker is exposed (EF) for 250 days/year, or 5 days/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for an industrial worker is 25 years (USEPA, March 1991).
- An industrial worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 25 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-16**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE**  
**INDUSTRIAL WORKERS THROUGH INHALATION OF VOLATILE**  
**ORGANIC COMPOUNDS**

$$CDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CA	=	Contaminant concentration in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The airborne contaminant concentration in air (CA) is the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean. CA represents modeled outdoor air concentrations. It was assumed that the indoor air concentration inhaled by a worker is equal to the modeled outdoor concentration.
- The inhalation rate (IR) is 20 m<sup>3</sup>/8-hour day (USEPA, March 1991).
- An industrial worker is exposed (EF) for 250 days/year, or 5 days/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for an industrial worker is 25 years (USEPA, March 1991).
- An industrial worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 25 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-17**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE**  
**INDUSTRIAL WORKERS THROUGH INGESTION OF CHEMICALS**  
**IN DRINKING WATER**

$$CDI \text{ (mg/kg-day)} = \frac{CW \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

- CDI = Chronic Daily Intake (mg/kg-day).  
 CW = Contaminant concentration in groundwater (mg/L).  
 IR = Drinking water ingestion rate (L/day).  
 EF = Exposure frequency (days/year).  
 ED = Exposure duration (years).  
 BW = Body weight (kg).  
 AT = Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Concentrations in groundwater (CW) are represented by the maximum concentration of an analyte.
- The drinking water ingestion rate (IR) is 2 L/day (USEPA, March 1991).
- An industrial worker is exposed (EF) for 250 days/year, or 5 days/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for an industrial worker is 25 years (USEPA, March 1991).
- An industrial worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 25 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-18**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE**  
**CONSTRUCTION WORKERS THROUGH INCIDENTAL INGESTION OF**  
**CHEMICALS IN SUBSURFACE SOIL**

$$SDI \text{ (mg/kg-day)} = \frac{CS \times IR \times CF \times FI \times EF \times ED}{BW \times AT}$$

**Where:**

- SDI = Subchronic Daily Intake (mg/kg-day).
- CS = Concentration in subsurface soil (mg/kg) (i.e., 0-12 feet below land surface).
- IR = Ingestion rate (mg/day).
- CF = Conversion factor (10<sup>-6</sup> kg/mg).
- FI = Fraction ingested from contaminated source (unitless).
- EF = Exposure frequency (days/year).
- ED = Exposure duration (years).
- BW = Body weight (kg).
- AT = Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Contaminant concentrations in subsurface soil (CS) are represented by the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean.
- A soil ingestion rate (IR) of 480 mg/day is used for a construction worker (USEPA, March 1991).
- The fraction ingested from the contaminated source (FI) is assumed to be 1.
- A construction worker is exposed (EF) for 250 days/year, or 5 days/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for a construction worker is 0.167 year (i.e., 2 months/year) at each source area.
- A construction worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 0.167 year × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-19**  
**MODEL FOR ESTIMATING ABSORBED DOSE FOR FUTURE ONSITE**  
**CONSTRUCTION WORKERS THROUGH DERMAL ABSORPTION**  
**OF CHEMICALS IN SUBSURFACE SOIL**

$$\text{Absorbed Subchronic Dose (mg/kg-day)} = \frac{CS \times CF \times SA \times AF \times ABS \times EF \times ED}{BW \times AT}$$

**Where:**

CS	=	Concentration in subsurface soil (mg/kg) (i.e., 0-12 feet below land surface)
CF	=	Conversion factor (10 <sup>-6</sup> kg/mg).
SA	=	Skin surface area available for contact (cm <sup>2</sup> /event).
AF	=	Soil to skin adherence factor (mg/cm <sup>2</sup> skin).
ABS	=	Absorption Factor (unitless).
EF	=	Exposure frequency (events/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Contaminant concentrations in subsurface soil (CS) are represented by the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean.
- The exposed skin surface area (SA) is 5,800 cm<sup>2</sup>/event (head, hands, forearms, lower legs) (USEPA, January 1992).
- Soil to skin adherence factor (AF) is 1.0 mg/cm<sup>2</sup>; this is a reasonable upper value (USEPA, January 1992).
- The absorption factor (ABS) is 0.25 (25%) for VOCs, 0.10 (10%) for SVOCs and pesticides, and 0.01 (1%) for inorganics (Ryan, *et al.*, November 1987).
- A construction worker is exposed (EF) for 250 events/year, or 1 event/day, 5 events/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for a construction worker is 0.167 year (i.e., 2 months/year) at each source area.
- A construction worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 0.167 year × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-20**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE**  
**CONSTRUCTION WORKERS THROUGH INHALATION OF**  
**CONTAMINATED FUGITIVE DUST**

$$SDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

SDI	=	Subchronic Daily Intake (mg/kg-day).
CA	=	Dust contaminant in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The dust contaminant concentration in air (CA) is the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean. CA represents modeled outdoor air concentrations.
- The inhalation rate (IR) for a construction worker is 20 m<sup>3</sup>/8-hour day (USEPA, March 1991).
- A construction worker is exposed (EF) for 250 days/year or 5 days/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for a construction worker is 0.167 year (i.e., 2 months/year) at each source area.
- A construction worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 0.167 year × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-21**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE ONSITE**  
**CONSTRUCTION WORKERS THROUGH INHALATION OF**  
**VOLATILE ORGANIC COMPOUNDS**

$$SDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

SDI	=	Subchronic Daily Intake (mg/kg-day).
CA	=	Contaminant concentration in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The airborne contaminant concentration in air (CA) used is either the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean. CA represents modeled outdoor air concentrations.
- The inhalation rate (IR) is 20 m<sup>3</sup>/8-hour day (USEPA, March 1991).
- A construction worker is exposed (EF) for 250 days/year, or 5 days/week for 50 weeks/year (USEPA, March 1991).
- The duration of exposure (ED) for a construction worker is 0.167 year (i.e., 2 months/year) at each source area.
- A construction worker weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 0.167 year × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-22**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE OFFSITE**  
**30-YEAR RESIDENTS THROUGH INGESTION OF CHEMICALS**  
**IN DRINKING WATER**

$$CDI \text{ (mg/kg-day)} = \frac{CW \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CW	=	Contaminant concentration in groundwater (mg/L).
IR	=	Drinking water ingestion rate (L/day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- Concentrations in groundwater (CW) are represented by the maximum concentration of an analyte.
- The drinking water ingestion rate (IR) is 2 L/day (USEPA, March 1991).
- A resident is exposed (EF) for 350 days/year (USEPA, March 1991).
- The duration of resident exposure (ED) is 30 years (USEPA, March 1991).
- A resident weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 30 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-23**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE OFFSITE**  
**30-YEAR RESIDENTS THROUGH INHALATION OF VOLATILE**  
**ORGANIC COMPOUNDS WHILE SHOWERING**

$$CDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CA	=	Contaminant concentration in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- $CA$  (contaminant concentration in air, mg/m<sup>3</sup>) =  $\frac{(CA_{\max} / 2)t_1 + CA_{\max} t_2}{t_1 + t_2}$  (1) ,

Where:  $CA_{\max} = \frac{C_w f F_w t_1}{V_a}$  (1) , and

**Where:**

$C_w$	=	The arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean of the contaminant concentration in shower water (mg/L).
$f$	=	The fraction volatilized (unitless) is 0.7 (i.e., the mean of the range of 0.5 to 0.9) (Andelman, 1990).
$F_w$	=	The water flow rate (L/hr) is 750 L/hr (i.e., the mean of the range 500 to 1,000 L/hr) (Wang, 1992).
$t_1$	=	The duration period for showering (hr) is 0.2 hr (USEPA, January 1992).
$t_2$	=	The duration period for the time after showering is 0.35 hr (i.e., the mean of the range of 0.2 to 0.5 hr) (Wang, 1992).
$V_a$	=	The bathroom volume (m <sup>3</sup> ) is 11 m <sup>3</sup> (i.e., the mean of the range of 6 to 16 m <sup>3</sup> ) (Wang, 1992).

(1) Reference: Wang, 1992.

- The inhalation rate (IR) is 15 m<sup>3</sup>/day (USEPA, March 1991).
- A resident is exposed (EF) for 350 days/year (USEPA, March 1991).
- The duration of exposure (ED) for a resident is 30 years (USEPA, March 1991).
- A resident weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 30 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-24**  
**MODEL FOR ESTIMATING ABSORBED DOSE FOR FUTURE OFFSITE**  
**30-YEAR RESIDENTS THROUGH DERMAL ABSORPTION OF**  
**CHEMICALS IN SHOWER WATER**

$$\text{Absorbed Chronic Dose (mg/kg-day)} = \frac{CW \times SA \times PC \times ET \times EF \times ED \times CF}{BW \times AT}$$

**Where:**

- CW = Chemical concentration in shower water (mg/L).  
 SA = Skin surface area available for contact (cm<sup>2</sup>).  
 PC = Chemical-specific dermal permeability constant (cm/hr).  
 ET = Exposure time (hours/day).  
 EF = Exposure frequency (days/year).  
 ED = Exposure duration (years).  
 CF = Conversion factor (1 liter/1000 cm<sup>3</sup>).  
 BW = Body weight (kg).  
 AT = Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The contaminant concentration in shower water (CW) is represented by the maximum concentration of an analyte.
- The exposed skin surface area (SA) is 23,000 cm<sup>2</sup>, as an upperbound, whole-body value (USEPA, January 1992).
- Chemical-specific dermal permeability constants (PCs) are presented in Table 2-10.
- The exposure time (ET) is 12 minutes/day, or 0.2 hour/day (USEPA, January 1992).
- A resident is exposed (EF) for 350 days/year, or one shower/day for 7 days/week for 50 weeks/year (USEPA, January 1992).
- The duration of resident exposure (ED) is 30 years (USEPA, March 1991).
- A resident weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 30 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-25**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE OFFSITE**  
**30-YEAR RESIDENTS THROUGH INHALATION OF CONTAMINATED**  
**FUGITIVE DUST**

$$CDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CA	=	Dust contaminant concentration in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The dust contaminant concentration in air (CA) is the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean. CA represents modeled outdoor air concentrations. It was assumed that the indoor air concentration inhaled by a resident is equal to the modeled outdoor concentration.
- A resident inhales at the rate (IR) of 20 m<sup>3</sup>/day (USEPA, March 1991).
- A resident is exposed (EF) for 350 days/year (USEPA, March 1991).
- The duration of resident exposure (ED) is 30 years (USEPA, March 1991).
- A resident weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 30 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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**TABLE 2-26**  
**MODEL FOR ESTIMATING INTAKE FOR FUTURE OFFSITE**  
**30-YEAR RESIDENTS THROUGH INHALATION OF VOLATILE**  
**ORGANIC COMPOUNDS**

$$CDI \text{ (mg/kg-day)} = \frac{CA \times IR \times EF \times ED}{BW \times AT}$$

**Where:**

CDI	=	Chronic Daily Intake (mg/kg-day).
CA	=	Contaminant concentration in air (mg/m <sup>3</sup> ).
IR	=	Inhalation rate (m <sup>3</sup> /day).
EF	=	Exposure frequency (days/year).
ED	=	Exposure duration (years).
BW	=	Body weight (kg).
AT	=	Averaging time (period over which exposure is averaged, in days).

**Assumptions:**

- The airborne contaminant concentration in air (CA) is the arithmetic mean or the 95% upper confidence limit (UCL) of the arithmetic mean. CA represents modeled outdoor air concentrations. It was assumed that the indoor air concentration inhaled by a resident is equal to the modeled outdoor concentration.
- The inhalation rate (IR) is 20 m<sup>3</sup>/day (USEPA, March 1991).
- A resident is exposed (EF) for 350 days/year (USEPA, March 1991).
- The duration of resident exposure (ED) is 30 years (USEPA, March 1991).
- A resident weighs 70 kg (BW) (USEPA, March 1991).
- The averaging time (AT) is 30 years × 365 days/year for intake of a chemical when considering noncarcinogenic effects and 70 years × 365 days/year for a chemical when considering carcinogenic effects.

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# SECTION 3.0

## TOXICITY ASSESSMENT

**T**his section provides a toxicity assessment of chemicals of potential concern identified in Section 1.0. Section 3.1 presents a discussion of the derivation and meaning of carcinogenic toxicity values and Section 3.2 presents a discussion of non-carcinogenic toxicity values. Toxicity values for carcinogenic and non-carcinogenic effects of chemicals, plus other pertinent toxicity information, are summarized in tabular form.

### 3.1 Carcinogenic Toxicity Values

In the first step of a carcinogenic toxicity assessment, the USEPA evaluates human and animal studies to determine the weight-of-evidence classification for carcinogenicity. The USEPA adjusts the weight-of-evidence classification upward or downward, based on other supporting carcinogenic evidence, such as metabolic and other pharmacokinetic studies, cell cultures or microorganism studies, or structure-activity studies. Table 3-1 gives the USEPA weight-of-evidence classification system for carcinogenicity. This system has been adapted from the system developed by the International Agency for Research on Cancer (IARC).

In the second step of a toxicity assessment, the USEPA assigns a toxicity value to a chemical that quantitatively defines the relationships between dose and response. This toxicity value is named the slope factor. The USEPA typically calculates slope factors for potential carcinogens with weight-of-evidence classifications of A, B1, and B2. Estimation of slope factors for chemicals in Class C proceeds on a case-by-case basis.

For carcinogens, the USEPA assumes that there is essentially no level of exposure to a chemical with carcinogenic effects that does not pose a finite probability of generating a carcinogenic response. Consequently, in evaluating cancer risks, a carcinogenic effect threshold cannot be estimated.

The slope factor is an upper-bound estimate of the probability of a response per unit intake of a chemical over a lifetime (i.e., risk per unit dose or risk per mg/kg-day). The USEPA uses mathematical models and procedures to extrapolate from carcinogenic responses observed at high doses to responses expected at low doses. After data are fit to the appropriate model, the upper 95th percent confidence limit of the slope of the resulting dose-response curve is calculated. This value is the slope factor and is an upper 95th percent confidence limit of the probability of a response per unit intake of a chemical over a lifetime.

Tables 3-2 and 3-3 present the carcinogenic toxicity values for chemicals of potential concern in soil, surface water, groundwater, or air which are classified as A, B1, B2, or C carcinogens.

The tables give the oral and inhalation slope factors for each chemical of potential concern, the weight-of-evidence classification, the type of cancer caused by each chemical, and the source of the slope factor.

Slope factors were obtained from the USEPA's Integrated Risk Information System (IRIS) as a primary source (U.S. Environmental Protection Agency, January-March, 1995). These slope factors have been verified by the USEPA Carcinogen Risk Assessment Verification Endeavor (CRAVE) work group. If a slope factor was not available from IRIS, the Health Effects Assessment Summary Tables (HEAST) (U.S. Environmental Protection Agency, March 1994) were used as a secondary source. For chemicals that lacked an inhalation slope factor, the corresponding oral slope factor, if available, was applied as an inhalation slope factor. For some chemicals, no information was available in IRIS or HEAST, but a footnote in HEAST directed users to contact the Superfund Health Risk Technical Support Center. The Support Center issued provisional oral and/or inhalation slope factors for some chemicals. If no provisional data were available and the data for appropriate surrogate compounds could not be located (see below), ND indicating "no data" was entered in the tables.

Carcinogenicity data for surrogate chemicals were used for chemicals of potential concern when no other information was available. Specifically, dieldrin served as a surrogate compound for aldrin, and benzo(a)pyrene served as a surrogate compound for PAHs identified as chemicals of potential concern (Section 1.0) which are designated as carcinogens (i.e., B2 weight-of-evidence). These PAHs include:

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Chrysene
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene.

For these PAHs, the only slope factor available is an oral slope factor for benzo(a)pyrene:  $7.3 \text{ (mg/kg-day)}^{-1}$ . Therefore, the benzo(a)pyrene oral slope factor was used as an inhalation slope factor for benzo(a)pyrene as well as surrogate oral and inhalation slope factors for the remaining carcinogenic PAHs. Footnotes in Tables 3-2 and 3-3 identify the use of surrogates as well as the source to carcinogenic toxicity data.

### 3.2 Non-carcinogenic Toxicity Values

A reference dose, or RfD, is the toxicity value most often used to evaluate non-carcinogenic effects resulting from exposure to contaminants. A chronic RfD is defined as an estimate (with uncertainty spanning an order of magnitude or greater) of a daily exposure level for the human population, including sensitive subpopulations, which is unlikely to pose an appreciable risk of deleterious effects during a lifetime. Chronic RfDs are used to evaluate potential non-carcinogenic effects for an exposure period of 7 years to a lifetime (i.e., 70 years). Chronic RfDs were used to evaluate potential non-carcinogenic effects for all identified human receptors, except future construction workers. Subchronic RfDs are used for receptor exposure of 2 weeks to 7 years; subchronic RfDs were used to evaluate potential non-carcinogenic effects for future construction workers with an assumed exposure duration of 2 months.

USEPA has developed RfDs for the oral exposure route and reference concentrations (RfCs) for the inhalation exposure route. For the oral RfD, USEPA examines all available animal and human toxicological studies for a chemical following exposure by the oral route. If adequate human data are available, this information is used. If no adequate human data are available, animal study data are used. If only animal study data are available, the USEPA selects the study on the most sensitive animal species as the critical study for the basis of the RfD. The most sensitive species is that species showing a toxic effect at the lowest administered dose.

Once the critical study and toxic effect has been selected, the USEPA identifies the no-observed-adverse-effect level (NOAEL) for the study. The NOAEL is the exposure level which represents the highest level tested at which no adverse effects, including the critical effect, were demonstrated. In some studies, only a lowest-observed-adverse-effect level (LOAEL) is available. The USEPA may use the LOAEL to determine the RfD, but this increases the uncertainty in the RfD value.

The RfD is calculated from the NOAEL, or LOAEL if a NOAEL is not available, by application of uncertainty factors (UFs) and a modifying factor (MF). UFs usually consist of multiples of 10. Each UF represents a specific area of uncertainty which the USEPA establishes in extrapolation from available data. The following UFs are applied to the extrapolated data:

- UF of 10 to account for variation in the general human population. This UF is intended to protect sensitive subpopulations, such as the elderly or children
- UF of 10 to account for extrapolation from animal studies to human studies
- UF of 10 to account for a NOAEL which is derived from a subchronic rather than a chronic study
- UF of 10 to account for the use of a LOAEL rather than a NOAEL.

In addition to UFs, an MF ranging from greater than 0 to 10 is used to reflect a qualitative professional assessment of additional uncertainties in the critical study selected and in the entire database applicable to the critical study.

The USEPA calculates a RfD by dividing the NOAEL, or LOAEL if a NOAEL is not available, by the products of all applicable UFs and the MF. RfDs are expressed in units of mg/kg-day. Most oral RfDs are based on administered doses rather than absorbed doses.

The same general extrapolation procedures are used by the USEPA to develop inhalation RfCs. USEPA examines all toxicological studies and selects the critical study and NOAEL, or LOAEL if a NOAEL is not available. The analysis of data is more complex, however, due to the dynamics of the respiratory system and the diversity across species, and the differences in the physicochemical properties of contaminants.

The same types of UFs which apply to oral RfDs are applied to RfCs. In addition to UFs, an MF of greater than 0 to 10 is also applied. As in the calculation of oral RfDs, the NOAEL, or LOAEL if a NOAEL is not available, is divided by the UFs and MF. A resulting RfC is usually reported in milligrams per cubic meter (mg/m<sup>3</sup>) for continuous 24 hour/day exposure, and can be converted to inhaled intake in mg/kg-day by adjusting for body weight in kilograms and an inhalation rate of 20 cubic meters per day (m<sup>3</sup>/day). For this baseline risk assessment, RfCs were converted to inhalation RfDs.

Tables 3-4 and 3-5 present the toxicity values (RfDs) for potential non-carcinogenic effects of chemicals of potential concern in soil, surface water, groundwater, or air. The first source for RfDs and RfCs (which were converted to inhalation RfDs) was the USEPA's IRIS database (U.S. Environmental Protection Agency, January-March, 1995). If RfDs or RfCs had not been published in IRIS, the USEPA's HEAST was used (U.S. Environmental Protection Agency, March 1994). For some chemicals, no information was available in IRIS or HEAST, but a footnote in HEAST directed users to contact the Superfund Health Risk Technical Support Center. The Support Center issued provisional RfDs and/or RfCs for some chemicals. If no information was available for a chemical, surrogate chemicals were used where appropriate. For example, toxicity data for PCB-1254 was used for PCB-1260, endrin for endrin aldehyde, etc. The use of surrogate data is footnoted in Tables 3-4 and 3-5. If no information was available for a chemical and the data for appropriate surrogate chemicals could not be located, ND indicating "no data" was entered in the tables.

If a chemical lacked an inhalation RfD, the corresponding oral RfD, if available, was applied as an inhalation RfD. Because few RfC values were available, the oral RfD for a chemical frequently served as its inhalation RfD, as footnoted in Tables 3-4 and 3-5. For two VOCs, chloroethane and 1,1,1-trichloroethane, the inhalation RfD served as the oral RfD.

The PAH chemical class deserves special attention. PAHs identified as chemicals of potential concern (Section 1.0) are as follows:

- 2-Methylnaphthalene
- Acenaphthene
- Anthracene
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(g,h,i)perylene
- Chrysene
- Dibenz(a,h)anthracene
- Fluoranthene
- Fluorene
- Indeno(1,2,3-cd)pyrene
- Naphthalene
- Phenanthrene
- Pyrene.

For the PAH chemical class, oral RfDs exist only for anthracene, fluoranthene, fluorene, and pyrene. A provisional oral RfD exists for naphthalene. Typically, the lowest RfD available is considered the most conservative: the oral RfD for pyrene is the lowest toxicity value available ( $3 \times 10^{-2}$  mg/kg-day). However, naphthalene has a provisional chronic and subchronic RfD of  $4 \times 10^{-2}$  mg/kg-day, which is only slightly higher than pyrene. Since naphthalene has a higher vapor pressure, water solubility, and Henry's Law Constant, it can be considered to have a



higher mobility. This could lead to greater exposure for a greater number of exposure pathways. Therefore, the naphthalene provisional oral RfD was considered to be more health protective as an evaluation point and was used as a surrogate for the PAHs lacking oral toxicity values. Inhalation RfCs are not available for any PAHs; the corresponding oral RfD was applied as a surrogate.

In addition to RfDs, Tables 3-4 and 3-5 list the confidence level assigned to the RfD by the USEPA, the critical effect selected by USEPA, UFs and the MF, and the RfD source.

### **3.3 Adjustment of Oral Toxicity Values to Dermal Toxicity Values**

For dermal exposure to chemicals in soil, groundwater, or surface water, it is necessary to adjust an oral toxicity value (i.e. RfD or slope factor) from an administered to an absorbed dose. Because the oral toxicity values for the chemicals are expressed as administered doses (i.e., intake-based), it was necessary to adjust both the RfDs and slope factors in estimating risk from dermal exposure. Thus, an estimated dermally absorbed dose may be appropriately compared with a toxicity value that has been adjusted to a dermal toxicity value.

In determining the extent of absorption of the chemical constituents, the available literature was searched for toxicokinetic data. Once the oral absorption efficiency (expressed as percent absorbed) was identified for a constituent, the factor was applied to the RfD and/or slope factor to arrive at the dermally adjusted toxicity value. RfD values were adjusted by multiplying by the oral absorption efficiency, whereas slope factors were adjusted by dividing by the oral absorption efficiency. Table 3-6 presents the RfDs and slope factors adjusted for dermal absorption of chemicals of potential concern.

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**TABLE 3-1**  
**USEPA WEIGHT-OF-EVIDENCE CLASSIFICATION SYSTEM FOR**  
**CARCINOGENICITY**

Class	Description
A	Human Carcinogen
B1 or B2	Probable Human Carcinogen B1 indicates that limited human data are available B2 indicates sufficient evidence in animals and inadequate or no evidence in humans
C	Possible Human Carcinogen
D	Not classifiable as to human carcinogenicity
E	Evidence of non-carcinogenicity for humans

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**TABLE 3-2**  
**TOXICITY VALUES: POTENTIAL CARCINOGENIC EFFECTS (ORAL)**

Chemical	Slope Factor (SF) (mg/kg-day) <sup>-1</sup>	Weight-of-Evidence Classification	Type of Cancer
1,1-Dichloroethane	ND	C (a)	Hepatocellular carcinomas (mice)
1,1-Dichloroethene	$6.1 \times 10^{-1}$ (a)	C	Adrenal pheochromocytomas (rat)
Aldrin	$1.6 \times 10^1$ (a) (e)	B2	Liver (mouse)
Alpha BHC	$6.3 \times 10^0$ (a)	B2	Hepatic nodules and hepatocellular carcinomas (male mouse)
Arsenic	$1.8 \times 10^0$ (a)	A	Skin (human)
Benzo(a)anthracene	$7.3 \times 10^0$ (b)	B2 (a)	Liver and lung (mouse)
Benzo(a)pyrene	$7.3 \times 10^0$ (a)	B2	Forestomach (mouse)
Benzo(b)fluoranthene	$7.3 \times 10^0$ (b)	B2 (a)	Lung, thorax, liver, skin (rat, mouse)
Beryllium	$4.3 \times 10^0$ (a)	B2	Tumors-all sites (rat); osteosarcoma (rabbit); lung (human)
Beta BHC	$1.8 \times 10^0$ (a)	C	Hepatic nodules and hepatocellular carcinomas (male mouse)
Bis(2-ethylhexyl)phthalate	$1.4 \times 10^{-2}$ (a)	B2	Liver (rat, mouse)
Bromodichloromethane	$6.2 \times 10^{-2}$ (a)	B2	Kidney, large intestine tumors (rat); kidney (male mouse), liver tumors (female mouse)
Bromoform	$7.9 \times 10^{-3}$ (a)	B2	Neoplastic lesions in the large intestine (female rat)
Cadmium	ND	There is inadequate evidence for carcinogenicity by the oral route. (a)	Seven studies in rats and mice where cadmium salts have been administered orally have shown no evidence of carcinogenic response. There are no positive studies of orally ingested cadmium suitable for quantitation (a).
Carbon Tetrachloride	$1.3 \times 10^{-1}$ (a)	B2	Hepatocellular carcinomas/hepatomas (hamster, mouse, rat)
Chloroform (Trichloromethane)	$6.1 \times 10^{-3}$ (a)	B2	Kidney (rat)
Chloromethane	$1.3 \times 10^{-2}$ (c)	C	Kidney (mouse)
Chromium	ND	There is inadequate evidence for carcinogenicity by the oral route. (a)	ND
Chrysene	$7.3 \times 10^0$ (b)	B2 (a)	Liver, lung tumors (mouse)

**TABLE 3-2**  
**TOXICITY VALUES: POTENTIAL CARCINOGENIC EFFECTS (ORAL)**

Continued

Chemical	Slope Factor (SF) (mg/kg-day) <sup>-1</sup>	Weight-of-Evidence Classification	Type of Cancer
Dibenz(a,h)anthracene	7.3 × 10 <sup>0</sup> (b)	B2 (a)	Lung, skin (mouse)
Dibromochloromethane	8.4 × 10 <sup>-2</sup> (a)	C	Liver (mouse)
Dieldrin	1.6 × 10 <sup>1</sup> (a)	B2	Liver tumors (mouse)
Gamma BHC	1.3 × 10 <sup>0</sup> (c)	B2-C	ND
Heptachlor	4.5 × 10 <sup>0</sup> (a)	B2	Hepatocellular carcinomas (mouse)
Heptachlor Epoxide	9.1 × 10 <sup>0</sup> (a)	B2	Hepatocellular carcinomas (mouse)
Indeno(1,2,3-cd)pyrene	7.3 × 10 <sup>0</sup> (b)	B2 (a)	Lung, thorax, skin (rat, mouse)
Lead	ND	B2 (a)	Kidney (rat, mouse)
Methylene Chloride	7.5 × 10 <sup>-3</sup> (a)	B2	Hepetocellular adenomas or carcinomas and hepatocellular cancer and neoplastic nodules (mouse).
Nickel	ND	There is inadequate evidence for carcinogenicity by the oral route (a).	ND
p,p'-DDD	2.4 × 10 <sup>-1</sup> (a)	B2	Liver (male mouse)
p,p'-DDE	3.4 × 10 <sup>-1</sup> (a)	B2	Hepatocellular carcinomas, hepatomas (mouse, hamster)
p,p'-DDT	3.4 × 10 <sup>-1</sup> (a)	B2	Liver (mouse, rats)
Tetrachloroethene	5.2 × 10 <sup>-2</sup> (d)	C-B2	ND
Trichloroethene	1.1 × 10 <sup>-2</sup> (d)	C-B2	ND
Vinyl Chloride	1.9 × 10 <sup>0</sup> (c)	A	Liver, Zymbal gland tumors (rat)

Key: ND = No Data

- (a) Retrieved from IRIS, 1994.
- (b) Oral slope factor for benzo(a)pyrene was used.
- (c) Retrieved from HEAST, Annual FY94.
- (d) Retrieved from Superfund Health Risk Technical Support Center.
- (e) Data for Dieldrin were used.

**TABLE 3-3**  
**TOXICITY VALUES: POTENTIAL CARCINOGENIC EFFECTS (INHALATION)**

Chemical	Slope Factor (SF) (mg/kg-day) <sup>-1</sup>	Weight-of-Evidence Classification	Type of Cancer
1,1-Dichloroethane	ND	C (a)	ND
1,1-Dichloroethene	1.8×10 <sup>-1</sup> (a) (b)	C	Kidney adenocarcinoma (mouse)
Aldrin	1.6×10 <sup>1</sup> (e)	B2	Liver (mouse)
Alpha BHC	6.3×10 <sup>0</sup> (e)	B2	ND
Arsenic	1.5×10 <sup>1</sup> (a)(b)	A	Lung (male human)
Benzo(a)anthracene	7.3×10 <sup>0</sup> (d)	B2 (a)	Liver and lung (mouse)
Benzo(a)pyrene	7.3×10 <sup>0</sup> (e)	B2	ND
Benzo(b)fluoranthene	7.3×10 <sup>0</sup> (d)	B2 (a)	Lung, thorax, liver, skin (rat, mouse)
Beryllium	8.4×10 <sup>0</sup> (a) (b)	B2	Lung (rat, monkey), osteosarcomas (rabbits)
Beta BHC	1.8×10 <sup>0</sup> (e)	C	ND
Bis(2-ethylhexyl)phthalate	1.4×10 <sup>-2</sup> (e)	B2 (a)	ND
Bromodichloromethane	6.2×10 <sup>-2</sup> (e)	B2	ND
Bromoform	3.9×10 <sup>-3</sup> (a) (b)	B2	Large intestine (rat)
Cadmium	6.3×10 <sup>0</sup> (a) (b)	B1	Lung, trachea, bronchus (male human)
Carbon Tetrachloride	5.3×10 <sup>-2</sup> (a) (b)	B2	Hepatocellular carcinomas/ hepatomas (hamster, mouse, rat)
Chloroform (Trichloromethane)	8.1×10 <sup>-2</sup> (a)(b)	B2	Liver (mouse)
Chloromethane	6.3×10 <sup>-3</sup> (c)	C	Kidney (mouse)
Chromium, Total <sup>(f)</sup>	4.2×10 <sup>1</sup> (c)	A	Lung (human)
Chrysene	7.3×10 <sup>0</sup> (d)	B2 (a)	Liver, lung tumors (mouse)
Dibenz(a,h)anthracene	7.3×10 <sup>0</sup> (d)	B2 (a)	Mammary, skin (mouse)
Dibromochloromethane	8.4×10 <sup>-2</sup> (e)	C	ND
Dieldrin	1.6×10 <sup>1</sup> (a)	B2	Tumors (mouse)
Gamma BHC	1.3×10 <sup>0</sup> (e)	B2-C	ND
Heptachlor	4.5×10 <sup>0</sup> (e)	B2	ND
Heptachlor Epoxide	9.1×10 <sup>0</sup> (e)	B2	ND
Indeno(1,2,3-cd)pyrene	7.3×10 <sup>0</sup> (d)	B2 (a)	Lung, thorax, skin (rat, mouse)

**TABLE 3-3**  
**TOXICITY VALUES: POTENTIAL CARCINOGENIC EFFECTS (INHALATION)**

Continued

Chemical	Slope Factor (SF) (mg/kg-day) <sup>-1</sup>	Weight-of-Evidence Classification	Type of Cancer
Lead	ND	B2 (a)	ND
Methylene Chloride	1.6 × 10 <sup>-3</sup> (a)	B2	Combined adenomas and carcinomas (female mouse)
Nickel	8.4 × 10 <sup>-1</sup> (a) (b)	A	Respiratory tract
p,p'-DDD	2.4 × 10 <sup>-1</sup> (e)	B2	ND
p,p'-DDE	3.4 × 10 <sup>-1</sup> (e)	B2	ND
p,p'-DDT	3.4 × 10 <sup>-1</sup> (e)	B2	ND
Tetrachloroethylene	2.0 × 10 <sup>-3</sup> (g)	C-B2	ND
Trichloroethylene	6.0 × 10 <sup>-3</sup> (g)	C-B2	ND
Vinyl Chloride	3.0 × 10 <sup>-1</sup> (c)	A	Liver (rat, human, mouse, hamster)

Key: ND = No Data

- (a) Retrieved from IRIS, 1994.
- (b) Inhalation slope factor converted from inhalation unit risk.
- (c) Retrieved from HEAST, Annual FY94.
- (d) Oral slope factor for benzo(a)pyrene was used.
- (e) Oral slope factor was used.
- (f) Data for Cr+6 were used.
- (g) Retrieved from Superfund Health Risk Technical Support Center.



**TABLE 3-4**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (ORAL)**

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
1,1-Dichloroethane	Chronic: $1 \times 10^{-1}$ (c) Subchronic: $1 \times 10^0$ (c)	ND	No adverse effects observed	UF = 1,000 MF = 1
1,1-Dichloroethene	Chronic: $9 \times 10^{-3}$ (b) Subchronic: $9 \times 10^{-3}$ (c)	Medium	Hepatic lesions	UF = 1,000 MF = 1
1,1,1-Trichloroethane	Chronic: $2.5 \times 10^{-1}$ (m) Subchronic: $2.5 \times 10^{-1}$ (n)	ND	ND	ND
1,2,4-Trichlorobenzene	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-2}$ (c)	Medium	Increased adrenal weights; vacuolization of zona fasciculata in the renal cortex	UF = 1,000 MF = 1
1,2,4-Trimethylbenzene	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND
2-Methylnaphthalene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
2,4-Dinitrotoluene	Chronic: $2 \times 10^{-3}$ (b) Subchronic: $2 \times 10^{-3}$ (c)	High	Neurotoxicity, Heinz bodies, biliary tract hyperplasia	UF = 100 MF = 1
Acenaphthene	Chronic: $6 \times 10^{-2}$ (b) Subchronic: $6 \times 10^{-1}$ (c)	Low	Hepatotoxicity	UF = 3,000 MF = 1
Acetone	Chronic: $1 \times 10^{-1}$ (b) Subchronic: $1 \times 10^0$ (c)	Low	Increased liver and kidney weights and nephrotoxicity	UF = 1,000 MF = 1
Aldrin	Chronic: $3 \times 10^{-5}$ (b) Subchronic: $3 \times 10^{-5}$ (c)	Medium	Liver toxicity	UF = 1,000 MF = 1
Alpha BHC (Beta Hexachlorocyclohexane) <sup>(i)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND
Alpha Endosulfan <sup>(i)</sup>	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Aluminum	ND	ND	ND	ND
Anthracene	Chronic: $3 \times 10^{-1}$ (b) Subchronic: $3 \times 10^0$ (c)	Low	No observed effects	UF = 3,000 MF = 1
Arsenic	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-4}$ (c)	Medium	Keratosis, hyperpigmentation, and possible vascular complications	UF = 3 MF = 1
Barium	Chronic: $7 \times 10^{-2}$ (b) Subchronic: $7 \times 10^{-2}$ (c)	Medium	Increased blood pressure	UF = 3 MF = 1
Benzo(a)anthracene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
Benzo(a)pyrene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND

**TABLE 3-4**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (ORAL)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Benzo(b)fluoranthene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
Benzo(g,h,i)perylene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
Beryllium	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	Low	No adverse effects observed	UF = 100 MF = 1
Beta BHC (Beta Hexachlorocyclohexane) <sup>(i)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND
Beta Endosulfan <sup>(i)</sup>	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Bis(2-ethylhexyl)phthalate	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-2}$ (a)	Medium	Increased relative liver weight	UF = 1,000 MF = 1
Bromodichloromethane	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-2}$ (c)	Medium	Renal cytomegaly	UF = 1,000 MF = 1
Bromoform	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-1}$ (c)	Medium	Hepatic lesions	UF = 1,000 MF = 1
Bromomethane	Chronic: $1.4 \times 10^{-3}$ (b) Subchronic: $1.4 \times 10^{-3}$ (a)	Medium	Epithelial hyperplasia of the forestomach	UF = 1,000 MF = 1
Cadmium	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (a)	High	Significant proteinuria	UF = 10 MF = 1
Carbon Tetrachloride	Chronic: $7 \times 10^{-4}$ (b) Subchronic: $2 \times 10^{-3}$ (h)	Medium	Liver lesions	UF = 1,000 MF = 1
Chloroethane	Chronic: $3 \times 10^0$ (m) Subchronic: $3 \times 10^0$ (n)	ND	ND	ND
Chloroform (Trichloromethane)	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-2}$ (c)	Medium	Fatty cyst formation in liver	UF = 1,000 MF = 1
Chloromethane	ND	ND	ND	ND
Chromium, Total <sup>(i)</sup>	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $2 \times 10^{-2}$ (c)	Low	No effects reported	UF = 500 MF = 1
Chrysene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
cis-1,2-Dichloroethene	Chronic: $1 \times 10^{-2}$ (c) Subchronic: $1 \times 10^{-1}$ (c)	ND	Decreased hematocrit and hemoglobin	UF = 3,000 MF = 1
Cobalt	ND	ND	ND	ND
Copper	Chronic: $3.7 \times 10^{-2}$ (g) Subchronic: $3.7 \times 10^{-2}$ (a)	ND	Local gastrointestinal irritation (acute effect)	ND
Cyanide	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-2}$ (c)	Medium	Weight loss, thyroid effects and myelin degeneration	UF = 100 MF = 5
Delta BHC (Beta Hexachlorocyclohexane) <sup>(i)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND

**TABLE 3-4**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (ORAL)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Di-n-butyl phthalate	Chronic: $1 \times 10^{-1}$ (b) Subchronic: $1 \times 10^0$ (c)	Low	Increased mortality	UF = 1,000 MF = 1
Dibenz(a,h)anthracene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
Dibromochloromethane	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-1}$ (c)	Medium	Hepatic lesions	UF = 1,000 MF = 1
Dichlorodifluoromethane	Chronic: $2 \times 10^{-1}$ (b) Subchronic: $9 \times 10^{-1}$ (c)	Medium	Reduced body weight	UF = 100 MF = 1
Dieldrin	Chronic: $5 \times 10^{-5}$ (b) Subchronic: $5 \times 10^{-5}$ (c)	Medium	Liver lesions	UF = 100 MF = 1
Endosulfan Sulfate <sup>(i)</sup>	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Endrin Aldehyde <sup>(k)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-4}$ (c)	ND	ND	ND
Endrin	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-4}$ (c)	Medium	Mild histological lesions in liver, occasional convulsions	UF = 100 MF = 1
Ethylbenzene	Chronic: $1 \times 10^{-1}$ (b) Subchronic: $1 \times 10^{-1}$ (a)	Low	Liver and kidney toxicity	UF = 1,000 MF = 1
Fluoranthene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-1}$ (c)	Low	Nephropathy, increased liver weights, hematological alterations, and clinical effects	UF = 3,000 MF = 1
Fluorene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-1}$ (c)	Low	Decreased RBC, packed cell volume and hemoglobin	UF = 3,000 MF = 1
Fluoride (Soluble, as Fluorine)	Chronic: $6 \times 10^{-2}$ (b) Subchronic: $6 \times 10^{-2}$ (c)	High	Objectionable dental fluorosis, a cosmetic effect	UF = 1 MF = 1
Gamma BHC (Lindane)	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	Medium	Liver and kidney toxicity	UF = 1,000 MF = 1
Heptachlor	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	Low	Liver weight increase	UF = 300 MF = 1
Heptachlor Epoxide	Chronic: $1.3 \times 10^{-5}$ (b) Subchronic: $1.3 \times 10^{-5}$ (c)	Low	Increased liver to body weight ratio	UF = 1,000 MF = 1
Indeno(1,2,3-cd)pyrene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
Isopropylbenzene (Cumene)	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-1}$ (c)	Low	Increased average kidney weight	UF = 3,000 MF = 1
Lead	ND	ND	ND	ND
Manganese	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	ND	Central nervous system effects	UF = 1 MF = 1

**TABLE 3-4**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (ORAL)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Mercury	Chronic: $3 \times 10^{-4}$ (c) Subchronic: $3 \times 10^{-4}$ (c)	ND	Kidney effects	UF = 1,000 MF = 1
Methoxychlor	Chronic: $5.3 \times 10^{-3}$ (b) Subchronic: $5.3 \times 10^{-3}$ (c)	Low	Excessive loss of liters	UF = 1,000 MF = 1
Methylene Chloride	Chronic: $6 \times 10^{-2}$ (b) Subchronic: $6 \times 10^{-2}$ (c)	Medium	Liver toxicity	UF = 100 MF = 1
Molybdenum	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	Medium	Increased uric acid levels	UF = 30 MF = 1
n-Butylbenzene	ND	ND	ND	ND
n-Propylbenzene	ND	ND	ND	ND
Naphthalene	Chronic: $4 \times 10^{-2}$ (h) Subchronic: $4 \times 10^{-2}$ (h)	ND	None observed	UF = 1,000 MF = 1
Nickel	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-2}$ (c)	Medium	Decreased body and organ weights	UF = 300 MF = 1
p-Cymene (p-Isopropyltoluene)	ND	ND	ND	ND
PCB-1254 (Arochlor 1254)	Chronic: $2 \times 10^{-5}$ (b) Subchronic: $2 \times 10^{-5}$ (a)	Medium	Ocular exudate, distorted growth of finer and toe nails, decreased antibody response to sheep erythrocytes, inflamed Meibomian glands	UF = 300 MF = 1
PCB-1260 (Arochlor 1260) <sup>(d)</sup>	Chronic: $2 \times 10^{-5}$ (b) Subchronic: $2 \times 10^{-5}$ (a)	ND	ND	ND
Phenanthrene	Chronic: $4 \times 10^{-2}$ (d) Subchronic: $4 \times 10^{-2}$ (e)	ND	ND	ND
p,p'-DDD <sup>(1)</sup>	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
p,p'-DDE <sup>(1)</sup>	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
p,p'-DDT	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	Medium	Liver lesions	UF = 100 MF = 1
Pyrene	Chronic: $3 \times 10^{-2}$ (c) Subchronic: $3 \times 10^{-1}$ (d)	Low	Kidney effects (renal tubular pathology, decreased kidney weights)	UF = 3,000 MF = 1
sec-Butylbenzene	ND	ND	ND	ND
Selenium	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	High	Clinical selenosis	UF = 3 MF = 1
Silver	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	Low	Argyria	UF = 3 MF = 1

**TABLE 3-4**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (ORAL)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Tetrachloroethylene	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-1}$ (c)	Medium	Hepatotoxicity; liver weight gain	UF = 1,000 MF = 1
Thallium (as thallium carbonate or thallium chloride)	Chronic: $8 \times 10^{-5}$ (b) Subchronic: $8 \times 10^{-4}$ (c)	Low	Increased SGOT and serum LDH levels, alopecia	UF = 3,000 MF = 1
Toluene	Chronic: $2 \times 10^{-1}$ (b) Subchronic: $2 \times 10^0$ (c)	Medium	Changes in liver and kidney weights	UF = 1,000 MF = 1
trans-1,2-Dichloroethene	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-1}$ (c)	Low	Increased serum alkaline phosphatase	UF = 1,000 MF = 1
Trichloroethylene	Chronic: $6 \times 10^{-3}$ (h) Subchronic: $6 \times 10^{-3}$ (h)	Low	Increased relative liver weight	UF = 3,000
Trichlorofluoromethane	Chronic: $3 \times 10^{-1}$ (b) Subchronic: $7 \times 10^{-1}$ (c)	Medium	Survival and histopathology	UF = 1,000 MF = 1
Vanadium	Chronic: $7 \times 10^{-3}$ (d) Subchronic: $7 \times 10^{-3}$ (d)	ND	None observed	UF = 100 MF = 1
Vinyl Chloride	ND	ND	ND	ND
Xylenes, Total	Chronic: $2 \times 10^0$ (b) Subchronic: $2 \times 10^0$ (a)	Medium	Hyperactivity, decreased body weight, increased mortality	UF = 100 MF = 1
Zinc	Chronic: $3 \times 10^{-1}$ (b) Subchronic: $3 \times 10^{-1}$ (c)	Medium	47% decrease in erythrocyte superoxide dismutase (ESOD) concentration in adult female rats after 10 weeks of zinc exposure	UF = 3 MF = 1

- Key:** ND = No Data  
 UF = Uncertainty Factor for chronic RfD  
 MF = Modifying Factor for chronic RfD
- (a) Chronic RfD used as subchronic RfD.
  - (b) Retrieved from IRIS, 1994 or 1995.
  - (c) Retrieved from HEAST, Annual FY94.
  - (d) Provisional chronic RfD for naphthalene was used.
  - (e) Provisional subchronic RfD for naphthalene was used.
  - (f) Data for Cr<sup>+6</sup>, rather than Cr<sup>+3</sup>, were used because it is a more conservative assumption.
  - (g) U.S. EPA Drinking Water Criteria Document "Concluded that toxicity data were inadequate for calculation of an RfD for copper". RfD converted from 1.3 mg/L drinking water standard.
  - (h) Retrieved from Superfund Health Risk Technical Support Center.
  - (i) Data for Gamma-BHC were used.
  - (j) Data for Endosulfan were used.
  - (k) Data for Endrin were used.
  - (l) Data for DDT were used.
  - (m) Chronic inhalation RfD were used.
  - (n) Subchronic inhalation RfD were used.
  - (o) Data for PCB-1254 were used.

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**TABLE 3-5**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (INHALATION)**

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
1,1-Dichloroethane	Chronic: $1 \times 10^{-1}$ (d) (f) Subchronic: $1 \times 10^0$ (d) (f)	ND	Kidney damage	UF = 100 MF = 1
1,1-Dichloroethene	Chronic: $9 \times 10^{-3}$ (b) Subchronic: $9 \times 10^{-3}$ (c)	ND	ND	ND
1,1,1-Trichloroethane	Chronic: $2.5 \times 10^{-1}$ (l) (f) Subchronic: $2.5 \times 10^{-1}$ (a)	ND	ND	ND
1,2,4-Trichlorobenzene	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-2}$ (c)	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND
2-Methylnaphthalene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
2,4-Dinitrotoluene	Chronic: $2 \times 10^{-3}$ (b) Subchronic: $2 \times 10^{-3}$ (c)	ND	ND	ND
Acenaphthene	Chronic: $6 \times 10^{-2}$ (b) Subchronic: $6 \times 10^{-1}$ (c)	ND	ND	ND
Acetone	Chronic: $1 \times 10^{-1}$ (b) Subchronic: 1 (c)	ND	ND	ND
Aldrin	Chronic: $3 \times 10^{-5}$ (b) Subchronic: $3 \times 10^{-5}$ (c)	ND	ND	ND
Alpha BHC (Beta Hexachlorocyclohexane) <sup>(i)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND
Alpha Endosulfan <sup>(i)</sup>	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Aluminum	ND	ND	ND	ND
Anthracene	Chronic: $3 \times 10^{-1}$ (b) Subchronic: $3 \times 10^{-1}$ (c)	ND	ND	ND
Arsenic	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-4}$ (c)	ND	ND	ND
Barium	Chronic: $1 \times 10^{-3}$ (d) (f) Subchronic: $1 \times 10^{-4}$ (d) (f)	ND	Fetotoxicity	UF = 1,000 MF = 1
Benzo(a)anthracene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Benzo(a)pyrene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Benzo(b)fluoranthene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Benzo(g,h,i)perylene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND

**TABLE 3-5**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (INHALATION)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Beryllium	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	ND	ND	ND
Beta BHC (Beta Hexachlorocyclohexane) <sup>(i)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND
Beta Endosulfan <sup>(i)</sup>	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Bis(2-ethylhexyl)phthalate	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $6 \times 10^{-2}$ (c)	ND	ND	ND
Bromodichloromethane	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-2}$ (c)	ND	ND	ND
Bromoform	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-1}$ (c)	ND	ND	ND
Bromomethane	Chronic: $1.4 \times 10^{-3}$ (g) (f) Subchronic: $1.4 \times 10^{-3}$ (a)	High	Degenerative and proliferative lesions of the olfactory epithelium of the nasal cavity	UF = 100 MF = 1
Cadmium	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
Carbon tetrachloride	Chronic: $7 \times 10^{-4}$ (b) Subchronic: $2 \times 10^{-3}$ (c)	ND	ND	ND
Chloroform (Trichloromethane)	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-2}$ (c)	ND	ND	ND
Chloroethane	Chronic: $3 \times 10^0$ (g) (f) Subchronic: $3 \times 10^0$ (d) (f)	Medium	Delayed fetal ossification	UF = 300 MF = 1
Chloromethane	ND	ND	ND	ND
Chromium, Total <sup>(h)</sup>	Chronic: $1.1 \times 10^{-6}$ (o) Subchronic: $1.1 \times 10^{-6}$ (l)	ND	ND	ND
Chrysene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
cis-1,2-Dichloroethene	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-1}$ (c)	ND	ND	ND
Cobalt	ND	ND	ND	ND
Copper	Chronic: $3.7 \times 10^{-2}$ (b) Subchronic: $3.7 \times 10^{-2}$ (c)	ND	ND	ND
Cyanide	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-2}$ (c)	ND	ND	ND
Delta BHC (Beta Hexachlorocyclohexane) <sup>(i)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND
Di-n-butyl phthalate	Chronic: $1 \times 10^{-1}$ (b) Subchronic: $1 \times 10^0$ (c)	ND	ND	ND



**TABLE 3-5**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (INHALATION)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Dibenz(a,h)anthracene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
Dibromochloromethane	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-1}$ (c)	ND	ND	ND
Dichlorodifluoromethane	Chronic: $5 \times 10^{-1}$ (d) (f) Subchronic: $5 \times 10^{-2}$ (d) (f)	ND	Liver lesions	UF = 10,000 MF = 1
Dieldrin	Chronic: $5 \times 10^{-5}$ (b) Subchronic: $5 \times 10^{-5}$ (c)	ND	ND	ND
Endosulfan Sulfate <sup>(j)</sup>	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Endrin Aldehyde <sup>(k)</sup>	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-4}$ (c)	ND	ND	ND
Endrin	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-4}$ (c)	ND	ND	ND
Ethylbenzene	Chronic: $2.9 \times 10^{-1}$ (g) (f) Subchronic: $2.9 \times 10^{-1}$ (a)	Low	Developmental toxicity	UF = 300 MF = 1
Fluoranthene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-1}$ (c)	ND	ND	ND
Fluorene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-1}$ (c)	ND	ND	ND
Fluoride (Soluble, as Fluorine)	Chronic: $6 \times 10^{-2}$ (b) Subchronic: $6 \times 10^{-2}$ (c)	ND	ND	ND
Gamma BHC (Lindane)	Chronic: $3 \times 10^{-4}$ (b) Subchronic: $3 \times 10^{-3}$ (c)	ND	ND	ND
Heptachlor	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
Heptachlor Epoxide	Chronic: $1.3 \times 10^{-5}$ (b) Subchronic: $1.3 \times 10^{-5}$ (c)	ND	ND	ND
Indeno(1,2,3-cd)pyrene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Isopropylbenzene (Cumene)	Chronic: $3 \times 10^{-3}$ (d) (f) Subchronic: $3 \times 10^{-2}$ (d) (f)	ND	Central nervous system involvement	UF = 10,000 MF = 1
Lead	ND	ND	ND	ND
Manganese	Chronic: $1 \times 10^{-5}$ (g) Subchronic: $1 \times 10^{-5}$ (a)	Medium	Impairment of neuro- behavioral function	UF = 1,000 MF = 1
Mercury	Chronic: $9 \times 10^{-5}$ (d) (f) Subchronic: $9 \times 10^{-5}$ (d) (f)	ND	Nervous system neurotoxicity	UF = 30 MF = 1
Molybdenum	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	ND	ND	ND

**TABLE 3-5**  
**TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (INHALATION)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
Methoxychlor	Chronic: $5.3 \times 10^{-3}$ (b) Subchronic: $5.3 \times 10^{-3}$ (c)	ND	ND	ND
Methylene Chloride	Chronic: $9 \times 10^{-1}$ (d) (f) Subchronic: $9 \times 10^{-1}$ (d) (f)	Medium	Liver toxicity	UF = 100 MF = 1
n-Butylbenzene	ND	ND	ND	ND
n-Propylbenzene	ND	ND	ND	ND
Naphthalene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Nickel	Chronic: $2 \times 10^{-2}$ (c) Subchronic: $2 \times 10^{-2}$ (d)	ND	ND	ND
p-Cymene (p-Isopropyltoluene)	ND	ND	ND	ND
PCB-1254(Arochlor 1254)	Chronic: $2 \times 10^{-5}$ (b) Subchronic: $2 \times 10^{-5}$ (c)	ND	ND	ND
PCB-1260 (Arochlor 1260) <sup>(m)</sup>	Chronic: $2 \times 10^{-5}$ (b) Subchronic: $2 \times 10^{-5}$ (c)	ND	ND	ND
p,p'-DDD <sup>(n)</sup>	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
p,p'-DDE <sup>(n)</sup>	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
p,p'-DDT	Chronic: $5 \times 10^{-4}$ (b) Subchronic: $5 \times 10^{-4}$ (c)	ND	ND	ND
Phenanthrene	Chronic: $4 \times 10^{-2}$ (b) Subchronic: $4 \times 10^{-2}$ (c)	ND	ND	ND
Pyrene	Chronic: $3 \times 10^{-2}$ (b) Subchronic: $3 \times 10^{-1}$ (c)	ND	ND	ND
sec-Butylbenzene	ND	ND	ND	ND
Selenium	Chronic: $5 \times 10^{-3}$ (c) Subchronic: $5 \times 10^{-3}$ (d)	ND	ND	ND
Silver	Chronic: $5 \times 10^{-3}$ (b) Subchronic: $5 \times 10^{-3}$ (c)	ND	ND	ND
Tetrachloroethylene	Chronic: $1 \times 10^{-2}$ (b) Subchronic: $1 \times 10^{-1}$ (c)	ND	ND	ND
Thallium (as thallium carbonate or thallium chloride)	Chronic: $8 \times 10^{-5}$ (b) Subchronic: $8 \times 10^{-4}$ (c)	ND	ND	ND
Toluene	Chronic: $1 \times 10^{-1}$ (g) (f) Subchronic: $1 \times 10^0$ (a)	Medium	Neurological and hematological effects; degeneration of nasal epithelium	UF = 300 MF = 1

**TABLE 3-5  
TOXICITY VALUES: POTENTIAL NON-CARCINOGENIC EFFECTS (INHALATION)**

Continued

Chemical	RfD (mg/kg-day)	Confidence Level	Critical Effects	Uncertainty and Modifying Factors
trans-1,2-Dichloroethene	Chronic: $2 \times 10^{-2}$ (b) Subchronic: $2 \times 10^{-1}$ (c)	ND	ND	ND
Trichloroethylene	Chronic: $6 \times 10^{-3}$ (b) Subchronic: $6 \times 10^{-3}$ (c)	ND	ND	ND
Trichlorofluoromethane	Chronic: $3 \times 10^{-1}$ (b) Subchronic: $7 \times 10^{-1}$ (c)	ND	ND	ND
Vanadium	Chronic: $7 \times 10^{-3}$ (c) Subchronic: $7 \times 10^{-3}$ (d)	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Xylenes, Total	Chronic: $2 \times 10^0$ (b) Subchronic: $2 \times 10^0$ (c)	ND	ND	ND
Zinc	Chronic: $3 \times 10^{-1}$ (b) Subchronic: $3 \times 10^{-1}$ (c)	ND	ND	ND

- Key:**
- |    |   |                                    |     |  |
|----|---|------------------------------------|-----|--|
| ND | = | No Data                            | (a) | Chronic RfD used as subchronic RfD.  |
| UF | = | Uncertainty Factor for chronic RfD | (b) | Chronic oral RfD was used.   |
| MF | = | Modifying Factor for chronic RfD   | (c) | Subchronic oral RfD was used.  |
|    |   |                                    | (d) | Retrieved from HEAST, Annual FY94.   |
|    |   |                                    | (f) | Inhalation RfD was converted from corresponding RfC.   |
|    |   |                                    | (g) | Retrieved from IRIS, 1994.   |
|    |   |                                    | (h) | Data for Cr <sup>+6</sup> , rather than Cr <sup>+3</sup> , were used because it is a more conservative assumption. |
|    |   |                                    | (i) | Data for gamma-BHC were used.  |
|    |   |                                    | (j) | Data for endosulfan were used.   |
|    |   |                                    | (k) | Data for endrin were used.   |
|    |   |                                    | (l) | Retrieved from Superfund Health Risk Technical Support Center, 1995.   |
|    |   |                                    | (m) | Data for Arochlor 1254 were used.  |
|    |   |                                    | (n) | Data for DDT were used.  |
|    |   |                                    | (o) | Subchronic RfD used as chronic RfD.  |

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**TABLE 3-6**  
**TOXICITY VALUES ADJUSTED FOR DERMAL ABSORPTION OF CHEMICALS OF**  
**POTENTIAL CONCERN IN SOIL, GROUNDWATER, AND SURFACE WATER**

Analyte	Oral Absorption Efficiency <sup>(a)</sup>	Adjusted Dermal Chronic RfD (mg/kg-day)	Adjusted Dermal Subchronic RfD (mg/kg-day)	Adjusted Dermal Slope Factor (mg/kg-day) <sup>-1</sup>
1,1,1-Trichloroethane	0.94 <sup>(b)</sup>	2.4e-01	2.4e-01	N/A
1,1-Dichloroethane	1.00 <sup>(c)</sup>	1.0e-01	1.0e+00	ND
1,1-Dichloroethene	1.00	9.0e-03	9.0e-03	6.1e-01
1,2,4-Trichlorobenzene	1.00	1.0e-02	1.0e-02	N/A
1,2,4-Trimethylbenzene	1.00	ND	ND	N/A
1,3,5-Trimethylbenzene (Mesitylene)	1.00	ND	ND	N/A
2,4-Dinitrotoluene	1.00	2.0e-03	2.0e-03	N/A
2-Methylnaphthalene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	N/A
Acenaphthene	0.48 <sup>(e)</sup>	2.9e-02	2.9e-01	N/A
Acetone	0.79 <sup>(f)</sup>	7.9e-02	7.9e-01	N/A
Aldrin	0.50 <sup>(g)</sup>	1.5e-05	1.5e-05	3.4e+01
Alpha BHC (Alpha Hexachlorocyclohexane)	0.97 <sup>(f)</sup>	2.9e-04	2.9e-03	6.5e+00
Alpha Endosulfan	0.78 <sup>(h)</sup>	4.7e-03	4.7e-03	N/A
Aluminum	0.04 <sup>(i)</sup>	ND	ND	N/A
Anthracene	0.64 <sup>(j)</sup>	1.9e-01	1.9e+00	N/A
Arsenic	0.95 <sup>(h)</sup>	2.9e-04	2.9e-04	1.9e+00
Barium	0.05 <sup>(i)</sup>	3.5e-03	3.5e-03	N/A
Benzo(a)anthracene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	1.5e+01
Benzo(a)pyrene	0.48 <sup>(j)</sup>	1.9e-02	1.9e-02	1.5e+01
Benzo(b)fluoranthene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	1.5e+01
Benzo(g,h,i)perylene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	N/A
Beryllium	0.005 <sup>(h)</sup>	2.5e-05	2.5e-05	1.4e+03
Beta BHC (Beta Hexachlorocyclohexane)	0.91 <sup>(f)</sup>	2.7e-04	2.7e-03	2.0e+00
Beta Endosulfan	0.85 <sup>(h)</sup>	5.1e-03	5.1e-03	N/A
bis(2-Ethylhexyl)phthalate	0.23 <sup>(h)</sup>	4.6e-03	4.6e-03	6.1e-02
Bromodichloromethane	1.00	2.0e-02	2.0e-02	6.2e-02
Bromoform	1.00	2.0e-02	2.0e-01	7.9e-03

**TABLE 3-6**  
**TOXICITY VALUES ADJUSTED FOR DERMAL ABSORPTION OF CHEMICALS OF**  
**POTENTIAL CONCERN IN SOIL, GROUNDWATER, AND SURFACE WATER**

Continued

Analyte	Oral Absorption Efficiency <sup>(a)</sup>	Adjusted Dermal Chronic RfD (mg/kg-day)	Adjusted Dermal Subchronic RfD (mg/kg-day)	Adjusted Dermal Slope Factor (mg/kg-day) <sup>-1</sup>
Bromomethane	1.00	1.4e-03	1.4e-03	N/A
Cadmium	0.053 <sup>(h)</sup>	2.7e-05	2.7e-05	ND
Carbon Tetrachloride	0.96 <sup>(p)</sup>	6.7e-04	1.9e-03	1.4e-01
Chloroethane	1.00	3.0e+00	3.0e+00	N/A
Chloroform (Trichloromethane)	0.96 <sup>(h)</sup>	9.6e-03	9.6e-03	6.4e-03
Chloromethane	1.00	ND	ND	1.3e-02
Chromium, Total	0.013 <sup>(h)</sup>	6.5e-05	2.6e-04	N/A
Chrysene	0.24 <sup>(i)</sup>	9.6e-03	9.6e-03	3.0e+01
cis-1,2-Dichloroethene	1.00	1.0e-02	1.0e-01	N/A
Cobalt	0.31 <sup>(i)</sup>	ND	ND	N/A
Copper	0.50 <sup>(d)</sup>	1.9e-02	1.9e-02	N/A
Cyanide	0.47 <sup>(h)</sup>	9.4e-03	9.4e-03	N/A
Delta BHC (Delta Hexachlorocyclohexane)	0.92 <sup>(f)</sup>	2.8e-04	2.8e-03	N/A
Di-n-butyl phthalate	0.23 <sup>(k)</sup>	2.3e-02	2.3e-01	N/A
Dibenz(a,h)anthracene	0.10 <sup>(i)</sup>	4.0e-03	4.0e-03	7.3e+01
Dibenzofuran	0.90 <sup>(l)</sup>	ND	ND	N/A
Dibromochloromethane	1.00	2.0e-02	2.0e-01	8.4e-02
Dichlorodifluoromethane	1.00	2.0e-01	9.0e-01	N/A
Dieldrin	0.50 <sup>(h)</sup>	2.5e-05	2.5e-05	3.2e+01
Endosulfan Sulfate	0.82 <sup>(h)</sup>	4.9e-03	4.9e-03	N/A
Endrin	1.00	3.0e-04	3.0e-04	N/A
Endrin Aldehyde	1.00	3.0e-04	3.0e-04	N/A
Ethylbenzene	0.84 <sup>(m)</sup>	8.4e-02	8.4e-02	N/A
Fluoranthene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-01	N/A
Fluorene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-01	N/A
Fluoride	1.00 <sup>(h)</sup>	6.0e-02	6.0e-02	N/A

**TABLE 3-6**  
**TOXICITY VALUES ADJUSTED FOR DERMAL ABSORPTION OF CHEMICALS OF**  
**POTENTIAL CONCERN IN SOIL, GROUNDWATER, AND SURFACE WATER**

Continued

Analyte	Oral Absorption Efficiency <sup>(a)</sup>	Adjusted Dermal Chronic RfD (mg/kg-day)	Adjusted Dermal Subchronic RfD (mg/kg-day)	Adjusted Dermal Slope Factor (mg/kg-day) <sup>-1</sup>
Gamma BHC (Lindane)	0.99 <sup>(f)</sup>	3.0e-04	3.0e-03	1.3e+00
Heptachlor	0.77 <sup>(h)</sup>	3.9e-04	3.9e-04	5.8e+00
Heptachlor Epoxide	0.77 <sup>(h)</sup>	1.0e-05	1.0e-05	1.2e+01
Indeno(1,2,3-cd)pyrene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	1.5e+01
Isopropylbenzene (Cumene)	0.84 <sup>(n)</sup>	3.4e-02	3.4e-01	N/A
Lead	0.087 <sup>(h)</sup>	ND	ND	ND
Manganese	0.03 <sup>(o)</sup>	1.5e-04	1.5e-04	N/A
Mercury (Inorganic)	0.15 <sup>(i)</sup>	4.5e-05	4.5e-05	N/A
Methoxychlor	0.90 <sup>(f)</sup>	4.8e-03	4.8e-03	N/A
Methylene Chloride	0.98 <sup>(h)</sup>	5.9e-02	5.9e-02	7.7e-03
Molybdenum	0.05	2.5e-04	2.5e-04	N/A
n-Butylbenzene	0.84 <sup>(n)</sup>	ND	ND	N/A
n-Propylbenzene	0.84 <sup>(n)</sup>	ND	ND	N/A
Naphthalene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	N/A
Nickel	0.055 <sup>(h)</sup>	1.1e-03	1.1e-03	N/A
p,p'-DDD	0.08 <sup>(f)</sup>	4.0e-05	4.0e-05	3.0e+00
p,p'-DDE	0.08 <sup>(f)</sup>	4.0e-05	4.0e-05	4.3e+00
p,p'-DDT	0.08 <sup>(f)</sup>	4.0e-05	4.0e-05	4.3e+00
p-Cymene (p-Isopropyltoluene)	0.84 <sup>(n)</sup>	ND	ND	N/A
PCB-1254 (Arochlor 1254)	0.90 <sup>(h)</sup>	1.8e-05	1.8e-05	N/A
PCB-1260 (Arochlor 1260)	0.90 <sup>(h)</sup>	1.8e-05	1.8e-05	N/A
Phenanthrene	0.48 <sup>(e)</sup>	1.9e-02	1.9e-02	N/A
Pyrene	0.75 <sup>(i)</sup>	2.3e-02	2.3e-01	N/A
sec-Butylbenzene	0.84 <sup>(n)</sup>	ND	ND	N/A
Selenium	0.94 <sup>(b)</sup>	4.7e-03	4.7e-03	N/A
Silver	0.21 <sup>(c)</sup>	1.1e-03	1.1e-03	N/A

**TABLE 3-6**  
**TOXICITY VALUES ADJUSTED FOR DERMAL ABSORPTION OF CHEMICALS OF**  
**POTENTIAL CONCERN IN SOIL, GROUNDWATER, AND SURFACE WATER**

Continued

Analyte	Oral Absorption Efficiency <sup>(a)</sup>	Adjusted Dermal Chronic RfD (mg/kg-day)	Adjusted Dermal Subchronic RfD (mg/kg-day)	Adjusted Dermal Slope Factor (mg/kg-day) <sup>-1</sup>
Tetrachloroethene (PCE)	1.00 <sup>(h)</sup>	1.0e-02	1.0e-01	5.2e-02
Thallium	0.05	4.0e-06	4.0e-05	N/A
Toluene	0.84 <sup>(n)</sup>	1.7e-01	1.7e+00	N/A
trans-1,2-Dichloroethene	1.00	2.0e-02	2.0e-01	N/A
Trichloroethene (TCE)	0.96 <sup>(h)</sup>	5.8e-03	5.8e-03	1.1e-02
Trichlorofluoromethane	1.00	3.0e-01	7.0e-01	N/A
Vanadium	0.026 <sup>(i)</sup>	1.8e-04	1.8e-04	N/A
Vinyl Chloride	1.00 <sup>(h)</sup>	ND	ND	1.9e+00
Xylenes, Total	0.895 <sup>(b)</sup>	1.8e+00	1.8e+00	N/A
Zinc	0.25 <sup>(o)</sup>	7.5e-02	7.5e-02	N/A

**Key:** ND = No Data  
 NA = Not Applicable because the chemical is not classified a human carcinogen by USEPA.  
 RfD = Reference Dose.

Footnotes:

- (a) Absorption assumed to be 5% for metals (USEPA RAGS, December, 1989) and 100% for organics in absence of chemical specific information or information on appropriate surrogates.
- (b) Agency for Toxic Substances and Disease Registry (ATSDR), 1994. Toxicological Profile for Specified Compound, Draft Report.
- (c) Agency for Toxic Substances and Disease Registry (ATSDR), 1990. Toxicological Profile for Specified Compound.
- (d) USEPA, 1987, Summary Review of the Health Effects Associated with Copper, Office of Health and Environmental Assessment, Washington, D.C.
- (e) Benzo(a)pyrene used as a surrogate. See (j).
- (f) Agency for Toxic Substances and Disease Registry (ATSDR), 1992, Toxicological Profile for Specified Compound, Draft Report.
- (g) Dieldrin used as surrogate. See (h).
- (h) Agency for Toxic Substances and Disease Registry (ATSDR), 1993, Toxicological Profile for Specified Compound.
- (i) Agency for Toxic Substances and Disease Registry (ATSDR), 1992, Toxicological Profile for Specified Compound.
- (j) Agency for Toxic Substances and Disease Registry (ATSDR), 1994. Toxicological Profile for PAHs, Draft Report.
- (k) Bis(2-ethylhexyl)phthalate used as a surrogate. See (h).
- (l) Chlorodibenzofuran used as surrogate. See (f).
- (m) Agency for Toxic Substances and Disease Registry (ATSDR), 1989, Toxicological Profile for Specified Compound, Draft Report.
- (n) Ethylbenzene used as surrogate. See (m).
- (o) USEPA, 1984, Health Assessment Document (HAD) for Manganese, Final Report, Office of Health and Environmental Assessment, Cincinnati, Ohio.



# SECTION 4.0

## RISK CHARACTERIZATION

**T**his section presents methods used to estimate human health risk. Receptor risk estimates are presented in tabular form.

For the risk estimate, the exposure assessment and the toxicity assessment are integrated into quantitative and qualitative expressions of risk. To characterize risk of potential carcinogenic effects, probabilities that a receptor will develop cancer over a lifetime of exposure are estimated from projected chronic chemical-specific intake or absorbed dose, and chemical-specific slope factors. Similarly, to characterize risk of potential chronic or subchronic non-carcinogenic effects, comparisons are made between estimated chronic or subchronic intake or absorbed dose, and RfDs.

To characterize carcinogenic risk and the potential for non-carcinogenic health effects for future groundwater exposure pathways, risk was first calculated separately for future receptor exposure to chemicals in both the shallow and deep groundwater zones. Future receptors can be exposed to chemicals in groundwater drawn from both zones. As a conservative approach, reasonable maximum case risk was calculated by selecting the highest shallow or deep zone risk value for each analyte. The highest appropriate risk values were summed for each groundwater pathway to determine risk from exposure to groundwater in both zones.

**CARCINOGENIC RISK ESTIMATES.** For those chemicals that are potential carcinogens, risk has been estimated as the incremental probability of a receptor developing cancer over a lifetime as a result of exposure to a potential carcinogen via each identified exposure pathway. The slope factor converts estimated daily intakes to the incremental risk of a receptor developing cancer. The estimated chemical-specific intakes are low compared to intakes experienced by test animals or humans used to compute slope factors. Following USEPA guidance, it was assumed that the receptor dose-response relationship is linear in the low dose portion of the multistage model dose-response curve used to compute slope factors. Using this assumption, the slope factor is considered a constant and cancer risk will be related to intake. Therefore, the following equation (i.e., the linear low-dose cancer risk equation) was used to compute chemical-specific cancer risk:

$$\text{Risk} = \text{Chronic Daily Intake or Subchronic Daily Intake} \times \text{Slope Factor}$$

To estimate risks due to incidental ingestion of contaminated soil, the daily intake is multiplied by the oral slope factor determined from administered dose toxicity studies. To estimate risk

due to dermal absorption of chemicals from soil, the absorbed dose is multiplied by the oral slope factor adjusted for percent absorption (see Table 3-6).

The reasonable maximum case risk was quantified by using reasonable maximum exposure (RME) (intake) values in accordance with USEPA guidance. Average case risk was quantified using average exposure values. In accordance with USEPA guidance, total cancer risk for each exposure pathway was quantified by summing chemical-specific cancer risks (U.S. Environmental Protection Agency, December 1989).

The USEPA has proposed the use of relative potency factors (RPFs) for assessment of risk from oral and dermal exposure to potentially carcinogenic PAHs. An RPF has been assigned to the six PAHs detected that have been classified as carcinogens (i.e., B2 weight-of-evidence). The RPFs give an estimated order of magnitude potency compared to benzo(a)pyrene. Table 4-1 presents RPFs which have been assigned to potentially carcinogenic PAHs (U.S. Environmental Protection Agency, July 1993). To determine carcinogenic risk for incidental ingestion and dermal absorption of chemicals in soil, the final risk estimates for PAHs were obtained by applying the appropriate RPF listed in Table 4-1.

In accordance with 40 CFR 300.430 (U.S. CFR, 1991), carcinogenic risk within the benchmark range of  $10^{-4}$  (1 cancer case in 10,000) to  $10^{-6}$  (1 cancer case in 1,000,000) is considered acceptable. The following statement is from 40 CFR 300.430 (U.S. Code of Federal Regulations, 1991): "For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between  $10^{-4}$  to  $10^{-6}$  using information on the relationship between dose and response. The  $10^{-6}$  risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at a site or multiple pathways of exposure."

Table 4-2 presents a summary of the total human receptor cancer risk (i.e., risk exceeding  $10^{-6}$ ). This table also provides the following information:

- Receptors at risk.
- Exposure pathways that contribute to risk.
- Chemicals that contribute to pathway risk.

**HAZARD INDEX ESTIMATES.** The potential for non-carcinogenic health effects due to chemical exposure is evaluated by comparing intake with a RfD. This comparison, or ratio, is called the hazard quotient and is expressed as the following formula:

$$\text{Hazard Quotient (HQ)} = \frac{\text{Chronic Daily Intake (CDI)}}{\text{Chronic RfD}} \text{ or } \frac{\text{Subchronic Daily Intake (SDI)}}{\text{Subchronic RfD}}$$

As with cancer risk, the hazard quotient for ingestion and inhalation pathways was estimated by comparing intake with the oral RfD developed from administered dose toxicity studies. To

determine the hazard quotient for dermal absorption pathways, the estimated absorbed dose intake was compared with the oral RfD adjusted for percent absorption (see Table 3-6).

The reasonable maximum case hazard quotients were quantified using RME (intake) values in accordance with USEPA guidance. Average case hazard quotients were quantified using average case exposure values.

In accordance with USEPA guidance, the hazard quotient for each chemical has been summed for each pathway, resulting in a pathway hazard index (HI) (U.S. Environmental Protection Agency, December 1989). This approach is conservative since health effects from exposure to different chemicals may result from a chemical effect on different organ systems.

Per USEPA guidance, when the hazard index exceeds one, there is a potential for adverse non-carcinogenic health effects (USEPA, December 1989). As a rule, the more the hazard index exceeds unity, the greater the potential for adverse health effects.

Table 4-3 presents a summary of the total human receptor hazard indices. This table identifies the following: receptors with HIs greater than 1, exposure pathways which contribute to an HI greater than 1, and chemicals that contribute to a pathway HI greater than 1.

**SURFACE WATER RISK.** Reasonable maximum case risk for recreational users of Little Choconut Creek exceeds  $10^{-6}$  (i.e.,  $8 \times 10^{-5}$ ). Ingestion of contaminated fish drove total receptor risk. Chemicals driving risk for the fish ingestion pathway may not have migrated solely from AFP 59, but may have migrated from upstream locations. Consequently, risk was calculated for chemicals in the upstream, background samples. Those chemicals which are driving receptor risk were used to calculate background risk. Only arsenic risk in upstream, background sample exceeded acceptable risk (i.e.,  $1 \times 10^{-5}$  for arsenic exposure); arsenic background risk is equal to arsenic receptor risk. If arsenic risk is excluded from receptor risk for fish ingestion, risk still exceeds  $10^{-6}$  (i.e.,  $7 \times 10^{-5}$ ).

Similarly, the HI for recreational user exposure to contaminated fish was compared to the upstream, background HI for fish ingestion. HI for background samples does not exceed 1.

**RISK SUMMATION.** As stated previously, chemical-specific cancer risk estimates and hazard quotients were summed for each exposure pathway to estimate pathway cancer risk or a hazard index. Appropriate pathway risk estimates for completed receptor exposure pathways identified in Table 2-1 were summed to determine total receptor cancer risk or hazard index.

Receptor risk and hazard index estimate tables are presented in Appendix H.

**RISK FROM EXPOSURE TO LEAD.** Future offsite resident children could be exposed to onsite lead in surface soil by the following two exposure pathways:

- Inhalation of lead-contaminated, fugitive dust which has migrated from on-site.

- Ingestion of lead-contaminated groundwater which has migrated from on-site.

Because USEPA-approved toxicity values do not exist for lead, the USEPA has developed an exposure uptake/biokinetic model for evaluating the potential impact of children exposed to lead. The latest model, the Integrated Uptake Biokinetic (IEUBK) Model for lead, Version 0.99d, was used to estimate the offsite resident child's total exposure to lead. The model can estimate exposure for a 0.5 to 7 year old child. The 95 percent UCL concentration of lead dust (i.e.,  $4.4689 \times 10^{-9}$  mg/m<sup>3</sup>) which was modeled to the receptor area and the maximum concentration of lead in either the shallow or deep groundwater zone (i.e., 79.6 µg/L) were entered as site-specific data for the IEUBK model. Default model data were used for all other exposure scenarios: diet, soil and house dust exposure, paint intake, and maternal contribution.

The USEPA has identified a blood-lead level "cutoff" or level of concern of 10 micrograms/deciliter (µg/dL). The model demonstrated that the predicted blood-lead level for the 0.5 to 1 year age group and consecutive yearly age groups to 6 to 7 years did not exceed 10 µg/dL.

Thus, the model demonstrates as a preliminary conclusion that offsite resident children in the age range of 0.5 to 7 years are not at risk from exposure to lead migrating from the site in air or groundwater. A summary of the IEUBK Model results are presented in Appendix I.

**TABLE 4-1**  
**RELATIVE POTENCY FACTORS FOR CARCINOGENIC PAHS<sup>1</sup>**

PAH	Classification	RPF
Benzo(a)anthracene	B2	0.1
Benzo(b)fluoranthene	B2	0.1
Benzo(a)pyrene	B2	1.0
Chrysene	B2	0.001
Dibenz(a,h)anthracene	B2	1.0
Indeno(1,2,3-cd)pyrene	B2	0.1

<sup>1</sup>U.S. Environmental Protection Agency, July 1993.

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**TABLE 4-2  
TOTAL HUMAN RECEPTOR CANCER RISK**

Receptor	Total Cancer Risk Range			Factors Contributing to Risk > 1E-06	
	Average Case	Reasonable Maximum Case	Receptor at Risk (> 1E-06)	Pathway Contributing to Risk	Chemical Contributing to Pathway Risk
<b>CURRENT LAND USE</b>					
Recreational Users of Little Choconut Creek	4E-04	8E-05	Yes	Ingestion of Contaminated Fish (from Little Choconut Creek)	Arsenic bis(2-Ethylhexyl)phthalate Heptachlor Epoxide p,p'-DDE
Recreational Users of Little Choconut Creek Background	1E-05	1E-05	Yes	Ingestion of Contaminated Fish (from Background for Little Choconut Creek)	Arsenic
<b>FUTURE LAND USE</b>					
Offsite 30-Year Residents	1E-08	2E-03 <sup>(1)</sup>	Yes	Dermal Absorption of Chemicals in Shower Water  Ingestion of Chemicals in Drinking Water  Inhalation of VOCs While Showering	Beryllium p,p'-DDE Trichloroethylene (TCE) Vinyl Chloride  1,1-Dichloroethene Arsenic Beryllium Trichloroethylene (TCE) Vinyl Chloride  1,1-Dichloroethene Bromodichloromethane Carbon Tetrachloride Chloroform Chloromethane Trichloroethylene (TCE) Vinyl Chloride
Onsite Industrial Workers	5E-05	2E-04 <sup>(1)</sup>	Yes	Plating Room - Dermal Absorption of Chemicals in Surface Soil  Plating Room - Incidental Ingestion of Chemicals in Surface Soil	Arsenic Beryllium Chrysene  Arsenic

**TABLE 4-2  
TOTAL HUMAN RECEPTOR CANCER RISK**

**Continued**

Receptor	Total Cancer Risk Range		Receptor at Risk (> 1E-06)	Factors Contributing to Risk > 1E-06	
	Average Case	Reasonable Maximum Case		Pathway Contributing to Risk	Chemical Contributing to Pathway Risk
FUTURE LAND USE (CONTINUED)					
Onsite Industrial Workers (Continued)				Reservoir - Dermal Absorption of Chemicals in Surface Soil	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Chrysene
				Ingestion of Chemicals in Drinking Water	1,1-Dichloroethene Arsenic Beryllium Trichloroethylene (TCE) Vinyl Chloride
Onsite Construction Workers Impacted by the Plating Room	5E-07	6E-07	No	NA	NA
Onsite Construction Workers Impacted by the Reservoir	4E-07	4E-07	No	NA	NA
Onsite Construction Workers Impacted by the Waste Oil Tanks	2E-06	2E-06	Borderline	Risk for Individual Pathways Does Not Exceed 1E-06	Risk for Individual Chemicals Does Not Exceed 1E-06
Onsite Construction Workers <sup>(2)</sup> Impacted by All Source Areas	3E-06	3E-06	Yes	Dermal Absorption of Chemicals in Subsurface Soil	Risk for Individual Chemicals Does Not Exceed 1E-06

**Key:** NA = Not Applicable

<sup>(1)</sup>In calculating the reasonable maximum case risk, the shallow and deep groundwater pathway risks were combined by selecting the highest shallow and deep zone risk for each analyte.

<sup>(2)</sup>The same onsite construction workers were assumed to work at each source area for the full two month exposure duration. Consequently, risk from exposure at each source area was summed to determine total risk.



**TABLE 4-3  
TOTAL HUMAN RECEPTOR HAZARD INDEX**

Receptor	Total Hazard Index (HI) Range		Factors Contributing to an HI > 1	
	Average Case	Reasonable Maximum Case	Receptor HI > 1	Pathway Contributing to the HI > 1
CURRENT LAND USE				
Recreational Users of Little Choconut Creek	6E+00	4E+00	Yes	Ingestion of Contaminated Fish (from Little Choconut Creek)
Recreational Users of Little Choconut Creek Background	3E-01	3E-01	No	NA
FUTURE LAND USE				
Offsite 30-Year Residents	3E-03	10E+01 <sup>(1)</sup>	Yes	Dermal Absorption of Chemicals in Shower Water
Onsite Industrial Workers	2E+00	4E+01 <sup>(1)</sup>	Yes	Ingestion of Chemicals in Drinking Water
				Inhalation of VOCs While Showering
				Plating Room - Dermal Absorption of Chemicals in Surface Soil
Onsite Construction Workers Impacted by the Plating Room	3E+00	3E+00	Yes	Ingestion of Chemicals in Drinking Water
Onsite Construction Workers Impacted by the Reservoir	3E-01	4E-01	No	NA
Onsite Construction Workers Impacted by the Waste Oil Tanks	4E-01	3E-01	No	NA
Onsite Construction Workers <sup>(2)</sup> Impacted by All Source Areas	4E+00	4E+00	Yes	Inhalation of VOCs
				Manganese Gamma BHC
				NA
				Manganese
				Arsenic
				Manganese
				Thallium
				cis-1,2-Dichloroethylene
				Trichloroethylene (TCE)
				Molybdenum
				Manganese
				Thallium
				Bromomethane
				NA
				NA
				Bromomethane
				Trichloroethylene (TCE)

Key: NA = Not Applicable

<sup>(1)</sup>In calculating the reasonable maximum case HI, the shallow and deep groundwater pathway HIs were combined by selecting the highest shallow or deep zone HI for each analyte.

<sup>(2)</sup>Onsite construction workers were assumed to work at each source area for the full two month exposure duration. Consequently, the HI from exposure at each source area was summed to determine a total HI.

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# **A P P E N D I X A**

## **RISK ASSESSMENT ITIR REFERENCES**

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# APPENDIX A

## ITIR RISK ASSESSMENT REFERENCES

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# **A P P E N D I X B**

## **STATISTICAL DISTRIBUTIONS FOR SITE AND BACKGROUND ANALYTICAL DATA**

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**Plating Room**  
**Statistical Distributions For The 0- To 3-Foot Soil Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>									
	ALUMINUM	28	0.25983	0.14326	Accept	NA	NA	NA	lognormal
	ARSENIC	28	2.23549	0.00000	Reject	4.62632	0.00000	Reject	nonnormal
	BARIUM	28	2.93202	0.00000	Reject	4.99079	0.00000	Reject	nonnormal
	BERYLLIUM	28	-0.94344	0.00000	Reject	0.63211	0.00000	Reject	nonnormal
	CADMIUM	28	2.56218	0.00000	Reject	5.17828	0.00000	Reject	nonnormal
	CALCIUM	27	-1.45640	0.00120	Reject	1.22795	0.01043	Reject	nonnormal
	CHROMIUM, TOTAL	28	1.36342	0.00029	Reject	2.72526	0.00000	Reject	nonnormal
	COBALT	28	1.79495	0.00000	Reject	4.02719	0.00000	Reject	nonnormal
	COPPER	28	2.24989	0.00003	Reject	5.10708	0.00000	Reject	nonnormal
	CYANIDE	21	1.37220	0.00002	Reject	3.07485	0.00000	Reject	nonnormal
	IRON	28	2.27613	0.00005	Reject	5.00173	0.00000	Reject	nonnormal
	LEAD	28	2.41424	0.00000	Reject	4.60230	0.00000	Reject	nonnormal
	MAGNESIUM	28	1.19288	0.01650	Reject	4.07398	0.00000	Reject	nonnormal
	MANGANESE	28	0.49100	0.36628	Accept	NA	NA	NA	lognormal
	MERCURY	28	1.20106	0.00000	Reject	1.39416	0.00000	Reject	nonnormal
	MOLYBDENUM	6	2.44835	0.00039	Reject	2.44949	0.00000	Reject	nonnormal
	NICKEL	28	1.27636	0.00039	Reject	2.94933	0.00000	Reject	nonnormal
	POTASSIUM	28	0.49190	0.34916	Accept	NA	NA	NA	lognormal
	SODIUM	25	0.75659	0.45901	Accept	NA	NA	NA	lognormal
	VANADIUM	28	1.06198	0.00031	Reject	4.29249	0.00000	Reject	nonnormal
	ZINC	28	3.67376	0.00000	Reject	5.28762	0.00000	Reject	nonnormal
<b>PCBS</b>									
	ALDRIN	6	-0.04573	0.01669	Reject	0.00000	0.00286	Reject	nonnormal
	ALPHA ENDOSULFAN	2	NA	NA	NA	NA	NA	NA	lognormal
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6	-1.49655	0.04178	Reject	-0.09973	0.02792	Reject	nonnormal
	BETA ENDOSULFAN	3	-1.73053	0.02663	Reject	-1.71790	0.08139	Accept	normal
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6	-0.16692	0.03734	Reject	-0.00027	0.00344	Reject	nonnormal
	DIELDRIN	6	-1.80364	0.01881	Reject	-0.10714	0.02925	Reject	nonnormal
	ENDOSULFAN SULFATE	5	-1.41736	0.04054	Reject	-0.61639	0.01202	Reject	nonnormal
	GAMMA BHC (LINDANE)	6	-0.59248	0.08170	Accept	NA	NA	NA	lognormal
	METHOXYCHLOR	5	-1.02738	0.04883	Reject	-0.64570	0.01858	Reject	nonnormal
	P,p'-DDD	3	-1.71278	0.09502	Accept	NA	NA	NA	lognormal
	P,p'-DDT	3	0.89601	0.65376	Accept	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Plating Room**

**Statistical Distributions For The 0- To 3-Foot Soil Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>SEMIVOCS</b>									
	BENZO(a)ANTHRACENE	12	-1.84186	0.00028	Reject	-0.72661	0.00160	Reject	nonnormal
	bis(2-ETHYLHEXYL) PHTHALATE	12	-0.02450	0.00734	Reject	0.22007	0.00756	Reject	nonnormal
	CHRYSENE	12	-0.56475	0.00075	Reject	1.20718	0.00043	Reject	nonnormal
	FLUORANTHENE	12	-3.08375	0.00000	Reject	-2.96131	0.00001	Reject	nonnormal
	PYRENE	12	-3.38152	0.00000	Reject	-3.28160	0.00000	Reject	nonnormal
<b>TOC</b>									
	TOTAL ORGANIC CARBON	3	-1.36401	0.42268	Accept	NA	NA	NA	lognormal
<b>VOCS</b>									
	ACETONE	29	0.91209	0.01071	Reject	2.24107	0.00000	Reject	nonnormal
	METHYLENE CHLORIDE	29	2.11311	0.00000	Reject	2.67614	0.00000	Reject	nonnormal
	TETRACHLOROETHYLENE(PCE)	33	2.08735	0.00000	Reject	2.54392	0.00000	Reject	nonnormal
	TRICHLOROETHYLENE (TCE)	33	0.80327	0.00003	Reject	3.42915	0.00000	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Reservoir**  
**Statistical Distributions For The 0- To 3-Foot Soil Interval**  
(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution	
INORGANICS	ALUMINUM	4	1.25345	0.36409	Accept	NA	NA	NA	lognormal	
	ARSENIC	4	0.02736	0.11200	Accept	NA	NA	NA	lognormal	
	BARIUM	4	-0.92171	0.58868	Accept	NA	NA	NA	lognormal	
	BERYLLIUM	4	1.23586	0.45743	Accept	NA	NA	NA	lognormal	
	CALCIUM	4	-1.94609	0.01568	Reject	-1.34240	0.32697	Accept	normal	
	CHROMIUM, TOTAL	4	1.59060	0.16183	Accept	NA	NA	NA	lognormal	
	COBALT	4	0.91028	0.49401	Accept	NA	NA	NA	lognormal	
	COPPER	4	-0.27900	0.91663	Accept	NA	NA	NA	lognormal	
	IRON	4	0.91670	0.70763	Accept	NA	NA	NA	lognormal	
	LEAD	4	-1.73937	0.10754	Accept	NA	NA	NA	lognormal	
	MAGNESIUM	4	-0.48638	0.92845	Accept	NA	NA	NA	lognormal	
	MANGANESE	4	-0.34383	0.51531	Accept	NA	NA	NA	lognormal	
	MOLYBDENUM	4	0.00205	0.05804	Accept	NA	NA	NA	lognormal	
	NICKEL	4	1.72304	0.11344	Accept	NA	NA	NA	lognormal	
	POTASSIUM	4	0.12653	0.33174	Accept	NA	NA	NA	lognormal	
	SODIUM	4	-1.95499	0.01655	Reject	-1.91270	0.03280	Reject	nonnormal	
	VANADIUM	4	-0.61240	0.72501	Accept	NA	NA	NA	lognormal	
	ZINC	4	1.76625	0.09891	Accept	NA	NA	NA	lognormal	
	PCBS	ALDRIN	3	-1.70761	0.10703	Accept	NA	NA	NA	lognormal
		ALPHA ENDOSULFAN	3	0.00000	0.00000	Reject	0.00000	0.00000	Reject	nonnormal
		BETA ENDOSULFAN	3	-1.73106	0.02147	Reject	-1.71870	0.07906	Accept	normal
		DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4	1.88329	0.02592	Reject	1.94496	0.01264	Reject	nonnormal
DIELDRIN		3	0.12213	0.95430	Accept	NA	NA	NA	lognormal	
ENDOSULFAN SULFATE		4	-1.51736	0.12690	Accept	NA	NA	NA	lognormal	
ENDRIN		4	-0.26572	0.23939	Accept	NA	NA	NA	lognormal	
ENDRIN ALDEHYDE		4	-1.65711	0.18224	Accept	NA	NA	NA	lognormal	
GAMMA BHC (LINDANE)		3	-1.71308	0.09428	Accept	NA	NA	NA	lognormal	
HEPTACHLOR		3	-1.56633	0.28071	Accept	NA	NA	NA	lognormal	
HEPTACHLOR EPOXIDE		4	-0.55825	0.89928	Accept	NA	NA	NA	lognormal	
METHOXYCHLOR		4	-0.28060	0.22433	Accept	NA	NA	NA	lognormal	
p,p'-DDD		4	0.89916	0.74556	Accept	NA	NA	NA	lognormal	
p,p'-DDE		4	0.65855	0.85557	Accept	NA	NA	NA	lognormal	
p,p'-DDT		4	-1.52398	0.29131	Accept	NA	NA	NA	lognormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Reservoir**  
**Statistical Distributions For The 0- To 3-Foot Soil Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>SEMIVOCs</b>									
	BENZO(a)ANTHRACENE	4	-1.94394	0.02019	Reject	-1.80513	0.08297	Accept	normal
	BENZO(a)PYRENE	4	0.40776	0.92973	Accept	NA	NA	NA	lognormal
	BENZO(b)FLUORANTHENE	4	-1.18083	0.52139	Accept	NA	NA	NA	lognormal
	bis(2-ETHYLHEXYL) PHTHALATE	4	-1.79715	0.09148	Accept	NA	NA	NA	lognormal
	CHRYSENE	4	-1.49803	0.22199	Accept	NA	NA	NA	lognormal
	Di-n-BUTYL PHTHALATE	4	-1.96517	0.01143	Reject	-1.83708	0.05529	Accept	normal
	FLUORANTHENE	4	-0.93591	0.62050	Accept	NA	NA	NA	lognormal
	PHENANTHRENE	4	-1.88013	0.04371	Reject	-1.73098	0.11906	Accept	normal
	PYRENE	4	-1.16225	0.53293	Accept	NA	NA	NA	lognormal
<b>TOC</b>									
	TOTAL ORGANIC CARBON	4	1.08999	0.61040	Accept	NA	NA	NA	lognormal
<b>VOCs</b>									
	TRICHLOROETHYLENE (TCE)	7	-2.26936	0.00308	Reject	-2.08198	0.01039	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.



**Waste Oil Tanks**  
**Statistical Distributions For The 0- To 3-Foot Soil Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution	
INORGANICS	ALUMINIUM	3	-1.11343	0.55544	Accept	NA	NA	NA	lognormal	
	ARSENIC	3	1.11276	0.55575	Accept	NA	NA	NA	lognormal	
	BARIUM	3	0.01290	0.99038	Accept	NA	NA	NA	lognormal	
	BERYLLIUM	3	1.69833	0.12578	Accept	NA	NA	NA	lognormal	
	CALCIUM	3	1.62352	0.22652	Accept	NA	NA	NA	lognormal	
	CHROMIUM, TOTAL	3	-1.62764	0.22214	Accept	NA	NA	NA	lognormal	
	COBALT	3	1.26366	0.47937	Accept	NA	NA	NA	lognormal	
	COPPER	3	-1.72032	0.07408	Accept	NA	NA	NA	lognormal	
	IRON	3	-1.65871	0.18588	Accept	NA	NA	NA	lognormal	
	LEAD	3	1.27769	0.47178	Accept	NA	NA	NA	lognormal	
	MAGNESIUM	3	1.19967	0.51284	Accept	NA	NA	NA	lognormal	
	MANGANESE	3	-0.51440	0.80785	Accept	NA	NA	NA	lognormal	
	MOLYBDENUM	3	1.69183	0.13742	Accept	NA	NA	NA	lognormal	
	NICKEL	3	1.72008	0.07484	Accept	NA	NA	NA	lognormal	
	POTASSIUM	3	1.10873	0.55768	Accept	NA	NA	NA	lognormal	
	SODIUM	3	1.14776	0.53878	Accept	NA	NA	NA	lognormal	
	VANADIUM	3	0.38199	0.85819	Accept	NA	NA	NA	lognormal	
	ZINC	3	-1.69245	0.13636	Accept	NA	NA	NA	lognormal	
	PCBS	ALDRIN	3	-1.72464	0.05890	Accept	NA	NA	NA	lognormal
		ALPHA ENDOSULFAN	3	-1.73056	0.02842	Reject	-1.72271	0.06610	Accept	normal
		BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2	NA	NA	NA	NA	NA	NA	lognormal
BETA ENDOSULFAN		3	1.69289	0.13559	Accept	NA	NA	NA	lognormal	
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)		3	1.73205	0.00000	Reject	1.73205	0.00000	Reject	nonnormal	
DIELDRIN		2	NA	NA	NA	NA	NA	NA	lognormal	
ENDRIN ALDEHYDE		2	1.53475	0.30678	Accept	NA	NA	NA	lognormal	
HEPTACHLOR		3	-1.72777	0.04475	Reject	-1.69768	0.12700	Accept	normal	
p,p'-DDD		2	NA	NA	NA	NA	NA	NA	lognormal	
p,p'-DDE		2	NA	NA	NA	NA	NA	NA	lognormal	
SEMIVOCs		NAPHTHALENE	5	-0.56092	0.03533	Reject	-0.36841	0.10635	Accept	normal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Waste Oil Tanks**  
**Statistical Distributions For The 0- To 3-Foot Soil Interval** (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
TOC	TOTAL ORGANIC CARBON	3	0.11512	0.95684	Accept	NA	NA	NA	lognormal
VOCS	1,1-DICHLOROETHANE	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	1,2,4-TRIMETHYLBENZENE	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	cis-1,2-DICHLOROETHYLENE	3	1.73205	0.00000	Reject	1.73205	0.00000	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Soil Background**  
**Statistical Distributions For The 0- To 3-Foot Soil Interval**  
(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
INORGANICS									
	ALUMINUM	2	NA	NA	NA	NA	NA	NA	lognormal
	ARSENIC	2	NA	NA	NA	NA	NA	NA	lognormal
	BARIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	BERYLLIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	CALCIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	CHROMIUM, TOTAL	2	NA	NA	NA	NA	NA	NA	lognormal
	COBALT	2	NA	NA	NA	NA	NA	NA	lognormal
	COPPER	2	NA	NA	NA	NA	NA	NA	lognormal
	IRON	2	NA	NA	NA	NA	NA	NA	lognormal
	LEAD	2	NA	NA	NA	NA	NA	NA	lognormal
	MAGNESIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	MANGANESE	2	NA	NA	NA	NA	NA	NA	lognormal
	NICKEL	2	NA	NA	NA	NA	NA	NA	lognormal
	POTASSIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	SODIUM	1	NA	NA	NA	NA	NA	NA	lognormal
	VANADIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	ZINC	2	NA	NA	NA	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

Plating Room

(1)(2)

Statistical Distributions For The 0- To 12-Foot Soil Interval

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>									
	ALUMINUM	41	0.14745	0.16474	Accept	NA	NA	NA	lognormal
	ARSENIC	41	1.51429	0.00000	Reject	4.93475	0.00000	Reject	nonnormal
	BARIUM	41	2.56728	0.00000	Reject	5.73293	0.00000	Reject	nonnormal
	BERYLLIUM	41	-1.46444	0.00000	Reject	-0.10716	0.00000	Reject	nonnormal
	CADMIUM	41	2.61558	0.00000	Reject	6.25985	0.00000	Reject	nonnormal
	CALCIUM	40	-0.84992	0.00020	Reject	1.26784	0.00003	Reject	nonnormal
	CHROMIUM, TOTAL	41	1.49040	0.00000	Reject	2.90496	0.00000	Reject	nonnormal
	COBALT	41	0.71027	0.00000	Reject	3.19330	0.00000	Reject	nonnormal
	COPPER	41	2.29360	0.00000	Reject	6.16110	0.00000	Reject	nonnormal
	CYANIDE	33	1.31179	0.00001	Reject	3.51871	0.00000	Reject	nonnormal
	IRON	41	1.47900	0.00038	Reject	5.64134	0.00000	Reject	nonnormal
	LEAD	41	2.58990	0.00000	Reject	5.99790	0.00000	Reject	nonnormal
	MAGNESIUM	41	1.06457	0.01913	Reject	4.39517	0.00000	Reject	nonnormal
	MANGANESE	41	0.00988	0.88362	Accept	NA	NA	NA	lognormal
	MERCURY	41	0.35707	0.00000	Reject	0.45737	0.00000	Reject	nonnormal
	MOLYBDENUM	16	3.99339	0.00000	Reject	4.00000	0.00000	Reject	nonnormal
	NICKEL	41	1.05259	0.0101	Reject	3.42946	0.00000	Reject	nonnormal
	POTASSIUM	41	0.13367	0.04010	Reject	0.62463	0.00068	Reject	nonnormal
	SODIUM	37	0.92659	0.19936	Accept	NA	NA	NA	lognormal
	VANADIUM	41	0.23655	0.00170	Reject	3.76787	0.00000	Reject	nonnormal
	ZINC	41	2.33615	0.00000	Reject	6.28045	0.00000	Reject	nonnormal
<b>PCBS</b>									
	ALDRIN	10	-0.38853	0.01379	Reject	0.84370	0.00293	Reject	nonnormal
	ALPHA ENDOSULFAN	5	-1.96768	0.01134	Reject	-0.92394	0.09416	Accept	normal
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	15	-1.48230	0.00011	Reject	1.53647	0.00002	Reject	nonnormal
	BETA ENDOSULFAN	12	-3.44237	0.00000	Reject	-3.26595	0.00000	Reject	nonnormal
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	15	1.33249	0.00011	Reject	1.67156	0.00000	Reject	nonnormal
	DIELDRIN	15	-0.84558	0.00224	Reject	1.37247	0.00017	Reject	nonnormal
	ENDOSULFAN SULFATE	14	-0.29766	0.01462	Reject	0.73644	0.00310	Reject	nonnormal
	GAMMA BHC (LINDANE)	15	-0.21150	0.01501	Reject	1.65993	0.00000	Reject	nonnormal
	HEPTACHLOR	11	-0.56376	0.00656	Reject	1.18376	0.00007	Reject	nonnormal
	METHOXYCHLOR	14	-1.19262	0.00094	Reject	-0.47574	0.03591	Reject	nonnormal
	p,p'-DDD	12	-2.24635	0.00005	Reject	-1.40242	0.00058	Reject	nonnormal
	p,p'-DDT	12	-0.77838	0.00409	Reject	-0.36234	0.00103	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Plating Room**  
**Statistical Distributions For The 0- To 12-Foot Soil Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
PCBS	PCB-1254 (AROCHELR 1254)	10	1.58767	0.01321	Reject	2.87528	0.00002	Reject	nonnormal
SEMIVOCs	ACENAPHTHENE	21	0.02183	0.00604	Reject	0.11030	0.00579	Reject	nonnormal
	ANTHRACENE	21	1.96564	0.00004	Reject	3.37862	0.00000	Reject	nonnormal
	BENZO(a)ANTHRACENE	21	3.62658	0.00000	Reject	4.55673	0.00000	Reject	nonnormal
	BENZO(a)PYRENE	21	4.54547	0.00000	Reject	4.58074	0.00000	Reject	nonnormal
	BENZO(b)FLUORANTHENE	21	4.52209	0.00000	Reject	4.58116	0.00000	Reject	nonnormal
	bis(2-ETHYLHEXYL) PHTHALATE	21	-0.69766	0.00097	Reject	-0.12288	0.00604	Reject	nonnormal
	CHRYSENE	21	1.74281	0.00008	Reject	4.40552	0.00000	Reject	nonnormal
	DIBENZOFURAN	21	-3.95242	0.00000	Reject	-2.79911	0.00000	Reject	nonnormal
	FLUORANTHENE	21	4.45538	0.00000	Reject	4.58146	0.00000	Reject	nonnormal
	FLUORENE	21	-2.25389	0.00006	Reject	-1.54505	0.00116	Reject	nonnormal
	PHENANTHRENE	21	4.51336	0.00000	Reject	4.58041	0.00000	Reject	nonnormal
	PYRENE	21	4.07736	0.00000	Reject	4.57945	0.00000	Reject	nonnormal
TOC	TOTAL ORGANIC CARBON	12	0.61879	0.55025	Accept	NA	NA	NA	lognormal
VOCS	1,1,1-TRICHLOROETHANE	49	2.31273	0.00000	Reject	3.76030	0.00000	Reject	nonnormal
	ACETONE	34	0.27604	0.33237	Accept	NA	NA	NA	lognormal
	BROMOMETHANE	49	2.35261	0.00000	Reject	3.75760	0.00000	Reject	nonnormal
	DICHLORODIFLUOROMETHANE	15	0.98254	0.00180	Reject	1.66922	0.00000	Reject	nonnormal
	METHYLENE CHLORIDE	34	2.57200	0.00000	Reject	3.03548	0.00000	Reject	nonnormal
	TETRACHLOROETHYLENE(PCE)	49	1.96590	0.00000	Reject	3.74577	0.00000	Reject	nonnormal
	TRICHLOROETHYLENE (TCE)	49	1.25356	0.00000	Reject	3.43310	0.00000	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

## Reservoir

### Statistical Distributions For The 0- To 12-Foot Soil Interval

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal		Lognormal		Normal		Normal Conclusion	Normal Distribution
			Skewness	Probability	Skewness	Probability	Skewness	Probability		
INORGANICS	ALUMINUM	15	0.14032	0.43676	Accept	NA	NA	NA	lognormal	
	ARSENIC	15	0.65653	0.45757	Accept	NA	NA	NA	lognormal	
	BARIUM	15	0.01560	0.70380	Accept	NA	NA	NA	lognormal	
	BERYLLIUM	15	1.61321	0.03481	Reject	2.52482	0.00038	Reject	nonnormal	
	CALCIUM	15	-0.09361	0.22915	Accept	NA	NA	NA	lognormal	
	CHROMIUM, TOTAL	15	0.01812	0.35081	Accept	NA	NA	NA	lognormal	
	COBALT	15	-0.28289	0.49348	Accept	NA	NA	NA	lognormal	
	COPPER	15	1.05915	0.31482	Accept	NA	NA	NA	lognormal	
	IRON	15	0.01680	0.93831	Accept	NA	NA	NA	lognormal	
	LEAD	15	0.06629	0.96381	Accept	NA	NA	NA	lognormal	
	MAGNESIUM	15	1.07219	0.14437	Accept	NA	NA	NA	lognormal	
	MANGANESE	15	0.45279	0.74852	Accept	NA	NA	NA	lognormal	
	MERCURY	15	2.35571	0.00009	Reject	3.34231	0.00000	Reject	nonnormal	
	MOLYBDENUM	15	0.07110	0.00601	Reject	0.30674	0.01028	Reject	nonnormal	
	NICKEL	15	0.09264	0.71385	Accept	NA	NA	NA	lognormal	
	POTASSIUM	14	-0.94537	0.05639	Accept	NA	NA	NA	lognormal	
	SELENIUM	15	3.76806	0.00000	Reject	3.86391	0.00000	Reject	nonnormal	
	SODIUM	15	1.15261	0.09678	Accept	NA	NA	NA	lognormal	
	VANADIUM	15	-0.69438	0.60494	Accept	NA	NA	NA	lognormal	
	ZINC	15	1.49261	0.02853	Reject	3.50910	0.00000	Reject	nonnormal	
PCBS	ALDRIN	8	-0.09620	0.01717	Reject	0.00709	0.00863	Reject	nonnormal	
	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	15	-1.73876	0.00001	Reject	-0.82961	0.00085	Reject	nonnormal	
	ALPHA ENDOSULFAN	12	0.71847	0.09510	Accept	NA	NA	NA	lognormal	
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	15	-3.46150	0.00000	Reject	-1.00815	0.00005	Reject	nonnormal	
	BETA ENDOSULFAN	12	-0.87243	0.00386	Reject	0.06117	0.04329	Reject	nonnormal	
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	15	-1.23021	0.00338	Reject	0.56528	0.03476	Reject	nonnormal	
	DIELDRIN	10	-0.61005	0.16858	Accept	NA	NA	NA	lognormal	
	ENDOSULFAN SULFATE	15	0.25787	0.01384	Reject	0.74939	0.00019	Reject	nonnormal	
	ENDRIN	14	-0.90912	0.00402	Reject	0.08301	0.03370	Reject	nonnormal	
	ENDRIN ALDEHYDE	15	-0.62337	0.54636	Accept	NA	NA	NA	lognormal	
	GAMMA BHC (LINDANE)	14	-0.93647	0.00033	Reject	-0.69229	0.00027	Reject	nonnormal	
	HEPTACHLOR	11	-2.13101	0.00229	Reject	-0.55129	0.24688	Accept	normal	
	HEPTACHLOR EPOXIDE	13	-1.15766	0.01995	Reject	-0.09851	0.02935	Reject	nonnormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Reservoir**  
**Statistical Distributions For The 0- To 12-Foot Soil Interval**  
 (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution	
PCBS	METHOXYCHLOR	12	-1.42358	0.00019	Reject	-0.96337	0.00635	Reject	nonnormal	
	p,p'-DDD	15	0.24748	0.14485	Accept	NA	NA	NA	lognormal	
	p,p'-DDE	10	-0.42432	0.02819	Reject	0.00254	0.00249	Reject	nonnormal	
	p,p'-DDT	15	-0.68000	0.12366	Accept	NA	NA	NA	lognormal	
	PCB-1260 (AROCHLOR 1260)	15	1.24265	0.00102	Reject	2.28174	0.00005	Reject	nonnormal	
SEMIVOCs	ANTHRACENE	15	-0.62218	0.00305	Reject	1.03004	0.00169	Reject	nonnormal	
	BENZO(a)ANTHRACENE	15	-0.70670	0.01079	Reject	0.62138	0.03469	Reject	nonnormal	
	BENZO(a)PYRENE	15	1.74701	0.00012	Reject	1.96830	0.00002	Reject	nonnormal	
	BENZO(b)FLUORANTHENE	15	0.52113	0.05369	Accept	NA	NA	NA	lognormal	
	BENZO(g,h,i)PERYLENE	15	1.57505	0.00085	Reject	2.59943	0.00006	Reject	nonnormal	
	bis(2-ETHYLHEXYL) PHTHALATE	15	-1.94697	0.00012	Reject	-0.51318	0.00513	Reject	nonnormal	
	CHRYSENE	15	-1.39440	0.00062	Reject	-0.39388	0.11244	Accept	normal	
	DI-n-BUTYL PHTHALATE	12	-2.79846	0.00002	Reject	-0.31831	0.00140	Reject	nonnormal	
	FLUORANTHENE	15	0.78027	0.10826	Accept	NA	NA	NA	lognormal	
	FLUORENE	15	-1.87282	0.00004	Reject	-0.29329	0.00078	Reject	nonnormal	
	INDENO(1,2,3-c,d)PYRENE	15	-1.44076	0.00010	Reject	0.85670	0.00021	Reject	nonnormal	
	PHENANTHRENE	15	-0.36866	0.07150	Accept	NA	NA	NA	lognormal	
	PYRENE	15	0.42709	0.07689	Accept	NA	NA	NA	lognormal	
	TOC	TOTAL ORGANIC CARBON	15	0.66870	0.09162	Accept	NA	NA	NA	lognormal
	VOCs	1,1,1-TRICHLOROETHANE	20	-2.54914	0.00000	Reject	0.15252	0.00003	Reject	nonnormal
TRICHLOROETHYLENE (TCE)		20	1.40440	0.00002	Reject	4.29337	0.00000	Reject	nonnormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Waste Oil Tanks**  
**Statistical Distributions For The 0- To 12-Foot Soil Interval** (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
INORGANICS	ALUMINUM	15	-1.05164	0.07258	Accept	NA	NA	NA	lognormal
	ARSENIC	15	0.03774	0.96985	Accept	NA	NA	NA	lognormal
	BARIUM	15	-0.05518	0.75382	Accept	NA	NA	NA	lognormal
	BERYLLIUM	15	-0.97907	0.31226	Accept	NA	NA	NA	lognormal
	CALCIUM	15	1.15112	0.00856	Reject	2.68346	0.00000	Reject	nonnormal
	CHROMIUM, TOTAL	15	-0.75939	0.51234	Accept	NA	NA	NA	lognormal
	COBALT	15	-0.51776	0.40464	Accept	NA	NA	NA	lognormal
	COPPER	15	-0.05953	0.37552	Accept	NA	NA	NA	lognormal
	IRON	15	-0.50100	0.65920	Accept	NA	NA	NA	lognormal
	LEAD	15	1.70768	0.00029	Reject	2.12123	0.00001	Reject	nonnormal
	MAGNESIUM	15	0.81553	0.18684	Accept	NA	NA	NA	lognormal
	MANGANESE	15	0.50304	0.30168	Accept	NA	NA	NA	lognormal
	MERCURY	15	-1.53113	0.01890	Reject	-1.07311	0.07864	Accept	normal
	MOLYBDENUM	15	0.26910	0.00218	Reject	0.39556	0.00231	Reject	nonnormal
	NICKEL	15	1.30213	0.03238	Reject	1.66873	0.00635	Reject	nonnormal
	POTASSIUM	14	-0.99169	0.22943	Accept	NA	NA	NA	lognormal
	SODIUM	12	1.11811	0.30359	Accept	NA	NA	NA	lognormal
	VANADIUM	15	-1.03904	0.18674	Accept	NA	NA	NA	lognormal
	ZINC	15	0.79489	0.22834	Accept	NA	NA	NA	lognormal
	PCBS	ALDRIN	12	-1.72498	0.00183	Reject	2.71835	0.00004	Reject
ALPHA ENDOSULFAN		13	-0.78496	0.00282	Reject	3.06896	0.00001	Reject	nonnormal
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)		14	-0.14958	0.00019	Reject	3.39849	0.00000	Reject	nonnormal
BETA ENDOSULFAN		15	-0.63162	0.00095	Reject	2.73121	0.00001	Reject	nonnormal
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)		15	-0.83364	0.00548	Reject	1.92058	0.00006	Reject	nonnormal
DIELDRIN		12	0.07569	0.01143	Reject	3.08512	0.00001	Reject	nonnormal
ENDOSULFAN SULFATE		15	-1.88405	0.00001	Reject	-1.60267	0.00003	Reject	nonnormal
ENDRIN		15	-1.56837	0.00054	Reject	2.77200	0.00002	Reject	nonnormal
ENDRIN ALDEHYDE		15	-0.85788	0.00263	Reject	1.99545	0.00004	Reject	nonnormal
GAMMA BHC (LINDANE)		15	-1.18477	0.00050	Reject	3.15008	0.00000	Reject	nonnormal
HEPTACHLOR		13	-1.81979	0.00002	Reject	3.18715	0.00000	Reject	nonnormal
METHOXYCHLOR		14	-1.24976	0.00030	Reject	-1.03548	0.00071	Reject	nonnormal
p,p'-DDD		13	-0.26740	0.00013	Reject	3.28023	0.00000	Reject	nonnormal
p,p'-DDE		13	-1.96260	0.00218	Reject	2.81189	0.00004	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.



**Waste Oil Tanks**  
**Statistical Distributions For The 0- To 12-Foot Soil Interval**  
 (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
PCBS	p,p'-DDT	14	-1.20481	0.00076	Reject	2.78618	0.00002	Reject	nonnormal
	PCB-1254 (AROCHLOR 1254)	15	2.72987	0.00000	Reject	3.47316	0.00000	Reject	nonnormal
SEMIVOCs	2,4-DINITROTOLUENE	15	2.25432	0.00000	Reject	2.38596	0.00000	Reject	nonnormal
	2-METHYLNAPHTHALENE	15	0.94965	0.00057	Reject	2.05340	0.00002	Reject	nonnormal
	ACENAPHTHENE	15	2.34424	0.00000	Reject	2.39985	0.00000	Reject	nonnormal
	ANTHRACENE	15	2.26369	0.00000	Reject	2.38964	0.00000	Reject	nonnormal
	BENZO(a)ANTHRACENE	15	1.82542	0.00001	Reject	2.13267	0.00000	Reject	nonnormal
	BENZO(a)PYRENE	15	1.72772	0.00001	Reject	1.94847	0.00000	Reject	nonnormal
	BENZO(b)FLUORANTHENE	15	1.68477	0.00001	Reject	1.80952	0.00000	Reject	nonnormal
	BENZO(g,h,i)PERYLENE	15	2.13163	0.00000	Reject	2.35560	0.00000	Reject	nonnormal
	bis(2-ETHYLHEXYL) PHTHALATE	14	3.33120	0.00000	Reject	3.59647	0.00000	Reject	nonnormal
	CHRYSENE	15	2.02495	0.00000	Reject	2.30948	0.00000	Reject	nonnormal
	Di-n-BUTYL PHTHALATE	12	0.32209	0.00150	Reject	2.04302	0.00001	Reject	nonnormal
	DIBENZ(g,h)ANTHRACENE	15	2.05456	0.00001	Reject	2.39352	0.00000	Reject	nonnormal
	DIBENZOFURAN	15	2.25050	0.00000	Reject	2.38682	0.00000	Reject	nonnormal
	FLUORANTHENE	15	1.70563	0.00001	Reject	2.02390	0.00000	Reject	nonnormal
	FLUORENE	15	2.11447	0.00000	Reject	2.34960	0.00000	Reject	nonnormal
	INDENO(1,2,3-c,d)PYRENE	15	2.36661	0.00000	Reject	2.40232	0.00000	Reject	nonnormal
	NAPHTHALENE	25	0.27409	0.00033	Reject	3.56403	0.00000	Reject	nonnormal
	PHENANTHRENE	15	2.06003	0.00001	Reject	3.19119	0.00000	Reject	nonnormal
	PYRENE	15	1.66807	0.00000	Reject	1.74488	0.00000	Reject	nonnormal
TOC	TOTAL ORGANIC CARBON	15	0.61569	0.27873	Accept	NA	NA	NA	lognormal
VOCs	1,1,1-TRICHLOROETHANE	17	-3.89428	0.00000	Reject	-3.47393	0.00000	Reject	nonnormal
	1,1-DICHLOROETHANE	17	-1.83590	0.00003	Reject	-1.29162	0.00083	Reject	nonnormal
	1,2,4-TRIMETHYLBENZENE	17	1.96200	0.00000	Reject	4.03763	0.00000	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Waste Oil Tanks**  
**Statistical Distributions For The 0- To 12-Foot Soil Interval**  
 (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
VOCS	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	17	3.20757	0.00000	Reject	4.06434	0.00000	Reject	nonnormal
	CHLOROETHANE	17	-3.76070	0.00000	Reject	-3.35435	0.00000	Reject	nonnormal
	cis-1,2-DICHLOROETHYLENE	17	1.13735	0.00329	Reject	3.78300	0.00000	Reject	nonnormal
	ETHYLBENZENE	17	-4.01511	0.00000	Reject	-3.62614	0.00000	Reject	nonnormal
	ISOPROPYLBENZENE (CUMENE)	17	-3.85096	0.00000	Reject	-3.41001	0.00000	Reject	nonnormal
	n-BUTYLBENZENE	17	1.87406	0.00000	Reject	3.94198	0.00000	Reject	nonnormal
	n-PROPYLBENZENE	17	-3.97705	0.00000	Reject	-3.50765	0.00000	Reject	nonnormal
	p-CYMENE (p-ISOPROPYLTOLUENE)	17	3.99790	0.00000	Reject	4.10688	0.00000	Reject	nonnormal
	SEC-BUTYLBENZENE	17	-3.92134	0.00000	Reject	-3.19340	0.00000	Reject	nonnormal
	TOLUENE	17	-4.01511	0.00000	Reject	-3.62614	0.00000	Reject	nonnormal
	TRICHLOROETHYLENE (TCE)	17	-3.19410	0.00000	Reject	-0.47300	0.00027	Reject	nonnormal
	VINYL CHLORIDE	17	0.45996	0.00294	Reject	1.91072	0.00022	Reject	nonnormal
	XYLENES, TOTAL	17	-3.59350	0.00000	Reject	-1.91840	0.00003	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Soil Background**  
**Statistical Distributions For The 0- To 12-Foot Soil Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal		Lognormal		Normal		Normal Conclusion	Distribution
			Skewness	Probability	Skewness	Probability	Skewness	Probability		
INORGANICS	ALUMINUM	4	-1.17579	0.52623	NA	NA	NA	NA	lognormal	
	ARSENIC	4	-0.01959	0.92994	NA	NA	NA	NA	lognormal	
	BARIUM	4	0.72470	0.33022	NA	NA	NA	NA	lognormal	
	BERYLLIUM	4	0.88136	0.53393	NA	NA	NA	NA	lognormal	
	CALCIUM	4	0.99963	0.68321	NA	NA	NA	NA	lognormal	
	CHROMIUM, TOTAL	4	-1.62734	0.20101	NA	NA	NA	NA	lognormal	
	COBALT	4	0.94463	0.58614	NA	NA	NA	NA	lognormal	
	COPPER	4	0.79830	0.29011	1.96036	0.01451	NA	NA	nonnormal	
	IRON	4	1.95645	0.01588	NA	NA	0.01451	0.01451	Reject	
	LEAD	4	1.19717	0.28571	NA	NA	NA	NA	lognormal	
	MAGNESIUM	4	1.89920	0.03852	1.93908	0.02232	NA	NA	Reject	
	MANGANESE	4	1.77799	0.08218	NA	NA	NA	NA	lognormal	
	NICKEL	4	1.55664	0.16405	NA	NA	NA	NA	lognormal	
	POTASSIUM	4	0.98786	0.31553	NA	NA	NA	NA	lognormal	
	SODIUM	1	NA	NA	NA	NA	NA	NA	lognormal	
	VANADIUM	4	-0.47990	0.63258	NA	NA	NA	NA	lognormal	
	ZINC	4	1.66906	0.13060	NA	NA	NA	NA	lognormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Plating Room  
Statistical Distributions For All Soil Depths (1) (2)**

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>									
	ALUMINUM	41	0.14745	0.16474	Accept	NA	NA	NA	lognormal
	ARSENIC	41	1.51429	0.00000	Reject	4.93475	0.00000	Reject	nonnormal
	BARIUM	41	2.56728	0.00000	Reject	5.73293	0.00000	Reject	nonnormal
	BERYLLIUM	41	-1.46444	0.00000	Reject	-0.10716	0.00000	Reject	nonnormal
	CADMIUM	41	2.61558	0.00000	Reject	6.25985	0.00000	Reject	nonnormal
	CALCIUM	40	-0.84992	0.00020	Reject	1.26784	0.00003	Reject	nonnormal
	CHROMIUM, TOTAL	41	1.49040	0.00000	Reject	2.90496	0.00000	Reject	nonnormal
	COBALT	41	0.71027	0.00000	Reject	3.19330	0.00000	Reject	nonnormal
	COPPER	41	2.29360	0.00000	Reject	6.16110	0.00000	Reject	nonnormal
	CYANIDE	33	1.31179	0.00001	Reject	3.51871	0.00000	Reject	nonnormal
	IRON	41	1.47900	0.00038	Reject	5.64134	0.00000	Reject	nonnormal
	LEAD	41	2.58990	0.00000	Reject	5.59730	0.00000	Reject	nonnormal
	MANGANESE	41	1.06457	0.01913	Reject	4.39517	0.00000	Reject	nonnormal
	MERCURY	41	0.00988	0.88362	Accept	NA	NA	NA	lognormal
	MOLYBDENUM	16	0.35707	0.00000	Reject	0.45737	0.00000	Reject	nonnormal
	NICKEL	41	3.99339	0.00000	Reject	4.00000	0.00000	Reject	nonnormal
	POTASSIUM	41	1.05259	0.00101	Reject	3.42946	0.00000	Reject	nonnormal
	SODIUM	37	0.13367	0.04010	Reject	0.62463	0.00068	Reject	nonnormal
	VANADIUM	41	0.92659	0.19936	Accept	NA	NA	NA	lognormal
	ZINC	41	0.23655	0.00170	Reject	3.76787	0.00000	Reject	nonnormal
		41	2.33615	0.00000	Reject	6.28045	0.00000	Reject	nonnormal
<b>PCBS</b>									
	ALDRIN	10	-0.38853	0.01379	Reject	0.84370	0.00293	Reject	nonnormal
	ALPHA ENDOSULFAN	5	-1.96768	0.01134	Reject	-0.92394	0.09416	Accept	normal
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	15	-1.48230	0.00011	Reject	1.53647	0.00002	Reject	nonnormal
	BETA ENDOSULFAN	12	-3.44237	0.00000	Reject	-3.26595	0.00000	Reject	nonnormal
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	15	1.33249	0.00011	Reject	1.67156	0.00000	Reject	nonnormal
	DIELDRIN	15	-0.84558	0.00224	Reject	1.37247	0.00017	Reject	nonnormal
	ENDOSULFAN SULFATE	14	-0.29766	0.01462	Reject	0.73644	0.00310	Reject	nonnormal
	GAMMA BHC (LINDANE)	15	-0.21150	0.01501	Reject	1.65993	0.00000	Reject	nonnormal
	HEPTACHLOR	11	-0.56376	0.00656	Reject	1.18376	0.00007	Reject	nonnormal
	METHOXYCHLOR	14	-1.19262	0.00094	Reject	-0.47574	0.03591	Reject	nonnormal
	p,p'-DDD	12	-2.24635	0.00005	Reject	-1.40242	0.00058	Reject	nonnormal
	p,p'-DDT	12	-0.77838	0.00409	Reject	-0.36234	0.00103	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Plating Room  
Statistical Distributions For All Soil Depths (1) (2)**

Category	Analyte	No. of Samples (3)	Lognormal		Lognormal		Normal		Normal Conclusion	Normal Distribution
			Skewness	Probability	Skewness	Probability	Skewness	Probability		
PCBS	PCB-1254 (AROCHLOR 1254)	10	1.58787	0.01321	2.87528	0.00002	Reject	Reject	nonnormal	
SEMIVOCS	ACENAPHTHENE	21	0.02183	0.00604	0.11030	0.00579	Reject	Reject	nonnormal	
	ANTHRACENE	21	1.96564	0.00004	3.37862	0.00000	Reject	Reject	nonnormal	
	BENZO(a)ANTHRACENE	21	3.62658	0.00000	4.55673	0.00000	Reject	Reject	nonnormal	
	BENZO(a)PYRENE	21	4.54547	0.00000	4.58074	0.00000	Reject	Reject	nonnormal	
	BENZO(b)FLUORANTHENE	21	4.52209	0.00000	4.58116	0.00000	Reject	Reject	nonnormal	
	bis(2-ETHYLHEXYL) PHTHALATE	21	-0.69766	0.00097	-0.12288	0.00604	Reject	Reject	nonnormal	
	CHRYSENE	21	1.74281	0.00008	4.40552	0.00000	Reject	Reject	nonnormal	
	DIBENZOFURAN	21	-3.95242	0.00000	-2.79911	0.00000	Reject	Reject	nonnormal	
	FLUORANTHENE	21	4.45538	0.00000	4.58146	0.00000	Reject	Reject	nonnormal	
	FLUORENE	21	-2.25389	0.00006	-1.54506	0.00116	Reject	Reject	nonnormal	
	PHENANTHRENE	21	4.51336	0.00000	4.58041	0.00000	Reject	Reject	nonnormal	
	PYRENE	21	4.07736	0.00000	4.57945	0.00000	Reject	Reject	nonnormal	
TOC	TOTAL ORGANIC CARBON	12	0.61879	0.55025	NA	NA	Accept	NA	lognormal	
VOCS	1,1,1-TRICHLOROETHANE	49	2.31273	0.00000	3.76030	0.00000	Reject	Reject	nonnormal	
	ACETONE	34	0.27604	0.33237	NA	NA	Accept	NA	lognormal	
	BROMOMETHANE	49	2.35261	0.00000	3.75760	0.00000	Reject	Reject	nonnormal	
	DICHLORODIFLUOROMETHANE	15	0.98254	0.00180	1.66922	0.00000	Reject	Reject	nonnormal	
	METHYLENE CHLORIDE	34	2.57200	0.00000	3.03548	0.00000	Reject	Reject	nonnormal	
	TETRACHLOROETHYLENE(PCE)	49	1.96590	0.00000	3.74577	0.00000	Reject	Reject	nonnormal	
	TRICHLOROETHYLENE (TCE)	49	1.25356	0.00000	3.43310	0.00000	Reject	Reject	nonnormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

## Reservoir Statistical Distributions For All Soil Depths <sup>(1) (2)</sup>

Category	Analyte	No. of Samples <sup>(3)</sup>	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution	
INORGANICS	ALUMINUM	17	0.33864	0.29683	Accept	NA	NA	NA	lognormal	
	ARSENIC	17	0.51184	0.66561	Accept	NA	NA	NA	lognormal	
	BARIUM	17	-0.14265	0.47371	Accept	NA	NA	NA	lognormal	
	BERYLLIUM	17	1.79015	0.01028	Reject	2.71386	0.00007	Reject	nonnormal	
	CALCIUM	17	-0.09467	0.21641	Accept	NA	NA	NA	lognormal	
	CHROMIUM, TOTAL	17	0.21026	0.33273	Accept	NA	NA	NA	lognormal	
	COBALT	17	-0.14182	0.50793	Accept	NA	NA	NA	lognormal	
	COPPER	17	1.00256	0.36131	Accept	NA	NA	NA	lognormal	
	IRON	17	0.02769	0.93551	Accept	NA	NA	NA	lognormal	
	LEAD	17	0.04697	0.99147	Accept	NA	NA	NA	lognormal	
	MAGNESIUM	17	1.25940	0.03633	Reject	2.17710	0.00009	Reject	nonnormal	
	MANGANESE	17	0.24550	0.89942	Accept	NA	NA	NA	lognormal	
	MERCURY	17	2.55566	0.00002	Reject	3.57092	0.00000	Reject	nonnormal	
	MOLYBDENUM	17	0.09893	0.00333	Reject	0.34481	0.00672	Reject	nonnormal	
	NICKEL	17	0.27333	0.76189	Accept	NA	NA	NA	lognormal	
	POTASSIUM	16	-1.26749	0.02139	Reject	-0.55792	0.29665	Accept	normal	
	SELENIUM	17	3.99776	0.00000	Reject	4.11233	0.00000	Reject	nonnormal	
	SODIUM	17	1.27449	0.03223	Reject	2.84200	0.00002	Reject	nonnormal	
	VANADIUM	17	-0.56545	0.65481	Accept	NA	NA	NA	lognormal	
	ZINC	17	1.40305	0.03605	Reject	3.71885	0.00000	Reject	nonnormal	
	PCBS	ALDRIN	9	-0.35580	0.00769	Reject	-0.25999	0.00514	Reject	nonnormal
		ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	17	-1.93146	0.00000	Reject	-0.95470	0.00016	Reject	nonnormal
		ALPHA ENDOSULFAN	14	0.24188	0.28884	Accept	NA	NA	NA	lognormal
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)		17	-3.65200	0.00000	Reject	-1.04002	0.00001	Reject	nonnormal	
BETA ENDOSULFAN		14	-0.77280	0.00282	Reject	0.07971	0.01560	Reject	nonnormal	
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)		17	-1.35054	0.00062	Reject	0.63452	0.00755	Reject	nonnormal	
DIELDRIN		12	-0.48905	0.07191	Accept	NA	NA	NA	lognormal	
ENDOSULFAN SULFATE		17	0.12403	0.01407	Reject	0.64202	0.00007	Reject	nonnormal	
ENDRIN		16	-0.76836	0.00167	Reject	0.08709	0.01118	Reject	nonnormal	
ENDRIN ALDEHYDE		17	-0.53999	0.38377	Accept	NA	NA	NA	lognormal	
GAMMA BHC (LINDANE)		16	-0.81093	0.00020	Reject	-0.58482	0.00014	Reject	nonnormal	
HEPTACHLOR		12	-2.26281	0.00083	Reject	-0.64051	0.12543	Accept	normal	
HEPTACHLOR EPOXIDE		15	-0.95213	0.01465	Reject	-0.09539	0.01102	Reject	nonnormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

## Reservoir Statistical Distributions For All Soil Depths <sup>(1) (2)</sup>

Category	Analyte	No. of Samples <sup>(3)</sup>	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution	
PCBS	METHOXYCHLOR	13	-1.54627	0.00008	Reject	-1.06526	0.00323	Reject	nonnormal	
	p,p'-DDD	17	-0.02528	0.03630	Reject	0.59231	0.00035	Reject	nonnormal	
	p,p'-DDE	12	-0.34379	0.01036	Reject	0.00698	0.00107	Reject	nonnormal	
	p,p'-DDT	17	-0.42132	0.21553	Accept	NA	NA	NA	lognormal	
	PCB-1260 (AROCHLOR 1260)	17	1.40906	0.00015	Reject	2.48339	0.00001	Reject	nonnormal	
SEMIVOCs	ANTHRACENE	17	-0.85217	0.00067	Reject	1.13134	0.00034	Reject	nonnormal	
	BENZO(a)ANTHRACENE	17	-0.84460	0.00289	Reject	0.67825	0.01201	Reject	nonnormal	
	BENZO(a)PYRENE	17	1.93695	0.00002	Reject	2.16102	0.00000	Reject	nonnormal	
	BENZO(b)FLUORANTHENE	17	0.66672	0.01215	Reject	2.26663	0.00002	Reject	nonnormal	
	BENZO(g,h,i)PERYLENE	17	1.74916	0.00017	Reject	2.80822	0.00001	Reject	nonnormal	
	bis(2-ETHYLHEXYL) PHTHALATE	17	-2.12239	0.00002	Reject	-0.56610	0.00133	Reject	nonnormal	
	CHRYSENE	17	-1.57279	0.00010	Reject	-0.46453	0.03995	Reject	nonnormal	
	DI-n-BUTYL PHTHALATE	14	-3.00695	0.00000	Reject	-0.27653	0.00026	Reject	nonnormal	
	FLUORANTHENE	17	0.88545	0.03235	Reject	2.32291	0.00000	Reject	nonnormal	
	FLUORENE	17	-2.04205	0.00000	Reject	-0.33656	0.00012	Reject	nonnormal	
	INDENO(1,2,3-c,d)PYRENE	17	-1.47442	0.00002	Reject	0.97909	0.00004	Reject	nonnormal	
	PHENANTHRENE	17	-0.39183	0.01734	Reject	1.83998	0.00029	Reject	nonnormal	
	PYRENE	17	0.47783	0.03090	Reject	2.11386	0.00002	Reject	nonnormal	
	TOC	TOTAL ORGANIC CARBON	17	0.46498	0.36812	Accept	NA	NA	NA	lognormal
	VOCs	1,1,1-TRICHLOROETHANE	22	-2.58786	0.00000	Reject	0.25654	0.00001	Reject	nonnormal
		TRICHLOROETHYLENE (TCE)	22	1.44944	0.00000	Reject	4.50391	0.00000	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

## Waste Oil Tanks Statistical Distributions For All Soil Depths <sup>(1) (2)</sup>

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>									
	ALUMINIUM	16	-0.79381	0.15688	Accept	NA	NA	NA	lognormal
	ARSENIC	16	-0.02232	0.98645	Accept	NA	NA	NA	lognormal
	BARIUM	16	-0.17495	0.55010	Accept	NA	NA	NA	lognormal
	BERYLLIUM	16	-0.93798	0.27700	Accept	NA	NA	NA	lognormal
	CALCIUM	16	1.24100	0.00488	Reject	2.78929	0.00000	Reject	nonnormal
	CHROMIUM, TOTAL	16	-0.77042	0.56172	Accept	NA	NA	NA	lognormal
	COBALT	16	-0.41379	0.48728	Accept	NA	NA	NA	lognormal
	COPPER	16	0.24799	0.60788	Accept	NA	NA	NA	lognormal
	IRON	16	-0.34794	0.70721	Accept	NA	NA	NA	lognormal
	LEAD	16	1.74508	0.00026	Reject	2.20906	0.00001	Reject	nonnormal
	MAGNESIUM	16	0.90907	0.17215	Accept	NA	NA	NA	lognormal
	MANGANESE	16	0.32171	0.36857	Accept	NA	NA	NA	lognormal
	MERCURY	16	-1.55345	0.01068	Reject	-1.06981	0.04801	Reject	nonnormal
	MOLYBDENUM	16	0.38936	0.01108	Reject	0.51124	0.00099	Reject	nonnormal
	NICKEL	16	1.39200	0.01929	Reject	1.76535	0.00318	Reject	nonnormal
	POTASSIUM	15	-1.09534	0.12761	Accept	NA	NA	NA	lognormal
	SODIUM	13	0.83778	0.54756	Accept	NA	NA	NA	lognormal
	VANADIUM	16	-1.14190	0.10092	Accept	NA	NA	NA	lognormal
	ZINC	16	0.57888	0.27558	Accept	1.36404	0.01540	Reject	lognormal
<b>PCBS</b>									
	ALDRIN	13	-1.83785	0.00072	Reject	2.83071	0.00002	Reject	nonnormal
	ALPHA ENDOSULFAN	14	-0.85963	0.00108	Reject	3.18189	0.00000	Reject	nonnormal
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	15	-0.13684	0.00008	Reject	3.52311	0.00000	Reject	nonnormal
	BETA ENDOSULFAN	16	-0.65112	0.00148	Reject	2.83002	0.00001	Reject	nonnormal
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	16	-0.85575	0.00216	Reject	2.01778	0.00002	Reject	nonnormal
	DIELDRIN	12	0.07569	0.01143	Reject	3.08512	0.00001	Reject	nonnormal
	ENDOSULFAN SULFATE	16	-1.58005	0.00002	Reject	-1.23308	0.00005	Reject	nonnormal
	ENDRIN	16	-1.43096	0.00160	Reject	2.80974	0.00002	Reject	nonnormal
	ENDRIN ALDEHYDE	16	-0.91811	0.00160	Reject	2.09394	0.00002	Reject	nonnormal
	GAMMA BHC (LINDANE)	16	-1.26105	0.00018	Reject	3.24968	0.00000	Reject	nonnormal
	HEPTACHLOR	14	-1.88825	0.00001	Reject	3.31230	0.00000	Reject	nonnormal
	METHOXYCHLOR	15	-1.26041	0.00073	Reject	-0.76298	0.00845	Reject	nonnormal
	p,p'-DDD	14	-0.24776	0.00006	Reject	3.41040	0.00000	Reject	nonnormal
	p,p'-DDE	14	-1.78729	0.00372	Reject	2.87749	0.00002	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.



**Waste Oil Tanks**  
**Statistical Distributions For All Soil Depths** (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution	
<b>PCBS</b>	P,p'-DDT	14	-1.20481	0.00076	Reject	2.78618	0.00002	Reject	nonnormal	
	PCB-1254 (AROCHLOR 1254)	16	2.83803	0.00000	Reject	3.59229	0.00000	Reject	nonnormal	
	PCB-1260 (AROCHLOR 1260)	16	2.45202	0.00000	Reject	2.53401	0.00000	Reject	nonnormal	
<b>SEMIVOCs</b>	2,4-DINITROTOLUENE	16	2.35583	0.00000	Reject	2.49021	0.00000	Reject	nonnormal	
	2-METHYLNAPHTHALENE	16	0.96114	0.00166	Reject	2.07754	0.00003	Reject	nonnormal	
	ACENAPHTHENE	16	2.44666	0.00000	Reject	2.50434	0.00000	Reject	nonnormal	
	ANTHRACENE	16	2.36511	0.00000	Reject	2.49291	0.00000	Reject	nonnormal	
	BENZO(a)ANTHRACENE	16	1.92481	0.00000	Reject	2.23421	0.00000	Reject	nonnormal	
	BENZO(a)PYRENE	16	1.82690	0.00000	Reject	2.04692	0.00000	Reject	nonnormal	
	BENZO(b)FLUORANTHENE	16	1.78447	0.00000	Reject	1.90961	0.00000	Reject	nonnormal	
	BENZO(g,h,i)PERYLENE	16	2.23168	0.00000	Reject	2.45933	0.00000	Reject	nonnormal	
	bis(2-ETHYLHEXYL) PHTHALATE	15	2.24692	0.00001	Reject	2.36136	0.00000	Reject	nonnormal	
	CHRYSENE	16	2.12488	0.00000	Reject	2.41268	0.00000	Reject	nonnormal	
	Di-n-BUTYL PHTHALATE	13	0.39217	0.00061	Reject	2.16639	0.00000	Reject	nonnormal	
	DIBENZ(a,h)ANTHRACENE	16	2.15395	0.00000	Reject	2.49809	0.00000	Reject	nonnormal	
	DIBENZOFURAN	16	2.35169	0.00000	Reject	2.49105	0.00000	Reject	nonnormal	
	FLUORANTHENE	16	1.80498	0.00000	Reject	2.12464	0.00000	Reject	nonnormal	
	FLUORENE	16	2.21512	0.00000	Reject	2.45333	0.00000	Reject	nonnormal	
	INDENO(1,2,3-c,d)PYRENE	16	2.46946	0.00000	Reject	2.50687	0.00000	Reject	nonnormal	
	NAPHTHALENE	27	0.19497	0.00118	Reject	3.60511	0.00000	Reject	nonnormal	
	PHENANTHRENE	16	2.11290	0.00001	Reject	3.29784	0.00000	Reject	nonnormal	
	PYRENE	16	1.76778	0.00000	Reject	1.84483	0.00000	Reject	nonnormal	
	<b>TOC</b>	TOTAL ORGANIC CARBON	16	0.42730	0.32636	Accept	NA	NA	NA	lognormal
	<b>VOCS</b>	1,1,1-TRICHLOROETHANE	18	-4.00335	0.00000	Reject	-3.56116	0.00000	Reject	nonnormal
		1,1-DICHLOROETHANE	18	-1.92502	0.00001	Reject	-1.37319	0.00032	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Waste Oil Tanks**  
**Statistical Distributions For All Soil Depths** (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal		Lognormal		Normal		Normal Conclusion	Normal Distribution
			Skewness	Probability	Skewness	Probability	Skewness	Probability		
VOCS	1,2,4-TRIMETHYLBENZENE	18	1.67055	0.00000	Reject	3.97554	0.00000	Reject	nonnormal	
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	18	2.32423	0.00000	Reject	3.35365	0.00000	Reject	nonnormal	
	CHLOROETHANE	18	-3.87009	0.00000	Reject	-3.44971	0.00000	Reject	nonnormal	
	cis-1,2-DICHLOROETHYLENE	18	1.16875	0.00127	Reject	3.89656	0.00000	Reject	nonnormal	
	ETHYLBENZENE	18	-2.66283	0.00000	Reject	-2.50123	0.00000	Reject	nonnormal	
	ISOPROPYLBENZENE (CUMENE)	18	-2.59406	0.00000	Reject	-2.40228	0.00000	Reject	nonnormal	
	n-BUTYLBENZENE	18	1.77796	0.00000	Reject	4.00343	0.00000	Reject	nonnormal	
	n-PROPYLBENZENE	18	-4.05660	0.00000	Reject	-3.47949	0.00000	Reject	nonnormal	
	P-CYMELE (p-ISOPROPYLTOLUENE)	18	3.74974	0.00000	Reject	4.13689	0.00000	Reject	nonnormal	
	SEC-BUTYLBENZENE	18	-4.02954	0.00000	Reject	-3.25897	0.00000	Reject	nonnormal	
	TOLUENE	18	-4.12898	0.00000	Reject	-3.71695	0.00000	Reject	nonnormal	
	TRICHLOROETHYLENE (TCE)	18	-3.27623	0.00000	Reject	-0.45098	0.00010	Reject	nonnormal	
	VINYL CHLORIDE	18	0.48765	0.00130	Reject	1.98252	0.00009	Reject	nonnormal	
	XYLENES, TOTAL	18	-3.36784	0.00000	Reject	-1.60125	0.00018	Reject	nonnormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

- (1) Statistical distribution results from the Shapiro-Wilk test.
- (2) Excludes analytes for which there were no concentrations above the detection limit.
- (3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

## Soil Background Statistical Distributions For All Soil Depths (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal		Lognormal		Normal		Normal Conclusion	Normal Distribution
			Skewness	Probability	Skewness	Probability	Skewness	Probability		
INORGANICS	ALUMINUM	4	-1.17579	0.52623	Accept	NA	NA	NA	lognormal	
	ARSENIC	4	-0.01959	0.92994	Accept	NA	NA	NA	lognormal	
	BARIUM	4	0.72470	0.33022	Accept	NA	NA	NA	lognormal	
	BERYLLIUM	4	0.88136	0.53393	Accept	NA	NA	NA	lognormal	
	CALCIUM	4	0.99963	0.68321	Accept	NA	NA	NA	lognormal	
	CHROMIUM, TOTAL	4	-1.62734	0.20101	Accept	NA	NA	NA	lognormal	
	COBALT	4	0.94463	0.58614	Accept	NA	NA	NA	lognormal	
	COPPER	4	0.79630	0.29011	Accept	NA	NA	NA	lognormal	
	IRON	4	1.95645	0.01588	Reject	1.96036	0.01451	Reject	nonnormal	
	LEAD	4	1.19717	0.28571	Accept	NA	NA	NA	lognormal	
	MAGNESIUM	4	1.89920	0.03852	Reject	1.93908	0.02232	Reject	nonnormal	
	MANGANESE	4	1.77799	0.08218	Accept	NA	NA	NA	lognormal	
	NICKEL	4	1.55664	0.16405	Accept	NA	NA	NA	lognormal	
	POTASSIUM	4	0.98786	0.31553	Accept	NA	NA	NA	lognormal	
	SODIUM	1	NA	NA	NA	NA	NA	NA	lognormal	
	VANADIUM	4	-0.47990	0.63258	Accept	NA	NA	NA	lognormal	
	ZINC	4	1.66906	0.13060	Accept	NA	NA	NA	lognormal	
	ZINC	4	1.66906	0.13060	Accept	NA	NA	NA	lognormal	

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Little Choconut Creek**  
**Statistical Distributions For The 0- To 1-Foot Sediment Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>									
	ALUMINUM	4	-1.85459	0.05174	Accept	NA	NA	NA	lognormal
	ARSENIC	4	-1.05331	0.53921	Accept	NA	NA	NA	lognormal
	BARIUM	4	-0.80670	0.69858	Accept	NA	NA	NA	lognormal
	BERYLLIUM	4	0.02625	0.06019	Accept	NA	NA	NA	lognormal
	CALCIUM	4	-0.04521	0.19592	Accept	NA	NA	NA	lognormal
	CHROMIUM, TOTAL	4	-1.65345	0.17592	Accept	NA	NA	NA	lognormal
	COBALT	4	-1.94170	0.02074	Reject	-1.76247	0.10513	Accept	normal
	COPPER	4	-1.83671	0.06885	Accept	NA	NA	NA	lognormal
	IRON	4	-1.99830	0.00094	Reject	-1.99322	0.00306	Reject	nonnormal
	LEAD	4	-0.71563	0.31336	Accept	NA	NA	NA	lognormal
	MAGNESIUM	4	-1.50535	0.23779	Accept	NA	NA	NA	lognormal
	MANGANESE	4	-1.87188	0.03535	Reject	-1.52816	0.18220	Accept	normal
	MERCURY	4	1.76427	0.11121	Accept	NA	NA	NA	lognormal
	MOLYBDENUM	4	0.01803	0.12245	Accept	NA	NA	NA	lognormal
	NICKEL	4	-1.79749	0.08242	Accept	NA	NA	NA	lognormal
	POTASSIUM	3	-1.69584	0.13037	Accept	NA	NA	NA	lognormal
	SILVER	4	-0.00844	0.10662	Accept	NA	NA	NA	lognormal
	SODIUM	3	-0.32089	0.88107	Accept	NA	NA	NA	lognormal
	VANADIUM	4	-1.34968	0.38347	Accept	NA	NA	NA	lognormal
	ZINC	4	0.00579	0.04287	Reject	0.01709	0.05402	Accept	normal
<b>PCBS</b>									
	ALDRIN	4	1.95433	0.01670	Reject	1.99335	0.00315	Reject	nonnormal
	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	4	-1.96125	0.01196	Reject	-1.64590	0.13414	Accept	normal
	ALPHA ENDOSULFAN	4	-1.09534	0.40731	Accept	NA	NA	NA	lognormal
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4	-1.67053	0.13694	Accept	NA	NA	NA	lognormal
	BETA ENDOSULFAN	2	NA	NA	NA	NA	NA	NA	lognormal
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4	-1.14223	0.39424	Accept	NA	NA	NA	lognormal
	DIELDRIN	2	NA	NA	NA	NA	NA	NA	lognormal
	ENDOSULFAN SULFATE	4	1.80763	0.08371	Accept	NA	NA	NA	lognormal
	ENDRIN	3	-0.54361	0.79659	Accept	NA	NA	NA	lognormal
	ENDRIN ALDEHYDE	3	1.08455	0.56917	Accept	NA	NA	NA	lognormal
	GAMMA BHC (LINDANE)	4	-1.96125	0.01196	Reject	-1.64590	0.13414	Accept	normal
	HEPTACHLOR	3	-1.66119	0.18269	Accept	NA	NA	NA	lognormal
	HEPTACHLOR EPOXIDE	4	-0.36017	0.24634	Accept	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Little Choconut Creek**  
**Statistical Distributions For The 0- To 1-Foot Sediment Interval** (1)(2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
PCBS	METHOXYCHLOR	4	-0.43958	0.27109	Accept	NA	NA	NA	lognormal
	p,p'-DDD	4	-1.97781	0.00737	Reject	-1.70254	0.10726	Accept	normal
	p,p'-DDT	4	-0.00964	0.10453	Accept	NA	NA	NA	lognormal
SEMIVOCS	2-METHYLNAPHTHALENE	4	-1.85649	0.04414	Reject	-1.58078	0.17966	Accept	normal
	ANTHRACENE	4	-1.43123	0.37863	Accept	NA	NA	NA	lognormal
	BENZO(a)ANTHRACENE	4	1.95309	0.01535	Reject	1.99095	0.00366	Reject	lognormal
	BENZO(a)PYRENE	4	2.00000	0.00000	Reject	2.00000	0.00000	Reject	nonnormal
	BENZO(b)FLUORANTHENE	4	1.79779	0.09107	Accept	NA	NA	NA	nonnormal
	BENZO(g,h,i)PERYLENE	4	0.47489	0.28236	Accept	NA	NA	NA	lognormal
	bis(2-ETHYLHEXYL) PHTHALATE	3	0.47440	0.82318	Accept	NA	NA	NA	lognormal
	CHRYSENE	4	1.35641	0.27804	Accept	NA	NA	NA	lognormal
	Di-n-BUTYL PHTHALATE	4	-1.95193	0.01577	Reject	-1.73406	0.11596	Accept	normal
	DIBENZOFURAN	4	-1.48368	0.20538	Accept	NA	NA	NA	lognormal
	FLUORANTHENE	4	0.43150	0.66865	Accept	NA	NA	NA	lognormal
	FLUORENE	4	0.05535	0.22839	Accept	NA	NA	NA	lognormal
	INDENO(1,2,3-c,d)PYRENE	4	-0.00140	0.03843	Reject	0.00237	0.03816	Reject	nonnormal
	NAPHTHALENE	8	-1.04952	0.06129	Accept	NA	NA	NA	lognormal
	PHENANTHRENE	4	1.68615	0.16500	Accept	NA	NA	NA	lognormal
PYRENE	4	0.00496	0.73571	Accept	NA	NA	NA	lognormal	
TOC	TOTAL ORGANIC CARBON	4	-0.28231	0.97518	Accept	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.  
(2) Excludes analytes for which there were no concentrations above the detection limit.  
(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

## Sediment Background

### Statistical Distributions For The 0- To 1-Foot Sediment Interval

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal		Normal		Normal Conclusion	Normal Distribution	
			Skewness	Probability	Skewness	Probability			
<b>INORGANICS</b>	ALUMINUM	2	NA	NA	NA	NA	NA	lognormal	
	ARSENIC	2	NA	NA	NA	NA	NA	lognormal	
	BARIIUM	2	NA	NA	NA	NA	NA	lognormal	
	BERYLLIUM	2	NA	NA	NA	NA	NA	lognormal	
	CALCIUM	2	NA	NA	NA	NA	NA	lognormal	
	CHROMIUM, TOTAL	2	NA	NA	NA	NA	NA	lognormal	
	COBALT	2	NA	NA	NA	NA	NA	lognormal	
	COPPER	2	NA	NA	NA	NA	NA	lognormal	
	IRON	2	NA	NA	NA	NA	NA	lognormal	
	LEAD	2	NA	NA	NA	NA	NA	lognormal	
	MAGNESIUM	2	NA	NA	NA	NA	NA	lognormal	
	MANGANESE	2	NA	NA	NA	NA	NA	lognormal	
	MOLYBDENUM	2	NA	NA	NA	NA	NA	lognormal	
	NICKEL	2	NA	NA	NA	NA	NA	lognormal	
	POTASSIUM	2	NA	NA	NA	NA	NA	lognormal	
	SODIUM	1	NA	NA	NA	NA	NA	lognormal	
	VANADIUM	2	NA	NA	NA	NA	NA	lognormal	
	ZINC	2	NA	NA	NA	NA	NA	lognormal	
	<b>PCBS</b>	ALDRIN	2	NA	NA	NA	NA	NA	lognormal
		ALPHA ENDOSULFAN	2	NA	NA	NA	NA	NA	lognormal
		BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2	NA	NA	NA	NA	NA	lognormal
		ENDOSULFAN SULFATE	2	NA	NA	NA	NA	NA	lognormal
ENDRIN		2	NA	NA	NA	NA	NA	lognormal	
ENDRIN ALDEHYDE		2	NA	NA	NA	NA	NA	lognormal	
HEPTACHLOR EPOXIDE		2	NA	NA	NA	NA	NA	lognormal	
METHOXYCHLOR		2	NA	NA	NA	NA	NA	lognormal	
p,p'-DDT		2	NA	NA	NA	NA	NA	lognormal	
PCB-1254 (AROCHLOR 1254)		2	NA	NA	NA	NA	NA	lognormal	
<b>SEMIVOCs</b>									
BENZO(a)ANTHRACENE		2	NA	NA	NA	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Sediment Background  
Statistical Distributions For The 0- To 1-Foot Sediment Interval**

(1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
SEMIVOCs	BENZO(a)PYRENE	2	NA	NA	NA	NA	NA	NA	lognormal
	BENZO(b)FLUORANTHENE	2	NA	NA	NA	NA	NA	NA	lognormal
	bis(2-ETHYLHEXYL) PHTHALATE	2	NA	NA	NA	NA	NA	NA	lognormal
	CHRYSENE	2	NA	NA	NA	NA	NA	NA	lognormal
	DI-n-BUTYL PHTHALATE	2	NA	NA	NA	NA	NA	NA	lognormal
	FLUORANTHENE	2	NA	NA	NA	NA	NA	NA	lognormal
	PHENANTHRENE	2	NA	NA	NA	NA	NA	NA	lognormal
	PYRENE	2	NA	NA	NA	NA	NA	NA	lognormal
TOC	TOTAL ORGANIC CARBON	2	NA	NA	NA	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

**Little Choconut Creek**  
**Statistical Distributions For Surface Water** (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>									
	ARSENIC	3	1.30419	0.45718	Accept	NA	NA	NA	lognormal
	BARIUM	3	0.46197	0.82792	Accept	NA	NA	NA	lognormal
	CALCIUM	3	1.47532	0.35100	Accept	NA	NA	NA	lognormal
	CHROMIUM, TOTAL	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	COPPER	3	1.73205	0.00000	Reject	1.73205	0.00000	Reject	nonnormal
	IRON	3	1.53022	0.31035	Accept	NA	NA	NA	lognormal
	LEAD	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	MAGNESIUM	3	1.69521	0.13149	Accept	NA	NA	NA	lognormal
	MANGANESE	3	-0.37585	0.86050	Accept	NA	NA	NA	lognormal
	POTASSIUM	3	-0.61849	0.76739	Accept	NA	NA	NA	lognormal
	SODIUM	3	-0.98749	0.60922	Accept	NA	NA	NA	lognormal
	ZINC	3	0.42021	0.84377	Accept	NA	NA	NA	lognormal
<b>ORGANICS</b>									
	BROMODICHLOROMETHANE	3	1.73205	0.00000	Reject	1.73205	0.00000	Reject	nonnormal
	BROMOFORM	3	1.73205	0.00000	Reject	1.73205	0.00000	Reject	nonnormal
	CHLOROFORM	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	DIBROMOCHLOROMETHANE	3	1.73205	0.00000	Reject	1.73205	0.00000	Reject	nonnormal
	DICHLORODIFLUOROMETHANE	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
<b>PCBS</b>									
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2	NA	NA	NA	NA	NA	NA	lognormal
	ENDOSULFAN SULFATE	3	1.72421	0.06057	Accept	NA	NA	NA	lognormal
	ENDRIN	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	GAMMA BHC (LINDANE)	2	NA	NA	NA	NA	NA	NA	lognormal
	HEPTACHLOR EPOXIDE	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal
	p,p'-DDD	3	-1.36327	0.42312	Accept	NA	NA	NA	lognormal
<b>SEMI-VOLATILE ORGANICS</b>									
	bis(2-ETHYLHEXYL) PHTHALATE	3	-1.73205	0.00000	Reject	-1.73205	0.00000	Reject	nonnormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.



**Background for Little Choconut Creek  
Statistical Distributions For Surface Water** (1) (2)

Category	Analyte	No. of Samples (3)	Lognormal Skewness	Lognormal Probability	Lognormal Conclusion	Normal Skewness	Normal Probability	Normal Conclusion	Distribution
<b>INORGANICS</b>	ARSENIC	2	NA	NA	NA	NA	NA	NA	lognormal
	BARIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	CALCIUM	1	NA	NA	NA	NA	NA	NA	lognormal
	IRON	2	NA	NA	NA	NA	NA	NA	lognormal
	MAGNESIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	MANGANESE	2	NA	NA	NA	NA	NA	NA	lognormal
	POTASSIUM	2	NA	NA	NA	NA	NA	NA	lognormal
	SILVER	2	NA	NA	NA	NA	NA	NA	lognormal
	SODIUM	1	NA	NA	NA	NA	NA	NA	lognormal
	ZINC	2	NA	NA	NA	NA	NA	NA	lognormal
	<b>PCBS</b>	ALDRIN	2	NA	NA	NA	NA	NA	NA
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)		2	NA	NA	NA	NA	NA	NA	lognormal
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)		2	NA	NA	NA	NA	NA	NA	lognormal
GAMMA BHC (LINDANE)		2	NA	NA	NA	NA	NA	NA	lognormal

NA - The distribution was determined to be lognormal, therefore the distribution test for normality was not performed.

(1) Statistical distribution results from the Shapiro-Wilk test.

(2) Excludes analytes for which there were no concentrations above the detection limit.

(3) A minimum of three observations are required for the Shapiro-Wilk test. Analytes that have less than three samples are assumed to be lognormally distributed.

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# **A P P E N D I X C**

## **COMPARISON OF INORGANIC CONCENTRATIONS FOR SITE AND BACKGROUND**

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**Plating Room  
Inorganics Comparison with Background  
Surface Soil Interval (0 to 3 feet)** (1)

Inorganic	Number of Site Samples	Maximum Concentration Detected at the Site	Maximum Concentration Detected at the Background	Units	Does the Site Exceed Background Levels ?
ALUMINUM	28	8550.0	9550.0	mg/kg	No
ARSENIC	28	134.0	55.4	mg/kg	Yes
BARIUM	28	259.0	59.5	mg/kg	Yes
BERYLLIUM	28	0.8	0.68	mg/kg	Yes
CADMIUM	28	84.3	NA	mg/kg	Yes
CALCIUM	27	154000.0	12000.0	mg/kg	Yes
CHROMIUM, TOTAL	28	410.0	13.0	mg/kg	Yes
COBALT	28	31.7	11.9	mg/kg	Yes
COPPER	28	1040.0	41.4	mg/kg	Yes
CYANIDE	21	2.12	***	mg/kg	Yes
IRON	28	132000.0	22200.0	mg/kg	Yes
LEAD	28	6990.0	31.3	mg/kg	Yes
MAGNESIUM	28	32800.0	5010.0	mg/kg	Yes
MANGANESE	28	1190.0	401.0	mg/kg	Yes
MERCURY	28	0.18	NA	mg/kg	Yes
MOLYBDENUM	6	4060.0	NA	mg/kg	Yes
NICKEL	28	295.0	24.8	mg/kg	Yes
POTASSIUM	28	901.0	1380.0	mg/kg	No
SODIUM	25	534.0	168.0	mg/kg	Yes
VANADIUM	28	54.5	19.6	mg/kg	Yes
ZINC	28	6500.0	82.8	mg/kg	Yes

(1) This table includes inorganics detected in one or more site samples. Since the number of background samples is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine if site inorganic concentrations exceed background. Instead, the maximum concentrations detected at the site and background are compared to determine site inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.  
 \*\*\* - the inorganic was not analyzed in any background samples.

**Reservoir**  
**Inorganics Comparison with Background**  
**Surface Soil Interval (0 to 3 feet)** (1)

Inorganic	Number of Site Samples	Maximum Concentration Detected at the Site	Maximum Concentration Detected at the Background	Units	Does the Site Exceed Background Levels ?
ALUMINUM	4	13400.0	9550.0	mg/kg	Yes
ARSENIC	4	5.7	55.4	mg/kg	No
BARIUM	4	47.7	59.5	mg/kg	No
BERYLLIUM	4	0.44	0.68	mg/kg	No
CALCIUM	4	68700.0	12000.0	mg/kg	Yes
CHROMIUM, TOTAL	4	15.6	13.0	mg/kg	Yes
COBALT	4	9.3	11.9	mg/kg	No
COPPER	4	36.6	41.4	mg/kg	No
IRON	4	20900.0	22200.0	mg/kg	No
LEAD	4	10.4	31.3	mg/kg	No
MAGNESIUM	4	9760.0	5010.0	mg/kg	Yes
MANGANESE	4	418.0	401.0	mg/kg	Yes
MOLYBDENUM	4	17.9	NA	mg/kg	Yes
NICKEL	4	19.9	24.8	mg/kg	No
POTASSIUM	4	938.0	1380.0	mg/kg	No
SODIUM	4	236.0	168.0	mg/kg	Yes
VANADIUM	4	14.9	19.6	mg/kg	No
ZINC	4	82.6	82.8	mg/kg	No

(1) This table includes inorganics detected in one or more site samples. Since the number of background samples is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine if site inorganic concentrations exceed background. Instead, the maximum concentrations detected at the site and background are compared to determine site inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.  
 \*\*\* - the inorganic was not analyzed in any background samples.

**Waste Oil Tanks**  
**Inorganics Comparison with Background**  
**Surface Soil Interval (0 to 3 feet)** (1)

Inorganic	Number of Site Samples	Maximum Concentration Detected at the Site	Maximum Concentration Detected at the Background	Units	Does the Site Exceed Background Levels ?
ALUMINUM	3	11500.0	9550.0	mg/kg	Yes
ARSENIC	3	6.2	55.4	mg/kg	No
BARIUM	3	74.9	59.5	mg/kg	Yes
BERYLLIUM	3	0.56	0.68	mg/kg	No
CALCIUM	3	12000.0	12000.0	mg/kg	No
CHROMIUM, TOTAL	3	13.6	13.0	mg/kg	Yes
COBALT	3	10.0	11.9	mg/kg	No
COPPER	3	41.4	41.4	mg/kg	No
IRON	3	20800.0	22200.0	mg/kg	No
LEAD	3	16.9	31.3	mg/kg	No
MAGNESIUM	3	4190.0	5010.0	mg/kg	No
MANGANESE	3	678.0	401.0	mg/kg	Yes
MOLYBDENUM	3	14.8	NA	mg/kg	Yes
NICKEL	3	20.2	24.8	mg/kg	No
POTASSIUM	3	1140.0	1380.0	mg/kg	No
SODIUM	3	229.0	168.0	mg/kg	Yes
VANADIUM	3	17.2	19.6	mg/kg	No
ZINC	3	79.6	82.8	mg/kg	No

(1) This table includes inorganics detected in one or more site samples. Since the number of background samples is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine if site inorganic concentrations exceed background. Instead, the maximum concentrations detected at the site and background are compared to determine site inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.  
 \*\*\* - the inorganic was not analyzed in any background samples.

Plating Room

Statistical Comparison Of Background And Site Soil Data For Inorganic Analytes (0-12 Feet) (1)

Analyte	T or Z Statistic	T or Z Probability	Arithmetic or Rank Sum (2) Site Mean	Arithmetic Or Rank Sum (2) Background Mean	Statistically Exceeding (3) Background?	Statistical Method
ALUMINUM	2.692	0.0071	21.34	40.00	No	Wilcoxon Rank Sum Test
ARSENIC	0.706	0.4796	22.59	27.25	No	Wilcoxon Rank Sum Test
BARIUM	0.279	0.7801	22.82	24.88	No	Wilcoxon Rank Sum Test
BERYLLIUM	0.876	0.3809	22.50	28.13	No	Wilcoxon Rank Sum Test
CADMIUM	NA	NA	NA	NA	Yes	NA
CALCIUM	-2.327	0.0200	23.94	8.13	Yes	Wilcoxon Rank Sum Test
CHROMIUM, TOTAL	0.059	0.9523	22.95	23.50	No	Wilcoxon Rank Sum Test
COBALT	2.275	0.0229	21.66	36.75	No	Wilcoxon Rank Sum Test
COPPER	0.139	0.8890	22.90	24.00	No	Wilcoxon Rank Sum Test
CYANIDE	NA	NA	NA	NA	Yes	NA
IRON	2.533	0.0113	21.44	39.00	No	Wilcoxon Rank Sum Test
LEAD	1.136	0.2557	22.29	30.25	No	Wilcoxon Rank Sum Test
MAGNESIUM	-1.176	0.2393	23.73	15.50	No	Wilcoxon Rank Sum Test
MANGANESE	0.299	0.7648	22.80	25.00	No	Wilcoxon Rank Sum Test
MERCURY	NA	NA	NA	NA	Yes	NA
MOLYBDENUM	NA	NA	NA	NA	Yes	NA
NICKEL	1.017	0.3091	22.37	29.50	No	Wilcoxon Rank Sum Test
POTASSIUM	2.014	0.0440	21.76	35.75	No	Wilcoxon Rank Sum Test
SODIUM	1.185	0.2358	19.14	33.00	No	Wilcoxon Rank Sum Test
VANADIUM	2.214	0.0268	21.65	36.88	No	Wilcoxon Rank Sum Test
ZINC	0.698	0.4851	22.56	27.50	No	Wilcoxon Rank Sum Test

NA - Not Applicable. Analyte detected at the Site but not at Background.

(1) The Student t-Test and Wilcoxon Rank Sum Test were conducted as upper one-tail tests at the 0.05 significance level. The Student t-Test produces a t statistic and t probability. The Wilcoxon Rank Sum Test produces a Z statistic and Z probability. Analytes are determined as statistically exceeding background if one-half the t or Z probability is less than 0.05 and in the case of the Wilcoxon Rank Sum Test the mean of the rank scores for site data is greater than the mean of the rank scores for background data or in the case of the Student t test the arithmetic mean for site data is greater than the arithmetic mean of the background data. Statistic tests were performed using SAS software.

(2) If the statistical method is the Student t Test this value represents the arithmetic mean. If the statistical method is the Wilcoxon Rank Sum Test this value represents the mean of the Wilcoxon Ranks. In cases where the analyte was detected at the site but not at background, it is assumed that the value exceeds the background.

(3) In cases where the analyte was detected at the site but not at background, it is assumed that the value exceeds the background.



Reservoir

Statistical Comparison Of Background And Site Soil Data For Inorganic Analytes (0-12 Feet) (1)

Analyte	T or Z Statistic	T or Z Probability	Arithmetic or Rank Sum (2) Site Mean	Arithmetic Or Rank Sum (2) Background Mean	Statistically Exceeding (3) Background?	Statistical Method
ALUMINIUM	0.750	0.4533	9.47	12.00	No	Wilcoxon Rank Sum Test
ARSENIC	0.150	0.8807	9.87	10.50	No	Wilcoxon Rank Sum Test
BARIUM	-1.050	0.2937	10.73	7.25	No	Wilcoxon Rank Sum Test
BERYLLIUM	2.352	0.0187	8.40	16.00	No	Wilcoxon Rank Sum Test
CALCIUM	-1.650	0.0989	11.13	5.75	Yes	Wilcoxon Rank Sum Test
CHROMIUM, TOTAL	0.650	0.5153	9.53	11.75	No	Wilcoxon Rank Sum Test
COBALT	1.450	0.1469	9.00	13.75	No	Wilcoxon Rank Sum Test
COPPER	-1.650	0.0989	11.13	5.75	Yes	Wilcoxon Rank Sum Test
IRON	1.300	0.1934	9.10	13.38	No	Wilcoxon Rank Sum Test
LEAD	1.000	0.3171	9.30	12.63	No	Wilcoxon Rank Sum Test
MAGNESIUM	-0.450	0.6527	10.33	8.75	No	Wilcoxon Rank Sum Test
MANGANESE	-1.350	0.1770	10.93	6.50	No	Wilcoxon Rank Sum Test
MERCURY	NA	NA	NA	NA	Yes	NA
MOLYBDENUM	NA	NA	NA	NA	Yes	NA
NICKEL	1.650	0.0989	8.87	14.25	No	Wilcoxon Rank Sum Test
POTASSIUM	0.265	0.7906	9.29	10.25	No	Wilcoxon Rank Sum Test
SELENIUM	NA	NA	NA	NA	Yes	NA
SODIUM	0.000	1.0000	8.47	9.00	No	Wilcoxon Rank Sum Test
VANADIUM	1.100	0.2711	9.23	12.88	No	Wilcoxon Rank Sum Test
ZINC	-2.150	0.0316	11.47	4.50	Yes	Wilcoxon Rank Sum Test

NA - Not Applicable. Analyte detected at the Site but not at Background.

(1) The Student t-Test and Wilcoxon Rank Sum Test were conducted as upper one-tail tests at the 0.05 significance level. The Student t-Test produces a t statistic and t probability. The Wilcoxon Rank Sum Test produces a Z statistic and Z probability. Analytes are determined as statistically exceeding background if one-half the t or Z probability is less than 0.05 and in the case of the Wilcoxon Rank Sum Test the mean of the rank scores for site data is greater than the mean of the rank scores for background data or in the case of the Student t test the arithmetic mean for site data is greater than the arithmetic mean of the background data. Statistic tests were performed using SAS software.

(2) If the statistical method is the Student t Test this value represents the arithmetic mean. If the statistical method is the Wilcoxon Rank Sum Test this value represents the mean of the Wilcoxon Ranks.

(3) In cases where the analyte was detected at the site but not at background, it is assumed that the site exceeds the background.

Waste Oil Tanks

Statistical Comparison Of Background And Site Soil Data For Inorganic Analytes (0-12 Feet) (1)

Analyte	T or Z Statistic	T or Z Probability	Arithmetic or Rank Sum (2) Site Mean	Arithmetic Or Rank Sum (2) Background Mean	Statistically Exceeding (3) Background?	Statistical Method
ALUMINUM	-1.804	0.0712	11.23	5.38	Yes	Wilcoxon Rank Sum Test
ARSENIC	0.550	0.5823	9.60	11.50	No	Wilcoxon Rank Sum Test
BARIUM	-1.650	0.0989	11.13	5.75	Yes	Wilcoxon Rank Sum Test
BERYLLIUM	1.902	0.0571	8.70	14.88	No	Wilcoxon Rank Sum Test
CALCIUM	-0.250	0.8024	10.20	9.25	No	Wilcoxon Rank Sum Test
CHROMIUM, TOTAL	-1.351	0.1766	10.93	6.50	No	Wilcoxon Rank Sum Test
COBALT	0.501	0.6163	9.63	11.38	No	Wilcoxon Rank Sum Test
COPPER	-0.350	0.7259	10.27	9.00	No	Wilcoxon Rank Sum Test
IRON	2.051	0.0402	8.60	15.25	No	Wilcoxon Rank Sum Test
LEAD	1.151	0.2497	9.20	13.00	No	Wilcoxon Rank Sum Test
MAGNESIUM	1.002	0.3162	9.30	12.63	No	Wilcoxon Rank Sum Test
MANGANESE	0.550	0.5823	9.60	11.50	No	Wilcoxon Rank Sum Test
MERCURY	NA	NA	NA	NA	Yes	NA
MOLYBDENUM	NA	NA	NA	NA	Yes	NA
NICKEL	1.352	0.1763	9.07	13.50	No	Wilcoxon Rank Sum Test
POTASSIUM	0.477	0.6327	9.14	10.75	No	Wilcoxon Rank Sum Test
SODIUM	1.202	0.2291	6.58	12.00	No	Wilcoxon Rank Sum Test
VANADIUM	0.000	1.0000	9.97	10.13	No	Wilcoxon Rank Sum Test
ZINC	-1.850	0.0643	11.27	5.25	Yes	Wilcoxon Rank Sum Test

NA - Not Applicable. Analyte detected at the Site but not at Background.

(1) The Student t-Test and Wilcoxon Rank Sum Test were conducted as upper one-tail tests at the 0.05 significance level. The Student t-Test produces a t statistic and t probability. The Wilcoxon Rank Sum Test produces a Z statistic and Z probability. Analytes are determined as statistically exceeding background if one-half the t or Z probability is less than 0.05 and in the case of the Wilcoxon Rank Sum Test the mean of the rank scores for site data is greater than the mean of the rank scores for background data or in the case of the Student t test the arithmetic mean for site data is greater than the arithmetic mean of the background data. Statistic tests were performed using SAS software.

(2) If the statistical method is the Student t Test this value represents the arithmetic mean. If the statistical method is the Wilcoxon Rank Sum Test this value represents the mean of the Wilcoxon Ranks. In cases where the analyte was detected at the site but not at background, it is assumed that the value exceeds the background.

(3) In cases where the analyte was detected at the site but not at background, it is assumed that the value exceeds the background.

Plating Room

Statistical Comparison Of Background And Site Soil Data For Inorganic Analytes (All Depths) (1)

Analyte	T or Z Statistic	T or Z Probability	Arithmetic or Rank Sum(2) Site Mean	Arithmetic Or Rank Sum Background Mean	Statistically Exceeding (3)	Statistical Method
ALUMINUM	2.692	0.0071	21.34	40.00	No	Wilcoxon Rank Sum Test
ARSENIC	0.706	0.4796	22.59	27.25	No	Wilcoxon Rank Sum Test
BARIUM	0.279	0.7801	22.82	24.88	No	Wilcoxon Rank Sum Test
BERYLLIUM	0.876	0.3809	22.50	28.13	No	Wilcoxon Rank Sum Test
CADMIUM	NA	NA	NA	NA	Yes	NA
CALCIUM	-2.327	0.0200	23.94	8.13	Yes	Wilcoxon Rank Sum Test
CHROMIUM, TOTAL	0.059	0.9523	22.95	23.50	No	Wilcoxon Rank Sum Test
COBALT	2.275	0.0229	21.66	36.75	No	Wilcoxon Rank Sum Test
COPPER	0.139	0.8890	22.90	24.00	No	Wilcoxon Rank Sum Test
CYANIDE	NA	NA	NA	NA	Yes	NA
IRON	2.533	0.0113	21.44	39.00	No	Wilcoxon Rank Sum Test
LEAD	1.136	0.2557	22.29	30.25	No	Wilcoxon Rank Sum Test
MAGNESIUM	-1.176	0.2393	23.73	15.50	No	Wilcoxon Rank Sum Test
MANGANESE	0.299	0.7648	22.80	25.00	No	Wilcoxon Rank Sum Test
MERCURY	NA	NA	NA	NA	Yes	NA
MOLYBDENUM	NA	NA	NA	NA	Yes	NA
NICKEL	1.017	0.3091	22.37	29.50	No	Wilcoxon Rank Sum Test
POTASSIUM	2.014	0.0440	21.76	35.75	No	Wilcoxon Rank Sum Test
SODIUM	1.185	0.2358	19.14	33.00	No	Wilcoxon Rank Sum Test
VANADIUM	2.214	0.0268	21.65	36.88	No	Wilcoxon Rank Sum Test
ZINC	0.698	0.4851	22.56	27.50	No	Wilcoxon Rank Sum Test

NA - Not Applicable. Analyte detected at the Site but not at Background.

(1) The Student t-Test and Wilcoxon Rank Sum Test were conducted as upper one-tail tests at the 0.05 significance level. The Student t-Test produces a t statistic and t probability. The Wilcoxon Rank Sum Test produces a Z statistic and Z probability. Analytes are determined as statistically exceeding background if one-half the t or Z probability is less than 0.05 and in the case of the Wilcoxon Rank Sum Test the mean of the rank scores for site data is greater than the mean of the rank scores for background data or in the case of the Student t test the arithmetic mean for site data is greater than the arithmetic mean of the background data. Statistic tests were performed using SAS software.  
 (2) If the statistical method is the Student t Test this value represents the arithmetic mean. If the statistical method is the Wilcoxon Rank Sum Test this value represents the mean of the Wilcoxon Ranks.  
 (3) In cases where the analyte was detected at the site but not at background, it is assumed that the site exceeds the background.

**Reservoir**

**Statistical Comparison Of Background And Site Soil Data For Inorganic Analytes (All Depths) (1)**

Analyte	T or Z Statistic	T or Z Probability	Arithmetic or Rank Sum(2) Site Mean	Arithmetic Or Rank Sum (2) Background Mean	Statistically Exceeding (3) Background?	Statistical Method
ALUMINUM	1.030	0.3030	10.29	14.00	No	Wilcoxon Rank Sum Test
ARSENIC	0.134	0.8931	10.88	11.50	No	Wilcoxon Rank Sum Test
BARIUM	-1.119	0.2629	11.76	7.75	No	Wilcoxon Rank Sum Test
BERYLLIUM	2.467	0.0136	9.35	18.00	No	Wilcoxon Rank Sum Test
CALCIUM	-1.746	0.0807	12.18	6.00	Yes	Wilcoxon Rank Sum Test
CHROMIUM, TOTAL	0.941	0.3467	10.35	13.75	No	Wilcoxon Rank Sum Test
COBALT	1.657	0.0974	9.88	15.75	No	Wilcoxon Rank Sum Test
COPPER	-1.746	0.0807	12.18	6.00	Yes	Wilcoxon Rank Sum Test
IRON	1.523	0.1277	9.97	15.38	No	Wilcoxon Rank Sum Test
LEAD	0.985	0.3244	10.32	13.88	No	Wilcoxon Rank Sum Test
MAGNESIUM	-0.313	0.7539	11.24	10.00	No	Wilcoxon Rank Sum Test
MANGANESE	-1.567	0.1169	12.06	6.50	No	Wilcoxon Rank Sum Test
MERCURY	NA	NA	NA	NA	Yes	NA
MOLYBDENUM	NA	NA	NA	NA	Yes	NA
NICKEL	1.836	0.0664	9.76	16.25	No	Wilcoxon Rank Sum Test
POTASSIUM	0.425	0.6707	10.19	11.75	No	Wilcoxon Rank Sum Test
SELENIUM	NA	NA	NA	NA	Yes	NA
SODIUM	0.192	0.8471	9.41	11.00	No	Wilcoxon Rank Sum Test
VANADIUM	1.254	0.2097	10.15	14.63	No	Wilcoxon Rank Sum Test
ZINC	-2.283	0.0224	12.53	4.50	Yes	Wilcoxon Rank Sum Test

NA - Not Applicable. Analyte detected at the Site but not at Background.

(1) The Student t-Test and Wilcoxon Rank Sum Test were conducted as upper one-tail tests at the 0.05 significance level. The Student t-Test produces a t statistic and t probability. The Wilcoxon Rank Sum Test produces a Z statistic and Z probability. Analytes are determined as statistically exceeding background if one-half the t or Z probability is less than 0.05 and in the case of the Wilcoxon Rank Sum Test the mean of the rank scores for site data is greater than the mean of the rank scores for background data or in the case of the Student t test the arithmetic mean for site data is greater than the arithmetic mean of the background data. Statistic tests were performed using SAS software.

(2) If the statistical method is the Student t Test this value represents the arithmetic mean. If the statistical method is the Wilcoxon Rank Sum Test this value represents the mean of the Wilcoxon Ranks. In cases where the analyte was detected at the site but not at background, it is assumed that the value exceeds the background.

(3) In cases where the analyte was detected at the site but not at background, it is assumed that the value exceeds the background.

Waste Oil Tanks

Statistical Comparison Of Background And Site Soil Data For Inorganic Analytes (All Depths) (1)

Analyte	T or Z Statistic	T or Z Probability	Arithmetic or Rank Sum(2) Site Mean	Arithmetic Or Rank Sum Background Mean	Statistically Exceeding (3)	Statistical Method
ALUMINIUM	-1.609	0.1075	11.59	6.13	No	Wilcoxon Rank Sum Test
ARSENIC	0.519	0.6033	10.13	12.00	No	Wilcoxon Rank Sum Test
BARIUM	-1.748	0.0804	11.69	5.75	Yes	Wilcoxon Rank Sum Test
BERYLLIUM	1.988	0.0467	9.16	15.88	No	Wilcoxon Rank Sum Test
CALCIUM	-0.236	0.8131	10.69	9.75	No	Wilcoxon Rank Sum Test
CHROMIUM, TOTAL	-1.419	0.1559	11.47	6.63	No	Wilcoxon Rank Sum Test
COBALT	0.616	0.5379	10.06	12.25	No	Wilcoxon Rank Sum Test
COPPER	-0.520	0.6027	10.88	9.00	No	Wilcoxon Rank Sum Test
IRON	2.127	0.0334	9.06	16.25	No	Wilcoxon Rank Sum Test
LEAD	1.087	0.2768	9.75	13.50	No	Wilcoxon Rank Sum Test
MAGNESIUM	1.136	0.2559	9.72	13.63	No	Wilcoxon Rank Sum Test
MANGANESE	0.330	0.7409	10.25	11.50	No	Wilcoxon Rank Sum Test
MERCURY	NA	NA	NA	NA	Yes	NA
MOLYBDENUM	NA	NA	NA	NA	Yes	NA
NICKEL	1.466	0.1424	9.50	14.50	No	Wilcoxon Rank Sum Test
POTASSIUM	0.350	0.7263	9.73	11.00	No	Wilcoxon Rank Sum Test
SODIUM	1.240	0.2148	7.08	13.00	No	Wilcoxon Rank Sum Test
VANADIUM	0.000	1.0000	10.53	10.38	No	Wilcoxon Rank Sum Test

NA - Not Applicable. Analyte detected at the Site but not at Background.

(1) The Student t-Test and Wilcoxon Rank Sum Test were conducted as upper one-tail tests at the 0.05 significance level. The Student t-Test produces a t statistic and t probability. The Wilcoxon Rank Sum Test produces a Z statistic and Z probability. Analytes are determined as statistically exceeding background if one-half the t or Z probability is less than 0.05 and in the case of the Wilcoxon Rank Sum Test the mean of the rank scores for site data is greater than the mean of the rank scores for background data or in the case of the Student t test the arithmetic mean for site data is greater than the arithmetic mean of the background data. Statistic tests were performed using SAS software.

(2) If the statistical method is the Student t Test this value represents the arithmetic mean. If the statistical method is the Wilcoxon Rank Sum Test this value represents the mean of the Wilcoxon Ranks.

(3) In cases where the analyte was detected at the site but not at background, it is assumed that the site exceeds the background.

**Groundwater - Shallow Zone  
Inorganics Comparison with Background (1)**

Inorganic	Number of Site Samples	Maximum Detected Concentration for Site	Number of Background Samples	Maximum Detected Concentration at Background	Units	Does the Plume Exceed Background Levels ?
ALUMINUM	9	5020.0	1	1260.0	ug/l	Yes
ARSENIC	13	10.5	1	NA	ug/l	Yes
BARIUM	13	344.0	1	174.0	ug/l	Yes
BERYLLIUM	6	1.1	1	***	ug/l	Yes
CALCIUM	13	260000.0	1	199000.0	ug/l	Yes
CHROMIUM, TOTAL	13	27.2	1	NA	ug/l	Yes
COPPER	6	52.9	1	17.4	ug/l	Yes
IRON	11	15300.0	1	692.0	ug/l	Yes
LEAD	13	79.6	1	58.8	ug/l	Yes
MAGNESIUM	13	58300.0	1	38500.0	ug/l	Yes
MANGANESE	11	4000.0	1	720.0	ug/l	Yes
NICKEL	13	47.5	1	NA	ug/l	Yes
POTASSIUM	9	4000.0	1	***	ug/l	Yes
SILVER	13	10.0	1	NA	ug/l	Yes
SODIUM	13	84200.0	1	331000.0	ug/l	No
VANADIUM	13	12.4	1	NA	ug/l	Yes
ZINC	1	34.9	1	***	ug/l	Yes

(1) This table includes inorganics detected in one or more site samples from the deep zone. Since the number of background samples from the deep zone is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine inorganic concentrations exceeding background. Instead, the maximum concentration detected for the site and background from the deep zone are compared to determine inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.  
 \*\*\* - All background analytical results were qualified as unusable.

**Groundwater - Deep Zone  
Inorganics Comparison with Background (1)**

Inorganic	Number of Site Samples	Maximum Detected Concentration for Site	Number of Background Samples	Maximum Detected Concentration at Background	Units	Does the Plume Exceed Background Levels ?
ALUMINUM	2	1000.0	2	***	ug/l	Yes
ARSENIC	10	11.9	2	NA	ug/l	Yes
BARUM	10	222.0	2	123.0	ug/l	Yes
CALCIUM	10	157000.0	2	141000.0	ug/l	Yes
COPPER	5	2.9	2	NA	ug/l	Yes
IRON	7	4460.0	2	NA	ug/l	Yes
LEAD	10	6.0	2	NA	ug/l	Yes
MAGNESIUM	10	38300.0	2	32200.0	ug/l	Yes
MANGANESE	10	1440.0	1	93.3	ug/l	Yes
POTASSIUM	6	6040.0	2	***	ug/l	Yes
SODIUM	10	94300.0	2	116000.0	ug/l	No
THALLIUM	10	46.8	2	NA	ug/l	Yes
VANADIUM	10	6.0	2	NA	ug/l	Yes
ZINC	1	33.9	2	***	ug/l	Yes

(1) This table includes inorganics detected in one or more site samples from the deep zone. Since the number of background samples from the deep zone is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine inorganic concentrations exceeding background. Instead, the maximum concentration detected for the site and background from the deep zone are compared to determine inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.

\*\*\* - All background analytical results were qualified as unusable.

**Little Choconut Creek  
Inorganics Comparison with Background  
Sediment Interval (0 to 1 foot)** (1)

Inorganic	Number of Site Samples	Maximum Concentration Detected at the Site	Maximum Concentration Detected at the Background	Units	Does the Site Exceed Background Levels ?
ALUMINUM	4	9450.0	6840.0	mg/kg	Yes
ARSENIC	4	6.1	5.2	mg/kg	Yes
BARIUM	4	71.3	42.5	mg/kg	Yes
BERYLLIUM	4	0.47	0.24	mg/kg	Yes
CALCIUM	4	7750.0	32100.0	mg/kg	No
CHROMIUM, TOTAL	4	16.2	9.9	mg/kg	Yes
COBALT	4	9.4	7.7	mg/kg	Yes
COPPER	4	28.8	26.8	mg/kg	Yes
IRON	4	20100.0	17600.0	mg/kg	Yes
LEAD	4	55.5	19.5	mg/kg	Yes
MAGNESIUM	4	5100.0	3440.0	mg/kg	Yes
MANGANESE	4	410.0	584.0	mg/kg	No
MERCURY	4	0.22	NA	mg/kg	Yes
MOLYBDENUM	4	16.8	15.0	mg/kg	Yes
NICKEL	4	21.1	19.3	mg/kg	Yes
POTASSIUM	3	926.0	889.0	mg/kg	Yes
SILVER	4	0.59	NA	mg/kg	Yes
SODIUM	3	121.0	118.0	mg/kg	Yes
VANADIUM	4	15.9	11.5	mg/kg	Yes
ZINC	4	383.0	138.0	mg/kg	Yes

(1) This table includes inorganics detected in one or more site samples. Since the number of background samples is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine if site inorganic concentrations exceed background. Instead, the maximum concentrations detected at the site and background are compared to determine site inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.

\*\*\* - the inorganic was not analyzed in any background samples.



**Little Choconut Creek  
Inorganics Comparison with Background (1)  
for Surface Water**

Inorganic	Number of Site Samples	Maximum Detected Concentration for Site	Number of Background Samples	Maximum Detected Concentration at Background	Units	Does the Plume Exceed Background Levels ?
ARSENIC	3	2.9	2	2.2	ug/l	Yes
BARIUM	3	64.0	2	20.1	ug/l	Yes
CALCIUM	3	93900.0	1	30400.0	ug/l	Yes
CHROMIUM, TOTAL	3	6.0	2	NA	ug/l	Yes
COPPER	3	13.3	2	NA	ug/l	Yes
IRON	3	665.0	2	84.5	ug/l	Yes
LEAD	3	3.2	2	NA	ug/l	Yes
MAGNESIUM	3	16700.0	2	6870.0	ug/l	Yes
MANGANESE	3	34.5	2	4.4	ug/l	Yes
POTASSIUM	3	2130.0	2	2360.0	ug/l	No
SODIUM	3	38300.0	1	28700.0	ug/l	Yes
ZINC	3	29.9	2	21.1	ug/l	Yes

(1) This table includes inorganics detected in one or more site samples. Since the number of background samples is less than four, the Wilcoxon Rank Sum Test and the Student t-test were not used to determine site inorganic concentrations exceeding background. Instead, the maximum concentration detected for the site and background are compared to determine inorganic concentrations exceeding background.

NA - the inorganic was not detected in any background samples.

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# **A P P E N D I X D**

## **STATISTICS FOR SITE AND BACKGROUND FOR CHEMICALS OF POTENTIAL CONCERN**

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**Plating Room  
Statistical Results for Inorganics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	8550.0	2300.0	4414	5076	lognormal	mg/kg	28	28	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	28	0	0.0
ARSENIC	134.0	5.5	10.08	11.04	nonnormal	mg/kg	28	7	25.0
BARIUM	259.0	17.5	41.12	45.85	nonnormal	mg/kg	28	28	100.0
BERYLLIUM	0.8	0.28	0.48	0.52	nonnormal	mg/kg	28	6	21.4
CADMIUM	84.3	0.53	4.2	3.5	nonnormal	mg/kg	28	7	25.0
CALCIUM	154000.0	1570.0	48320.0	98005.7	nonnormal	mg/kg	27	27	100.0
CHROMIUM, TOTAL	410.0	3.1	48.7	77.5	nonnormal	mg/kg	28	28	100.0
COBALT	31.7	5.13	4.9	5.8	nonnormal	mg/kg	28	9	32.1
COPPER	1040.0	8.18	64.3	64.5	nonnormal	mg/kg	28	28	100.0
CYANIDE	2.12	1.03	0.60	0.72	nonnormal	mg/kg	21	3	14.3
IRON	132000.0	4250.0	15477.5	17529.5	nonnormal	mg/kg	28	28	100.0
LEAD	6990.0	3.08	352.8	280.7	nonnormal	mg/kg	28	28	100.0
MAGNESIUM	32800.0	2400.0	6798.6	8011.1	nonnormal	mg/kg	28	28	100.0
MANGANESE	1190.0	121.0	371.6	434.1	lognormal	mg/kg	28	28	100.0
MERCURY	0.18	0.065	0.06	0.08	nonnormal	mg/kg	28	3	10.7
MOLYBDENUM	4060.0	4060.0	681.6	1.1E+08	nonnormal	mg/kg	6	1	16.7
NICKEL	295.0	5.05	40.5	60.6	nonnormal	mg/kg	28	28	100.0
POTASSIUM	901.0	219.0	436	497	lognormal	mg/kg	28	28	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	28	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	28	0	0.0
SODIUM	534.0	36.3	128	160	lognormal	mg/kg	25	25	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	28	0	0.0
VANADIUM	54.5	5.17	7.4	9.5	nonnormal	mg/kg	28	16	57.1
ZINC	6500.0	15.0	272.0	138.1	nonnormal	mg/kg	28	28	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for PCBs  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.000044	0.000015	0.013	9.576E+09	nonnormal	mg/kg	6	3	50.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	6	0	0.0
ALPHA ENDOSULFAN	0.0011	0.00004	0.0006	4.5053E+28	lognormal	mg/kg	2	2	100.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0003	0.0003	0.014	5.700	nonnormal	mg/kg	6	1	16.7
BETA ENDOSULFAN	0.0006	0.0006	0.007	0.015	normal	mg/kg	3	1	33.3
CHLORDANE	NA	NA	NA	NA	NA	NA	6	0	0.0
DDD (1,1-bis(CHLOROPHENYL)-2,2-DICHLOROETHANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DDE (1,1-bis(CHLOROPHENYL)-2,2-DICHLOROETHENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DDT (1,1-bis(CHLOROPHENYL)-2,2-TRICHLOROETHANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0001	0.0001	0.013	5281.433	nonnormal	mg/kg	6	1	16.7
DIELDRIN	0.0001	0.0001	0.014	152.661	nonnormal	mg/kg	6	1	16.7
ENDOSULFAN	NA	NA	NA	NA	NA	NA	6	0	0.0
ENDOSULFAN SULFATE	0.0016	0.000049	0.015	8.371E+06	nonnormal	mg/kg	5	2	40.0
ENDRIN	NA	NA	NA	NA	NA	NA	4	0	0.0
GAMMA BHC (LINDANE)	0.0001	0.000027	0.013	1.704E+06	lognormal	mg/kg	6	2	33.3
HEPTACHLOR	NA	NA	NA	NA	NA	NA	5	0	0.0
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	4	0	0.0
METHOXYCHLOR	0.0045	0.0014	0.016	1.571	nonnormal	mg/kg	5	2	40.0
p,p'-DDD	0.001	0.001	0.004	23.108	lognormal	mg/kg	3	1	33.3
p,p'-DDT	0.0006	0.0002	0.002	1.888E+08	lognormal	mg/kg	3	2	66.7
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	6	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	6	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	6	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	6	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	6	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	6	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	6	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for Semi-Volatile Organics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	12	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	12	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	12	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	12	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	12	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	12	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	12	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	12	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	12	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	12	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	12	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	12	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	12	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	12	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	12	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	12	0	0.0
ANTHRACENE	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZO(a)ANTHRACENE	0.091	0.091	0.17	0.19	nonnormal	mg/kg	12	1	8.3
BENZO(a)PYRENE	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZO(b)FLUORANTHENE	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZO(g,h,i)PERYLENE	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZO(k)FLUORANTHENE	NA	NA	NA	NA	NA	NA	9	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	12	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	12	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	12	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	12	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.471	0.471	0.30	0.42	nonnormal	mg/kg	12	4	33.3
CARBAZOLE	NA	NA	NA	NA	NA	NA	9	0	0.0
CHRYSENE	0.066	0.066	0.19	0.24	nonnormal	mg/kg	12	1	8.3
DI-n-BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	12	0	0.0
DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	12	0	0.0

DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
FLUORANTHENE	0.11	0.11	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	1	8.3
FLUORENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PYRENE	0.075	0.075	0.16	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	1	8.3

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Plating Room  
Statistical Results for Volatile Organics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	16	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	16	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	4	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	16	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	16	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	4	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-HEXANONE	NA	NA	NA	NA	NA	NA	29	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	4	0	0.0
ACETONE	1.54	0.023	0.263	0.429	nonnormal	mg/kg	29	29	100.0
BENZENE	NA	NA	NA	NA	NA	NA	33	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	4	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	33	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
CARBON DISULFIDE	NA	NA	NA	NA	NA	NA	29	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	33	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	33	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	33	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	4	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	33	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	33	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	4	0	0.0

DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	NA	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	NA	0	0.0
ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
METHYLETHYL KETONE (2-BUTANONE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	29	NA	0	0.0
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	29	NA	0	0.0
METHYLENE CHLORIDE	0.008	0.006	0.003	0.004	0.004	0.004	0.004	0.004	nonnormal	29	mg/kg	4	13.8
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	NA	0	0.0
P-CYMELE (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
TETRACHLOROETHYLENE(PCE)	0.0012	0.0012	0.003	0.004	0.004	0.004	0.004	0.004	nonnormal	33	mg/kg	1	3.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
TRICHLOROETHYLENE (TCE)	0.071	0.002	0.010	0.014	0.014	0.014	0.014	0.014	nonnormal	33	mg/kg	0	39.4
TRICHLOROFUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	NA	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for Inorganics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	13400.0	4770.0	7830	18592	lognormal	mg/kg	4	4	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	4	0	0.0
ARSENIC	5.7	3.5	4.55	6.81	lognormal	mg/kg	4	4	100.0
BARIUM	47.7	18.2	33.23	70.96	lognormal	mg/kg	4	4	100.0
BERYLLIUM	0.44	0.3	0.35	0.45	lognormal	mg/kg	4	3	75.0
CADMIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
CALCIUM	68700.0	932.0	44058.0	76798.8	normal	mg/kg	4	4	100.0
CHROMIUM, TOTAL	15.6	6.5	9.5	19.0	lognormal	mg/kg	4	4	100.0
COBALT	9.3	5.0	6.6	10.4	lognormal	mg/kg	4	4	100.0
COPPER	36.6	24.5	30.6	39.0	lognormal	mg/kg	4	4	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	4	0	0.0
IRON	20900.0	10000.0	14175.0	24247.4	lognormal	mg/kg	4	4	100.0
LEAD	10.4	5.1	8.55	15.02	lognormal	mg/kg	4	4	100.0
MAGNESIUM	9760.0	2910.0	6142.5	19221.8	lognormal	mg/kg	4	4	100.0
MANGANESE	418.0	281.0	354.3	462.5	lognormal	mg/kg	4	4	100.0
MERCURY	NA	NA	NA	NA	NA	NA	4	0	0.0
MOLYBDENUM	17.9	17.0	11.7	58.1	lognormal	mg/kg	4	2	50.0
NICKEL	19.9	9.5	12.9	22.4	lognormal	mg/kg	4	4	100.0
POTASSIUM	938.0	458.0	673	1251	lognormal	mg/kg	4	4	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	4	0	0.0
SODIUM	236.0	112.0	198	371	nonnormal	mg/kg	4	4	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
VANADIUM	14.9	6.1	10.4	20.3	lognormal	mg/kg	4	4	100.0
ZINC	82.6	46.8	58.3	86.1	lognormal	mg/kg	4	4	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for PCBs  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0015	0.0015	0.004	1.319	lognormal	mg/kg	3	1	33.3
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	4	0	0.0
ALPHA ENDOSULFAN	0.0002	0.0002	0.0002	0.0002	nonnormal	mg/kg	3	3	100.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	4	0	0.0
BETA ENDOSULFAN	0.0003	0.0003	0.007	0.015	normal	mg/kg	3	1	33.3
CHLORDANE	NA	NA	NA	NA	NA	NA	4	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0009	0.0009	0.0005	0.0011	nonnormal	mg/kg	4	1	25.0
DIELDRIN	0.0036	0.0002	0.002	608961.477	lognormal	mg/kg	3	3	100.0
ENDOSULFAN SULFATE	0.0032	0.0002	0.006	9272.293	lognormal	mg/kg	4	2	50.0
ENDRIN	0.0007	0.0003	0.003	25.985	lognormal	mg/kg	4	2	50.0
ENDRIN ALDEHYDE	0.014	0.0002	0.007	19774.515	lognormal	mg/kg	4	3	75.0
GAMMA BHC (LINDANE)	0.0004	0.0004	0.0011	0.1458	lognormal	mg/kg	3	1	33.3
HEPTACHLOR	0.0021	0.0002	0.0013	4637.9503	lognormal	mg/kg	3	2	66.7
HEPTACHLOR EPOXIDE	0.0049	0.0011	0.004	0.094	lognormal	mg/kg	4	3	75.0
METHOXYCHLOR	0.0016	0.0006	0.009	958.708	lognormal	mg/kg	4	2	50.0
p,p'-DDD	0.0006	0.0001	0.002	119.717	lognormal	mg/kg	4	3	75.0
p,p'-DDE	0.001	0.0001	0.002	2590.787	lognormal	mg/kg	4	3	75.0
p,p'-DDT	0.0013	0.0004	0.001	0.003	lognormal	mg/kg	4	4	100.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	4	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	4	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for Semi-Volatile Organics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	4	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	4	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	4	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	4	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	4	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	4	0	0.0
ACENAPHTYLENE	NA	NA	NA	NA	NA	NA	4	0	0.0
ANTHRACENE	NA	NA	NA	NA	NA	NA	4	0	0.0
BENZO(a)ANTHRACENE	0.2	0.053	0.17	0.26	normal	mg/kg	4	2	50.0
BENZO(a)PYRENE	0.14	0.14	0.15	0.17	lognormal	mg/kg	4	1	25.0
BENZO(b)FLUORANTHENE	0.29	0.062	0.18	1.04	lognormal	mg/kg	4	2	50.0
BENZO(g,h,i)PERYLENE	NA	NA	NA	NA	NA	NA	4	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	4	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	4	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.2	0.2	0.29	0.42	lognormal	mg/kg	4	1	25.0
CHRYSENE	0.2	0.058	0.23	4.03	lognormal	mg/kg	4	2	50.0
DI-n-BUTYL PHTHALATE	0.086	0.086	0.4	0.6	normal	mg/kg	4	1	25.0
DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	4	0	0.0
DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	4	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	4	0	0.0

DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
FLUORANTHENE	0.3	0.053	0.17	1.44	NA	lognormal	mg/kg	4	2	50.0	0.0	0.0	
FLUORENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
PHENANTHRENE	0.074	0.074	0.15	0.20	0.20	normal	mg/kg	4	1	25.0	0.0	0.0	
PHENOL	NA	NA	NA	NA	NA	NA	NA	4	0	0.0	0.0	0.0	
PYRENE	0.29	0.063	0.18	1.02	1.02	lognormal	mg/kg	4	2	50.0	0.0	0.0	

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for Volatile Organics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	10	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	7	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	11	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	7	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	11	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	7	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	11	0	0.0
1-CHLOROHXANE	NA	NA	NA	NA	NA	NA	7	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	7	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	7	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	7	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	7	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	7	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	7	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	7	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	7	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	7	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	7	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	7	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	7	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	7	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	11	0	0.0

ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
m-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	0	0.0
P-CYME NE (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
i-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
TRICHLOROETHYLENE (TCE)	0.0084	0.0053	0.008	0.009	nonnormal	nonnormal	mg/kg	mg/kg	mg/kg	7	2	28.6
TRICHLOROFUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Waste Oil Tanks  
Statistical Results for Inorganics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	11500.0	9890.0	10797	12566	lognormal	mg/kg	3	3	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	3	0	0.0
ARSENIC	6.2	4.7	5.33	7.19	lognormal	mg/kg	3	3	100.0
BARIUM	74.9	46.1	59.90	111.74	lognormal	mg/kg	3	3	100.0
BERYLLIUM	0.56	0.4	0.46	0.70	lognormal	mg/kg	3	3	100.0
CADMIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
CALCIUM	12000.0	1730.0	5316.7	1.7E+08	lognormal	mg/kg	3	3	100.0
CHROMIUM, TOTAL	13.6	11.4	12.8	15.4	lognormal	mg/kg	3	3	100.0
COBALT	10.0	9.2	9.5	10.4	lognormal	mg/kg	3	3	100.0
COPPER	41.4	20.0	33.8	165.4	lognormal	mg/kg	3	3	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	3	0	0.0
IRON	20800.0	19000.0	20133.3	22185.7	lognormal	mg/kg	3	3	100.0
LEAD	16.9	11.4	13.63	22.11	lognormal	mg/kg	3	3	100.0
MAGNESIUM	4190.0	2620.0	3263.3	6083.0	lognormal	mg/kg	3	3	100.0
MANGANESE	678.0	321.0	499.0	1921.9	lognormal	mg/kg	3	3	100.0
MERCURY	NA	NA	NA	NA	NA	NA	3	0	0.0
MOLYBDENUM	14.8	14.8	9.0	102.6	lognormal	mg/kg	3	1	33.3
NICKEL	20.2	17.8	18.6	21.4	lognormal	mg/kg	3	3	100.0
POTASSIUM	1140.0	635.0	843	2049	lognormal	mg/kg	3	3	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	3	0	0.0
SODIUM	229.0	96.9	150	928	lognormal	mg/kg	3	3	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
VANADIUM	17.2	12.4	14.6	20.9	lognormal	mg/kg	3	3	100.0
ZINC	79.6	75.9	78.3	82.4	lognormal	mg/kg	3	3	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for PCBs  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0005	0.0005	0.004	654716.961	lognormal	mg/kg	3	1	33.3
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
ALPHA ENDOSULFAN	0.0003	0.0003	0.0020	0.0039	normal	mg/kg	3	1	33.3
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0011	0.0011	0.003	107386.574	lognormal	mg/kg	2	1	50.0
BETA ENDOSULFAN	0.0004	0.0003	0.004	2.867E+14	lognormal	mg/kg	3	2	66.7
CHLORDANE	NA	NA	NA	NA	NA	NA	3	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.001	0.001	0.0006	0.0046	nonnormal	mg/kg	3	1	33.3
DIELDRIN	0.0039	0.0011	0.003	100.532	lognormal	mg/kg	2	2	100.0
ENDOSULFAN SULFATE	NA	NA	NA	NA	NA	NA	3	0	0.0
ENDRIN	NA	NA	NA	NA	NA	NA	3	0	0.0
ENDRIN ALDEHYDE	0.043	0.0074	0.020	80.269	lognormal	mg/kg	3	3	100.0
GAMMA BHC (LINDANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
HEPTACHLOR	0.0001	0.0001	0.0010	0.0020	normal	mg/kg	3	1	33.3
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	2	0	0.0
METHOXYCHLOR	NA	NA	NA	NA	NA	NA	3	0	0.0
P,p'-DDD	0.0056	0.0011	0.003	154544.051	lognormal	mg/kg	2	2	100.0
P,p'-DDE	0.0012	0.0011	0.001	0.001	lognormal	mg/kg	2	2	100.0
P,p'-DDT	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	3	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	3	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for Semi-Volatile Organics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	5	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	3	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	3	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	3	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	3	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	3	0	0.0
ANTHRACENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(a)ANTHRACENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(a)PYRENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(b)FLUORANTHENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(k,h,i)PERYLENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHRYSENE	NA	NA	NA	NA	NA	NA	3	0	0.0
DI-n-BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	2	0	0.0

DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
FLUORENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
N-NITROSODIPHENYLAMINE	0.15	0.15	0.15	0.12	0.20	normal	mg/kg	normal	mg/kg	5	1	20.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for Volatile Organics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1-DICHLOROETHANE	0.0018	0.0018	0.006	12.888	nonnormal	mg/kg	3	1	33.3
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2,4-TRIMETHYLBENZENE	0.0026	0.0026	0.007	0.525	nonnormal	mg/kg	3	1	33.3
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.0046	0.0046	0.007	0.024	nonnormal	mg/kg	3	1	33.3
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	3	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
cis-1,2-DICHLOROETHYLENE	0.013	0.013	0.010	0.019	nonnormal	mg/kg	3	1	33.3
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	3	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
P-CYMELENE (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	3	0	0.0

SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TRICHLOROETHYLENE (TCE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TRICHLOROFUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Background  
Statistical Results for Inorganics  
Surface Soil Interval (0 to 3 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	9550.0	8250.0	8900	11861	lognormal	mg/kg	2	2	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	2	0	0.0
ARSENIC	55.4	1.6	28.50	1.16E+38	lognormal	mg/kg	2	2	100.0
BARIUM	59.5	41.8	50.65	128.20	lognormal	mg/kg	2	2	100.0
BERYLLIUM	0.68	0.56	0.62	0.93	lognormal	mg/kg	2	2	100.0
CADMIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
CALCIUM	12000.0	1230.0	6615.0	7.3E+18	lognormal	mg/kg	2	2	100.0
CHROMIUM, TOTAL	13.0	10.5	11.8	18.6	lognormal	mg/kg	2	2	100.0
COBALT	11.9	8.9	10.4	21.0	lognormal	mg/kg	2	2	100.0
COPPER	41.4	25.8	33.6	151.4	lognormal	mg/kg	2	2	100.0
IRON	22200.0	20100.0	21150.0	25690.2	lognormal	mg/kg	2	2	100.0
LEAD	31.3	18.0	24.65	188.34	lognormal	mg/kg	2	2	100.0
MAGNESIUM	5010.0	2950.0	3980.0	25491.4	lognormal	mg/kg	2	2	100.0
MANGANESE	401.0	385.0	393.0	425.5	lognormal	mg/kg	2	2	100.0
MERCURY	NA	NA	NA	NA	NA	NA	2	0	0.0
MOLYBDENUM	NA	NA	NA	NA	NA	NA	2	0	0.0
NICKEL	24.8	20.8	22.8	32.6	lognormal	mg/kg	2	2	100.0
POTASSIUM	1380.0	888.0	1134	4316	lognormal	mg/kg	2	2	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	2	0	0.0
SODIUM	168.0	168.0	168	168	lognormal	mg/kg	1	1	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
VANADIUM	19.6	9.4	14.5	520.1	lognormal	mg/kg	2	2	100.0
ZINC	82.8	44.7	63.8	810.7	lognormal	mg/kg	2	2	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

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**Plating Room  
Statistical Results for Inorganics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	12700.0	2300.0	5469	6292	lognormal	mg/kg	41	41	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	41	0	0.0
ARSENIC	134.0	5.5	10.29	11.67	nonnormal	mg/kg	41	18	43.9
BARIUM	259.0	17.5	40.11	43.38	nonnormal	mg/kg	41	41	100.0
BERYLLIUM	0.8	0.17	0.46	0.50	nonnormal	mg/kg	41	16	39.0
CADMIUM	84.3	0.53	3.3	2.4	nonnormal	mg/kg	41	10	24.4
CALCIUM	154000.0	220.0	35018.2	192385.2	nonnormal	mg/kg	40	40	100.0
CHROMIUM, TOTAL	410.0	3.1	43.4	51.5	nonnormal	mg/kg	41	41	100.0
COBALT	31.7	3.8	5.9	7.1	nonnormal	mg/kg	41	21	51.2
COPPER	1040.0	8.18	53.0	48.5	nonnormal	mg/kg	41	41	100.0
CYANIDE	2.12	0.64	0.51	0.59	nonnormal	mg/kg	33	4	12.1
IRON	132000.0	4250.0	16197.8	18082.1	nonnormal	mg/kg	41	41	100.0
LEAD	6990.0	3.08	248.2	107.5	nonnormal	mg/kg	41	41	100.0
MAGNESIUM	32800.0	2050.0	5725.6	6549.1	nonnormal	mg/kg	41	41	100.0
MANGANESE	1190.0	121.0	411.7	467.0	lognormal	mg/kg	41	41	100.0
MERCURY	0.18	0.065	0.08	0.12	nonnormal	mg/kg	41	3	7.3
MOLYBDENUM	4060.0	4060.0	259.5	167.9	nonnormal	mg/kg	16	1	6.3
NICKEL	295.0	5.05	36.9	47.3	nonnormal	mg/kg	41	41	100.0
POTASSIUM	922.0	219.0	511	577	nonnormal	mg/kg	41	41	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	41	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	41	0	0.0
SODIUM	534.0	36.3	119	136	lognormal	mg/kg	37	37	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	41	0	0.0
VANADIUM	54.5	5.17	8.9	11.4	nonnormal	mg/kg	41	29	70.7
ZINC	6500.0	15.0	236.0	164.0	nonnormal	mg/kg	41	41	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for PCBs  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.000044	0.000015	0.009	842.500	nonnormal	mg/kg	10	4	40.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	15	0	0.0
ALPHA ENDOSULFAN	0.0011	0.00004	0.0020	0.0032	normal	mg/kg	5	2	40.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0003	0.0003	0.009	0.023	nonnormal	mg/kg	15	1	6.7
BETA ENDOSULFAN	0.0006	0.0006	0.010	0.025	nonnormal	mg/kg	12	1	8.3
CHLORDANE	NA	NA	NA	NA	NA	NA	15	0	0.0
DDD (1,1-bis(CHLOROPHENYL)-2,2-DICHLOROETHANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DDE (1,1-bis(CHLOROPHENYL)-2,2-DICHLOROETHENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DDT (1,1-bis(CHLOROPHENYL)-2,2,2-TRICHLOROETHANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0001	0.0001	0.005	0.037	nonnormal	mg/kg	15	2	13.3
DIELDRIN	0.0002	0.0001	0.008	0.213	nonnormal	mg/kg	15	4	26.7
ENDOSULFAN	NA	NA	NA	NA	NA	NA	6	0	0.0
ENDOSULFAN SULFATE	0.0016	0.000049	0.009	1.636	nonnormal	mg/kg	14	7	50.0
ENDRIN	NA	NA	NA	NA	NA	NA	11	0	0.0
ENDRIN ALDEHYDE	NA	NA	NA	NA	NA	NA	3	0	0.0
GAMMA BHC (LINDANE)	0.0002	0.000027	0.006	0.084	nonnormal	mg/kg	15	3	20.0
HEPTACHLOR	0.000032	0.000032	0.008	0.287	nonnormal	mg/kg	11	1	9.1
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	10	0	0.0
METHOXYCHLOR	0.013	0.001	0.014	0.051	nonnormal	mg/kg	14	5	35.7
p,p'-DDD	0.0022	0.0002	0.005	0.015	nonnormal	mg/kg	12	3	25.0
p,p'-DDE	NA	NA	NA	NA	NA	NA	3	0	0.0
p,p'-DDT	0.0006	0.000029	0.003	0.175	nonnormal	mg/kg	12	5	41.7
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1254 (AROCHLOR 1254)	0.17	0.046	0.035	0.074	nonnormal	mg/kg	10	2	20.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	15	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	15	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for Semi-Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	21	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	21	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	21	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	21	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	21	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	nonnormal	mg/kg	21	1	4.8
ACENAPHTHENE	0.15	0.15	0.19	0.20	NA	NA	21	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	nonnormal	mg/kg	21	1	4.8
ANTHRACENE	0.59	0.59	0.22	0.25	nonnormal	mg/kg	21	2	9.5
BENZO(a)ANTHRACENE	3.3	0.091	0.34	0.37	nonnormal	mg/kg	21	1	4.8
BENZO(a)PYRENE	2.0	2.0	0.25	0.28	nonnormal	mg/kg	21	1	4.8
BENZO(b)FLUORANTHENE	3.8	3.8	0.35	0.35	nonnormal	mg/kg	21	1	4.8
BENZO(g,h,i)PERYLENE	NA	NA	NA	NA	NA	NA	21	0	0.0
BENZO(k)FLUORANTHENE	NA	NA	NA	NA	NA	NA	9	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.471	0.471	0.32	0.37	nonnormal	mg/kg	21	4	19.0
CARBAZOLE	NA	NA	NA	NA	NA	NA	9	0	0.0
CHRYSENE	3.2	0.066	0.4	0.5	nonnormal	mg/kg	21	2	9.5
Di-n-BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	16	0	0.0
Di-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	21	0	0.0

DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
DIBENZOFURAN	0.043	0.18	0.21	0.21	0.21	0.21	0.21	0.21	0.21	21	1	4.8
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
FLUORANTHENE	5.3	0.41	0.38	0.38	0.38	0.38	0.38	0.38	0.38	21	2	9.5
FLUORENE	0.11	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	21	1	4.8
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
N-NITROSODJ-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
PHENANTHRENE	3.1	0.31	0.33	0.33	0.33	0.33	0.33	0.33	0.33	21	1	4.8
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0	0.0
PYRENE	5.7	0.43	0.41	0.41	0.41	0.41	0.41	0.41	0.41	21	2	9.5

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1,1-TRICHLOROETHANE	0.0087	0.0087	0.019	0.015	nonnormal	mg/kg	49	1	2.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	nonnormal	mg/kg	47	0	0.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	15	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1-CHLOROHXANE	NA	NA	NA	NA	NA	NA	15	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-CHLOROETHYL VINYL ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-HEXANONE	NA	NA	NA	NA	NA	NA	34	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
ACETONE	1.54	0.023	0.245	0.437	lognormal	mg/kg	34	30	88.2
ACROLEIN	NA	NA	NA	NA	NA	NA	3	0	0.0
ACRYLONITRILE	NA	NA	NA	NA	NA	NA	3	0	0.0
ALLYL CHLORIDE (3-CHLOROPROPENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	49	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	15	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	49	0	0.0
BROMOMETHANE	0.016	0.016	0.019	0.014	nonnormal	mg/kg	49	1	2.0
CARBON DISULFIDE	NA	NA	NA	NA	NA	NA	34	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	49	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	49	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	49	0	0.0

CHLOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	0	0.0
DICHLORODIFLUOROMETHANE	0.0014	0.0014	0.054	0.206	NA	NA	NA	NA	NA	0.206	nonnormal	mg/kg	mg/kg	15	1	6.7
DIETHYL ETHER (ETHYL ETHER)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
ETHYL ACETATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	0	0.0
IODOMETHANE (METHYL IODIDE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
METHYL ETHYL KETONE (2-BUTANONE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34	0	0.0
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34	0	0.0
METHYLENE CHLORIDE	0.008	0.006	0.023	0.020	NA	NA	NA	NA	NA	0.020	nonnormal	mg/kg	mg/kg	34	4	11.8
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	0	0.0
P-CYMELE (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
TETRACHLOROETHYLENE(PCE)	0.0012	0.0012	0.019	0.016	NA	NA	NA	NA	NA	0.016	nonnormal	mg/kg	mg/kg	49	1	2.0
TETRAHYDROFURAN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
TRICHLOROETHYLENE (TCE)	0.071	0.002	0.024	0.028	NA	NA	NA	NA	NA	0.028	nonnormal	mg/kg	mg/kg	49	0	0.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	0	0.0
VINYL ACETATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for Inorganics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	13400.0	4770.0	8508	9990	lognormal	mg/kg	15	15	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	15	0	0.0
ARSENIC	18.8	3.5	7.6	9.8	lognormal	mg/kg	15	15	100.0
BARIUM	125.0	18.2	52.6	67.2	lognormal	mg/kg	15	15	100.0
BERYLLIUM	0.81	0.27	0.4	0.5	nonnormal	mg/kg	15	13	86.7
CADMIUM	NA	NA	NA	NA	NA	NA	15	0	0.0
CALCIUM	68700.0	593.0	17935	132576	lognormal	mg/kg	15	15	100.0
CHROMIUM, TOTAL	15.6	6.5	10.8	12.4	lognormal	mg/kg	15	15	100.0
COBALT	11.7	5.0	8.2	9.2	lognormal	mg/kg	15	15	100.0
COPPER	157.0	18.7	46.5	63.0	lognormal	mg/kg	15	15	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	15	0	0.0
IRON	29700.0	10000.0	17646.7	20318.7	lognormal	mg/kg	15	15	100.0
LEAD	32.1	5.1	14.05	18.23	lognormal	mg/kg	15	15	100.0
MAGNESIUM	13300.0	2030.0	4770.0	6270.5	lognormal	mg/kg	15	15	100.0
MANGANESE	1060.0	281.0	532.7	648.1	lognormal	mg/kg	15	15	100.0
MERCURY	0.4	0.11	0.17	0.20	nonnormal	mg/kg	15	3	20.0
MOLYBDENUM	22.0	12.1	11.9	16.2	nonnormal	mg/kg	15	8	53.3
NICKEL	27.5	9.5	16.2	19.0	lognormal	mg/kg	15	15	100.0
POTASSIUM	1110.0	416.0	762	889	lognormal	mg/kg	14	14	100.0
SELENIUM	0.56	0.56	0.7	0.9	nonnormal	mg/kg	15	1	6.7
SILVER	NA	NA	NA	NA	NA	NA	15	0	0.0
SODIUM	706.0	93.1	214	283	lognormal	mg/kg	15	15	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	15	0	0.0
VANADIUM	17.1	6.1	11.8	13.6	lognormal	mg/kg	15	15	100.0
ZINC	1090.0	46.8	178.9	277.2	nonnormal	mg/kg	15	15	100.0

NA - not applicable. The analyte was not detected in any samples.

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**Reservoir**  
**Statistical Results for PCBs**  
**Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0015	0.001	0.004	0.009	nonnormal	mg/kg	8	4	50.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0001	0.000029	0.0012	0.0081	nonnormal	mg/kg	15	3	20.0
ALPHA ENDOSULFAN	0.0009	0.0001	0.0011	0.0044	lognormal	mg/kg	12	9	75.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0006	0.0006	0.006	0.009	nonnormal	mg/kg	15	1	6.7
BETA ENDOSULFAN	0.0053	0.0001	0.008	0.272	nonnormal	mg/kg	12	5	41.7
CHLORDANE	NA	NA	NA	NA	NA	NA	15	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0009	0.0001	0.0004	0.0006	nonnormal	mg/kg	15	6	40.0
DELDRIN	0.0036	0.0001	0.003	0.034	lognormal	mg/kg	10	7	70.0
ENDOSULFAN SULFATE	0.0032	0.0002	0.004	0.033	nonnormal	mg/kg	15	10	66.7
ENDRIN	0.0024	0.0002	0.004	0.022	nonnormal	mg/kg	14	6	42.9
ENDRIN ALDEHYDE	0.014	0.0002	0.005	0.017	lognormal	mg/kg	15	11	73.3
GAMMA BHC (LINDANE)	0.0004	0.0001	0.0010	0.0031	nonnormal	mg/kg	14	5	35.7
HEPTACHLOR	0.0021	0.0002	0.0012	0.0015	normal	mg/kg	11	5	45.5
HEPTACHLOR EPOXIDE	0.0049	0.0002	0.005	0.020	nonnormal	mg/kg	13	7	53.8
METHOXYCHLOR	0.024	0.0005	0.013	0.115	nonnormal	mg/kg	12	7	58.3
p,p'-DDD	0.0061	0.0001	0.002	0.008	lognormal	mg/kg	15	12	80.0
p,p'-DDE	0.001	0.0001	0.005	0.144	nonnormal	mg/kg	10	5	50.0
p,p'-DDT	0.0049	0.0001	0.003	0.017	lognormal	mg/kg	15	10	66.7
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1260 (AROCHLOR 1260)	0.079	0.02	0.04	0.04	nonnormal	mg/kg	15	2	13.3
TOXAPHENE	NA	NA	NA	NA	NA	NA	15	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Reservoir  
Statistical Results for Semi-Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	15	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
3,3-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	15	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	15	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	15	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	15	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	15	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	15	0	0.0
ANTHRACENE	0.14	0.12	0.23	0.27	nonnormal	mg/kg	15	2	13.3
BENZO(a)ANTHRACENE	0.5	0.04	0.22	0.43	nonnormal	mg/kg	15	7	46.7
BENZO(a)PYRENE	0.42	0.14	0.20	0.24	nonnormal	mg/kg	15	3	20.0
BENZO(b)FLUORANTHENE	0.78	0.062	0.25	0.36	lognormal	mg/kg	15	5	33.3
BENZO(g,h,i)PERYLENE	0.15	0.15	0.21	0.23	nonnormal	mg/kg	15	1	6.7
BENZOIC ACID	NA	NA	NA	NA	NA	NA	15	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	15	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.2	0.058	0.3	0.4	nonnormal	mg/kg	15	3	20.0
CHRYSENE	0.5	0.041	0.3	0.4	normal	mg/kg	15	6	40.0
DI-n-BUTYL PHTHALATE	0.086	0.086	0.5	0.8	nonnormal	mg/kg	12	1	8.3
DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	15	0	0.0
DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	15	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	15	0	0.0

DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0
FLUORANTHENE	0.94	0.053	0.25	0.42	0.42	0.24	lognormal	mg/kg	15	7	46.7	15	0	0.0
FLUORENE	0.052	0.05	0.18	0.24	0.24	NA	nonnormal	mg/kg	15	2	13.3	15	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
INDENO(1,2,3-c,d)PYRENE	0.16	0.16	0.4	0.4	0.4	0.4	nonnormal	mg/kg	15	1	6.7	15	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
PHENANTHRENE	0.61	0.041	0.21	0.34	0.34	0.34	lognormal	mg/kg	15	5	33.3	15	0	0.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	15	0	0.0	15	0	0.0
PYRENE	0.8	0.062	0.25	0.42	0.42	0.42	lognormal	mg/kg	15	7	46.7	15	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal).  
The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1,1-TRICHLOROETHANE	0.003	0.003	0.009	0.010	nonnormal	mg/kg	20	1	5.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	33	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	35	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	20	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	35	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	35	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	20	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	20	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	20	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	20	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	20	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	20	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	20	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	20	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	20	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	20	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	20	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	20	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	20	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	34	0	0.0

ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	NA	0	0.0
P-CYME (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
TRICHLOROETHYLENE (TCE)	0.07	0.07	0.07	0.011	0.013	0.013	0.013	0.013	0.013	20	nonnormal	7	35.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	NA	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for Inorganics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	13100.0	7690.0	10703	11409	lognormal	mg/kg	15	15	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	15	0	0.0
ARSENIC	12.4	2.4	6.2	8.0	lognormal	mg/kg	15	15	100.0
BARIUM	93.7	32.7	57.69	68.41	lognormal	mg/kg	15	15	100.0
BERYLLIUM	0.59	0.23	0.43	0.48	lognormal	mg/kg	15	15	100.0
CADMIUM	NA	NA	NA	NA	NA	NA	15	0	0.0
CALCIUM	60500.0	391.0	8161.4	38615.1	nonnormal	mg/kg	15	15	100.0
CHROMIUM, TOTAL	14.9	10.4	13.1	13.7	lognormal	mg/kg	15	15	100.0
COBALT	11.9	6.8	9.2	9.8	lognormal	mg/kg	15	15	100.0
COPPER	78.3	10.6	33.2	49.8	lognormal	mg/kg	15	15	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	15	0	0.0
IRON	20800.0	16800.0	19186.7	19738.3	lognormal	mg/kg	15	15	100.0
LEAD	52.5	10.1	18.24	24.19	nonnormal	mg/kg	15	15	100.0
MAGNESIUM	5370.0	2110.0	3212.0	3608.6	lognormal	mg/kg	15	15	100.0
MANGANESE	678.0	243.0	416.4	489.4	lognormal	mg/kg	15	15	100.0
MERCURY	0.12	0.12	0.17	0.18	normal	mg/kg	15	1	6.7
MOLYBDENUM	18.7	11.8	11.0	14.4	nonnormal	mg/kg	15	7	46.7
NICKEL	28.7	16.2	19.3	20.9	nonnormal	mg/kg	15	15	100.0
POTASSIUM	1140.0	303.0	716	869	lognormal	mg/kg	14	14	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	15	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	15	0	0.0
SODIUM	229.0	80.7	121	144	lognormal	mg/kg	12	12	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	15	0	0.0
VANADIUM	17.3	8.3	13.8	15.3	lognormal	mg/kg	15	15	100.0
ZINC	216.0	51.0	93.7	116.2	lognormal	mg/kg	15	15	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for PCBs  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0012	0.000046	0.007	0.111	nonnormal	mg/kg	12	3	25.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	15	0	0.0
ALPHA ENDOSULFAN	0.0028	0.0003	0.003	0.008	nonnormal	mg/kg	13	4	30.8
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0043	0.0011	0.007	0.011	nonnormal	mg/kg	14	2	14.3
BETA ENDOSULFAN	0.0004	0.0002	0.01	0.20	nonnormal	mg/kg	15	5	33.3
CHLORDANE	NA	NA	NA	NA	NA	NA	15	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0021	0.000039	0.0007	0.0015	nonnormal	mg/kg	15	5	33.3
DIELDRIN	0.0039	0.0011	0.007	0.012	nonnormal	mg/kg	12	3	25.0
ENDOSULFAN SULFATE	0.013	0.0004	0.01	0.03	nonnormal	mg/kg	15	5	33.3
ENDRIN	0.0088	0.0001	0.007	0.039	nonnormal	mg/kg	15	5	33.3
ENDRIN ALDEHYDE	0.043	0.0003	0.011	0.105	nonnormal	mg/kg	15	7	46.7
GAMMA BHC (LINDANE)	0.0006	0.0001	0.002	0.004	nonnormal	mg/kg	15	3	20.0
HEPTACHLOR	0.0001	0.0001	0.002	0.004	nonnormal	mg/kg	13	1	7.7
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	10	0	0.0
METHOXYCHLOR	0.0066	0.0034	0.014	0.022	nonnormal	mg/kg	14	4	28.6
p,p'-DDD	0.0056	0.0011	0.007	0.012	nonnormal	mg/kg	13	2	15.4
p,p'-DDE	0.0028	0.000021	0.009	0.251	nonnormal	mg/kg	13	5	38.5
p,p'-DDT	0.008	0.0002	0.007	0.039	nonnormal	mg/kg	14	4	28.6
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1254 (AROCHLOR 1254)	0.17	0.17	0.03	0.03	nonnormal	mg/kg	15	1	6.7
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	15	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	15	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for Semi-Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	30	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	32	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	32	0	0.0
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2,4-DINITROTOLUENE	0.41	0.41	0.5	0.8	nonnormal	mg/kg	15	1	6.7
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
2-METHYLNAPHTHALENE	0.6	0.12	0.3	0.3	nonnormal	mg/kg	15	3	20.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	15	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	15	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	15	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	15	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	15	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	15	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	15	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	nonnormal	mg/kg	15	1	6.7
ACENAPHTHENE	0.29	0.29	0.5	0.7	nonnormal	mg/kg	15	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	15	0	0.0
ANTHRACENE	0.42	0.42	0.6	0.8	nonnormal	mg/kg	15	1	6.7
BENZO(a)ANTHRACENE	1.0	1.0	0.6	0.9	nonnormal	mg/kg	15	1	6.7
BENZO(a)PYRENE	0.97	0.97	0.4	0.7	nonnormal	mg/kg	15	1	6.7
BENZO(b)FLUORANTHENE	1.3	1.3	0.5	0.8	nonnormal	mg/kg	15	1	6.7
BENZO(g,h,i)PERYLENE	0.49	0.49	0.5	0.7	nonnormal	mg/kg	15	1	6.7
BENZOIC ACID	NA	NA	NA	NA	NA	NA	15	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	15	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	15	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.89	0.89	0.4	0.4	nonnormal	mg/kg	14	1	7.1
CHRYSENE	1.0	1.0	0.8	1.3	nonnormal	mg/kg	15	1	6.7
Di-n-BUTYL PHTHALATE	0.06	0.06	1	4	nonnormal	mg/kg	12	1	8.3

DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	NA	0.0
DIBENZ(a,h)ANTHRACENE	0.11	0.11	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	1	15	mg/kg	6.7	
DIBENZOFURAN	0.36	0.36	0.5	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	1	15	mg/kg	6.7	
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
FLUORANTHENE	2.7	2.7	0.5	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	1	15	mg/kg	6.7	
FLUORENE	0.45	0.45	0.4	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4	1	15	mg/kg	6.7	
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	31	NA	0.0	
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
INDENO(1,2,3-c,d)PYRENE	0.45	0.45	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8	1	15	mg/kg	6.7	
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
NAPHTHALENE	2.5	2.5	0.3	0.7	0.7	0.3	0.3	0.3	0.3	0.3	0.3	4	25	mg/kg	16.0	
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
PHENANTHRENE	2.9	2.9	0.5	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	3	15	mg/kg	20.0	
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	15	NA	0.0	
PYRENE	2.3	2.3	0.6	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	1	15	mg/kg	6.7	

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Waste Oil Tanks  
Statistical Results for Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,1,1-TRICHLOROETHANE	0.0025	0.0025	0.008	0.010	nonnormal	mg/kg	17	1	5.9
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,1-DICHLOROETHANE	0.011	0.0016	0.007	0.011	nonnormal	mg/kg	17	5	29.4
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	14	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,2,4-TRIMETHYLBENZENE	0.07	0.0026	0.012	0.015	nonnormal	mg/kg	17	3	17.6
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	16	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	17	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	32	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.19	0.0046	0.020	0.024	nonnormal	mg/kg	17	3	17.6
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	17	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	17	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	17	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	17	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	17	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	17	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	17	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	17	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
CHLOROETHANE	0.0045	0.0045	0.011	0.013	nonnormal	mg/kg	17	1	5.9
CHLOROFORM	NA	NA	NA	NA	NA	NA	17	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
cis-1,2-DICHLOROETHYLENE	0.11	0.002	0.015	0.023	nonnormal	mg/kg	17	7	41.2
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	17	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	16	0	0.0
ETHYLBENZENE	0.0013	0.0013	0.008	0.011	nonnormal	mg/kg	17	1	5.9
ISOPROPYLBENZENE (CUMENE)	0.0027	0.0027	0.009	0.010	nonnormal	mg/kg	17	1	5.9
n-BUTYLBENZENE	0.047	0.0032	0.011	0.013	nonnormal	mg/kg	17	2	11.8
n-PROPYLBENZENE	0.0078	0.0014	0.008	0.011	nonnormal	mg/kg	17	2	11.8
p-CYME (p-ISOPROPYLTOLUENE)	0.053	0.053	0.011	0.013	nonnormal	mg/kg	17	1	5.9

SEC-BUTYLBENZENE	0.011	0.0014	0.009	0.011	nonnormal	mg/kg	17	2	11.8
STYRENE	NA	NA	NA	NA	NA	NA	17	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	17	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	17	0	0.0
TOLUENE	0.0013	0.0013	0.008	0.011	nonnormal	mg/kg	17	1	5.9
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	17	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	17	0	0.0
TRICHLOROETHYLENE (TCE)	0.015	0.0015	0.009	0.012	nonnormal	mg/kg	17	3	17.6
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
VINYL CHLORIDE	0.015	0.015	0.009	0.010	nonnormal	mg/kg	17	1	5.9
XYLENES, TOTAL	0.013	0.0018	0.009	0.011	nonnormal	mg/kg	17	2	11.8

NA - not applicable. The analyte was not detected in any samples.

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**Background  
Statistical Results for Inorganics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	10600.0	8250.0	9650	11150	lognormal	mg/kg	4	4	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	4	0	0.0
ARSENIC	55.4	1.6	20.05	253929.60	lognormal	mg/kg	4	4	100.0
BARIUM	59.5	27.4	39.15	76.20	lognormal	mg/kg	4	4	100.0
BERYLLIUM	0.68	0.46	0.55	0.70	lognormal	mg/kg	4	4	100.0
CADMIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
CALCIUM	12000.0	229.0	3528.0	2.0E+08	lognormal	mg/kg	4	4	100.0
CHROMIUM, TOTAL	13.0	10.5	12.1	13.6	lognormal	mg/kg	4	4	100.0
COBALT	11.9	8.5	9.8	12.1	lognormal	mg/kg	4	4	100.0
COPPER	41.4	15.5	24.6	65.2	lognormal	mg/kg	4	4	100.0
IRON	22200.0	20100.0	20700.0	22003.2	nonnormal	mg/kg	4	4	100.0
LEAD	31.3	12.3	18.58	43.38	lognormal	mg/kg	4	4	100.0
MAGNESIUM	5010.0	2950.0	3557.5	5189.7	nonnormal	mg/kg	4	4	100.0
MANGANESE	465.0	385.0	410.0	459.2	lognormal	mg/kg	4	4	100.0
MERCURY	NA	NA	NA	NA	NA	NA	4	0	0.0
MOLYBDENUM	NA	NA	NA	NA	NA	NA	4	0	0.0
NICKEL	24.8	19.3	21.1	24.6	lognormal	mg/kg	4	4	100.0
POTASSIUM	1380.0	604.0	872	1787	lognormal	mg/kg	4	4	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	4	0	0.0
SODIUM	168.0	168.0	168	168	lognormal	mg/kg	1	1	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
VANADIUM	19.6	9.4	14.4	23.6	lognormal	mg/kg	4	4	100.0
ZINC	82.8	44.7	57.4	87.9	lognormal	mg/kg	4	4	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Background  
Statistical Results for Volatile Organics  
Subsurface Soil Interval (0 to 12 feet)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	4	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	4	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	4	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	4	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	4	0	0.0
BENZENE	NA	NA	NA	NA	NA	4	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	4	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	4	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	4	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	4	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	4	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	4	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	4	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	4	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	4	0	0.0
HEXACHLOROCYCLOHEPTADIENE	NA	NA	NA	NA	NA	4	0	0.0

ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
P-CYMENE (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
TRICHLOROETHYLENE (TCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal).  
The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

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**Plating Room  
Statistical Results for Inorganics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	12700.0	2300.0	5469	6292	lognormal	mg/kg	41	41	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	41	0	0.0
ARSENIC	134.0	5.5	10.29	11.67	nonnormal	mg/kg	41	18	43.9
BARIUM	259.0	17.5	40.11	43.38	nonnormal	mg/kg	41	41	100.0
BERYLLIUM	0.8	0.17	0.46	0.50	nonnormal	mg/kg	41	16	39.0
CADMIUM	84.3	0.53	3.3	2.4	nonnormal	mg/kg	41	10	24.4
CALCIUM	154000.0	220.0	35018.2	192385.2	nonnormal	mg/kg	40	40	100.0
CHROMIUM, TOTAL	410.0	3.1	43.4	51.5	nonnormal	mg/kg	41	41	100.0
COBALT	31.7	3.8	5.9	7.1	nonnormal	mg/kg	41	21	51.2
COPPER	1040.0	8.18	53.0	48.5	nonnormal	mg/kg	41	41	100.0
CYANIDE	2.12	0.64	0.51	0.59	nonnormal	mg/kg	33	4	12.1
IRON	132000.0	4250.0	16197.8	18082.1	nonnormal	mg/kg	41	41	100.0
LEAD	6990.0	3.08	248.2	107.5	nonnormal	mg/kg	41	41	100.0
MAGNESIUM	32800.0	2050.0	5725.6	6549.1	nonnormal	mg/kg	41	41	100.0
MANGANESE	1190.0	121.0	411.7	467.0	lognormal	mg/kg	41	41	100.0
MERCURY	0.18	0.065	0.08	0.12	nonnormal	mg/kg	41	3	7.3
MOLYBDENUM	4060.0	4060.0	259.5	167.9	nonnormal	mg/kg	16	1	6.2
NICKEL	295.0	5.05	36.9	47.3	nonnormal	mg/kg	41	41	100.0
POTASSIUM	922.0	219.0	511	577	nonnormal	mg/kg	41	41	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	41	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	41	0	0.0
SODIUM	534.0	36.3	119	136	lognormal	mg/kg	37	37	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	41	0	0.0
VANADIUM	54.5	5.17	8.9	11.4	nonnormal	mg/kg	41	29	70.7
ZINC	6500.0	15.0	236.0	164.0	nonnormal	mg/kg	41	41	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for PCBs  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.000044	0.000015	0.009	842.500	nonnormal	mg/kg	10	4	40.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	15	0	0.0
ALPHA ENDOSULFAN	0.0011	0.00004	0.0020	0.0032	normal	mg/kg	5	2	40.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0003	0.0003	0.009	0.023	nonnormal	mg/kg	15	1	6.7
BETA ENDOSULFAN	0.0006	0.0006	0.010	0.025	nonnormal	mg/kg	12	1	8.3
CHLORDANE	NA	NA	NA	NA	NA	NA	15	0	0.0
DDD (1,1-bis(CHLOROPHENYL)-2,2-DICHLOROETHANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DDE (1,1-bis(CHLOROPHENYL)-2,2-DICHLOROETHENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DDT (1,1-bis(CHLOROPHENYL)-2,2,2-TRICHLOROETHANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0001	0.0001	0.005	0.037	nonnormal	mg/kg	15	2	13.3
DIELDRIN	0.0002	0.0001	0.008	0.213	nonnormal	mg/kg	15	4	26.7
ENDOSULFAN	NA	NA	NA	NA	NA	NA	6	0	0.0
ENDOSULFAN SULFATE	0.0016	0.000049	0.009	1.636	nonnormal	mg/kg	14	7	50.0
ENDRIN	NA	NA	NA	NA	NA	NA	11	0	0.0
ENDRIN ALDEHYDE	NA	NA	NA	NA	NA	NA	3	0	0.0
GAMMA BHC (LINDANE)	0.0002	0.000027	0.006	0.084	nonnormal	mg/kg	15	3	20.0
HEPTACHLOR	0.00032	0.000032	0.008	0.287	nonnormal	mg/kg	11	1	9.1
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	10	0	0.0
METHOXYCHLOR	0.013	0.001	0.014	0.051	nonnormal	mg/kg	14	5	35.7
p,p'-DDD	0.0022	0.0002	0.005	0.015	nonnormal	mg/kg	12	3	25.0
p,p'-DDE	NA	NA	NA	NA	NA	NA	3	0	0.0
p,p'-DDT	0.0006	0.000029	0.003	0.175	nonnormal	mg/kg	12	5	41.7
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	15	0	0.0
PCB-1254 (AROCHLOR 1254)	0.17	0.046	0.035	0.074	nonnormal	mg/kg	10	2	20.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	15	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	15	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Plating Room  
Statistical Results for Semi-Volatile Organics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	21	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	21	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	21	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	21	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	21	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	21	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	21	0	0.0
4-NITROPHENOL	NA	NA	0.19	0.20	nonnormal	mg/kg	21	1	4.8
ACENAPHTHENE	0.15	NA	NA	NA	NA	NA	21	0	0.0
ACENAPHTYLENE	NA	NA	NA	NA	NA	NA	21	0	0.0
ANTHRACENE	0.59	0.59	0.22	0.25	nonnormal	mg/kg	21	1	4.8
BENZO(a)ANTHRACENE	3.3	0.091	0.34	0.37	nonnormal	mg/kg	21	2	9.5
BENZO(a)PYRENE	2.0	2.0	0.25	0.28	nonnormal	mg/kg	21	1	4.8
BENZO(b)FLUORANTHENE	3.8	3.8	0.35	0.35	nonnormal	mg/kg	21	1	4.8
BENZO(g,h,i)PERYLENE	NA	NA	NA	NA	NA	NA	21	0	0.0
BENZO(k)FLUORANTHENE	NA	NA	NA	NA	NA	NA	9	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	12	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	21	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.471	0.471	0.32	0.37	nonnormal	mg/kg	21	4	19.0
CARBAZOLE	NA	NA	NA	NA	nonnormal	mg/kg	9	0	0.0
CHRYSENE	3.2	0.066	0.4	0.5	nonnormal	mg/kg	21	2	9.5
DI-n-BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	16	0	0.0
DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	21	0	0.0

DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
DIBENZOFURAN	0.043	0.043	0.18	0.21	0.21	0.21	1	21	mg/kg	nonnormal	1	4.8
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
FLUORANTHENE	5.3	0.11	0.41	0.38	0.38	0.38	2	21	mg/kg	nonnormal	2	9.5
FLUORENE	0.11	0.11	0.18	0.18	0.18	0.18	1	21	mg/kg	nonnormal	1	4.8
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
PHENANTHRENE	3.1	3.1	0.31	0.33	0.33	0.33	1	21	mg/kg	nonnormal	1	4.8
PHENOL	NA	NA	NA	NA	NA	NA	0	21	NA	NA	0	0.0
PYRENE	5.7	0.075	0.43	0.41	0.41	0.41	2	21	mg/kg	nonnormal	2	9.5

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Plating Room  
Statistical Results for Volatile Organics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,1,1-TRICHLOROETHANE	0.0087	0.0087	0.019	0.015	nonnormal	mg/kg	49	1	2.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	47	0	0.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	49	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	15	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	36	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	15	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-CHLOROETHYL VINYL ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
2-HEXANONE	NA	NA	NA	NA	NA	NA	34	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	15	0	0.0
ACETONE	1.54	0.023	0.245	0.437	lognormal	mg/kg	34	30	88.2
ACROLEIN	NA	NA	NA	NA	NA	NA	3	0	0.0
ACRYLONITRILE	NA	NA	NA	NA	NA	NA	3	0	0.0
ALLYL CHLORIDE (3-CHLOROPROPENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	49	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	15	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	49	0	0.0
BROMOMETHANE	0.016	0.016	0.019	0.014	nonnormal	mg/kg	49	1	2.0
CARBON DISULFIDE	NA	NA	NA	NA	NA	NA	34	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	49	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	49	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	49	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	49	0	0.0



**Reservoir  
Statistical Results for Inorganics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	13400.0	4770.0	8286	9550	lognormal	mg/kg	17	17	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	17	0	0.0
ARSENIC	18.8	3.5	7.7	9.5	lognormal	mg/kg	17	17	100.0
BARIUM	125.0	18.2	53.2	65.7	lognormal	mg/kg	17	17	100.0
BERYLLIUM	0.81	0.27	0.4	0.4	nonnormal	mg/kg	17	14	82.4
CADMIUM	NA	NA	NA	NA	NA	NA	17	0	0.0
CALCIUM	68700.0	593.0	17407	98009	lognormal	mg/kg	17	17	100.0
CHROMIUM, TOTAL	15.6	6.5	10.5	12.0	lognormal	mg/kg	17	17	100.0
COBALT	11.7	5.0	8.0	9.0	lognormal	mg/kg	17	17	100.0
COPPER	157.0	18.7	46.3	59.9	lognormal	mg/kg	17	17	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	17	0	0.0
IRON	29700.0	10000.0	17564.7	19834.8	lognormal	mg/kg	17	17	100.0
LEAD	32.1	5.1	14.11	17.84	lognormal	mg/kg	17	17	100.0
MAGNESIUM	13300.0	2030.0	4567.6	5770.9	nonnormal	mg/kg	17	17	100.0
MANGANESE	1060.0	281.0	544.8	649.2	lognormal	mg/kg	17	17	100.0
MERCURY	0.4	0.11	0.17	0.19	nonnormal	mg/kg	17	3	17.6
MOLYBDENUM	22.0	12.1	11.7	15.4	nonnormal	mg/kg	17	9	52.9
NICKEL	27.5	9.5	15.9	18.2	lognormal	mg/kg	17	17	100.0
POTASSIUM	1110.0	287.0	731	825	normal	mg/kg	16	16	100.0
SELENIUM	0.56	0.56	0.7	0.8	nonnormal	mg/kg	17	1	5.9
SILVER	NA	NA	NA	NA	NA	NA	17	0	0.0
SODIUM	706.0	93.1	202	259	nonnormal	mg/kg	17	17	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	17	0	0.0
VANADIUM	17.1	6.1	11.5	13.2	lognormal	mg/kg	17	17	100.0
ZINC	1090.0	46.8	175.7	252.4	nonnormal	mg/kg	17	17	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for PCBs  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0015	0.001	0.004	0.009	nonnormal	mg/kg	9	4	44.4
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0001	0.000029	0.0012	0.0061	nonnormal	mg/kg	17	3	17.6
ALPHA ENDOSULFAN	0.0009	0.000044	0.0012	0.0056	lognormal	mg/kg	14	10	71.4
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0006	0.0006	0.006	0.008	nonnormal	mg/kg	17	1	5.9
BETA ENDOSULFAN	0.0053	0.0001	0.007	0.0145	nonnormal	mg/kg	14	6	42.9
CHLORDANE	NA	NA	NA	NA	NA	NA	17	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0009	0.0001	0.0004	0.0006	nonnormal	mg/kg	17	6	35.3
DIELDRIN	0.0036	0.0001	0.003	0.023	lognormal	mg/kg	12	8	66.7
ENDOSULFAN SULFATE	0.0032	0.0001	0.004	0.038	nonnormal	mg/kg	17	11	64.7
ENDRIN	0.0024	0.0002	0.004	0.019	nonnormal	mg/kg	16	7	43.8
ENDRIN ALDEHYDE	0.014	0.0002	0.005	0.016	lognormal	mg/kg	17	12	70.6
GAMMA BHC (LINDANE)	0.0004	0.0001	0.0010	0.0026	nonnormal	mg/kg	16	6	37.5
HEPTACHLOR	0.0021	0.0002	0.0012	0.0015	normal	mg/kg	12	5	41.7
HEPTACHLOR EPOXIDE	0.0049	0.0002	0.005	0.018	nonnormal	mg/kg	15	8	53.3
METHOXYCHLOR	0.024	0.0005	0.014	0.093	nonnormal	mg/kg	13	7	53.8
p,p'-DDD	0.0061	0.0001	0.002	0.010	nonnormal	mg/kg	17	12	70.6
p,p'-DDE	0.001	0.0001	0.004	0.081	nonnormal	mg/kg	12	6	50.0
p,p'-DDT	0.0049	0.0001	0.003	0.011	lognormal	mg/kg	17	12	70.6
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	17	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	17	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	17	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	17	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	17	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	17	0	0.0
PCB-1260 (AROCHLOR 1260)	0.079	0.02	0.04	0.04	nonnormal	mg/kg	17	2	11.8
TOXAPHENE	NA	NA	NA	NA	NA	NA	17	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Reservoir  
Statistical Results for Semi-Volatile Organics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	17	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	17	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	17	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	17	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	17	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	17	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	17	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	17	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	17	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	17	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	17	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	17	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	17	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	17	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	17	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	17	0	0.0
ANTHRACENE	0.14	0.12	0.23	0.26	nonnormal	mg/kg	17	2	11.8
BENZO(a)ANTHRACENE	0.5	0.04	0.22	0.39	nonnormal	mg/kg	17	7	41.2
BENZO(a)PYRENE	0.42	0.14	0.20	0.23	nonnormal	mg/kg	17	3	17.6
BENZO(b)FLUORANTHENE	0.78	0.062	0.24	0.33	nonnormal	mg/kg	17	5	29.4
BENZO(g,h,i)PERYLENE	0.15	0.15	0.21	0.23	nonnormal	mg/kg	17	1	5.9
BENZOIC ACID	NA	NA	NA	NA	NA	NA	17	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	17	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	17	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	17	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	17	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.2	0.058	0.3	0.4	nonnormal	mg/kg	17	3	17.6
CHRYSENE	0.5	0.041	0.3	0.6	nonnormal	mg/kg	17	6	35.3
Di-n-BUTYL PHTHALATE	0.086	0.086	0.5	0.7	nonnormal	mg/kg	14	1	7.1
Di-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	17	0	0.0
DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	17	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	17	0	0.0

DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
FLUORANTHENE	0.94	0.24	0.053	0.37	0.24	0.18	0.05	0.23	0.37	0.18	0.05	0	17	mg/kg	41.2	
FLUORENE	0.052	0.18	0.05	0.23	0.18	0.05	0.05	0.23	0.23	0.05	0.05	2	17	mg/kg	11.8	
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
INDENO(1,2,3-c,d)PYRENE	0.16	0.4	0.16	0.4	0.4	0.4	0.16	0.4	0.4	0.4	0.4	1	17	mg/kg	5.9	
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
PHENANTHRENE	0.61	0.21	0.041	0.31	0.21	0.21	0.041	0.31	0.31	0.21	0.041	5	17	mg/kg	29.4	
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	17	NA	NA	0.0
PYRENE	0.8	0.24	0.062	0.37	0.24	0.24	0.062	0.37	0.37	0.24	0.062	7	17	mg/kg	41.2	

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal).  
The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Reservoir  
Statistical Results for Volatile Organics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,1,1-TRICHLOROETHANE	0.003	0.003	0.009	0.010	nonnormal	mg/kg	22	1	4.5
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	20	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	37	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	22	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	39	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	22	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	39	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	22	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	39	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	22	0	0.0
2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	22	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	22	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	22	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	22	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	22	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	22	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	22	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	22	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	22	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	22	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	22	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	22	0	0.0
ETHYLENBENZENE	NA	NA	NA	NA	NA	NA	22	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	38	0	0.0

ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
P-CYME (p-ISOPROPYL TOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
i-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
TRICHLOROETHYLENE (TCE)	0.07	0.07	0.0021	0.010	0.013	0.013	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	nonnormal	7	7	31.8
TRICHLOROFUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal mode.

**Waste Oil Tanks  
Statistical Results for Inorganics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	13100.0	7690.0	10579	11275	lognormal	mg/kg	16	16	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	16	0	0.0
ARSENIC	12.4	2.4	6.2	7.8	lognormal	mg/kg	16	16	100.0
BARIUM	93.7	32.7	59.19	69.91	lognormal	mg/kg	16	16	100.0
BERYLLIUM	0.59	0.23	0.43	0.48	lognormal	mg/kg	16	16	100.0
CADMIUM	NA	NA	NA	NA	NA	NA	16	0	0.0
CALCIUM	60500.0	391.0	7713.8	29060.3	nonnormal	mg/kg	16	16	100.0
CHROMIUM, TOTAL	14.9	10.4	13.1	13.7	lognormal	mg/kg	16	16	100.0
COBALT	11.9	6.8	9.2	9.7	lognormal	mg/kg	16	16	100.0
COPPER	133.0	10.6	39.4	61.9	lognormal	mg/kg	16	16	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	16	0	0.0
IRON	20800.0	16800.0	19075.0	19626.7	lognormal	mg/kg	16	16	100.0
LEAD	52.5	10.1	18.07	23.35	nonnormal	mg/kg	16	16	100.0
MAGNESIUM	5370.0	2110.0	3168.8	3538.4	lognormal	mg/kg	16	16	100.0
MANGANESE	678.0	243.0	426.6	499.3	lognormal	mg/kg	16	16	100.0
MERCURY	0.12	0.12	0.17	0.18	nonnormal	mg/kg	16	1	6.2
MOLYBDENUM	18.7	11.8	10.7	13.8	nonnormal	mg/kg	16	7	43.8
NICKEL	28.7	16.2	19.2	20.7	nonnormal	mg/kg	16	16	100.0
POTASSIUM	1140.0	303.0	728	874	lognormal	mg/kg	15	15	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	16	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	16	0	0.0
SODIUM	229.0	80.7	124	146	lognormal	mg/kg	13	13	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	16	0	0.0
VANADIUM	17.3	8.3	13.9	15.3	lognormal	mg/kg	16	16	100.0
ZINC	216.0	51.0	96.9	119.9	lognormal	mg/kg	16	16	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for PCBs  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0012	0.000046	0.007	0.078	nonnormal	mg/kg	13	3	23.1
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	16	0	0.0
ALPHA ENDOSULFAN	0.0028	0.0003	0.003	0.007	nonnormal	mg/kg	14	4	28.6
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0043	0.0011	0.007	0.010	nonnormal	mg/kg	15	2	13.3
BETA ENDOSULFAN	0.0041	0.0002	0.01	0.14	nonnormal	mg/kg	16	6	37.5
CHLORDANE	NA	NA	NA	NA	NA	NA	16	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0021	0.000039	0.0006	0.0014	nonnormal	mg/kg	16	5	31.2
DELDRIN	0.0039	0.0011	0.007	0.012	nonnormal	mg/kg	12	3	25.0
ENDOSULFAN SULFATE	0.013	0.0004	0.01	0.03	nonnormal	mg/kg	16	6	37.5
ENDRIN	0.0088	0.0001	0.006	0.031	nonnormal	mg/kg	16	6	37.5
ENDRIN ALDEHYDE	0.043	0.0003	0.011	0.082	nonnormal	mg/kg	16	8	50.0
GAMMA BHC (LINDANE)	0.0006	0.0001	0.002	0.003	nonnormal	mg/kg	16	3	18.8
HEPTACHLOR	0.0001	0.0001	0.002	0.004	nonnormal	mg/kg	14	1	7.1
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	11	0	0.0
METHOXYCHLOR	0.025	0.0034	0.015	0.023	nonnormal	mg/kg	15	5	33.3
p,p'-DDD	0.0056	0.0011	0.007	0.011	nonnormal	mg/kg	14	2	14.3
p,p'-DDE	0.0028	0.000021	0.008	0.165	nonnormal	mg/kg	14	6	42.9
p,p'-DDT	0.008	0.0002	0.007	0.039	nonnormal	mg/kg	14	4	28.6
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	16	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	16	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	16	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	16	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	16	0	0.0
PCB-1254 (AROCHLOR 1254)	0.17	0.17	0.02	0.03	nonnormal	mg/kg	16	1	6.2
PCB-1260 (AROCHLOR 1260)	0.15	0.15	0.05	0.06	nonnormal	mg/kg	16	1	6.2
TOXAPHENE	NA	NA	NA	NA	NA	NA	16	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
DIBENZ(a,h)ANTHRACENE	0.11	0.11	0.5	0.7	0.7	0.7	0.7	0.7	mg/kg	16	1	6.2
DIBENZOFURAN	0.36	0.36	0.4	0.6	0.6	0.6	0.6	0.6	mg/kg	16	1	6.2
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
FLUORANTHENE	2.7	2.7	0.5	0.9	0.9	0.9	0.9	0.9	mg/kg	16	1	6.2
FLUORENE	0.45	0.45	0.4	0.6	0.6	0.6	0.6	0.6	mg/kg	16	1	6.2
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
INDENO(1,2,3-c,d)PYRENE	0.45	0.45	0.8	1.1	1.1	1.1	1.1	1.1	mg/kg	16	1	6.2
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
NAPHTHALENE	2.5	2.5	0.3	0.7	0.7	0.7	0.7	0.7	mg/kg	27	6	22.2
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
PHENANTHRENE	2.9	2.9	0.4	0.6	0.6	0.6	0.6	0.6	mg/kg	16	4	25.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	0	0.0
PYRENE	2.3	2.3	0.5	0.9	0.9	0.9	0.9	0.9	mg/kg	16	1	6.2

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Waste Oil Tanks  
Statistical Results for Volatile Organics  
All Soil Sampled Depths**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,1,1-TRICHLOROETHANE	0.0025	0.0025	0.008	0.010	nonnormal	mg/kg	18	1	5.6
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,1-DICHLOROETHANE	0.011	0.0016	0.008	0.011	nonnormal	mg/kg	18	5	27.8
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	15	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2,4-TRIMETHYLBENZENE	0.07	0.0026	0.013	0.016	nonnormal	mg/kg	18	4	22.2
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	17	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	34	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.19	0.0046	0.024	0.033	nonnormal	mg/kg	18	4	22.2
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	18	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	18	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	18	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	18	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	18	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	18	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	18	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	18	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	18	0	0.0
CHLOROETHANE	0.0045	0.0045	0.011	0.013	nonnormal	mg/kg	18	1	5.6
CHLOROFORM	NA	NA	NA	NA	NA	NA	18	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
cis-1,2-DICHLOROETHYLENE	0.11	0.002	0.014	0.021	nonnormal	mg/kg	18	7	38.9
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	18	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	17	0	0.0
ETHYLBENZENE	0.0013	0.0013	0.008	0.012	nonnormal	mg/kg	18	2	11.1
ISOPROPYLBENZENE (CUMENE)	0.0028	0.0027	0.008	0.010	nonnormal	mg/kg	18	2	11.1
n-BUTYLBENZENE	0.047	0.0032	0.011	0.013	nonnormal	mg/kg	18	3	16.7
n-PROPYLBENZENE	0.0078	0.0014	0.008	0.011	nonnormal	mg/kg	18	3	16.7
P-CYMELE (p-ISOPROPYLTOLUENE)	0.053	0.014	0.012	0.014	nonnormal	mg/kg	18	2	11.1

SEC-BUTYLBENZENE	0.011	0.0014	0.009	0.011	nonnormal	mg/kg	18	2	11.1
STYRENE	NA	NA	NA	NA	NA	NA	18	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	18	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	18	0	0.0
TOLUENE	0.0013	0.0013	0.008	0.011	nonnormal	mg/kg	18	1	5.6
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	18	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	18	0	0.0
TRICHLOROETHYLENE (TCE)	0.015	0.0015	0.009	0.012	nonnormal	mg/kg	18	3	16.7
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	18	0	0.0
VINYL CHLORIDE	0.015	0.015	0.009	0.010	nonnormal	mg/kg	18	1	5.6
XYLENES, TOTAL	0.013	0.0018	0.009	0.011	nonnormal	mg/kg	18	3	16.7

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Groundwater - Shallow Zone  
Statistical Results for Inorganics**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	5020.0	904.0	ug/l	9	9	100.0
ANTIMONY	NA	NA	NA	13	0	0.0
ARSENIC	10.5	2.2	ug/l	13	11	84.6
BARIUM	344.0	37.6	ug/l	13	13	100.0
BERYLLIUM	1.1	0.23	ug/l	6	4	66.7
CADMIUM	NA	NA	NA	12	0	0.0
CALCIUM	260000.0	84400.0	ug/l	13	13	100.0
CHROMIUM, TOTAL	27.2	5.8	ug/l	13	7	53.8
COBALT	NA	NA	NA	13	0	0.0
COPPER	52.9	17.0	ug/l	6	6	100.0
CYANIDE	NA	NA	NA	13	0	0.0
IRON	15300.0	1460.0	ug/l	11	11	100.0
LEAD	79.6	4.8	ug/l	13	10	76.9
MAGNESIUM	58300.0	13800.0	ug/l	13	13	100.0
MANGANESE	4000.0	216.0	ug/l	11	11	100.0
MERCURY	NA	NA	NA	13	0	0.0
MOLYBDENUM	NA	NA	NA	13	0	0.0
NICKEL	47.5	23.2	ug/l	13	2	15.4
POTASSIUM	4000.0	2070.0	ug/l	9	9	100.0
SELENIUM	NA	NA	NA	12	0	0.0
SILVER	10.0	10.0	ug/l	13	1	7.7
SODIUM	84200.0	13900.0	ug/l	13	13	100.0
THALLIUM	NA	NA	NA	12	0	0.0
VANADIUM	12.4	3.8	ug/l	13	7	53.8
ZINC	34.9	34.9	ug/l	1	1	100.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater - Shallow Zone  
Statistical Results for PCBs**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0015	0.001	ug/l	11	2	18.2
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0005	0.0002	ug/l	13	2	15.4
ALPHA ENDOSULFAN	0.0015	0.0011	ug/l	11	3	27.3
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.01	0.01	ug/l	8	2	25.0
BETA ENDOSULFAN	0.0041	0.001	ug/l	10	3	30.0
CHLORDANE	NA	NA	NA	13	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.007	0.0004	ug/l	13	5	38.5
DIELDRIN	0.001	0.001	ug/l	11	1	9.1
ENDOSULFAN SULFATE	0.0014	0.0005	ug/l	9	3	33.3
ENDRIN	0.0062	0.0009	ug/l	11	2	18.2
ENDRIN ALDEHYDE	0.0075	0.0008	ug/l	13	9	69.2
GAMMA BHC (LINDANE)	0.0043	0.0011	ug/l	12	3	25.0
HEPTACHLOR	0.0022	0.0022	ug/l	10	1	10.0
HEPTACHLOR EPOXIDE	0.0036	0.0009	ug/l	9	3	33.3
METHOXYCHLOR	0.0096	0.0031	ug/l	13	5	38.5
p,p'-DDD	0.0082	0.0019	ug/l	9	3	33.3
p,p'-DDE	0.0033	0.002	ug/l	12	3	25.0
p,p'-DDT	0.0007	0.0007	ug/l	11	1	9.1
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	13	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	13	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	13	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	13	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	13	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	13	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	13	0	0.0
TOXAPHENE	NA	NA	NA	13	0	0.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater Background - Shallow Zone  
Statistical Results for Inorganics**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	1260.0	1260.0	ug/l	1	1	100.0
ANTIMONY	NA	NA	NA	1	0	0.0
ARSENIC	NA	NA	NA	1	0	0.0
BARIUM	174.0	174.0	ug/l	1	1	100.0
CADMIUM	NA	NA	NA	1	0	0.0
CALCIUM	199000.0	199000.0	ug/l	1	1	100.0
CHROMIUM, TOTAL	NA	NA	NA	1	0	0.0
COBALT	NA	NA	NA	1	0	0.0
COPPER	17.4	17.4	ug/l	1	1	100.0
CYANIDE	NA	NA	NA	1	0	0.0
IRON	692.0	692.0	ug/l	1	1	100.0
LEAD	58.8	58.8	ug/l	1	1	100.0
MAGNESIUM	38500.0	38500.0	ug/l	1	1	100.0
MANGANESE	720.0	720.0	ug/l	1	1	100.0
MERCURY	NA	NA	NA	1	0	0.0
MOLYBDENUM	NA	NA	NA	1	0	0.0
NICKEL	NA	NA	NA	1	0	0.0
SELENIUM	NA	NA	NA	1	0	0.0
SILVER	NA	NA	NA	1	0	0.0
SODIUM	331000.0	331000.0	ug/l	1	1	100.0
THALLIUM	NA	NA	NA	1	0	0.0
VANADIUM	NA	NA	NA	1	0	0.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater Background - Shallow Zone  
Statistical Results for PCBs**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0026	0.0026	ug/l	1	1	100.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	1	0	0.0
ALPHA ENDOSULFAN	NA	NA	NA	1	0	0.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	1	0	0.0
BETA ENDOSULFAN	NA	NA	NA	1	0	0.0
CHLORDANE	NA	NA	NA	1	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	1	0	0.0
DIELDRIN	NA	NA	NA	1	0	0.0
ENDOSULFAN SULFATE	0.028	0.028	ug/l	1	1	100.0
ENDRIN	NA	NA	NA	1	0	0.0
ENDRIN ALDEHYDE	NA	NA	NA	1	0	0.0
GAMMA BHC (LINDANE)	NA	NA	NA	1	0	0.0
HEPTACHLOR	0.0027	0.0027	ug/l	1	1	100.0
HEPTACHLOR EPOXIDE	NA	NA	NA	1	0	0.0
METHOXYCHLOR	NA	NA	NA	1	0	0.0
p,p'-DDD	NA	NA	NA	1	0	0.0
p,p'-DDE	NA	NA	NA	1	0	0.0
p,p'-DDT	NA	NA	NA	1	0	0.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	1	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	1	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	1	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	1	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	1	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	1	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	1	0	0.0
TOXAPHENE	NA	NA	NA	1	0	0.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater - Deep Zone  
Statistical Results for Inorganics**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	1000.0	106.0	ug/l	2	2	100.0
ANTIMONY	NA	NA	NA	10	0	0.0
ARSENIC	11.9	11.9	ug/l	10	1	10.0
BARIUM	222.0	36.8	ug/l	10	10	100.0
BERYLLIUM	NA	NA	NA	9	0	0.0
CADMIUM	NA	NA	NA	10	0	0.0
CALCIUM	157000.0	86900.0	ug/l	10	10	100.0
CHROMIUM, TOTAL	NA	NA	NA	10	0	0.0
COBALT	2.9	2.9	ug/l	5	1	20.0
COPPER	NA	NA	NA	10	0	0.0
CYANIDE	4460.0	284.0	ug/l	7	7	100.0
IRON	6.0	1.7	ug/l	10	4	40.0
LEAD	38300.0	24800.0	ug/l	10	10	100.0
MAGNESIUM	1440.0	316.0	ug/l	10	10	100.0
MANGANESE	NA	NA	NA	10	0	0.0
MERCURY	NA	NA	NA	10	0	0.0
MOLYBDENUM	NA	NA	NA	10	0	0.0
NICKEL	NA	NA	NA	10	0	0.0
POTASSIUM	6040.0	1860.0	ug/l	6	6	100.0
SELENIUM	NA	NA	NA	10	0	0.0
SILVER	NA	NA	NA	10	0	0.0
SODIUM	94300.0	25300.0	ug/l	10	10	100.0
THALLIUM	46.8	46.8	ug/l	10	1	10.0
VANADIUM	6.0	3.4	ug/l	10	2	20.0
ZINC	33.9	33.9	ug/l	1	1	100.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater - Deep Zone  
Statistical Results for PCBs**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0025	0.0025	ug/l	7	1	14.3
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0051	0.0003	ug/l	9	6	66.7
ALPHA ENDOSULFAN	0.0013	0.0013	ug/l	6	1	16.7
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0089	0.0061	ug/l	8	2	25.0
BETA ENDOSULFAN	0.0051	0.0046	ug/l	9	2	22.2
CHLORDANE	NA	NA	NA	9	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.011	0.0016	ug/l	8	5	62.5
DIELDRIN	NA	NA	NA	5	0	0.0
ENDOSULFAN SULFATE	0.0068	0.0016	ug/l	5	2	40.0
ENDRIN	0.001	0.001	ug/l	5	1	20.0
ENDRIN ALDEHYDE	0.003	0.0008	ug/l	8	4	50.0
GAMMA BHC (LINDANE)	0.0012	0.0012	ug/l	5	1	20.0
HEPTACHLOR	NA	NA	NA	4	0	0.0
HEPTACHLOR EPOXIDE	0.0065	0.0018	ug/l	9	6	66.7
METHOXYCHLOR	0.09	0.011	ug/l	8	4	50.0
p,p'-DDD	0.0019	0.0019	ug/l	7	1	14.3
p,p'-DDE	0.15	0.022	ug/l	6	2	33.3
p,p'-DDT	0.016	0.0032	ug/l	8	3	37.5
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	9	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	9	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	9	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	9	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	9	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	9	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	9	0	0.0
TOXAPHENE	NA	NA	NA	9	0	0.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater Background - Deep Zone  
Statistical Results for Inorganics**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ANTIMONY	NA	NA	NA	2	0	0.0
ARSENIC	NA	NA	NA	2	0	0.0
BARIUM	123.0	68.6	ug/l	2	2	100.0
CADMIUM	NA	NA	NA	2	0	0.0
CALCIUM	141000.0	132000.0	ug/l	2	2	100.0
CHROMIUM, TOTAL	NA	NA	NA	2	0	0.0
COBALT	NA	NA	NA	2	0	0.0
COPPER	NA	NA	NA	2	0	0.0
CYANIDE	NA	NA	NA	2	0	0.0
IRON	NA	NA	NA	2	0	0.0
LEAD	32200.0	29200.0	ug/l	2	2	100.0
MAGNESIUM	93.3	93.3	ug/l	1	1	100.0
MANGANESE	NA	NA	NA	2	0	0.0
MERCURY	NA	NA	NA	2	0	0.0
MOLYBDENUM	NA	NA	NA	2	0	0.0
NICKEL	NA	NA	NA	2	0	0.0
SELENIUM	NA	NA	NA	2	0	0.0
SILVER	NA	NA	NA	2	0	0.0
SODIUM	116000.0	114000.0	ug/l	2	2	100.0
THALLIUM	NA	NA	NA	2	0	0.0
VANADIUM	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.

**Groundwater Background - Deep Zone  
Statistical Results for PCBs**

Analyte	Maximum Detected	Minimum Detected	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0014	0.0008	ug/l	2	2	100.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	2	0	0.0
ALPHA ENDOSULFAN	NA	NA	NA	2	0	0.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0027	0.0027	ug/l	2	1	50.0
BETA ENDOSULFAN	NA	NA	NA	2	0	0.0
CHLORDANE	NA	NA	NA	2	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	2	0	0.0
DIELDRIN	NA	NA	NA	2	0	0.0
ENDOSULFAN SULFATE	NA	NA	NA	2	0	0.0
ENDRIN	NA	NA	NA	2	0	0.0
ENDRIN ALDEHYDE	NA	NA	NA	2	0	0.0
GAMMA BHC (LINDANE)	NA	NA	NA	2	0	0.0
HEPTACHLOR	0.0035	0.0035	ug/l	1	1	100.0
HEPTACHLOR EPOXIDE	NA	NA	NA	1	0	0.0
METHOXYCHLOR	NA	NA	NA	2	0	0.0
p,p'-DDD	NA	NA	NA	1	0	0.0
p,p'-DDE	NA	NA	NA	2	0	0.0
p,p'-DDT	NA	NA	NA	2	0	0.0
PCB-1016 (AROCHELOR 1016)	NA	NA	NA	2	0	0.0
PCB-1221 (AROCHELOR 1221)	NA	NA	NA	2	0	0.0
PCB-1232 (AROCHELOR 1232)	NA	NA	NA	2	0	0.0
PCB-1242 (AROCHELOR 1242)	NA	NA	NA	2	0	0.0
PCB-1248 (AROCHELOR 1248)	NA	NA	NA	2	0	0.0
PCB-1254 (AROCHELOR 1254)	NA	NA	NA	2	0	0.0
PCB-1260 (AROCHELOR 1260)	NA	NA	NA	2	0	0.0
TOXAPHENE	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.



**Little Choconut Creek  
Statistical Results for Inorganics  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	9450.0	1920.0	6578	59527	lognormal	mg/kg	4	4	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	4	0	0.0
ARSENIC	6.1	4.4	5.4	6.4	lognormal	mg/kg	4	4	100.0
BARIUM	71.3	14.5	40.85	250.59	lognormal	mg/kg	4	4	100.0
BERYLLIUM	0.47	0.21	0.33	0.80	lognormal	mg/kg	4	3	75.0
CADMIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
CALCIUM	7750.0	1630.0	4535	60646	lognormal	mg/kg	4	4	100.0
CHROMIUM, TOTAL	16.2	3.5	10.8	72.9	lognormal	mg/kg	4	4	100.0
COBALT	9.4	1.7	6.8	10.5	normal	mg/kg	4	4	100.0
COPPER	28.8	5.7	20.0	194.2	lognormal	mg/kg	4	4	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	4	0	0.0
IRON	20100.0	4070.0	15817.5	208175.8	nonnormal	mg/kg	4	4	100.0
LEAD	55.5	11.6	36.20	363.68	lognormal	mg/kg	4	4	100.0
MAGNESIUM	5100.0	577.0	2874.3	105887.4	lognormal	mg/kg	4	4	100.0
MANGANESE	410.0	60.5	291.6	463.5	normal	mg/kg	4	4	100.0
MERCURY	0.22	0.17	0.19	0.22	lognormal	mg/kg	4	2	50.0
MOLYBDENUM	16.8	15.5	12.1	25.9	lognormal	mg/kg	4	2	50.0
NICKEL	21.1	4.3	14.4	122.8	lognormal	mg/kg	4	4	100.0
POTASSIUM	926.0	269.0	679	59791	lognormal	mg/kg	3	3	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
SILVER	0.59	0.59	0.5	0.6	lognormal	mg/kg	4	1	25.0
SODIUM	121.0	72.7	97	192	lognormal	mg/kg	3	3	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	4	0	0.0
VANADIUM	15.9	3.3	9.9	64.1	lognormal	mg/kg	4	4	100.0
ZINC	383.0	114.0	243.5	402.6	normal	mg/kg	4	4	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Little Choconut Creek  
Statistical Results for PCBs  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0012	0.001	0.002	0.040	nonnormal	mg/kg	4	3	75.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0001	0.0001	0.0013	0.0021	normal	mg/kg	4	1	25.0
ALPHA ENDOSULFAN	0.0028	0.0012	0.0023	0.0051	lognormal	mg/kg	4	3	75.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.016	0.0004	0.008	347.589	lognormal	mg/kg	4	2	50.0
BETA ENDOSULFAN	0.0003	0.0002	0.000	0.001	lognormal	mg/kg	2	2	100.0
CHLORDANE	NA	NA	NA	NA	NA	NA	4	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0003	0.0003	0.0004	0.0006	lognormal	mg/kg	4	1	25.0
DIELDRIN	0.0008	0.0006	0.001	0.001	lognormal	mg/kg	2	2	100.0
ENDOSULFAN SULFATE	0.0011	0.0006	0.004	5.201	lognormal	mg/kg	4	3	75.0
ENDRIN	0.0025	0.0007	0.003	187.064	lognormal	mg/kg	3	2	66.7
ENDRIN ALDEHYDE	0.0009	0.0003	0.004	9.167E+11	lognormal	mg/kg	3	2	66.7
GAMMA BHC (LINDANE)	0.0001	0.0001	0.0013	0.0021	normal	mg/kg	4	1	25.0
HEPTACHLOR	0.0002	0.0002	0.0012	2544.4109	lognormal	mg/kg	3	1	33.3
HEPTACHLOR EPOXIDE	0.0012	0.0004	0.006	444.416	lognormal	mg/kg	4	2	50.0
METHOXYCHLOR	0.019	0.0004	0.010	20152.865	lognormal	mg/kg	4	3	75.0
p,p'-DDD	0.0002	0.0002	0.005	0.008	normal	mg/kg	4	1	25.0
p,p'-DDE	NA	NA	NA	NA	NA	NA	3	0	0.0
p,p'-DDT	0.0004	0.0003	0.004	487.372	lognormal	mg/kg	4	2	50.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	4	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	4	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	4	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Little Choconut Creek  
Statistical Results for Semi-Volatile Organics  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (l)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	8	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	8	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	8	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	8	0	0.0
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
2-METHYLNAPHTHALENE	0.067	0.067	0.22	0.34	normal	mg/kg	4	1	25.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	4	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	4	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	4	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	4	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	4	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	4	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	4	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	4	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	4	0	0.0
ANTHRACENE	0.34	0.34	0.30	0.37	lognormal	mg/kg	4	1	25.0
BENZO(a)ANTHRACENE	0.97	0.2	0.40	3.99	nonnormal	mg/kg	4	3	75.0
BENZO(a)PYRENE	0.89	0.17	0.35	5.26	nonnormal	mg/kg	4	3	75.0
BENZO(b)FLUORANTHENE	1.5	0.24	0.56	17.71	lognormal	mg/kg	4	3	75.0
BENZO(g,h,i)PERYLENE	0.41	0.077	0.20	2.94	lognormal	mg/kg	4	3	75.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	4	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	4	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	4	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.15	0.083	0.19	21.35	lognormal	mg/kg	3	2	66.7
CHRYSENE	1.0	0.2	0.45	3.99	lognormal	mg/kg	4	3	75.0

DI-n-BUTYL PHTHALATE	0.068	0.068	0.5	0.8	normal	mg/kg	4	1	25.0
DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	4	0	0.0
DIBENZ(a,h)ANTHRACENE	0.12	0.12	0.21	0.41	lognormal	mg/kg	4	1	25.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	4	0	0.0
DIETHYL PHTHALATE	NA	NA	NA	NA	lognormal	mg/kg	4	4	100.0
DIMETHYL PHTHALATE	1.9	0.058	0.62	1986.90	lognormal	mg/kg	4	1	25.0
FLUORANTHENE	0.2	0.2	0.22	0.26	lognormal	mg/kg	4	0	0.0
FLUORENE	NA	NA	NA	NA	NA	NA	4	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	nonnormal	mg/kg	4	2	50.0
HEXACHLOROETHANE	0.061	0.058	0.22	19.93	NA	NA	4	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	4	0	0.0
ISOPHORONE	NA	NA	NA	NA	lognormal	mg/kg	8	2	25.0
N-NITROSODI-n-PROPYLAMINE	0.21	0.0015	0.13	14.43	lognormal	mg/kg	4	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	4	0	0.0
NAPHTHALENE	NA	NA	NA	NA	lognormal	mg/kg	4	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
PENTACHLOROPHENOL	1.7	0.09	0.53	451.87	lognormal	mg/kg	4	3	75.0
PHENANTHRENE	NA	NA	NA	NA	NA	NA	4	0	0.0
PHENOL	1.4	0.071	0.53	192.97	lognormal	mg/kg	4	4	100.0
PYRENE									

NA - not applicable. The analyte was not detected in any samples.

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**Little Choconut Creek  
Statistical Results for Volatile Organics  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	4	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	4	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	4	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	4	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	4	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	4	0	0.0
BENZENE	NA	NA	NA	NA	NA	4	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	4	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	4	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	4	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	4	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	4	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	4	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	4	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	4	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	4	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	4	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	4	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	8	0	0.0
ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	4	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	4	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	4	0	0.0
P-CYME (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	4	0	0.0

SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
TRICHLOROETHYLENE (TCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Background for Little Choconut Creek  
Statistical Results for Inorganics  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALUMINUM	6840.0	6030.0	6435	8239	lognormal	mg/kg	2	2	100.0
ANTIMONY	NA	NA	NA	NA	NA	NA	2	0	0.0
ARSENIC	5.2	3.1	3.1	7.9E+07	lognormal	mg/kg	2	1	50.0
BARIUM	42.5	31.0	36.75	79.95	lognormal	mg/kg	2	2	100.0
BERYLLIUM	0.24	0.21	0.23	0.29	lognormal	mg/kg	2	2	100.0
CADMIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
CALCIUM	32100.0	17700.0	24900.0	260425.1	lognormal	mg/kg	2	2	100.0
CHROMIUM, TOTAL	9.9	8.7	9.3	12.0	lognormal	mg/kg	2	2	100.0
COBALT	7.7	6.9	7.3	9.0	lognormal	mg/kg	2	2	100.0
COPPER	26.8	12.2	19.5	1214.3	lognormal	mg/kg	2	2	100.0
CYANIDE	NA	NA	NA	NA	NA	NA	2	0	0.0
IRON	17600.0	15800.0	16700.0	20628.2	lognormal	mg/kg	2	2	100.0
LEAD	19.5	15.3	17.40	29.86	lognormal	mg/kg	2	2	100.0
MAGNESIUM	3440.0	2840.0	3140.0	4697.4	lognormal	mg/kg	2	2	100.0
MANGANESE	584.0	397.0	490.5	1420.7	lognormal	mg/kg	2	2	100.0
MERCURY	NA	NA	NA	NA	NA	NA	2	0	0.0
MOLYBDENUM	15.0	14.0	14.5	16.6	lognormal	mg/kg	2	2	100.0
NICKEL	19.3	14.1	16.7	36.2	lognormal	mg/kg	2	2	100.0
POTASSIUM	889.0	661.0	775	1584	lognormal	mg/kg	2	2	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	2	0	0.0
SODIUM	118.0	118.0	118	118	lognormal	mg/kg	1	1	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
VANADIUM	11.5	9.5	10.5	15.7	lognormal	mg/kg	2	2	100.0
ZINC	138.0	71.7	104.9	1763.8	lognormal	mg/kg	2	2	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Background for Little Choconut Creek  
Statistical Results for PCBs  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0006	0.0006	0.003	8.239E+12	lognormal	mg/kg	2	1	50.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	2	0	0.0
ALPHA ENDOSULFAN	0.0014	0.0013	0.0014	0.0016	lognormal	mg/kg	2	2	100.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.013	0.013	0.010	0.512	lognormal	mg/kg	2	1	50.0
BETA ENDOSULFAN	NA	NA	NA	NA	NA	NA	1	0	0.0
CHLORDANE	NA	NA	NA	NA	NA	NA	2	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	2	0	0.0
DIELDRIN	NA	NA	NA	NA	NA	NA	1	0	0.0
ENDOSULFAN SULFATE	0.0004	0.0004	0.000	0.000	lognormal	mg/kg	2	2	100.0
ENDRIN	0.0045	0.0001	0.002	3.307E+39	lognormal	mg/kg	2	2	100.0
ENDRIN ALDEHYDE	0.0014	0.0006	0.001	0.118	lognormal	mg/kg	2	2	100.0
GAMMA BHC (LINDANE)	NA	NA	NA	NA	NA	NA	2	0	0.0
HEPTACHLOR	NA	NA	NA	NA	NA	NA	2	0	0.0
HEPTACHLOR EPOXIDE	0.0004	0.0004	0.005	6.778E+25	lognormal	mg/kg	2	1	50.0
METHOXYCHLOR	0.006	0.0024	0.004	1.127	lognormal	mg/kg	2	2	100.0
P,p'-DDD	NA	NA	NA	NA	NA	NA	2	0	0.0
P,p'-DDE	NA	NA	NA	NA	NA	NA	1	0	0.0
P,p'-DDT	0.0005	0.0005	0.003	2.890E+15	lognormal	mg/kg	2	1	50.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1254 (AROCHLOR 1254)	0.16	0.16	0.086	2.478E+18	lognormal	mg/kg	2	1	50.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	2	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.



**Background for Little Choconut Creek  
Statistical Results for Semi-Volatile Organics  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution Units	Number of Samples	Number of Detects	Detection Percentage
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	2	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	2	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	2	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	2	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	2	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	2	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	2	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	2	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	2	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	2	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	2	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	2	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	2	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	2	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	2	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	2	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	2	0	0.0
ANTHRACENE	NA	NA	NA	NA	NA	2	0	0.0
BENZO(a)ANTHRACENE	0.12	0.064	0.09	1.23	lognormal	2	0	0.0
BENZO(a)PYRENE	0.097	0.054	0.08	0.72	lognormal	2	2	100.0
BENZO(b)FLUORANTHENE	0.17	0.045	0.11	13785.00	lognormal	2	2	100.0
BENZO(a,h,i)PERYLENE	NA	NA	NA	NA	NA	2	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	2	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	2	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	2	0	0.0
bis(2-CHLOROETHOXY)METHANE	NA	NA	NA	NA	NA	2	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	2	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	2	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	0.094	0.076	0.09	0.13	lognormal	2	2	100.0
CHRYSENE	0.12	0.08	0.10	0.32	lognormal	2	2	100.0

DI-n-BUTYL PHTHALATE	0.074	0.074	0.074	0.3	1.5E+11	lognormal	mg/kg	2	1	50.0
DI-n-OCTYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
FLUORANTHENE	0.2	0.11	0.16	0.16	1.64	lognormal	mg/kg	2	2	100.0
FLUORENE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PHENANTHRENE	0.16	0.048	0.10	0.10	1579.55	lognormal	mg/kg	2	2	100.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PYRENE	0.16	0.11	0.14	0.14	0.37	lognormal	mg/kg	2	2	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Background for Little Choconut Creek  
Statistical Results for Volatile Organics  
Sediment Interval (0 to 1 foot)**

Analyte	Maximum Detected	Minimum Detected	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (1)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	2	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	2	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	2	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	2	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	2	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	2	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
P-CYME (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	2	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0

STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
1-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TRICHLOROETHYLENE (TCE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
XYLENES, TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal).  
The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Little Choconut Creek  
Statistical Results for Inorganics  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ANTIMONY	NA	NA	NA	NA	NA	NA	3	0	0.0
ARSENIC	2.9	2.0	4.6	1419.8	lognormal	ug/l	3	2	66.7
BARIIUM	64.0	24.0	41.4	395.6	lognormal	ug/l	3	3	100.0
BERYLLIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
CADMIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
CALCIUM	93900.0	36100.0	57817	645767	lognormal	ug/l	3	3	100.0
CHROMIUM, TOTAL	6.0	6.0	8.3	17.3	nonnormal	ug/l	3	1	33.3
COBALT	NA	NA	NA	NA	NA	NA	3	0	0.0
COPPER	13.3	13.3	7.8	148.9	nonnormal	ug/l	3	1	33.3
CYANIDE	NA	NA	NA	NA	NA	NA	3	0	0.0
IRON	665.0	63.4	274.5	7.8E+08	lognormal	ug/l	3	3	100.0
LEAD	3.2	3.2	3.6	4.3	nonnormal	ug/l	3	1	33.3
MAGNESIUM	16700.0	7460.0	10698.3	70450.6	lognormal	ug/l	3	3	100.0
MANGANESE	34.5	3.5	16.9	4.4E+06	lognormal	ug/l	3	3	100.0
MERCURY	NA	NA	NA	NA	NA	NA	3	0	0.0
MOLYBDENUM	NA	NA	NA	NA	NA	NA	3	0	0.0
NICKEL	NA	NA	NA	NA	NA	NA	3	0	0.0
POTASSIUM	2130.0	1370.0	1763	3048	lognormal	ug/l	3	3	100.0
SELENIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
SILVER	NA	NA	NA	NA	NA	NA	3	0	0.0
SODIUM	38300.0	15900.0	27700	184313	lognormal	ug/l	3	3	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
VANADIUM	NA	NA	NA	NA	NA	NA	3	0	0.0
ZINC	29.9	11.7	19.7	156.0	lognormal	ug/l	3	3	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

(2) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Little Choconut Creek  
Statistical Results for Organics  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	6	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	3	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	3	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
BROMODICHLOROMETHANE	0.6	0.6	0.37	4.06	nonnormal	ug/l	3	1	33.3
BROMOFORM	1.1	1.1	0.53	521.95	nonnormal	ug/l	3	1	33.3
BROMOMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
CHLOROFORM	0.33	0.33	0.36	0.42	nonnormal	ug/l	3	1	33.3
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	3	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	3	0	0.0
DIBROMOCHLOROMETHANE	0.96	0.96	0.49	141.04	nonnormal	ug/l	3	1	33.3
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
DICHLORODIFLUOROMETHANE	0.38	0.38	0.5	0.6	nonnormal	ug/l	3	1	33.3
DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	3	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	6	0	0.0
ISOPROBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	3	0	0.0

M-XYLENE (1,3-DIMETHYLBENZENE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
METHYLENE CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
n-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
O-XYLENE (1,2-DIMETHYLBENZENE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
P-CYME (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TRICHLOROETHYLENE (TCE)	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	3	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

(2) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

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**Little Choconut Creek  
Statistical Results for PCBs  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	NA	NA	NA	NA	NA	NA	3	0	0.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
ALPHA ENDOSULFAN	NA	NA	NA	NA	NA	NA	2	0	0.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	3	0	0.0
BETA ENDOSULFAN	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLORDANE	NA	NA	NA	NA	NA	NA	3	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0018	0.0018	0.0012	66.8201	lognormal	ug/l	2	1	50.0
ENDOSULFAN SULFATE	0.01	0.0091	0.05	5.22E+07	lognormal	ug/l	3	2	66.7
ENDRIN	0.0031	0.0031	0.018	18243.181	nonnormal	ug/l	3	1	33.3
ENDRIN ALDEHYDE	NA	NA	NA	NA	NA	NA	2	0	0.0
GAMMA BHC (LINDANE)	0.013	0.013	0.013	0.014	lognormal	ug/l	2	1	50.0
HEPTACHLOR	NA	NA	NA	NA	NA	NA	3	0	0.0
HEPTACHLOR EPOXIDE	0.003	0.003	0.018	25555.043	nonnormal	ug/l	3	1	33.3
METHOXYCHLOR	NA	NA	NA	NA	NA	NA	3	0	0.0
p,p'-DDD	0.018	0.006	0.016	3.226	lognormal	ug/l	3	2	66.7
p,p'-DDE	NA	NA	NA	NA	NA	NA	3	0	0.0
p,p'-DDT	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	3	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	3	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	3	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

(2) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

**Little Choconut Creek  
Statistical Results for Semi-Volatile Organics  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	6	0	0.0
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	NA	3	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	NA	3	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	NA	3	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	NA	3	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	NA	3	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	NA	3	0	0.0
ACENAPHTHYLENE	NA	NA	NA	NA	NA	NA	3	0	0.0
ANTHRACENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(a)ANTHRACENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(a)PYRENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(b)FLUORANTHENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZO(g,h,i)PERYLENE	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	NA	3	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	NA	3	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	3.0	3.0	6	84	normal	ug/l	3	1	33.3
CHRYSENE	NA	NA	NA	NA	NA	NA	3	0	0.0
DI-n-BUTYL PHTHALATE	NA	NA	NA	NA	NA	NA	3	0	0.0
DI-n-OCTYL PHTHALATE (bis(2-ETHYLHEXYL)PHTHALATE)	NA	NA	NA	NA	NA	NA	3	0	0.0
DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	3	0	0.0

DIENZOFURAN	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
FLUORENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0
PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

(2) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

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**Background for Little Choconut Creek  
Statistical Results for Inorganics  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ANTIMONY	NA	NA	NA	NA	NA	NA	2	0	0.0
ARSENIC	2.2	2.1	2.2	2.4	lognormal	ug/l	2	2	100.0
BARIUM	20.1	20.1	11.1	3.0E+16	lognormal	ug/l	2	1	50.0
BERYLLIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
CADMIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
CALCIUM	30400.0	30400.0	30400	30400	lognormal	ug/l	1	1	100.0
CHROMIUM, TOTAL	NA	NA	NA	NA	NA	NA	2	0	0.0
COBALT	NA	NA	NA	NA	NA	NA	2	0	0.0
COPPER	NA	NA	NA	NA	NA	NA	2	0	0.0
CYANIDE	NA	NA	NA	NA	NA	NA	2	0	0.0
IRON	84.5	84.5	71	205	lognormal	ug/l	2	1	50.0
LEAD	NA	NA	NA	NA	NA	NA	2	0	0.0
MAGNESIUM	6870.0	6870.0	3449.4	1.0E+91	lognormal	ug/l	2	1	50.0
MANGANESE	4.4	4.4	3.1	855.1	lognormal	ug/l	2	1	50.0
MERCURY	NA	NA	NA	NA	NA	NA	2	0	0.0
MOLYBDENUM	NA	NA	NA	NA	NA	NA	2	0	0.0
NICKEL	NA	NA	NA	NA	NA	NA	2	0	0.0
POTASSIUM	2360.0	2360.0	1720	96859	lognormal	ug/l	2	1	50.0
SELENIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
SILVER	36.2	36.2	20.1	2.5E+15	lognormal	ug/l	2	1	50.0
SODIUM	28700.0	28700.0	28700	28700	lognormal	ug/l	1	1	100.0
THALLIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
VANADIUM	NA	NA	NA	NA	NA	NA	2	0	0.0
ZINC	21.1	5.8	13.5	856599.4	lognormal	ug/l	2	2	100.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

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**Background for Little Choconut Creek  
Statistical Results for Organics  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
1,1,1,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1,1-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1,2,2-TETRACHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1,2-TRICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,1-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,3-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,3-TRICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DIBROMO-3-CHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DICHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	NA	NA	NA	NA	NA	NA	2	0	0.0
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	NA	4	0	0.0
1,3-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
1-CHLOROHEXANE	NA	NA	NA	NA	NA	NA	2	0	0.0
2,2-DICHLOROPROPANE	NA	NA	NA	NA	NA	NA	2	0	0.0
2-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	2	0	0.0
4-CHLOROTOLUENE	NA	NA	NA	NA	NA	NA	2	0	0.0
BENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOFORM	NA	NA	NA	NA	NA	NA	2	0	0.0
BROMOMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
CARBON TETRACHLORIDE	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROFORM	NA	NA	NA	NA	NA	NA	2	0	0.0
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
cis-1,2-DICHLOROETHYLENE	NA	NA	NA	NA	NA	NA	2	0	0.0
cis-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBROMOCHLOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBROMOMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	2	0	0.0
ETHYLBENZENE	NA	NA	NA	NA	NA	NA	2	0	0.0
ISOPROPYLBENZENE (CUMENE)	NA	NA	NA	NA	NA	NA	2	0	0.0
M-XYLENE (1,3-DIMETHYLBENZENE)	NA	NA	NA	NA	NA	NA	2	0	0.0
n-BUTYLENE	NA	NA	NA	NA	NA	NA	2	0	0.0

n-PROPYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
O-XYLENE (1,2-DIMETHYLBENZENE)	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
P-CYMENE (p-ISOPROPYLTOLUENE)	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
SEC-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
STYRENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
t-BUTYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TETRACHLOROETHYLENE(PCE)	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TOLUENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
trans-1,2-DICHLOROETHENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
trans-1,3-DICHLOROPROPENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TRICHLOROETHYLENE (TCE)	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
TRICHLOROFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
VINYL CHLORIDE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

(2) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

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**Background for Little Choconut Creek  
Statistical Results for PCBs  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution	Units	Number of Samples	Number of Detects	Detection Percentage
ALDRIN	0.0048	0.0048	0.009	3.909	lognormal	ug/l	2	1	50.0
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	NA	NA	NA	NA	NA	NA	2	0	0.0
ALPHA ENDOSULFAN	NA	NA	NA	NA	NA	NA	1	0	0.0
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0033	0.0033	0.014	1.052E+10	lognormal	ug/l	2	1	50.0
BETA ENDOSULFAN	NA	NA	NA	NA	NA	NA	1	0	0.0
CHLORDANE	NA	NA	NA	NA	NA	NA	2	0	0.0
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0005	0.0005	0.0005	0.0005	lognormal	ug/l	2	1	50.0
ENDOSULFAN SULFATE	NA	NA	NA	NA	NA	NA	1	0	0.0
ENDRIN	NA	NA	NA	NA	NA	NA	1	0	0.0
ENDRIN ALDEHYDE	NA	NA	NA	NA	NA	NA	1	0	0.0
GAMMA BHC (LINDANE)	0.0026	0.0026	0.008	103075.968	lognormal	ug/l	2	1	50.0
HEPTACHLOR	NA	NA	NA	NA	NA	NA	1	0	0.0
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	2	0	0.0
METHOXYCHLOR	NA	NA	NA	NA	NA	NA	2	0	0.0
p,p'-DDD	NA	NA	NA	NA	NA	NA	2	0	0.0
p,p'-DDE	NA	NA	NA	NA	NA	NA	1	0	0.0
p,p'-DDT	NA	NA	NA	NA	NA	NA	1	0	0.0
PCB-1016 (AROCHLOR 1016)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1221 (AROCHLOR 1221)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1232 (AROCHLOR 1232)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1242 (AROCHLOR 1242)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1248 (AROCHLOR 1248)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1254 (AROCHLOR 1254)	NA	NA	NA	NA	NA	NA	2	0	0.0
PCB-1260 (AROCHLOR 1260)	NA	NA	NA	NA	NA	NA	2	0	0.0
TOXAPHENE	NA	NA	NA	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

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**Background for Little Choconut Creek  
Statistical Results for Semi-Volatile Organics  
for Surface Water**

Analyte	Maximum Detected (1)	Minimum Detected (1)	Arithmetic Mean	One-sided 95% UCL of Arithmetic Mean (2)	Concentration Distribution Units	Number of Samples	Number of Detects	Detection Percentage
1,2-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	4	0	0.0
2,4,5-TRICHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4,6-TRICHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DICHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DIMETHYLPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DINITROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2,4-DINITROTOLUENE	NA	NA	NA	NA	NA	2	0	0.0
2,6-DINITROTOLUENE	NA	NA	NA	NA	NA	2	0	0.0
2-CHLORONAPHTHALENE	NA	NA	NA	NA	NA	2	0	0.0
2-CHLOROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
2-METHYLNAPHTHALENE	NA	NA	NA	NA	NA	2	0	0.0
2-METHYLPHENOL (o-CRESOL)	NA	NA	NA	NA	NA	2	0	0.0
2-NITROANILINE	NA	NA	NA	NA	NA	2	0	0.0
2-NITROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
3,3'-DICHLOROBENZIDINE	NA	NA	NA	NA	NA	2	0	0.0
3-NITROANILINE	NA	NA	NA	NA	NA	2	0	0.0
4,6-DINITRO-2-METHYLPHENOL	NA	NA	NA	NA	NA	2	0	0.0
4-BROMOPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	2	0	0.0
4-CHLORO-3-METHYLPHENOL	NA	NA	NA	NA	NA	2	0	0.0
4-CHLOROANILINE	NA	NA	NA	NA	NA	2	0	0.0
4-CHLOROPHENYL PHENYL ETHER	NA	NA	NA	NA	NA	2	0	0.0
4-METHYLPHENOL (p-CRESOL)	NA	NA	NA	NA	NA	2	0	0.0
4-NITROANILINE	NA	NA	NA	NA	NA	2	0	0.0
4-NITROPHENOL	NA	NA	NA	NA	NA	2	0	0.0
ACENAPHTHENE	NA	NA	NA	NA	NA	2	0	0.0
ACENAPHTYLENE	NA	NA	NA	NA	NA	2	0	0.0
ANTHRACENE	NA	NA	NA	NA	NA	2	0	0.0
BENZO(a)ANTHRACENE	NA	NA	NA	NA	NA	2	0	0.0
BENZO(a)PYRENE	NA	NA	NA	NA	NA	2	0	0.0
BENZO(b)FLUORANTHENE	NA	NA	NA	NA	NA	2	0	0.0
BENZO(g,h,i)PERYLENE	NA	NA	NA	NA	NA	2	0	0.0
BENZOIC ACID	NA	NA	NA	NA	NA	2	0	0.0
BENZYL ALCOHOL	NA	NA	NA	NA	NA	2	0	0.0
BENZYL BUTYL PHTHALATE	NA	NA	NA	NA	NA	2	0	0.0
bis(2-CHLOROETHOXY) METHANE	NA	NA	NA	NA	NA	2	0	0.0
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	NA	NA	NA	NA	NA	2	0	0.0
bis(2-CHLOROISOPROPYL) ETHER	NA	NA	NA	NA	NA	2	0	0.0
bis(2-ETHYLHEXYL) PHTHALATE	NA	NA	NA	NA	NA	2	0	0.0
CHRYSENE	NA	NA	NA	NA	NA	2	0	0.0
Di-n-BUTYL PHTHALATE	NA	NA	NA	NA	NA	2	0	0.0
Di-n-OC <sup>2</sup> PHTHALATE (bis-(2-ETHYLHEXYL)PHTHALATE)	NA	NA	NA	NA	NA	2	0	0.0

DIBENZ(a,h)ANTHRACENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIBENZOFURAN	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
DIMETHYL PHTHALATE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
FLUORANTHENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
FLUORENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
HEXACHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
HEXACHLOROBUTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
HEXACHLOROCYCLOPENTADIENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
HEXACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
INDENO(1,2,3-c,d)PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
ISOPHORONE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
N-NITROSODI-n-PROPYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
N-NITROSODIPHENYLAMINE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
NAPHTHALENE	NA	NA	NA	NA	NA	NA	NA	NA	4	0	0.0
NITROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PENTACHLOROPHENOL	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PHENANTHRENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PHENOL	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0
PYRENE	NA	NA	NA	NA	NA	NA	NA	NA	2	0	0.0

NA - not applicable. The analyte was not detected in any samples.

(1) Normal samples and field duplicates were averaged. The maximum and minimum detected concentration may be an averaged result.

(2) The One-sided 95% Upper Confidence Limit (UCL) of the Arithmetic Mean is calculated based on concentration distribution (i.e., normal or lognormal). The calculation of the One-sided 95% UCL of the Arithmetic Mean for a non-normal concentration distribution is based on the lognormal model.

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# A P P E N D I X E

## SOLUTE MODEL RESULTS

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*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW3-Trichloromethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw3-2

```

2

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.8
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .46 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 999 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu$ g/l]

TIME [d]	1 DISTANCE 999.00 [ft]
150.0000	0.0001
300.0000	0.0524
450.0000	0.2487
600.0000	0.3796
750.0000	0.2827
900.0000	0.1135
1050.0000	0.0327
1200.0000	0.0079
1350.0000	0.0017
1500.0000	0.0004
1650.0000	0.0001
1800.0000	0.0000
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000



```

*****
*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW3-Bromodichloromethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw3-1

```

2

## INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 2.1
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .38 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
  1 DISTANCE (from source). = 999 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 999.00 [ft]
150.0000	0.0000
300.0000	0.0164
450.0000	0.1320
600.0000	0.2645
750.0000	0.2693
900.0000	0.1531
1050.0000	0.0611
1200.0000	0.0200
1350.0000	0.0059
1500.0000	0.0016
1650.0000	0.0004
1800.0000	0.0001
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW4-Trichlorofluoromethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw4-5

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 3.84
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 2.8 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
  1  DISTANCE (from source). = 1747 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\frac{\mu\text{g}}{\text{l}}$ ]

TIME [d]	1 DISTANCE 1747.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0008
900.0000	0.0122
1050.0000	0.0718
1200.0000	0.2332
1350.0000	0.5003
1500.0000	0.7881
1650.0000	0.9811
1800.0000	1.0187
1950.0000	0.9191
2100.0000	0.7427
2250.0000	0.5501
2400.0000	0.3799
2550.0000	0.2479
2700.0000	0.1545
2850.0000	0.0926
3000.0000	0.0538
3150.0000	0.0304
3300.0000	0.0168
3450.0000	0.0091
3600.0000	0.0049
3750.0000	0.0025
3900.0000	0.0013
4050.0000	0.0007
4200.0000	0.0003
4350.0000	0.0002
4500.0000	0.0001
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                                     *
*                   ONED               *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03   *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT       *
*                                     *
*****
    
```

```

PROJECT..... = SW4-1,1-Dichloroethene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw4-2
    
```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 2.1
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 2.1 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1747 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]
    
```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1747.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0026
600.0000	0.0827
750.0000	0.4416
900.0000	0.9949
1050.0000	1.2877
1200.0000	1.0876
1350.0000	0.6694
1500.0000	0.3289
1650.0000	0.1376
1800.0000	0.0513
1950.0000	0.0176
2100.0000	0.0056
2250.0000	0.0017
2400.0000	0.0005
2550.0000	0.0001
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

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*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = SW4-1,2,4, Trichlorobenzene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw4-3

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 165
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 2.7 [mg/l]
LENGTH OF TIME STEP..... = 300 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
  1 DISTANCE (from source). = 1747 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1747.00 [ft]
300.0000	0.0000
600.0000	0.0000
900.0000	0.0000
1200.0000	0.0000
1500.0000	0.0000
1800.0000	0.0000
2100.0000	0.0000
2400.0000	0.0000
2700.0000	0.0000
3000.0000	0.0000
3300.0000	0.0000
3600.0000	0.0000
3900.0000	0.0000
4200.0000	0.0000
4500.0000	0.0000
4800.0000	0.0000
5100.0000	0.0000
5400.0000	0.0000
5700.0000	0.0000
6000.0000	0.0000
6300.0000	0.0000
6600.0000	0.0000
6900.0000	0.0000
7200.0000	0.0000
7500.0000	0.0000
7800.0000	0.0000
8100.0000	0.0000
8400.0000	0.0000
8700.0000	0.0000
9000.0000	0.0000
9300.0000	0.0000
9600.0000	0.0000
9900.0000	0.0000
%10200.0000	0.0000
%10500.0000	0.0000
%10800.0000	0.0000
%11100.0000	0.0000
%11400.0000	0.0000
%11700.0000	0.0000
%12000.0000	0.0000
%12300.0000	0.0000
%12600.0000	0.0000
%12900.0000	0.0000
%13200.0000	0.0000
%13500.0000	0.0000
%13800.0000	0.0000
%14100.0000	0.0000
%14400.0000	0.0000
%14700.0000	0.0000
%15000.0000	0.0000



```

*****
*                                     *
*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****
    
```

```

PROJECT..... = SW4-1,1,1 Trichloroethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = b:sw4-111t
    
```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 3.7
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 20 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1747 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]
    
```

CONCENTRATION C [ $\mu$ g/l]

TIME [d]	1 DISTANCE 1747.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0002
750.0000	0.0106
900.0000	0.1393
1050.0000	0.7366
1200.0000	2.1927
1350.0000	4.3593
1500.0000	6.4106
1650.0000	7.4902
1800.0000	7.3347
1950.0000	6.2650
2100.0000	4.8095
2250.0000	3.3934
2400.0000	2.2380
2550.0000	1.3976
2700.0000	0.8347
2850.0000	0.4805
3000.0000	0.2682
3150.0000	0.1458
3300.0000	0.0776
3450.0000	0.0405
3600.0000	0.0208
3750.0000	0.0106
3900.0000	0.0053
4050.0000	0.0026
4200.0000	0.0013
4350.0000	0.0006
4500.0000	0.0003
4650.0000	0.0001
4800.0000	0.0001
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                                     *
*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = SW4-TCE
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = b:sw4-tce

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 3.2
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 370 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
  1 DISTANCE (from source). = 1747 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu$ g/l]

TIME [d]	1 DISTANCE 1747.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0001
600.0000	0.0524
750.0000	1.6117
900.0000	12.5454
1050.0000	44.6913
1200.0000	95.8249
1350.0000	142.1405
1500.0000	159.6926
1650.0000	145.3992
1800.0000	112.8774
1950.0000	77.5736
2100.0000	48.5127
2250.0000	28.1756
2400.0000	15.4298
2550.0000	8.0593
2700.0000	4.0504
2850.0000	1.9721
3000.0000	0.9352
3150.0000	0.4338
3300.0000	0.1975
3450.0000	0.0885
3600.0000	0.0391
3750.0000	0.0171
3900.0000	0.0074
4050.0000	0.0032
4200.0000	0.0013
4350.0000	0.0006
4500.0000	0.0002
4650.0000	0.0001
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW6-Di-n-butylphthalate
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw6-1

```

2

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 3.9
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 1.6 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
  1 DISTANCE (from source). = 1140 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1140.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0015
600.0000	0.0318
750.0000	0.1638
900.0000	0.4086
1050.0000	0.6402
1200.0000	0.7204
1350.0000	0.6424
1500.0000	0.4871
1650.0000	0.3294
1800.0000	0.2052
1950.0000	0.1203
2100.0000	0.0674
2250.0000	0.0364
2400.0000	0.0192
2550.0000	0.0099
2700.0000	0.0050
2850.0000	0.0025
3000.0000	0.0012
3150.0000	0.0006
3300.0000	0.0003
3450.0000	0.0001
3600.0000	0.0001
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

```

*****
*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW7-Carbon Tetrachloride
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw7-2

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 8.800000000000001
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .6 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1433 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1433.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0000
900.0000	0.0000
1050.0000	0.0000
1200.0000	0.0000
1350.0000	0.0003
1500.0000	0.0013
1650.0000	0.0041
1800.0000	0.0098
1950.0000	0.0193
2100.0000	0.0328
2250.0000	0.0491
2400.0000	0.0664
2550.0000	0.0827
2700.0000	0.0960
2850.0000	0.1052
3000.0000	0.1098
3150.0000	0.1100
3300.0000	0.1063
3450.0000	0.0996
3600.0000	0.0909
3750.0000	0.0810
3900.0000	0.0708
4050.0000	0.0608
4200.0000	0.0514
4350.0000	0.0428
4500.0000	0.0352
4650.0000	0.0287
4800.0000	0.0231
4950.0000	0.0184
5100.0000	0.0146
5250.0000	0.0115
5400.0000	0.0090
5550.0000	0.0070
5700.0000	0.0054
5850.0000	0.0041
6000.0000	0.0032



```

*****
*                                     *
*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = SW-7, Vinyl Chloride
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw7-6

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.14
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 6.2 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1  DISTANCE (from source). = 1433 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1433.00 [ft]
150.0000	0.0003
300.0000	0.8134
450.0000	4.1389
600.0000	5.6988
750.0000	3.4513
900.0000	0.8417
1050.0000	0.1230
1200.0000	0.0138
1350.0000	0.0013
1500.0000	0.0001
1650.0000	0.0000
1800.0000	0.0000
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

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*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW7-1,1-Dichloroethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw7-1

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.5
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 33 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
  1 DISTANCE (from source). = 1433 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1433.00 [ft]
150.0000	0.0000
300.0000	0.4609
450.0000	8.8758
600.0000	22.6058
750.0000	26.3398
900.0000	15.2288
1050.0000	5.1792
1200.0000	1.2816
1350.0000	0.2623
1500.0000	0.0477
1650.0000	0.0080
1800.0000	0.0013
1950.0000	0.0002
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = SW7-Chloroethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw7-3

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.6
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 4.2 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
  1  DISTANCE (from source). = 1433 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1433.00 [ft]
150.0000	0.0000
300.0000	0.0294
450.0000	0.8139
600.0000	2.4928
750.0000	3.3242
900.0000	2.2819
1050.0000	0.9258
1200.0000	0.2707
1350.0000	0.0648
1500.0000	0.0137
1650.0000	0.0027
1800.0000	0.0005
1950.0000	0.0001
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

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*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = SW7-Cis-1,2-dichloroethene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw7-5

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.8
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 150 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1433 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1433.00 [ft]
150.0000	0.0000
300.0000	0.2487
450.0000	14.0189
600.0000	62.3726
750.0000	106.8205
900.0000	97.8844
1050.0000	53.7517
1200.0000	20.9608
1350.0000	6.5848
1500.0000	1.7997
1650.0000	0.4482
1800.0000	0.1047
1950.0000	0.0233
2100.0000	0.0050
2250.0000	0.0011
2400.0000	0.0002
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000



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*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
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*               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = SW7-Trans-1,2-dichloroethene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw7-7

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 2
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .3 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1433 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\frac{\mu\text{g}}{\text{l}}$ ]

TIME [d]	1 DISTANCE 1433.00 [ft]
150.0000	0.0000
300.0000	0.0001
450.0000	0.0125
600.0000	0.0807
750.0000	0.1753
900.0000	0.2040
1050.0000	0.1441
1200.0000	0.0715
1350.0000	0.0282
1500.0000	0.0096
1650.0000	0.0029
1800.0000	0.0008
1950.0000	0.0002
2100.0000	0.0001
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

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*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
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*                               S O L U T E   version 2.03   *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT   *
*                                     *
*****

```

```

PROJECT..... = SW11- T Xylenes
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw11-7

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 5.8
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 6.9 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1  DISTANCE (from source). = 2018 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\frac{\mu\text{g}}{\text{l}}$ ]

TIME [d]	1 DISTANCE 2018.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0000
900.0000	0.0000
1050.0000	0.0000
1200.0000	0.0001
1350.0000	0.0013
1500.0000	0.0078
1650.0000	0.0318
1800.0000	0.0945
1950.0000	0.2197
2100.0000	0.4189
2250.0000	0.6805
2400.0000	0.9690
2550.0000	1.2371
2700.0000	1.4419
2850.0000	1.5566
3000.0000	1.5748
3150.0000	1.5075
3300.0000	1.3761
3450.0000	1.2056
3600.0000	1.0192
3750.0000	0.8352
3900.0000	0.6660
4050.0000	0.5184
4200.0000	0.3950
4350.0000	0.2953
4500.0000	0.2170
4650.0000	0.1571
4800.0000	0.1122
4950.0000	0.0791
5100.0000	0.0552
5250.0000	0.0381
5400.0000	0.0261
5550.0000	0.0177
5700.0000	0.0119
5850.0000	0.0080
6000.0000	0.0053
6150.0000	0.0035
6300.0000	0.0023
6450.0000	0.0015
6600.0000	0.0010
6750.0000	0.0006
6900.0000	0.0004
7050.0000	0.0003
7200.0000	0.0002
7350.0000	0.0001
7500.0000	0.0001

```

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*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT   *
*                                     *
*****

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```

PROJECT..... = SW-11 Toluene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw11-6

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 5.4
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 1.3 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 2018 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 2018.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0000
900.0000	0.0000
1050.0000	0.0000
1200.0000	0.0001
1350.0000	0.0008
1500.0000	0.0043
1650.0000	0.0150
1800.0000	0.0388
1950.0000	0.0794
2100.0000	0.1349
2250.0000	0.1971
2400.0000	0.2544
2550.0000	0.2963
2700.0000	0.3169
2850.0000	0.3154
3000.0000	0.2955
3150.0000	0.2629
3300.0000	0.2237
3450.0000	0.1833
3600.0000	0.1452
3750.0000	0.1118
3900.0000	0.0839
4050.0000	0.0616
4200.0000	0.0443
4350.0000	0.0313
4500.0000	0.0218
4650.0000	0.0149
4800.0000	0.0101
4950.0000	0.0068
5100.0000	0.0045
5250.0000	0.0030
5400.0000	0.0019
5550.0000	0.0012
5700.0000	0.0008
5850.0000	0.0005
6000.0000	0.0003
6150.0000	0.0002
6300.0000	0.0001
6450.0000	0.0001
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

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*****
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*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****
```

PROJECT..... = SW-11 Ethylbenzene  
USER NAME..... = EARTH TECH  
DATE..... = 02-20-1995  
DATA FILE..... = a:sw11-3

INPUT DATA:

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]  
LONGITUDINAL DISPERSIVITY..... = 50 [ft]  
RETARDATION FACTOR..... = 20  
INITIAL CONCENTRATION..... = 0 [mg/l]  
CONCENTRATION AT SOURCE..... = .68 [mg/l]  
LENGTH OF TIME STEP..... = 225 [d]  
NUMBER OF TIME STEPS..... = 50  
NUMBER OF OBSERVATION POINTS.. = 1  
    1 DISTANCE (from source). = 2018 [ft]  
DURATION OF SOLUTE PULSE..... = 365 [d]  
HALF-LIFE (0 if no decay)..... = 0 [d]  
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 2018.00 [ft]
225.0000	0.0000
450.0000	0.0000
675.0000	0.0000
900.0000	0.0000
1125.0000	0.0000
1350.0000	0.0000
1575.0000	0.0000
1800.0000	0.0000
2025.0000	0.0000
2250.0000	0.0000
2475.0000	0.0000
2700.0000	0.0000
2925.0000	0.0000
3150.0000	0.0000
3375.0000	0.0000
3600.0000	0.0000
3825.0000	0.0000
4050.0000	0.0000
4275.0000	0.0000
4500.0000	0.0001
4725.0000	0.0001
4950.0000	0.0003
5175.0000	0.0006
5400.0000	0.0010
5625.0000	0.0017
5850.0000	0.0027
6075.0000	0.0041
6300.0000	0.0060
6525.0000	0.0082
6750.0000	0.0109
6975.0000	0.0140
7200.0000	0.0175
7425.0000	0.0211
7650.0000	0.0249
7875.0000	0.0286
8100.0000	0.0322
8325.0000	0.0355
8550.0000	0.0385
8775.0000	0.0410
9000.0000	0.0430
9225.0000	0.0444
9450.0000	0.0454
9675.0000	0.0457
9900.0000	0.0456
%10125.0000	0.0449
%10350.0000	0.0439
%10575.0000	0.0425
%10800.0000	0.0407
%11025.0000	0.0387
%11250.0000	0.0366



```

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*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

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```

PROJECT..... = SW-11 Napthalene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw11-5

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 17.8
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 2.8 [mg/l]
LENGTH OF TIME STEP..... = 225 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1  DISTANCE (from source). = 2018 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 2018.00 [ft]
225.0000	0.0000
450.0000	0.0000
675.0000	0.0000
900.0000	0.0000
1125.0000	0.0000
1350.0000	0.0000
1575.0000	0.0000
1800.0000	0.0000
2025.0000	0.0000
2250.0000	0.0000
2475.0000	0.0000
2700.0000	0.0000
2925.0000	0.0000
3150.0000	0.0000
3375.0000	0.0000
3600.0000	0.0000
3825.0000	0.0001
4050.0000	0.0003
4275.0000	0.0007
4500.0000	0.0017
4725.0000	0.0035
4950.0000	0.0065
5175.0000	0.0113
5400.0000	0.0182
5625.0000	0.0275
5850.0000	0.0395
6075.0000	0.0539
6300.0000	0.0706
6525.0000	0.0889
6750.0000	0.1082
6975.0000	0.1277
7200.0000	0.1465
7425.0000	0.1639
7650.0000	0.1792
7875.0000	0.1918
8100.0000	0.2014
8325.0000	0.2079
8550.0000	0.2111
8775.0000	0.2112
9000.0000	0.2085
9225.0000	0.2032
9450.0000	0.1957
9675.0000	0.1865
9900.0000	0.1759
%10125.0000	0.1644
%10350.0000	0.1523
%10575.0000	0.1399
%10800.0000	0.1276
%11025.0000	0.1155
%11250.0000	0.1039

```

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*                               ONED  *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = SW-12 Bis(2-ethylhexyl)phthalate
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:sw12-1

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1000
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 1.5 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1598 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1598.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0000
900.0000	0.0000
1050.0000	0.0000
1200.0000	0.0000
1350.0000	0.0000
1500.0000	0.0000
1650.0000	0.0000
1800.0000	0.0000
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

```

*****
*                                     *
*                               ONED  *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = DPW-1,1,1 Trichloroethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dpw-1

```

2

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 3.7
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 1.2 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1449 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1449.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0011
750.0000	0.0166
900.0000	0.0833
1050.0000	0.2217
1200.0000	0.3843
1350.0000	0.4868
1500.0000	0.4891
1650.0000	0.4142
1800.0000	0.3088
1950.0000	0.2092
2100.0000	0.1316
2250.0000	0.0782
2400.0000	0.0444
2550.0000	0.0243
2700.0000	0.0129
2850.0000	0.0067
3000.0000	0.0034
3150.0000	0.0017
3300.0000	0.0008
3450.0000	0.0004
3600.0000	0.0002
3750.0000	0.0001
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

```

*****
*                                     *
*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = DPW-Trichloroethene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dpw-3

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 3.2
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 4 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 1449 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1449.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0004
600.0000	0.0237
750.0000	0.2082
900.0000	0.7166
1050.0000	1.4060
1200.0000	1.8518
1350.0000	1.8198
1500.0000	1.4460
1650.0000	0.9850
1800.0000	0.5993
1950.0000	0.3352
2100.0000	0.1758
2250.0000	0.0878
2400.0000	0.0422
2550.0000	0.0196
2700.0000	0.0089
2850.0000	0.0040
3000.0000	0.0017
3150.0000	0.0007
3300.0000	0.0003
3450.0000	0.0001
3600.0000	0.0001
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000



```
*****  
*                               ONED                               *  
*                               *                                   *  
*   INTERNATIONAL GROUND WATER MODELING CENTER                   *  
*   Golden, Colorado, USA - Delft, The Netherlands               *  
*                               *                                   *  
*   S O L U T E   version 2.03                                    *  
*                               *                                   *  
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT                       *  
*                               *                                   *  
*****
```

PROJECT..... = DPW-1,1-Dichloroethane  
USER NAME..... = EARTH TECH  
DATE..... = 02-20-1995  
DATA FILE..... = a:dpw-2

INPUT DATA:

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]  
LONGITUDINAL DISPERSIVITY..... = 50 [ft]  
RETARDATION FACTOR..... = 1.5  
INITIAL CONCENTRATION..... = 0 [mg/l]  
CONCENTRATION AT SOURCE..... = 2.4 [mg/l]  
LENGTH OF TIME STEP..... = 150 [d]  
NUMBER OF TIME STEPS..... = 50  
NUMBER OF OBSERVATION POINTS.. = 1  
    1 DISTANCE (from source). = 1449 [ft]  
DURATION OF SOLUTE PULSE..... = 365 [d]  
HALF-LIFE (0 if no decay)..... = 0 [d]  
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 1449.00 [ft]
150.0000	0.0000
300.0000	0.0289
450.0000	0.6083
600.0000	1.6088
750.0000	1.9235
900.0000	1.1453
1050.0000	0.3990
1200.0000	0.1005
1350.0000	0.0208
1500.0000	0.0038
1650.0000	0.0006
1800.0000	0.0001
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

```

*****
*                                     *
*                   ONED              *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER   *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*                   S O L U T E   version 2.03    *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT        *
*                                     *
*****

```

```

PROJECT..... = DW3-Vinyl Chloride
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dw3-2

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.14
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .28 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 999 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\frac{\mu\text{g}}{\text{l}}$ ]

TIME [d]	1 DISTANCE 999.00 [ft]
150.0000	0.0065
300.0000	0.1694
450.0000	0.2638
600.0000	0.1937
750.0000	0.0399
900.0000	0.0045
1050.0000	0.0004
1200.0000	0.0000
1350.0000	0.0000
1500.0000	0.0000
1650.0000	0.0000
1800.0000	0.0000
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

```

*****
*                                     *
*                               ONED   *
*                                     *
*   INTERNATIONAL GROUND WATER MODELING CENTER *
*   Golden, Colorado, USA - Delft, The Netherlands *
*                                     *
*               S O L U T E   version 2.03 *
*                                     *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT *
*                                     *
*****

```

```

PROJECT..... = DW3-Cis-1,2-dichloroethene
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dw3-1

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.8
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = 36 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 999 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\frac{mg}{l}$ ]

TIME [d]	1 DISTANCE 999.00 [ft]
150.0000	0.0057
300.0000	4.1007
450.0000	19.4601
600.0000	29.7112
750.0000	22.1274
900.0000	8.8847
1050.0000	2.5588
1200.0000	0.6202
1350.0000	0.1366
1500.0000	0.0284
1650.0000	0.0057
1800.0000	0.0011
1950.0000	0.0002
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                               *
*                               *
*      INTERNATIONAL GROUND WATER MODELING CENTER      *
*      Golden, Colorado, USA - Delft, The Netherlands  *
*                               *
*      S O L U T E      version 2.03                    *
*                               *
*      ANALYTICAL MODELS FOR SOLUTE TRANSPORT          *
*                               *
*****

```

```

PROJECT..... = DW9- T Xylenes
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dw9-1

```

2

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 5.8
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .54 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 964 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\frac{\mu\text{g}}{\text{l}}$ ]

TIME [d]	1 DISTANCE 964.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0001
600.0000	0.0022
750.0000	0.0158
900.0000	0.0521
1050.0000	0.1066
1200.0000	0.1570
1350.0000	0.1835
1500.0000	0.1822
1650.0000	0.1610
1800.0000	0.1308
1950.0000	0.0998
2100.0000	0.0726
2250.0000	0.0510
2400.0000	0.0347
2550.0000	0.0232
2700.0000	0.0152
2850.0000	0.0098
3000.0000	0.0062
3150.0000	0.0039
3300.0000	0.0025
3450.0000	0.0015
3600.0000	0.0009
3750.0000	0.0006
3900.0000	0.0004
4050.0000	0.0002
4200.0000	0.0001
4350.0000	0.0001
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000



```
*****  
*                               ONED                               *  
*                               *                                   *  
*   INTERNATIONAL GROUND WATER MODELING CENTER                   *  
*   Golden, Colorado, USA - Delft, The Netherlands                *  
*                               *                                   *  
*   S O L U T E   version 2.03                                     *  
*                               *                                   *  
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT                         *  
*                               *                                   *  
*****
```

```
PROJECT..... = DW9- Ethyl Benzene  
USER NAME..... = EARTH TECH  
DATE..... = 02-20-1995  
DATA FILE..... = a:dw9-2
```

2

INPUT DATA:

```
GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]  
LONGITUDINAL DISPERSIVITY..... = 50 [ft]  
RETARDATION FACTOR..... = 20  
INITIAL CONCENTRATION..... = 0 [mg/l]  
CONCENTRATION AT SOURCE..... = .4 [mg/l]  
LENGTH OF TIME STEP..... = 150 [d]  
NUMBER OF TIME STEPS..... = 50  
NUMBER OF OBSERVATION POINTS.. = 1  
    1 DISTANCE (from source). = 964 [ft]  
DURATION OF SOLUTE PULSE..... = 365 [d]  
HALF-LIFE (0 if no decay)..... = 0 [d]  
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]
```

CONCENTRATION C [ $\frac{\mu\text{g}}{\text{l}}$ ]

TIME [d]	1 DISTANCE 964.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0000
900.0000	0.0000
1050.0000	0.0000
1200.0000	0.0000
1350.0000	0.0000
1500.0000	0.0000
1650.0000	0.0001
1800.0000	0.0003
1950.0000	0.0008
2100.0000	0.0017
2250.0000	0.0031
2400.0000	0.0051
2550.0000	0.0077
2700.0000	0.0109
2850.0000	0.0146
3000.0000	0.0185
3150.0000	0.0226
3300.0000	0.0265
3450.0000	0.0302
3600.0000	0.0334
3750.0000	0.0362
3900.0000	0.0383
4050.0000	0.0399
4200.0000	0.0409
4350.0000	0.0413
4500.0000	0.0412
4650.0000	0.0406
4800.0000	0.0396
4950.0000	0.0383
5100.0000	0.0367
5250.0000	0.0349
5400.0000	0.0330
5550.0000	0.0310
5700.0000	0.0289
5850.0000	0.0269
6000.0000	0.0248
6150.0000	0.0228
6300.0000	0.0209
6450.0000	0.0191
6600.0000	0.0174
6750.0000	0.0158
6900.0000	0.0143
7050.0000	0.0129
7200.0000	0.0116
7350.0000	0.0104
7500.0000	0.0093

```

*****
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*                               *
*                               *
*                               *
*****

```

```

PROJECT..... = DW10-Bromodichloromethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dw10-1

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 2.1
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .35 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 40
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 2324 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 2324.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0001
750.0000	0.0031
900.0000	0.0250
1050.0000	0.0826
1200.0000	0.1545
1350.0000	0.1893
1500.0000	0.1668
1650.0000	0.1139
1800.0000	0.0640
1950.0000	0.0309
2100.0000	0.0133
2250.0000	0.0052
2400.0000	0.0019
2550.0000	0.0007
2700.0000	0.0002
2850.0000	0.0001
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000

```

*****
*                               ONED                               *
*                               *                                   *
*   INTERNATIONAL GROUND WATER MODELING CENTER                   *
*   Golden, Colorado, USA - Delft, The Netherlands               *
*                               *                                   *
*   S O L U T E   version 2.03                                     *
*                               *                                   *
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT                       *
*                               *                                   *
*****

```

```

PROJECT..... = DW11-Chloromethane
USER NAME..... = EARTH TECH
DATE..... = 02-20-1995
DATA FILE..... = a:dw11-2

```

INPUT DATA:

```

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]
LONGITUDINAL DISPERSIVITY..... = 50 [ft]
RETARDATION FACTOR..... = 1.6
INITIAL CONCENTRATION..... = 0 [mg/l]
CONCENTRATION AT SOURCE..... = .38 [mg/l]
LENGTH OF TIME STEP..... = 150 [d]
NUMBER OF TIME STEPS..... = 50
NUMBER OF OBSERVATION POINTS.. = 1
    1 DISTANCE (from source). = 2018 [ft]
DURATION OF SOLUTE PULSE..... = 365 [d]
HALF-LIFE (0 if no decay)..... = 0 [d]
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

```

CONCENTRATION C [ $\mu\text{g}/\text{l}$ ]

TIME [d]	1 DISTANCE 2018.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0015
600.0000	0.0357
750.0000	0.1448
900.0000	0.2533
1050.0000	0.2474
1200.0000	0.1496
1350.0000	0.0635
1500.0000	0.0211
1650.0000	0.0059
1800.0000	0.0014
1950.0000	0.0003
2100.0000	0.0001
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000

```
*****  
*                               ONED                               *  
*                               *                                   *  
*   INTERNATIONAL GROUND WATER MODELING CENTER                   *  
*   Golden, Colorado, USA - Delft, The Netherlands               *  
*                               *                                   *  
*   S O L U T E   version 2.03                                     *  
*                               *                                   *  
*   ANALYTICAL MODELS FOR SOLUTE TRANSPORT                       *  
*                               *                                   *  
*****
```

PROJECT..... = DW11-Bis(2-ethylhexyl)phthalate  
USER NAME..... = EARTH TECH  
DATE..... = 02-20-1995  
DATA FILE..... = a:dw11-3

INPUT DATA:

GROUNDWATER (SEEPAGE) VELOCITY = 3.93 [ft/d]  
LONGITUDINAL DISPERSIVITY..... = 50 [ft]  
RETARDATION FACTOR..... = 1000  
INITIAL CONCENTRATION..... = 0 [mg/l]  
CONCENTRATION AT SOURCE..... = 5.9 [mg/l]  
LENGTH OF TIME STEP..... = 150 [d]  
NUMBER OF TIME STEPS..... = 50  
NUMBER OF OBSERVATION POINTS.. = 1  
    1 DISTANCE (from source). = 2018 [ft]  
DURATION OF SOLUTE PULSE..... = 365 [d]  
HALF-LIFE (0 if no decay)..... = 0 [d]  
DECAY CONSTANT (lambda)..... = .0000D+00 [1/d]

CONCENTRATION C [<sup>u</sup>mg/l]

TIME [d]	1 DISTANCE 2018.00 [ft]
150.0000	0.0000
300.0000	0.0000
450.0000	0.0000
600.0000	0.0000
750.0000	0.0000
900.0000	0.0000
1050.0000	0.0000
1200.0000	0.0000
1350.0000	0.0000
1500.0000	0.0000
1650.0000	0.0000
1800.0000	0.0000
1950.0000	0.0000
2100.0000	0.0000
2250.0000	0.0000
2400.0000	0.0000
2550.0000	0.0000
2700.0000	0.0000
2850.0000	0.0000
3000.0000	0.0000
3150.0000	0.0000
3300.0000	0.0000
3450.0000	0.0000
3600.0000	0.0000
3750.0000	0.0000
3900.0000	0.0000
4050.0000	0.0000
4200.0000	0.0000
4350.0000	0.0000
4500.0000	0.0000
4650.0000	0.0000
4800.0000	0.0000
4950.0000	0.0000
5100.0000	0.0000
5250.0000	0.0000
5400.0000	0.0000
5550.0000	0.0000
5700.0000	0.0000
5850.0000	0.0000
6000.0000	0.0000
6150.0000	0.0000
6300.0000	0.0000
6450.0000	0.0000
6600.0000	0.0000
6750.0000	0.0000
6900.0000	0.0000
7050.0000	0.0000
7200.0000	0.0000
7350.0000	0.0000
7500.0000	0.0000



# **A P P E N D I X F**

## **INPUT PARAMETERS FOR AIR EMISSIONS MODELS**

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Input Parameters for Huang-Falco Model

Site ID	Statistic	Analyte	C_sat mg/kg	C_i,s mg/kg	D_i cm <sup>2</sup> /s	poros	K_as g/cm <sup>3</sup>	alpha	t sec	E_i,s g/s-m <sup>2</sup>
P-R	Mean	ACE	1.20E+005	2.45E-001	8.62E-002	3.75E-001	1.44E-001	1.97E-003	9.07E+008	6.98E-009
P-R	95% UCL	ACE	1.20E+005	4.37E-001	8.62E-002	3.75E-001	1.44E-001	1.97E-003	9.07E+008	1.24E-008
P-R	Mean	MTLNCL	1.88E+003	2.30E-002	9.96E-002	3.75E-001	5.96E-001	8.57E-003	9.07E+008	1.50E-009
P-R	95% UCL	MTLNCL	1.88E+003	8.00E-003	9.96E-002	3.75E-001	5.96E-001	8.57E-003	9.07E+008	5.22E-010
P-R	Mean	PCE	1.06E+002	1.90E-002	7.22E-002	3.75E-001	2.42E-001	2.72E-003	9.07E+008	6.48E-010
P-R	95% UCL	PCE	1.06E+002	1.20E-003	7.22E-002	3.75E-001	2.42E-001	2.72E-003	9.07E+008	4.09E-011
P-R	Mean	TCA111	7.60E+002	1.90E-002	7.77E-002	3.75E-001	5.29E-002	6.66E-004	9.07E+008	3.08E-010
P-R	95% UCL	TCA111	7.60E+002	8.70E-003	7.77E-002	3.75E-001	5.29E-002	6.66E-004	9.07E+008	1.41E-010
P-R	Mean	TCE	4.48E+002	2.40E-002	7.91E-002	3.75E-001	1.55E-001	1.94E-003	9.07E+008	6.80E-010
P-R	95% UCL	TCE	4.48E+002	2.80E-002	7.91E-002	3.75E-001	1.55E-001	1.94E-003	9.07E+008	7.93E-010
R-SV	Mean	TCA111	7.60E+002	9.00E-003	7.77E-002	3.75E-001	5.29E-002	6.66E-004	9.07E+008	1.46E-010
R-SV	95% UCL	TCA111	7.60E+002	3.00E-003	7.77E-002	3.75E-001	5.29E-002	6.66E-004	9.07E+008	4.86E-011
R-SV	Mean	TCE	4.48E+002	1.10E-002	7.91E-002	3.75E-001	1.55E-001	1.94E-003	9.07E+008	1.46E-010
R-SV	95% UCL	TCE	4.48E+002	1.30E-002	7.91E-002	3.75E-001	1.55E-001	1.94E-003	9.07E+008	3.68E-010
W-OT	Mean	BTBZN	5.83E+002	1.10E-002	6.05E-002	3.75E-001	1.29E+000	9.93E-003	9.07E+008	8.80E-010
W-OT	95% UCL	BTBZN	5.83E+002	1.30E-002	6.05E-002	3.75E-001	1.29E+000	9.93E-003	9.07E+008	1.04E-009
W-OT	Mean	BTBZS	5.83E+002	9.00E-003	6.05E-002	3.75E-001	1.29E-001	1.25E-003	9.07E+008	2.03E-010
W-OT	95% UCL	BTBZS	5.83E+002	1.10E-002	6.05E-002	3.75E-001	1.29E-001	1.25E-003	9.07E+008	2.48E-010
W-OT	Mean	BZME	4.34E+002	8.00E-003	7.63E-002	3.75E-001	4.53E-002	5.61E-004	9.07E+008	1.19E-010
W-OT	95% UCL	BZME	4.34E+002	1.30E-003	7.63E-002	3.75E-001	4.53E-002	5.61E-004	9.07E+008	1.93E-011
W-OT	Mean	CLEA	1.20E+005	1.10E-002	1.09E-001	3.75E-001	2.99E-001	4.98E-003	9.07E+008	5.14E-010
W-OT	95% UCL	CLEA	1.20E+005	4.50E-003	1.09E-001	3.75E-001	2.99E-001	4.98E-003	9.07E+008	2.10E-010
W-OT	Mean	CYMP	4.34E+002	1.10E-002	6.05E-002	3.75E-001	4.53E-002	4.45E-004	9.07E+008	1.46E-010
W-OT	95% UCL	CYMP	4.34E+002	1.30E-002	6.05E-002	3.75E-001	4.53E-002	4.45E-004	9.07E+008	1.72E-010
W-OT	Mean	EBZ	3.36E+002	8.00E-003	6.99E-002	3.75E-001	1.52E-002	1.73E-004	9.07E+008	6.55E-011
W-OT	95% UCL	EBZ	3.36E+002	1.30E-003	6.99E-002	3.75E-001	1.52E-002	1.73E-004	9.07E+008	1.06E-011
W-OT	Mean	PBZN	3.36E+002	8.00E-003	6.47E-002	3.75E-001	1.52E-002	1.60E-004	9.07E+008	6.30E-011
W-OT	95% UCL	PBZN	3.36E+002	7.80E-003	6.47E-002	3.75E-001	1.52E-002	1.60E-004	9.07E+008	6.15E-011
W-OT	Mean	TCA111	7.60E+002	8.00E-003	7.77E-002	3.75E-001	5.29E-002	6.66E-004	9.07E+008	1.30E-010
W-OT	95% UCL	TCA111	7.60E+002	2.50E-003	7.77E-002	3.75E-001	5.29E-002	6.66E-004	9.07E+008	4.05E-011
W-OT	Mean	TCE	4.48E+002	9.00E-003	7.91E-002	3.75E-001	1.55E-001	1.94E-003	9.07E+008	2.55E-010
W-OT	95% UCL	TCE	4.48E+002	1.20E-002	7.91E-002	3.75E-001	1.55E-001	1.94E-003	9.07E+008	3.40E-010
W-OT	Mean	XYLENES	3.65E+002	9.00E-003	6.56E-002	3.75E-001	1.41E-002	1.51E-004	9.07E+008	6.88E-011
W-OT	95% UCL	XYLENES	3.65E+002	1.10E-002	6.56E-002	3.75E-001	1.41E-002	1.51E-004	9.07E+008	8.41E-011

P-R => Plating Room Area  
R-SV => Reservoir Area  
W-OT => Waste Oil Tank Area

Input Parameters for Shen Model

Site ID	Statistic	Analyte	C_sat mg/kg	C_i,s mg/kg	C_sj g/cm3	poros	D_i cm2/s	d_s cm	E_i,s g/s-m2
P-R	Mean	BRME	0.00E+000	1.90E-002	6.59E-003	3.75E-001	1.14E-001	3.05E+001	1.27E-009
P-R	95% UCL	BRME	0.00E+000	1.40E-002	6.59E-003	3.75E-001	1.14E-001	3.05E+001	9.33E-010
P-R	Mean	DBF	0.00E+000	1.80E-001	5.97E-005	3.75E-001	5.10E-002	3.05E+001	4.86E-011
P-R	95% UCL	DBF	0.00E+000	4.30E-002	5.97E-005	3.75E-001	5.10E-002	3.05E+001	1.16E-011
P-R	Mean	FC12	0.00E+000	5.40E-002	3.33E-002	3.75E-001	1.00E-004	3.05E+001	1.60E-011
P-R	95% UCL	FC12	0.00E+000	1.40E-003	3.33E-002	3.75E-001	1.00E-004	3.05E+001	4.14E-013
W-OT	Mean	DBF	0.00E+000	5.00E-001	5.97E-005	3.75E-001	5.10E-002	3.05E+001	1.35E-010
W-OT	95% UCL	DBF	0.00E+000	3.60E-001	5.97E-005	3.75E-001	5.10E-002	3.05E+001	9.72E-011
W-OT	Mean	DCA11	0.00E+000	7.00E-003	1.29E-003	3.75E-001	9.14E-002	3.05E+001	7.29E-011
W-OT	95% UCL	DCA11	0.00E+000	1.10E-002	1.29E-003	3.75E-001	9.14E-002	3.05E+001	1.15E-010
W-OT	Mean	DCE12C	0.00E+000	1.50E-002	1.08E-003	3.75E-001	9.35E-002	3.05E+001	1.34E-010
W-OT	95% UCL	DCE12C	0.00E+000	2.30E-002	1.08E-003	3.75E-001	9.35E-002	3.05E+001	2.05E-010
W-OT	Mean	DCE12C	0.00E+000	9.00E-003	3.07E-005	3.75E-001	6.50E-002	3.05E+001	1.59E-012
W-OT	95% UCL	IPBZ	0.00E+000	2.70E-003	3.07E-005	3.75E-001	6.50E-002	3.05E+001	4.78E-013
W-OT	Mean	TMB124	0.00E+000	1.20E-002	3.07E-005	3.75E-001	6.50E-002	3.05E+001	2.12E-012
W-OT	95% UCL	TMB124	0.00E+000	1.50E-002	3.07E-005	3.75E-001	6.50E-002	3.05E+001	2.65E-012
W-OT	Mean	TMB135	0.00E+000	2.00E-002	3.07E-005	3.75E-001	6.50E-002	3.05E+001	3.54E-012
W-OT	95% UCL	TMB135	0.00E+000	2.40E-002	3.07E-005	3.75E-001	6.50E-002	3.05E+001	4.25E-012
W-OT	Mean	VC	0.00E+000	9.00E-003	9.22E-003	3.75E-001	1.06E-001	3.05E+001	7.81E-010
W-OT	95% UCL	VC	0.00E+000	1.00E-002	9.22E-003	3.75E-001	1.06E-001	3.05E+001	8.68E-010

P-R => Plating Room Area  
R-SV => Reservoir Area  
W-OT => Waste Oil Tank Area

Input Parameters for Dust Model

Site ID	Statistic	Analyte	V_s	Uj	u_t	F(x)	C <sub>i,s</sub>	E <sub>i,s</sub>
			m/s	m/s	m/s		g/g	g/s-m2
P-R	Mean	ACE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.63E-007	5.66E-014
P-R	95% UCL	ACE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.29E-007	9.23E-014
P-R	Mean	ALDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.30E-008	2.80E-015
P-R	95% UCL	ALDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.40E-011	9.47E-018
P-R	Mean	AS	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.01E-005	2.17E-012
P-R	95% UCL	AS	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.10E-005	2.38E-012
P-R	Mean	BA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.11E-005	8.85E-012
P-R	95% UCL	BA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.80E-007	9.86E-012
P-R	Mean	BE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	5.20E-007	1.03E-013
P-R	95% UCL	BE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.40E-008	1.12E-013
P-R	Mean	BHCBETA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.40E-008	3.01E-015
P-R	95% UCL	BHCBETA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-010	6.45E-017
P-R	Mean	BHCDelta	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.30E-008	2.80E-015
P-R	95% UCL	BHCDelta	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-010	2.15E-017
P-R	Mean	BHCGAMMA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.30E-008	2.80E-015
P-R	95% UCL	BHCGAMMA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.30E-008	2.80E-015
P-R	Mean	BISZHP	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-010	2.15E-017
P-R	95% UCL	BISZHP	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-007	6.45E-014
P-R	Mean	BZAA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.20E-007	9.04E-014
P-R	95% UCL	BZAA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.70E-007	3.66E-014
P-R	Mean	CA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.10E-008	1.96E-014
P-R	95% UCL	CA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.83E-002	1.04E-008
P-R	Mean	CD	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.80E-002	2.11E-008
P-R	95% UCL	CD	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.20E-006	9.04E-013
P-R	Mean	CHRYSENE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.50E-006	7.53E-013
P-R	95% UCL	CHRYSENE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.90E-007	4.09E-014
P-R	Mean	CHRYSENE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.60E-008	1.42E-014
P-R	95% UCL	CHRYSENE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-007	1.29E-013
P-R	Mean	CN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.20E-007	1.55E-013
P-R	95% UCL	CN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.90E-006	1.05E-012
P-R	Mean	CO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	5.80E-006	1.25E-012
P-R	95% UCL	CO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.87E-005	1.05E-011
P-R	Mean	CR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.75E-005	1.67E-011
P-R	95% UCL	CR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.43E-005	1.38E-011
P-R	Mean	CU	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.45E-005	1.39E-011
P-R	95% UCL	CU	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-009	8.61E-016
P-R	Mean	DDD44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
P-R	95% UCL	DDD44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-009	4.30E-016
P-R	Mean	DDT44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-010	1.29E-016
P-R	95% UCL	DDT44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-010	1.29E-016
P-R	Mean	DIELDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.40E-008	3.01E-015
P-R	95% UCL	DIELDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-010	2.15E-017
P-R	Mean	ENDOSULFANA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-010	1.29E-016
P-R	95% UCL	ENDOSULFANA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.10E-009	2.37E-016
P-R	Mean	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.00E-009	1.51E-015
P-R	95% UCL	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-010	1.29E-016
P-R	Mean	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.50E-008	3.23E-015
P-R	95% UCL	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.50E-008	3.23E-015

Input Parameters for Dust Model

Site ID	Statistic	Analyte	V_s	[u]	u_t	F(x)	C_i,s	E_i,s
				m/s	m/s		g/g	g/s-m <sup>2</sup>
P-R	95% UCL	ENDOSULFANS	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-009	3.44E-016
P-R	Mean	FE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.55E-002	3.33E-009
P-R	95% UCL	FE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.75E-002	3.77E-009
P-R	Mean	FLA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-007	3.44E-014
P-R	95% UCL	FLA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.10E-007	2.37E-014
P-R	Mean	HG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-008	1.29E-014
P-R	95% UCL	HG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.00E-008	1.72E-014
P-R	Mean	MG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.80E-003	1.46E-009
P-R	95% UCL	MG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.01E-003	1.72E-009
P-R	Mean	MN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.72E-004	7.99E-011
P-R	95% UCL	MN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.34E-004	9.34E-011
P-R	Mean	MO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.82E-004	1.47E-010
P-R	95% UCL	MO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.06E-003	8.73E-010
P-R	Mean	MTLNCL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-009	6.45E-016
P-R	95% UCL	MTLNCL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-009	8.61E-016
P-R	Mean	MTXYCL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-008	3.44E-015
P-R	95% UCL	MTXYCL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.50E-009	9.68E-016
P-R	Mean	NA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.28E-004	2.75E-011
P-R	95% UCL	NA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-004	3.44E-011
P-R	Mean	NI	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.05E-005	8.71E-012
P-R	95% UCL	NI	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.06E-005	1.30E-011
P-R	Mean	PB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.53E-004	7.59E-011
P-R	95% UCL	PB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.81E-004	6.04E-011
P-R	Mean	PCE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-009	6.45E-016
P-R	95% UCL	PCE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.20E-009	2.58E-016
P-R	Mean	PYR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-007	3.44E-014
P-R	95% UCL	PYR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.50E-008	1.61E-014
P-R	Mean	SOLID	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.16E-005	1.97E-011
P-R	95% UCL	SOLID	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.33E-005	2.01E-011
P-R	Mean	TCE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-008	2.15E-015
P-R	95% UCL	TCE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.40E-008	3.01E-015
P-R	Mean	V	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.40E-006	1.59E-012
P-R	95% UCL	V	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.50E-006	2.04E-012
P-R	Mean	ZN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.72E-004	5.85E-011
P-R	95% UCL	ZN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.38E-004	2.97E-011
R-SV	Mean	AL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.83E-003	1.68E-009
R-SV	95% UCL	AL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.34E-002	2.88E-009
R-SV	Mean	ALDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-009	8.61E-016
R-SV	95% UCL	ALDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	5.00E-010	3.23E-016
R-SV	Mean	BHCDELTA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.00E-010	1.94E-016
R-SV	95% UCL	BHCDELTA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.10E-009	2.37E-016
R-SV	Mean	BHCGAMMA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-010	8.61E-017
R-SV	95% UCL	BHCGAMMA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.90E-007	6.24E-014
R-SV	Mean	BISZEPH	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-007	4.30E-014
R-SV	95% UCL	BISZEPH	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.70E-007	3.66E-014
R-SV	Mean	BZAA	0.00E+000	4.60E+000	1.06E+001	2.61E-001		

Input Parameters for Dust Model

Site ID	Statistic	Analyte	V_s	[u]	u_t	F(x)	C_i,s	E_i,s
			m/s	m/s	m/s		g/g	g/s-m2
R-SV	95% UCL	BZAA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-007	4.30E-014
R-SV	Mean	BZAP	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.50E-007	3.23E-014
R-SV	95% UCL	BZAP	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.40E-007	3.01E-014
R-SV	Mean	BZBF	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.80E-007	3.87E-014
R-SV	95% UCL	BZBF	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.90E-007	6.24E-014
R-SV	Mean	CA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.41E-002	9.48E-009
R-SV	95% UCL	CA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.87E-002	1.48E-008
R-SV	Mean	CHRYSENE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.30E-007	4.95E-014
R-SV	95% UCL	CHRYSENE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-007	4.30E-014
R-SV	Mean	CR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.50E-006	2.04E-012
R-SV	95% UCL	CR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.56E-005	3.36E-012
R-SV	Mean	DDD44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-009	4.30E-016
R-SV	95% UCL	DDD44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-010	1.29E-016
R-SV	Mean	DDE44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-009	4.30E-016
R-SV	95% UCL	DDE44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
R-SV	Mean	DDT44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
R-SV	95% UCL	DDT44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.30E-009	2.80E-016
R-SV	Mean	DIELDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-009	4.30E-016
R-SV	95% UCL	DIELDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.60E-009	7.75E-016
R-SV	Mean	DNBP	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-007	8.61E-014
R-SV	95% UCL	DNBP	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.60E-008	1.85E-014
R-SV	Mean	ENDOSULFANA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-010	4.30E-017
R-SV	95% UCL	ENDOSULFANA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-010	4.30E-017
R-SV	Mean	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.00E-009	1.51E-015
R-SV	95% UCL	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-010	6.45E-017
R-SV	Mean	ENDOSULFANS	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-009	1.29E-015
R-SV	95% UCL	ENDOSULFANS	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.20E-009	6.88E-016
R-SV	Mean	ENDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-009	6.45E-016
R-SV	95% UCL	ENDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.00E-010	1.51E-016
R-SV	Mean	ENDRINALD	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.00E-009	1.51E-015
R-SV	95% UCL	ENDRINALD	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.40E-008	3.01E-015
R-SV	Mean	FLA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.70E-007	3.66E-014
R-SV	95% UCL	FLA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-007	6.45E-014
R-SV	Mean	HEPT-EPOX	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-009	8.61E-016
R-SV	95% UCL	HEPT-EPOX	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.90E-009	1.05E-015
R-SV	Mean	HEPTACHLOR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.10E-009	2.80E-016
R-SV	95% UCL	HEPTACHLOR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.20E-009	4.52E-016
R-SV	Mean	HEPTACHLOR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.14E-003	1.32E-009
R-SV	95% UCL	HEPTACHLOR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.76E-003	2.10E-009
R-SV	Mean	MG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.54E-004	7.62E-011
R-SV	95% UCL	MG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.18E-004	8.99E-011
R-SV	Mean	MN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.17E-005	2.52E-012
R-SV	95% UCL	MN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.79E-005	3.85E-012
R-SV	Mean	MO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.00E-009	1.94E-015
R-SV	95% UCL	MO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-009	3.44E-016
R-SV	Mean	MTXYCL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.60E-009	3.44E-016
R-SV	95% UCL	MTXYCL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.98E-004	4.26E-011
R-SV	Mean	NA	0.00E+000	4.60E+000	1.06E+001	2.61E-001		

Input Parameters for Dust Model

Site ID	Statistic	Analyte	V_s	[u]	u_t	F(x)	C_i,s	E_i,s
			m/s	m/s	m/s		g/g	g/s-m2
R-SV	95% UCL	NA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.36E-004	5.08E-011
R-SV	Mean	PHAN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.50E-007	3.23E-014
R-SV	95% UCL	PHAN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.40E-008	1.59E-014
R-SV	Mean	PYR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.80E-007	3.87E-014
R-SV	95% UCL	PYR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.90E-007	6.24E-014
R-SV	Mean	SOLID	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.10E-005	1.96E-011
R-SV	95% UCL	SOLID	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.38E-005	2.02E-011
R-SV	Mean	TCE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.00E-009	1.72E-015
R-SV	95% UCL	TCE	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.40E-009	1.81E-015
W-OT	Mean	AL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.08E-002	2.32E-009
W-OT	95% UCL	AL	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.15E-002	2.47E-009
W-OT	Mean	ALDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-009	8.61E-016
W-OT	95% UCL	ALDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	5.00E-010	1.08E-016
W-OT	Mean	BA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	5.99E-005	1.29E-011
W-OT	95% UCL	BA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.49E-005	1.61E-011
W-OT	Mean	BHCETA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-009	6.45E-016
W-OT	95% UCL	BHCETA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.10E-009	2.37E-016
W-OT	Mean	BHCDELTA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-010	1.29E-016
W-OT	95% UCL	BHCDELTA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
W-OT	Mean	CR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.28E-005	2.75E-012
W-OT	95% UCL	CR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.36E-005	2.93E-012
W-OT	Mean	DCA11	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.00E-009	1.29E-015
W-OT	95% UCL	DCA11	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.80E-009	3.87E-016
W-OT	Mean	DCE12C	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-008	2.15E-015
W-OT	95% UCL	DCE12C	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.30E-008	2.80E-015
W-OT	Mean	DDD44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-009	6.45E-016
W-OT	95% UCL	DDD44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	5.60E-009	1.20E-015
W-OT	Mean	DDE44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
W-OT	95% UCL	DDE44	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
W-OT	Mean	DIELDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-009	6.45E-016
W-OT	95% UCL	DIELDRIN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.90E-009	8.39E-016
W-OT	Mean	ENDOSULFANA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-009	4.30E-016
W-OT	95% UCL	ENDOSULFANA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.00E-010	6.45E-017
W-OT	Mean	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-009	8.61E-016
W-OT	95% UCL	ENDOSULFANB	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.00E-010	8.61E-017
W-OT	Mean	ENDRIMALD	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.00E-008	4.30E-015
W-OT	95% UCL	ENDRIMALD	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.30E-008	9.25E-015
W-OT	Mean	HEPTACHLOR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-009	2.15E-016
W-OT	95% UCL	HEPTACHLOR	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.00E-010	2.15E-017
W-OT	Mean	MG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	3.26E-003	7.02E-010
W-OT	95% UCL	MG	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.19E-003	9.01E-010
W-OT	Mean	MN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	6.78E-004	1.46E-010
W-OT	95% UCL	MN	0.00E+000	4.60E+000	1.06E+001	2.61E-001	9.00E-006	1.94E-010
W-OT	Mean	MO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.48E-005	3.18E-012
W-OT	95% UCL	MO	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.50E-004	3.23E-011
W-OT	Mean	NA	0.00E+000	4.60E+000	1.06E+001	2.61E-001		



Input Parameters for Dust Model

Site ID	Statistic	Analyte	V_s	[u]	u_t	F(x)	C_i,s	E_i,s
				m/s	m/s		g/g	g/s-m2
W-OT	95% UCL	NA	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.29E-004	4.93E-011
W-OT	Mean	NAPH	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.20E-007	2.58E-014
W-OT	95% UCL	NAPH	0.00E+000	4.60E+000	1.06E+001	2.61E-001	1.50E-007	3.23E-014
W-OT	Mean	SOLID	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.83E-005	1.90E-011
W-OT	95% UCL	SOLID	0.00E+000	4.60E+000	1.06E+001	2.61E-001	8.96E-005	1.93E-011
W-OT	Mean	TMB124	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.00E-009	1.51E-015
W-OT	95% UCL	TMB124	0.00E+000	4.60E+000	1.06E+001	2.61E-001	2.60E-009	5.59E-016
W-OT	Mean	TMB135	0.00E+000	4.60E+000	1.06E+001	2.61E-001	7.00E-009	1.51E-015
W-OT	95% UCL	TMB135	0.00E+000	4.60E+000	1.06E+001	2.61E-001	4.60E-009	9.90E-016

P-R => Plating Room Area  
R-SV => Reservoir Area  
W-OT => Waste Oil Tank Area

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# **A P P E N D I X G**

## **CHEMICAL CONCENTRATIONS IN AIR AT RECEPTORS**

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APPENDIX G-1  
 CHEMICAL CONCENTRATIONS OF FUGITIVE DUST AT RECEPTORS  
 FUTURE LAND USE

Future Land Use Future Offsite 30-year Residents Impacted by Plating Room Area	Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
	ACETONE	7.4000E-002	5.6583E-014	9.2297E-014	4.1871E-012	6.8300E-012
	ALDRIN	7.4000E-002	2.7969E-015	9.4664E-018	2.0697E-013	7.0051E-016
	ALPHA ENDOSULFAN	7.4000E-002	1.2909E-016	2.3666E-016	9.5524E-015	1.7513E-014
	ARSENIC	7.4000E-002	2.1687E-012	2.3752E-012	1.6048E-010	1.7576E-010
	BARIUM	7.4000E-002	8.8467E-012	9.8644E-012	6.5466E-010	7.2996E-010
	BENZO(a)ANTHRACENE	7.4000E-002	3.6575E-014	1.9578E-014	2.7065E-012	1.4488E-012
	BERYLLIUM	7.4000E-002	1.0327E-013	1.1188E-013	7.6419E-012	8.2788E-012
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7.4000E-002	3.0120E-015	6.4543E-017	2.2289E-013	4.7762E-015
	BETA ENDOSULFAN	7.4000E-002	1.5060E-015	1.2909E-016	1.1144E-013	9.5524E-015
	bis(2-ETHYLHEXYL) PHTHALATE	7.4000E-002	6.4543E-014	9.0361E-014	4.7762E-012	6.6867E-012
	CADMIUM	7.4000E-002	9.0361E-013	7.5301E-013	6.6867E-011	5.5722E-011
	CALCIUM	7.4000E-002	1.0396E-008	2.1085E-008	7.6929E-007	1.5603E-006
	CHROMIUM, TOTAL	7.4000E-002	1.0478E-011	1.6674E-011	7.7534E-010	1.2339E-009
	CHRYSENE	7.4000E-002	4.0877E-014	1.4200E-014	3.0249E-012	1.0508E-012
	COBALT	7.4000E-002	1.0542E-012	1.2478E-012	7.8011E-011	9.2340E-011
	COPPER	7.4000E-002	1.3834E-011	1.3877E-011	1.0237E-009	1.0269E-009
	CYANIDE	7.4000E-002	1.2909E-013	1.5490E-013	9.5524E-012	1.1463E-011
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7.4000E-002	2.7969E-015	2.1514E-017	2.0697E-013	1.5921E-015
	DIELDRIN	7.4000E-002	3.0120E-015	2.1514E-017	2.2289E-013	1.5921E-015
	ENDOSULFAN SULFATE	7.4000E-002	3.2272E-015	3.4423E-016	2.3881E-013	1.5921E-015
	FLUORANTHENE	7.4000E-002	3.4423E-014	2.3666E-014	2.5473E-012	2.5473E-014
	GAMMA BHC (LINDANE)	7.4000E-002	2.7969E-015	2.1514E-017	2.0697E-013	1.5921E-015
	IRON	7.4000E-002	3.3299E-009	3.7714E-009	2.4641E-007	2.7908E-007
	LEAD	7.4000E-002	7.5903E-011	6.0391E-011	5.6168E-009	4.4689E-009
	MAGNESIUM	7.4000E-002	1.4627E-009	1.7235E-009	1.0824E-007	1.2754E-007
	MANGANESE	7.4000E-002	7.9948E-011	9.3394E-011	5.9161E-009	6.9112E-009
	MERCURY	7.4000E-002	1.2909E-014	1.7212E-014	9.5524E-013	1.2737E-012
	METHOXYCHLOR	7.4000E-002	3.4423E-015	9.6815E-016	2.5473E-013	7.1643E-014
	METHYLENE CHLORIDE	7.4000E-002	6.4543E-016	8.6058E-016	4.7762E-014	6.3683E-014
	MOLYBDENUM	7.4000E-002	1.4664E-010	8.7349E-010	1.0852E-008	6.4638E-008

NICKEL	7.4000E-002	8.7133E-012	1.3038E-011	6.4479E-010	9.6479E-010
p,p'-DDD	7.4000E-002	8.6058E-016	2.1514E-016	6.3683E-014	1.5921E-014
p,p'-DDT	7.4000E-002	4.3029E-016	1.2909E-016	3.1841E-014	9.5524E-015
PYRENE	7.4000E-002	3.4423E-014	1.6136E-014	2.5473E-012	1.1941E-012
SODIUM	7.4000E-002	2.7538E-011	3.4423E-011	2.0378E-009	2.5473E-009
TETRACHLOROETHYLENE(PCE)	7.4000E-002	6.4543E-016	2.5817E-016	4.7762E-014	1.9105E-014
TRICHLOROETHYLENE (TCE)	7.4000E-002	2.1514E-015	3.0120E-015	1.5921E-013	2.2289E-013
VANADIUM	7.4000E-002	1.5921E-012	2.0439E-012	1.1781E-010	1.5125E-010
ZINC	7.4000E-002	5.8519E-011	2.9711E-011	4.3304E-009	2.1986E-009

Future Land Use Future Offsite 30-year Residents Impacted by Reservoir Area						
Chemicals of Potential Concern		Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
ALDRIN	7.3800E-001	8.6058E-016	3.2272E-016	3.2272E-016	6.3511E-013	2.3816E-013
ALPHA ENDOSULFAN	7.3800E-001	4.3029E-017	4.3029E-017	4.3029E-017	3.1755E-014	3.1755E-014
ALUMINUM	7.3800E-001	1.6846E-009	2.8829E-009	2.8829E-009	1.2432E-006	2.1276E-006
BENZO(a)ANTHRACENE	7.3800E-001	3.6575E-014	4.3029E-014	4.3029E-014	2.6992E-011	3.1755E-011
BENZO(a)PYRENE	7.3800E-001	3.2272E-014	3.0120E-014	3.0120E-014	2.3816E-011	2.2229E-011
BENZO(b)FLUORANTHENE	7.3800E-001	3.8726E-014	6.2392E-014	6.2392E-014	2.8580E-011	4.6045E-011
BETA ENDOSULFAN	7.3800E-001	1.5066E-015	6.4543E-017	6.4543E-017	1.1114E-012	4.7633E-014
bis(2-ETHYLHEXYL) PHTHALATE	7.3800E-001	6.2392E-014	4.3029E-014	4.3029E-014	4.6045E-011	3.1755E-011
CALCIUM	7.3800E-001	9.4788E-009	1.4780E-008	6.9954E-006	6.9954E-006	1.0908E-005
CHROMIUM, TOTAL	7.3800E-001	2.0439E-012	3.3563E-012	3.3563E-012	1.5084E-009	2.4769E-009
CHRYSENE	7.3800E-001	4.9483E-014	4.3029E-014	4.3029E-014	3.6519E-011	3.1755E-011
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7.3800E-001	1.0757E-016	1.9363E-016	1.9363E-016	7.9388E-014	1.4290E-013
D- $\alpha$ -BUTYL PHTHALATE	7.3800E-001	8.6058E-014	1.8502E-014	1.8502E-014	6.3511E-011	1.3655E-011
DIELDRIN	7.3800E-001	4.3029E-016	7.7452E-016	7.7452E-016	3.1755E-013	5.7160E-013
ENDOSULFAN SULFATE	7.3800E-001	1.2909E-015	6.8846E-016	6.8846E-016	9.5266E-013	5.0809E-013
ENDRIN	7.3800E-001	6.4543E-016	1.5060E-016	1.5060E-016	4.7633E-013	1.1114E-013
ENDRIN ALDEHYDE	7.3800E-001	1.5060E-015	3.0120E-015	3.0120E-015	1.1114E-012	2.2229E-012
FLUORANTHENE	7.3800E-001	3.6575E-014	6.4543E-014	6.4543E-014	2.6992E-011	4.7633E-011
GAMMA BHC (LINDANE)	7.3800E-001	2.3666E-016	8.6058E-017	8.6058E-017	1.7465E-013	6.3511E-014
HEPTACHLOR	7.3800E-001	2.7969E-016	4.5180E-016	4.5180E-016	2.0641E-013	3.3343E-013
HEPTACHLOR EPOXIDE	7.3800E-001	8.6058E-016	1.0542E-015	1.0542E-015	6.3511E-013	7.7801E-013
MAGNESIUM	7.3800E-001	1.3215E-009	2.0998E-009	2.0998E-009	9.7529E-007	1.5497E-006
MANGANESE	7.3800E-001	7.6226E-011	8.9930E-011	8.9930E-011	5.6255E-008	6.6369E-008
METHOXYCHLOR	7.3800E-001	1.9363E-015	3.4423E-016	3.4423E-016	1.4290E-012	2.5404E-013
MOLYBDENUM	7.3800E-001	2.5172E-012	3.8511E-012	3.8511E-012	1.8577E-009	2.8421E-009
p,p'-DDD	7.3800E-001	4.3029E-016	1.2909E-016	1.2909E-016	3.1755E-013	9.5266E-014
p,p'-DDE	7.3800E-001	4.3029E-016	2.1514E-016	2.1514E-016	3.1755E-013	1.5878E-013
p,p'-DDT	7.3800E-001	2.1514E-016	2.7969E-016	2.7969E-016	1.5878E-013	2.0641E-013
PHENANTHRENE	7.3800E-001	3.2272E-014	1.5921E-014	1.5921E-014	2.3816E-011	1.1749E-011
PYRENE	7.3800E-001	3.8726E-014	6.2392E-014	6.2392E-014	2.8580E-011	4.6045E-011
SODIUM	7.3800E-001	4.2599E-011	5.0774E-011	5.0774E-011	3.1438E-008	3.7471E-008

Future Land Use  
 Future Offsite 30-year Residents  
 Impacted by Waste Oil Tank Area

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1-DICHLOROETHANE	2.0000E-002	1.2909E-015	3.8726E-016	2.5817E-014	7.7452E-015
1,2,4-TRIMETHYLBENZENE	2.0000E-002	1.5060E-015	5.5938E-016	3.0120E-014	1.1188E-014
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2.0000E-002	1.5060E-015	9.8966E-016	3.0120E-014	1.9793E-014
ALDRIN	2.0000E-002	8.6058E-016	1.0757E-016	1.7212E-014	2.1514E-015
ALPHA ENDOSULFAN	2.0000E-002	4.3029E-016	6.4543E-017	8.6058E-015	1.2909E-015
ALUMINUM	2.0000E-002	2.3229E-009	2.4742E-009	4.6458E-008	4.9483E-008
BARIUM	2.0000E-002	1.2887E-011	1.6114E-011	2.5774E-010	3.2229E-010
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2.0000E-002	6.4543E-016	2.3666E-016	1.2909E-014	4.7332E-015
BETA ENDOSULFAN	2.0000E-002	8.6058E-016	8.6058E-017	1.7212E-014	1.7212E-015
CHROMIUM, TOTAL	2.0000E-002	2.7538E-012	2.9260E-012	5.5077E-011	5.8519E-011
cis-1,2-DICHLOROETHYLENE	2.0000E-002	2.1514E-015	2.7969E-015	4.3029E-014	5.5938E-014
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2.0000E-002	1.2909E-016	2.1514E-016	2.5817E-015	4.3029E-015
DIELDRIN	2.0000E-002	6.4543E-016	8.3906E-016	1.2909E-014	1.6781E-014
ENDRIN ALDEHYDE	2.0000E-002	4.3029E-015	9.2512E-015	8.6058E-014	1.8502E-013
HEPTACHLOR	2.0000E-002	2.1514E-016	2.1514E-017	4.3029E-015	4.3029E-016
MAGNESIUM	2.0000E-002	7.0208E-010	9.0146E-010	1.4042E-008	1.8029E-008
MANGANESE	2.0000E-002	1.0736E-010	1.4587E-010	2.1471E-009	2.9174E-009
MOLYBDENUM	2.0000E-002	1.9363E-012	3.1841E-012	3.8726E-011	6.3683E-011
NAPHTHALENE	2.0000E-002	2.5817E-014	3.2272E-014	5.1635E-013	6.4543E-013
p,p'-DDD	2.0000E-002	6.4543E-016	1.2048E-015	1.2909E-014	2.4096E-014
p,p'-DDE	2.0000E-002	2.1514E-016	2.1514E-016	4.3029E-015	4.3029E-015
SODIUM	2.0000E-002	3.2272E-011	4.9268E-011	6.4543E-010	9.8536E-010

Future Land Use  
 Future Onsite Construction Workers  
 Impacted by Plating Room Area

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE	6.9110E+000	1.1171E-013	5.1151E-014	7.7202E-010	3.5350E-010
ACENAPHTHENE	6.9110E+000	1.1171E-012	8.8191E-013	7.7202E-009	6.0949E-009
ACETONE	6.9110E+000	1.4405E-012	2.5693E-012	9.9550E-009	1.7756E-008
ALDRIN	6.9110E+000	5.2915E-014	2.3869E-016	3.6569E-010	1.7878E-012
ALPHA ENDOSULFAN	6.9110E+000	1.1759E-014	6.4673E-015	8.1265E-011	4.4696E-011
ANTHRACENE	6.9110E+000	1.2935E-012	1.4698E-012	8.9392E-009	1.0158E-008
BENZO(a)ANTHRACENE	6.9110E+000	1.9990E-012	2.1754E-012	1.3815E-008	1.5034E-008
BENZO(b)FLUORANTHENE	6.9110E+000	1.4698E-012	1.6462E-012	1.0158E-008	1.1377E-008
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6.9110E+000	2.0578E-012	2.0578E-012	1.4221E-008	1.4221E-008
BETA ENDOSULFAN	6.9110E+000	5.2915E-014	1.7638E-015	3.6569E-010	1.2190E-011
bis(2-ETHYLHEXYL) PHTHALATE	6.9110E+000	8.814E-012	3.5276E-015	4.0633E-010	2.4380E-011
BROMOMETHANE	6.9110E+000	1.1171E-013	2.1754E-012	1.3002E-008	1.5034E-008
CADMIUM	6.9110E+000	1.9402E-011	8.2312E-014	7.7202E-010	5.6886E-010
CALCIUM	6.9110E+000	1.9402E-011	1.4111E-011	1.3409E-007	9.7518E-008
CHRYSENE	6.9110E+000	2.0589E-007	9.0543E-007	1.4229E-003	6.2574E-003
CYANIDE	6.9110E+000	2.3518E-012	2.9397E-012	1.6253E-008	2.0316E-008
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6.9110E+000	2.9885E-012	3.4688E-012	2.0723E-008	2.3973E-008
DIBENZOFURAN	6.9110E+000	2.9397E-014	5.8794E-016	2.0316E-010	4.0633E-012
DICHLORODIFLUOROMETHANE	6.9110E+000	1.0583E-012	2.5281E-013	7.3139E-009	1.7472E-009
DIELDRIN	6.9110E+000	3.1749E-013	8.2312E-015	2.1942E-009	5.6886E-011
ENDOSULFAN SULFATE	6.9110E+000	4.7035E-014	1.1759E-015	3.2506E-010	8.1265E-012
FLUORANTHENE	6.9110E+000	5.2915E-014	9.4070E-015	3.6569E-010	6.5012E-011
FLUORENE	6.9110E+000	2.4106E-012	2.2342E-012	1.6659E-008	1.5440E-008
GAMMA BHC (LINDANE)	6.9110E+000	1.0583E-012	6.4673E-013	7.3139E-009	4.4696E-009
HEPTACHLOR	6.9110E+000	3.5276E-014	1.1759E-015	2.4380E-010	8.1265E-012
MERCURY	6.9110E+000	4.7035E-014	1.8814E-016	3.2506E-010	1.3002E-012
METHOXYCHLOR	6.9110E+000	8.2312E-014	7.0553E-013	3.2506E-009	4.8759E-009
METHYLENE CHLORIDE	6.9110E+000	8.2312E-014	7.6432E-014	5.6886E-010	5.2822E-010
MOLYBDENUM	6.9110E+000	1.3523E-013	4.7035E-014	9.3455E-010	3.2506E-010
p,p'-DDD	6.9110E+000	1.5257E-009	9.8715E-010	1.0544E-005	6.8222E-006
p,p'-DDT	6.9110E+000	2.9397E-014	1.2935E-014	2.0316E-010	8.9392E-011
PCB-1254 (AROCHLOR 1254)	6.9110E+000	1.7638E-014	3.5276E-015	1.2190E-010	2.4380E-011
PHENANTHRENE	6.9110E+000	2.0578E-013	4.3508E-013	1.4221E-009	3.0068E-009
PYRENE	6.9110E+000	1.8226E-012	1.9402E-012	1.2596E-008	1.3409E-008
TETRACHLOROETHYLENE(PCE)	6.9110E+000	2.5281E-012	2.4106E-012	1.7472E-008	1.6659E-008
TRICHLOROETHYLENE (TCE)	6.9110E+000	1.1171E-013	7.0553E-015	7.7202E-010	4.8759E-011
	6.9110E+000	1.4111E-013	1.6462E-013	9.7518E-010	1.1377E-009



Future Land Use  
 Future Onsite Construction Workers  
 Impacted by Reservoir Area

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE	6.9110E+000	5.2915E-014	1.7638E-014	3.6569E-010	1.2190E-010
ALDRIN	6.9110E+000	2.3518E-014	8.8191E-015	1.6253E-010	6.0949E-011
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	6.9110E+000	7.0553E-015	5.8794E-016	4.8759E-016	4.0633E-012
ALPHA ENDOSULFAN	6.9110E+000	6.4673E-015	5.2915E-015	4.4696E-011	3.6569E-011
ANTHRACENE	6.9110E+000	1.3523E-012	8.2312E-013	9.3455E-009	5.6886E-009
BENZO(a)ANTHRACENE	6.9110E+000	1.2935E-012	2.281E-012	8.9392E-009	1.7472E-008
BENZO(a)PYRENE	6.9110E+000	1.1759E-012	1.4111E-012	8.1265E-009	9.7518E-009
BENZO(b)FLUORANTHENE	6.9110E+000	1.4698E-012	2.1166E-012	1.0158E-008	1.4628E-008
BENZO(k)PERYLENE	6.9110E+000	1.2347E-012	8.8191E-013	8.5328E-009	6.0949E-009
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6.9110E+000	3.5276E-014	3.5276E-015	2.4380E-010	2.4380E-010
BETA ENDOSULFAN	6.9110E+000	4.7035E-014	3.1161E-014	3.2506E-010	2.1535E-010
bis(2-ETHYLHEXYL) PHTHALATE	6.9110E+000	1.7638E-012	1.1759E-012	1.2190E-008	8.1265E-009
CALCIUM	6.9110E+000	1.0545E-007	7.7947E-007	7.2874E-004	5.3869E-003
CHRYSENE	6.9110E+000	1.7638E-012	2.3518E-012	1.2190E-008	1.6253E-008
COPPER	6.9110E+000	2.7339E-010	9.2307E-010	1.8894E-006	6.3793E-006
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6.9110E+000	2.3518E-015	3.5276E-015	1.6253E-011	2.4380E-011
DI-n-BUTYL PHTHALATE	6.9110E+000	2.9397E-012	5.0563E-013	2.0316E-008	3.4944E-009
DIELDRIN	6.9110E+000	1.7638E-014	2.1166E-014	1.2190E-010	1.4628E-010
ENDOSULFAN SULFATE	6.9110E+000	2.3518E-014	1.8814E-014	1.6253E-010	1.3002E-010
ENDRIN	6.9110E+000	2.3518E-014	1.4111E-014	1.6253E-010	9.7518E-011
ENDRIN ALDEHYDE	6.9110E+000	2.9397E-014	8.2312E-014	2.0316E-010	5.6886E-010
FLUORANTHENE	6.9110E+000	1.4698E-012	2.4693E-012	1.0158E-008	1.7066E-008
FLUORENE	6.9110E+000	1.0583E-012	3.0573E-013	7.3139E-009	2.1129E-009
GAMMA BHC (LINDANE)	6.9110E+000	5.8794E-015	2.3518E-015	4.0633E-011	1.6253E-011
HEPTACHLOR	6.9110E+000	7.0553E-015	8.8191E-015	4.8759E-011	6.0949E-011
HEPTACHLOR EPOXIDE	6.9110E+000	2.9397E-014	2.8809E-014	2.0316E-010	1.9910E-010
INDENO(1,2,3-c,d)PYRENE	6.9110E+000	2.3518E-012	9.4070E-013	1.6253E-008	6.5012E-009
MERCURY	6.9110E+000	9.9950E-013	1.4111E-012	6.9075E-009	8.1265E-009
METHOXYCHLOR	6.9110E+000	7.6432E-014	1.1759E-013	5.2822E-010	9.7518E-010
MOLYBDENUM	6.9110E+000	6.9965E-011	9.5246E-011	4.8353E-007	6.5825E-007
p,p'-DDD	6.9110E+000	1.1759E-014	3.5864E-014	8.1265E-011	2.4786E-010
p,p'-DDE	6.9110E+000	2.9397E-014	5.8794E-015	2.0316E-010	4.0633E-011
p,p'-DDT	6.9110E+000	1.7638E-014	2.8809E-014	1.2190E-010	1.9910E-010
PCB-1260 (AROCHLOR 1260)	6.9110E+000	2.3518E-013	2.3518E-013	1.6253E-009	1.6253E-009
PHENANTHRENE	6.9110E+000	1.2347E-012	1.9990E-012	8.5328E-009	1.3815E-008
PYRENE	6.9110E+000	1.4698E-012	2.4693E-012	1.0158E-008	1.7066E-008
SELENIUM	6.9110E+000	4.1156E-012	3.2925E-012	2.8443E-008	2.2754E-008
TRICHLOROETHYLENE (TCE)	6.9110E+000	6.4673E-014	7.6432E-014	4.4696E-010	5.2822E-010
ZINC	6.9110E+000	1.0518E-009	6.4085E-009	7.2692E-006	4.4289E-005

Future Land Use Future Onsite Construction Workers Impacted by Waste Oil Tank Area	Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
	1,1,1-TRICHLOROETHANE	6.9110E+000	4.7035E-014	1.4698E-014	3.2506E-010	1.0158E-010
	1,1-DICHLOROETHANE	6.9110E+000	4.1156E-014	6.4673E-014	2.8443E-010	4.4696E-010
	1,2,4-TRIMETHYLBENZENE	6.9110E+000	7.0553E-014	8.8191E-014	4.8759E-010	6.0949E-010
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6.9110E+000	1.1759E-013	1.4111E-013	8.1265E-010	9.7518E-010
	2,4-DINITROTOLUENE	6.9110E+000	2.9397E-012	2.4106E-012	2.0316E-008	1.6659E-008
	2-METHYLNAPHTHALENE	6.9110E+000	1.7638E-012	1.7638E-012	1.2190E-008	1.2190E-008
	ACENAPHTHENE	6.9110E+000	2.9397E-012	1.7050E-012	2.0316E-008	1.1783E-008
	ALDRIN	6.9110E+000	4.1156E-014	7.0553E-015	2.8443E-010	4.8759E-011
	ALPHA ENDOSULFAN	6.9110E+000	1.7638E-014	1.6462E-014	1.2190E-010	1.1377E-010
	ALUMINUM	6.9110E+000	6.2927E-008	6.7078E-008	4.3489E-004	4.6358E-004
	ANTHRACENE	6.9110E+000	3.5276E-012	2.4693E-012	2.4380E-008	1.7066E-008
	BARIUM	6.9110E+000	3.3918E-010	4.0221E-010	2.3441E-006	2.7797E-006
	BENZO(g)ANTHRACENE	6.9110E+000	3.5276E-012	5.2915E-012	2.4380E-008	3.6569E-008
	BENZO(g)PYRENE	6.9110E+000	2.3518E-012	4.1156E-012	1.6253E-008	2.8443E-008
	BENZO(b)FLUORANTHENE	6.9110E+000	2.9397E-012	4.7035E-012	2.0316E-008	3.2506E-008
	BENZO(a,h,i)PERYLENE	6.9110E+000	2.9397E-012	2.8809E-012	2.0316E-008	1.9910E-008
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6.9110E+000	4.1156E-014	2.5281E-014	2.8443E-010	1.7472E-010
	BETA ENDOSULFAN	6.9110E+000	5.8794E-014	2.3518E-015	4.0633E-010	1.6253E-011
	bis(2-ETHYLHEXYL) PHTHALATE	6.9110E+000	2.3518E-012	2.3518E-012	1.6253E-008	1.6253E-008
	CHLOROETHANE	6.9110E+000	6.4673E-014	2.6457E-014	4.4696E-010	1.8285E-010
	CHRYSENE	6.9110E+000	4.7035E-012	5.8794E-012	3.2506E-008	4.0633E-008
	cis-1,2-DICHLOROETHYLENE	6.9110E+000	8.8191E-014	1.3523E-013	6.0949E-010	9.3455E-011
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6.9110E+000	4.1156E-015	8.8191E-015	2.8443E-011	6.0949E-011
	DI-n-BUTYL PHTHALATE	6.9110E+000	5.8794E-012	3.5276E-013	4.0633E-008	2.4380E-009
	DIBENZ(a,h)ANTHRACENE	6.9110E+000	2.9397E-012	6.4673E-013	2.0316E-008	4.4696E-009
	DIBENZOFURAN	6.9110E+000	2.9397E-012	2.1166E-012	2.0316E-008	1.4628E-008
	DIELDRIN	6.9110E+000	4.1156E-014	2.2930E-014	2.8443E-010	1.5847E-010
	ENDOSULFAN SULFATE	6.9110E+000	5.8794E-014	7.6432E-014	4.0633E-010	5.2822E-010
	ENDRIN	6.9110E+000	4.1156E-014	5.1739E-014	2.8443E-010	3.5757E-010
	ENDRIN ALDEHYDE	6.9110E+000	6.4673E-014	2.5281E-013	4.4696E-010	1.7472E-009
	ETHYLBENZENE	6.9110E+000	4.7035E-014	7.6432E-014	3.2506E-010	5.2822E-011
	FLUORANTHENE	6.9110E+000	2.9397E-012	5.8794E-012	2.0316E-008	4.0633E-008
	FLUORENE	6.9110E+000	2.3518E-012	2.6457E-012	1.6253E-008	1.8285E-008
	GAMMA BHC (LINDANE)	6.9110E+000	1.1759E-014	3.5276E-015	8.1265E-011	2.4380E-011
	HEPTACHLOR	6.9110E+000	1.1759E-014	5.8794E-014	8.1265E-011	4.0633E-012
	INDENO(1,2,3-c,d)PYRENE	6.9110E+000	4.7035E-012	2.6457E-012	3.2506E-008	1.8285E-008
	ISOPROPYLBENZENE (CUMENE)	6.9110E+000	5.2915E-014	1.5874E-014	3.6569E-010	1.0971E-010
	MERCURY	6.9110E+000	9.9950E-013	7.0553E-013	6.9075E-009	4.8759E-009
	METHOXYCHLOR	6.9110E+000	8.2312E-014	3.8804E-014	5.6886E-010	2.6817E-010
	MOLYBDENUM	6.9110E+000	6.4673E-011	8.4663E-011	4.4696E-007	5.8511E-007
	n-BUTYLBENZENE	6.9110E+000	7.6432E-014	6.4673E-014	4.4696E-010	5.2822E-010
	n-PROPYLBENZENE	6.9110E+000	4.7035E-014	4.5859E-014	3.2506E-010	3.1693E-010

	6.9110E+000	1.7638E-012	4.1156E-012	1.2190E-008	2.8443E-008
NAPHTHALENE	6.9110E+000	1.7638E-012	4.1156E-012	1.2190E-008	2.8443E-008
P,p'-DDD	6.9110E+000	4.1156E-014	3.2925E-014	2.8443E-010	2.2754E-010
P,p'-DDE	6.9110E+000	5.2915E-014	1.6462E-014	3.6569E-010	1.1377E-010
P,p'-DDT	6.9110E+000	4.1156E-014	4.7035E-014	2.8443E-010	3.2506E-010
P-CYMENE (p-ISOPROPYLTOLUENE)	6.9110E+000	6.4673E-014	7.6432E-014	4.4696E-010	5.2822E-010
PCB-1254 (AROCHEOR 1254)	6.9110E+000	1.7638E-013	1.7638E-013	1.2190E-009	1.2190E-009
PHENANTHRENE	6.9110E+000	2.9397E-012	4.1156E-012	2.0316E-008	2.8443E-008
PYRENE	6.9110E+000	3.5276E-012	5.8794E-012	2.4380E-008	4.0633E-008
SEC-BUTYLBENZENE	6.9110E+000	5.2915E-014	6.4673E-014	3.6569E-010	4.4696E-010
TOLUENE	6.9110E+000	4.7035E-014	7.6432E-014	3.2506E-010	5.2822E-011
TRICHLOROETHYLENE (TCE)	6.9110E+000	5.2915E-014	7.0553E-014	3.6569E-010	4.8759E-010
VINYL CHLORIDE	6.9110E+000	5.2915E-014	5.8794E-014	3.6569E-010	4.0633E-010
XYLENES, TOTAL	6.9110E+000	5.2915E-014	6.4673E-014	3.6569E-010	4.4696E-010
ZINC	6.9110E+000	5.5090E-010	6.8319E-010	3.8073E-006	4.7215E-006

Future Land Use Future Onsite Industrial Workers Impacted by Plating Room Area	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
Chemicals of Potential Concern					
ACETONE	7.0600E-001	5.6583E-014	9.2297E-014	3.9948E-011	6.5162E-011
ALDRIN	7.0600E-001	2.7969E-015	9.4664E-018	1.9746E-012	6.6832E-015
ALPHA ENDOSULFAN	7.0600E-001	1.2909E-016	2.3666E-016	9.1135E-014	1.6708E-013
ARSENIC	7.0600E-001	2.1687E-012	2.3752E-012	1.5311E-009	1.6769E-009
BARUM	7.0600E-001	8.8467E-012	9.8644E-012	6.2458E-009	6.9642E-009
BENZO(a)ANTHRACENE	7.0600E-001	3.6575E-014	1.9578E-014	2.5822E-011	1.3822E-011
BERYLLIUM	7.0600E-001	1.0327E-013	1.1188E-013	7.2908E-011	7.8984E-011
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7.0600E-001	3.0120E-015	6.4543E-017	2.1265E-012	4.5568E-014
BETA ENDOSULFAN	7.0600E-001	1.5060E-015	1.2909E-016	1.0632E-012	9.1135E-014
bis(2-ETHYLHEXYL) PHTHALATE	7.0600E-001	6.4543E-014	9.0361E-014	4.5568E-011	6.3795E-010
CADMIUM	7.0600E-001	9.0361E-013	7.5301E-013	6.3795E-010	5.3162E-010
CALCIUM	7.0600E-001	1.0396E-008	2.1085E-008	7.3394E-006	1.4886E-005
CHROMIUM, TOTAL	7.0600E-001	1.0478E-011	1.6674E-011	7.3971E-009	1.1772E-008
CHRYSENE	7.0600E-001	4.0877E-014	1.4200E-014	2.8859E-011	1.0025E-011
COBALT	7.0600E-001	1.0542E-012	1.2478E-012	7.4427E-010	8.8097E-010
COPPER	7.0600E-001	1.3834E-011	1.3877E-011	9.7667E-009	9.7970E-009
CYANIDE	7.0600E-001	1.2909E-013	1.5490E-013	9.1135E-011	1.0936E-010
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7.0600E-001	2.7969E-015	2.1514E-017	1.9746E-012	1.5189E-014
DIELDRIN	7.0600E-001	3.0120E-015	2.1514E-017	2.1265E-012	1.5189E-014
ENDOSULFAN SULFATE	7.0600E-001	3.2272E-015	3.4423E-016	2.2784E-012	2.4303E-013
FLUORANTHENE	7.0600E-001	3.4423E-014	2.3666E-014	2.4303E-011	1.6708E-011
GAMMA BHC (LINDANE)	7.0600E-001	2.7969E-015	2.1514E-017	1.9746E-012	1.5189E-014
IRON	7.0600E-001	3.3299E-009	3.7714E-009	2.3509E-006	2.6626E-006
LEAD	7.0600E-001	7.5903E-011	6.0391E-011	5.3587E-008	4.2636E-008
MAGNESIUM	7.0600E-001	1.4627E-009	1.7235E-009	1.0327E-006	1.2168E-006
MANGANESE	7.0600E-001	7.9948E-011	9.3394E-011	5.6443E-008	6.5936E-008

MERCURY	7.0600E-001	1.2909E-014	1.7212E-014	9.1135E-012	1.2151E-011
METHOXYCHLOR	7.0600E-001	3.4423E-015	9.6815E-016	2.4303E-012	6.8351E-013
METHYLENE CHLORIDE	7.0600E-001	6.4543E-016	8.6058E-016	4.5568E-013	6.0757E-013
MOLYBDENUM	7.0600E-001	1.4664E-010	8.7349E-010	1.0353E-007	6.1668E-007
NICKEL	7.0600E-001	8.7133E-012	1.3038E-011	6.1516E-009	9.2047E-009
P,p'-DDD	7.0600E-001	8.6058E-016	2.1514E-016	6.0757E-013	1.5189E-013
P,p'-DDT	7.0600E-001	4.3029E-016	1.2909E-016	3.0378E-013	9.1135E-014
PYRENE	7.0600E-001	3.4423E-014	1.6136E-014	2.4303E-011	1.1392E-011
SODIUM	7.0600E-001	2.7538E-011	3.4423E-011	1.9442E-008	2.4303E-008
TETRACHLOROETHYLENE(PCP)	7.0600E-001	6.4543E-016	2.5817E-016	4.5568E-013	1.8227E-013
TRICHLOROETHYLENE (TCE)	7.0600E-001	2.1514E-015	3.1020E-015	1.5189E-012	2.1263E-012
VANADIUM	7.0600E-001	1.5921E-012	2.0439E-012	1.1240E-009	1.4430E-009
ZINC	7.0600E-001	5.8519E-011	2.9711E-011	4.1315E-008	2.0976E-008

Future Land Use Future Onsite Industrial Workers Impacted by Reservoir Area	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
ALDRIN	7.3800E-001	8.6058E-016	3.2272E-016	6.3511E-013	2.3816E-013
ALPHA ENDOSULFAN	7.3800E-001	4.3029E-017	4.3029E-017	3.1755E-014	3.1755E-014
ALUMINUM	7.3800E-001	1.6846E-009	2.8829E-009	1.2432E-006	2.1276E-006
BENZO(a)ANTHRACENE	7.3800E-001	3.6575E-014	4.3029E-014	2.6992E-011	3.1755E-011
BENZO(a)PYRENE	7.3800E-001	3.2272E-014	3.0120E-014	2.3816E-011	2.2229E-011
BENZO(b)FLUORANTHENE	7.3800E-001	3.8726E-014	6.2392E-014	2.8580E-011	4.6045E-011
BETA ENDOSULFAN	7.3800E-001	1.5060E-015	6.4543E-017	1.1114E-012	4.7633E-014
bis(2-ETHYLHEXYL) PHTHALATE	7.3800E-001	6.2392E-014	4.3029E-014	4.6045E-011	3.1755E-011
CALCIUM	7.3800E-001	9.4788E-009	1.4780E-008	6.9954E-006	1.0908E-005
CHROMIUM, TOTAL	7.3800E-001	2.0439E-012	3.3563E-012	1.5084E-009	2.4769E-009
CHRYSENE	7.3800E-001	4.9483E-014	4.3029E-014	3.6519E-011	3.1755E-011
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7.3800E-001	1.0757E-016	1.9363E-016	7.9388E-014	1.4290E-013
DI-n-BUTYL PHTHALATE	7.3800E-001	8.6058E-014	1.8502E-014	6.3511E-011	1.3655E-011
DIELDRIN	7.3800E-001	4.3029E-016	7.7452E-016	3.1755E-013	5.7160E-013
ENDOSULFAN SULFATE	7.3800E-001	1.2909E-015	6.8846E-016	9.5266E-013	5.0809E-013
ENDRIN	7.3800E-001	6.4543E-016	1.5060E-016	4.7633E-013	1.1114E-013
ENDRIN ALDEHYDE	7.3800E-001	1.5060E-015	3.0120E-015	1.1114E-012	2.2229E-012
FLUORANTHENE	7.3800E-001	3.6575E-014	6.4543E-014	2.6992E-011	4.7633E-011
GAMMA BHC (LINDANE)	7.3800E-001	2.3666E-016	8.6058E-017	1.7465E-013	6.3511E-014
HEPTACHLOR	7.3800E-001	2.7969E-016	4.5180E-016	2.0641E-013	3.3343E-013
HEPTACHLOR EPOXIDE	7.3800E-001	8.6058E-016	1.0542E-015	6.3511E-013	7.7801E-013
MAGNESIUM	7.3800E-001	1.3215E-009	2.0998E-009	9.7529E-007	1.5497E-006
MANGANESE	7.3800E-001	7.6226E-011	8.9930E-011	5.6255E-008	6.6369E-008
METHOXYCHLOR	7.3800E-001	1.9363E-015	3.4423E-016	1.4290E-012	2.5404E-013
MOLYBDENUM	7.3800E-001	2.5172E-012	3.8511E-012	1.8577E-009	2.8421E-009
P,p'-DDD	7.3800E-001	4.3029E-016	1.2909E-016	3.1755E-013	9.5266E-014
P,p'-DDE	7.3800E-001	4.3029E-016	2.1514E-016	3.1755E-013	1.5878E-013

P,p'-DDT	7.3800E-001	2.1514E-016	2.7969E-016	1.5878E-013	2.0e+1E-013
PHENANTHRENE	7.3800E-001	3.2272E-014	1.5921E-014	2.3816E-011	1.1749E-011
PYRENE	7.3800E-001	3.8726E-014	6.2392E-014	2.8580E-011	4.6045E-011
SODIUM	7.3800E-001	4.2599E-011	5.0774E-011	3.1438E-008	3.7471E-008
TRICHLOROETHYLENE (TCE)	7.3800E-001	1.7212E-015	1.8072E-015	1.2702E-012	1.3337E-012

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1-DICHLOROETHANE	8.7800E-001	1.2909E-015	3.8726E-016	1.1334E-012	3.4001E-013
1,2,4-TRIMETHYLBENZENE	8.7800E-001	1.5060E-015	5.5938E-016	1.3223E-012	4.9113E-013
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	8.7800E-001	1.5060E-015	9.8966E-016	1.3223E-012	8.6893E-013
ALDRIN	8.7800E-001	8.6058E-016	1.0757E-016	7.5559E-013	9.4448E-014
ALPHA ENDOSULFAN	8.7800E-001	4.3029E-016	6.4543E-017	3.7779E-013	5.6669E-014
ALUMINUM	8.7800E-001	2.3229E-009	2.4742E-009	2.0395E-006	2.1723E-006
BARIUM	8.7800E-001	1.2887E-011	1.6114E-011	1.1315E-008	1.4148E-008
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8.7800E-001	6.4543E-016	2.3666E-016	5.6669E-013	2.0779E-013
BETA ENDOSULFAN	8.7800E-001	8.6058E-016	8.6058E-017	7.5559E-013	7.5559E-014
CHROMIUM, TOTAL	8.7800E-001	2.7538E-012	2.9260E-012	2.4179E-009	2.5690E-009
cis-1,2-DICHLOROETHYLENE	8.7800E-001	2.1514E-015	2.7969E-015	1.8890E-012	2.4557E-012
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8.7800E-001	1.2909E-016	2.1514E-016	1.1334E-013	1.8890E-013
DIELDRIN	8.7800E-001	6.4543E-016	8.3906E-016	5.6669E-013	7.3670E-013
ENDRIN ALDEHYDE	8.7800E-001	4.3029E-015	9.2512E-015	3.7779E-012	8.1226E-012
HEPTACHLOR	8.7800E-001	2.1514E-016	2.1514E-017	1.8890E-013	1.8890E-014
MAGNESIUM	8.7800E-001	7.0208E-010	9.0146E-010	6.1643E-007	7.9148E-007
MANGANESE	8.7800E-001	1.0736E-010	1.4587E-010	9.4259E-008	1.2807E-007
MOLYBDENUM	8.7800E-001	1.9363E-012	3.1841E-012	1.7001E-009	2.7957E-009
NAPHTHALENE	8.7800E-001	2.5817E-014	3.2272E-014	2.2668E-011	2.8335E-011
P,p'-DDD	8.7800E-001	6.4543E-016	1.2048E-015	5.6669E-013	1.0578E-012
P,p'-DDE	8.7800E-001	2.1514E-016	2.1514E-016	1.8890E-013	1.8890E-012
SODIUM	8.7800E-001	3.2272E-011	4.9268E-011	2.8335E-008	4.3257E-008

Future Land Use  
Future Onsite Industrial Workers  
Impacted by Waste Oil Tank Area

APPENDIX G-2  
 CHEMICAL CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN AIR AT RECEPTORS  
 FUTURE LAND USE

Future Land Use Future Offsite 30-year Residents Impacted by Plating Room Area	Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
	1,1,1-TRICHLOROETHANE	7.4000E-002	3.0782E-010	1.4095E-010	2.2779E-008	1.0430E-008
	ACETONE	7.4000E-002	6.9767E-009	1.2444E-008	5.1628E-007	9.2087E-007
	BROMOMETHANE	7.4000E-002	1.2656E-009	9.3254E-010	9.3654E-008	6.9008E-008
	DIBENZOFURAN	7.4000E-002	4.8622E-011	1.1615E-011	3.5980E-009	8.5953E-010
	DICHLORODIFLUOROMETHANE	7.4000E-002	1.5951E-011	4.1353E-013	1.1803E-009	3.0601E-011
	METHYLENE CHLORIDE	7.4000E-002	1.4998E-009	5.2166E-010	1.1098E-007	3.8603E-008
	TETRACHLOROETHYLENE(PCE)	7.4000E-002	6.4818E-010	4.0938E-011	4.7965E-008	3.0294E-009
	TRICHLOROETHYLENE (TCE)	7.4000E-002	6.7953E-010	7.9279E-010	5.0285E-008	5.8666E-008

Future Land Use Future Offsite 30-year Residents Impacted by Reservoir Area		Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
Chemicals of Potential Concern						
1,1,1-TRICHLOROETHANE		7.3800E-001	1.4581E-010	4.8604E-011	1.0761E-007	3.5869E-008
TRICHLOROETHYLENE (TCE)		7.3800E-001	3.1145E-010	3.6808E-010	2.2985E-007	2.7164E-007

Future Land Use Future Offsite 30-year Residents Impacted by Waste Oil Tank Area		Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
Chemicals of Potential Concern						
1,1,1-TRICHLOROETHANE		2.0000E-002	1.2961E-010	4.0503E-011	2.5922E-009	8.1006E-010
1,1-DICHLOROETHANE		2.0000E-002	7.2945E-011	1.1463E-010	1.4589E-009	2.2925E-009
1,2,4-TRIMETHYLBENZENE		2.0000E-002	2.1230E-012	2.6538E-012	4.2460E-011	5.3075E-011
1,3,5-TRIMETHYLBENZENE (MESITYLENE)		2.0000E-002	3.5383E-012	4.2460E-012	7.0767E-011	8.4920E-011
CHLOROETHANE		2.0000E-002	5.1413E-010	2.1033E-010	1.0283E-008	4.2065E-009
cis-1,2-DICHLOROETHYLENE		2.0000E-002	1.3388E-010	2.0528E-010	2.6776E-009	4.1056E-009
DIBENZOFURAN		2.0000E-002	1.3506E-010	9.7244E-011	2.7012E-009	1.9449E-009
ETHYLBENZENE		2.0000E-002	6.5493E-011	1.0643E-011	1.3099E-009	2.1285E-010
ISOPROPYLBENZENE (CUMENE)		2.0000E-002	1.5923E-012	4.7768E-013	3.1845E-011	9.5535E-012
n-PROPYLBENZENE		2.0000E-002	8.7956E-010	1.0395E-009	1.7591E-008	2.0790E-008
p-PROPYLBENZENE		2.0000E-002	6.3033E-011	6.1457E-011	1.2607E-009	1.2291E-009
P-CYME (p-ISOPROPYLTOLUENE)		2.0000E-002	1.4550E-010	1.7196E-010	2.9101E-009	3.4392E-009
SEC-BUTYLBENZENE		2.0000E-002	2.0304E-010	2.4815E-010	4.0607E-009	4.9631E-009
TOLUENE		2.0000E-002	1.1881E-010	1.9306E-011	2.3761E-009	3.8612E-010
TRICHLOROETHYLENE (TCE)		2.0000E-002	2.5482E-010	3.3977E-010	5.0965E-009	6.7953E-009
VINYL CHLORIDE		2.0000E-002	7.8080E-010	8.6756E-010	1.5616E-008	1.7351E-008

XYLENES, TOTAL	2.0000E-002	6.8799E-011	8.4087E-011	1.3760E-009	1.6817E-009
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<p>Future Land Use  Future Onsite Construction Workers  Impacted by Plating Room Area</p>					
Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE	6.9110E+000	1.6506E-006	7.5581E-007	1.1407E-002	5.2234E-003
ACETONE	6.9110E+000	2.2234E-005	3.9659E-005	1.5366E-001	2.7408E-001
BROMOMETHANE	6.9110E+000	1.7097E-006	1.2598E-006	1.1816E-002	8.7062E-003
DIBENZOFURAN	6.9110E+000	1.5678E-005	3.7452E-006	1.0833E-001	2.5883E-002
DICHLORODIFLUOROMETHANE	6.9110E+000	3.9086E-006	1.0133E-007	2.7013E-002	7.0033E-004
METHYLENE CHLORIDE	6.9110E+000	2.0453E-006	7.1142E-007	1.4133E-002	4.9166E-003
TETRACHLOROETHYLENE(PCE)	6.9110E+000	1.6395E-006	1.0355E-007	1.1331E-002	7.1562E-004
TRICHLOROETHYLENE (TCE)	6.9110E+000	2.0873E-006	2.4351E-006	1.4425E-002	1.6829E-002

<p>Future Land Use  Future Onsite Construction Workers  Impacted by Reservoir Area</p>					
Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE	6.9110E+000	7.8187E-007	2.6062E-007	5.4035E-003	1.8012E-003
TRICHLOROETHYLENE (TCE)	6.9110E+000	9.5667E-007	1.1306E-006	6.6115E-003	7.8136E-003



Future Land Use Future Onsite Construction Workers Impacted by Waste Oil Tank Area	
Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>
1,1,1-TRICHLOROETHANE	6.9110E+000
1,1-DICHLOROETHANE	6.9110E+000
1,2,4-TRIMETHYLBENZENE	6.9110E+000
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6.9110E+000
CHLOROETHANE	6.9110E+000
cis-1,2-DICHLOROETHYLENE	6.9110E+000
DIBENZOFURAN	6.9110E+000
ETHYLBENZENE	6.9110E+000
ISOPROPYLBENZENE (CUMENE)	6.9110E+000
n-BUTYLBENZENE	6.9110E+000
n-PROPYLBENZENE	6.9110E+000
p-CYMENE (p-ISOPROPYLTOLUENE)	6.9110E+000
SEC-BUTYLBENZENE	6.9110E+000
TOLUENE	6.9110E+000
TRICHLOROETHYLENE (TCE)	6.9110E+000
VINYL CHLORIDE	6.9110E+000
XYLENES, TOTAL	6.9110E+000

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE	6.9110E+000	6.9500E-007	2.1719E-007	4.8031E-003	1.5010E-003
1,1-DICHLOROETHANE	6.9110E+000	6.1672E-007	9.6913E-007	4.2622E-003	6.6977E-003
1,2,4-TRIMETHYLBENZENE	6.9110E+000	1.0269E-006	1.2836E-006	7.0969E-003	8.8711E-003
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6.9110E+000	1.7115E-006	2.0538E-006	1.1828E-002	1.4194E-002
CHLOROETHANE	6.9110E+000	9.6913E-007	3.9646E-007	6.6977E-003	2.7400E-003
cis-1,2-DICHLOROETHYLENE	6.9110E+000	1.3243E-006	2.0306E-006	9.1523E-003	1.4033E-002
DIBENZOFURAN	6.9110E+000	4.3549E-005	3.1355E-005	3.0097E-001	2.1670E-001
ETHYLBENZENE	6.9110E+000	6.9268E-007	1.1256E-007	4.7871E-003	7.7790E-004
ISOPROPYLBENZENE (CUMENE)	6.9110E+000	7.7017E-007	2.3105E-007	5.3227E-003	1.5968E-003
n-BUTYLBENZENE	6.9110E+000	9.6580E-007	1.1414E-006	6.6747E-003	7.8882E-003
n-PROPYLBENZENE	6.9110E+000	6.9268E-007	6.7536E-007	4.7871E-003	4.6674E-003
p-CYMENE (p-ISOPROPYLTOLUENE)	6.9110E+000	9.6481E-007	1.1402E-006	6.6678E-003	7.8802E-003
SEC-BUTYLBENZENE	6.9110E+000	7.9020E-007	9.6580E-007	5.4611E-003	6.6747E-003
TOLUENE	6.9110E+000	7.0168E-007	1.1402E-007	4.8493E-003	7.8802E-004
TRICHLOROETHYLENE (TCE)	6.9110E+000	7.8273E-007	1.0436E-006	5.4094E-003	7.2126E-003
VINYL CHLORIDE	6.9110E+000	8.0407E-007	8.9341E-007	5.5569E-003	6.1743E-003
XYLENES, TOTAL	6.9110E+000	7.8388E-007	9.5808E-007	5.4174E-003	6.6213E-003

Future Land Use Future Onsite Industrial Workers Impacted by Plating Room Area	
Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>
1,1,1-TRICHLOROETHANE	7.0600E-001
ACETONE	7.0600E-001

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE	7.0600E-001	3.0782E-010	1.4095E-010	2.1732E-007	9.9511E-008
ACETONE	7.0600E-001	6.9767E-009	1.2444E-008	4.9256E-006	8.7856E-006

BROMOMETHANE	7.0600E-001	1.2656E-009	9.3254E-010	8.9351E-007	6.5837E-007
DIBENZOFURAN	7.0600E-001	4.8622E-011	1.1615E-011	3.4327E-008	8.2003E-009
DICHLORODIFLUOROMETHANE	7.0600E-001	1.5951E-011	4.1353E-013	1.1261E-008	2.9195E-010
METHYLENE CHLORIDE	7.0600E-001	1.4998E-009	5.2166E-010	1.0588E-006	3.6829E-007
TETRACHLOROETHYLENE(PCE)	7.0600E-001	6.4818E-010	4.0938E-011	4.5762E-007	2.8902E-008
TRICHLOROETHYLENE (TCE)	7.0600E-001	6.7953E-010	7.9279E-010	4.7975E-007	5.5971E-007

Future Land Use  
Future Onsite Industrial Workers  
Impacted by Reservoir Area

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	7.3800E-001 7.3800E-001	1.4581E-010 3.11145E-010	4.8604E-011 3.6808E-010	1.0761E-007 2.2983E-007	3.5869E-008 2.7164E-007

Future Land Use  
Future Onsite Industrial Workers  
Impacted by Waste Oil Tank Area

Chemicals of Potential Concern	Chi/Q x 10 <sup>-3</sup>	Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	95% UCL of Arithmetic Mean Emissions (g/s/m <sup>2</sup> )	Arithmetic Mean Concentration (mg/m <sup>3</sup> )	95% UCL of Arithmetic Mean Concentration (mg/m <sup>3</sup> )
1,1,1-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,2,4-TRIMETHYLBENZENE 1,3,5-TRIMETHYLBENZENE (MESITYLENE) CHLOROETHANE cis-1,2-DICHLOROETHYLENE DIBENZOFURAN ETHYLBENZENE	8.7800E-001 8.7800E-001 8.7800E-001 8.7800E-001 8.7800E-001 8.7800E-001 8.7800E-001 8.7800E-001	1.2961E-010 7.2945E-011 2.1230E-012 3.5383E-012 5.1413E-010 1.3388E-010 1.3506E-010 6.5493E-011	4.0503E-011 1.1463E-010 2.6538E-012 4.2460E-012 2.1033E-010 2.0528E-010 9.7244E-011 1.0643E-011	1.1380E-007 6.4045E-008 1.8640E-009 3.1067E-009 4.5141E-007 1.1755E-007 1.1858E-007 5.7503E-008	3.5562E-008 1.0064E-007 2.3300E-009 3.7280E-009 1.8467E-007 1.8024E-007 8.5380E-008 9.3442E-009

ISOPROPYLBENZENE (CUMENE)	8.7800E-001	1.5923E-012	4.7768E-013	1.3980E-009	4.1940E-010
n-BUTYLBENZENE	8.7800E-001	8.7956E-010	1.0395E-009	7.7226E-007	9.1267E-007
n-PROPYLBENZENE	8.7800E-001	6.3033E-011	6.1457E-011	5.5343E-008	5.3959E-008
P-CYMENE (p-ISOPROPYLTOLUENE)	8.7800E-001	1.4550E-010	1.7196E-010	1.2773E-007	1.5098E-007
SEC-BUTYLBENZENE	8.7800E-001	2.0304E-010	2.4815E-010	1.7827E-007	2.1788E-007
TOLUENE	8.7800E-001	1.1881E-010	1.9306E-011	1.0431E-007	1.6951E-008
TRICHLOROETHYLENE (TCE)	8.7800E-001	2.5482E-010	3.3977E-010	2.2374E-007	2.9831E-007
VINYL CHLORIDE	8.7800E-001	7.8080E-010	8.6756E-010	6.8554E-007	7.6171E-007
XYLENES, TOTAL	8.7800E-001	6.8799E-011	8.4087E-011	6.0405E-008	7.3829E-008

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**A P P E N D I X H**

**QUANTIFICATION OF  
EXPOSURE AND RISK**

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**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Current Land Use  
Recreational Users**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Recreational Users Dermal Absorption of Chemicals in Surface Water (from Little Choconut Creek)</b>				
ARSENIC	2E-08	2E-07	2E-08	1E-07
BARIUM	2E-07	2E-06	3E-07	3E-06
bis(2-ETHYLHEXYL) PHTHALATE	3E-08	3E-07	2E-08	1E-07
BROMODICHLOROMETHANE	1E-08	9E-08	2E-08	1E-07
BROMOFORM	7E-09	6E-08	2E-08	1E-07
CHLOROFORM	2E-07	2E-06	2E-07	1E-06
CHROMIUM, TOTAL	9E-08	7E-07	7E-08	5E-07
COPPER	4E-08	3E-07	7E-08	6E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-12	5E-11	1E-11	8E-11
DIBROMOCHLOROMETHANE	3E-09	2E-08	5E-09	4E-08
DICHLORODIFLUOROMETHANE	3E-08	3E-07	2E-08	2E-07
ENDOSULFAN SULFATE	3E-10	2E-09	5E-11	4E-10
ENDRIN	2E-09	1E-08	3E-10	2E-09
GAMMA BHC (LINDANE)	7E-11	5E-10	7E-11	5E-10
HEPTACHLOR EPOXIDE	1E-09	8E-09	2E-10	1E-09
MANGANESE	9E-08	7E-07	2E-07	1E-06
p,p'-DDD	2E-08	2E-07	3E-08	2E-07
ZINC	6E-08	5E-07	1E-07	8E-07

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Recreational Users Ingestion of Contaminated Fish (from Little Choconut Creek)</b>				
ARSENIC	1E-05	3E-05	8E-06	2E-05

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

BARIUM	1E-03	3E-03	2E-03	5E-03
bis(2-ETHYLHEXYL) PHTHALATE	2E-03	4E-03	8E-04	2E-03
BROMODICHLOROMETHANE	1E-07	3E-07	2E-07	4E-07
BROMOFORM	6E-06	1E-05	1E-05	3E-05
CHLOROFORM	8E-07	2E-06	7E-07	2E-06
CHROMIUM, TOTAL	3E-06	6E-06	2E-06	4E-06
COPPER	1E-04	3E-04	2E-04	5E-04
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-07	3E-07	2E-07	4E-07
DIBROMOCHLOROMETHANE	2E-07	4E-07	3E-07	8E-07
DICHLORODIFLUOROMETHANE	4E-06	1E-05	3E-06	7E-06
ENDOSULFAN SULFATE	1E-07	3E-07	3E-08	7E-08
ENDRIN	4E-06	9E-06	7E-07	2E-06
GAMMA BHC (LINDANE)	1E-06	3E-06	1E-06	3E-06
HEPTACHLOR EPOXIDE	3E-05	6E-05	4E-06	1E-05
MANGANESE	2E-03	4E-03	4E-03	9E-03
p,p'-DDD	6E-05	1E-04	7E-05	2E-04
ZINC	6E-03	1E-02	9E-03	2E-02

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Current Land Use  
Recreational Users**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Recreational Users Ingestion of Contaminated Fish (from Background for Little Choconut Creek)</b>				
ARSENIC	6E-06	1E-05	6E-06	1E-05
BARIUM	4E-04	8E-04	6E-04	1E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-08	1E-07	5E-08	1E-07
GAMMA BHC (LINDANE)	8E-07	2E-06	3E-07	6E-07
MANGANESE	3E-04	8E-04	5E-04	1E-03
ZINC	4E-03	1E-02	7E-03	2E-02

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**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Future Land Use  
Onsite Industrial Workers**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers Plating Room - Dermal Absorption of Chemicals in Surface Soil</b>				
ACETONE	4E-07	1E-06	7E-07	2E-06
ALDRIN	9E-09	2E-08	3E-11	8E-11
ALPHA ENDOSULFAN	4E-10	1E-09	7E-10	2E-09
ARSENIC	7E-07	2E-06	7E-07	2E-06
BARIUM	3E-06	8E-06	3E-06	9E-06
BENZO(a)ANTHRACENE	1E-07	3E-07	6E-08	2E-07
BERYLLIUM	3E-08	9E-08	4E-08	1E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	9E-09	3E-08	2E-10	6E-10
BETA ENDOSULFAN	5E-09	1E-08	4E-10	1E-09
bis(2-ETHYLHEXYL) PHTHALATE	2E-07	6E-07	3E-07	8E-07
CADMIUM	3E-07	8E-07	2E-07	7E-07
CHROMIUM, TOTAL	3E-06	9E-06	5E-06	1E-05
CHRYSENE	1E-07	4E-07	4E-08	1E-07
COBALT	3E-07	9E-07	4E-07	1E-06
COPPER	4E-06	1E-05	4E-06	1E-05
CYANIDE	4E-08	1E-07	5E-08	1E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-09	2E-08	7E-11	2E-10
DIELDRIN	9E-09	3E-08	7E-11	2E-10
ENDOSULFAN SULFATE	1E-08	3E-08	1E-09	3E-09
FLUORANTHENE	1E-07	3E-07	7E-08	2E-07
GAMMA BHC (LINDANE)	9E-09	2E-08	7E-11	2E-10
MANGANESE	3E-05	7E-05	3E-05	8E-05
MERCURY	4E-09	1E-08	5E-09	2E-08
METHOXYCHLOR	1E-08	3E-08	3E-09	9E-09
METHYLENE CHLORIDE	5E-09	1E-08	7E-09	2E-08
MOLYBDENUM	5E-05	1E-04	3E-04	8E-04
NICKEL	3E-06	8E-06	4E-06	1E-05
p,p'-DDD	3E-09	8E-09	7E-10	2E-09
p,p'-DDT	1E-09	4E-09	4E-10	1E-09
PYRENE	1E-07	3E-07	5E-08	1E-07
TETRACHLOROETHYLENE(PCE)	5E-09	1E-08	2E-09	6E-09
TRICHLOROETHYLENE (TCE)	2E-08	5E-08	2E-08	7E-08
VANADIUM	5E-07	1E-06	6E-07	2E-06
ZINC	2E-05	5E-05	9E-06	3E-05

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 - = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers Plating Room - Incidental Ingestion of Chemicals in Surface Soil</b>				
ACETONE	2E-08	4E-08	2E-08	7E-08
ALDRIN	8E-10	2E-09	3E-12	7E-12
ALPHA ENDOSULFAN	3E-11	1E-10	6E-11	2E-10
ARSENIC	6E-07	2E-06	6E-07	2E-06
BARIUM	2E-06	7E-06	3E-06	7E-06
BENZO(a)ANTHRACENE	1E-08	3E-08	5E-09	1E-08
BERYLLIUM	3E-08	8E-08	3E-08	8E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-10	2E-09	2E-11	5E-11
BETA ENDOSULFAN	4E-10	1E-09	3E-11	1E-10
bis(2-ETHYLHEXYL) PHTHALATE	2E-08	5E-08	2E-08	7E-08
CADMIUM	2E-07	7E-07	2E-07	6E-07
CHROMIUM, TOTAL	3E-06	8E-06	5E-06	1E-05
CHRYSENE	1E-08	3E-08	4E-09	1E-08
COBALT	3E-07	8E-07	3E-07	9E-07
COPPER	4E-06	1E-05	4E-06	1E-05
CYANIDE	3E-08	1E-07	4E-08	1E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-10	2E-09	6E-12	2E-11
DIELDRIN	8E-10	2E-09	6E-12	2E-11
ENDOSULFAN SULFATE	9E-10	2E-09	9E-11	3E-10
FLUORANTHENE	9E-09	3E-08	6E-09	2E-08
GAMMA BHC (LINDANE)	8E-10	2E-09	6E-12	2E-11
MANGANESE	2E-05	6E-05	3E-05	7E-05
MERCURY	3E-09	1E-08	5E-09	1E-08
METHOXYCHLOR	9E-10	3E-09	3E-10	7E-10
METHYLENE CHLORIDE	2E-10	5E-10	2E-10	7E-10
MOLYBDENUM	4E-05	1E-04	2E-04	7E-04
NICKEL	2E-06	7E-06	4E-06	1E-05
p,p'-DDD	2E-10	7E-10	6E-11	2E-10
p,p'-DDT	1E-10	3E-10	3E-11	1E-10
PYRENE	9E-09	3E-08	4E-09	1E-08
TETRACHLOROETHYLENE(PCE)	2E-10	5E-10	7E-11	2E-10
TRICHLOROETHYLENE (TCE)	6E-10	2E-09	8E-10	2E-09
VANADIUM	4E-07	1E-06	6E-07	2E-06
ZINC	2E-05	4E-05	8E-06	2E-05

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N/A = Not Applicable  
- = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers Reservoir - Dermal Absorption of Chemicals in Surface Soil</b>				
ALDRIN	3E-09	8E-09	1E-09	3E-09
ALPHA ENDOSULFAN	1E-10	4E-10	1E-10	4E-10
ALUMINUM	5E-04	1E-03	9E-04	3E-03
BENZO(a)ANTHRACENE	1E-07	3E-07	1E-07	4E-07
BENZO(a)PYRENE	1E-07	3E-07	9E-08	3E-07
BENZO(b)FLUORANTHENE	1E-07	3E-07	2E-07	5E-07
BETA ENDOSULFAN	5E-09	1E-08	2E-10	6E-10
bis(2-ETHYLHEXYL) PHTHALATE	2E-07	5E-07	1E-07	4E-07
CHROMIUM, TOTAL	6E-07	2E-06	1E-06	3E-06
CHRYSENE	2E-07	4E-07	1E-07	4E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-10	9E-10	6E-10	2E-09
DI-n-BUTYL PHTHALATE	3E-07	8E-07	6E-08	2E-07
DIELDRIN	1E-09	4E-09	2E-09	7E-09
ENDOSULFAN SULFATE	4E-09	1E-08	2E-09	6E-09
ENDRIN	2E-09	6E-09	5E-10	1E-09
ENDRIN ALDEHYDE	5E-09	1E-08	9E-09	3E-08
FLUORANTHENE	1E-07	3E-07	2E-07	6E-07
GAMMA BHC (LINDANE)	7E-10	2E-09	3E-10	8E-10
HEPTACHLOR	9E-10	2E-09	1E-09	4E-09
HEPTACHLOR EPOXIDE	3E-09	8E-09	3E-09	9E-09
MANGANESE	2E-05	7E-05	3E-05	8E-05
METHOXYCHLOR	6E-09	2E-08	1E-09	3E-09
MOLYBDENUM	8E-07	2E-06	1E-06	3E-06
p,p'-DDD	1E-09	4E-09	4E-10	1E-09
p,p'-DDE	1E-09	4E-09	7E-10	2E-09
p,p'-DDT	7E-10	2E-09	9E-10	2E-09
PHENANTHRENE	1E-07	3E-07	5E-08	1E-07
PYRENE	1E-07	3E-07	2E-07	5E-07
TRICHLOROETHYLENE (TCE)	1E-08	4E-08	1E-08	4E-08

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 - = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers Reservoir - Incidental Ingestion of Chemicals in Surface Soil</b>				
ALDRIN	2E-10	7E-10	9E-11	2E-10
ALPHA ENDOSULFAN	1E-11	3E-11	1E-11	3E-11
ALUMINUM	5E-04	1E-03	8E-04	2E-03
BENZO(a)ANTHRACENE	1E-08	3E-08	1E-08	3E-08
BENZO(a)PYRENE	9E-09	2E-08	8E-09	2E-08
BENZO(b)FLUORANTHENE	1E-08	3E-08	2E-08	5E-08
BETA ENDOSULFAN	4E-10	1E-09	2E-11	5E-11
bis(2-ETHYLHEXYL) PHTHALATE	2E-08	5E-08	1E-08	3E-08
CHROMIUM, TOTAL	6E-07	2E-06	9E-07	3E-06
CHRYSENE	1E-08	4E-08	1E-08	3E-08
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-11	8E-11	5E-11	1E-10
DI-n-BUTYL PHTHALATE	2E-08	7E-08	5E-09	1E-08
DIELDRIN	1E-10	3E-10	2E-10	6E-10
ENDOSULFAN SULFATE	3E-10	1E-09	2E-10	5E-10
ENDRIN	2E-10	5E-10	4E-11	1E-10
ENDRIN ALDEHYDE	4E-10	1E-09	8E-10	2E-09
FLUORANTHENE	1E-08	3E-08	2E-08	5E-08
GAMMA BHC (LINDANE)	6E-11	2E-10	2E-11	7E-11
HEPTACHLOR	8E-11	2E-10	1E-10	3E-10
HEPTACHLOR EPOXIDE	2E-10	7E-10	3E-10	8E-10
MANGANESE	2E-05	6E-05	2E-05	7E-05
METHOXYCHLOR	5E-10	1E-09	9E-11	3E-10
MOLYBDENUM	7E-07	2E-06	1E-06	3E-06
p,p'-DDD	1E-10	3E-10	3E-11	1E-10
p,p'-DDE	1E-10	3E-10	6E-11	2E-10
p,p'-DDT	6E-11	2E-10	8E-11	2E-10
PHENANTHRENE	9E-09	2E-08	4E-09	1E-08
PYRENE	1E-08	3E-08	2E-08	5E-08
TRICHLOROETHYLENE (TCE)	5E-10	1E-09	5E-10	1E-09

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 - = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers Waste Oil Tanks - Dermal Absorption of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	1E-08	3E-08	3E-09	9E-09
1,2,4-TRIMETHYLBENZENE	1E-08	3E-08	4E-09	1E-08
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-08	3E-08	8E-09	2E-08
ALDRIN	3E-09	8E-09	3E-10	9E-10
ALPHA ENDOSULFAN	1E-09	4E-09	2E-10	6E-10
ALUMINUM	7E-04	2E-03	8E-04	2E-03
BARIUM	4E-06	1E-05	5E-06	1E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-09	6E-09	7E-10	2E-09
BETA ENDOSULFAN	3E-09	8E-09	3E-10	8E-10
CHROMIUM, TOTAL	9E-07	2E-06	9E-07	3E-06
cis-1,2-DICHLOROETHYLENE	2E-08	5E-08	2E-08	6E-08
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-10	1E-09	7E-10	2E-09
DIELDRIN	2E-09	6E-09	3E-09	7E-09
ENDRIN ALDEHYDE	1E-08	4E-08	3E-08	8E-08
HEPTACHLOR	7E-10	2E-09	7E-11	2E-10
MANGANESE	3E-05	9E-05	5E-05	1E-04
MOLYBDENUM	6E-07	2E-06	1E-06	3E-06
NAPHTHALENE	8E-08	2E-07	1E-07	3E-07
p,p'-DDD	2E-09	6E-09	4E-09	1E-08
p,p'-DDE	7E-10	2E-09	7E-10	2E-09

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	3E-10	1E-09	1E-10	3E-10
1,2,4-TRIMETHYLBENZENE	4E-10	1E-09	2E-10	4E-10
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-10	1E-09	3E-10	7E-10
ALDRIN	2E-10	7E-10	3E-11	8E-11
ALPHA ENDOSULFAN	1E-10	3E-10	2E-11	5E-11
ALUMINUM	6E-04	2E-03	7E-04	2E-03
BARIUM	3E-06	1E-05	4E-06	1E-05

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BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-10	5E-10	6E-11	2E-10
BETA ENDOSULFAN	2E-10	7E-10	2E-11	7E-11
CHROMIUM, TOTAL	7E-07	2E-06	8E-07	2E-06
cis-1,2-DICHLOROETHYLENE	6E-10	2E-09	8E-10	2E-09
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-11	1E-10	6E-11	2E-10
DIELDRIN	2E-10	5E-10	2E-10	6E-10
ENDRIN ALDEHYDE	1E-09	3E-09	3E-09	7E-09
HEPTACHLOR	6E-11	2E-10	6E-12	2E-11
MANGANESE	3E-05	8E-05	4E-05	1E-04
MOLYBDENUM	5E-07	1E-06	9E-07	2E-06
NAPHTHALENE	7E-09	2E-08	9E-09	2E-08
p,p'-DDD	2E-10	5E-10	3E-10	9E-10
p,p'-DDE	6E-11	2E-10	6E-11	2E-10

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Onsite Industrial Workers  
Ingestion of Chemicals in Drinking Water (from Groundwater - Deep Zone)**

1,1,1-TRICHLOROETHANE	N/A	N/A	3E-06	9E-06
1,1-DICHLOROETHANE	N/A	N/A	1E-05	4E-05
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	5E-06	2E-05
ALDRIN	N/A	N/A	2E-08	5E-08
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	N/A	N/A	4E-08	1E-07
ALPHA ENDOSULFAN	N/A	N/A	9E-09	3E-08
ALUMINUM	N/A	N/A	7E-03	2E-02
ARSENIC	N/A	N/A	8E-05	2E-04
BARIUM	N/A	N/A	2E-03	4E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	N/A	N/A	6E-08	2E-07
BETA ENDOSULFAN	N/A	N/A	4E-08	1E-07
CHLOROMETHANE	N/A	N/A	2E-06	5E-06
cis-1,2-DICHLOROETHYLENE	N/A	N/A	2E-04	6E-04
COPPER	N/A	N/A	2E-05	6E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	N/A	N/A	8E-08	2E-07
ENDOSULFAN SULFATE	N/A	N/A	5E-08	1E-07
ENDRIN	N/A	N/A	7E-09	2E-08
ENDRIN ALDEHYDE	N/A	N/A	2E-08	6E-08
ETHYLBENZENE	N/A	N/A	3E-07	8E-07
GAMMA BHC (LINDANE)	N/A	N/A	8E-09	2E-08
HEPTACHLOR EPOXIDE	N/A	N/A	5E-08	1E-07
MANGANESE	N/A	N/A	1E-02	3E-02
METHOXYCHLOR	N/A	N/A	6E-07	2E-06
p,p'-DDD	N/A	N/A	1E-08	4E-08
p,p'-DDE	N/A	N/A	1E-06	3E-06
p,p'-DDT	N/A	N/A	1E-07	3E-07
THALLIUM	N/A	N/A	3E-04	9E-04
TRICHLOROETHYLENE (TCE)	N/A	N/A	1E-05	4E-05
VANADIUM	N/A	N/A	4E-05	1E-04

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- = Not Calculated

VINYL CHLORIDE	N/A	N/A	2E-06	5E-06
XYLENES, TOTAL	N/A	N/A	1E-06	4E-06
ZINC	N/A	N/A	2E-04	7E-04

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Onsite Industrial Workers  
Ingestion of Chemicals in Drinking Water (from Groundwater - Shallow Zone)**

1,1,1-TRICHLOROETHANE	N/A	N/A	5E-05	1E-04
1,1-DICHLOROETHANE	N/A	N/A	2E-04	5E-04
1,1-DICHLOROETHENE	N/A	N/A	9E-06	3E-05
1,2,4-TRIMETHYLBENZENE	N/A	N/A	1E-04	3E-04
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	3E-04	7E-04
ALDRIN	N/A	N/A	1E-08	3E-08
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	N/A	N/A	3E-09	1E-08
ALPHA ENDOSULFAN	N/A	N/A	1E-08	3E-08
ALUMINUM	N/A	N/A	4E-02	1E-01
ARSENIC	N/A	N/A	7E-05	2E-04
BARIUM	N/A	N/A	2E-03	7E-03
BERYLLIUM	N/A	N/A	8E-06	2E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	N/A	N/A	7E-08	2E-07
BETA ENDOSULFAN	N/A	N/A	3E-08	8E-08
BROMODICHLOROMETHANE	N/A	N/A	2E-06	5E-06
CARBON TETRACHLORIDE	N/A	N/A	8E-07	2E-06
CHLOROETHANE	N/A	N/A	2E-05	6E-05
CHLOROFORM	N/A	N/A	3E-06	7E-06
CHROMIUM, TOTAL	N/A	N/A	2E-04	5E-04
cis-1,2-DICHLOROETHYLENE	N/A	N/A	7E-04	2E-03
COPPER	N/A	N/A	4E-04	1E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	N/A	N/A	5E-08	1E-07
DI-n-BUTYL PHTHALATE	N/A	N/A	5E-06	1E-05
DIELDRIN	N/A	N/A	7E-09	2E-08
ENDOSULFAN SULFATE	N/A	N/A	1E-08	3E-08
ENDRIN	N/A	N/A	4E-08	1E-07
ENDRIN ALDEHYDE	N/A	N/A	5E-08	1E-07
ETHYLBENZENE	N/A	N/A	3E-07	8E-07
GAMMA BHC (LINDANE)	N/A	N/A	3E-08	8E-08
HEPTACHLOR	N/A	N/A	2E-08	4E-08
HEPTACHLOR EPOXIDE	N/A	N/A	3E-08	7E-08
ISOPROPYLBENZENE (CUMENE)	N/A	N/A	7E-06	2E-05
MANGANESE	N/A	N/A	3E-02	8E-02
METHOXYCHLOR	N/A	N/A	7E-08	2E-07
n-PROPYLBENZENE	N/A	N/A	6E-06	2E-05
NAPHTHALENE	N/A	N/A	1E-06	4E-06
NICKEL	N/A	N/A	3E-04	9E-04
p,p'-DDD	N/A	N/A	6E-08	2E-07
p,p'-DDE	N/A	N/A	2E-08	6E-08

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



p,p'-DDT	N/A	N/A	5E-09	1E-08
SILVER	N/A	N/A	7E-05	2E-04
TOLUENE	N/A	N/A	2E-06	6E-06
trans-1,2-DICHLOROETHENE	N/A	N/A	1E-06	4E-06
TRICHLOROETHYLENE (TCE)	N/A	N/A	1E-03	3E-03
TRICHLOROFLUOROMETHANE	N/A	N/A	7E-06	2E-05
VANADIUM	N/A	N/A	9E-05	2E-04
VINYL CHLORIDE	N/A	N/A	4E-05	1E-04
XYLENES, TOTAL	N/A	N/A	1E-05	3E-05
ZINC	N/A	N/A	2E-04	7E-04

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-08	4E-08	7E-09	2E-08
ACETONE	3E-07	1E-06	6E-07	2E-06
BROMOMETHANE	6E-08	2E-07	5E-08	1E-07
DIBENZOFURAN	2E-09	7E-09	6E-10	2E-09
DICHLORODIFLUOROMETHANE	8E-10	2E-09	2E-11	6E-11
METHYLENE CHLORIDE	7E-08	2E-07	3E-08	7E-08
TETRACHLOROETHYLENE(PCE)	3E-08	9E-08	2E-09	6E-09
TRICHLOROETHYLENE (TCE)	3E-08	9E-08	4E-08	1E-07

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	8E-09	2E-08	3E-09	7E-09
TRICHLOROETHYLENE (TCE)	2E-08	4E-08	2E-08	5E-08

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- = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	8E-09	2E-08	2E-09	7E-09
1,1-DICHLOROETHANE	4E-09	1E-08	7E-09	2E-08
1,2,4-TRIMETHYLBENZENE	1E-10	4E-10	2E-10	5E-10
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-10	6E-10	3E-10	7E-10
CHLOROETHANE	3E-08	9E-08	1E-08	4E-08
cis-1,2-DICHLOROETHYLENE	8E-09	2E-08	1E-08	4E-08
DIBENZOFURAN	8E-09	2E-08	6E-09	2E-08
ETHYLBENZENE	4E-09	1E-08	7E-10	2E-09
ISOPROPYLBENZENE (CUMENE)	1E-10	3E-10	3E-11	8E-11
n-BUTYLBENZENE	5E-08	2E-07	6E-08	2E-07
n-PROPYLBENZENE	4E-09	1E-08	4E-09	1E-08
P-CYMENE (p-ISOPROPYLTOLUENE)	9E-09	2E-08	1E-08	3E-08
SEC-BUTYLBENZENE	1E-08	3E-08	2E-08	4E-08
TOLUENE	7E-09	2E-08	1E-09	3E-09
TRICHLOROETHYLENE (TCE)	2E-08	4E-08	2E-08	6E-08
VINYL CHLORIDE	5E-08	1E-07	5E-08	1E-07
XYLENES, TOTAL	4E-09	1E-08	5E-09	1E-08

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	3E-12	8E-12	5E-12	1E-11
ALDRIN	1E-13	4E-13	5E-16	1E-15
ALPHA ENDOSULFAN	6E-15	2E-14	1E-14	3E-14
ARSENIC	1E-10	3E-10	1E-10	3E-10
BARIUM	4E-10	1E-09	5E-10	1E-09
BENZO(a)ANTHRACENE	2E-12	5E-12	1E-12	3E-12
BERYLLIUM	5E-12	1E-11	6E-12	2E-11
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	4E-13	3E-15	9E-15
BETA ENDOSULFAN	7E-14	2E-13	6E-15	2E-14
bis(2-ETHYLHEXYL) PHTHALATE	3E-12	9E-12	4E-12	1E-11

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CADMIUM	4E-11	1E-10	4E-11	1E-10
CHROMIUM, TOTAL	5E-10	1E-09	8E-10	2E-09
CHRYSENE	2E-12	6E-12	7E-13	2E-12
COBALT	5E-11	1E-10	6E-11	2E-10
COPPER	7E-10	2E-09	7E-10	2E-09
CYANIDE	6E-12	2E-11	8E-12	2E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-13	4E-13	1E-15	3E-15
DIELDRIN	1E-13	4E-13	1E-15	3E-15
ENDOSULFAN SULFATE	2E-13	4E-13	2E-14	5E-14
FLUORANTHENE	2E-12	5E-12	1E-12	3E-12
GAMMA BHC (LINDANE)	1E-13	4E-13	1E-15	3E-15
MANGANESE	4E-09	1E-08	5E-09	1E-08
MERCURY	6E-13	2E-12	8E-13	2E-12
METHOXYCHLOR	2E-13	5E-13	5E-14	1E-13
METHYLENE CHLORIDE	3E-14	9E-14	4E-14	1E-13
MOLYBDENUM	7E-09	2E-08	4E-08	1E-07
NICKEL	4E-10	1E-09	6E-10	2E-09
p,p'-DDD	4E-14	1E-13	1E-14	3E-14
p,p'-DDT	2E-14	6E-14	6E-15	2E-14
PYRENE	2E-12	5E-12	8E-13	2E-12
TETRACHLOROETHYLENE(PCE)	3E-14	9E-14	1E-14	4E-14
TRICHLOROETHYLENE (TCE)	1E-13	3E-13	1E-13	4E-13
VANADIUM	8E-11	2E-10	1E-10	3E-10
ZINC	3E-09	8E-09	1E-09	4E-09

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Onsite Industrial Workers  
(Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust**

ALDRIN	4E-14	1E-13	2E-14	5E-14
ALPHA ENDOSULFAN	2E-15	6E-15	2E-15	6E-15
ALUMINUM	9E-08	2E-07	1E-07	4E-07
BENZO(a)ANTHRACENE	2E-12	5E-12	2E-12	6E-12
BENZO(a)PYRENE	2E-12	5E-12	2E-12	4E-12
BENZO(b)FLUORANTHENE	2E-12	6E-12	3E-12	9E-12
BETA ENDOSULFAN	8E-14	2E-13	3E-15	9E-15
bis(2-ETHYLHEXYL) PHTHALATE	3E-12	9E-12	2E-12	6E-12
CHROMIUM, TOTAL	1E-10	3E-10	2E-10	5E-10
CHRYSENE	3E-12	7E-12	2E-12	6E-12
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-15	2E-14	1E-14	3E-14
DI-n-BUTYL PHTHALATE	4E-12	1E-11	1E-12	3E-12
DIELDRIN	2E-14	6E-14	4E-14	1E-13
ENDOSULFAN SULFATE	7E-14	2E-13	4E-14	1E-13
ENDRIN	3E-14	9E-14	8E-15	2E-14
ENDRIN ALDEHYDE	8E-14	2E-13	2E-13	4E-13
FLUORANTHENE	2E-12	5E-12	3E-12	9E-12
GAMMA BHC (LINDANE)	1E-14	3E-14	4E-15	1E-14

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HEPTACHLOR	1E-14	4E-14	2E-14	7E-14
HEPTACHLOR EPOXIDE	4E-14	1E-13	5E-14	2E-13
MANGANESE	4E-09	1E-08	5E-09	1E-08
METHOXYCHLOR	1E-13	3E-13	2E-14	5E-14
MOLYBDENUM	1E-10	4E-10	2E-10	6E-10
p,p'-DDD	2E-14	6E-14	7E-15	2E-14
p,p'-DDE	2E-14	6E-14	1E-14	3E-14
p,p'-DDT	1E-14	3E-14	1E-14	4E-14
PHENANTHRENE	2E-12	5E-12	8E-13	2E-12
PYRENE	2E-12	6E-12	3E-12	9E-12
TRICHLOROETHYLENE (TCE)	9E-14	2E-13	9E-14	3E-13

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Onsite Industrial Workers  
(Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust**

1,1-DICHLOROETHANE	8E-14	2E-13	2E-14	7E-14
1,2,4-TRIMETHYLBENZENE	9E-14	3E-13	3E-14	1E-13
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	9E-14	3E-13	6E-14	2E-13
ALDRIN	5E-14	1E-13	7E-15	2E-14
ALPHA ENDOSULFAN	3E-14	7E-14	4E-15	1E-14
ALUMINUM	1E-07	4E-07	2E-07	4E-07
BARIUM	8E-10	2E-09	1E-09	3E-09
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-14	1E-13	1E-14	4E-14
BETA ENDOSULFAN	5E-14	1E-13	5E-15	1E-14
CHROMIUM, TOTAL	2E-10	5E-10	2E-10	5E-10
cis-1,2-DICHLOROETHYLENE	1E-13	4E-13	2E-13	5E-13
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-15	2E-14	1E-14	4E-14
DIELDRIN	4E-14	1E-13	5E-14	1E-13
ENDRIN ALDEHYDE	3E-13	7E-13	6E-13	2E-12
HEPTACHLOR	1E-14	4E-14	1E-15	4E-15
MANGANESE	7E-09	2E-08	9E-09	3E-08
MOLYBDENUM	1E-10	3E-10	2E-10	5E-10
NAPHTHALENE	2E-12	4E-12	2E-12	6E-12
p,p'-DDD	4E-14	1E-13	7E-14	2E-13
p,p'-DDE	1E-14	4E-14	1E-14	4E-14

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**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Future Land Use  
Onsite Construction Workers**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers Plating Room - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	6E-10	3E-07	3E-10	1E-07
ACENAPHTHENE	3E-09	1E-06	2E-09	9E-07
ACETONE	8E-09	3E-06	1E-08	6E-06
ALDRIN	1E-10	5E-08	6E-13	2E-10
ALPHA ENDOSULFAN	3E-11	1E-08	1E-11	6E-09
ANTHRACENE	3E-09	1E-06	3E-09	1E-06
BENZO(a)ANTHRACENE	5E-09	2E-06	5E-09	2E-06
BENZO(a)PYRENE	3E-09	1E-06	4E-09	2E-06
BENZO(b)FLUORANTHENE	5E-09	2E-06	5E-09	2E-06
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-10	5E-08	4E-12	2E-09
BETA ENDOSULFAN	1E-10	6E-08	8E-12	3E-09
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	2E-06	5E-09	2E-06
BROMOMETHANE	6E-10	3E-07	5E-10	2E-07
CADMIIUM	4E-09	2E-06	3E-09	1E-06
CHRYSENE	5E-09	2E-06	7E-09	3E-06
CYANIDE	7E-10	3E-07	8E-10	3E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-11	3E-08	1E-12	6E-10
DIBENZOFURAN	2E-09	1E-06	6E-10	2E-07
DICHLORODIFLUOROMETHANE	2E-09	8E-07	5E-11	2E-08
DIELDRIN	1E-10	5E-08	3E-12	1E-09
ENDOSULFAN SULFATE	1E-10	5E-08	2E-11	9E-09
FLUORANTHENE	6E-09	2E-06	5E-09	2E-06
FLUORENE	2E-09	1E-06	1E-09	6E-07
GAMMA BHC (LINDANE)	8E-11	3E-08	3E-12	1E-09
HEPTACHLOR	1E-10	5E-08	4E-13	2E-10
MERCURY	1E-10	5E-08	2E-10	7E-08
METHOXYCHLOR	2E-10	8E-08	2E-10	7E-08
METHYLENE CHLORIDE	8E-10	3E-07	3E-10	1E-07
MOLYBDENUM	4E-07	1E-04	2E-07	1E-04
p,p'-DDD	7E-11	3E-08	3E-11	1E-08
p,p'-DDT	4E-11	2E-08	8E-12	3E-09
PCB-1254 (AROCHLOR 1254)	5E-10	2E-07	1E-09	4E-07
PHENANTHRENE	4E-09	2E-06	4E-09	2E-06
PYRENE	6E-09	2E-06	6E-09	2E-06
TETRACHLOROETHYLENE(PCE)	6E-10	3E-07	4E-11	2E-08
TRICHLOROETHYLENE (TCE)	8E-10	3E-07	9E-10	4E-07

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Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers Plating Room - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	2E-10	9E-08	1E-10	4E-08
ACENAPHTHENE	2E-09	9E-07	2E-09	7E-07
ACETONE	3E-09	1E-06	5E-09	2E-06
ALDRIN	1E-10	4E-08	5E-13	2E-10
ALPHA ENDOSULFAN	2E-11	9E-09	1E-11	5E-09
ANTHRACENE	2E-09	1E-06	3E-09	1E-06
BENZO(a)ANTHRACENE	4E-09	2E-06	4E-09	2E-06
BENZO(a)PYRENE	3E-09	1E-06	3E-09	1E-06
BENZO(b)FLUORANTHENE	4E-09	2E-06	4E-09	2E-06
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-10	4E-08	3E-12	1E-09
BETA ENDOSULFAN	1E-10	5E-08	7E-12	3E-09
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	2E-06	4E-09	2E-06
BROMOMETHANE	2E-10	9E-08	2E-10	7E-08
CADMIUM	4E-08	2E-05	3E-08	1E-05
CHRYSENE	4E-09	2E-06	6E-09	2E-06
CYANIDE	6E-09	2E-06	7E-09	3E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-11	2E-08	1E-12	5E-10
DIBENZOFURAN	2E-09	8E-07	5E-10	2E-07
DICHLORODIFLUOROMETHANE	6E-10	3E-07	2E-11	7E-09
DIELDRIN	9E-11	4E-08	2E-12	9E-10
ENDOSULFAN SULFATE	1E-10	4E-08	2E-11	8E-09
FLUORANTHENE	5E-09	2E-06	4E-09	2E-06
FLUORENE	2E-09	8E-07	1E-09	5E-07
GAMMA BHC (LINDANE)	7E-11	3E-08	2E-12	9E-10
HEPTACHLOR	9E-11	4E-08	4E-13	2E-10
MERCURY	9E-10	4E-07	1E-09	6E-07
METHOXYCHLOR	2E-10	7E-08	1E-10	6E-08
METHYLENE CHLORIDE	3E-10	1E-07	9E-11	4E-08
MOLYBDENUM	3E-06	1E-03	2E-06	8E-04
p,p'-DDD	6E-11	2E-08	2E-11	1E-08
p,p'-DDT	3E-11	1E-08	7E-12	3E-09
PCB-1254 (AROCHLOR 1254)	4E-10	2E-07	8E-10	3E-07
PHENANTHRENE	3E-09	1E-06	4E-09	2E-06
PYRENE	5E-09	2E-06	5E-09	2E-06
TETRACHLOROETHYLENE(PCE)	2E-10	9E-08	1E-11	6E-09
TRICHLOROETHYLENE (TCE)	3E-10	1E-07	3E-10	1E-07

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- = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	5E-06	2E-03	2E-06	1E-03
ACETONE	7E-05	3E-02	1E-04	5E-02
BROMOMETHANE	6E-06	2E-03	4E-06	2E-03
DIBENZOFURAN	5E-05	2E-02	1E-05	5E-03
DICHLORODIFLUOROMETHANE	1E-05	5E-03	3E-07	1E-04
METHYLENE CHLORIDE	7E-06	3E-03	2E-06	1E-03
TETRACHLOROETHYLENE(PCE)	5E-06	2E-03	3E-07	1E-04
TRICHLOROETHYLENE (TCE)	7E-06	3E-03	8E-06	3E-03

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	4E-13	2E-10	2E-13	7E-11
ACENAPHTHENE	4E-12	2E-09	3E-12	1E-09
ACETONE	5E-12	2E-09	8E-12	3E-09
ALDRIN	2E-13	7E-11	8E-16	3E-13
ALPHA ENDOSULFAN	4E-14	2E-11	2E-14	9E-12
ANTHRACENE	4E-12	2E-09	5E-12	2E-09
BENZO(a)ANTHRACENE	6E-12	3E-09	7E-12	3E-09
BENZO(a)PYRENE	5E-12	2E-09	5E-12	2E-09
BENZO(b)FLUORANTHENE	7E-12	3E-09	7E-12	3E-09
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-13	7E-11	6E-15	2E-12
BETA ENDOSULFAN	2E-13	8E-11	1E-14	5E-12
bis(2-ETHYLHEXYL) PHTHALATE	6E-12	3E-09	7E-12	3E-09
BROMOMETHANE	4E-13	2E-10	3E-13	1E-10
CADMIUM	6E-11	3E-08	5E-11	2E-08
CHRYSENE	8E-12	3E-09	9E-12	4E-09
CYANIDE	1E-11	4E-09	1E-11	5E-09
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-14	4E-11	2E-15	8E-13
DIBENZOFURAN	3E-12	1E-09	8E-13	3E-10
DICHLORODIFLUOROMETHANE	1E-12	4E-10	3E-14	1E-11

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DIELDRIN	2E-13	6E-11	4E-15	2E-12
ENDOSULFAN SULFATE	2E-13	7E-11	3E-14	1E-11
FLUORANTHENE	8E-12	3E-09	7E-12	3E-09
FLUORENE	3E-12	1E-09	2E-12	9E-10
GAMMA BHC (LINDANE)	1E-13	5E-11	4E-15	2E-12
HEPTACHLOR	2E-13	6E-11	6E-16	3E-13
MERCURY	2E-12	6E-10	2E-12	1E-09
METHOXYCHLOR	3E-13	1E-10	2E-13	1E-10
METHYLENE CHLORIDE	4E-13	2E-10	2E-13	6E-11
MOLYBDENUM	5E-09	2E-06	3E-09	1E-06
p,p'-DDD	9E-14	4E-11	4E-14	2E-11
p,p'-DDT	6E-14	2E-11	1E-14	5E-12
PCB-1254 (AROCHLOR 1254)	7E-13	3E-10	1E-12	6E-10
PHENANTHRENE	6E-12	2E-09	6E-12	3E-09
PYRENE	8E-12	3E-09	8E-12	3E-09
TETRACHLOROETHYLENE(PCE)	4E-13	2E-10	2E-14	1E-11
TRICHLOROETHYLENE (TCE)	5E-13	2E-10	5E-13	2E-10

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Future Land Use  
Onsite Construction Workers**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers Reservoir - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-10	1E-07	1E-10	4E-08
ALDRIN	5E-11	2E-08	2E-11	9E-09
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	2E-11	7E-09	1E-12	6E-10
ALPHA ENDOSULFAN	1E-11	6E-09	1E-11	5E-09
ANTHRACENE	3E-09	1E-06	2E-09	8E-07
BENZO(a)ANTHRACENE	3E-09	1E-06	6E-09	2E-06
BENZO(a)PYRENE	3E-09	1E-06	3E-09	1E-06
BENZO(b)FLUORANTHENE	3E-09	1E-06	5E-09	2E-06
BENZO(g,h,i)PERYLENE	3E-09	1E-06	2E-09	9E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-11	3E-08	8E-12	3E-09
BETA ENDOSULFAN	1E-10	5E-08	7E-11	3E-08
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	2E-06	3E-09	1E-06
CHRYSENE	4E-09	2E-06	5E-09	2E-06
COPPER	6E-08	3E-05	9E-08	4E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-12	2E-09	8E-12	3E-09
DI-n-BUTYL PHTHALATE	7E-09	3E-06	1E-09	5E-07
DIELDRIN	4E-11	2E-08	5E-11	2E-08
ENDOSULFAN SULFATE	5E-11	2E-08	4E-11	2E-08
ENDRIN	5E-11	2E-08	3E-11	1E-08
ENDRIN ALDEHYDE	7E-11	3E-08	2E-10	8E-08
FLUORANTHENE	3E-09	1E-06	6E-09	2E-06
FLUORENE	2E-09	1E-06	7E-10	3E-07
GAMMA BHC (LINDANE)	1E-11	6E-09	5E-12	2E-09
HEPTACHLOR	2E-11	7E-09	2E-11	9E-09
HEPTACHLOR EPOXIDE	7E-11	3E-08	7E-11	3E-08
INDENO(1,2,3-c,d)PYRENE	5E-09	2E-06	2E-09	9E-07
MERCURY	2E-10	1E-07	3E-10	1E-07
METHOXYCHLOR	2E-10	7E-08	3E-10	1E-07
MOLYBDENUM	2E-08	7E-06	2E-08	9E-06
p,p'-DDD	3E-11	1E-08	8E-11	3E-08
p,p'-DDE	7E-11	3E-08	1E-11	6E-09
p,p'-DDT	4E-11	2E-08	7E-11	3E-08
PCB-1260 (AROCHLOR 1260)	5E-10	2E-07	5E-10	2E-07
PHENANTHRENE	3E-09	1E-06	5E-09	2E-06
PYRENE	3E-09	1E-06	6E-09	2E-06
SELENIUM	9E-10	4E-07	8E-10	3E-07
TRICHLOROETHYLENE (TCE)	4E-10	2E-07	4E-10	2E-07
ZINC	2E-07	1E-04	4E-07	2E-04

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 - = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers Reservoir - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-10	4E-08	3E-11	1E-08
ALDRIN	4E-11	2E-08	2E-11	7E-09
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-11	6E-09	1E-12	5E-10
ALPHA ENDOSULFAN	1E-11	5E-09	1E-11	4E-09
ANTHRACENE	3E-09	1E-06	2E-09	7E-07
BENZO(a)ANTHRACENE	2E-09	1E-06	5E-09	2E-06
BENZO(a)PYRENE	2E-09	9E-07	3E-09	1E-06
BENZO(b)FLUORANTHENE	3E-09	1E-06	4E-09	2E-06
BENZO(g,h,i)PERYLENE	2E-09	1E-06	2E-09	7E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7E-11	3E-08	7E-12	3E-09
BETA ENDOSULFAN	9E-11	4E-08	6E-11	2E-08
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	1E-06	2E-09	9E-07
CHRYSENE	3E-09	1E-06	4E-09	2E-06
COPPER	5E-07	2E-04	7E-07	3E-04
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-12	2E-09	7E-12	3E-09
DI-n-BUTYL PHTHALATE	6E-09	2E-06	1E-09	4E-07
DIELDRIN	3E-11	1E-08	4E-11	2E-08
ENDOSULFAN SULFATE	4E-11	2E-08	4E-11	2E-08
ENDRIN	4E-11	2E-08	3E-11	1E-08
ENDRIN ALDEHYDE	6E-11	2E-08	2E-10	7E-08
FLUORANTHENE	3E-09	1E-06	5E-09	2E-06
FLUORENE	2E-09	8E-07	6E-10	2E-07
GAMMA BHC (LINDANE)	1E-11	5E-09	4E-12	2E-09
HEPTACHLOR	1E-11	6E-09	2E-11	7E-09
HEPTACHLOR EPOXIDE	6E-11	2E-08	5E-11	2E-08
INDENO(1,2,3-c,d)PYRENE	4E-09	2E-06	2E-09	8E-07
MERCURY	2E-09	8E-07	2E-09	9E-07
METHOXYCHLOR	1E-10	6E-08	3E-10	1E-07
MOLYBDENUM	1E-07	6E-05	2E-07	8E-05
p,p'-DDD	2E-11	9E-09	7E-11	3E-08
p,p'-DDE	6E-11	2E-08	1E-11	5E-09
p,p'-DDT	3E-11	1E-08	5E-11	2E-08
PCB-1260 (AROCHLOR 1260)	4E-10	2E-07	4E-10	2E-07
PHENANTHRENE	2E-09	1E-06	4E-09	2E-06
PYRENE	3E-09	1E-06	5E-09	2E-06
SELENIUM	8E-09	3E-06	6E-09	3E-06
TRICHLOROETHYLENE (TCE)	1E-10	5E-08	1E-10	6E-08
ZINC	2E-06	8E-04	3E-06	1E-03

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Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	3E-06 3E-06	1E-03 1E-03	8E-07 4E-06	4E-04 2E-03

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-13	7E-11	6E-14	2E-11
ALDRIN	8E-14	3E-11	3E-14	1E-11
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	2E-14	1E-11	2E-15	8E-13
ALPHA ENDOSULFAN	2E-14	9E-12	2E-14	7E-12
ANTHRACENE	4E-12	2E-09	3E-12	1E-09
BENZO(a)ANTHRACENE	4E-12	2E-09	8E-12	3E-09
BENZO(a)PYRENE	4E-12	2E-09	5E-12	2E-09
BENZO(b)FLUORANTHENE	5E-12	2E-09	7E-12	3E-09
BENZO(g,h,i)PERYLENE	4E-12	2E-09	3E-12	1E-09
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	5E-11	1E-14	5E-12
BETA ENDOSULFAN	2E-13	6E-11	1E-13	4E-11
bis(2-ETHYLHEXYL) PHTHALATE	6E-12	2E-09	4E-12	2E-09
CHRYSENE	6E-12	2E-09	8E-12	3E-09
COPPER	9E-10	4E-07	3E-09	1E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-15	3E-12	1E-14	5E-12
DI-n-BUTYL PHTHALATE	9E-12	4E-09	2E-12	7E-10
DIELDRIN	6E-14	2E-11	7E-14	3E-11
ENDOSULFAN SULFATE	8E-14	3E-11	6E-14	3E-11
ENDRIN	8E-14	3E-11	5E-14	2E-11
ENDRIN ALDEHYDE	9E-14	4E-11	3E-13	1E-10
FLUORANTHENE	5E-12	2E-09	8E-12	3E-09
FLUORENE	3E-12	1E-09	1E-12	4E-10
GAMMA BHC (LINDANE)	2E-14	8E-12	8E-15	3E-12
HEPTACHLOR	2E-14	1E-11	3E-14	1E-11
HEPTACHLOR EPOXIDE	9E-14	4E-11	9E-14	4E-11

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INDENO(1,2,3-c,d)PYRENE	8E-12	3E-09	3E-12	1E-09
MERCURY	3E-12	1E-09	4E-12	2E-09
METHOXYCHLOR	2E-13	1E-10	5E-13	2E-10
MOLYBDENUM	2E-10	9E-08	3E-10	1E-07
p,p'-DDD	4E-14	2E-11	1E-13	5E-11
p,p'-DDE	9E-14	4E-11	2E-14	8E-12
p,p'-DDT	6E-14	2E-11	9E-14	4E-11
PCB-1260 (AROCHLOR 1260)	8E-13	3E-10	8E-13	3E-10
PHENANTHRENE	4E-12	2E-09	6E-12	3E-09
PYRENE	5E-12	2E-09	8E-12	3E-09
SELENIUM	1E-11	6E-09	1E-11	4E-09
TRICHLOROETHYLENE (TCE)	2E-13	9E-11	2E-13	1E-10
ZINC	3E-09	1E-06	2E-08	9E-06

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**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Future Land Use  
Onsite Construction Workers**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers Waste Oil Tanks - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-10	1E-07	8E-11	4E-08
1,1-DICHLOROETHANE	2E-10	1E-07	4E-10	2E-07
1,2,4-TRIMETHYLBENZENE	4E-10	2E-07	5E-10	2E-07
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	7E-10	3E-07	8E-10	3E-07
2,4-DINITROTOLUENE	7E-09	3E-06	6E-09	2E-06
2-METHYLNAPHTHALENE	4E-09	2E-06	4E-09	2E-06
ACENAPHTHENE	7E-09	3E-06	4E-09	2E-06
ALDRIN	9E-11	4E-08	2E-11	7E-09
ALPHA ENDOSULFAN	4E-11	2E-08	4E-11	2E-08
ALUMINUM	1E-05	6E-03	2E-05	6E-03
ANTHRACENE	8E-09	3E-06	6E-09	2E-06
BARIUM	8E-08	3E-05	9E-08	4E-05
BENZO(a)ANTHRACENE	8E-09	3E-06	1E-08	5E-06
BENZO(a)PYRENE	5E-09	2E-06	9E-09	4E-06
BENZO(b)FLUORANTHENE	7E-09	3E-06	1E-08	5E-06
BENZO(g,h,i)PERYLENE	7E-09	3E-06	7E-09	3E-06
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	9E-11	4E-08	6E-11	2E-08
BETA ENDOSULFAN	1E-10	6E-08	5E-12	2E-09
bis(2-ETHYLHEXYL) PHTHALATE	5E-09	2E-06	5E-09	2E-06
CHLOROETHANE	4E-10	2E-07	2E-10	6E-08
CHRYSENE	1E-08	5E-06	1E-08	6E-06
cis-1,2-DICHLOROETHYLENE	5E-10	2E-07	8E-10	3E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-12	4E-09	2E-11	9E-09
DI-n-BUTYL PHTHALATE	1E-08	6E-06	8E-10	3E-07
DIBENZ(a,h)ANTHRACENE	7E-09	3E-06	1E-09	6E-07
DIBENZOFURAN	7E-09	3E-06	5E-09	2E-06
DIELDRIN	9E-11	4E-08	5E-11	2E-08
ENDOSULFAN SULFATE	1E-10	6E-08	2E-10	7E-08
ENDRIN	9E-11	4E-08	1E-10	5E-08
ENDRIN ALDEHYDE	1E-10	6E-08	6E-10	2E-07
ETHYLBENZENE	3E-10	1E-07	4E-11	2E-08
FLUORANTHENE	7E-09	3E-06	1E-08	6E-06
FLUORENE	5E-09	2E-06	6E-09	3E-06
GAMMA BHC (LINDANE)	3E-11	1E-08	8E-12	3E-09
HEPTACHLOR	3E-11	1E-08	1E-12	6E-10
INDENO(1,2,3-c,d)PYRENE	1E-08	5E-06	6E-09	3E-06
ISOPROPYLBENZENE (CUMENE)	3E-10	1E-07	9E-11	4E-08
MERCURY	2E-10	1E-07	2E-10	7E-08

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METHOXYCHLOR	2E-10	8E-08	9E-11	4E-08
MOLYBDENUM	1E-08	6E-06	2E-08	8E-06
n-BUTYLBENZENE	4E-10	2E-07	4E-10	2E-07
n-PROPYLBENZENE	3E-10	1E-07	3E-10	1E-07
NAPHTHALENE	4E-09	2E-06	9E-09	4E-06
p,p'-DDD	9E-11	4E-08	8E-11	3E-08
p,p'-DDE	1E-10	5E-08	4E-11	2E-08
p,p'-DDT	9E-11	4E-08	1E-10	5E-08
P-CYMENE (p-ISOPROPYLTOLUENE)	4E-10	2E-07	4E-10	2E-07
PCB-1254 (AROCHLOR 1254)	4E-10	2E-07	4E-10	2E-07
PHENANTHRENE	7E-09	3E-06	9E-09	4E-06
PYRENE	8E-09	3E-06	1E-08	6E-06
SEC-BUTYLBENZENE	3E-10	1E-07	4E-10	2E-07
TOLUENE	3E-10	1E-07	4E-11	2E-08
TRICHLOROETHYLENE (TCE)	3E-10	1E-07	4E-10	2E-07
VINYL CHLORIDE	3E-10	1E-07	3E-10	1E-07
XYLENES, TOTAL	3E-10	1E-07	4E-10	2E-07
ZINC	1E-07	5E-05	2E-07	7E-05

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Onsite Construction Workers  
Waste Oil Tanks - Incidental Ingestion of Chemicals in SubSurface Soil**

1,1,1-TRICHLOROETHANE	9E-11	4E-08	3E-11	1E-08
1,1-DICHLOROETHANE	8E-11	3E-08	1E-10	5E-08
1,2,4-TRIMETHYLBENZENE	1E-10	6E-08	2E-10	7E-08
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-10	9E-08	3E-10	1E-07
2,4-DINITROTOLUENE	6E-09	2E-06	5E-09	2E-06
2-METHYLNAPHTHALENE	3E-09	1E-06	3E-09	1E-06
ACENAPHTHENE	6E-09	2E-06	3E-09	1E-06
ALDRIN	8E-11	3E-08	1E-11	6E-09
ALPHA ENDOSULFAN	3E-11	1E-08	3E-11	1E-08
ALUMINUM	1E-04	5E-02	1E-04	5E-02
ANTHRACENE	7E-09	3E-06	5E-09	2E-06
BARIUM	6E-07	3E-04	8E-07	3E-04
BENZO(a)ANTHRACENE	7E-09	3E-06	1E-08	4E-06
BENZO(a)PYRENE	4E-09	2E-06	8E-09	3E-06
BENZO(b)FLUORANTHENE	6E-09	2E-06	9E-09	4E-06
BENZO(g,h,i)PERYLENE	6E-09	2E-06	5E-09	2E-06
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-11	3E-08	5E-11	2E-08
BETA ENDOSULFAN	1E-10	5E-08	4E-12	2E-09
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	2E-06	4E-09	2E-06
CHLOROETHANE	1E-10	5E-08	5E-11	2E-08
CHRYSENE	9E-09	4E-06	1E-08	5E-06
cis-1,2-DICHLOROETHYLENE	2E-10	7E-08	3E-10	1E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-12	3E-09	2E-11	7E-09
DI-n-BUTYL PHTHALATE	1E-08	5E-06	7E-10	3E-07

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DIBENZ(a,h)ANTHRACENE	6E-09	2E-06	1E-09	5E-07
DIBENZOFURAN	6E-09	2E-06	4E-09	2E-06
DIELDRIN	8E-11	3E-08	4E-11	2E-08
ENDOSULFAN SULFATE	1E-10	5E-08	1E-10	6E-08
ENDRIN	8E-11	3E-08	1E-10	4E-08
ENDRIN ALDEHYDE	1E-10	5E-08	5E-10	2E-07
ETHYLBENZENE	9E-11	4E-08	1E-11	6E-09
FLUORANTHENE	6E-09	2E-06	1E-08	5E-06
FLUORENE	4E-09	2E-06	5E-09	2E-06
GAMMA BHC (LINDANE)	2E-11	9E-09	7E-12	3E-09
HEPTACHLOR	2E-11	9E-09	1E-12	5E-10
INDENO(1,2,3-c,d)PYRENE	9E-09	4E-06	5E-09	2E-06
ISOPROPYLBENZENE (CUMENE)	1E-10	4E-08	3E-11	1E-08
MERCURY	2E-09	8E-07	1E-09	6E-07
METHOXYCHLOR	2E-10	7E-08	7E-11	3E-08
MOLYBDENUM	1E-07	5E-05	2E-07	7E-05
n-BUTYLBENZENE	1E-10	5E-08	1E-10	6E-08
n-PROPYLBENZENE	9E-11	4E-08	9E-11	4E-08
NAPHTHALENE	3E-09	1E-06	8E-09	3E-06
p,p'-DDD	8E-11	3E-08	6E-11	3E-08
p,p'-DDE	1E-10	4E-08	3E-11	1E-08
p,p'-DDT	8E-11	3E-08	9E-11	4E-08
P-CYMENE (p-ISOPROPYLTOLUENE)	1E-10	5E-08	1E-10	6E-08
PCB-1254 (AROCHLOR 1254)	3E-10	1E-07	3E-10	1E-07
PHENANTHRENE	6E-09	2E-06	8E-09	3E-06
PYRENE	7E-09	3E-06	1E-08	5E-06
SEC-BUTYLBENZENE	1E-10	4E-08	1E-10	5E-08
TOLUENE	9E-11	4E-08	1E-11	6E-09
TRICHLOROETHYLENE (TCE)	1E-10	4E-08	1E-10	6E-08
VINYL CHLORIDE	1E-10	4E-08	1E-10	5E-08
XYLENES, TOTAL	1E-10	4E-08	1E-10	5E-08
ZINC	1E-06	4E-04	1E-06	5E-04

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-06	9E-04	7E-07	3E-04
1,1-DICHLOROETHANE	2E-06	8E-04	3E-06	1E-03
1,2,4-TRIMETHYLBENZENE	3E-06	1E-03	4E-06	2E-03
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6E-06	2E-03	7E-06	3E-03
CHLOROETHANE	3E-06	1E-03	1E-06	5E-04
cis-1,2-DICHLOROETHYLENE	4E-06	2E-03	7E-06	3E-03
DIBENZOFURAN	1E-04	6E-02	1E-04	4E-02
ETHYLBENZENE	2E-06	9E-04	4E-07	2E-04
ISOPROPYLBENZENE (CUMENE)	2E-06	1E-03	7E-07	3E-04
n-BUTYLBENZENE	3E-06	1E-03	4E-06	2E-03

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n-PROPYLBENZENE	2E-06	9E-04	2E-06	9E-04
P-CYMENE (p-ISOPROPYLTOLUENE)	3E-06	1E-03	4E-06	2E-03
SEC-BUTYLBENZENE	3E-06	1E-03	3E-06	1E-03
TOLUENE	2E-06	9E-04	4E-07	2E-04
TRICHLOROETHYLENE (TCE)	3E-06	1E-03	3E-06	1E-03
VINYL CHLORIDE	3E-06	1E-03	3E-06	1E-03
XYLENES, TOTAL	3E-06	1E-03	3E-06	1E-03

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Onsite Construction Workers  
(Impacted by Waste Oil Tanks) - Inhalation of Contaminated Fugitive Dust**

1,1,1-TRICHLOROETHANE	2E-13	6E-11	5E-14	2E-11
1,1-DICHLOROETHANE	1E-13	6E-11	2E-13	9E-11
1,2,4-TRIMETHYLBENZENE	2E-13	1E-10	3E-13	1E-10
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-13	2E-10	5E-13	2E-10
2,4-DINITROTOLUENE	9E-12	4E-09	8E-12	3E-09
2-METHYLNAPHTHALENE	6E-12	2E-09	6E-12	2E-09
ACENAPHTHENE	9E-12	4E-09	6E-12	2E-09
ALDRIN	1E-13	6E-11	2E-14	1E-11
ALPHA ENDOSULFAN	6E-14	2E-11	5E-14	2E-11
ALUMINUM	2E-07	9E-05	2E-07	9E-05
ANTHRACENE	1E-11	5E-09	8E-12	3E-09
BARIUM	1E-09	5E-07	1E-09	5E-07
BENZO(a)ANTHRACENE	1E-11	5E-09	2E-11	7E-09
BENZO(a)PYRENE	8E-12	3E-09	1E-11	6E-09
BENZO(b)FLUORANTHENE	9E-12	4E-09	2E-11	6E-09
BENZO(g,h,i)PERYLENE	9E-12	4E-09	9E-12	4E-09
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	6E-11	8E-14	3E-11
BETA ENDOSULFAN	2E-13	8E-11	8E-15	3E-12
bis(2-ETHYLHEXYL) PHTHALATE	8E-12	3E-09	8E-12	3E-09
CHLOROETHANE	2E-13	9E-11	9E-14	4E-11
CHRYSENE	2E-11	6E-09	2E-11	8E-09
cis-1,2-DICHLOROETHYLENE	3E-13	1E-10	4E-13	2E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-14	6E-12	3E-14	1E-11
DI-n-BUTYL PHTHALATE	2E-11	8E-09	1E-12	5E-10
DIBENZ(a,h)ANTHRACENE	9E-12	4E-09	2E-12	9E-10
DIBENZOFURAN	9E-12	4E-09	7E-12	3E-09
DIELDRIN	1E-13	6E-11	7E-14	3E-11
ENDOSULFAN SULFATE	2E-13	8E-11	2E-13	1E-10
ENDRIN	1E-13	6E-11	2E-13	7E-11
ENDRIN ALDEHYDE	2E-13	9E-11	8E-13	3E-10
ETHYLBENZENE	2E-13	6E-11	2E-14	1E-11
FLUORANTHENE	9E-12	4E-09	2E-11	8E-09
FLUORENE	8E-12	3E-09	9E-12	4E-09
GAMMA BHC (LINDANE)	4E-14	2E-11	1E-14	5E-12
HEPTACHLOR	4E-14	2E-11	2E-15	8E-13

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INDENO(1,2,3-c,d)PYRENE	2E-11	6E-09	9E-12	4E-09
ISOPROPYLBENZENE (CUMENE)	2E-13	7E-11	5E-14	2E-11
MERCURY	3E-12	1E-09	2E-12	1E-09
METHOXYCHLOR	3E-13	1E-10	1E-13	5E-11
MOLYBDENUM	2E-10	9E-08	3E-10	1E-07
n-BUTYLBENZENE	2E-13	9E-11	2E-13	1E-10
n-PROPYLBENZENE	2E-13	6E-11	1E-13	6E-11
NAPHTHALENE	6E-12	2E-09	1E-11	6E-09
p,p'-DDD	1E-13	6E-11	1E-13	4E-11
p,p'-DDE	2E-13	7E-11	5E-14	2E-11
p,p'-DDT	1E-13	6E-11	2E-13	6E-11
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-13	9E-11	2E-13	1E-10
PCB-1254 (AROCHLOR 1254)	6E-13	2E-10	6E-13	2E-10
PHENANTHRENE	9E-12	4E-09	1E-11	6E-09
PYRENE	1E-11	5E-09	2E-11	8E-09
SEC-BUTYLBENZENE	2E-13	7E-11	2E-13	9E-11
TOLUENE	2E-13	6E-11	2E-14	1E-11
TRICHLOROETHYLENE (TCE)	2E-13	7E-11	2E-13	1E-10
VINYL CHLORIDE	2E-13	7E-11	2E-13	8E-11
XYLENES, TOTAL	2E-13	7E-11	2E-13	9E-11
ZINC	2E-09	7E-07	2E-09	9E-07

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**APPENDIX H-1  
EXPOSURE ASSESSMENT  
Future Land Use  
Offsite 30-year Residents**

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents Dermal Absorption of Chemicals in Shower Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	N/A	N/A	2E-07	5E-07
1,1-DICHLOROETHANE	N/A	N/A	5E-07	1E-06
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	2E-08	5E-08
ALDRIN	N/A	N/A	1E-10	3E-10
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	N/A	N/A	1E-10	3E-10
ALPHA ENDOSULFAN	N/A	N/A	4E-11	8E-11
ALUMINUM	N/A	N/A	3E-05	6E-05
ARSENIC	N/A	N/A	3E-07	7E-07
BARIUM	N/A	N/A	6E-06	1E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	N/A	N/A	2E-10	6E-10
BETA ENDOSULFAN	N/A	N/A	1E-10	3E-10
CHLOROMETHANE	N/A	N/A	3E-08	7E-08
cis-1,2-DICHLOROETHYLENE	N/A	N/A	8E-06	2E-05
COPPER	N/A	N/A	8E-08	2E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	N/A	N/A	3E-10	7E-10
ENDOSULFAN SULFATE	N/A	N/A	2E-10	4E-10
ENDRIN	N/A	N/A	4E-10	1E-09
ENDRIN ALDEHYDE	N/A	N/A	1E-09	3E-09
ETHYLBENZENE	N/A	N/A	1E-06	3E-06
GAMMA BHC (LINDANE)	N/A	N/A	3E-11	8E-11
HEPTACHLOR EPOXIDE	N/A	N/A	2E-09	5E-09
MANGANESE	N/A	N/A	4E-05	9E-05
METHOXYCHLOR	N/A	N/A	2E-09	6E-09
p,p'-DDD	N/A	N/A	1E-08	3E-08
p,p'-DDE	N/A	N/A	1E-06	2E-06
p,p'-DDT	N/A	N/A	2E-07	4E-07
THALLIUM	N/A	N/A	1E-06	3E-06
TRICHLOROETHYLENE (TCE)	N/A	N/A	1E-05	2E-05
VANADIUM	N/A	N/A	2E-07	4E-07
VINYL CHLORIDE	N/A	N/A	5E-08	1E-07
XYLENES, TOTAL	N/A	N/A	5E-09	1E-08
ZINC	N/A	N/A	5E-07	1E-06

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents Ingestion of Chemicals in Drinking Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	N/A	N/A	6E-06	1E-05
1,1-DICHLOROETHANE	N/A	N/A	2E-05	5E-05
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	9E-06	2E-05
ALDRIN	N/A	N/A	3E-08	7E-08
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	N/A	N/A	6E-08	1E-07
ALPHA ENDOSULFAN	N/A	N/A	2E-08	4E-08
ALUMINUM	N/A	N/A	1E-02	3E-02
ARSENIC	N/A	N/A	1E-04	3E-04
BARIUM	N/A	N/A	3E-03	6E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	N/A	N/A	1E-07	2E-07
BETA ENDOSULFAN	N/A	N/A	6E-08	1E-07
CHLOROMETHANE	N/A	N/A	3E-06	7E-06
cis-1,2-DICHLOROETHYLENE	N/A	N/A	3E-04	8E-04
COPPER	N/A	N/A	3E-05	8E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	N/A	N/A	1E-07	3E-07
ENDOSULFAN SULFATE	N/A	N/A	8E-08	2E-07
ENDRIN	N/A	N/A	1E-08	3E-08
ENDRIN ALDEHYDE	N/A	N/A	4E-08	8E-08
ETHYLBENZENE	N/A	N/A	5E-07	1E-06
GAMMA BHC (LINDANE)	N/A	N/A	1E-08	3E-08
HEPTACHLOR EPOXIDE	N/A	N/A	8E-08	2E-07
MANGANESE	N/A	N/A	2E-02	4E-02
METHOXYCHLOR	N/A	N/A	1E-06	2E-06
p,p'-DDD	N/A	N/A	2E-08	5E-08
p,p'-DDE	N/A	N/A	2E-06	4E-06
p,p'-DDT	N/A	N/A	2E-07	4E-07
THALLIUM	N/A	N/A	5E-04	1E-03
TRICHLOROETHYLENE (TCE)	N/A	N/A	2E-05	5E-05
VANADIUM	N/A	N/A	7E-05	2E-04
VINYL CHLORIDE	N/A	N/A	3E-06	7E-06
XYLENES, TOTAL	N/A	N/A	2E-06	5E-06
ZINC	N/A	N/A	4E-04	9E-04

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents Inhalation of VOCs While Showering (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	N/A	N/A	3E-04	8E-04
1,1-DICHLOROETHANE	N/A	N/A	1E-03	3E-03
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	5E-04	1E-03
CHLOROMETHANE	N/A	N/A	2E-04	4E-04
cis-1,2-DICHLOROETHYLENE	N/A	N/A	2E-02	5E-02
ETHYLBENZENE	N/A	N/A	3E-05	6E-05
TRICHLOROETHYLENE (TCE)	N/A	N/A	1E-03	3E-03
VINYL CHLORIDE	N/A	N/A	2E-04	4E-04
XYLENES, TOTAL	N/A	N/A	1E-04	3E-04

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents Dermal Absorption of Chemicals in Shower Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	N/A	N/A	3E-06	8E-06
1,1-DICHLOROETHANE	N/A	N/A	6E-06	1E-05
1,1-DICHLOROETHENE	N/A	N/A	6E-07	1E-06
1,2,4-TRIMETHYLBENZENE	N/A	N/A	4E-07	9E-07
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	1E-06	2E-06
ALDRIN	N/A	N/A	6E-11	2E-10
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	N/A	N/A	1E-11	3E-11
ALPHA ENDOSULFAN	N/A	N/A	4E-11	9E-11
ALUMINUM	N/A	N/A	1E-04	3E-04
ARSENIC	N/A	N/A	3E-07	7E-07
BARIUM	N/A	N/A	9E-06	2E-05
BERYLLIUM	N/A	N/A	3E-08	7E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	N/A	N/A	3E-10	6E-10
BETA ENDOSULFAN	N/A	N/A	1E-10	3E-10
BROMODICHLOROMETHANE	N/A	N/A	4E-08	1E-07
CARBON TETRACHLORIDE	N/A	N/A	7E-08	2E-07
CHLOROETHANE	N/A	N/A	7E-07	2E-06
CHLOROFORM	N/A	N/A	1E-06	2E-06

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N/A = Not Applicable  
- = Not Calculated

CHROMIUM, TOTAL	N/A	N/A	1E-06	3E-06
cis-1,2-DICHLOROETHYLENE	N/A	N/A	3E-05	7E-05
COPPER	N/A	N/A	1E-06	3E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	N/A	N/A	2E-10	4E-10
DI-n-BUTYL PHTHALATE	N/A	N/A	2E-08	5E-08
DIELDRIN	N/A	N/A	4E-10	1E-09
ENDOSULFAN SULFATE	N/A	N/A	4E-11	9E-11
ENDRIN	N/A	N/A	3E-09	6E-09
ENDRIN ALDEHYDE	N/A	N/A	3E-09	8E-09
ETHYLBENZENE	N/A	N/A	1E-06	3E-06
GAMMA BHC (LINDANE)	N/A	N/A	1E-10	3E-10
HEPTACHLOR	N/A	N/A	7E-10	2E-09
HEPTACHLOR EPOXIDE	N/A	N/A	1E-09	2E-09
ISOPROPYLBENZENE (CUMENE)	N/A	N/A	3E-08	6E-08
MANGANESE	N/A	N/A	1E-04	3E-04
METHOXYCHLOR	N/A	N/A	3E-10	6E-10
n-PROPYLBENZENE	N/A	N/A	2E-08	6E-08
NAPHTHALENE	N/A	N/A	4E-07	9E-07
NICKEL	N/A	N/A	1E-07	3E-07
p,p'-DDD	N/A	N/A	6E-08	1E-07
p,p'-DDE	N/A	N/A	2E-08	5E-08
p,p'-DDT	N/A	N/A	8E-09	2E-08
SILVER	N/A	N/A	2E-07	4E-07
TOLUENE	N/A	N/A	8E-06	2E-05
trans-1,2-DICHLOROETHENE	N/A	N/A	5E-08	1E-07
TRICHLOROETHYLENE (TCE)	N/A	N/A	9E-04	2E-03
TRICHLOROFLUOROMETHANE	N/A	N/A	5E-07	1E-06
VANADIUM	N/A	N/A	3E-07	8E-07
VINYL CHLORIDE	N/A	N/A	1E-06	3E-06
XYLENES, TOTAL	N/A	N/A	4E-08	1E-07
ZINC	N/A	N/A	6E-07	1E-06

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents</b> <b>Ingestion of Chemicals in Drinking Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	N/A	N/A	9E-05	2E-04
1,1-DICHLOROETHANE	N/A	N/A	3E-04	7E-04
1,1-DICHLOROETHENE	N/A	N/A	2E-05	4E-05
1,2,4-TRIMETHYLBENZENE	N/A	N/A	2E-04	4E-04
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	4E-04	1E-03
ALDRIN	N/A	N/A	2E-08	4E-08
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	N/A	N/A	6E-09	1E-08
ALPHA ENDOSULFAN	N/A	N/A	2E-08	4E-08
ALUMINUM	N/A	N/A	6E-02	1E-01
ARSENIC	N/A	N/A	1E-04	3E-04
BARIUM	N/A	N/A	4E-03	9E-03

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N/A = Not Applicable  
- = Not Calculated

BERYLLIUM	N/A	N/A	1E-05	3E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	N/A	N/A	1E-07	3E-07
BETA ENDOSULFAN	N/A	N/A	5E-08	1E-07
BROMODICHLOROMETHANE	N/A	N/A	3E-06	7E-06
CARBON TETRACHLORIDE	N/A	N/A	1E-06	3E-06
CHLOROETHANE	N/A	N/A	4E-05	9E-05
CHLOROFORM	N/A	N/A	4E-06	1E-05
CHROMIUM, TOTAL	N/A	N/A	3E-04	7E-04
cis-1,2-DICHLOROETHYLENE	N/A	N/A	1E-03	3E-03
COPPER	N/A	N/A	6E-04	1E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	N/A	N/A	8E-08	2E-07
DI-n-BUTYL PHTHALATE	N/A	N/A	8E-06	2E-05
DIELDRIN	N/A	N/A	1E-08	3E-08
ENDOSULFAN SULFATE	N/A	N/A	2E-08	4E-08
ENDRIN	N/A	N/A	7E-08	2E-07
ENDRIN ALDEHYDE	N/A	N/A	9E-08	2E-07
ETHYLBENZENE	N/A	N/A	5E-07	1E-06
GAMMA BHC (LINDANE)	N/A	N/A	5E-08	1E-07
HEPTACHLOR	N/A	N/A	3E-08	6E-08
HEPTACHLOR EPOXIDE	N/A	N/A	4E-08	1E-07
ISOPROPYLBENZENE (CUMENE)	N/A	N/A	1E-05	3E-05
MANGANESE	N/A	N/A	5E-02	1E-01
METHOXYCHLOR	N/A	N/A	1E-07	3E-07
n-PROPYLBENZENE	N/A	N/A	1E-05	2E-05
NAPHTHALENE	N/A	N/A	2E-06	6E-06
NICKEL	N/A	N/A	6E-04	1E-03
p,p'-DDD	N/A	N/A	1E-07	2E-07
p,p'-DDE	N/A	N/A	4E-08	9E-08
p,p'-DDT	N/A	N/A	8E-09	2E-08
SILVER	N/A	N/A	1E-04	3E-04
TOLUENE	N/A	N/A	4E-06	8E-06
trans-1,2-DICHLOROETHENE	N/A	N/A	2E-06	5E-06
TRICHLOROETHYLENE (TCE)	N/A	N/A	2E-03	4E-03
TRICHLOROFLUOROMETHANE	N/A	N/A	1E-05	3E-05
VANADIUM	N/A	N/A	1E-04	3E-04
VINYL CHLORIDE	N/A	N/A	7E-05	2E-04
XYLENES, TOTAL	N/A	N/A	2E-05	4E-05
ZINC	N/A	N/A	4E-04	1E-03

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents Inhalation of VOCs While Showering (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	N/A	N/A	5E-03	1E-02
1,1-DICHLOROETHANE	N/A	N/A	2E-02	4E-02
1,1-DICHLOROETHENE	N/A	N/A	9E-04	2E-03
1,2,4-TRIMETHYLBENZENE	N/A	N/A	1E-02	2E-02

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

1,3,5-TRIMETHYLBENZENE (MESITYLENE)	N/A	N/A	2E-02	6E-02
BROMODICHLOROMETHANE	N/A	N/A	2E-04	4E-04
CARBON TETRACHLORIDE	N/A	N/A	8E-05	2E-04
CHLOROFORM	N/A	N/A	3E-04	6E-04
cis-1,2-DICHLOROETHYLENE	N/A	N/A	7E-02	2E-01
ETHYLBENZENE	N/A	N/A	3E-05	6E-05
ISOPROPYLBENZENE (CUMENE)	N/A	N/A	7E-04	2E-03
n-PROPYLBENZENE	N/A	N/A	6E-04	1E-03
TRICHLOROETHYLENE (TCE)	N/A	N/A	1E-01	3E-01
TRICHLOROFLUOROMETHANE	N/A	N/A	7E-04	2E-03
VINYL CHLORIDE	N/A	N/A	4E-03	9E-03
XYLENES, TOTAL	N/A	N/A	1E-03	3E-03

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-09	6E-09	1E-09	3E-09
ACETONE	6E-08	1E-07	1E-07	3E-07
BROMOMETHANE	1E-08	3E-08	8E-09	2E-08
DIBENZOFURAN	4E-10	1E-09	1E-10	2E-10
DICHLORODIFLUOROMETHANE	1E-10	3E-10	4E-12	8E-12
METHYLENE CHLORIDE	1E-08	3E-08	5E-09	1E-08
TETRACHLOROETHYLENE(PCE)	6E-09	1E-08	4E-10	8E-10
TRICHLOROETHYLENE (TCE)	6E-09	1E-08	7E-09	2E-08

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	1E-08	3E-08	4E-09	1E-08
TRICHLOROETHYLENE (TCE)	3E-08	6E-08	3E-08	7E-08

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-10	7E-10	1E-10	2E-10
1,1-DICHLOROETHANE	2E-10	4E-10	3E-10	6E-10
1,2,4-TRIMETHYLBENZENE	5E-12	1E-11	6E-12	1E-11
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	8E-12	2E-11	1E-11	2E-11
CHLOROETHANE	1E-09	3E-09	5E-10	1E-09
cis-1,2-DICHLOROETHYLENE	3E-10	7E-10	5E-10	1E-09
DIBENZOFURAN	3E-10	7E-10	2E-10	5E-10
ETHYLBENZENE	2E-10	4E-10	2E-11	6E-11
ISOPROPYLBENZENE (CUMENE)	4E-12	9E-12	1E-12	3E-12
n-BUTYLBENZENE	2E-09	5E-09	2E-09	6E-09
n-PROPYLBENZENE	1E-10	3E-10	1E-10	3E-10
P-CYMENE (p-ISOPROPYLTOLUENE)	3E-10	8E-10	4E-10	9E-10
SEC-BUTYLBENZENE	5E-10	1E-09	6E-10	1E-09
TOLUENE	3E-10	7E-10	5E-11	1E-10
TRICHLOROETHYLENE (TCE)	6E-10	1E-09	8E-10	2E-09
VINYL CHLORIDE	2E-09	4E-09	2E-09	5E-09
XYLENES, TOTAL	2E-10	4E-10	2E-10	5E-10

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	5E-13	1E-12	8E-13	2E-12
ALDRIN	2E-14	6E-14	8E-17	2E-16
ALPHA ENDOSULFAN	1E-15	3E-15	2E-15	5E-15
ARSENIC	2E-11	4E-11	2E-11	5E-11
BARIUM	8E-11	2E-10	9E-11	2E-10
BENZO(a)ANTHRACENE	3E-13	7E-13	2E-13	4E-13

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BERYLLIUM	9E-13	2E-12	1E-12	2E-12
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-14	6E-14	6E-16	1E-15
BETA ENDOSULFAN	1E-14	3E-14	1E-15	3E-15
bis(2-ETHYLHEXYL) PHTHALATE	6E-13	1E-12	8E-13	2E-12
CADMIUM	8E-12	2E-11	7E-12	2E-11
CHROMIUM, TOTAL	9E-11	2E-10	1E-10	3E-10
CHRYSENE	4E-13	8E-13	1E-13	3E-13
COBALT	9E-12	2E-11	1E-11	3E-11
COPPER	1E-10	3E-10	1E-10	3E-10
CYANIDE	1E-12	3E-12	1E-12	3E-12
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-14	6E-14	2E-16	4E-16
DIELDRIN	3E-14	6E-14	2E-16	4E-16
ENDOSULFAN SULFATE	3E-14	7E-14	3E-15	7E-15
FLUORANTHENE	3E-13	7E-13	2E-13	5E-13
GAMMA BHC (LINDANE)	2E-14	6E-14	2E-16	4E-16
MANGANESE	7E-10	2E-09	8E-10	2E-09
MERCURY	1E-13	3E-13	1E-13	3E-13
METHOXYCHLOR	3E-14	7E-14	8E-15	2E-14
METHYLENE CHLORIDE	6E-15	1E-14	7E-15	2E-14
MOLYBDENUM	1E-09	3E-09	8E-09	2E-08
NICKEL	8E-11	2E-10	1E-10	3E-10
p,p'-DDD	7E-15	2E-14	2E-15	4E-15
p,p'-DDT	4E-15	9E-15	1E-15	3E-15
PYRENE	3E-13	7E-13	1E-13	3E-13
TETRACHLOROETHYLENE(PCE)	6E-15	1E-14	2E-15	5E-15
TRICHLOROETHYLENE (TCE)	2E-14	4E-14	3E-14	6E-14
VANADIUM	1E-11	3E-11	2E-11	4E-11
ZINC	5E-10	1E-09	3E-10	6E-10

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects

**Offsite 30-year Residents  
(Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust**

ALDRIN	7E-14	2E-13	3E-14	7E-14
ALPHA ENDOSULFAN	4E-15	9E-15	4E-15	9E-15
ALUMINUM	1E-07	3E-07	2E-07	6E-07
BENZO(a)ANTHRACENE	3E-12	7E-12	4E-12	9E-12
BENZO(a)PYRENE	3E-12	7E-12	3E-12	6E-12
BENZO(b)FLUORANTHENE	3E-12	8E-12	5E-12	1E-11
BETA ENDOSULFAN	1E-13	3E-13	6E-15	1E-14
bis(2-ETHYLHEXYL) PHTHALATE	5E-12	1E-11	4E-12	9E-12
CHROMIUM, TOTAL	2E-10	4E-10	3E-10	7E-10
CHRYSENE	4E-12	1E-11	4E-12	9E-12
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-15	2E-14	2E-14	4E-14
DI-n-BUTYL PHTHALATE	7E-12	2E-11	2E-12	4E-12
DIELDRIN	4E-14	9E-14	7E-14	2E-13
ENDOSULFAN SULFATE	1E-13	3E-13	6E-14	1E-13

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ENDRIN	6E-14	1E-13	1E-14	3E-14
ENDRIN ALDEHYDE	1E-13	3E-13	3E-13	6E-13
FLUORANTHENE	3E-12	7E-12	6E-12	1E-11
GAMMA BHC (LINDANE)	2E-14	5E-14	7E-15	2E-14
HEPTACHLOR	2E-14	6E-14	4E-14	9E-14
HEPTACHLOR EPOXIDE	7E-14	2E-13	9E-14	2E-13
MANGANESE	7E-09	2E-08	8E-09	2E-08
METHOXYCHLOR	2E-13	4E-13	3E-14	7E-14
MOLYBDENUM	2E-10	5E-10	3E-10	8E-10
p,p'-DDD	4E-14	9E-14	1E-14	3E-14
p,p'-DDE	4E-14	9E-14	2E-14	4E-14
p,p'-DDT	2E-14	4E-14	2E-14	6E-14
PHENANTHRENE	3E-12	7E-12	1E-12	3E-12
PYRENE	3E-12	8E-12	5E-12	1E-11
TRICHLOROETHYLENE (TCE)	1E-13	3E-13	2E-13	4E-13

Chemical	Average Exposure ( mg/kg-day )		Reasonable Maximum Exposure ( mg/kg-day )	
	Carcinogenic Effects	Noncarcinogenic Effects	Carcinogenic Effects	Noncarcinogenic Effects
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	3E-15	7E-15	9E-16	2E-15
1,2,4-TRIMETHYLBENZENE	4E-15	8E-15	1E-15	3E-15
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-15	8E-15	2E-15	5E-15
ALDRIN	2E-15	5E-15	3E-16	6E-16
ALPHA ENDOSULFAN	1E-15	2E-15	2E-16	4E-16
ALUMINUM	5E-09	1E-08	6E-09	1E-08
BARIUM	3E-11	7E-11	4E-11	9E-11
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-15	4E-15	6E-16	1E-15
BETA ENDOSULFAN	2E-15	5E-15	2E-16	5E-16
CHROMIUM, TOTAL	6E-12	2E-11	7E-12	2E-11
cis-1,2-DICHLOROETHYLENE	5E-15	1E-14	7E-15	2E-14
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-16	7E-16	5E-16	1E-15
DIELDRIN	2E-15	4E-15	2E-15	5E-15
ENDRIN ALDEHYDE	1E-14	2E-14	2E-14	5E-14
HEPTACHLOR	5E-16	1E-15	5E-17	1E-16
MANGANESE	3E-10	6E-10	3E-10	8E-10
MOLYBDENUM	5E-12	1E-11	7E-12	2E-11
NAPHTHALENE	6E-14	1E-13	8E-14	2E-13
p,p'-DDD	2E-15	4E-15	3E-15	7E-15
p,p'-DDE	5E-16	1E-15	5E-16	1E-15

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**APPENDIX H-2  
AVERAGE CASE CANCER RISK ESTIMATES  
Current Land Use  
Recreational Users**

Chemical	Average Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Recreational Users Dermal Absorption of Chemicals in Surface Water (from Little Choconut Creek)</b>				
ARSENIC	2E-08	1.9E+00	A	4E-08
BARIUM	2E-07	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	3E-08	6.1E-02	B2	2E-09
BROMODICHLOROMETHANE	1E-08	6.2E-02	B2	6E-10
BROMOFORM	7E-09	7.9E-03	B2	6E-11
CHLOROFORM	2E-07	6.4E-03	B2	1E-09
CHROMIUM, TOTAL	9E-08	N/A	N/A	-
COPPER	4E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-12	N/A	N/A	-
DIBROMOCHLOROMETHANE	3E-09	8.4E-02	C	3E-10
DICHLORODIFLUOROMETHANE	3E-08	N/A	N/A	-
ENDOSULFAN SULFATE	3E-10	N/A	N/A	-
ENDRIN	2E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-11	1.3E+00	B2-C	9E-11
HEPTACHLOR EPOXIDE	1E-09	1.2E+01	B2	1E-08
MANGANESE	9E-08	N/A	N/A	-
p,p'-DDD	2E-08	3.0E+00	B2	6E-08
ZINC	6E-08	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>1E-07</b>

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Recreational Users Ingestion of Contaminated Fish (from Little Choconut Creek)</b>				
ARSENIC	1E-05	1.8E+00	A	2E-05
BARIUM	1E-03	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-03	1.4E-02	B2	3E-05
BROMODICHLOROMETHANE	1E-07	6.2E-02	B2	6E-09

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 - = Not Calculated

BROMOFORM	6E-06	7.9E-03	B2	5E-08
CHLOROFORM	8E-07	6.1E-03	B2	5E-09
CHROMIUM, TOTAL	3E-06	N/A	N/A	-
COPPER	1E-04	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-07	N/A	N/A	-
DIBROMOCHLOROMETHANE	2E-07	8.4E-02	C	2E-08
DICHLORODIFLUOROMETHANE	4E-06	N/A	N/A	-
ENDOSULFAN SULFATE	1E-07	N/A	N/A	-
ENDRIN	4E-06	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-06	1.3E+00	B2-C	1E-06
HEPTACHLOR EPOXIDE	3E-05	9.1E+00	B2	3E-04
MANGANESE	2E-03	N/A	N/A	-
p,p'-DDD	6E-05	2.4E-01	B2	1E-05
ZINC	6E-03	N/A	N/A	-
<b>Total Pathway Risk</b>				4E-04

**Total Risk**

4E-04

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

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**APPENDIX H-2  
AVERAGE CASE CANCER RISK ESTIMATES  
Current Land Use  
Recreational Users**

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical- Specific Risk
<b>Recreational Users Ingestion of Contaminated Fish (from Background for Little Choconut Creek)</b>				
ARSENIC	6E-06	1.8E+00	A	1E-05
BARIUM	4E-04	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-08	N/A	N/A	-
GAMMA BHC (LINDANE)	8E-07	1.3E+00	B2-C	1E-06
MANGANESE	3E-04	N/A	N/A	-
ZINC	4E-03	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-05
<b>Total Risk</b>				1E-05

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-2**  
**AVERAGE CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Industrial Workers**

Chemical	Average Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical- Specific Risk
<b>Onsite Industrial Workers</b> <b>Plating Room - Dermal Absorption of Chemicals in Surface Soil</b>				
ACETONE	4E-07	N/A	N/A	-
ALDRIN	9E-09	3.2E+01	B2	3E-07
ALPHA ENDOSULFAN	4E-10	N/A	N/A	-
ARSENIC	7E-07	1.9E+00	A	1E-06
BARIUM	3E-06	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-07	1.5E+01	B2	2E-06
BERYLLIUM	3E-08	8.6E+02	B2	3E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	9E-09	2.0E+00	C	2E-08
BETA ENDOSULFAN	5E-09	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-07	6.1E-02	B2	1E-08
CADMIUM	3E-07	ND	B1	-
CHROMIUM, TOTAL	3E-06	N/A	N/A	-
CHRYSENE	1E-07	3.0E+01	B2	3E-06
COBALT	3E-07	N/A	N/A	-
COPPER	4E-06	N/A	N/A	-
CYANIDE	4E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-09	N/A	N/A	-
DIELDRIN	9E-09	3.2E+01	B2	3E-07
ENDOSULFAN SULFATE	1E-08	N/A	N/A	-
FLUORANTHENE	1E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	9E-09	1.3E+00	B2-C	1E-08
MANGANESE	3E-05	N/A	N/A	-
MERCURY	4E-09	N/A	N/A	-
METHOXYCHLOR	1E-08	N/A	N/A	-
METHYLENE CHLORIDE	5E-09	7.7E-03	B2	4E-11
MOLYBDENUM	5E-05	N/A	N/A	-
NICKEL	3E-06	N/A	N/A	-
p,p'-DDD	3E-09	3.0E+00	B2	9E-09
p,p'-DDT	1E-09	4.3E+00	B2	4E-09
PYRENE	1E-07	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	5E-09	5.2E-02	C-B2	3E-10
TRICHLOROETHYLENE (TCE)	2E-08	1.1E-02	C-B2	2E-10
VANADIUM	5E-07	N/A	N/A	-
ZINC	2E-05	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>4E-05</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Plating Room - Incidental Ingestion of Chemicals in Surface Soil</b>				
ACETONE	2E-08	N/A	N/A	-
ALDRIN	8E-10	1.6E+01	B2	1E-08
ALPHA ENDOSULFAN	3E-11	N/A	N/A	-
ARSENIC	6E-07	1.8E+00	A	1E-06
BARIUM	2E-06	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-08	7.3E+00	B2	7E-08
BERYLLIUM	3E-08	4.3E+00	B2	1E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-10	1.8E+00	C	1E-09
BETA ENDOSULFAN	4E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-08	1.4E-02	B2	3E-10
CADMIUM	2E-07	ND	B1	-
CHROMIUM, TOTAL	3E-06	N/A	N/A	-
CHRYSENE	1E-08	7.3E+00	B2	7E-08
COBALT	3E-07	N/A	N/A	-
COPPER	4E-06	N/A	N/A	-
CYANIDE	3E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-10	N/A	N/A	-
DIELDRIN	8E-10	1.6E+01	B2	1E-08
ENDOSULFAN SULFATE	9E-10	N/A	N/A	-
FLUORANTHENE	9E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	8E-10	1.3E+00	B2-C	1E-09
MANGANESE	2E-05	N/A	N/A	-
MERCURY	3E-09	N/A	N/A	-
METHOXYCHLOR	9E-10	N/A	N/A	-
METHYLENE CHLORIDE	2E-10	7.5E-03	B2	2E-12
MOLYBDENUM	4E-05	N/A	N/A	-
NICKEL	2E-06	N/A	N/A	-
p,p'-DDD	2E-10	2.4E-01	B2	5E-11
p,p'-DDT	1E-10	3.4E-01	B2	3E-11
PYRENE	9E-09	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	2E-10	5.2E-02	C-B2	1E-11
TRICHLOROETHYLENE (TCE)	6E-10	1.1E-02	C-B2	7E-12
VANADIUM	4E-07	N/A	N/A	-
ZINC	2E-05	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-06

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Reservoir - Dermal Absorption of Chemicals in Surface Soil</b>				
ALDRIN	3E-09	3.2E+01	B2	1E-07
ALPHA ENDOSULFAN	1E-10	N/A	N/A	-
ALUMINUM	5E-04	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-07	1.5E+01	B2	2E-06
BENZO(a)PYRENE	1E-07	1.5E+01	B2	2E-06
BENZO(b)FLUORANTHENE	1E-07	1.5E+01	B2	2E-06
BETA ENDOSULFAN	5E-09	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-07	6.1E-02	B2	1E-08
CHROMIUM, TOTAL	6E-07	N/A	N/A	-
CHRYSENE	2E-07	3.0E+01	B2	6E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-10	N/A	N/A	-
DI-n-BUTYL PHTHALATE	3E-07	N/A	N/A	-
DIELDRIN	1E-09	3.2E+01	B2	3E-08
ENDOSULFAN SULFATE	4E-09	N/A	N/A	-
ENDRIN	2E-09	N/A	N/A	-
ENDRIN ALDEHYDE	5E-09	N/A	N/A	-
FLUORANTHENE	1E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-10	1.3E+00	B2-C	9E-10
HEPTACHLOR	9E-10	5.8E+00	B2	5E-09
HEPTACHLOR EPOXIDE	3E-09	1.2E+01	B2	4E-08
MANGANESE	2E-05	N/A	N/A	-
METHOXYCHLOR	6E-09	N/A	N/A	-
MOLYBDENUM	8E-07	N/A	N/A	-
p,p'-DDD	1E-09	3.0E+00	B2	3E-09
p,p'-DDE	1E-09	4.3E+00	B2	4E-09
p,p'-DDT	7E-10	4.3E+00	B2	3E-09
PHENANTHRENE	1E-07	N/A	N/A	-
PYRENE	1E-07	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-08	1.1E-02	C-B2	1E-10
<b>Total Pathway Risk</b>				1E-05

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Reservoir - Incidental Ingestion of Chemicals in Surface Soil</b>				
ALDRIN	2E-10	1.6E+01	B2	3E-09
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ALUMINUM	5E-04	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-08	7.3E+00	B2	7E-08
BENZO(a)PYRENE	9E-09	7.3E+00	B2	7E-08
BENZO(b)FLUORANTHENE	1E-08	7.3E+00	B2	7E-08
BETA ENDOSULFAN	4E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-08	1.4E-02	B2	3E-10
CHROMIUM, TOTAL	6E-07	N/A	N/A	-
CHRYSENE	1E-08	7.3E+00	B2	7E-08
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-11	N/A	N/A	-
DI-n-BUTYL PHTHALATE	2E-08	N/A	N/A	-
DIELDRIN	1E-10	1.6E+01	B2	2E-09
ENDOSULFAN SULFATE	3E-10	N/A	N/A	-
ENDRIN	2E-10	N/A	N/A	-
ENDRIN ALDEHYDE	4E-10	N/A	N/A	-
FLUORANTHENE	1E-08	N/A	N/A	-
GAMMA BHC (LINDANE)	6E-11	1.3E+00	B2-C	8E-11
HEPTACHLOR	8E-11	4.5E+00	B2	4E-10
HEPTACHLOR EPOXIDE	2E-10	9.1E+00	B2	2E-09
MANGANESE	2E-05	N/A	N/A	-
METHOXYCHLOR	5E-10	N/A	N/A	-
MOLYBDENUM	7E-07	N/A	N/A	-
p,p'-DDD	1E-10	2.4E-01	B2	2E-11
p,p'-DDE	1E-10	3.4E-01	B2	3E-11
p,p'-DDT	6E-11	3.4E-01	B2	2E-11
PHENANTHRENE	9E-09	N/A	N/A	-
PYRENE	1E-08	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	5E-10	1.1E-02	C-B2	6E-12
<b>Total Pathway Risk</b>				3E-07

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Waste Oil Tanks - Dermal Absorption of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	1E-08	ND	C	-
1,2,4-TRIMETHYLBENZENE	1E-08	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-08	N/A	N/A	-
ALDRIN	3E-09	3.2E+01	B2	1E-07
ALPHA ENDOSULFAN	1E-09	N/A	N/A	-
ALUMINUM	7E-04	N/A	N/A	-
BARIUM	4E-06	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-09	2.0E+00	C	4E-09
BETA ENDOSULFAN	3E-09	N/A	N/A	-
CHROMIUM, TOTAL	9E-07	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	2E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-10	N/A	N/A	-
DIELDRIN	2E-09	3.2E+01	B2	6E-08
ENDRIN ALDEHYDE	1E-08	N/A	N/A	-
HEPTACHLOR	7E-10	5.8E+00	B2	4E-09
MANGANESE	3E-05	N/A	N/A	-
MOLYBDENUM	6E-07	N/A	N/A	-
NAPHTHALENE	8E-08	N/A	N/A	-
p,p'-DDD	2E-09	3.0E+00	B2	6E-09
p,p'-DDE	7E-10	4.3E+00	B2	3E-09
<b>Total Pathway Risk</b>				2E-07

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	3E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	4E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-10	N/A	N/A	-
ALDRIN	2E-10	1.6E+01	B2	3E-09
ALPHA ENDOSULFAN	1E-10	N/A	N/A	-
ALUMINUM	6E-04	N/A	N/A	-
BARIUM	3E-06	N/A	N/A	-

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 - = Not Calculated

BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-10	1.8E+00	C	4E-10
BETA ENDOSULFAN	2E-10	N/A	N/A	-
CHROMIUM, TOTAL	7E-07	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	6E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-11	N/A	N/A	-
DIELDRIN	2E-10	1.6E+01	B2	3E-09
ENDRIN ALDEHYDE	1E-09	N/A	N/A	-
HEPTACHLOR	6E-11	4.5E+00	B2	3E-10
MANGANESE	3E-05	N/A	N/A	-
MOLYBDENUM	5E-07	N/A	N/A	-
NAPHTHALENE	7E-09	N/A	N/A	-
p,p'-DDD	2E-10	2.4E-01	B2	5E-11
p,p'-DDE	6E-11	3.4E-01	B2	2E-11
<b>Total Pathway Risk</b>				7E-09

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-08	N/A	N/A	-
ACETONE	3E-07	N/A	N/A	-
BROMOMETHANE	6E-08	N/A	N/A	-
DIBENZOFURAN	2E-09	N/A	N/A	-
DICHLORODIFLUOROMETHANE	8E-10	N/A	N/A	-
METHYLENE CHLORIDE	7E-08	1.6E-03	B2	1E-10
TETRACHLOROETHYLENE(PCE)	3E-08	2.0E-03	C-B2	6E-11
TRICHLOROETHYLENE (TCE)	3E-08	6.0E-03	C-B2	2E-10
<b>Total Pathway Risk</b>				4E-10

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 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	8E-09 2E-08	N/A 6.0E-03	N/A C-B2	- 1E-10
<b>Total Pathway Risk</b>				1E-10

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	8E-09	N/A	N/A	-
1,1-DICHLOROETHANE	4E-09	ND	C	-
1,2,4-TRIMETHYLBENZENE	1E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-10	N/A	N/A	-
CHLOROETHANE	3E-08	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	8E-09	N/A	N/A	-
DIBENZOFURAN	8E-09	N/A	N/A	-
ETHYLBENZENE	4E-09	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	1E-10	N/A	N/A	-
n-BUTYLBENZENE	5E-08	N/A	N/A	-
n-PROPYLBENZENE	4E-09	N/A	N/A	-
p-CYMENE (p-ISOPROPYLTOLUENE)	9E-09	N/A	N/A	-
SEC-BUTYLBENZENE	1E-08	N/A	N/A	-
TOLUENE	7E-09	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-08	6.0E-03	C-B2	1E-10
VINYL CHLORIDE	5E-08	3.0E-01	A	1E-08
XYLENES, TOTAL	4E-09	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-08

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	3E-12	N/A	N/A	-
ALDRIN	1E-13	1.6E+01	B2	2E-12
ALPHA ENDOSULFAN	6E-15	N/A	N/A	-
ARSENIC	1E-10	1.5E+01	A	1E-09
BARIUM	4E-10	N/A	N/A	-
BENZO(a)ANTHRACENE	2E-12	7.3E+00	B2	1E-11
BERYLLIUM	5E-12	8.4E+00	B2	4E-11
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	1.8E+00	C	2E-13
BETA ENDOSULFAN	7E-14	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	3E-12	1.4E-02	B2	4E-14
CADMIUM	4E-11	6.3E+00	B1	3E-10
CHROMIUM, TOTAL	5E-10	4.2E+01	A	2E-08
CHRYSENE	2E-12	7.3E+00	B2	1E-11
COBALT	5E-11	N/A	N/A	-
COPPER	7E-10	N/A	N/A	-
CYANIDE	6E-12	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-13	N/A	N/A	-
DIELDRIN	1E-13	1.6E+01	B2	2E-12
ENDOSULFAN SULFATE	2E-13	N/A	N/A	-
FLUORANTHENE	2E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-13	1.3E+00	B2-C	1E-13
MANGANESE	4E-09	N/A	N/A	-
MERCURY	6E-13	N/A	N/A	-
METHOXYCHLOR	2E-13	N/A	N/A	-
METHYLENE CHLORIDE	3E-14	1.6E-03	B2	5E-17
MOLYBDENUM	7E-09	N/A	N/A	-
NICKEL	4E-10	8.4E-01	A	3E-10
p,p'-DDD	4E-14	2.4E-01	B2	1E-14
p,p'-DDT	2E-14	3.4E-01	B2	7E-15
PYRENE	2E-12	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	3E-14	2.0E-03	C-B2	6E-17
TRICHLOROETHYLENE (TCE)	1E-13	6.0E-03	C-B2	6E-16
VANADIUM	8E-11	N/A	N/A	-
ZINC	3E-09	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>2E-08</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	4E-14	1.6E+01	B2	6E-13
ALPHA ENDOSULFAN	2E-15	N/A	N/A	-
ALUMINUM	9E-08	N/A	N/A	-
BENZO(a)ANTHRACENE	2E-12	7.3E+00	B2	1E-11
BENZO(a)PYRENE	2E-12	7.3E+00	B2	1E-11
BENZO(b)FLUORANTHENE	2E-12	7.3E+00	B2	1E-11
BETA ENDOSULFAN	8E-14	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	3E-12	1.4E-02	B2	4E-14
CHROMIUM, TOTAL	1E-10	4.2E+01	A	4E-09
CHRYSENE	3E-12	7.3E+00	B2	2E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-15	N/A	N/A	-
DI-n-BUTYL PHTHALATE	4E-12	N/A	N/A	-
DIELDRIN	2E-14	1.6E+01	B2	3E-13
ENDOSULFAN SULFATE	7E-14	N/A	N/A	-
ENDRIN	3E-14	N/A	N/A	-
ENDRIN ALDEHYDE	8E-14	N/A	N/A	-
FLUORANTHENE	2E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-14	1.3E+00	B2-C	1E-14
HEPTACHLOR	1E-14	4.5E+00	B2	4E-14
HEPTACHLOR EPOXIDE	4E-14	9.1E+00	B2	4E-13
MANGANESE	4E-09	N/A	N/A	-
METHOXYCHLOR	1E-13	N/A	N/A	-
MOLYBDENUM	1E-10	N/A	N/A	-
p,p'-DDD	2E-14	2.4E-01	B2	5E-15
p,p'-DDE	2E-14	3.4E-01	B2	7E-15
p,p'-DDT	1E-14	3.4E-01	B2	3E-15
PHENANTHRENE	2E-12	N/A	N/A	-
PYRENE	2E-12	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	9E-14	6.0E-03	C-B2	5E-16
<b>Total Pathway Risk</b>				<b>4E-09</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	8E-14	ND	C	-
1,2,4-TRIMETHYLBENZENE	9E-14	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	9E-14	N/A	N/A	-
ALDRIN	5E-14	1.6E+01	B2	8E-13
ALPHA ENDOSULFAN	3E-14	N/A	N/A	-
ALUMINUM	1E-07	N/A	N/A	-
BARIUM	8E-10	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-14	1.8E+00	C	7E-14
BETA ENDOSULFAN	5E-14	N/A	N/A	-
CHROMIUM, TOTAL	2E-10	4.2E+01	A	8E-09
cis-1,2-DICHLOROETHYLENE	1E-13	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-15	N/A	N/A	-
DIELDRIN	4E-14	1.6E+01	B2	6E-13
ENDRIN ALDEHYDE	3E-13	N/A	N/A	-
HEPTACHLOR	1E-14	4.5E+00	B2	4E-14
MANGANESE	7E-09	N/A	N/A	-
MOLYBDENUM	1E-10	N/A	N/A	-
NAPHTHALENE	2E-12	N/A	N/A	-
p,p'-DDD	4E-14	2.4E-01	B2	1E-14
p,p'-DDE	1E-14	3.4E-01	B2	3E-15
<b>Total Pathway Risk</b>				8E-09
<b>Total Risk</b>				5E-05

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 ND = No Data  
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**APPENDIX H-2  
AVERAGE CASE CANCER RISK ESTIMATES  
Future Land Use  
Onsite Construction Workers**

Chemical	Average Exposure ( ASD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical- Specific Risk
<b>Onsite Construction Workers Plating Room - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	6E-10	N/A	N/A	-
ACENAPHTHENE	3E-09	N/A	N/A	-
ACETONE	8E-09	N/A	N/A	-
ALDRIN	1E-10	3.2E+01	B2	3E-09
ALPHA ENDOSULFAN	3E-11	N/A	N/A	-
ANTHRACENE	3E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	5E-09	1.5E+01	B2	7E-08
BENZO(a)PYRENE	3E-09	1.5E+01	B2	4E-08
BENZO(b)FLUORANTHENE	5E-09	1.5E+01	B2	7E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-10	2.0E+00	C	2E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	6.1E-02	B2	2E-10
BROMOMETHANE	6E-10	N/A	N/A	-
CADMIUM	4E-09	ND	B1	-
CHRYSENE	5E-09	3.0E+01	B2	1E-07
CYANIDE	7E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-11	N/A	N/A	-
DIBENZOFURAN	2E-09	N/A	N/A	-
DICHLORODIFLUOROMETHANE	2E-09	N/A	N/A	-
DIELDRIN	1E-10	3.2E+01	B2	3E-09
ENDOSULFAN SULFATE	1E-10	N/A	N/A	-
FLUORANTHENE	6E-09	N/A	N/A	-
FLUORENE	2E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	8E-11	1.3E+00	B2-C	1E-10
HEPTACHLOR	1E-10	5.8E+00	B2	6E-10
MERCURY	1E-10	N/A	N/A	-
METHOXYCHLOR	2E-10	N/A	N/A	-
METHYLENE CHLORIDE	8E-10	7.7E-03	B2	6E-12
MOLYBDENUM	4E-07	N/A	N/A	-
p,p'-DDD	7E-11	3.0E+00	B2	2E-10
p,p'-DDT	4E-11	4.3E+00	B2	2E-10
PCB-1254 (AROCHLOR 1254)	5E-10	N/A	N/A	-
PHENANTHRENE	4E-09	N/A	N/A	-
PYRENE	6E-09	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	6E-10	5.2E-02	C-B2	3E-11
TRICHLOROETHYLENE (TCE)	8E-10	1.1E-02	C-B2	9E-12
<b>Total Pathway Risk</b>				<b>3E-07</b>

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers Plating Room - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	2E-10	N/A	N/A	-
ACENAPHTHENE	2E-09	N/A	N/A	-
ACETONE	3E-09	N/A	N/A	-
ALDRIN	1E-10	1.6E+01	B2	2E-09
ALPHA ENDOSULFAN	2E-11	N/A	N/A	-
ANTHRACENE	2E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	4E-09	7.3E+00	B2	3E-08
BENZO(a)PYRENE	3E-09	7.3E+00	B2	2E-08
BENZO(b)FLUORANTHENE	4E-09	7.3E+00	B2	3E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-10	1.8E+00	C	2E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	1.4E-02	B2	6E-11
BROMOMETHANE	2E-10	N/A	N/A	-
CADMUM	4E-08	ND	B1	-
CHRYSENE	4E-09	7.3E+00	B2	3E-08
CYANIDE	6E-09	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-11	N/A	N/A	-
DIBENZOFURAN	2E-09	N/A	N/A	-
DICHLORODIFLUOROMETHANE	6E-10	N/A	N/A	-
DIELDRIN	9E-11	1.6E+01	B2	1E-09
ENDOSULFAN SULFATE	1E-10	N/A	N/A	-
FLUORANTHENE	5E-09	N/A	N/A	-
FLUORENE	2E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-11	1.3E+00	B2-C	9E-11
HEPTACHLOR	9E-11	4.5E+00	B2	4E-10
MERCURY	9E-10	N/A	N/A	-
METHOXYCHLOR	2E-10	N/A	N/A	-
METHYLENE CHLORIDE	3E-10	7.5E-03	B2	2E-12
MOLYBDENUM	3E-06	N/A	N/A	-
p,p'-DDD	6E-11	2.4E-01	B2	1E-11
p,p'-DDT	3E-11	3.4E-01	B2	1E-11
PCB-1254 (AROCHLOR 1254)	4E-10	N/A	N/A	-
PHENANTHRENE	3E-09	N/A	N/A	-
PYRENE	5E-09	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	2E-10	5.2E-02	C-B2	1E-11
TRICHLOROETHYLENE (TCE)	3E-10	1.1E-02	C-B2	3E-12
<b>Total Pathway Risk</b>				1E-07

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

Chemical	Average Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	5E-06	N/A	N/A	-
ACETONE	7E-05	N/A	N/A	-
BROMOMETHANE	6E-06	N/A	N/A	-
DIBENZOFURAN	5E-05	N/A	N/A	-
DICHLORODIFLUOROMETHANE	1E-05	N/A	N/A	-
METHYLENE CHLORIDE	7E-06	1.6E-03	B2	1E-08
TETRACHLOROETHYLENE(PCE)	5E-06	2.0E-03	C-B2	1E-08
TRICHLOROETHYLENE (TCE)	7E-06	6.0E-03	C-B2	4E-08
<b>Total Pathway Risk</b>				6E-08

Chemical	Average Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	4E-13	N/A	N/A	-
ACENAPHTHENE	4E-12	N/A	N/A	-
ACETONE	5E-12	N/A	N/A	-
ALDRIN	2E-13	1.6E+01	B2	3E-12
ALPHA ENDOSULFAN	4E-14	N/A	N/A	-
ANTHRACENE	4E-12	N/A	N/A	-
BENZO(a)ANTHRACENE	6E-12	7.3E+00	B2	4E-11
BENZO(a)PYRENE	5E-12	7.3E+00	B2	4E-11
BENZO(b)FLUORANTHENE	7E-12	7.3E+00	B2	5E-11
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-13	1.8E+00	C	4E-13
BETA ENDOSULFAN	2E-13	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	6E-12	1.4E-02	B2	8E-14
BROMOMETHANE	4E-13	N/A	N/A	-
CADMIUM	6E-11	6.3E+00	B1	4E-10
CHRYSENE	8E-12	7.3E+00	B2	6E-11
CYANIDE	1E-11	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-14	N/A	N/A	-
DIBENZOFURAN	3E-12	N/A	N/A	-
DICHLORODIFLUOROMETHANE	1E-12	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

DIELDRIN	2E-13	1.6E+01	B2	3E-12
ENDOSULFAN SULFATE	2E-13	N/A	N/A	-
FLUORANTHENE	8E-12	N/A	N/A	-
FLUORENE	3E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-13	1.3E+00	B2-C	1E-13
HEPTACHLOR	2E-13	4.5E+00	B2	9E-13
MERCURY	2E-12	N/A	N/A	-
METHOXYCHLOR	3E-13	N/A	N/A	-
METHYLENE CHLORIDE	4E-13	1.6E-03	B2	6E-16
MOLYBDENUM	5E-09	N/A	N/A	-
p,p'-DDD	9E-14	2.4E-01	B2	2E-14
p,p'-DDT	6E-14	3.4E-01	B2	2E-14
PCB-1254 (AROCHLOR 1254)	7E-13	N/A	N/A	-
PHENANTHRENE	6E-12	N/A	N/A	-
PYRENE	8E-12	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	4E-13	2.0E-03	C-B2	8E-16
TRICHLOROETHYLENE (TCE)	5E-13	6.0E-03	C-B2	3E-15

**Total Pathway Risk**

6E-10

**Total Risk**

5E-07

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 ND = No Data  
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 - = Not Calculated

**APPENDIX H-2**  
**AVERAGE CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Average Exposure ( ASD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical- Specific Risk
<b>Onsite Construction Workers</b> <b>Reservoir - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-10	N/A	N/A	-
ALDRIN	5E-11	3.2E+01	B2	2E-09
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	2E-11	6.5E+00	B2	1E-10
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ANTHRACENE	3E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	3E-09	1.5E+01	B2	4E-08
BENZO(a)PYRENE	3E-09	1.5E+01	B2	4E-08
BENZO(b)FLUORANTHENE	3E-09	1.5E+01	B2	4E-08
BENZO(g,h,i)PERYLENE	3E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-11	2.0E+00	C	2E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	6.1E-02	B2	2E-10
CHRYSENE	4E-09	3.0E+01	B2	1E-07
COPPER	6E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-12	N/A	N/A	-
DI-n-BUTYL PHTHALATE	7E-09	N/A	N/A	-
DIELDRIN	4E-11	3.2E+01	B2	1E-09
ENDOSULFAN SULFATE	5E-11	N/A	N/A	-
ENDRIN	5E-11	N/A	N/A	-
ENDRIN ALDEHYDE	7E-11	N/A	N/A	-
FLUORANTHENE	3E-09	N/A	N/A	-
FLUORENE	2E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-11	1.3E+00	B2-C	1E-11
HEPTACHLOR	2E-11	5.8E+00	B2	1E-10
HEPTACHLOR EPOXIDE	7E-11	1.2E+01	B2	8E-10
INDENO(1,2,3-c,d)PYRENE	5E-09	1.5E+01	B2	7E-08
MERCURY	2E-10	N/A	N/A	-
METHOXYCHLOR	2E-10	N/A	N/A	-
MOLYBDENUM	2E-08	N/A	N/A	-
p,p'-DDD	3E-11	3.0E+00	B2	9E-11
p,p'-DDE	7E-11	4.3E+00	B2	3E-10
p,p'-DDT	4E-11	4.3E+00	B2	2E-10
PCB-1260 (AROCHLOR 1260)	5E-10	N/A	N/A	-
PHENANTHRENE	3E-09	N/A	N/A	-
PYRENE	3E-09	N/A	N/A	-
SELENIUM	9E-10	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	4E-10	1.1E-02	C-B2	4E-12
ZINC	2E-07	N/A	N/A	-

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

**Total Pathway Risk**

3E-07

Chemical	Average Exposure (SDI) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers Reservoir - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-10	N/A	N/A	-
ALDRIN	4E-11	1.6E+01	B2	6E-10
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-11	6.3E+00	B2	6E-11
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ANTHRACENE	3E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	2E-09	7.3E+00	B2	1E-08
BENZO(a)PYRENE	2E-09	7.3E+00	B2	1E-08
BENZO(b)FLUORANTHENE	3E-09	7.3E+00	B2	2E-08
BENZO(g,h,i)PERYLENE	2E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7E-11	1.8E+00	C	1E-10
BETA ENDOSULFAN	9E-11	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	1.4E-02	B2	4E-11
CHRYSENE	3E-09	7.3E+00	B2	2E-08
COPPER	5E-07	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-12	N/A	N/A	-
DI-n-BUTYL PHTHALATE	6E-09	N/A	N/A	-
DIELDRIN	3E-11	1.6E+01	B2	5E-10
ENDOSULFAN SULFATE	4E-11	N/A	N/A	-
ENDRIN	4E-11	N/A	N/A	-
ENDRIN ALDEHYDE	6E-11	N/A	N/A	-
FLUORANTHENE	3E-09	N/A	N/A	-
FLUORENE	2E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-11	1.3E+00	B2-C	1E-11
HEPTACHLOR	1E-11	4.5E+00	B2	4E-11
HEPTACHLOR EPOXIDE	6E-11	9.1E+00	B2	5E-10
INDENO(1,2,3-c,d)PYRENE	4E-09	7.3E+00	B2	3E-08
MERCURY	2E-09	N/A	N/A	-
METHOXYCHLOR	1E-10	N/A	N/A	-
MOLYBDENUM	1E-07	N/A	N/A	-
p,p'-DDD	2E-11	2.4E-01	B2	5E-12
p,p'-DDE	6E-11	3.4E-01	B2	2E-11
p,p'-DDT	3E-11	3.4E-01	B2	1E-11
PCB-1260 (AROCHLOR 1260)	4E-10	N/A	N/A	-
PHENANTHRENE	2E-09	N/A	N/A	-
PYRENE	3E-09	N/A	N/A	-
SELENIUM	8E-09	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-10	1.1E-02	C-B2	1E-12
ZINC	2E-06	N/A	N/A	-

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- N/A = Not Applicable
- = Not Calculated



**Total Pathway Risk**

9E-08

Chemical	Average Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	3E-06 3E-06	N/A 6.0E-03	N/A C-B2	- 2E-08
<b>Total Pathway Risk</b>				2E-08

Chemical	Average Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-13	N/A	N/A	-
ALDRIN	8E-14	1.6E+01	B2	1E-12
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	2E-14	6.3E+00	B2	1E-13
ALPHA ENDOSULFAN	2E-14	N/A	N/A	-
ANTHRACENE	4E-12	N/A	N/A	-
BENZO(a)ANTHRACENE	4E-12	7.3E+00	B2	3E-11
BENZO(a)PYRENE	4E-12	7.3E+00	B2	3E-11
BENZO(b)FLUORANTHENE	5E-12	7.3E+00	B2	4E-11
BENZO(g,h,i)PERYLENE	4E-12	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	1.8E+00	C	2E-13
BETA ENDOSULFAN	2E-13	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	6E-12	1.4E-02	B2	8E-14
CHRYSENE	6E-12	7.3E+00	B2	4E-11
COPPER	9E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-15	N/A	N/A	-
DI-n-BUTYL PHTHALATE	9E-12	N/A	N/A	-
DIELDRIN	6E-14	1.6E+01	B2	1E-12
ENDOSULFAN SULFATE	8E-14	N/A	N/A	-
ENDRIN	8E-14	N/A	N/A	-

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- ND = No Data
- N/A = Not Applicable
- = Not Calculated

ENDRIN ALDEHYDE	9E-14	N/A	N/A	-
FLUORANTHENE	5E-12	N/A	N/A	-
FLUORENE	3E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	2E-14	1.3E+00	B2-C	3E-14
HEPTACHLOR	2E-14	4.5E+00	B2	9E-14
HEPTACHLOR EPOXIDE	9E-14	9.1E+00	B2	8E-13
INDENO(1,2,3-c,d)PYRENE	8E-12	7.3E+00	B2	6E-11
MERCURY	3E-12	N/A	N/A	-
METHOXYCHLOR	2E-13	N/A	N/A	-
MOLYBDENUM	2E-10	N/A	N/A	-
p,p'-DDD	4E-14	2.4E-01	B2	1E-14
p,p'-DDE	9E-14	3.4E-01	B2	3E-14
p,p'-DDT	6E-14	3.4E-01	B2	2E-14
PCB-1260 (AROCHLOR 1260)	8E-13	N/A	N/A	-
PHENANTHRENE	4E-12	N/A	N/A	-
PYRENE	5E-12	N/A	N/A	-
SELENIUM	1E-11	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-13	6.0E-03	C-B2	1E-15
ZINC	3E-09	N/A	N/A	-

**Total Pathway Risk**

2E-10

**Total Risk**

4E-07

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-2**  
**AVERAGE CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Average Exposure ( ASD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers</b> <b>Waste Oil Tanks - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-10	N/A	N/A	-
1,1-DICHLOROETHANE	2E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	4E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	7E-10	N/A	N/A	-
2,4-DINITROTOLUENE	7E-09	N/A	N/A	-
2-METHYLNAPHTHALENE	4E-09	N/A	N/A	-
ACENAPHTHENE	7E-09	N/A	N/A	-
ALDRIN	9E-11	3.2E+01	B2	3E-09
ALPHA ENDOSULFAN	4E-11	N/A	N/A	-
ALUMINUM	1E-05	N/A	N/A	-
ANTHRACENE	8E-09	N/A	N/A	-
BARIUM	8E-08	N/A	N/A	-
BENZO(a)ANTHRACENE	8E-09	1.5E+01	B2	1E-07
BENZO(a)PYRENE	5E-09	1.5E+01	B2	7E-08
BENZO(b)FLUORANTHENE	7E-09	1.5E+01	B2	1E-07
BENZO(g,h,i)PERYLENE	7E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	9E-11	2.0E+00	C	2E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	5E-09	6.1E-02	B2	3E-10
CHLOROETHANE	4E-10	N/A	N/A	-
CHRYSENE	1E-08	3.0E+01	B2	3E-07
cis-1,2-DICHLOROETHYLENE	5E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-12	N/A	N/A	-
DI-n-BUTYL PHTHALATE	1E-08	N/A	N/A	-
DIBENZ(a,h)ANTHRACENE	7E-09	7.3E+01	B2	5E-07
DIBENZOFURAN	7E-09	N/A	N/A	-
DIELDRIN	9E-11	3.2E+01	B2	3E-09
ENDOSULFAN SULFATE	1E-10	N/A	N/A	-
ENDRIN	9E-11	N/A	N/A	-
ENDRIN ALDEHYDE	1E-10	N/A	N/A	-
ETHYLBENZENE	3E-10	N/A	N/A	-
FLUORANTHENE	7E-09	N/A	N/A	-
FLUORENE	5E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	3E-11	1.3E+00	B2-C	4E-11
HEPTACHLOR	3E-11	5.8E+00	B2	2E-10
INDENO(1,2,3-c,d)PYRENE	1E-08	1.5E+01	B2	1E-07
ISOPROPYLBENZENE (CUMENE)	3E-10	N/A	N/A	-
MERCURY	2E-10	N/A	N/A	-
METHOXYCHLOR	2E-10	N/A	N/A	-
MOLYBDENUM	1E-08	N/A	N/A	-
n-BUTYLBENZENE	4E-10	N/A	N/A	-
n-PROPYLBENZENE	3E-10	N/A	N/A	-

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N/A = Not Applicable  
- = Not Calculated

NAPHTHALENE	4E-09	N/A	N/A	-
p,p'-DDD	9E-11	3.0E+00	B2	3E-10
p,p'-DDE	1E-10	4.3E+00	B2	4E-10
p,p'-DDT	9E-11	4.3E+00	B2	4E-10
P-CYMENE (p-ISOPROPYLTOLUENE)	4E-10	N/A	N/A	-
PCB-1254 (AROCHLOR 1254)	4E-10	N/A	N/A	-
PHENANTHRENE	7E-09	N/A	N/A	-
PYRENE	8E-09	N/A	N/A	-
SEC-BUTYLBENZENE	3E-10	N/A	N/A	-
TOLUENE	3E-10	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	3E-10	1.1E-02	C-B2	3E-12
VINYL CHLORIDE	3E-10	1.9E+00	A	6E-10
XYLENES, TOTAL	3E-10	N/A	N/A	-
ZINC	1E-07	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-06

Chemical	Average Exposure (SDI) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	9E-11	N/A	N/A	-
1,1-DICHLOROETHANE	8E-11	ND	C	-
1,2,4-TRIMETHYLBENZENE	1E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-10	N/A	N/A	-
2,4-DINITROTOLUENE	6E-09	N/A	N/A	-
2-METHYLNAPHTHALENE	3E-09	N/A	N/A	-
ACENAPHTHENE	6E-09	N/A	N/A	-
ALDRIN	8E-11	1.6E+01	B2	1E-09
ALPHA ENDOSULFAN	3E-11	N/A	N/A	-
ALUMINUM	1E-04	N/A	N/A	-
ANTHRACENE	7E-09	N/A	N/A	-
BARIUM	6E-07	N/A	N/A	-
BENZO(a)ANTHRACENE	7E-09	7.3E+00	B2	5E-08
BENZO(a)PYRENE	4E-09	7.3E+00	B2	3E-08
BENZO(b)FLUORANTHENE	6E-09	7.3E+00	B2	4E-08
BENZO(g,h,i)PERYLENE	6E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-11	1.8E+00	C	1E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	1.4E-02	B2	6E-11
CHLOROETHANE	1E-10	N/A	N/A	-
CHRYSENE	9E-09	7.3E+00	B2	7E-08
cis-1,2-DICHLOROETHYLENE	2E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-12	N/A	N/A	-
DI-n-BUTYL PHTHALATE	1E-08	N/A	N/A	-
DIBENZ(a,h)ANTHRACENE	6E-09	7.3E+00	B2	4E-08
DIBENZOFURAN	6E-09	N/A	N/A	-
DIELDRIN	8E-11	1.6E+01	B2	1E-09

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

ENDOSULFAN SULFATE	1E-10	N/A	N/A	-
ENDRIN	8E-11	N/A	N/A	-
ENDRIN ALDEHYDE	1E-10	N/A	N/A	-
ETHYLBENZENE	9E-11	N/A	N/A	-
FLUORANTHENE	6E-09	N/A	N/A	-
FLUORENE	4E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	2E-11	1.3E+00	B2-C	3E-11
HEPTACHLOR	2E-11	4.5E+00	B2	9E-11
INDENO(1,2,3-c,d)PYRENE	9E-09	7.3E+00	B2	7E-08
ISOPROPYLBENZENE (CUMENE)	1E-10	N/A	N/A	-
MERCURY	2E-09	N/A	N/A	-
METHOXYCHLOR	2E-10	N/A	N/A	-
MOLYBDENUM	1E-07	N/A	N/A	-
n-BUTYLBENZENE	1E-10	N/A	N/A	-
n-PROPYLBENZENE	9E-11	N/A	N/A	-
NAPHTHALENE	3E-09	N/A	N/A	-
p,p'-DDD	8E-11	2.4E-01	B2	2E-11
p,p'-DDE	1E-10	3.4E-01	B2	3E-11
p,p'-DDT	8E-11	3.4E-01	B2	3E-11
P-CYMENE (p-ISOPROPYLTOLUENE)	1E-10	N/A	N/A	-
PCB-1254 (AROCHLOR 1254)	3E-10	N/A	N/A	-
PHENANTHRENE	6E-09	N/A	N/A	-
PYRENE	7E-09	N/A	N/A	-
SEC-BUTYLBENZENE	1E-10	N/A	N/A	-
TOLUENE	9E-11	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-10	1.1E-02	C-B2	1E-12
VINYL CHLORIDE	1E-10	1.9E+00	A	2E-10
XYLENES, TOTAL	1E-10	N/A	N/A	-
ZINC	1E-06	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>3E-07</b>

Chemical	Average Exposure (SDI) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-06	N/A	N/A	-
1,1-DICHLOROETHANE	2E-06	ND	C	-
1,2,4-TRIMETHYLBENZENE	3E-06	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6E-06	N/A	N/A	-
CHLOROETHANE	3E-06	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	4E-06	N/A	N/A	-
DIBENZOFURAN	1E-04	N/A	N/A	-
ETHYLBENZENE	2E-06	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	2E-06	N/A	N/A	-
n-BUTYLBENZENE	3E-06	N/A	N/A	-
n-PROPYLBENZENE	2E-06	N/A	N/A	-
P-CYMENE (p-ISOPROPYLTOLUENE)	3E-06	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

SEC-BUTYLBENZENE	3E-06	N/A	N/A	-
TOLUENE	2E-06	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	3E-06	6.0E-03	C-B2	2E-08
VINYL CHLORIDE	3E-06	3.0E-01	A	9E-07
XYLENES, TOTAL	3E-06	N/A	N/A	-
<b>Total Pathway Risk</b>				9E-07

Chemical	Average Exposure (SDI) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-13	N/A	N/A	-
1,1-DICHLOROETHANE	1E-13	ND	C	-
1,2,4-TRIMETHYLBENZENE	2E-13	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-13	N/A	N/A	-
2,4-DINITROTOLUENE	9E-12	N/A	N/A	-
2-METHYLNAPHTHALENE	6E-12	N/A	N/A	-
ACENAPHTHENE	9E-12	N/A	N/A	-
ALDRIN	1E-13	1.6E+01	B2	2E-12
ALPHA ENDOSULFAN	6E-14	N/A	N/A	-
ALUMINUM	2E-07	N/A	N/A	-
ANTHRACENE	1E-11	N/A	N/A	-
BARIUM	1E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-11	7.3E+00	B2	7E-11
BENZO(a)PYRENE	8E-12	7.3E+00	B2	6E-11
BENZO(b)FLUORANTHENE	9E-12	7.3E+00	B2	7E-11
BENZO(g,h,i)PERYLENE	9E-12	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	1.8E+00	C	2E-13
BETA ENDOSULFAN	2E-13	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	8E-12	1.4E-02	B2	1E-13
CHLOROETHANE	2E-13	N/A	N/A	-
CHRYSENE	2E-11	7.3E+00	B2	1E-10
cis-1,2-DICHLOROETHYLENE	3E-13	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-14	N/A	N/A	-
DI-n-BUTYL PHTHALATE	2E-11	N/A	N/A	-
DIBENZ(a,h)ANTHRACENE	9E-12	7.3E+00	B2	7E-11
DIBENZOFURAN	9E-12	N/A	N/A	-
DIELDRIN	1E-13	1.6E+01	B2	2E-12
ENDOSULFAN SULFATE	2E-13	N/A	N/A	-
ENDRIN	1E-13	N/A	N/A	-
ENDRIN ALDEHYDE	2E-13	N/A	N/A	-
ETHYLBENZENE	2E-13	N/A	N/A	-
FLUORANTHENE	9E-12	N/A	N/A	-
FLUORENE	8E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	4E-14	1.3E+00	B2-C	5E-14
HEPTACHLOR	4E-14	4.5E+00	B2	2E-13
INDENO(1,2,3-c,d)PYRENE	2E-11	7.3E+00	B2	1E-10

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

ISOPROPYLBENZENE (CUMENE)	2E-13	N/A	N/A	-
MERCURY	3E-12	N/A	N/A	-
METHOXYCHLOR	3E-13	N/A	N/A	-
MOLYBDENUM	2E-10	N/A	N/A	-
n-BUTYLBENZENE	2E-13	N/A	N/A	-
n-PROPYLBENZENE	2E-13	N/A	N/A	-
NAPHTHALENE	6E-12	N/A	N/A	-
p,p'-DDD	1E-13	2.4E-01	B2	2E-14
p,p'-DDE	2E-13	3.4E-01	B2	7E-14
p,p'-DDT	1E-13	3.4E-01	B2	3E-14
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-13	N/A	N/A	-
PCB-1254 (AROCHLOR 1254)	6E-13	N/A	N/A	-
PHENANTHRENE	9E-12	N/A	N/A	-
PYRENE	1E-11	N/A	N/A	-
SEC-BUTYLBENZENE	2E-13	N/A	N/A	-
TOLUENE	2E-13	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-13	6.0E-03	C-B2	1E-15
VINYL CHLORIDE	2E-13	3.0E-01	A	6E-14
XYLENES, TOTAL	2E-13	N/A	N/A	-
ZINC	2E-09	N/A	N/A	-

**Total Pathway Risk**

5E-10

**Total Risk**

2E-06

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

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**APPENDIX H-2  
AVERAGE CASE CANCER RISK ESTIMATES  
Future Land Use  
Offsite 30-year Residents**

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical- Specific Risk
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-09	N/A	N/A	-
ACETONE	6E-08	N/A	N/A	-
BROMOMETHANE	1E-08	N/A	N/A	-
DIBENZOFURAN	4E-10	N/A	N/A	-
DICHLORODIFLUOROMETHANE	1E-10	N/A	N/A	-
METHYLENE CHLORIDE	1E-08	1.6E-03	B2	2E-11
TETRACHLOROETHYLENE(PCE)	6E-09	2.0E-03	C-B2	1E-11
TRICHLOROETHYLENE (TCE)	6E-09	6.0E-03	C-B2	4E-11
<b>Total Pathway Risk</b>				7E-11

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical- Specific Risk
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	1E-08	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	3E-08	6.0E-03	C-B2	2E-10
<b>Total Pathway Risk</b>				2E-10

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-10	N/A	N/A	-
1,1-DICHLOROETHANE	2E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	5E-12	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	8E-12	N/A	N/A	-
CHLOROETHANE	1E-09	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	3E-10	N/A	N/A	-
DIBENZOFURAN	3E-10	N/A	N/A	-
ETHYLBENZENE	2E-10	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	4E-12	N/A	N/A	-
n-BUTYLBENZENE	2E-09	N/A	N/A	-
n-PROPYLBENZENE	1E-10	N/A	N/A	-
P-CYMENE (p-ISOPROPYLTOLUENE)	3E-10	N/A	N/A	-
SEC-BUTYLBENZENE	5E-10	N/A	N/A	-
TOLUENE	3E-10	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	6E-10	6.0E-03	C-B2	4E-12
VINYL CHLORIDE	2E-09	3.0E-01	A	6E-10
XYLENES, TOTAL	2E-10	N/A	N/A	-
<b>Total Pathway Risk</b>				6E-10

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	5E-13	N/A	N/A	-
ALDRIN	2E-14	1.6E+01	B2	3E-13
ALPHA ENDOSULFAN	1E-15	N/A	N/A	-
ARSENIC	2E-11	1.5E+01	A	3E-10
BARIUM	8E-11	N/A	N/A	-
BENZO(a)ANTHRACENE	3E-13	7.3E+00	B2	2E-12
BERYLLIUM	9E-13	8.4E+00	B2	8E-12
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-14	1.8E+00	C	5E-14
BETA ENDOSULFAN	1E-14	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	6E-13	1.4E-02	B2	8E-15

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

CADMIUM	8E-12	6.3E+00	B1	5E-11
CHROMIUM, TOTAL	9E-11	4.2E+01	A	4E-09
CHRYSENE	4E-13	7.3E+00	B2	3E-12
COBALT	9E-12	N/A	N/A	-
COPPER	1E-10	N/A	N/A	-
CYANIDE	1E-12	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-14	N/A	N/A	-
DIELDRIN	3E-14	1.6E+01	B2	5E-13
ENDOSULFAN SULFATE	3E-14	N/A	N/A	-
FLUORANTHENE	3E-13	N/A	N/A	-
GAMMA BHC (LINDANE)	2E-14	1.3E+00	B2-C	3E-14
MANGANESE	7E-10	N/A	N/A	-
MERCURY	1E-13	N/A	N/A	-
METHOXYCHLOR	3E-14	N/A	N/A	-
METHYLENE CHLORIDE	6E-15	1.6E-03	B2	1E-17
MOLYBDENUM	1E-09	N/A	N/A	-
NICKEL	8E-11	8.4E-01	A	7E-11
p,p'-DDD	7E-15	2.4E-01	B2	2E-15
p,p'-DDT	4E-15	3.4E-01	B2	1E-15
PYRENE	3E-13	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	6E-15	2.0E-03	C-B2	1E-17
TRICHLOROETHYLENE (TCE)	2E-14	6.0E-03	C-B2	1E-16
VANADIUM	1E-11	N/A	N/A	-
ZINC	5E-10	N/A	N/A	-

**Total Pathway Risk**

4E-09

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	7E-14	1.6E+01	B2	1E-12
ALPHA ENDOSULFAN	4E-15	N/A	N/A	-
ALUMINUM	1E-07	N/A	N/A	-
BENZO(a)ANTHRACENE	3E-12	7.3E+00	B2	2E-11
BENZO(a)PYRENE	3E-12	7.3E+00	B2	2E-11
BENZO(b)FLUORANTHENE	3E-12	7.3E+00	B2	2E-11
BETA ENDOSULFAN	1E-13	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	5E-12	1.4E-02	B2	7E-14
CHROMIUM, TOTAL	2E-10	4.2E+01	A	8E-09
CHRYSENE	4E-12	7.3E+00	B2	3E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-15	N/A	N/A	-
DI-n-BUTYL PHTHALATE	7E-12	N/A	N/A	-
DIELDRIN	4E-14	1.6E+01	B2	6E-13
ENDOSULFAN SULFATE	1E-13	N/A	N/A	-
ENDRIN	6E-14	N/A	N/A	-
ENDRIN ALDEHYDE	1E-13	N/A	N/A	-
FLUORANTHENE	3E-12	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

GAMMA BHC (LINDANE)	2E-14	1.3E+00	B2-C	3E-14
HEPTACHLOR	2E-14	4.5E+00	B2	9E-14
HEPTACHLOR EPOXIDE	7E-14	9.1E+00	B2	6E-13
MANGANESE	7E-09	N/A	N/A	-
METHOXYCHLOR	2E-13	N/A	N/A	-
MOLYBDENUM	2E-10	N/A	N/A	-
p,p'-DDD	4E-14	2.4E-01	B2	1E-14
p,p'-DDE	4E-14	3.4E-01	B2	1E-14
p,p'-DDT	2E-14	3.4E-01	B2	7E-15
PHENANTHRENE	3E-12	N/A	N/A	-
PYRENE	3E-12	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-13	6.0E-03	C-B2	6E-16
<b>Total Pathway Risk</b>				8E-09

Chemical	Average Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	3E-15	ND	C	-
1,2,4-TRIMETHYLBENZENE	4E-15	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-15	N/A	N/A	-
ALDRIN	2E-15	1.6E+01	B2	3E-14
ALPHA ENDOSULFAN	1E-15	N/A	N/A	-
ALUMINUM	5E-09	N/A	N/A	-
BARIUM	3E-11	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-15	1.8E+00	C	4E-15
BETA ENDOSULFAN	2E-15	N/A	N/A	-
CHROMIUM, TOTAL	6E-12	4.2E+01	A	3E-10
cis-1,2-DICHLOROETHYLENE	5E-15	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-16	N/A	N/A	-
DIELDRIN	2E-15	1.6E+01	B2	3E-14
ENDRIN ALDEHYDE	1E-14	N/A	N/A	-
HEPTACHLOR	5E-16	4.5E+00	B2	2E-15
MANGANESE	3E-10	N/A	N/A	-
MOLYBDENUM	5E-12	N/A	N/A	-
NAPHTHALENE	6E-14	N/A	N/A	-
p,p'-DDD	2E-15	2.4E-01	B2	5E-16
p,p'-DDE	5E-16	3.4E-01	B2	2E-16
<b>Total Pathway Risk</b>				3E-10

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**Total Risk**

1E-08

\* = Not designated as a carcinogen by the U.S. EPA.  
ND = No Data  
N/A = Not Applicable  
- = Not Calculated

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**APPENDIX H-3**  
**REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES**  
**Current Land Use**  
**Recreational Users**

Chemical	Reasonable Maximum Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Recreational Users</b> <b>Dermal Absorption of Chemicals in Surface Water (from Little Choconut Creek)</b>				
ARSENIC	2E-08	1.9E+00	A	4E-08
BARIIUM	3E-07	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-08	6.1E-02	B2	1E-09
BROMODICHLOROMETHANE	2E-08	6.2E-02	B2	1E-09
BROMOFORM	2E-08	7.9E-03	B2	2E-10
CHLOROFORM	2E-07	6.4E-03	B2	1E-09
CHROMIUM, TOTAL	7E-08	N/A	N/A	-
COPPER	7E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-11	N/A	N/A	-
DIBROMOCHLOROMETHANE	5E-09	8.4E-02	C	4E-10
DICHLORODIFLUOROMETHANE	2E-08	N/A	N/A	-
ENDOSULFAN SULFATE	5E-11	N/A	N/A	-
ENDRIN	3E-10	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-11	1.3E+00	B2-C	9E-11
HEPTACHLOR EPOXIDE	2E-10	1.2E+01	B2	2E-09
MANGANESE	2E-07	N/A	N/A	-
p,p'-DDD	3E-08	3.0E+00	B2	9E-08
ZINC	1E-07	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-07

Chemical	Reasonable Maximum Exposure ( CDI) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Recreational Users</b> <b>Ingestion of Contaminated Fish (from Little Choconut Creek)</b>				
ARSENIC	8E-06	1.8E+00	A	1E-05
BARIIUM	2E-03	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	8E-04	1.4E-02	B2	1E-05
BROMODICHLOROMETHANE	2E-07	6.2E-02	B2	1E-08

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 - = Not Calculated

BROMOFORM	1E-05	7.9E-03	B2	8E-08
CHLOROFORM	7E-07	6.1E-03	B2	4E-09
CHROMIUM, TOTAL	2E-06	N/A	N/A	-
COPPER	2E-04	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-07	N/A	N/A	-
DIBROMOCHLOROMETHANE	3E-07	8.4E-02	C	3E-08
DICHLORODIFLUOROMETHANE	3E-06	N/A	N/A	-
ENDOSULFAN SULFATE	3E-08	N/A	N/A	-
ENDRIN	7E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-06	1.3E+00	B2-C	1E-06
HEPTACHLOR EPOXIDE	4E-06	9.1E+00	B2	4E-05
MANGANESE	4E-03	N/A	N/A	-
p,p'-DDD	7E-05	2.4E-01	B2	2E-05
ZINC	9E-03	N/A	N/A	-

**Total Pathway Risk**

8E-05

**Total Risk**

8E-05

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 - = Not Calculated



**APPENDIX H-3  
REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES  
Current Land Use  
Recreational Users**

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Recreational Users Ingestion of Contaminated Fish (from Background for Little Choconut Creek)</b>				
ARSENIC	6E-06	1.8E+00	A	1E-05
BARIUM	6E-04	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-08	N/A	N/A	-
GAMMA BHC (LINDANE)	3E-07	1.3E+00	B2-C	4E-07
MANGANESE	5E-04	N/A	N/A	-
ZINC	7E-03	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-05
<b>Total Risk</b>				1E-05

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 - = Not Calculated

**APPENDIX H-3**  
**REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Industrial Workers**

Chemical	Reasonable Maximum Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers</b> <b>Plating Room - Dermal Absorption of Chemicals in Surface Soil</b>				
ACETONE	7E-07	N/A	N/A	-
ALDRIN	3E-11	3.2E+01	B2	1E-09
ALPHA ENDOSULFAN	7E-10	N/A	N/A	-
ARSENIC	7E-07	1.9E+00	A	1E-06
BARIUM	3E-06	N/A	N/A	-
BENZO(a)ANTHRACENE	6E-08	1.5E+01	B2	9E-07
BERYLLIUM	4E-08	8.6E+02	B2	3E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-10	2.0E+00	C	4E-10
BETA ENDOSULFAN	4E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	3E-07	6.1E-02	B2	2E-08
CADMIUM	2E-07	ND	B1	-
CHROMIUM, TOTAL	5E-06	N/A	N/A	-
CHRYSENE	4E-08	3.0E+01	B2	1E-06
COBALT	4E-07	N/A	N/A	-
COPPER	4E-06	N/A	N/A	-
CYANIDE	5E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-11	N/A	N/A	-
DIELDRIN	7E-11	3.2E+01	B2	2E-09
ENDOSULFAN SULFATE	1E-09	N/A	N/A	-
FLUORANTHENE	7E-08	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-11	1.3E+00	B2-C	9E-11
MANGANESE	3E-05	N/A	N/A	-
MERCURY	5E-09	N/A	N/A	-
METHOXYCHLOR	3E-09	N/A	N/A	-
METHYLENE CHLORIDE	7E-09	7.7E-03	B2	5E-11
MOLYBDENUM	3E-04	N/A	N/A	-
NICKEL	4E-06	N/A	N/A	-
p,p'-DDD	7E-10	3.0E+00	B2	2E-09
p,p'-DDT	4E-10	4.3E+00	B2	2E-09
PYRENE	5E-08	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	2E-09	5.2E-02	C-B2	1E-10
TRICHLOROETHYLENE (TCE)	2E-08	1.1E-02	C-B2	2E-10
VANADIUM	6E-07	N/A	N/A	-
ZINC	9E-06	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>3E-05</b>

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N/A = Not Applicable  
- = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Plating Room - Incidental Ingestion of Chemicals in Surface Soil</b>				
ACETONE	2E-08	N/A	N/A	-
ALDRIN	3E-12	1.6E+01	B2	5E-11
ALPHA ENDOSULFAN	6E-11	N/A	N/A	-
ARSENIC	6E-07	1.8E+00	A	1E-06
BARIUM	3E-06	N/A	N/A	-
BENZO(a)ANTHRACENE	5E-09	7.3E+00	B2	4E-08
BERYLLIUM	3E-08	4.3E+00	B2	1E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-11	1.8E+00	C	4E-11
BETA ENDOSULFAN	3E-11	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-08	1.4E-02	B2	3E-10
CADMIUM	2E-07	ND	B1	-
CHROMIUM, TOTAL	5E-06	N/A	N/A	-
CHRYSENE	4E-09	7.3E+00	B2	3E-08
COBALT	3E-07	N/A	N/A	-
COPPER	4E-06	N/A	N/A	-
CYANIDE	4E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-12	N/A	N/A	-
DIELDRIN	6E-12	1.6E+01	B2	1E-10
ENDOSULFAN SULFATE	9E-11	N/A	N/A	-
FLUORANTHENE	6E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	6E-12	1.3E+00	B2-C	8E-12
MANGANESE	3E-05	N/A	N/A	-
MERCURY	5E-09	N/A	N/A	-
METHOXYCHLOR	3E-10	N/A	N/A	-
METHYLENE CHLORIDE	2E-10	7.5E-03	B2	2E-12
MOLYBDENUM	2E-04	N/A	N/A	-
NICKEL	4E-06	N/A	N/A	-
p,p'-DDD	6E-11	2.4E-01	B2	1E-11
p,p'-DDT	3E-11	3.4E-01	B2	1E-11
PYRENE	4E-09	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	7E-11	5.2E-02	C-B2	4E-12
TRICHLOROETHYLENE (TCE)	8E-10	1.1E-02	C-B2	9E-12
VANADIUM	6E-07	N/A	N/A	-
ZINC	8E-06	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>1E-06</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure (ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Reservoir - Dermal Absorption of Chemicals in Surface Soil</b>				
ALDRIN	1E-09	3.2E+01	B2	3E-08
ALPHA ENDOSULFAN	1E-10	N/A	N/A	-
ALUMINUM	9E-04	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-07	1.5E+01	B2	2E-06
BENZO(a)PYRENE	9E-08	1.5E+01	B2	1E-06
BENZO(b)FLUORANTHENE	2E-07	1.5E+01	B2	3E-06
BETA ENDOSULFAN	2E-10	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	1E-07	6.1E-02	B2	6E-09
CHROMIUM, TOTAL	1E-06	N/A	N/A	-
CHRYSENE	1E-07	3.0E+01	B2	3E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-10	N/A	N/A	-
DI-n-BUTYL PHTHALATE	6E-08	N/A	N/A	-
DIELDRIN	2E-09	3.2E+01	B2	6E-08
ENDOSULFAN SULFATE	2E-09	N/A	N/A	-
ENDRIN	5E-10	N/A	N/A	-
ENDRIN ALDEHYDE	9E-09	N/A	N/A	-
FLUORANTHENE	2E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	3E-10	1.3E+00	B2-C	4E-10
HEPTACHLOR	1E-09	5.8E+00	B2	6E-09
HEPTACHLOR EPOXIDE	3E-09	1.2E+01	B2	4E-08
MANGANESE	3E-05	N/A	N/A	-
METHOXYCHLOR	1E-09	N/A	N/A	-
MOLYBDENUM	1E-06	N/A	N/A	-
p,p'-DDD	4E-10	3.0E+00	B2	1E-09
p,p'-DDE	7E-10	4.3E+00	B2	3E-09
p,p'-DDT	9E-10	4.3E+00	B2	4E-09
PHENANTHRENE	5E-08	N/A	N/A	-
PYRENE	2E-07	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-08	1.1E-02	C-B2	1E-10
<b>Total Pathway Risk</b>				9E-06

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N/A = Not Applicable  
- = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Reservoir - Incidental Ingestion of Chemicals in Surface Soil</b>				
ALDRIN	9E-11	1.6E+01	B2	1E-09
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ALUMINUM	8E-04	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-08	7.3E+00	B2	7E-08
BENZO(a)PYRENE	8E-09	7.3E+00	B2	6E-08
BENZO(b)FLUORANTHENE	2E-08	7.3E+00	B2	1E-07
BETA ENDOSULFAN	2E-11	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	1E-08	1.4E-02	B2	1E-10
CHROMIUM, TOTAL	9E-07	N/A	N/A	-
CHRYSENE	1E-08	7.3E+00	B2	7E-08
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-11	N/A	N/A	-
DI-n-BUTYL PHTHALATE	5E-09	N/A	N/A	-
DIELDRIN	2E-10	1.6E+01	B2	3E-09
ENDOSULFAN SULFATE	2E-10	N/A	N/A	-
ENDRIN	4E-11	N/A	N/A	-
ENDRIN ALDEHYDE	8E-10	N/A	N/A	-
FLUORANTHENE	2E-08	N/A	N/A	-
GAMMA BHC (LINDANE)	2E-11	1.3E+00	B2-C	3E-11
HEPTACHLOR	1E-10	4.5E+00	B2	4E-10
HEPTACHLOR EPOXIDE	3E-10	9.1E+00	B2	3E-09
MANGANESE	2E-05	N/A	N/A	-
METHOXYCHLOR	9E-11	N/A	N/A	-
MOLYBDENUM	1E-06	N/A	N/A	-
p,p'-DDD	3E-11	2.4E-01	B2	7E-12
p,p'-DDE	6E-11	3.4E-01	B2	2E-11
p,p'-DDT	8E-11	3.4E-01	B2	3E-11
PHENANTHRENE	4E-09	N/A	N/A	-
PYRENE	2E-08	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	5E-10	1.1E-02	C-B2	6E-12
<b>Total Pathway Risk</b>				<b>3E-07</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( ACD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Waste Oil Tanks - Dermal Absorption of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	3E-09	ND	C	-
1,2,4-TRIMETHYLBENZENE	4E-09	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	8E-09	N/A	N/A	-
ALDRIN	3E-10	3.2E+01	B2	1E-08
ALPHA ENDOSULFAN	2E-10	N/A	N/A	-
ALUMINUM	8E-04	N/A	N/A	-
BARIUM	5E-06	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7E-10	2.0E+00	C	1E-09
BETA ENDOSULFAN	3E-10	N/A	N/A	-
CHROMIUM, TOTAL	9E-07	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	2E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-10	N/A	N/A	-
DIELDRIN	3E-09	3.2E+01	B2	1E-07
ENDRIN ALDEHYDE	3E-08	N/A	N/A	-
HEPTACHLOR	7E-11	5.8E+00	B2	4E-10
MANGANESE	5E-05	N/A	N/A	-
MOLYBDENUM	1E-06	N/A	N/A	-
NAPHTHALENE	1E-07	N/A	N/A	-
p,p'-DDD	4E-09	3.0E+00	B2	1E-08
p,p'-DDE	7E-10	4.3E+00	B2	3E-09
<b>Total Pathway Risk</b>				1E-07

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	1E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	2E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-10	N/A	N/A	-
ALDRIN	3E-11	1.6E+01	B2	5E-10
ALPHA ENDOSULFAN	2E-11	N/A	N/A	-
ALUMINUM	7E-04	N/A	N/A	-
BARIUM	4E-06	N/A	N/A	-

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- N/A = Not Applicable
- = Not Calculated

BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-11	1.8E+00	C	1E-10
BETA ENDOSULFAN	2E-11	N/A	N/A	-
CHROMIUM, TOTAL	8E-07	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	8E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-11	N/A	N/A	-
DIELDRIN	2E-10	1.6E+01	B2	3E-09
ENDRIN ALDEHYDE	3E-09	N/A	N/A	-
HEPTACHLOR	6E-12	4.5E+00	B2	3E-11
MANGANESE	4E-05	N/A	N/A	-
MOLYBDENUM	9E-07	N/A	N/A	-
NAPHTHALENE	9E-09	N/A	N/A	-
p,p'-DDD	3E-10	2.4E-01	B2	7E-11
p,p'-DDE	6E-11	3.4E-01	B2	2E-11
<b>Total Pathway Risk</b>				<b>4E-09</b>

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Ingestion of Chemicals in Drinking Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	3E-06	N/A	N/A	-
1,1-DICHLOROETHANE	1E-05	ND	C	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5E-06	N/A	N/A	-
ALDRIN	2E-08	1.6E+01	B2	3E-07
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	4E-08	6.3E+00	B2	3E-07
ALPHA ENDOSULFAN	9E-09	N/A	N/A	-
ALUMINUM	7E-03	N/A	N/A	-
ARSENIC	8E-05	1.8E+00	A	1E-04
BARIUM	2E-03	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-08	1.8E+00	C	1E-07
BETA ENDOSULFAN	4E-08	N/A	N/A	-
CHLOROMETHANE	2E-06	1.3E-02	C	3E-08
cis-1,2-DICHLOROETHYLENE	2E-04	N/A	N/A	-
COPPER	2E-05	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-08	N/A	N/A	-
ENDOSULFAN SULFATE	5E-08	N/A	N/A	-
ENDRIN	7E-09	N/A	N/A	-
ENDRIN ALDEHYDE	2E-08	N/A	N/A	-
ETHYLBENZENE	3E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	8E-09	1.3E+00	B2-C	1E-08
HEPTACHLOR EPOXIDE	5E-08	9.1E+00	B2	5E-07
MANGANESE	1E-02	N/A	N/A	-
METHOXYCHLOR	6E-07	N/A	N/A	-
p,p'-DDD	1E-08	2.4E-01	B2	2E-09
p,p'-DDE	1E-06	3.4E-01	B2	3E-07
p,p'-DDT	1E-07	3.4E-01	B2	3E-08
THALLIUM	3E-04	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-05	1.1E-02	C-B2	1E-07
VANADIUM	4E-05	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

VINYL CHLORIDE	2E-06	1.9E+00	A	4E-06
XYLENES, TOTAL	1E-06	N/A	N/A	-
ZINC	2E-04	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-04

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers Ingestion of Chemicals in Drinking Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	5E-05	N/A	N/A	-
1,1-DICHLOROETHANE	2E-04	ND	C	-
1,1-DICHLOROETHENE	9E-06	6.1E-01	C	5E-06
1,2,4-TRIMETHYLBENZENE	1E-04	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-04	N/A	N/A	-
ALDRIN	1E-08	1.6E+01	B2	2E-07
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	3E-09	6.3E+00	B2	2E-08
ALPHA ENDOSULFAN	1E-08	N/A	N/A	-
ALUMINUM	4E-02	N/A	N/A	-
ARSENIC	7E-05	1.8E+00	A	1E-04
BARIUM	2E-03	N/A	N/A	-
BERYLLIUM	8E-06	4.3E+00	B2	3E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7E-08	1.8E+00	C	1E-07
BETA ENDOSULFAN	3E-08	N/A	N/A	-
BROMODICHLOROMETHANE	2E-06	6.2E-02	B2	1E-07
CARBON TETRACHLORIDE	8E-07	1.3E-01	B2	1E-07
CHLOROETHANE	2E-05	N/A	N/A	-
CHLOROFORM	3E-06	6.1E-03	B2	2E-08
CHROMIUM, TOTAL	2E-04	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	7E-04	N/A	N/A	-
COPPER	4E-04	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-08	N/A	N/A	-
DI-n-BUTYL PHTHALATE	5E-06	N/A	N/A	-
DIELDRIN	7E-09	1.6E+01	B2	1E-07
ENDOSULFAN SULFATE	1E-08	N/A	N/A	-
ENDRIN	4E-08	N/A	N/A	-
ENDRIN ALDEHYDE	5E-08	N/A	N/A	-
ETHYLBENZENE	3E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	3E-08	1.3E+00	B2-C	4E-08
HEPTACHLOR	2E-08	4.5E+00	B2	9E-08
HEPTACHLOR EPOXIDE	3E-08	9.1E+00	B2	3E-07
ISOPROPYLBENZENE (CUMENE)	7E-06	N/A	N/A	-
MANGANESE	3E-02	N/A	N/A	-
METHOXYCHLOR	7E-08	N/A	N/A	-
n-PROPYLBENZENE	6E-06	N/A	N/A	-
NAPHTHALENE	1E-06	N/A	N/A	-
NICKEL	3E-04	N/A	N/A	-
p,p'-DDD	6E-08	2.4E-01	B2	1E-08
p,p'-DDE	2E-08	3.4E-01	B2	7E-09

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated



p,p'-DDT	5E-09	3.4E-01	B2	2E-09
SILVER	7E-05	N/A	N/A	-
TOLUENE	2E-06	N/A	N/A	-
trans-1,2-DICHLOROETHENE	1E-06	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-03	1.1E-02	C-B2	1E-05
TRICHLOROFLUOROMETHANE	7E-06	N/A	N/A	-
VANADIUM	9E-05	N/A	N/A	-
VINYL CHLORIDE	4E-05	1.9E+00	A	8E-05
XYLENES, TOTAL	1E-05	N/A	N/A	-
ZINC	2E-04	N/A	N/A	-
<b>Total Pathway Risk</b>				2E-04

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	7E-09	N/A	N/A	-
ACETONE	6E-07	N/A	N/A	-
BROMOMETHANE	5E-08	N/A	N/A	-
DIBENZOFURAN	6E-10	N/A	N/A	-
DICHLORODIFLUOROMETHANE	2E-11	N/A	N/A	-
METHYLENE CHLORIDE	3E-08	1.6E-03	B2	5E-11
TETRACHLOROETHYLENE(PCE)	2E-09	2.0E-03	C-B2	4E-12
TRICHLOROETHYLENE (TCE)	4E-08	6.0E-03	C-B2	2E-10
<b>Total Pathway Risk</b>				3E-10

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-09	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-08	6.0E-03	C-B2	1E-10

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Total Pathway Risk				1E-10
Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-09	N/A	N/A	-
1,1-DICHLOROETHANE	7E-09	ND	C	-
1,2,4-TRIMETHYLBENZENE	2E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-10	N/A	N/A	-
CHLOROETHANE	1E-08	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	1E-08	N/A	N/A	-
DIBENZOFURAN	6E-09	N/A	N/A	-
ETHYLBENZENE	7E-10	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	3E-11	N/A	N/A	-
n-BUTYLBENZENE	6E-08	N/A	N/A	-
n-PROPYLBENZENE	4E-09	N/A	N/A	-
P-CYMENE (p-ISOPROPYLTOLUENE)	1E-08	N/A	N/A	-
SEC-BUTYLBENZENE	2E-08	N/A	N/A	-
TOLUENE	1E-09	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-08	6.0E-03	C-B2	1E-10
VINYL CHLORIDE	5E-08	3.0E-01	A	1E-08
XYLENES, TOTAL	5E-09	N/A	N/A	-
<b>Total Pathway Risk</b>				1E-08

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	5E-12	N/A	N/A	-
ALDRIN	5E-16	1.6E+01	B2	8E-15
ALPHA ENDOSULFAN	1E-14	N/A	N/A	-
ARSENIC	1E-10	1.5E+01	A	1E-09
BARIUM	5E-10	N/A	N/A	-

- \* = Not designated as a carcinogen by the U.S. EPA.
- ND = No Data
- N/A = Not Applicable
- = Not Calculated

BENZO(a)ANTHRACENE	1E-12	7.3E+00	B2	7E-12
BERYLLIUM	6E-12	8.4E+00	B2	5E-11
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-15	1.8E+00	C	5E-15
BETA ENDOSULFAN	6E-15	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-12	1.4E-02	B2	6E-14
CADMIUM	4E-11	6.3E+00	B1	3E-10
CHROMIUM, TOTAL	8E-10	4.2E+01	A	3E-08
CHRYSENE	7E-13	7.3E+00	B2	5E-12
COBALT	6E-11	N/A	N/A	-
COPPER	7E-10	N/A	N/A	-
CYANIDE	8E-12	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-15	N/A	N/A	-
DIELDRIN	1E-15	1.6E+01	B2	2E-14
ENDOSULFAN SULFATE	2E-14	N/A	N/A	-
FLUORANTHENE	1E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-15	1.3E+00	B2-C	1E-15
MANGANESE	5E-09	N/A	N/A	-
MERCURY	8E-13	N/A	N/A	-
METHOXYCHLOR	5E-14	N/A	N/A	-
METHYLENE CHLORIDE	4E-14	1.6E-03	B2	6E-17
MOLYBDENUM	4E-08	N/A	N/A	-
NICKEL	6E-10	8.4E-01	A	5E-10
p,p'-DDD	1E-14	2.4E-01	B2	2E-15
p,p'-DDT	6E-15	3.4E-01	B2	2E-15
PYRENE	8E-13	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	1E-14	2.0E-03	C-B2	2E-17
TRICHLOROETHYLENE (TCE)	1E-13	6.0E-03	C-B2	6E-16
VANADIUM	1E-10	N/A	N/A	-
ZINC	1E-09	N/A	N/A	-

**Total Pathway Risk**

**3E-08**

<b>Chemical</b>	<b>Reasonable Maximum Exposure ( CDI ) mg/kg-day</b>	<b>Slope Factor kg-day/mg</b>	<b>Weight of Evidence</b>	<b>Chemical-Specific Risk</b>
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	2E-14	1.6E+01	B2	3E-13
ALPHA ENDOSULFAN	2E-15	N/A	N/A	-
ALUMINUM	1E-07	N/A	N/A	-
BENZO(a)ANTHRACENE	2E-12	7.3E+00	B2	1E-11
BENZO(a)PYRENE	2E-12	7.3E+00	B2	1E-11
BENZO(b)FLUORANTHENE	3E-12	7.3E+00	B2	2E-11
BETA ENDOSULFAN	3E-15	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-12	1.4E-02	B2	3E-14
CHROMIUM, TOTAL	2E-10	4.2E+01	A	8E-09
CHRYSENE	2E-12	7.3E+00	B2	1E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-14	N/A	N/A	-
DI-n-BUTYL PHTHALATE	1E-12	N/A	N/A	-
DIELDRIN	4E-14	1.6E+01	B2	6E-13

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

ENDOSULFAN SULFATE	4E-14	N/A	N/A	-
ENDRIN	8E-15	N/A	N/A	-
ENDRIN ALDEHYDE	2E-13	N/A	N/A	-
FLUORANTHENE	3E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	4E-15	1.3E+00	B2-C	5E-15
HEPTACHLOR	2E-14	4.5E+00	B2	9E-14
HEPTACHLOR EPOXIDE	5E-14	9.1E+00	B2	5E-13
MANGANESE	5E-09	N/A	N/A	-
METHOXYCHLOR	2E-14	N/A	N/A	-
MOLYBDENUM	2E-10	N/A	N/A	-
p,p'-DDD	7E-15	2.4E-01	B2	2E-15
p,p'-DDE	1E-14	3.4E-01	B2	3E-15
p,p'-DDT	1E-14	3.4E-01	B2	3E-15
PHENANTHRENE	8E-13	N/A	N/A	-
PYRENE	3E-12	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	9E-14	6.0E-03	C-B2	5E-16

**Total Pathway Risk**

8E-09

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
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**Onsite Industrial Workers  
(Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust**

1,1-DICHLOROETHANE	2E-14	ND	C	-
1,2,4-TRIMETHYLBENZENE	3E-14	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6E-14	N/A	N/A	-
ALDRIN	7E-15	1.6E+01	B2	1E-13
ALPHA ENDOSULFAN	4E-15	N/A	N/A	-
ALUMINUM	2E-07	N/A	N/A	-
BARIUM	1E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-14	1.8E+00	C	2E-14
BETA ENDOSULFAN	5E-15	N/A	N/A	-
CHROMIUM, TOTAL	2E-10	4.2E+01	A	8E-09
cis-1,2-DICHLOROETHYLENE	2E-13	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-14	N/A	N/A	-
DIELDRIN	5E-14	1.6E+01	B2	8E-13
ENDRIN ALDEHYDE	6E-13	N/A	N/A	-
HEPTACHLOR	1E-15	4.5E+00	B2	5E-15
MANGANESE	9E-09	N/A	N/A	-
MOLYBDENUM	2E-10	N/A	N/A	-
NAPHTHALENE	2E-12	N/A	N/A	-
p,p'-DDD	7E-14	2.4E-01	B2	2E-14
p,p'-DDE	1E-14	3.4E-01	B2	3E-15

**Total Pathway Risk**

8E-09

- \* = Not designated as a carcinogen by the U.S. EPA.
- ND = No Data
- N/A = Not Applicable
- = Not Calculated

**Total Risk**

3E-04

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

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**APPENDIX H-3**  
**REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Reasonable Maximum Exposure ( ASD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers</b>				
<b>Plating Room - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-10	N/A	N/A	-
ACENAPHTHENE	2E-09	N/A	N/A	-
ACETONE	1E-08	N/A	N/A	-
ALDRIN	6E-13	3.2E+01	B2	2E-11
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ANTHRACENE	3E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	5E-09	1.5E+01	B2	7E-08
BENZO(a)PYRENE	4E-09	1.5E+01	B2	6E-08
BENZO(b)FLUORANTHENE	5E-09	1.5E+01	B2	7E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-12	2.0E+00	C	8E-12
BETA ENDOSULFAN	8E-12	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	5E-09	6.1E-02	B2	3E-10
BROMOMETHANE	5E-10	N/A	N/A	-
CADMIUM	3E-09	ND	B1	-
CHRYSENE	7E-09	3.0E+01	B2	2E-07
CYANIDE	8E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-12	N/A	N/A	-
DIBENZOFURAN	6E-10	N/A	N/A	-
DICHLORODIFLUOROMETHANE	5E-11	N/A	N/A	-
DIELDRIN	3E-12	3.2E+01	B2	1E-10
ENDOSULFAN SULFATE	2E-11	N/A	N/A	-
FLUORANTHENE	5E-09	N/A	N/A	-
FLUORENE	1E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	3E-12	1.3E+00	B2-C	4E-12
HEPTACHLOR	4E-13	5.8E+00	B2	2E-12
MERCURY	2E-10	N/A	N/A	-
METHOXYCHLOR	2E-10	N/A	N/A	-
METHYLENE CHLORIDE	3E-10	7.7E-03	B2	2E-12
MOLYBDENUM	2E-07	N/A	N/A	-
p,p'-DDD	3E-11	3.0E+00	B2	9E-11
p,p'-DDT	8E-12	4.3E+00	B2	3E-11
PCB-1254 (AROCHLOR 1254)	1E-09	N/A	N/A	-
PHENANTHRENE	4E-09	N/A	N/A	-
PYRENE	6E-09	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	4E-11	5.2E-02	C-B2	2E-12
TRICHLOROETHYLENE (TCE)	9E-10	1.1E-02	C-B2	1E-11
<b>Total Pathway Risk</b>				<b>4E-07</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers Plating Room - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-10	N/A	N/A	-
ACENAPHTHENE	2E-09	N/A	N/A	-
ACETONE	5E-09	N/A	N/A	-
ALDRIN	5E-13	1.6E+01	B2	8E-12
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ANTHRACENE	3E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	4E-09	7.3E+00	B2	3E-08
BENZO(a)PYRENE	3E-09	7.3E+00	B2	2E-08
BENZO(b)FLUORANTHENE	4E-09	7.3E+00	B2	3E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-12	1.8E+00	C	5E-12
BETA ENDOSULFAN	7E-12	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	1.4E-02	B2	6E-11
BROMOMETHANE	2E-10	N/A	N/A	-
CADMIUM	3E-08	ND	B1	-
CHRYSENE	6E-09	7.3E+00	B2	4E-08
CYANIDE	7E-09	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-12	N/A	N/A	-
DIBENZOFURAN	5E-10	N/A	N/A	-
DICHLORODIFLUOROMETHANE	2E-11	N/A	N/A	-
DIELDRIN	2E-12	1.6E+01	B2	3E-11
ENDOSULFAN SULFATE	2E-11	N/A	N/A	-
FLUORANTHENE	4E-09	N/A	N/A	-
FLUORENE	1E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	2E-12	1.3E+00	B2-C	3E-12
HEPTACHLOR	4E-13	4.5E+00	B2	2E-12
MERCURY	1E-09	N/A	N/A	-
METHOXYCHLOR	1E-10	N/A	N/A	-
METHYLENE CHLORIDE	9E-11	7.5E-03	B2	7E-13
MOLYBDENUM	2E-06	N/A	N/A	-
p,p'-DDD	2E-11	2.4E-01	B2	5E-12
p,p'-DDT	7E-12	3.4E-01	B2	2E-12
PCB-1254 (AROCHLOR 1254)	8E-10	N/A	N/A	-
PHENANTHRENE	4E-09	N/A	N/A	-
PYRENE	5E-09	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	1E-11	5.2E-02	C-B2	5E-13
TRICHLOROETHYLENE (TCE)	3E-10	1.1E-02	C-B2	3E-12
<b>Total Pathway Risk</b>				<b>1E-07</b>

\* = Not designated as a carcinogen by the U.S. EPA.  
ND = No Data  
N/A = Not Applicable  
- = Not Calculated



Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-06	N/A	N/A	-
ACETONE	1E-04	N/A	N/A	-
BROMOMETHANE	4E-06	N/A	N/A	-
DIBENZOFURAN	1E-05	N/A	N/A	-
DICHLORODIFLUOROMETHANE	3E-07	N/A	N/A	-
METHYLENE CHLORIDE	2E-06	1.6E-03	B2	3E-09
TETRACHLOROETHYLENE(PCE)	3E-07	2.0E-03	C-B2	6E-10
TRICHLOROETHYLENE (TCE)	8E-06	6.0E-03	C-B2	5E-08
<b>Total Pathway Risk</b>				5E-08

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-13	N/A	N/A	-
ACENAPHTHENE	3E-12	N/A	N/A	-
ACETONE	8E-12	N/A	N/A	-
ALDRIN	8E-16	1.6E+01	B2	1E-14
ALPHA ENDOSULFAN	2E-14	N/A	N/A	-
ANTHRACENE	5E-12	N/A	N/A	-
BENZO(a)ANTHRACENE	7E-12	7.3E+00	B2	5E-11
BENZO(a)PYRENE	5E-12	7.3E+00	B2	4E-11
BENZO(b)FLUORANTHENE	7E-12	7.3E+00	B2	5E-11
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-15	1.8E+00	C	1E-14
BETA ENDOSULFAN	1E-14	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	7E-12	1.4E-02	B2	1E-13
BROMOMETHANE	3E-13	N/A	N/A	-
CADMIUM	5E-11	6.3E+00	B1	3E-10
CHRYSENE	9E-12	7.3E+00	B2	7E-11
CYANIDE	1E-11	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-15	N/A	N/A	-
DIBENZOFURAN	8E-13	N/A	N/A	-
DICHLORODIFLUOROMETHANE	3E-14	N/A	N/A	-

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

DIELDRIN	4E-15	1.6E+01	B2	6E-14
ENDOSULFAN SULFATE	3E-14	N/A	N/A	-
FLUORANTHENE	7E-12	N/A	N/A	-
FLUORENE	2E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	4E-15	1.3E+00	B2-C	5E-15
HEPTACHLOR	6E-16	4.5E+00	B2	3E-15
MERCURY	2E-12	N/A	N/A	-
METHOXYCHLOR	2E-13	N/A	N/A	-
METHYLENE CHLORIDE	2E-13	1.6E-03	B2	3E-16
MOLYBDENUM	3E-09	N/A	N/A	-
p,p'-DDD	4E-14	2.4E-01	B2	1E-14
p,p'-DDT	1E-14	3.4E-01	B2	3E-15
PCB-1254 (AROCHLOR 1254)	1E-12	N/A	N/A	-
PHENANTHRENE	6E-12	N/A	N/A	-
PYRENE	8E-12	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	2E-14	2.0E-03	C-B2	4E-17
TRICHLOROETHYLENE (TCE)	5E-13	6.0E-03	C-B2	3E-15

**Total Pathway Risk**

5E-10

**Total Risk**

6E-07

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-3**  
**REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Reasonable Maximum Exposure ( ASD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers</b> <b>Reservoir - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-10	N/A	N/A	-
ALDRIN	2E-11	3.2E+01	B2	6E-10
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-12	6.5E+00	B2	7E-12
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ANTHRACENE	2E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	6E-09	1.5E+01	B2	9E-08
BENZO(a)PYRENE	3E-09	1.5E+01	B2	4E-08
BENZO(b)FLUORANTHENE	5E-09	1.5E+01	B2	7E-08
BENZO(g,h,i)PERYLENE	2E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-12	2.0E+00	C	2E-11
BETA ENDOSULFAN	7E-11	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	6.1E-02	B2	2E-10
CHRYSENE	5E-09	3.0E+01	B2	1E-07
COPPER	9E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-12	N/A	N/A	-
DI-n-BUTYL PHTHALATE	1E-09	N/A	N/A	-
DIELDRIN	5E-11	3.2E+01	B2	2E-09
ENDOSULFAN SULFATE	4E-11	N/A	N/A	-
ENDRIN	3E-11	N/A	N/A	-
ENDRIN ALDEHYDE	2E-10	N/A	N/A	-
FLUORANTHENE	6E-09	N/A	N/A	-
FLUORENE	7E-10	N/A	N/A	-
GAMMA BHC (LINDANE)	5E-12	1.3E+00	B2-C	7E-12
HEPTACHLOR	2E-11	5.8E+00	B2	1E-10
HEPTACHLOR EPOXIDE	7E-11	1.2E+01	B2	8E-10
INDENO(1,2,3-c,d)PYRENE	2E-09	1.5E+01	B2	3E-08
MERCURY	3E-10	N/A	N/A	-
METHOXYCHLOR	3E-10	N/A	N/A	-
MOLYBDENUM	2E-08	N/A	N/A	-
p,p'-DDD	8E-11	3.0E+00	B2	2E-10
p,p'-DDE	1E-11	4.3E+00	B2	4E-11
p,p'-DDT	7E-11	4.3E+00	B2	3E-10
PCB-1260 (AROCHLOR 1260)	5E-10	N/A	N/A	-
PHENANTHRENE	5E-09	N/A	N/A	-
PYRENE	6E-09	N/A	N/A	-
SELENIUM	8E-10	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	4E-10	1.1E-02	C-B2	4E-12
ZINC	4E-07	N/A	N/A	-

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

**Total Pathway Risk**

3E-07

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers Reservoir - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-11	N/A	N/A	-
ALDRIN	2E-11	1.6E+01	B2	3E-10
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-12	6.3E+00	B2	6E-12
ALPHA ENDOSULFAN	1E-11	N/A	N/A	-
ANTHRACENE	2E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	5E-09	7.3E+00	B2	4E-08
BENZO(a)PYRENE	3E-09	7.3E+00	B2	2E-08
BENZO(b)FLUORANTHENE	4E-09	7.3E+00	B2	3E-08
BENZO(g,h,i)PERYLENE	2E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7E-12	1.8E+00	C	1E-11
BETA ENDOSULFAN	6E-11	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	2E-09	1.4E-02	B2	3E-11
CHRYSENE	4E-09	7.3E+00	B2	3E-08
COPPER	7E-07	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-12	N/A	N/A	-
DI-n-BUTYL PHTHALATE	1E-09	N/A	N/A	-
DIELDRIN	4E-11	1.6E+01	B2	6E-10
ENDOSULFAN SULFATE	4E-11	N/A	N/A	-
ENDRIN	3E-11	N/A	N/A	-
ENDRIN ALDEHYDE	2E-10	N/A	N/A	-
FLUORANTHENE	5E-09	N/A	N/A	-
FLUORENE	6E-10	N/A	N/A	-
GAMMA BHC (LINDANE)	4E-12	1.3E+00	B2-C	5E-12
HEPTACHLOR	2E-11	4.5E+00	B2	9E-11
HEPTACHLOR EPOXIDE	5E-11	9.1E+00	B2	5E-10
INDENO(1,2,3-c,d)PYRENE	2E-09	7.3E+00	B2	1E-08
MERCURY	2E-09	N/A	N/A	-
METHOXYCHLOR	3E-10	N/A	N/A	-
MOLYBDENUM	2E-07	N/A	N/A	-
p,p'-DDD	7E-11	2.4E-01	B2	2E-11
p,p'-DDE	1E-11	3.4E-01	B2	3E-12
p,p'-DDT	5E-11	3.4E-01	B2	2E-11
PCB-1260 (AROCHLOR 1260)	4E-10	N/A	N/A	-
PHENANTHRENE	4E-09	N/A	N/A	-
PYRENE	5E-09	N/A	N/A	-
SELENIUM	6E-09	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-10	1.1E-02	C-B2	1E-12
ZINC	3E-06	N/A	N/A	-

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- N/A = Not Applicable
- = Not Calculated

				<b>Total Pathway Risk</b>	1E-07
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Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	8E-07 4E-06	N/A 6.0E-03	N/A C-B2	- 2E-08
<b>Total Pathway Risk</b>				2E-08

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	6E-14	N/A	N/A	-
ALDRIN	3E-14	1.6E+01	B2	5E-13
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	2E-15	6.3E+00	B2	1E-14
ALPHA ENDOSULFAN	2E-14	N/A	N/A	-
ANTHRACENE	3E-12	N/A	N/A	-
BENZO(a)ANTHRACENE	8E-12	7.3E+00	B2	6E-11
BENZO(a)PYRENE	5E-12	7.3E+00	B2	4E-11
BENZO(b)FLUORANTHENE	7E-12	7.3E+00	B2	5E-11
BENZO(g,h,i)PERYLENE	3E-12	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-14	1.8E+00	C	2E-14
BETA ENDOSULFAN	1E-13	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-12	1.4E-02	B2	6E-14
CHRYSENE	8E-12	7.3E+00	B2	6E-11
COPPER	3E-09	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-14	N/A	N/A	-
DI-n-BUTYL PHTHALATE	2E-12	N/A	N/A	-
DIELDRIN	7E-14	1.6E+01	B2	1E-12
ENDOSULFAN SULFATE	6E-14	N/A	N/A	-
ENDRIN	5E-14	N/A	N/A	-
ENDRIN ALDEHYDE	3E-13	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

FLUORANTHENE	8E-12	N/A	N/A	-
FLUORENE	1E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	8E-15	1.3E+00	B2-C	1E-14
HEPTACHLOR	3E-14	4.5E+00	B2	1E-13
HEPTACHLOR EPOXIDE	9E-14	9.1E+00	B2	8E-13
INDENO(1,2,3-c,d)PYRENE	3E-12	7.3E+00	B2	2E-11
MERCURY	4E-12	N/A	N/A	-
METHOXYCHLOR	5E-13	N/A	N/A	-
MOLYBDENUM	3E-10	N/A	N/A	-
p,p'-DDD	1E-13	2.4E-01	B2	2E-14
p,p'-DDE	2E-14	3.4E-01	B2	7E-15
p,p'-DDT	9E-14	3.4E-01	B2	3E-14
PCB-1260 (AROCHLOR 1260)	8E-13	N/A	N/A	-
PHENANTHRENE	6E-12	N/A	N/A	-
PYRENE	8E-12	N/A	N/A	-
SELENIUM	1E-11	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-13	6.0E-03	C-B2	1E-15
ZINC	2E-08	N/A	N/A	-

**Total Pathway Risk**

2E-10

**Total Risk**

4E-07

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-3**  
**REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Reasonable Maximum Exposure ( ASD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers</b> <b>Waste Oil Tanks - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	8E-11	N/A	N/A	-
1,1-DICHLOROETHANE	4E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	5E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	8E-10	N/A	N/A	-
2,4-DINITROTOLUENE	6E-09	N/A	N/A	-
2-METHYLNAPHTHALENE	4E-09	N/A	N/A	-
ACENAPHTHENE	4E-09	N/A	N/A	-
ALDRIN	2E-11	3.2E+01	B2	6E-10
ALPHA ENDOSULFAN	4E-11	N/A	N/A	-
ALUMINUM	2E-05	N/A	N/A	-
ANTHRACENE	6E-09	N/A	N/A	-
BARIUM	9E-08	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-08	1.5E+01	B2	1E-07
BENZO(a)PYRENE	9E-09	1.5E+01	B2	1E-07
BENZO(b)FLUORANTHENE	1E-08	1.5E+01	B2	1E-07
BENZO(g,h,i)PERYLENE	7E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-11	2.0E+00	C	1E-10
BETA ENDOSULFAN	5E-12	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	5E-09	6.1E-02	B2	3E-10
CHLOROETHANE	2E-10	N/A	N/A	-
CHRYSENE	1E-08	3.0E+01	B2	3E-07
cis-1,2-DICHLOROETHYLENE	8E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-11	N/A	N/A	-
DI-n-BUTYL PHTHALATE	8E-10	N/A	N/A	-
DIBENZ(a,h)ANTHRACENE	1E-09	7.3E+01	B2	7E-08
DIBENZOFURAN	5E-09	N/A	N/A	-
DIELDRIN	5E-11	3.2E+01	B2	2E-09
ENDOSULFAN SULFATE	2E-10	N/A	N/A	-
ENDRIN	1E-10	N/A	N/A	-
ENDRIN ALDEHYDE	6E-10	N/A	N/A	-
ETHYLBENZENE	4E-11	N/A	N/A	-
FLUORANTHENE	1E-08	N/A	N/A	-
FLUORENE	6E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	8E-12	1.3E+00	B2-C	1E-11
HEPTACHLOR	1E-12	5.8E+00	B2	6E-12
INDENO(1,2,3-c,d)PYRENE	6E-09	1.5E+01	B2	9E-08
ISOPROPYLBENZENE (CUMENE)	9E-11	N/A	N/A	-
MERCURY	2E-10	N/A	N/A	-
METHOXYCHLOR	9E-11	N/A	N/A	-
MOLYBDENUM	2E-08	N/A	N/A	-
n-BUTYLBENZENE	4E-10	N/A	N/A	-
n-PROPYLBENZENE	3E-10	N/A	N/A	-

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 - = Not Calculated

NAPHTHALENE	9E-09	N/A	N/A	-
p,p'-DDD	8E-11	3.0E+00	B2	2E-10
p,p'-DDE	4E-11	4.3E+00	B2	2E-10
p,p'-DDT	1E-10	4.3E+00	B2	4E-10
P-CYMENE (p-ISOPROPYLTOLUENE)	4E-10	N/A	N/A	-
PCB-1254 (AROCHLOR 1254)	4E-10	N/A	N/A	-
PHENANTHRENE	9E-09	N/A	N/A	-
PYRENE	1E-08	N/A	N/A	-
SEC-BUTYLBENZENE	4E-10	N/A	N/A	-
TOLUENE	4E-11	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	4E-10	1.1E-02	C-B2	4E-12
VINYL CHLORIDE	3E-10	1.9E+00	A	6E-10
XYLENES, TOTAL	4E-10	N/A	N/A	-
ZINC	2E-07	N/A	N/A	-
<b>Total Pathway Risk</b>				8E-07

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-11	N/A	N/A	-
1,1-DICHLOROETHANE	1E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	2E-10	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-10	N/A	N/A	-
2,4-DINITROTOLUENE	5E-09	N/A	N/A	-
2-METHYLNAPHTHALENE	3E-09	N/A	N/A	-
ACENAPHTHENE	3E-09	N/A	N/A	-
ALDRIN	1E-11	1.6E+01	B2	2E-10
ALPHA ENDOSULFAN	3E-11	N/A	N/A	-
ALUMINUM	1E-04	N/A	N/A	-
ANTHRACENE	5E-09	N/A	N/A	-
BARIUM	8E-07	N/A	N/A	-
BENZO(a)ANTHRACENE	1E-08	7.3E+00	B2	7E-08
BENZO(a)PYRENE	8E-09	7.3E+00	B2	6E-08
BENZO(b)FLUORANTHENE	9E-09	7.3E+00	B2	7E-08
BENZO(g,h,i)PERYLENE	5E-09	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	5E-11	1.8E+00	C	9E-11
BETA ENDOSULFAN	4E-12	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-09	1.4E-02	B2	6E-11
CHLOROETHANE	5E-11	N/A	N/A	-
CHRYSENE	1E-08	7.3E+00	B2	7E-08
cis-1,2-DICHLOROETHYLENE	3E-10	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-11	N/A	N/A	-
DI-n-BUTYL PHTHALATE	7E-10	N/A	N/A	-
DIBENZ(a,h)ANTHRACENE	1E-09	7.3E+00	B2	7E-09
DIBENZOFURAN	4E-09	N/A	N/A	-
DIELDRIN	4E-11	1.6E+01	B2	6E-10
ENDOSULFAN SULFATE	1E-10	N/A	N/A	-

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated



ENDRIN	1E-10	N/A	N/A	-
ENDRIN ALDEHYDE	5E-10	N/A	N/A	-
ETHYLBENZENE	1E-11	N/A	N/A	-
FLUORANTHENE	1E-08	N/A	N/A	-
FLUORENE	5E-09	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-12	1.3E+00	B2-C	9E-12
HEPTACHLOR	1E-12	4.5E+00	B2	4E-12
INDENO(1,2,3-c,d)PYRENE	5E-09	7.3E+00	B2	4E-08
ISOPROPYLBENZENE (CUMENE)	3E-11	N/A	N/A	-
MERCURY	1E-09	N/A	N/A	-
METHOXYCHLOR	7E-11	N/A	N/A	-
MOLYBDENUM	2E-07	N/A	N/A	-
n-BUTYLBENZENE	1E-10	N/A	N/A	-
n-PROPYLBENZENE	9E-11	N/A	N/A	-
NAPHTHALENE	8E-09	N/A	N/A	-
p,p'-DDD	6E-11	2.4E-01	B2	1E-11
p,p'-DDE	3E-11	3.4E-01	B2	1E-11
p,p'-DDT	9E-11	3.4E-01	B2	3E-11
P-CYMENE (p-ISOPROPYLTOLUENE)	1E-10	N/A	N/A	-
PCB-1254 (AROCHLOR 1254)	3E-10	N/A	N/A	-
PHENANTHRENE	8E-09	N/A	N/A	-
PYRENE	1E-08	N/A	N/A	-
SEC-BUTYLBENZENE	1E-10	N/A	N/A	-
TOLUENE	1E-11	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-10	1.1E-02	C-B2	1E-12
VINYL CHLORIDE	1E-10	1.9E+00	A	2E-10
XYLENES, TOTAL	1E-10	N/A	N/A	-
ZINC	1E-06	N/A	N/A	-
<b>Total Pathway Risk</b>				3E-07

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	7E-07	N/A	N/A	-
1,1-DICHLOROETHANE	3E-06	ND	C	-
1,2,4-TRIMETHYLBENZENE	4E-06	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	7E-06	N/A	N/A	-
CHLOROETHANE	1E-06	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	7E-06	N/A	N/A	-
DIBENZOFURAN	1E-04	N/A	N/A	-
ETHYLBENZENE	4E-07	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	7E-07	N/A	N/A	-
n-BUTYLBENZENE	4E-06	N/A	N/A	-
n-PROPYLBENZENE	2E-06	N/A	N/A	-
P-CYMENE (p-ISOPROPYLTOLUENE)	4E-06	N/A	N/A	-
SEC-BUTYLBENZENE	3E-06	N/A	N/A	-
TOLUENE	4E-07	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

TRICHLOROETHYLENE (TCE)	3E-06	6.0E-03	C-B2	2E-08
VINYL CHLORIDE	3E-06	3.0E-01	A	9E-07
XYLENES, TOTAL	3E-06	N/A	N/A	-
<b>Total Pathway Risk</b>				9E-07

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	5E-14	N/A	N/A	-
1,1-DICHLOROETHANE	2E-13	ND	C	-
1,2,4-TRIMETHYLBENZENE	3E-13	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5E-13	N/A	N/A	-
2,4-DINITROTOLUENE	8E-12	N/A	N/A	-
2-METHYLNAPHTHALENE	6E-12	N/A	N/A	-
ACENAPHTHENE	6E-12	N/A	N/A	-
ALDRIN	2E-14	1.6E+01	B2	3E-13
ALPHA ENDOSULFAN	5E-14	N/A	N/A	-
ALUMINUM	2E-07	N/A	N/A	-
ANTHRACENE	8E-12	N/A	N/A	-
BARIUM	1E-09	N/A	N/A	-
BENZO(a)ANTHRACENE	2E-11	7.3E+00	B2	1E-10
BENZO(a)PYRENE	1E-11	7.3E+00	B2	7E-11
BENZO(b)FLUORANTHENE	2E-11	7.3E+00	B2	1E-10
BENZO(g,h,i)PERYLENE	9E-12	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	8E-14	1.8E+00	C	1E-13
BETA ENDOSULFAN	8E-15	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	8E-12	1.4E-02	B2	1E-13
CHLOROETHANE	9E-14	N/A	N/A	-
CHRYSENE	2E-11	7.3E+00	B2	1E-10
cis-1,2-DICHLOROETHYLENE	4E-13	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-14	N/A	N/A	-
DI-n-BUTYL PHTHALATE	1E-12	N/A	N/A	-
DIBENZ(a,h)ANTHRACENE	2E-12	7.3E+00	B2	1E-11
DIBENZOFURAN	7E-12	N/A	N/A	-
DIELDRIN	7E-14	1.6E+01	B2	1E-12
ENDOSULFAN SULFATE	2E-13	N/A	N/A	-
ENDRIN	2E-13	N/A	N/A	-
ENDRIN ALDEHYDE	8E-13	N/A	N/A	-
ETHYLBENZENE	2E-14	N/A	N/A	-
FLUORANTHENE	2E-11	N/A	N/A	-
FLUORENE	9E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-14	1.3E+00	B2-C	1E-14
HEPTACHLOR	2E-15	4.5E+00	B2	9E-15
INDENO(1,2,3-c,d)PYRENE	9E-12	7.3E+00	B2	7E-11
ISOPROPYLBENZENE (CUMENE)	5E-14	N/A	N/A	-
MERCURY	2E-12	N/A	N/A	-
METHOXYCHLOR	1E-13	N/A	N/A	-

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

MOLYBDENUM	3E-10	N/A	N/A	-
n-BUTYLBENZENE	2E-13	N/A	N/A	-
n-PROPYLBENZENE	1E-13	N/A	N/A	-
NAPHTHALENE	1E-11	N/A	N/A	-
p,p'-DDD	1E-13	2.4E-01	B2	2E-14
p,p'-DDE	5E-14	3.4E-01	B2	2E-14
p,p'-DDT	2E-13	3.4E-01	B2	7E-14
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-13	N/A	N/A	-
PCB-1254 (AROCHLOR 1254)	6E-13	N/A	N/A	-
PHENANTHRENE	1E-11	N/A	N/A	-
PYRENE	2E-11	N/A	N/A	-
SEC-BUTYLBENZENE	2E-13	N/A	N/A	-
TOLUENE	2E-14	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-13	6.0E-03	C-B2	1E-15
VINYL CHLORIDE	2E-13	3.0E-01	A	6E-14
XYLENES, TOTAL	2E-13	N/A	N/A	-
ZINC	2E-09	N/A	N/A	-

**Total Pathway Risk**

5E-10

**Total Risk**

2E-06

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated.

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**APPENDIX H-3**  
**REASONABLE MAXIMUM CASE CANCER RISK ESTIMATES**  
**Future Land Use**  
**Offsite 30-year Residents**

Chemical	Reasonable Maximum Exposure ( ACD) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents</b>				
<b>Dermal Absorption of Chemicals in Shower Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	2E-07	N/A	N/A	-
1,1-DICHLOROETHANE	5E-07	ND	C	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-08	N/A	N/A	-
ALDRIN	1E-10	3.2E+01	B2	3E-09
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-10	6.5E+00	B2	7E-10
ALPHA ENDOSULFAN	4E-11	N/A	N/A	-
ALUMINUM	3E-05	N/A	N/A	-
ARSENIC	3E-07	1.9E+00	A	6E-07
BARIUM	6E-06	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-10	2.0E+00	C	4E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
CHLOROMETHANE	3E-08	1.3E-02	C	4E-10
cis-1,2-DICHLOROETHYLENE	8E-06	N/A	N/A	-
COPPER	8E-08	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-10	N/A	N/A	-
ENDOSULFAN SULFATE	2E-10	N/A	N/A	-
ENDRIN	4E-10	N/A	N/A	-
ENDRIN ALDEHYDE	1E-09	N/A	N/A	-
ETHYLBENZENE	1E-06	N/A	N/A	-
GAMMA BHC (LINDANE)	3E-11	1.3E+00	B2-C	4E-11
HEPTACHLOR EPOXIDE	2E-09	1.2E+01	B2	2E-08
MANGANESE	4E-05	N/A	N/A	-
METHOXYCHLOR	2E-09	N/A	N/A	-
p,p'-DDD	1E-08	3.0E+00	B2	3E-08
p,p'-DDE	1E-06	4.3E+00	B2	4E-06
p,p'-DDT	2E-07	4.3E+00	B2	9E-07
THALLIUM	1E-06	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-05	1.1E-02	C-B2	1E-07
VANADIUM	2E-07	N/A	N/A	-
VINYL CHLORIDE	5E-08	1.9E+00	A	9E-08
XYLENES, TOTAL	5E-09	N/A	N/A	-
ZINC	5E-07	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>6E-06</b>

\* = Not designated as a carcinogen by the U.S. EPA.  
ND = No Data  
N/A = Not Applicable  
- = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents Ingestion of Chemicals in Drinking Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	6E-06	N/A	N/A	-
1,1-DICHLOROETHANE	2E-05	ND	C	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	9E-06	N/A	N/A	-
ALDRIN	3E-08	1.6E+01	B2	5E-07
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	6E-08	6.3E+00	B2	4E-07
ALPHA ENDOSULFAN	2E-08	N/A	N/A	-
ALUMINUM	1E-02	N/A	N/A	-
ARSENIC	1E-04	1.8E+00	A	2E-04
BARIUM	3E-03	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-07	1.8E+00	C	2E-07
BETA ENDOSULFAN	6E-08	N/A	N/A	-
CHLOROMETHANE	3E-06	1.3E-02	C	4E-08
cis-1,2-DICHLOROETHYLENE	3E-04	N/A	N/A	-
COPPER	3E-05	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-07	N/A	N/A	-
ENDOSULFAN SULFATE	8E-08	N/A	N/A	-
ENDRIN	1E-08	N/A	N/A	-
ENDRIN ALDEHYDE	4E-08	N/A	N/A	-
ETHYLBENZENE	5E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-08	1.3E+00	B2-C	1E-08
HEPTACHLOR EPOXIDE	8E-08	9.1E+00	B2	7E-07
MANGANESE	2E-02	N/A	N/A	-
METHOXYCHLOR	1E-06	N/A	N/A	-
p,p'-DDD	2E-08	2.4E-01	B2	5E-09
p,p'-DDE	2E-06	3.4E-01	B2	7E-07
p,p'-DDT	2E-07	3.4E-01	B2	7E-08
THALLIUM	5E-04	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-05	1.1E-02	C-B2	2E-07
VANADIUM	7E-05	N/A	N/A	-
VINYL CHLORIDE	3E-06	1.9E+00	A	6E-06
XYLENES, TOTAL	2E-06	N/A	N/A	-
ZINC	4E-04	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>2E-04</b>

\* = Not designated as a carcinogen by the U.S. EPA.  
ND = No Data  
N/A = Not Applicable  
- = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents Inhalation of VOCs While Showering (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	3E-04	N/A	N/A	-
1,1-DICHLOROETHANE	1E-03	ND	C	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5E-04	N/A	N/A	-
CHLOROMETHANE	2E-04	6.3E-03	C	1E-06
cis-1,2-DICHLOROETHYLENE	2E-02	N/A	N/A	-
ETHYLBENZENE	3E-05	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-03	6.0E-03	C-B2	6E-06
VINYL CHLORIDE	2E-04	3.0E-01	A	6E-05
XYLENES, TOTAL	1E-04	N/A	N/A	-
<b>Total Pathway Risk</b>				7E-05

Chemical	Reasonable Maximum Exposure ( ACD ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents Dermal Absorption of Chemicals in Shower Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	3E-06	N/A	N/A	-
1,1-DICHLOROETHANE	6E-06	ND	C	-
1,1-DICHLOROETHENE	6E-07	6.1E-01	C	4E-07
1,2,4-TRIMETHYLBENZENE	4E-07	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-06	N/A	N/A	-
ALDRIN	6E-11	3.2E+01	B2	2E-09
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-11	6.5E+00	B2	6E-11
ALPHA ENDOSULFAN	4E-11	N/A	N/A	-
ALUMINUM	1E-04	N/A	N/A	-
ARSENIC	3E-07	1.9E+00	A	6E-07
BARIUM	9E-06	N/A	N/A	-
BERYLLIUM	3E-08	8.6E+02	B2	3E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-10	2.0E+00	C	6E-10
BETA ENDOSULFAN	1E-10	N/A	N/A	-
BROMODICHLOROMETHANE	4E-08	6.2E-02	B2	2E-09
CARBON TETRACHLORIDE	7E-08	1.4E-01	B2	1E-08
CHLOROETHANE	7E-07	N/A	N/A	-
CHLOROFORM	1E-06	6.4E-03	B2	6E-09

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

CHROMIUM, TOTAL	1E-06	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	3E-05	N/A	N/A	-
COPPER	1E-06	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-10	N/A	N/A	-
DI-n-BUTYL PHTHALATE	2E-08	N/A	N/A	-
DIELDRIN	4E-10	3.2E+01	B2	1E-08
ENDOSULFAN SULFATE	4E-11	N/A	N/A	-
ENDRIN	3E-09	N/A	N/A	-
ENDRIN ALDEHYDE	3E-09	N/A	N/A	-
ETHYLBENZENE	1E-06	N/A	N/A	-
GAMMA BHC (LINDANE)	1E-10	1.3E+00	B2-C	1E-10
HEPTACHLOR	7E-10	5.8E+00	B2	4E-09
HEPTACHLOR EPOXIDE	1E-09	1.2E+01	B2	1E-08
ISOPROPYLBENZENE (CUMENE)	3E-08	N/A	N/A	-
MANGANESE	1E-04	N/A	N/A	-
METHOXYCHLOR	3E-10	N/A	N/A	-
n-PROPYLBENZENE	2E-08	N/A	N/A	-
NAPHTHALENE	4E-07	N/A	N/A	-
NICKEL	1E-07	N/A	N/A	-
p,p'-DDD	6E-08	3.0E+00	B2	2E-07
p,p'-DDE	2E-08	4.3E+00	B2	9E-08
p,p'-DDT	8E-09	4.3E+00	B2	3E-08
SILVER	2E-07	N/A	N/A	-
TOLUENE	8E-06	N/A	N/A	-
trans-1,2-DICHLOROETHENE	5E-08	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	9E-04	1.1E-02	C-B2	1E-05
TRICHLOROFLUOROMETHANE	5E-07	N/A	N/A	-
VANADIUM	3E-07	N/A	N/A	-
VINYL CHLORIDE	1E-06	1.9E+00	A	2E-06
XYLENES, TOTAL	4E-08	N/A	N/A	-
ZINC	6E-07	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>4E-05</b>

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents Ingestion of Chemicals in Drinking Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	9E-05	N/A	N/A	-
1,1-DICHLOROETHANE	3E-04	ND	C	-
1,1-DICHLOROETHENE	2E-05	6.1E-01	C	1E-05
1,2,4-TRIMETHYLBENZENE	2E-04	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	4E-04	N/A	N/A	-
ALDRIN	2E-08	1.6E+01	B2	3E-07
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	6E-09	6.3E+00	B2	4E-08
ALPHA ENDOSULFAN	2E-08	N/A	N/A	-
ALUMINUM	6E-02	N/A	N/A	-
ARSENIC	1E-04	1.8E+00	A	2E-04
BARIUM	4E-03	N/A	N/A	-

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



BERYLLIUM	1E-05	4.3E+00	B2	4E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-07	1.8E+00	C	2E-07
BETA ENDOSULFAN	5E-08	N/A	N/A	-
BROMODICHLOROMETHANE	3E-06	6.2E-02	B2	2E-07
CARBON TETRACHLORIDE	1E-06	1.3E-01	B2	1E-07
CHLOROETHANE	4E-05	N/A	N/A	-
CHLOROFORM	4E-06	6.1E-03	B2	2E-08
CHROMIUM, TOTAL	3E-04	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	1E-03	N/A	N/A	-
COPPER	6E-04	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-08	N/A	N/A	-
DI-n-BUTYL PHTHALATE	8E-06	N/A	N/A	-
DIELDRIN	1E-08	1.6E+01	B2	2E-07
ENDOSULFAN SULFATE	2E-08	N/A	N/A	-
ENDRIN	7E-08	N/A	N/A	-
ENDRIN ALDEHYDE	9E-08	N/A	N/A	-
ETHYLBENZENE	5E-07	N/A	N/A	-
GAMMA BHC (LINDANE)	5E-08	1.3E+00	B2-C	6E-08
HEPTACHLOR	3E-08	4.5E+00	B2	1E-07
HEPTACHLOR EPOXIDE	4E-08	9.1E+00	B2	4E-07
ISOPROPYLBENZENE (CUMENE)	1E-05	N/A	N/A	-
MANGANESE	5E-02	N/A	N/A	-
METHOXYCHLOR	1E-07	N/A	N/A	-
n-PROPYLBENZENE	1E-05	N/A	N/A	-
NAPHTHALENE	2E-06	N/A	N/A	-
NICKEL	6E-04	N/A	N/A	-
p,p'-DDD	1E-07	2.4E-01	B2	2E-08
p,p'-DDE	4E-08	3.4E-01	B2	1E-08
p,p'-DDT	8E-09	3.4E-01	B2	3E-09
SILVER	1E-04	N/A	N/A	-
TOLUENE	4E-06	N/A	N/A	-
trans-1,2-DICHLOROETHENE	2E-06	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-03	1.1E-02	C-B2	2E-05
TRICHLOROFLUOROMETHANE	1E-05	N/A	N/A	-
VANADIUM	1E-04	N/A	N/A	-
VINYL CHLORIDE	7E-05	1.9E+00	A	1E-04
XYLENES, TOTAL	2E-05	N/A	N/A	-
ZINC	4E-04	N/A	N/A	-
<b>Total Pathway Risk</b>				<b>4E-04</b>

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents Inhalation of VOCs While Showering (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	5E-03	N/A	N/A	-
1,1-DICHLOROETHANE	2E-02	ND	C	-
1,1-DICHLOROETHENE	9E-04	1.8E-01	C	2E-04
1,2,4-TRIMETHYLBENZENE	1E-02	N/A	N/A	-

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-02	N/A	N/A	-
BROMODICHLOROMETHANE	2E-04	6.2E-02	B2	1E-05
CARBON TETRACHLORIDE	8E-05	5.3E-02	B2	4E-06
CHLOROFORM	3E-04	8.1E-02	B2	2E-05
cis-1,2-DICHLOROETHYLENE	7E-02	N/A	N/A	-
ETHYLBENZENE	3E-05	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	7E-04	N/A	N/A	-
n-PROPYLBENZENE	6E-04	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	1E-01	6.0E-03	C-B2	6E-04
TRICHLOROFLUOROMETHANE	7E-04	N/A	N/A	-
VINYL CHLORIDE	4E-03	3.0E-01	A	1E-03
XYLENES, TOTAL	1E-03	N/A	N/A	-
<b>Total Pathway Risk</b>				2E-03

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	1E-09	N/A	N/A	-
ACETONE	1E-07	N/A	N/A	-
BROMOMETHANE	8E-09	N/A	N/A	-
DIBENZOFURAN	1E-10	N/A	N/A	-
DICHLORODIFLUOROMETHANE	4E-12	N/A	N/A	-
METHYLENE CHLORIDE	5E-09	1.6E-03	B2	8E-12
TETRACHLOROETHYLENE(PCE)	4E-10	2.0E-03	C-B2	8E-13
TRICHLOROETHYLENE (TCE)	7E-09	6.0E-03	C-B2	4E-11
<b>Total Pathway Risk</b>				5E-11

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	4E-09	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	3E-08	6.0E-03	C-B2	2E-10

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

<b>Total Pathway Risk</b>				2E-10
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Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	1E-10	N/A	N/A	-
1,1-DICHLOROETHANE	3E-10	ND	C	-
1,2,4-TRIMETHYLBENZENE	6E-12	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-11	N/A	N/A	-
CHLOROETHANE	5E-10	N/A	N/A	-
cis-1,2-DICHLOROETHYLENE	5E-10	N/A	N/A	-
DIBENZOFURAN	2E-10	N/A	N/A	-
ETHYLBENZENE	2E-11	N/A	N/A	-
ISOPROPYLBENZENE (CUMENE)	1E-12	N/A	N/A	-
n-BUTYLBENZENE	2E-09	N/A	N/A	-
n-PROPYLBENZENE	1E-10	N/A	N/A	-
P-CYMENE (p-ISOPROPYLTOLUENE)	4E-10	N/A	N/A	-
SEC-BUTYLBENZENE	6E-10	N/A	N/A	-
TOLUENE	5E-11	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	8E-10	6.0E-03	C-B2	5E-12
VINYL CHLORIDE	2E-09	3.0E-01	A	6E-10
XYLENES, TOTAL	2E-10	N/A	N/A	-
<b>Total Pathway Risk</b>				6E-10

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	8E-13	N/A	N/A	-
ALDRIN	8E-17	1.6E+01	B2	1E-15
ALPHA ENDOSULFAN	2E-15	N/A	N/A	-
ARSENIC	2E-11	1.5E+01	A	3E-10
BARIIUM	9E-11	N/A	N/A	-

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- ND = No Data
- N/A = Not Applicable
- = Not Calculated

BENZO(a)ANTHRACENE	2E-13	7.3E+00	B2	1E-12
BERYLLIUM	1E-12	8.4E+00	B2	8E-12
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-16	1.8E+00	C	1E-15
BETA ENDOSULFAN	1E-15	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	8E-13	1.4E-02	B2	1E-14
CADMIUM	7E-12	6.3E+00	B1	4E-11
CHROMIUM, TOTAL	1E-10	4.2E+01	A	4E-09
CHRYSENE	1E-13	7.3E+00	B2	7E-13
COBALT	1E-11	N/A	N/A	-
COPPER	1E-10	N/A	N/A	-
CYANIDE	1E-12	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-16	N/A	N/A	-
DIELDRIN	2E-16	1.6E+01	B2	3E-15
ENDOSULFAN SULFATE	3E-15	N/A	N/A	-
FLUORANTHENE	2E-13	N/A	N/A	-
GAMMA BHC (LINDANE)	2E-16	1.3E+00	B2-C	3E-16
MANGANESE	8E-10	N/A	N/A	-
MERCURY	1E-13	N/A	N/A	-
METHOXYCHLOR	8E-15	N/A	N/A	-
METHYLENE CHLORIDE	7E-15	1.6E-03	B2	1E-17
MOLYBDENUM	8E-09	N/A	N/A	-
NICKEL	1E-10	8.4E-01	A	8E-11
p,p'-DDD	2E-15	2.4E-01	B2	5E-16
p,p'-DDT	1E-15	3.4E-01	B2	3E-16
PYRENE	1E-13	N/A	N/A	-
TETRACHLOROETHYLENE(PCE)	2E-15	2.0E-03	C-B2	4E-18
TRICHLOROETHYLENE (TCE)	3E-14	6.0E-03	C-B2	2E-16
VANADIUM	2E-11	N/A	N/A	-
ZINC	3E-10	N/A	N/A	-
<b>Total Pathway Risk</b>				4E-09

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	3E-14	1.6E+01	B2	5E-13
ALPHA ENDOSULFAN	4E-15	N/A	N/A	-
ALUMINUM	2E-07	N/A	N/A	-
BENZO(a)ANTHRACENE	4E-12	7.3E+00	B2	3E-11
BENZO(a)PYRENE	3E-12	7.3E+00	B2	2E-11
BENZO(b)FLUORANTHENE	5E-12	7.3E+00	B2	4E-11
BETA ENDOSULFAN	6E-15	N/A	N/A	-
bis(2-ETHYLHEXYL) PHTHALATE	4E-12	1.4E-02	B2	6E-14
CHROMIUM, TOTAL	3E-10	4.2E+01	A	1E-08
CHRYSENE	4E-12	7.3E+00	B2	3E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-14	N/A	N/A	-
DI-n-BUTYL PHTHALATE	2E-12	N/A	N/A	-
DIELDRIN	7E-14	1.6E+01	B2	1E-12

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

ENDOSULFAN SULFATE	6E-14	N/A	N/A	-
ENDRIN	1E-14	N/A	N/A	-
ENDRIN ALDEHYDE	3E-13	N/A	N/A	-
FLUORANTHENE	6E-12	N/A	N/A	-
GAMMA BHC (LINDANE)	7E-15	1.3E+00	B2-C	9E-15
HEPTACHLOR	4E-14	4.5E+00	B2	2E-13
HEPTACHLOR EPOXIDE	9E-14	9.1E+00	B2	8E-13
MANGANESE	8E-09	N/A	N/A	-
METHOXYCHLOR	3E-14	N/A	N/A	-
MOLYBDENUM	3E-10	N/A	N/A	-
p,p'-DDD	1E-14	2.4E-01	B2	2E-15
p,p'-DDE	2E-14	3.4E-01	B2	7E-15
p,p'-DDT	2E-14	3.4E-01	B2	7E-15
PHENANTHRENE	1E-12	N/A	N/A	-
PYRENE	5E-12	N/A	N/A	-
TRICHLOROETHYLENE (TCE)	2E-13	6.0E-03	C-B2	1E-15

**Total Pathway Risk**

1E-08

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Slope Factor kg-day/mg	Weight of Evidence	Chemical-Specific Risk
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	9E-16	ND	C	-
1,2,4-TRIMETHYLBENZENE	1E-15	N/A	N/A	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-15	N/A	N/A	-
ALDRIN	3E-16	1.6E+01	B2	5E-15
ALPHA ENDOSULFAN	2E-16	N/A	N/A	-
ALUMINUM	6E-09	N/A	N/A	-
BARIUM	4E-11	N/A	N/A	-
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-16	1.8E+00	C	1E-15
BETA ENDOSULFAN	2E-16	N/A	N/A	-
CHROMIUM, TOTAL	7E-12	4.2E+01	A	3E-10
cis-1,2-DICHLOROETHYLENE	7E-15	N/A	N/A	-
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-16	N/A	N/A	-
DIELDRIN	2E-15	1.6E+01	B2	3E-14
ENDRIN ALDEHYDE	2E-14	N/A	N/A	-
HEPTACHLOR	5E-17	4.5E+00	B2	2E-16
MANGANESE	3E-10	N/A	N/A	-
MOLYBDENUM	7E-12	N/A	N/A	-
NAPHTHALENE	8E-14	N/A	N/A	-
p,p'-DDD	3E-15	2.4E-01	B2	7E-16
p,p'-DDE	5E-16	3.4E-01	B2	2E-16
<b>Total Pathway Risk</b>				3E-10

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**Total Risk**

3E-03

\* = Not designated as a carcinogen by the U.S. EPA.  
ND = No Data  
N/A = Not Applicable  
- = Not Calculated

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**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
**Current Land Use**  
**Recreational Users**

Chemical	Average Exposure ( ACD ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Recreational Users</b> <b>Dermal Absorption of Chemicals in Surface Water (from Little Choconut Creek)</b>				
ARSENIC	2E-07	Yes	2.9E-04	7E-04
BARIUM	2E-06	Yes	3.5E-03	6E-04
bis(2-ETHYLHEXYL) PHTHALATE	3E-07	Yes	4.6E-03	7E-05
BROMODICHLOROMETHANE	9E-08	Yes	2.0E-02	5E-06
BROMOFORM	6E-08	Yes	2.0E-02	3E-06
CHLOROFORM	2E-06	Yes	9.6E-03	2E-04
CHROMIUM, TOTAL	7E-07	Yes	6.5E-05	1E-02
COPPER	3E-07	Yes	1.9E-02	2E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-11	Yes	2.8E-04	2E-07
DIBROMOCHLOROMETHANE	2E-08	Yes	2.0E-02	1E-06
DICHLORODIFLUOROMETHANE	3E-07	Yes	2.0E-01	1E-06
ENDOSULFAN SULFATE	2E-09	Yes	4.9E-03	4E-07
ENDRIN	1E-08	Yes	3.0E-04	3E-05
GAMMA BHC (LINDANE)	5E-10	Yes	3.0E-04	2E-06
HEPTACHLOR EPOXIDE	8E-09	Yes	1.0E-05	8E-04
MANGANESE	7E-07	Yes	1.5E-04	5E-03
p,p'-DDD	2E-07	Yes	4.0E-05	5E-03
ZINC	5E-07	Yes	7.5E-02	7E-06
<b>Total Pathway Hazard Index</b>				2E-02

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Recreational Users</b> <b>Ingestion of Contaminated Fish (from Little Choconut Creek)</b>				
ARSENIC	3E-05	No	3.0E-04	1E-01
BARIUM	3E-03	No	7.0E-02	4E-02
bis(2-ETHYLHEXYL) PHTHALATE	4E-03	No	2.0E-02	2E-01
BROMODICHLOROMETHANE	3E-07	No	2.0E-02	1E-05
BROMOFORM	1E-05	No	2.0E-02	5E-04
CHLOROFORM	2E-06	No	1.0E-02	2E-04

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 - = Not Calculated

CHROMIUM, TOTAL	6E-06	No	5.0E-03	1E-03
COPPER	3E-04	No	3.7E-02	8E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-07	No	3.0E-04	1E-03
DIBROMOCHLOROMETHANE	4E-07	No	2.0E-02	2E-05
DICHLORODIFLUOROMETHANE	1E-05	No	2.0E-01	5E-05
ENDOSULFAN SULFATE	3E-07	No	6.0E-03	5E-05
ENDRIN	9E-06	No	3.0E-04	3E-02
GAMMA BHC (LINDANE)	3E-06	No	3.0E-04	1E-02
HEPTACHLOR EPOXIDE	6E-05	No	1.3E-05	5E+00
MANGANESE	4E-03	No	5.0E-03	8E-01
p,p'-DDD	1E-04	No	5.0E-04	2E-01
ZINC	1E-02	No	3.0E-01	3E-02

**Total Pathway Hazard Index**

6E+00

**Total Hazard Index**

6E+00

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 N/A = Not Applicable  
 - = Not Calculated



**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
 Current Land Use  
 Recreational Users

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Recreational Users</b> Ingestion of Contaminated Fish (from Background for Little Choconut Creek)				
ARSENIC	1E-05	No	3.0E-04	3E-02
BARIUM	8E-04	No	7.0E-02	1E-02
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-07	No	3.0E-04	3E-04
GAMMA BHC (LINDANE)	2E-06	No	3.0E-04	7E-03
MANGANESE	8E-04	No	5.0E-03	2E-01
ZINC	1E-02	No	3.0E-01	3E-02
<b>Total Pathway Hazard Index</b>				3E-01
<b>Total Hazard Index</b>				3E-01

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Industrial Workers**

Chemical	Average Exposure ( ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers</b> <b>Plating Room - Dermal Absorption of Chemicals in Surface Soil</b>				
ACETONE	1E-06	Yes	7.9E-02	1E-05
ALDRIN	2E-08	Yes	1.5E-05	1E-03
ALPHA ENDOSULFAN	1E-09	Yes	4.7E-03	2E-07
ARSENIC	2E-06	Yes	2.9E-04	7E-03
BARIUM	8E-06	Yes	3.5E-03	2E-03
BENZO(a)ANTHRACENE	3E-07	Yes	1.9E-02	2E-05
BERYLLIUM	9E-08	Yes	2.5E-05	4E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-08	Yes	2.7E-04	1E-04
BETA ENDOSULFAN	1E-08	Yes	5.1E-03	2E-06
bis(2-ETHYLHEXYL) PHTHALATE	6E-07	Yes	4.6E-03	1E-04
CADMIUM	8E-07	Yes	2.7E-05	3E-02
CHROMIUM, TOTAL	9E-06	Yes	6.5E-05	1E-01
CHRYSENE	4E-07	Yes	9.6E-03	4E-05
COBALT	9E-07	Yes	ND	-
COPPER	1E-05	Yes	1.9E-02	5E-04
CYANIDE	1E-07	Yes	9.4E-03	1E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-08	Yes	2.8E-04	7E-05
DIELDRIN	3E-08	Yes	2.5E-05	1E-03
ENDOSULFAN SULFATE	3E-08	Yes	4.9E-03	6E-06
FLUORANTHENE	3E-07	Yes	1.9E-02	2E-05
GAMMA BHC (LINDANE)	2E-08	Yes	3.0E-04	7E-05
MANGANESE	7E-05	Yes	1.5E-04	5E-01
MERCURY	1E-08	Yes	4.5E-05	2E-04
METHOXYCHLOR	3E-08	Yes	4.8E-03	6E-06
METHYLENE CHLORIDE	1E-08	Yes	5.9E-02	2E-07
MOLYBDENUM	1E-04	Yes	2.5E-04	4E-01
NICKEL	8E-06	Yes	1.1E-03	7E-03
p,p'-DDD	8E-09	Yes	4.0E-05	2E-04
p,p'-DDT	4E-09	Yes	4.0E-05	1E-04
PYRENE	3E-07	Yes	2.3E-02	1E-05
TETRACHLOROETHYLENE(PCE)	1E-08	Yes	1.0E-02	1E-06
TRICHLOROETHYLENE (TCE)	5E-08	Yes	5.8E-03	9E-06
VANADIUM	1E-06	Yes	1.8E-04	6E-03
ZINC	5E-05	Yes	7.5E-02	7E-04
<b>Total Pathway Hazard Index</b>				1E+00

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Plating Room - Incidental Ingestion of Chemicals in Surface Soil</b>				
ACETONE	4E-08	No	1.0E-01	4E-07
ALDRIN	2E-09	No	3E-05	7E-05
ALPHA ENDOSULFAN	1E-10	No	6.0E-03	2E-08
ARSENIC	2E-06	No	3.0E-04	7E-03
BARIUM	7E-06	No	7.0E-02	1E-04
BENZO(a)ANTHRACENE	3E-08	No	4.0E-02	7E-07
BERYLLIUM	8E-08	No	5.0E-03	2E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-09	No	3.0E-04	7E-06
BETA ENDOSULFAN	1E-09	No	6.0E-03	2E-07
bis(2-ETHYLHEXYL) PHTHALATE	5E-08	No	2.0E-02	2E-06
CADMIUM	7E-07	No	5.0E-04	1E-03
CHROMIUM, TOTAL	8E-06	No	5.0E-03	2E-03
CHRYSENE	3E-08	No	4.0E-02	7E-07
COBALT	8E-07	No	ND	-
COPPER	1E-05	No	3.7E-02	3E-04
CYANIDE	1E-07	No	2.0E-02	5E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-09	No	3.0E-04	7E-06
DIELDRIN	2E-09	No	5E-05	4E-05
ENDOSULFAN SULFATE	2E-09	No	6.0E-03	3E-07
FLUORANTHENE	3E-08	No	4.0E-02	7E-07
GAMMA BHC (LINDANE)	2E-09	No	3.0E-04	7E-06
MANGANESE	6E-05	No	5.0E-03	1E-02
MERCURY	1E-08	No	3.0E-04	3E-05
METHOXYCHLOR	3E-09	No	5.3E-03	6E-07
METHYLENE CHLORIDE	5E-10	No	6.0E-02	8E-09
MOLYBDENUM	1E-04	No	5.0E-03	2E-02
NICKEL	7E-06	No	2.0E-02	3E-04
p,p'-DDD	7E-10	No	5.0E-04	1E-06
p,p'-DDT	3E-10	No	5.0E-04	6E-07
PYRENE	3E-08	No	3.0E-02	1E-06
TETRACHLOROETHYLENE(PCE)	5E-10	No	1.0E-02	5E-08
TRICHLOROETHYLENE (TCE)	2E-09	No	6.0E-03	3E-07
VANADIUM	1E-06	No	7.0E-03	1E-04
ZINC	4E-05	No	3.0E-01	1E-04
<b>Total Pathway Hazard Index</b>				<b>4E-02</b>

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure (ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Reservoir - Dermal Absorption of Chemicals in Surface Soil</b>				
ALDRIN	8E-09	Yes	1.5E-05	5E-04
ALPHA ENDOSULFAN	4E-10	Yes	4.7E-03	9E-08
ALUMINUM	1E-03	Yes	ND	-
BENZO(a)ANTHRACENE	3E-07	Yes	1.9E-02	2E-05
BENZO(a)PYRENE	3E-07	Yes	1.9E-02	2E-05
BENZO(b)FLUORANTHENE	3E-07	Yes	1.9E-02	2E-05
BETA ENDOSULFAN	1E-08	Yes	5.1E-03	2E-06
bis(2-ETHYLHEXYL) PHTHALATE	5E-07	Yes	4.6E-03	1E-04
CHROMIUM, TOTAL	2E-06	Yes	6.5E-05	3E-02
CHRYSENE	4E-07	Yes	9.6E-03	4E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-10	Yes	2.8E-04	3E-06
DI-n-BUTYL PHTHALATE	8E-07	Yes	2.3E-02	3E-05
DIELDRIN	4E-09	Yes	2.5E-05	2E-04
ENDOSULFAN SULFATE	1E-08	Yes	4.9E-03	2E-06
ENDRIN	6E-09	Yes	3.0E-04	2E-05
ENDRIN ALDEHYDE	1E-08	Yes	3.0E-04	3E-05
FLUORANTHENE	3E-07	Yes	1.9E-02	2E-05
GAMMA BHC (LINDANE)	2E-09	Yes	3.0E-04	7E-06
HEPTACHLOR	2E-09	Yes	3.9E-04	5E-06
HEPTACHLOR EPOXIDE	8E-09	Yes	1.0E-05	8E-04
MANGANESE	7E-05	Yes	1.5E-04	5E-01
METHOXYCHLOR	2E-08	Yes	4.8E-03	4E-06
MOLYBDENUM	2E-06	Yes	2.5E-04	8E-03
p,p'-DDD	4E-09	Yes	4.0E-05	1E-04
p,p'-DDE	4E-09	Yes	4.0E-05	1E-04
p,p'-DDT	2E-09	Yes	4.0E-05	5E-05
PHENANTHRENE	3E-07	Yes	1.9E-02	2E-05
PYRENE	3E-07	Yes	2.3E-02	1E-05
TRICHLOROETHYLENE (TCE)	4E-08	Yes	5.8E-03	7E-06
<b>Total Pathway Hazard Index</b>				<b>5E-01</b>

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Reservoir - Incidental Ingestion of Chemicals in Surface Soil</b>				
ALDRIN	7E-10	No	3E-05	2E-05
ALPHA ENDOSULFAN	3E-11	No	6.0E-03	5E-09
ALUMINUM	1E-03	No	ND	-
BENZO(a)ANTHRACENE	3E-08	No	4.0E-02	7E-07
BENZO(a)PYRENE	2E-08	No	4.0E-02	5E-07
BENZO(b)FLUORANTHENE	3E-08	No	4.0E-02	7E-07
BETA ENDOSULFAN	1E-09	No	6.0E-03	2E-07
bis(2-ETHYLHEXYL) PHTHALATE	5E-08	No	2.0E-02	2E-06
CHROMIUM, TOTAL	2E-06	No	5.0E-03	4E-04
CHRYSENE	4E-08	No	4.0E-02	1E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-11	No	3.0E-04	3E-07
DI-n-BUTYL PHTHALATE	7E-08	No	1.0E-01	7E-07
DIELDRIN	3E-10	No	5E-05	6E-06
ENDOSULFAN SULFATE	1E-09	No	6.0E-03	2E-07
ENDRIN	5E-10	No	3.0E-04	2E-06
ENDRIN ALDEHYDE	1E-09	No	3.0E-04	3E-06
FLUORANTHENE	3E-08	No	4.0E-02	7E-07
GAMMA BHC (LINDANE)	2E-10	No	3.0E-04	7E-07
HEPTACHLOR	2E-10	No	5.0E-04	4E-07
HEPTACHLOR EPOXIDE	7E-10	No	1.3E-05	5E-05
MANGANESE	6E-05	No	5.0E-03	1E-02
METHOXYCHLOR	1E-09	No	5.3E-03	2E-07
MOLYBDENUM	2E-06	No	5.0E-03	4E-04
p,p'-DDD	3E-10	No	5.0E-04	6E-07
p,p'-DDE	3E-10	No	5.0E-04	6E-07
p,p'-DDT	2E-10	No	5.0E-04	4E-07
PHENANTHRENE	2E-08	No	4.0E-02	5E-07
PYRENE	3E-08	No	3.0E-02	1E-06
TRICHLOROETHYLENE (TCE)	1E-09	No	6.0E-03	2E-07
<b>Total Pathway Hazard Index</b>				1E-02

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( ACD ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Waste Oil Tanks - Dermal Absorption of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	3E-08	Yes	1.0E-01	3E-07
1,2,4-TRIMETHYLBENZENE	3E-08	Yes	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-08	Yes	ND	-
ALDRIN	8E-09	Yes	1.5E-05	5E-04
ALPHA ENDOSULFAN	4E-09	Yes	4.7E-03	9E-07
ALUMINUM	2E-03	Yes	ND	-
BARIUM	1E-05	Yes	3.5E-03	3E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-09	Yes	2.7E-04	2E-05
BETA ENDOSULFAN	8E-09	Yes	5.1E-03	2E-06
CHROMIUM, TOTAL	2E-06	Yes	6.5E-05	3E-02
cis-1,2-DICHLOROETHYLENE	5E-08	Yes	1.0E-02	5E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-09	Yes	2.8E-04	4E-06
DIELDRIN	6E-09	Yes	2.5E-05	2E-04
ENDRIN ALDEHYDE	4E-08	Yes	3.0E-04	1E-04
HEPTACHLOR	2E-09	Yes	3.9E-04	5E-06
MANGANESE	9E-05	Yes	1.5E-04	6E-01
MOLYBDENUM	2E-06	Yes	2.5E-04	8E-03
NAPHTHALENE	2E-07	Yes	1.9E-02	1E-05
p,p'-DDD	6E-09	Yes	4.0E-05	1E-04
p,p'-DDE	2E-09	Yes	4.0E-05	5E-05
<b>Total Pathway Hazard Index</b>				6E-01

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	1E-09	No	1.0E-01	1E-08
1,2,4-TRIMETHYLBENZENE	1E-09	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-09	No	ND	-
ALDRIN	7E-10	No	3E-05	2E-05
ALPHA ENDOSULFAN	3E-10	No	6.0E-03	5E-08
ALUMINUM	2E-03	No	ND	-
BARIUM	1E-05	No	7.0E-02	1E-04
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	5E-10	No	3.0E-04	2E-06
BETA ENDOSULFAN	7E-10	No	6.0E-03	1E-07

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CHROMIUM, TOTAL	2E-06	No	5.0E-03	4E-04
cis-1,2-DICHLOROETHYLENE	2E-09	No	1.0E-02	2E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-10	No	3.0E-04	3E-07
DIELDRIN	5E-10	No	5E-05	1E-05
ENDRIN ALDEHYDE	3E-09	No	3.0E-04	1E-05
HEPTACHLOR	2E-10	No	5.0E-04	4E-07
MANGANESE	8E-05	No	5.0E-03	2E-02
MOLYBDENUM	1E-06	No	5.0E-03	2E-04
NAPHTHALENE	2E-08	No	4.0E-02	5E-07
p,p'-DDD	5E-10	No	5.0E-04	1E-06
p,p'-DDE	2E-10	No	5.0E-04	4E-07
<b>Total Pathway Hazard Index</b>				2E-02

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	4E-08	No	2.5E-01	2E-07
ACETONE	1E-06	No	1.0E-01	1E-05
BROMOMETHANE	2E-07	No	1.4E-03	1E-04
DIBENZOFURAN	7E-09	No	ND	-
DICHLORODIFLUOROMETHANE	2E-09	No	5.0E-01	4E-09
METHYLENE CHLORIDE	2E-07	No	9.0E-01	2E-07
TETRACHLOROETHYLENE(PCE)	9E-08	No	1.0E-02	9E-06
TRICHLOROETHYLENE (TCE)	9E-08	No	6.0E-03	1E-05
<b>Total Pathway Hazard Index</b>				1E-04

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-08	No	2.5E-01	8E-08
TRICHLOROETHYLENE (TCE)	4E-08	No	6.0E-03	7E-06

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 N/A = Not Applicable  
 - = Not Calculated

**Total Pathway Hazard Index**

7E-06

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-08	No	2.5E-01	8E-08
1,1-DICHLOROETHANE	1E-08	No	1.0E-01	1E-07
1,2,4-TRIMETHYLBENZENE	4E-10	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6E-10	No	ND	-
CHLOROETHANE	9E-08	No	3.0E+00	3E-08
cis-1,2-DICHLOROETHYLENE	2E-08	No	1.0E-02	2E-06
DIBENZOFURAN	2E-08	No	ND	-
ETHYLBENZENE	1E-08	No	2.9E-01	3E-08
ISOPROPYLBENZENE (CUMENE)	3E-10	No	3.0E-03	1E-07
n-BUTYLBENZENE	2E-07	No	ND	-
n-PROPYLBENZENE	1E-08	No	ND	-
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-08	No	ND	-
SEC-BUTYLBENZENE	3E-08	No	ND	-
TOLUENE	2E-08	No	1.0E-01	2E-07
TRICHLOROETHYLENE (TCE)	4E-08	No	6.0E-03	7E-06
VINYL CHLORIDE	1E-07	No	ND	-
XYLENES, TOTAL	1E-08	No	2.0E+00	5E-09

**Total Pathway Hazard Index**

1E-05

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	8E-12	No	1.0E-01	8E-11
ALDRIN	4E-13	No	3E-05	1E-08
ALPHA ENDOSULFAN	2E-14	No	6.0E-03	3E-12
ARSENIC	3E-10	No	3.0E-04	1E-06
BARIUM	1E-09	No	1.0E-03	1E-06
BENZO(a)ANTHRACENE	5E-12	No	4.0E-02	1E-10

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BERYLLIUM	1E-11	No	5.0E-03	2E-09
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-13	No	3.0E-04	1E-09
BETA ENDOSULFAN	2E-13	No	6.0E-03	3E-11
bis(2-ETHYLHEXYL) PHTHALATE	9E-12	No	2.0E-02	4E-10
CADMIUM	1E-10	No	5.0E-04	2E-07
CHROMIUM, TOTAL	1E-09	No	1.1E-06	9E-04
CHRYSENE	6E-12	No	4.0E-02	1E-10
COBALT	1E-10	No	ND	-
COPPER	2E-09	No	3.7E-02	5E-08
CYANIDE	2E-11	No	2.0E-02	1E-09
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-13	No	3.0E-04	1E-09
DIELDRIN	4E-13	No	5E-05	8E-09
ENDOSULFAN SULFATE	4E-13	No	6.0E-03	7E-11
FLUORANTHENE	5E-12	No	4.0E-02	1E-10
GAMMA BHC (LINDANE)	4E-13	No	3.0E-04	1E-09
MANGANESE	1E-08	No	1.0E-05	1E-03
MERCURY	2E-12	No	9.0E-05	2E-08
METHOXYCHLOR	5E-13	No	5.3E-03	9E-11
METHYLENE CHLORIDE	9E-14	No	9.0E-01	1E-13
MOLYBDENUM	2E-08	No	5.0E-03	4E-06
NICKEL	1E-09	No	2.0E-02	5E-08
p,p'-DDD	1E-13	No	5.0E-04	2E-10
p,p'-DDT	6E-14	No	5.0E-04	1E-10
PYRENE	5E-12	No	3.0E-02	2E-10
TETRACHLOROETHYLENE(PCE)	9E-14	No	1.0E-02	9E-12
TRICHLOROETHYLENE (TCE)	3E-13	No	6.0E-03	5E-11
VANADIUM	2E-10	No	7.0E-03	3E-08
ZINC	8E-09	No	3.0E-01	3E-08

**Total Pathway Hazard Index**

2E-03

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	1E-13	No	3E-05	3E-09
ALPHA ENDOSULFAN	6E-15	No	6.0E-03	1E-12
ALUMINUM	2E-07	No	ND	-
BENZO(a)ANTHRACENE	5E-12	No	4.0E-02	1E-10
BENZO(a)PYRENE	5E-12	No	4.0E-02	1E-10
BENZO(b)FLUORANTHENE	6E-12	No	4.0E-02	1E-10
BETA ENDOSULFAN	2E-13	No	6.0E-03	3E-11
bis(2-ETHYLHEXYL) PHTHALATE	9E-12	No	2.0E-02	4E-10
CHROMIUM, TOTAL	3E-10	No	1.1E-06	3E-04
CHRYSENE	7E-12	No	4.0E-02	2E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-14	No	3.0E-04	7E-11
DI-n-BUTYL PHTHALATE	1E-11	No	1.0E-01	1E-10
DIELDRIN	6E-14	No	5E-05	1E-09
ENDOSULFAN SULFATE	2E-13	No	6.0E-03	3E-11

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 - = Not Calculated

ENDRIN	9E-14	No	3.0E-04	3E-10
ENDRIN ALDEHYDE	2E-13	No	3.0E-04	7E-10
FLUORANTHENE	5E-12	No	4.0E-02	1E-10
GAMMA BHC (LINDANE)	3E-14	No	3.0E-04	1E-10
HEPTACHLOR	4E-14	No	5.0E-04	8E-11
HEPTACHLOR EPOXIDE	1E-13	No	1.3E-05	8E-09
MANGANESE	1E-08	No	1.0E-05	1E-03
METHOXYCHLOR	3E-13	No	5.3E-03	6E-11
MOLYBDENUM	4E-10	No	5.0E-03	8E-08
p,p'-DDD	6E-14	No	5.0E-04	1E-10
p,p'-DDE	6E-14	No	5.0E-04	1E-10
p,p'-DDT	3E-14	No	5.0E-04	6E-11
PHENANTHRENE	5E-12	No	4.0E-02	1E-10
PYRENE	6E-12	No	3.0E-02	2E-10
TRICHLOROETHYLENE (TCE)	2E-13	No	6.0E-03	3E-11
<b>Total Pathway Hazard Index</b>				1E-03

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	2E-13	No	1.0E-01	2E-12
1,2,4-TRIMETHYLBENZENE	3E-13	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-13	No	ND	-
ALDRIN	1E-13	No	3E-05	3E-09
ALPHA ENDOSULFAN	7E-14	No	6.0E-03	1E-11
ALUMINUM	4E-07	No	ND	-
BARIUM	2E-09	No	1.0E-03	2E-06
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-13	No	3.0E-04	3E-10
BETA ENDOSULFAN	1E-13	No	6.0E-03	2E-11
CHROMIUM, TOTAL	5E-10	No	1.1E-06	5E-04
cis-1,2-DICHLOROETHYLENE	4E-13	No	1.0E-02	4E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-14	No	3.0E-04	7E-11
DIELDRIN	1E-13	No	5E-05	2E-09
ENDRIN ALDEHYDE	7E-13	No	3.0E-04	2E-09
HEPTACHLOR	4E-14	No	5.0E-04	8E-11
MANGANESE	2E-08	No	1.0E-05	2E-03
MOLYBDENUM	3E-10	No	5.0E-03	6E-08
NAPHTHALENE	4E-12	No	4.0E-02	1E-10
p,p'-DDD	1E-13	No	5.0E-04	2E-10
p,p'-DDE	4E-14	No	5.0E-04	8E-11
<b>Total Pathway Hazard Index</b>				3E-03

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 N/A = Not Applicable  
 - = Not Calculated

**Total Hazard Index**

2E+00

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N/A = Not Applicable  
- = Not Calculated

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**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Average Exposure ( ASD ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers</b> <b>Plating Room - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	3E-07	Yes	2.4E-01	1E-06
ACENAPHTHENE	1E-06	Yes	2.9E-01	3E-06
ACETONE	3E-06	Yes	7.9E-01	4E-06
ALDRIN	5E-08	Yes	1.5E-05	3E-03
ALPHA ENDOSULFAN	1E-08	Yes	4.7E-03	2E-06
ANTHRACENE	1E-06	Yes	1.9E+00	5E-07
BENZO(a)ANTHRACENE	2E-06	Yes	1.9E-02	1E-04
BENZO(a)PYRENE	1E-06	Yes	1.9E-02	5E-05
BENZO(b)FLUORANTHENE	2E-06	Yes	1.9E-02	1E-04
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	5E-08	Yes	2.7E-03	2E-05
BETA ENDOSULFAN	6E-08	Yes	5.1E-03	1E-05
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	Yes	4.6E-03	4E-04
BROMOMETHANE	3E-07	Yes	1.4E-03	2E-04
CADMIUM	2E-06	Yes	2.7E-05	7E-02
CHRYSENE	2E-06	Yes	9.6E-03	2E-04
CYANIDE	3E-07	Yes	9.4E-03	3E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-08	Yes	2.8E-03	1E-05
DIBENZOFURAN	1E-06	Yes	ND	-
DICHLORODIFLUOROMETHANE	8E-07	Yes	9.0E-01	9E-07
DIELDRIN	5E-08	Yes	2.5E-05	2E-03
ENDOSULFAN SULFATE	5E-08	Yes	4.9E-03	1E-05
FLUORANTHENE	2E-06	Yes	1.9E-01	1E-05
FLUORENE	1E-06	Yes	1.9E-01	5E-06
GAMMA BHC (LINDANE)	3E-08	Yes	3.0E-03	1E-05
HEPTACHLOR	5E-08	Yes	3.9E-04	1E-04
MERCURY	5E-08	Yes	4.5E-05	1E-03
METHOXYCHLOR	8E-08	Yes	4.8E-03	2E-05
METHYLENE CHLORIDE	3E-07	Yes	5.9E-02	5E-06
MOLYBDENUM	1E-04	Yes	2.5E-04	4E-01
p,p'-DDD	3E-08	Yes	4.0E-05	7E-04
p,p'-DDT	2E-08	Yes	4.0E-05	5E-04
PCB-1254 (AROCHLOR 1254)	2E-07	Yes	1.8E-05	1E-02
PHENANTHRENE	2E-06	Yes	1.9E-02	1E-04
PYRENE	2E-06	Yes	2.3E-01	9E-06
TETRACHLOROETHYLENE(PCE)	3E-07	Yes	1.0E-01	3E-06
TRICHLOROETHYLENE (TCE)	3E-07	Yes	5.8E-03	5E-05
<b>Total Pathway Hazard Index</b>				5E-01

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers Plating Room - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	9E-08	No	2.5E-01	4E-07
ACENAPHTHENE	9E-07	No	6.0E-01	2E-06
ACETONE	1E-06	No	1.0E+00	1E-06
ALDRIN	4E-08	No	3E-05	1E-03
ALPHA ENDOSULFAN	9E-09	No	6.0E-03	1E-06
ANTHRACENE	1E-06	No	3.0E+00	3E-07
BENZO(a)ANTHRACENE	2E-06	No	4.0E-02	5E-05
BENZO(a)PYRENE	1E-06	No	4.0E-02	2E-05
BENZO(b)FLUORANTHENE	2E-06	No	4.0E-02	5E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-08	No	3.0E-03	1E-05
BETA ENDOSULFAN	5E-08	No	6.0E-03	8E-06
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	No	2.0E-02	1E-04
BROMOMETHANE	9E-08	No	1.4E-03	6E-05
CADMIUM	2E-05	No	5.0E-04	4E-02
CHRYSENE	2E-06	No	4.0E-02	5E-05
CYANIDE	2E-06	No	2.0E-02	1E-04
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-08	No	3.0E-03	7E-06
DIBENZOFURAN	8E-07	No	ND	-
DICHLORODIFLUOROMETHANE	3E-07	No	9.0E-01	3E-07
DIELDRIN	4E-08	No	5E-05	8E-04
ENDOSULFAN SULFATE	4E-08	No	6.0E-03	7E-06
FLUORANTHENE	2E-06	No	4.0E-01	5E-06
FLUORENE	8E-07	No	4.0E-01	2E-06
GAMMA BHC (LINDANE)	3E-08	No	3.0E-03	1E-05
HEPTACHLOR	4E-08	No	5.0E-04	8E-05
MERCURY	4E-07	No	3.0E-04	1E-03
METHOXYCHLOR	7E-08	No	5.3E-03	1E-05
METHYLENE CHLORIDE	1E-07	No	6.0E-02	2E-06
MOLYBDENUM	1E-03	No	5.0E-03	2E-01
p,p'-DDD	2E-08	No	5.0E-04	4E-05
p,p'-DDT	1E-08	No	5.0E-04	2E-05
PCB-1254 (AROCHLOR 1254)	2E-07	No	2.0E-05	1E-02
PHENANTHRENE	1E-06	No	4.0E-02	2E-05
PYRENE	2E-06	No	3.0E-01	7E-06
TETRACHLOROETHYLENE(PCE)	9E-08	No	1.0E-01	9E-07
TRICHLOROETHYLENE (TCE)	1E-07	No	6.0E-03	2E-05
<b>Total Pathway Hazard Index</b>				<b>3E-01</b>

\* = Not designated as a carcinogen by the U.S. EPA.  
ND = No Data  
N/A = Not Applicable  
- = Not Calculated

Chemical	Average Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-03	No	2.5E-01	8E-03
ACETONE	3E-02	No	1.0E+00	3E-02
BROMOMETHANE	2E-03	No	1.4E-03	1E+00
DIBENZOFURAN	2E-02	No	ND	-
DICHLORODIFLUOROMETHANE	5E-03	No	5.0E-02	1E-01
METHYLENE CHLORIDE	3E-03	No	9.0E-01	3E-03
TETRACHLOROETHYLENE(PCE)	2E-03	No	1.0E-01	2E-02
TRICHLOROETHYLENE (TCE)	3E-03	No	6.0E-03	5E-01
<b>Total Pathway Hazard Index</b>				2E+00

Chemical	Average Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-10	No	2.5E-01	8E-10
ACENAPHTHENE	2E-09	No	6.0E-01	3E-09
ACETONE	2E-09	No	1.0E+00	2E-09
ALDRIN	7E-11	No	3E-05	2E-06
ALPHA ENDOSULFAN	2E-11	No	6.0E-03	3E-09
ANTHRACENE	2E-09	No	3.0E+00	7E-10
BENZO(a)ANTHRACENE	3E-09	No	4.0E-02	7E-08
BENZO(a)PYRENE	2E-09	No	4.0E-02	5E-08
BENZO(b)FLUORANTHENE	3E-09	No	4.0E-02	7E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	7E-11	No	3.0E-03	2E-08
BETA ENDOSULFAN	8E-11	No	6.0E-03	1E-08
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	No	6.0E-02	5E-08
BROMOMETHANE	2E-10	No	1.4E-03	1E-07
CADMIUM	3E-08	No	5.0E-04	6E-05
CHRYSENE	3E-09	No	4.0E-02	7E-08
CYANIDE	4E-09	No	2.0E-02	2E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-11	No	3.0E-03	1E-08
DIBENZOFURAN	1E-09	No	ND	-
DICHLORODIFLUOROMETHANE	4E-10	No	5.0E-02	8E-09
DIELDRIN	6E-11	No	5E-05	1E-06
ENDOSULFAN SULFATE	7E-11	No	6.0E-03	1E-08

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FLUORANTHENE	3E-09	No	4.0E-01	7E-09
FLUORENE	1E-09	No	4.0E-01	3E-09
GAMMA BHC (LINDANE)	5E-11	No	3.0E-03	2E-08
HEPTACHLOR	6E-11	No	5.0E-04	1E-07
MERCURY	6E-10	No	9.0E-05	7E-06
METHOXYCHLOR	1E-10	No	5.3E-03	2E-08
METHYLENE CHLORIDE	2E-10	No	9.0E-01	2E-10
MOLYBDENUM	2E-06	No	5.0E-03	4E-04
p,p'-DDD	4E-11	No	5.0E-04	8E-08
p,p'-DDT	2E-11	No	5.0E-04	4E-08
PCB-1254 (AROCHLOR 1254)	3E-10	No	2.0E-05	1E-05
PHENANTHRENE	2E-09	No	4.0E-02	5E-08
PYRENE	3E-09	No	3.0E-01	1E-08
TETRACHLOROETHYLENE(PCE)	2E-10	No	1.0E-01	2E-09
TRICHLOROETHYLENE (TCE)	2E-10	No	6.0E-03	3E-08

**Total Pathway Hazard Index**

5E-04

**Total Hazard Index**

3E+00

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Average Exposure ( ASD ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers</b> <b>Reservoir - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-07	Yes	2.4E-01	4E-07
ALDRIN	2E-08	Yes	1.5E-05	1E-03
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	7E-09	Yes	2.9E-03	2E-06
ALPHA ENDOSULFAN	6E-09	Yes	4.7E-03	1E-06
ANTHRACENE	1E-06	Yes	1.9E+00	5E-07
BENZO(a)ANTHRACENE	1E-06	Yes	1.9E-02	5E-05
BENZO(a)PYRENE	1E-06	Yes	1.9E-02	5E-05
BENZO(b)FLUORANTHENE	1E-06	Yes	1.9E-02	5E-05
BENZO(g,h,i)PERYLENE	1E-06	Yes	1.9E-02	5E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-08	Yes	2.7E-03	1E-05
BETA ENDOSULFAN	5E-08	Yes	5.1E-03	1E-05
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	Yes	4.6E-03	4E-04
CHRYSENE	2E-06	Yes	9.6E-03	2E-04
COPPER	3E-05	Yes	1.9E-02	2E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-09	Yes	2.8E-03	7E-07
DI-n-BUTYL PHTHALATE	3E-06	Yes	2.3E-01	1E-05
DIELDRIN	2E-08	Yes	2.5E-05	8E-04
ENDOSULFAN SULFATE	2E-08	Yes	4.9E-03	4E-06
ENDRIN	2E-08	Yes	3.0E-04	7E-05
ENDRIN ALDEHYDE	3E-08	Yes	3.0E-04	1E-04
FLUORANTHENE	1E-06	Yes	1.9E-01	5E-06
FLUORENE	1E-06	Yes	1.9E-01	5E-06
GAMMA BHC (LINDANE)	6E-09	Yes	3.0E-03	2E-06
HEPTACHLOR	7E-09	Yes	3.9E-04	2E-05
HEPTACHLOR EPOXIDE	3E-08	Yes	1.0E-05	3E-03
INDENO(1,2,3-c,d)PYRENE	2E-06	Yes	1.9E-02	1E-04
MERCURY	1E-07	Yes	4.5E-05	2E-03
METHOXYCHLOR	7E-08	Yes	4.8E-03	1E-05
MOLYBDENUM	7E-06	Yes	2.5E-04	3E-02
p,p'-DDD	1E-08	Yes	4.0E-05	3E-04
p,p'-DDE	3E-08	Yes	4.0E-05	7E-04
p,p'-DDT	2E-08	Yes	4.0E-05	5E-04
PCB-1260 (AROCHLOR 1260)	2E-07	Yes	1.8E-05	1E-02
PHENANTHRENE	1E-06	Yes	1.9E-02	5E-05
PYRENE	1E-06	Yes	2.3E-01	4E-06
SELENIUM	4E-07	Yes	4.7E-03	9E-05
TRICHLOROETHYLENE (TCE)	2E-07	Yes	5.8E-03	3E-05
ZINC	1E-04	Yes	7.5E-02	1E-03

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 - = Not Calculated

**Total Pathway Hazard Index**

5E-02

Chemical	Average Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers Reservoir - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	4E-08	No	2.5E-01	2E-07
ALDRIN	2E-08	No	3E-05	7E-04
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	6E-09	No	3.0E-03	2E-06
ALPHA ENDOSULFAN	5E-09	No	6.0E-03	8E-07
ANTHRACENE	1E-06	No	3.0E+00	3E-07
BENZO(a)ANTHRACENE	1E-06	No	4.0E-02	2E-05
BENZO(a)PYRENE	9E-07	No	4.0E-02	2E-05
BENZO(b)FLUORANTHENE	1E-06	No	4.0E-02	2E-05
BENZO(g,h,i)PERYLENE	1E-06	No	4.0E-02	2E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-08	No	3.0E-03	1E-05
BETA ENDOSULFAN	4E-08	No	6.0E-03	7E-06
bis(2-ETHYLHEXYL) PHTHALATE	1E-06	No	2.0E-02	5E-05
CHRYSENE	1E-06	No	4.0E-02	2E-05
COPPER	2E-04	No	3.7E-02	5E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-09	No	3.0E-03	7E-07
DI-n-BUTYL PHTHALATE	2E-06	No	1.0E+00	2E-06
DIELDRIN	1E-08	No	5E-05	2E-04
ENDOSULFAN SULFATE	2E-08	No	6.0E-03	3E-06
ENDRIN	2E-08	No	3.0E-04	7E-05
ENDRIN ALDEHYDE	2E-08	No	3.0E-04	7E-05
FLUORANTHENE	1E-06	No	4.0E-01	2E-06
FLUORENE	8E-07	No	4.0E-01	2E-06
GAMMA BHC (LINDANE)	5E-09	No	3.0E-03	2E-06
HEPTACHLOR	6E-09	No	5.0E-04	1E-05
HEPTACHLOR EPOXIDE	2E-08	No	1.3E-05	2E-03
INDENO(1,2,3-c,d)PYRENE	2E-06	No	4.0E-02	5E-05
MERCURY	8E-07	No	3.0E-04	3E-03
METHOXYCHLOR	6E-08	No	5.3E-03	1E-05
MOLYBDENUM	6E-05	No	5.0E-03	1E-02
p,p'-DDD	9E-09	No	5.0E-04	2E-05
p,p'-DDE	2E-08	No	5.0E-04	4E-05
p,p'-DDT	1E-08	No	5.0E-04	2E-05
PCB-1260 (AROCHLOR 1260)	2E-07	No	2.0E-05	1E-02
PHENANTHRENE	1E-06	No	4.0E-02	2E-05
PYRENE	1E-06	No	3.0E-01	3E-06
SELENIUM	3E-06	No	5.0E-03	6E-04
TRICHLOROETHYLENE (TCE)	5E-08	No	6.0E-03	8E-06
ZINC	8E-04	No	3.0E-01	3E-03

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<b>Total Pathway Hazard Index</b>				4E-02
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Chemical	Average Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	1E-03 1E-03	No No	2.5E-01 6.0E-03	4E-03 2E-01
<b>Total Pathway Hazard Index</b>				2E-01

Chemical	Average Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	7E-11	No	2.5E-01	3E-10
ALDRIN	3E-11	No	3E-05	1E-06
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-11	No	3.0E-03	3E-09
ALPHA ENDOSULFAN	9E-12	No	6.0E-03	1E-09
ANTHRACENE	2E-09	No	3.0E+00	7E-10
BENZO(a)ANTHRACENE	2E-09	No	4.0E-02	5E-08
BENZO(a)PYRENE	2E-09	No	4.0E-02	5E-08
BENZO(b)FLUORANTHENE	2E-09	No	4.0E-02	5E-08
BENZO(g,h,i)PERYLENE	2E-09	No	4.0E-02	5E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	5E-11	No	3.0E-03	2E-08
BETA ENDOSULFAN	6E-11	No	6.0E-03	1E-08
bis(2-ETHYLHEXYL) PHTHALATE	2E-09	No	6.0E-02	3E-08
CHRYSENE	2E-09	No	4.0E-02	5E-08
COPPER	4E-07	No	3.7E-02	1E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-12	No	3.0E-03	1E-09
DI-n-BUTYL PHTHALATE	4E-09	No	1.0E+00	4E-09
DIELDRIN	2E-11	No	5E-05	4E-07
ENDOSULFAN SULFATE	3E-11	No	6.0E-03	5E-09
ENDRIN	3E-11	No	3.0E-04	1E-07
ENDRIN ALDEHYDE	4E-11	No	3.0E-04	1E-07
FLUORANTHENE	2E-09	No	4.0E-01	5E-09

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FLUORENE	1E-09	No	4.0E-01	3E-09
GAMMA BHC (LINDANE)	8E-12	No	3.0E-03	3E-09
HEPTACHLOR	1E-11	No	5.0E-04	2E-08
HEPTACHLOR EPOXIDE	4E-11	No	1.3E-05	3E-06
INDENO(1,2,3-c,d)PYRENE	3E-09	No	4.0E-02	7E-08
MERCURY	1E-09	No	9.0E-05	1E-05
METHOXYCHLOR	1E-10	No	5.3E-03	2E-08
MOLYBDENUM	9E-08	No	5.0E-03	2E-05
p,p'-DDD	2E-11	No	5.0E-04	4E-08
p,p'-DDE	4E-11	No	5.0E-04	8E-08
p,p'-DDT	2E-11	No	5.0E-04	4E-08
PCB-1260 (AROCHLOR 1260)	3E-10	No	2.0E-05	1E-05
PHENANTHRENE	2E-09	No	4.0E-02	5E-08
PYRENE	2E-09	No	3.0E-01	7E-09
SELENIUM	6E-09	No	5.0E-03	1E-06
TRICHLOROETHYLENE (TCE)	9E-11	No	6.0E-03	1E-08
ZINC	1E-06	No	3.0E-01	3E-06

**Total Pathway Hazard Index**

6E-05

**Total Hazard Index**

3E-01

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**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Average Exposure ( ASD ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers</b> <b>Waste Oil Tanks - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-07	Yes	2.4E-01	4E-07
1,1-DICHLOROETHANE	1E-07	Yes	1.0E+00	1E-07
1,2,4-TRIMETHYLBENZENE	2E-07	Yes	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-07	Yes	ND	-
2,4-DINITROTOLUENE	3E-06	Yes	2.0E-03	2E-03
2-METHYLNAPHTHALENE	2E-06	Yes	1.9E-02	1E-04
ACENAPHTHENE	3E-06	Yes	2.9E-01	1E-05
ALDRIN	4E-08	Yes	1.5E-05	3E-03
ALPHA ENDOSULFAN	2E-08	Yes	4.7E-03	4E-06
ALUMINUM	6E-03	Yes	ND	-
ANTHRACENE	3E-06	Yes	1.9E+00	2E-06
BARIUM	3E-05	Yes	3.5E-03	9E-03
BENZO(a)ANTHRACENE	3E-06	Yes	1.9E-02	2E-04
BENZO(a)PYRENE	2E-06	Yes	1.9E-02	1E-04
BENZO(b)FLUORANTHENE	3E-06	Yes	1.9E-02	2E-04
BENZO(g,h,i)PERYLENE	3E-06	Yes	1.9E-02	2E-04
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-08	Yes	2.7E-03	1E-05
BETA ENDOSULFAN	6E-08	Yes	5.1E-03	1E-05
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	Yes	4.6E-03	4E-04
CHLOROETHANE	2E-07	Yes	3.0E+00	7E-08
CHRYSENE	5E-06	Yes	9.6E-03	5E-04
cis-1,2-DICHLOROETHYLENE	2E-07	Yes	1.0E-01	2E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-09	Yes	2.8E-03	1E-06
DI-n-BUTYL PHTHALATE	6E-06	Yes	2.3E-01	3E-05
DIBENZ(a,h)ANTHRACENE	3E-06	Yes	4.0E-03	8E-04
DIBENZOFURAN	3E-06	Yes	ND	-
DIELDRIN	4E-08	Yes	2.5E-05	2E-03
ENDOSULFAN SULFATE	6E-08	Yes	4.9E-03	1E-05
ENDRIN	4E-08	Yes	3.0E-04	1E-04
ENDRIN ALDEHYDE	6E-08	Yes	3.0E-04	2E-04
ETHYLBENZENE	1E-07	Yes	8.4E-02	1E-06
FLUORANTHENE	3E-06	Yes	1.9E-01	2E-05
FLUORENE	2E-06	Yes	1.9E-01	1E-05
GAMMA BHC (LINDANE)	1E-08	Yes	3.0E-03	3E-06
HEPTACHLOR	1E-08	Yes	3.9E-04	3E-05
INDENO(1,2,3-c,d)PYRENE	5E-06	Yes	1.9E-02	3E-04
ISOPROPYLBENZENE (CUMENE)	1E-07	Yes	3.4E-01	3E-07
MERCURY	1E-07	Yes	4.5E-05	2E-03
METHOXYCHLOR	8E-08	Yes	4.8E-03	2E-05
MOLYBDENUM	6E-06	Yes	2.5E-04	2E-02
n-BUTYLBENZENE	2E-07	Yes	ND	-
n-PROPYLBENZENE	1E-07	Yes	ND	-
NAPHTHALENE	2E-06	Yes	1.9E-02	1E-04

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p,p'-DDD	4E-08	Yes	4.0E-05	1E-03
p,p'-DDE	5E-08	Yes	4.0E-05	1E-03
p,p'-DDT	4E-08	Yes	4.0E-05	1E-03
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-07	Yes	ND	-
PCB-1254 (AROCHLOR 1254)	2E-07	Yes	1.8E-05	1E-02
PHENANTHRENE	3E-06	Yes	1.9E-02	2E-04
PYRENE	3E-06	Yes	2.3E-01	1E-05
SEC-BUTYLBENZENE	1E-07	Yes	ND	-
TOLUENE	1E-07	Yes	1.7E+00	6E-08
TRICHLOROETHYLENE (TCE)	1E-07	Yes	5.8E-03	2E-05
VINYL CHLORIDE	1E-07	Yes	ND	-
XYLENES, TOTAL	1E-07	Yes	1.8E+00	6E-08
ZINC	5E-05	Yes	7.5E-02	7E-04
<b>Total Pathway Hazard Index</b>				6E-02

Chemical	Average Exposure (SDI) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	4E-08	No	2.5E-01	2E-07
1,1-DICHLOROETHANE	3E-08	No	1.0E+00	3E-08
1,2,4-TRIMETHYLBENZENE	6E-08	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	9E-08	No	ND	-
2,4-DINITROTOLUENE	2E-06	No	2.0E-03	1E-03
2-METHYLNAPHTHALENE	1E-06	No	4.0E-02	2E-05
ACENAPHTHENE	2E-06	No	6.0E-01	3E-06
ALDRIN	3E-08	No	3E-05	1E-03
ALPHA ENDOSULFAN	1E-08	No	6.0E-03	2E-06
ALUMINUM	5E-02	No	ND	-
ANTHRACENE	3E-06	No	3.0E+00	1E-06
BARIUM	3E-04	No	7.0E-02	4E-03
BENZO(a)ANTHRACENE	3E-06	No	4.0E-02	8E-05
BENZO(a)PYRENE	2E-06	No	4.0E-02	5E-05
BENZO(b)FLUORANTHENE	2E-06	No	4.0E-02	5E-05
BENZO(g,h,i)PERYLENE	2E-06	No	4.0E-02	5E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-08	No	3.0E-03	1E-05
BETA ENDOSULFAN	5E-08	No	6.0E-03	8E-06
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	No	2.0E-02	1E-04
CHLOROETHANE	5E-08	No	3.0E+00	2E-08
CHRYSENE	4E-06	No	4.0E-02	1E-04
cis-1,2-DICHLOROETHYLENE	7E-08	No	1.0E-01	7E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-09	No	3.0E-03	1E-06
DI-n-BUTYL PHTHALATE	5E-06	No	1.0E+00	5E-06
DIBENZ(a,h)ANTHRACENE	2E-06	No	4.0E-02	5E-05
DIBENZOFURAN	2E-06	No	ND	-
DIELDRIN	3E-08	No	5E-05	6E-04
ENDOSULFAN SULFATE	5E-08	No	6.0E-03	8E-06
ENDRIN	3E-08	No	3.0E-04	1E-04

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

ENDRIN ALDEHYDE	5E-08	No	3.0E-04	2E-04
ETHYLBENZENE	4E-08	No	1.0E-01	4E-07
FLUORANTHENE	2E-06	No	4.0E-01	5E-06
FLUORENE	2E-06	No	4.0E-01	5E-06
GAMMA BHC (LINDANE)	9E-09	No	3.0E-03	3E-06
HEPTACHLOR	9E-09	No	5.0E-04	2E-05
INDENO(1,2,3-c,d)PYRENE	4E-06	No	4.0E-02	1E-04
ISOPROPYLBENZENE (CUMENE)	4E-08	No	4.0E-01	1E-07
MERCURY	8E-07	No	3.0E-04	3E-03
METHOXYCHLOR	7E-08	No	5.3E-03	1E-05
MOLYBDENUM	5E-05	No	5.0E-03	1E-02
n-BUTYLBENZENE	5E-08	No	ND	-
n-PROPYLBENZENE	4E-08	No	ND	-
NAPHTHALENE	1E-06	No	4.0E-02	2E-05
p,p'-DDD	3E-08	No	5.0E-04	6E-05
p,p'-DDE	4E-08	No	5.0E-04	8E-05
p,p'-DDT	3E-08	No	5.0E-04	6E-05
P-CYMENE (p-ISOPROPYLTOLUENE)	5E-08	No	ND	-
PCB-1254 (AROCHLOR 1254)	1E-07	No	2.0E-05	5E-03
PHENANTHRENE	2E-06	No	4.0E-02	5E-05
PYRENE	3E-06	No	3.0E-01	1E-05
SEC-BUTYLBENZENE	4E-08	No	ND	-
TOLUENE	4E-08	No	2.0E+00	2E-08
TRICHLOROETHYLENE (TCE)	4E-08	No	6.0E-03	7E-06
VINYL CHLORIDE	4E-08	No	ND	-
XYLENES, TOTAL	4E-08	No	2.0E+00	2E-08
ZINC	4E-04	No	3.0E-01	1E-03
<b>Total Pathway Hazard Index</b>				3E-02

Chemical	Average Exposure (SDI) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	9E-04	No	2.5E-01	4E-03
1,1-DICHLOROETHANE	8E-04	No	1.0E+00	8E-04
1,2,4-TRIMETHYLBENZENE	1E-03	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-03	No	ND	-
CHLOROETHANE	1E-03	No	3.0E+00	3E-04
cis-1,2-DICHLOROETHYLENE	2E-03	No	1.0E-01	2E-02
DIBENZOFURAN	6E-02	No	ND	-
ETHYLBENZENE	9E-04	No	2.9E-01	3E-03
ISOPROPYLBENZENE (CUMENE)	1E-03	No	3.0E-02	3E-02
n-BUTYLBENZENE	1E-03	No	ND	-
n-PROPYLBENZENE	9E-04	No	ND	-
P-CYMENE (p-ISOPROPYLTOLUENE)	1E-03	No	ND	-
SEC-BUTYLBENZENE	1E-03	No	ND	-
TOLUENE	9E-04	No	1.0E+00	9E-04
TRICHLOROETHYLENE (TCE)	1E-03	No	6.0E-03	2E-01

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 - = Not Calculated

VINYL CHLORIDE	1E-03	No	ND	-
XYLENES, TOTAL	1E-03	No	2.0E+00	5E-04
<b>Total Pathway Hazard Index</b>				3E-01

Chemical	Average Exposure (SDI) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	6E-11	No	2.5E-01	2E-10
1,1-DICHLOROETHANE	6E-11	No	1.0E+00	6E-11
1,2,4-TRIMETHYLBENZENE	1E-10	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-10	No	ND	-
2,4-DINITROTOLUENE	4E-09	No	2.0E-03	2E-06
2-METHYLNAPHTHALENE	2E-09	No	4.0E-02	5E-08
ACENAPHTHENE	4E-09	No	6.0E-01	7E-09
ALDRIN	6E-11	No	3E-05	2E-06
ALPHA ENDOSULFAN	2E-11	No	6.0E-03	3E-09
ALUMINUM	9E-05	No	ND	-
ANTHRACENE	5E-09	No	3.0E+00	2E-09
BARIUM	5E-07	No	1.0E-04	5E-03
BENZO(a)ANTHRACENE	5E-09	No	4.0E-02	1E-07
BENZO(a)PYRENE	3E-09	No	4.0E-02	7E-08
BENZO(b)FLUORANTHENE	4E-09	No	4.0E-02	1E-07
BENZO(g,h,i)PERYLENE	4E-09	No	4.0E-02	1E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-11	No	3.0E-03	2E-08
BETA ENDOSULFAN	8E-11	No	6.0E-03	1E-08
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	No	6.0E-02	5E-08
CHLOROETHANE	9E-11	No	3.0E+00	3E-11
CHRYSENE	6E-09	No	4.0E-02	1E-07
cis-1,2-DICHLOROETHYLENE	1E-10	No	1.0E-01	1E-09
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-12	No	3.0E-03	2E-09
DI-n-BUTYL PHTHALATE	8E-09	No	1.0E+00	8E-09
DIBENZ(a,h)ANTHRACENE	4E-09	No	4.0E-02	1E-07
DIBENZOFURAN	4E-09	No	ND	-
DIELDRIN	6E-11	No	5E-05	1E-06
ENDOSULFAN SULFATE	8E-11	No	6.0E-03	1E-08
ENDRIN	6E-11	No	3.0E-04	2E-07
ENDRIN ALDEHYDE	9E-11	No	3.0E-04	3E-07
ETHYLBENZENE	6E-11	No	2.9E-01	2E-10
FLUORANTHENE	4E-09	No	4.0E-01	1E-08
FLUORENE	3E-09	No	4.0E-01	7E-09
GAMMA BHC (LINDANE)	2E-11	No	3.0E-03	7E-09
HEPTACHLOR	2E-11	No	5.0E-04	4E-08
INDENO(1,2,3-c,d)PYRENE	6E-09	No	4.0E-02	1E-07
ISOPROPYLBENZENE (CUMENE)	7E-11	No	3.0E-02	2E-09
MERCURY	1E-09	No	9.0E-05	1E-05
METHOXYCHLOR	1E-10	No	5.3E-03	2E-08
MOLYBDENUM	9E-08	No	5.0E-03	2E-05

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated



n-BUTYLBENZENE	9E-11	No	ND	-
n-PROPYLBENZENE	6E-11	No	ND	-
NAPHTHALENE	2E-09	No	4.0E-02	5E-08
p,p'-DDD	6E-11	No	5.0E-04	1E-07
p,p'-DDE	7E-11	No	5.0E-04	1E-07
p,p'-DDT	6E-11	No	5.0E-04	1E-07
P-CYMENE (p-ISOPROPYLTOLUENE)	9E-11	No	ND	-
PCB-1254 (AROCHLOR 1254)	2E-10	No	2.0E-05	1E-05
PHENANTHRENE	4E-09	No	4.0E-02	1E-07
PYRENE	5E-09	No	3.0E-01	2E-08
SEC-BUTYLBENZENE	7E-11	No	ND	-
TOLUENE	6E-11	No	1.0E+00	6E-11
TRICHLOROETHYLENE (TCE)	7E-11	No	6.0E-03	1E-08
VINYL CHLORIDE	7E-11	No	ND	-
XYLENES, TOTAL	7E-11	No	2.0E+00	4E-11
ZINC	7E-07	No	3.0E-01	2E-06

**Total Pathway Hazard Index**

5E-03

**Total Hazard Index**

4E-01

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

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**APPENDIX H-4**  
**AVERAGE CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Offsite 30-year Residents**

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents</b> <b>(Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	6E-09	No	2.5E-01	2E-08
ACETONE	1E-07	No	1.0E-01	1E-06
BROMOMETHANE	3E-08	No	1.4E-03	2E-05
DIBENZOFURAN	1E-09	No	ND	-
DICHLORODIFLUOROMETHANE	3E-10	No	5.0E-01	6E-10
METHYLENE CHLORIDE	3E-08	No	9.0E-01	3E-08
TETRACHLOROETHYLENE(PCE)	1E-08	No	1.0E-02	1E-06
TRICHLOROETHYLENE (TCE)	1E-08	No	6.0E-03	2E-06
<b>Total Pathway Hazard Index</b>				2E-05

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents</b> <b>(Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-08	No	2.5E-01	1E-07
TRICHLOROETHYLENE (TCE)	6E-08	No	6.0E-03	1E-05
<b>Total Pathway Hazard Index</b>				1E-05

\* = Not designated as a carcinogen by the U.S. EPA.  
 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	7E-10	No	2.5E-01	3E-09
1,1-DICHLOROETHANE	4E-10	No	1.0E-01	4E-09
1,2,4-TRIMETHYLBENZENE	1E-11	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-11	No	ND	-
CHLOROETHANE	3E-09	No	3.0E+00	1E-09
cis-1,2-DICHLOROETHYLENE	7E-10	No	1.0E-02	7E-08
DIBENZOFURAN	7E-10	No	ND	-
ETHYLBENZENE	4E-10	No	2.9E-01	1E-09
ISOPROPYLBENZENE (CUMENE)	9E-12	No	3.0E-03	3E-09
n-BUTYLBENZENE	5E-09	No	ND	-
n-PROPYLBENZENE	3E-10	No	ND	-
p-CYMENE (p-ISOPROPYLTOLUENE)	8E-10	No	ND	-
SEC-BUTYLBENZENE	1E-09	No	ND	-
TOLUENE	7E-10	No	1.0E-01	7E-09
TRICHLOROETHYLENE (TCE)	1E-09	No	6.0E-03	2E-07
VINYL CHLORIDE	4E-09	No	ND	-
XYLENES, TOTAL	4E-10	No	2.0E+00	2E-10
<b>Total Pathway Hazard Index</b>				3E-07

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	1E-12	No	1.0E-01	1E-11
ALDRIN	6E-14	No	3E-05	2E-09
ALPHA ENDOSULFAN	3E-15	No	6.0E-03	5E-13
ARSENIC	4E-11	No	3.0E-04	1E-07
BARIUM	2E-10	No	1.0E-03	2E-07
BENZO(a)ANTHRACENE	7E-13	No	4.0E-02	2E-11
BERYLLIUM	2E-12	No	5.0E-03	4E-10
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-14	No	3.0E-04	2E-10
BETA ENDOSULFAN	3E-14	No	6.0E-03	5E-12
bis(2-ETHYLHEXYL) PHTHALATE	1E-12	No	2.0E-02	5E-11
CADMIUM	2E-11	No	5.0E-04	4E-08
CHROMIUM, TOTAL	2E-10	No	1.1E-06	2E-04

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

CHRYSENE	8E-13	No	4.0E-02	2E-11
COBALT	2E-11	No	ND	-
COPPER	3E-10	No	3.7E-02	8E-09
CYANIDE	3E-12	No	2.0E-02	1E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-14	No	3.0E-04	2E-10
DIELDRIN	6E-14	No	5E-05	1E-09
ENDOSULFAN SULFATE	7E-14	No	6.0E-03	1E-11
FLUORANTHENE	7E-13	No	4.0E-02	2E-11
GAMMA BHC (LINDANE)	6E-14	No	3.0E-04	2E-10
MANGANESE	2E-09	No	1.0E-05	2E-04
MERCURY	3E-13	No	9.0E-05	3E-09
METHOXYCHLOR	7E-14	No	5.3E-03	1E-11
METHYLENE CHLORIDE	1E-14	No	9.0E-01	1E-14
MOLYBDENUM	3E-09	No	5.0E-03	6E-07
NICKEL	2E-10	No	2.0E-02	1E-08
p,p'-DDD	2E-14	No	5.0E-04	4E-11
p,p'-DDT	9E-15	No	5.0E-04	2E-11
PYRENE	7E-13	No	3.0E-02	2E-11
TETRACHLOROETHYLENE(PCE)	1E-14	No	1.0E-02	1E-12
TRICHLOROETHYLENE (TCE)	4E-14	No	6.0E-03	7E-12
VANADIUM	3E-11	No	7.0E-03	4E-09
ZINC	1E-09	No	3.0E-01	3E-09

**Total Pathway Hazard Index**

4E-04

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	2E-13	No	3E-05	7E-09
ALPHA ENDOSULFAN	9E-15	No	6.0E-03	1E-12
ALUMINUM	3E-07	No	ND	-
BENZO(a)ANTHRACENE	7E-12	No	4.0E-02	2E-10
BENZO(a)PYRENE	7E-12	No	4.0E-02	2E-10
BENZO(b)FLUORANTHENE	8E-12	No	4.0E-02	2E-10
BETA ENDOSULFAN	3E-13	No	6.0E-03	5E-11
bis(2-ETHYLHEXYL) PHTHALATE	1E-11	No	2.0E-02	5E-10
CHROMIUM, TOTAL	4E-10	No	1.1E-06	4E-04
CHRYSENE	1E-11	No	4.0E-02	2E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-14	No	3.0E-04	7E-11
DI-n-BUTYL PHTHALATE	2E-11	No	1.0E-01	2E-10
DIELDRIN	9E-14	No	5E-05	2E-09
ENDOSULFAN SULFATE	3E-13	No	6.0E-03	5E-11
ENDRIN	1E-13	No	3.0E-04	3E-10
ENDRIN ALDEHYDE	3E-13	No	3.0E-04	1E-09
FLUORANTHENE	7E-12	No	4.0E-02	2E-10
GAMMA BHC (LINDANE)	5E-14	No	3.0E-04	2E-10
HEPTACHLOR	6E-14	No	5.0E-04	1E-10
HEPTACHLOR EPOXIDE	2E-13	No	1.3E-05	2E-08

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 - = Not Calculated

MANGANESE	2E-08	No	1.0E-05	2E-03
METHOXYCHLOR	4E-13	No	5.3E-03	8E-11
MOLYBDENUM	5E-10	No	5.0E-03	1E-07
p,p'-DDD	9E-14	No	5.0E-04	2E-10
p,p'-DDE	9E-14	No	5.0E-04	2E-10
p,p'-DDT	4E-14	No	5.0E-04	8E-11
PHENANTHRENE	7E-12	No	4.0E-02	2E-10
PYRENE	8E-12	No	3.0E-02	3E-10
TRICHLOROETHYLENE (TCE)	3E-13	No	6.0E-03	5E-11

**Total Pathway Hazard Index**

2E-03

Chemical	Average Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
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**Offsite 30-year Residents  
(Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust**

1,1-DICHLOROETHANE	7E-15	No	1.0E-01	7E-14
1,2,4-TRIMETHYLBENZENE	8E-15	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	8E-15	No	ND	-
ALDRIN	5E-15	No	3E-05	2E-10
ALPHA ENDOSULFAN	2E-15	No	6.0E-03	3E-13
ALUMINUM	1E-08	No	ND	-
BARIUM	7E-11	No	1.0E-03	7E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-15	No	3.0E-04	1E-11
BETA ENDOSULFAN	5E-15	No	6.0E-03	8E-13
CHROMIUM, TOTAL	2E-11	No	1.1E-06	2E-05
cis-1,2-DICHLOROETHYLENE	1E-14	No	1.0E-02	1E-12
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-16	No	3.0E-04	2E-12
DIELDRIN	4E-15	No	5E-05	8E-11
ENDRIN ALDEHYDE	2E-14	No	3.0E-04	7E-11
HEPTACHLOR	1E-15	No	5.0E-04	2E-12
MANGANESE	6E-10	No	1.0E-05	6E-05
MOLYBDENUM	1E-11	No	5.0E-03	2E-09
NAPHTHALENE	1E-13	No	4.0E-02	2E-12
p,p'-DDD	4E-15	No	5.0E-04	8E-12
p,p'-DDE	1E-15	No	5.0E-04	2E-12

**Total Pathway Hazard Index**

8E-05

**Total Hazard Index**

3E-03

- \* = Not designated as a carcinogen by the U.S. EPA.
- ND = No Data
- N/A = Not Applicable
- = Not Calculated

**APPENDIX H-5  
REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES  
Current Land Use  
Recreational Users**

Chemical	Reasonable Maximum Exposure ( ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Recreational Users Dermal Absorption of Chemicals in Surface Water (from Little Choconut Creek)</b>				
ARSENIC	1E-07	Yes	2.9E-04	3E-04
BARIUM	3E-06	Yes	3.5E-03	9E-04
bis(2-ETHYLHEXYL) PHTHALATE	1E-07	Yes	4.6E-03	2E-05
BROMODICHLOROMETHANE	1E-07	Yes	2.0E-02	5E-06
BROMOFORM	1E-07	Yes	2.0E-02	5E-06
CHLOROFORM	1E-06	Yes	9.6E-03	1E-04
CHROMIUM, TOTAL	5E-07	Yes	6.5E-05	8E-03
COPPER	6E-07	Yes	1.9E-02	3E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-11	Yes	2.8E-04	3E-07
DIBROMOCHLOROMETHANE	4E-08	Yes	2.0E-02	2E-06
DICHLORODIFLUOROMETHANE	2E-07	Yes	2.0E-01	1E-06
ENDOSULFAN SULFATE	4E-10	Yes	4.9E-03	8E-08
ENDRIN	2E-09	Yes	3.0E-04	7E-06
GAMMA BHC (LINDANE)	5E-10	Yes	3.0E-04	2E-06
HEPTACHLOR EPOXIDE	1E-09	Yes	1.0E-05	1E-04
MANGANESE	1E-06	Yes	1.5E-04	7E-03
p,p'-DDD	2E-07	Yes	4.0E-05	5E-03
ZINC	8E-07	Yes	7.5E-02	1E-05
<b>Total Pathway Hazard Index</b>				2E-02

Chemical	Reasonable Maximum Exposure ( CDI) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Recreational Users Ingestion of Contaminated Fish (from Little Choconut Creek)</b>				
ARSENIC	2E-05	No	3.0E-04	7E-02

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BARIUM	5E-03	No	7.0E-02	7E-02
bis(2-ETHYLHEXYL) PHTHALATE	2E-03	No	2.0E-02	1E-01
BROMODICHLOROMETHANE	4E-07	No	2.0E-02	2E-05
BROMOFORM	3E-05	No	2.0E-02	2E-03
CHLOROFORM	2E-06	No	1.0E-02	2E-04
CHROMIUM, TOTAL	4E-06	No	5.0E-03	8E-04
COPPER	5E-04	No	3.7E-02	1E-02
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-07	No	3.0E-04	1E-03
DIBROMOCHLOROMETHANE	8E-07	No	2.0E-02	4E-05
DICHLORODIFLUOROMETHANE	7E-06	No	2.0E-01	3E-05
ENDOSULFAN SULFATE	7E-08	No	6.0E-03	1E-05
ENDRIN	2E-06	No	3.0E-04	7E-03
GAMMA BHC (LINDANE)	3E-06	No	3.0E-04	1E-02
HEPTACHLOR EPOXIDE	1E-05	No	1.3E-05	8E-01
MANGANESE	9E-03	No	5.0E-03	2E+00
p,p'-DDD	2E-04	No	5.0E-04	4E-01
ZINC	2E-02	No	3.0E-01	7E-02

**Total Pathway Hazard Index**

4E+00

**Total Hazard Index**

4E+00

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 ND = No Data  
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 - = Not Calculated



**APPENDIX H-5**  
**REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES**  
**Current Land Use**  
**Recreational Users**

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Recreational Users</b> <b>Ingestion of Contaminated Fish (from Background for Little Choconut Creek)</b>				
ARSENIC	1E-05	No	3.0E-04	3E-02
BARIUM	1E-03	No	7.0E-02	1E-02
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-07	No	3.0E-04	3E-04
GAMMA BHC (LINDANE)	6E-07	No	3.0E-04	2E-03
MANGANESE	1E-03	No	5.0E-03	2E-01
ZINC	2E-02	No	3.0E-01	7E-02
<b>Total Pathway Hazard Index</b>				3E-01
<b>Total Hazard Index</b>				3E-01

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**APPENDIX H-5**  
**REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Industrial Workers**

Chemical	Reasonable Maximum Exposure ( ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers</b> <b>Plating Room - Dermal Absorption of Chemicals in Surface Soil</b>				
ACETONE	2E-06	Yes	7.9E-02	3E-05
ALDRIN	8E-11	Yes	1.5E-05	5E-06
ALPHA ENDOSULFAN	2E-09	Yes	4.7E-03	4E-07
ARSENIC	2E-06	Yes	2.9E-04	7E-03
BARIUM	9E-06	Yes	3.5E-03	3E-03
BENZO(a)ANTHRACENE	2E-07	Yes	1.9E-02	1E-05
BERYLLIUM	1E-07	Yes	2.5E-05	4E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-10	Yes	2.7E-04	2E-06
BETA ENDOSULFAN	1E-09	Yes	5.1E-03	2E-07
bis(2-ETHYLHEXYL) PHTHALATE	8E-07	Yes	4.6E-03	2E-04
CADMIUM	7E-07	Yes	2.7E-05	3E-02
CHROMIUM, TOTAL	1E-05	Yes	6.5E-05	2E-01
CHRYSENE	1E-07	Yes	9.6E-03	1E-05
COBALT	1E-06	Yes	ND	-
COPPER	1E-05	Yes	1.9E-02	5E-04
CYANIDE	1E-07	Yes	9.4E-03	1E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-10	Yes	2.8E-04	7E-07
DIELDRIN	2E-10	Yes	2.5E-05	8E-06
ENDOSULFAN SULFATE	3E-09	Yes	4.9E-03	6E-07
FLUORANTHENE	2E-07	Yes	1.9E-02	1E-05
GAMMA BHC (LINDANE)	2E-10	Yes	3.0E-04	7E-07
MANGANESE	8E-05	Yes	1.5E-04	5E-01
MERCURY	2E-08	Yes	4.5E-05	4E-04
METHOXYCHLOR	9E-09	Yes	4.8E-03	2E-06
METHYLENE CHLORIDE	2E-08	Yes	5.9E-02	3E-07
MOLYBDENUM	8E-04	Yes	2.5E-04	3E+00
NICKEL	1E-05	Yes	1.1E-03	9E-03
p,p'-DDD	2E-09	Yes	4.0E-05	5E-05
p,p'-DDT	1E-09	Yes	4.0E-05	3E-05
PYRENE	1E-07	Yes	2.3E-02	4E-06
TETRACHLOROETHYLENE(PCE)	6E-09	Yes	1.0E-02	6E-07
TRICHLOROETHYLENE (TCE)	7E-08	Yes	5.8E-03	1E-05
VANADIUM	2E-06	Yes	1.8E-04	1E-02
ZINC	3E-05	Yes	7.5E-02	4E-04
<b>Total Pathway Hazard Index</b>				<b>4E+00</b>

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 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Plating Room - Incidental Ingestion of Chemicals in Surface Soil</b>				
ACETONE	7E-08	No	1.0E-01	7E-07
ALDRIN	7E-12	No	3E-05	2E-07
ALPHA ENDOSULFAN	2E-10	No	6.0E-03	3E-08
ARSENIC	2E-06	No	3.0E-04	7E-03
BARIUM	7E-06	No	7.0E-02	1E-04
BENZO(a)ANTHRACENE	1E-08	No	4.0E-02	2E-07
BERYLLIUM	8E-08	No	5.0E-03	2E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	5E-11	No	3.0E-04	2E-07
BETA ENDOSULFAN	1E-10	No	6.0E-03	2E-08
bis(2-ETHYLHEXYL) PHTHALATE	7E-08	No	2.0E-02	4E-06
CADMIUM	6E-07	No	5.0E-04	1E-03
CHROMIUM, TOTAL	1E-05	No	5.0E-03	2E-03
CHRYSENE	1E-08	No	4.0E-02	2E-07
COBALT	9E-07	No	ND	-
COPPER	1E-05	No	3.7E-02	3E-04
CYANIDE	1E-07	No	2.0E-02	5E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-11	No	3.0E-04	7E-08
DIELDRIN	2E-11	No	5E-05	4E-07
ENDOSULFAN SULFATE	3E-10	No	6.0E-03	5E-08
FLUORANTHENE	2E-08	No	4.0E-02	5E-07
GAMMA BHC (LINDANE)	2E-11	No	3.0E-04	7E-08
MANGANESE	7E-05	No	5.0E-03	1E-02
MERCURY	1E-08	No	3.0E-04	3E-05
METHOXYCHLOR	7E-10	No	5.3E-03	1E-07
METHYLENE CHLORIDE	7E-10	No	6.0E-02	1E-08
MOLYBDENUM	7E-04	No	5.0E-03	1E-01
NICKEL	1E-05	No	2.0E-02	5E-04
p,p'-DDD	2E-10	No	5.0E-04	4E-07
p,p'-DDT	1E-10	No	5.0E-04	2E-07
PYRENE	1E-08	No	3.0E-02	3E-07
TETRACHLOROETHYLENE(PCE)	2E-10	No	1.0E-02	2E-08
TRICHLOROETHYLENE (TCE)	2E-09	No	6.0E-03	3E-07
VANADIUM	2E-06	No	7.0E-03	3E-04
ZINC	2E-05	No	3.0E-01	7E-05
<b>Total Pathway Hazard Index</b>				1E-01

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 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure (ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Reservoir - Dermal Absorption of Chemicals in Surface Soil</b>				
ALDRIN	3E-09	Yes	1.5E-05	2E-04
ALPHA ENDOSULFAN	4E-10	Yes	4.7E-03	9E-08
ALUMINUM	3E-03	Yes	ND	-
BENZO(a)ANTHRACENE	4E-07	Yes	1.9E-02	2E-05
BENZO(a)PYRENE	3E-07	Yes	1.9E-02	2E-05
BENZO(b)FLUORANTHENE	5E-07	Yes	1.9E-02	3E-05
BETA ENDOSULFAN	6E-10	Yes	5.1E-03	1E-07
bis(2-ETHYLHEXYL) PHTHALATE	4E-07	Yes	4.6E-03	9E-05
CHROMIUM, TOTAL	3E-06	Yes	6.5E-05	5E-02
CHRYSENE	4E-07	Yes	9.6E-03	4E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-09	Yes	2.8E-04	7E-06
Di-n-BUTYL PHTHALATE	2E-07	Yes	2.3E-02	9E-06
DIELDRIN	7E-09	Yes	2.5E-05	3E-04
ENDOSULFAN SULFATE	6E-09	Yes	4.9E-03	1E-06
ENDRIN	1E-09	Yes	3.0E-04	3E-06
ENDRIN ALDEHYDE	3E-08	Yes	3.0E-04	1E-04
FLUORANTHENE	6E-07	Yes	1.9E-02	3E-05
GAMMA BHC (LINDANE)	8E-10	Yes	3.0E-04	3E-06
HEPTACHLOR	4E-09	Yes	3.9E-04	1E-05
HEPTACHLOR EPOXIDE	9E-09	Yes	1.0E-05	9E-04
MANGANESE	8E-05	Yes	1.5E-04	5E-01
METHOXYCHLOR	3E-09	Yes	4.8E-03	6E-07
MOLYBDENUM	3E-06	Yes	2.5E-04	1E-02
p,p'-DDD	1E-09	Yes	4.0E-05	3E-05
p,p'-DDE	2E-09	Yes	4.0E-05	5E-05
p,p'-DDT	2E-09	Yes	4.0E-05	5E-05
PHENANTHRENE	1E-07	Yes	1.9E-02	5E-06
PYRENE	5E-07	Yes	2.3E-02	2E-05
TRICHLOROETHYLENE (TCE)	4E-08	Yes	5.8E-03	7E-06
<b>Total Pathway Hazard Index</b>				<b>6E-01</b>

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 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Reservoir - Incidental Ingestion of Chemicals in Surface Soil</b>				
ALDRIN	2E-10	No	3E-05	7E-06
ALPHA ENDOSULFAN	3E-11	No	6.0E-03	5E-09
ALUMINUM	2E-03	No	ND	-
BENZO(a)ANTHRACENE	3E-08	No	4.0E-02	7E-07
BENZO(a)PYRENE	2E-08	No	4.0E-02	5E-07
BENZO(b)FLUORANTHENE	5E-08	No	4.0E-02	1E-06
BETA ENDOSULFAN	5E-11	No	6.0E-03	8E-09
bis(2-ETHYLHEXYL) PHTHALATE	3E-08	No	2.0E-02	1E-06
CHROMIUM, TOTAL	3E-06	No	5.0E-03	6E-04
CHRYSENE	3E-08	No	4.0E-02	7E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-10	No	3.0E-04	3E-07
DI-n-BUTYL PHTHALATE	1E-08	No	1.0E-01	1E-07
DIELDRIN	6E-10	No	5E-05	1E-05
ENDOSULFAN SULFATE	5E-10	No	6.0E-03	8E-08
ENDRIN	1E-10	No	3.0E-04	3E-07
ENDRIN ALDEHYDE	2E-09	No	3.0E-04	7E-06
FLUORANTHENE	5E-08	No	4.0E-02	1E-06
GAMMA BHC (LINDANE)	7E-11	No	3.0E-04	2E-07
HEPTACHLOR	3E-10	No	5.0E-04	6E-07
HEPTACHLOR EPOXIDE	8E-10	No	1.3E-05	6E-05
MANGANESE	7E-05	No	5.0E-03	1E-02
METHOXYCHLOR	3E-10	No	5.3E-03	6E-08
MOLYBDENUM	3E-06	No	5.0E-03	6E-04
p,p'-DDD	1E-10	No	5.0E-04	2E-07
p,p'-DDE	2E-10	No	5.0E-04	4E-07
p,p'-DDT	2E-10	No	5.0E-04	4E-07
PHENANTHRENE	1E-08	No	4.0E-02	2E-07
PYRENE	5E-08	No	3.0E-02	2E-06
TRICHLOROETHYLENE (TCE)	1E-09	No	6.0E-03	2E-07
<b>Total Pathway Hazard Index</b>				1E-02

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 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Waste Oil Tanks - Dermal Absorption of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	9E-09	Yes	1.0E-01	9E-08
1,2,4-TRIMETHYLBENZENE	1E-08	Yes	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-08	Yes	ND	-
ALDRIN	9E-10	Yes	1.5E-05	6E-05
ALPHA ENDOSULFAN	6E-10	Yes	4.7E-03	1E-07
ALUMINUM	2E-03	Yes	ND	-
BARIUM	1E-05	Yes	3.5E-03	3E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-09	Yes	2.7E-04	7E-06
BETA ENDOSULFAN	8E-10	Yes	5.1E-03	2E-07
CHROMIUM, TOTAL	3E-06	Yes	6.5E-05	5E-02
cis-1,2-DICHLOROETHYLENE	6E-08	Yes	1.0E-02	6E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-09	Yes	2.8E-04	7E-06
DIELDRIN	7E-09	Yes	2.5E-05	3E-04
ENDRIN ALDEHYDE	8E-08	Yes	3.0E-04	3E-04
HEPTACHLOR	2E-10	Yes	3.9E-04	5E-07
MANGANESE	1E-04	Yes	1.5E-04	7E-01
MOLYBDENUM	3E-06	Yes	2.5E-04	1E-02
NAPHTHALENE	3E-07	Yes	1.9E-02	2E-05
p,p'-DDD	1E-08	Yes	4.0E-05	3E-04
p,p'-DDE	2E-09	Yes	4.0E-05	5E-05
<b>Total Pathway Hazard Index</b>				8E-01

Chemical	Reasonable Maximum Exposure ( CDI) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers Waste Oil Tanks - Incidental Ingestion of Chemicals in Surface Soil</b>				
1,1-DICHLOROETHANE	3E-10	No	1.0E-01	3E-09
1,2,4-TRIMETHYLBENZENE	4E-10	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	7E-10	No	ND	-
ALDRIN	8E-11	No	3E-05	3E-06

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ALPHA ENDOSULFAN	5E-11	No	6.0E-03	8E-09
ALUMINUM	2E-03	No	ND	-
BARIUM	1E-05	No	7.0E-02	1E-04
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-10	No	3.0E-04	7E-07
BETA ENDOSULFAN	7E-11	No	6.0E-03	1E-08
CHROMIUM, TOTAL	2E-06	No	5.0E-03	4E-04
cis-1,2-DICHLOROETHYLENE	2E-09	No	1.0E-02	2E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-10	No	3.0E-04	7E-07
DIELDRIN	6E-10	No	5E-05	1E-05
ENDRIN ALDEHYDE	7E-09	No	3.0E-04	2E-05
HEPTACHLOR	2E-11	No	5.0E-04	4E-08
MANGANESE	1E-04	No	5.0E-03	2E-02
MOLYBDENUM	2E-06	No	5.0E-03	4E-04
NAPHTHALENE	2E-08	No	4.0E-02	5E-07
p,p'-DDD	9E-10	No	5.0E-04	2E-06
p,p'-DDE	2E-10	No	5.0E-04	4E-07

**Total Pathway Hazard Index**

2E-02

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
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**Onsite Industrial Workers  
Ingestion of Chemicals in Drinking Water (from Groundwater - Deep Zone)**

1,1,1-TRICHLOROETHANE	9E-06	No	2.5E-01	4E-05
1,1-DICHLOROETHANE	4E-05	No	1.0E-01	4E-04
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-05	No	ND	-
ALDRIN	5E-08	No	3E-05	2E-03
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-07	No	3.0E-04	3E-04
ALPHA ENDOSULFAN	3E-08	No	6.0E-03	5E-06
ALUMINUM	2E-02	No	ND	-
ARSENIC	2E-04	No	3.0E-04	7E-01
BARIUM	4E-03	No	7.0E-02	6E-02
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-07	No	3.0E-04	7E-04
BETA ENDOSULFAN	1E-07	No	6.0E-03	2E-05
CHLOROMETHANE	5E-06	No	ND	-
cis-1,2-DICHLOROETHYLENE	6E-04	No	1.0E-02	6E-02
COPPER	6E-05	No	3.7E-02	2E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-07	No	3.0E-04	7E-04
ENDOSULFAN SULFATE	1E-07	No	6.0E-03	2E-05
ENDRIN	2E-08	No	3.0E-04	7E-05
ENDRIN ALDEHYDE	6E-08	No	3.0E-04	2E-04
ETHYLBENZENE	8E-07	No	1.0E-01	8E-06
GAMMA BHC (LINDANE)	2E-08	No	3.0E-04	7E-05
HEPTACHLOR EPOXIDE	1E-07	No	1.3E-05	8E-03
MANGANESE	3E-02	No	5.0E-03	6E+00
METHOXYCHLOR	2E-06	No	5.3E-03	4E-04

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p,p'-DDD	4E-08	No	5.0E-04	8E-05
p,p'-DDE	3E-06	No	5.0E-04	6E-03
p,p'-DDT	3E-07	No	5.0E-04	6E-04
THALLIUM	9E-04	No	8.0E-05	1E+01
TRICHLOROETHYLENE (TCE)	4E-05	No	6.0E-03	7E-03
VANADIUM	1E-04	No	7.0E-03	1E-02
VINYL CHLORIDE	5E-06	No	ND	-
XYLENES, TOTAL	4E-06	No	2.0E+00	2E-06
ZINC	7E-04	No	3.0E-01	2E-03
<b>Total Pathway Hazard Index</b>				<b>2E+01</b>

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers</b>				
<b>Ingestion of Chemicals in Drinking Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	1E-04	No	2.5E-01	4E-04
1,1-DICHLOROETHANE	5E-04	No	1.0E-01	5E-03
1,1-DICHLOROETHENE	3E-05	No	9.0E-03	3E-03
1,2,4-TRIMETHYLBENZENE	3E-04	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	7E-04	No	ND	-
ALDRIN	3E-08	No	3E-05	1E-03
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-08	No	3.0E-04	3E-05
ALPHA ENDOSULFAN	3E-08	No	6.0E-03	5E-06
ALUMINUM	1E-01	No	ND	-
ARSENIC	2E-04	No	3.0E-04	7E-01
BARIUM	7E-03	No	7.0E-02	1E-01
BERYLLIUM	2E-05	No	5.0E-03	4E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-07	No	3.0E-04	7E-04
BETA ENDOSULFAN	8E-08	No	6.0E-03	1E-05
BROMODICHLOROMETHANE	5E-06	No	2.0E-02	3E-04
CARBON TETRACHLORIDE	2E-06	No	7.0E-04	3E-03
CHLOROETHANE	6E-05	No	3.0E+00	2E-05
CHLOROFORM	7E-06	No	1.0E-02	7E-04
CHROMIUM, TOTAL	5E-04	No	5.0E-03	1E-01
cis-1,2-DICHLOROETHYLENE	2E-03	No	1.0E-02	2E-01
COPPER	1E-03	No	3.7E-02	3E-02
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-07	No	3.0E-04	3E-04
DI-n-BUTYL PHTHALATE	1E-05	No	1.0E-01	1E-04
DIELDRIN	2E-08	No	5E-05	4E-04
ENDOSULFAN SULFATE	3E-08	No	6.0E-03	5E-06
ENDRIN	1E-07	No	3.0E-04	3E-04
ENDRIN ALDEHYDE	1E-07	No	3.0E-04	3E-04
ETHYLBENZENE	8E-07	No	1.0E-01	8E-06
GAMMA BHC (LINDANE)	8E-08	No	3.0E-04	3E-04
HEPTACHLOR	4E-08	No	5.0E-04	8E-05

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HEPTACHLOR EPOXIDE	7E-08	No	1.3E-05	5E-03
ISOPROPYLBENZENE (CUMENE)	2E-05	No	4.0E-02	5E-04
MANGANESE	8E-02	No	5.0E-03	2E+01
METHOXYCHLOR	2E-07	No	5.3E-03	4E-05
n-PROPYLBENZENE	2E-05	No	ND	-
NAPHTHALENE	4E-06	No	4.0E-02	1E-04
NICKEL	9E-04	No	2.0E-02	4E-02
p,p'-DDD	2E-07	No	5.0E-04	4E-04
p,p'-DDE	6E-08	No	5.0E-04	1E-04
p,p'-DDT	1E-08	No	5.0E-04	2E-05
SILVER	2E-04	No	5.0E-03	4E-02
TOLUENE	6E-06	No	2.0E-01	3E-05
trans-1,2-DICHLOROETHENE	4E-06	No	2.0E-02	2E-04
TRICHLOROETHYLENE (TCE)	3E-03	No	6.0E-03	5E-01
TRICHLOROFUOROMETHANE	2E-05	No	3.0E-01	7E-05
VANADIUM	2E-04	No	7.0E-03	3E-02
VINYL CHLORIDE	1E-04	No	ND	-
XYLENES, TOTAL	3E-05	No	2.0E+00	2E-05
ZINC	7E-04	No	3.0E-01	2E-03
<b>Total Pathway Hazard Index</b>				2E+01

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-08	No	2.5E-01	8E-08
ACETONE	2E-06	No	1.0E-01	2E-05
BROMOMETHANE	1E-07	No	1.4E-03	7E-05
DIBENZOFURAN	2E-09	No	ND	-
DICHLORODIFLUOROMETHANE	6E-11	No	5.0E-01	1E-10
METHYLENE CHLORIDE	7E-08	No	9.0E-01	8E-08
TETRACHLOROETHYLENE(PCE)	6E-09	No	1.0E-02	6E-07
TRICHLOROETHYLENE (TCE)	1E-07	No	6.0E-03	2E-05
<b>Total Pathway Hazard Index</b>				1E-04

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	7E-09 5E-08	No No	2.5E-01 6.0E-03	3E-08 8E-06
<b>Total Pathway Hazard Index</b>				8E-06

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	7E-09	No	2.5E-01	3E-08
1,1-DICHLOROETHANE	2E-08	No	1.0E-01	2E-07
1,2,4-TRIMETHYLBENZENE	5E-10	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	7E-10	No	ND	-
CHLOROETHANE	4E-08	No	3.0E+00	1E-08
cis-1,2-DICHLOROETHYLENE	4E-08	No	1.0E-02	4E-06
DIBENZOFURAN	2E-08	No	ND	-
ETHYLBENZENE	2E-09	No	2.9E-01	7E-09
ISOPROPYLBENZENE (CUMENE)	8E-11	No	3.0E-03	3E-08
n-BUTYLBENZENE	2E-07	No	ND	-
n-PROPYLBENZENE	1E-08	No	ND	-
P-CYMENE (p-ISOPROPYLTOLUENE)	3E-08	No	ND	-
SEC-BUTYLBENZENE	4E-08	No	ND	-
TOLUENE	3E-09	No	1.0E-01	3E-08
TRICHLOROETHYLENE (TCE)	6E-08	No	6.0E-03	1E-05
VINYL CHLORIDE	1E-07	No	ND	-
XYLENES, TOTAL	1E-08	No	2.0E+00	5E-09

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 - = Not Calculated

Total Pathway Hazard Index

1E-05

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	1E-11	No	1.0E-01	1E-10
ALDRIN	1E-15	No	3E-05	3E-11
ALPHA ENDOSULFAN	3E-14	No	6.0E-03	5E-12
ARSENIC	3E-10	No	3.0E-04	1E-06
BARIUM	1E-09	No	1.0E-03	1E-06
BENZO(a)ANTHRACENE	3E-12	No	4.0E-02	7E-11
BERYLLIUM	2E-11	No	5.0E-03	4E-09
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	9E-15	No	3.0E-04	3E-11
BETA ENDOSULFAN	2E-14	No	6.0E-03	3E-12
bis(2-ETHYLHEXYL) PHTHALATE	1E-11	No	2.0E-02	5E-10
CADMIUM	1E-10	No	5.0E-04	2E-07
CHROMIUM, TOTAL	2E-09	No	1.1E-06	2E-03
CHRYSENE	2E-12	No	4.0E-02	5E-11
COBALT	2E-10	No	ND	-
COPPER	2E-09	No	3.7E-02	5E-08
CYANIDE	2E-11	No	2.0E-02	1E-09
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-15	No	3.0E-04	1E-11
DIELDRIN	3E-15	No	5E-05	6E-11
ENDOSULFAN SULFATE	5E-14	No	6.0E-03	8E-12
FLUORANTHENE	3E-12	No	4.0E-02	7E-11
GAMMA BHC (LINDANE)	3E-15	No	3.0E-04	1E-11
MANGANESE	1E-08	No	1.0E-05	1E-03
MERCURY	2E-12	No	9.0E-05	2E-08
METHOXYCHLOR	1E-13	No	5.3E-03	2E-11
METHYLENE CHLORIDE	1E-13	No	9.0E-01	1E-13
MOLYBDENUM	1E-07	No	5.0E-03	2E-05
NICKEL	2E-09	No	2.0E-02	1E-07
p,p'-DDD	3E-14	No	5.0E-04	6E-11
p,p'-DDT	2E-14	No	5.0E-04	4E-11
PYRENE	2E-12	No	3.0E-02	7E-11
TETRACHLOROETHYLENE(PCE)	4E-14	No	1.0E-02	4E-12
TRICHLOROETHYLENE (TCE)	4E-13	No	6.0E-03	7E-11
VANADIUM	3E-10	No	7.0E-03	4E-08
ZINC	4E-09	No	3.0E-01	1E-08

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 - = Not Calculated

<b>Total Pathway Hazard Index</b>				3E-03
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Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	5E-14	No	3E-05	2E-09
ALPHA ENDOSULFAN	6E-15	No	6.0E-03	1E-12
ALUMINUM	4E-07	No	ND	-
BENZO(a)ANTHRACENE	6E-12	No	4.0E-02	1E-10
BENZO(a)PYRENE	4E-12	No	4.0E-02	1E-10
BENZO(b)FLUORANTHENE	9E-12	No	4.0E-02	2E-10
BETA ENDOSULFAN	9E-15	No	6.0E-03	1E-12
bis(2-ETHYLHEXYL) PHTHALATE	6E-12	No	2.0E-02	3E-10
CHROMIUM, TOTAL	5E-10	No	1.1E-06	5E-04
CHRYSENE	6E-12	No	4.0E-02	1E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-14	No	3.0E-04	1E-10
DI-n-BUTYL PHTHALATE	3E-12	No	1.0E-01	3E-11
DIELDRIN	1E-13	No	5E-05	2E-09
ENDOSULFAN SULFATE	1E-13	No	6.0E-03	2E-11
ENDRIN	2E-14	No	3.0E-04	7E-11
ENDRIN ALDEHYDE	4E-13	No	3.0E-04	1E-09
FLUORANTHENE	9E-12	No	4.0E-02	2E-10
GAMMA BHC (LINDANE)	1E-14	No	3.0E-04	3E-11
HEPTACHLOR	7E-14	No	5.0E-04	1E-10
HEPTACHLOR EPOXIDE	2E-13	No	1.3E-05	2E-08
MANGANESE	1E-08	No	1.0E-05	1E-03
METHOXYCHLOR	5E-14	No	5.3E-03	9E-12
MOLYBDENUM	6E-10	No	5.0E-03	1E-07
p,p'-DDD	2E-14	No	5.0E-04	4E-11
p,p'-DDE	3E-14	No	5.0E-04	6E-11
p,p'-DDT	4E-14	No	5.0E-04	8E-11
PHENANTHRENE	2E-12	No	4.0E-02	5E-11
PYRENE	9E-12	No	3.0E-02	3E-10
TRICHLOROETHYLENE (TCE)	3E-13	No	6.0E-03	5E-11
<b>Total Pathway Hazard Index</b>				2E-03

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Industrial Workers (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	7E-14	No	1.0E-01	7E-13
1,2,4-TRIMETHYLBENZENE	1E-13	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-13	No	ND	-
ALDRIN	2E-14	No	3E-05	7E-10
ALPHA ENDOSULFAN	1E-14	No	6.0E-03	2E-12
ALUMINUM	4E-07	No	ND	-
BARIUM	3E-09	No	1.0E-03	3E-06
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	4E-14	No	3.0E-04	1E-10
BETA ENDOSULFAN	1E-14	No	6.0E-03	2E-12
CHROMIUM, TOTAL	5E-10	No	1.1E-06	5E-04
cis-1,2-DICHLOROETHYLENE	5E-13	No	1.0E-02	5E-11
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-14	No	3.0E-04	1E-10
DIELDRIN	1E-13	No	5E-05	2E-09
ENDRIN ALDEHYDE	2E-12	No	3.0E-04	7E-09
HEPTACHLOR	4E-15	No	5.0E-04	8E-12
MANGANESE	3E-08	No	1.0E-05	3E-03
MOLYBDENUM	5E-10	No	5.0E-03	1E-07
NAPHTHALENE	6E-12	No	4.0E-02	1E-10
p,p'-DDD	2E-13	No	5.0E-04	4E-10
p,p'-DDE	4E-14	No	5.0E-04	8E-11
<b>Total Pathway Hazard Index</b>				4E-03
<b>Total Hazard Index</b>				5E+01

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**APPENDIX H-5**  
**REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Reasonable Maximum Exposure ( ASD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers</b> <b>Plating Room - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-07	Yes	2.4E-01	4E-07
ACENAPHTHENE	9E-07	Yes	2.9E-01	3E-06
ACETONE	6E-06	Yes	7.9E-01	8E-06
ALDRIN	2E-10	Yes	1.5E-05	1E-05
ALPHA ENDOSULFAN	6E-09	Yes	4.7E-03	1E-06
ANTHRACENE	1E-06	Yes	1.9E+00	5E-07
BENZO(a)ANTHRACENE	2E-06	Yes	1.9E-02	1E-04
BENZO(a)PYRENE	2E-06	Yes	1.9E-02	1E-04
BENZO(b)FLUORANTHENE	2E-06	Yes	1.9E-02	1E-04
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-09	Yes	2.7E-03	7E-07
BETA ENDOSULFAN	3E-09	Yes	5.1E-03	6E-07
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	Yes	4.6E-03	4E-04
BROMOMETHANE	2E-07	Yes	1.4E-03	1E-04
CADMIUM	1E-06	Yes	2.7E-05	4E-02
CHRYSENE	3E-06	Yes	9.6E-03	3E-04
CYANIDE	3E-07	Yes	9.4E-03	3E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	6E-10	Yes	2.8E-03	2E-07
DIBENZOFURAN	2E-07	Yes	ND	-
DICHLORODIFLUOROMETHANE	2E-08	Yes	9.0E-01	2E-08
DIELDRIN	1E-09	Yes	2.5E-05	4E-05
ENDOSULFAN SULFATE	9E-09	Yes	4.9E-03	2E-06
FLUORANTHENE	2E-06	Yes	1.9E-01	1E-05
FLUORENE	6E-07	Yes	1.9E-01	3E-06
GAMMA BHC (LINDANE)	1E-09	Yes	3.0E-03	3E-07
HEPTACHLOR	2E-10	Yes	3.9E-04	5E-07
MERCURY	7E-08	Yes	4.5E-05	2E-03
METHOXYCHLOR	7E-08	Yes	4.8E-03	1E-05
METHYLENE CHLORIDE	1E-07	Yes	5.9E-02	2E-06
MOLYBDENUM	1E-04	Yes	2.5E-04	4E-01
p,p'-DDD	1E-08	Yes	4.0E-05	3E-04
p,p'-DDT	3E-09	Yes	4.0E-05	7E-05
PCB-1254 (AROCHLOR 1254)	4E-07	Yes	1.8E-05	2E-02
PHENANTHRENE	2E-06	Yes	1.9E-02	1E-04
PYRENE	2E-06	Yes	2.3E-01	9E-06
TETRACHLOROETHYLENE(PCE)	2E-08	Yes	1.0E-01	2E-07
TRICHLOROETHYLENE (TCE)	4E-07	Yes	5.8E-03	7E-05

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 - = Not Calculated

Total Pathway Hazard Index

5E-01

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers Plating Room - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	4E-08	No	2.5E-01	2E-07
ACENAPHTHENE	7E-07	No	6.0E-01	1E-06
ACETONE	2E-06	No	1.0E+00	2E-06
ALDRIN	2E-10	No	3E-05	7E-06
ALPHA ENDOSULFAN	5E-09	No	6.0E-03	8E-07
ANTHRACENE	1E-06	No	3.0E+00	3E-07
BENZO(a)ANTHRACENE	2E-06	No	4.0E-02	5E-05
BENZO(a)PYRENE	1E-06	No	4.0E-02	2E-05
BENZO(b)FLUORANTHENE	2E-06	No	4.0E-02	5E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-09	No	3.0E-03	3E-07
BETA ENDOSULFAN	3E-09	No	6.0E-03	5E-07
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	No	2.0E-02	1E-04
BROMOMETHANE	7E-08	No	1.4E-03	5E-05
CADMIUM	1E-05	No	5.0E-04	2E-02
CHRYSENE	2E-06	No	4.0E-02	5E-05
CYANIDE	3E-06	No	2.0E-02	2E-04
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-10	No	3.0E-03	2E-07
DIBENZOFURAN	2E-07	No	ND	-
DICHLORODIFLUOROMETHANE	7E-09	No	9.0E-01	8E-09
DIELDRIN	9E-10	No	5E-05	2E-05
ENDOSULFAN SULFATE	8E-09	No	6.0E-03	1E-06
FLUORANTHENE	2E-06	No	4.0E-01	5E-06
FLUORENE	5E-07	No	4.0E-01	1E-06
GAMMA BHC (LINDANE)	9E-10	No	3.0E-03	3E-07
HEPTACHLOR	2E-10	No	5.0E-04	4E-07
MERCURY	6E-07	No	3.0E-04	2E-03
METHOXYCHLOR	6E-08	No	5.3E-03	1E-05
METHYLENE CHLORIDE	4E-08	No	6.0E-02	7E-07
MOLYBDENUM	8E-04	No	5.0E-03	2E-01
p,p'-DDD	1E-08	No	5.0E-04	2E-05
p,p'-DDT	3E-09	No	5.0E-04	6E-06
PCB-1254 (AROCHLOR 1254)	3E-07	No	2.0E-05	1E-02
PHENANTHRENE	2E-06	No	4.0E-02	5E-05
PYRENE	2E-06	No	3.0E-01	7E-06
TETRACHLOROETHYLENE(PCE)	6E-09	No	1.0E-01	6E-08
TRICHLOROETHYLENE (TCE)	1E-07	No	6.0E-03	2E-05

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated



**Total Pathway Hazard Index**

2E-01

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	1E-03	No	2.5E-01	4E-03
ACETONE	5E-02	No	1.0E+00	5E-02
BROMOMETHANE	2E-03	No	1.4E-03	1E+00
DIBENZOFURAN	5E-03	No	ND	-
DICHLORODIFLUOROMETHANE	1E-04	No	5.0E-02	2E-03
METHYLENE CHLORIDE	1E-03	No	9.0E-01	1E-03
TETRACHLOROETHYLENE(PCE)	1E-04	No	1.0E-01	1E-03
TRICHLOROETHYLENE (TCE)	3E-03	No	6.0E-03	5E-01
<b>Total Pathway Hazard Index</b>				2E+00

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	7E-11	No	2.5E-01	3E-10
ACENAPHTHENE	1E-09	No	6.0E-01	2E-09
ACETONE	3E-09	No	1.0E+00	3E-09
ALDRIN	3E-13	No	3E-05	1E-08
ALPHA ENDOSULFAN	9E-12	No	6.0E-03	1E-09
ANTHRACENE	2E-09	No	3.0E+00	7E-10
BENZO(a)ANTHRACENE	3E-09	No	4.0E-02	7E-08
BENZO(a)PYRENE	2E-09	No	4.0E-02	5E-08
BENZO(b)FLUORANTHENE	3E-09	No	4.0E-02	7E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-12	No	3.0E-03	7E-10

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- = Not Calculated

BETA ENDOSULFAN	5E-12	No	6.0E-03	8E-10
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	No	6.0E-02	5E-08
BROMOMETHANE	1E-10	No	1.4E-03	7E-08
CADMIUM	2E-08	No	5.0E-04	4E-05
CHRYSENE	4E-09	No	4.0E-02	1E-07
CYANIDE	5E-09	No	2.0E-02	2E-07
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	8E-13	No	3.0E-03	3E-10
DIBENZOFURAN	3E-10	No	ND	-
DICHLORODIFLUOROMETHANE	1E-11	No	5.0E-02	2E-10
DIELDRIN	2E-12	No	5E-05	4E-08
ENDOSULFAN SULFATE	1E-11	No	6.0E-03	2E-09
FLUORANTHENE	3E-09	No	4.0E-01	7E-09
FLUORENE	9E-10	No	4.0E-01	2E-09
GAMMA BHC (LINDANE)	2E-12	No	3.0E-03	7E-10
HEPTACHLOR	3E-13	No	5.0E-04	6E-10
MERCURY	1E-09	No	9.0E-05	1E-05
METHOXYCHLOR	1E-10	No	5.3E-03	2E-08
METHYLENE CHLORIDE	6E-11	No	9.0E-01	7E-11
MOLYBDENUM	1E-06	No	5.0E-03	2E-04
p,p'-DDD	2E-11	No	5.0E-04	4E-08
p,p'-DDT	5E-12	No	5.0E-04	1E-08
PCB-1254 (AROCHLOR 1254)	6E-10	No	2.0E-05	3E-05
PHENANTHRENE	3E-09	No	4.0E-02	7E-08
PYRENE	3E-09	No	3.0E-01	1E-08
TETRACHLOROETHYLENE(PCE)	1E-11	No	1.0E-01	1E-10
TRICHLOROETHYLENE (TCE)	2E-10	No	6.0E-03	3E-08

**Total Pathway Hazard Index**

3E-04

**Total Hazard Index**

3E+00

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-5**  
**REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Reasonable Maximum Exposure ( ASD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers</b> <b>Reservoir - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	4E-08	Yes	2.4E-01	2E-07
ALDRIN	9E-09	Yes	1.5E-05	6E-04
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	6E-10	Yes	2.9E-03	2E-07
ALPHA ENDOSULFAN	5E-09	Yes	4.7E-03	1E-06
ANTHRACENE	8E-07	Yes	1.9E+00	4E-07
BENZO(a)ANTHRACENE	2E-06	Yes	1.9E-02	1E-04
BENZO(a)PYRENE	1E-06	Yes	1.9E-02	5E-05
BENZO(b)FLUORANTHENE	2E-06	Yes	1.9E-02	1E-04
BENZO(g,h,i)PERYLENE	9E-07	Yes	1.9E-02	5E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-09	Yes	2.7E-03	1E-06
BETA ENDOSULFAN	3E-08	Yes	5.1E-03	6E-06
bis(2-ETHYLHEXYL) PHTHALATE	1E-06	Yes	4.6E-03	2E-04
CHRYSENE	2E-06	Yes	9.6E-03	2E-04
COPPER	4E-05	Yes	1.9E-02	2E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-09	Yes	2.8E-03	1E-06
DI-n-BUTYL PHTHALATE	5E-07	Yes	2.3E-01	2E-06
DIELDRIN	2E-08	Yes	2.5E-05	8E-04
ENDOSULFAN SULFATE	2E-08	Yes	4.9E-03	4E-06
ENDRIN	1E-08	Yes	3.0E-04	3E-05
ENDRIN ALDEHYDE	8E-08	Yes	3.0E-04	3E-04
FLUORANTHENE	2E-06	Yes	1.9E-01	1E-05
FLUORENE	3E-07	Yes	1.9E-01	2E-06
GAMMA BHC (LINDANE)	2E-09	Yes	3.0E-03	7E-07
HEPTACHLOR	9E-09	Yes	3.9E-04	2E-05
HEPTACHLOR EPOXIDE	3E-08	Yes	1.0E-05	3E-03
INDENO(1,2,3-c,d)PYRENE	9E-07	Yes	1.9E-02	5E-05
MERCURY	1E-07	Yes	4.5E-05	2E-03
METHOXYCHLOR	1E-07	Yes	4.8E-03	2E-05
MOLYBDENUM	9E-06	Yes	2.5E-04	4E-02
p,p'-DDD	3E-08	Yes	4.0E-05	7E-04
p,p'-DDE	6E-09	Yes	4.0E-05	1E-04
p,p'-DDT	3E-08	Yes	4.0E-05	7E-04
PCB-1260 (AROCHLOR 1260)	2E-07	Yes	1.8E-05	1E-02
PHENANTHRENE	2E-06	Yes	1.9E-02	1E-04
PYRENE	2E-06	Yes	2.3E-01	9E-06
SELENIUM	3E-07	Yes	4.7E-03	6E-05
TRICHLOROETHYLENE (TCE)	2E-07	Yes	5.8E-03	3E-05
ZINC	2E-04	Yes	7.5E-02	3E-03

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 - = Not Calculated

Total Pathway Hazard Index

6E-02

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers Reservoir - Incidental Ingestion of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	1E-08	No	2.5E-01	4E-08
ALDRIN	7E-09	No	3E-05	2E-04
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	5E-10	No	3.0E-03	2E-07
ALPHA ENDOSULFAN	4E-09	No	6.0E-03	7E-07
ANTHRACENE	7E-07	No	3.0E+00	2E-07
BENZO(a)ANTHRACENE	2E-06	No	4.0E-02	5E-05
BENZO(a)PYRENE	1E-06	No	4.0E-02	2E-05
BENZO(b)FLUORANTHENE	2E-06	No	4.0E-02	5E-05
BENZO(g,h,i)PERYLENE	7E-07	No	4.0E-02	2E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-09	No	3.0E-03	1E-06
BETA ENDOSULFAN	2E-08	No	6.0E-03	3E-06
bis(2-ETHYLHEXYL) PHTHALATE	9E-07	No	2.0E-02	4E-05
CHRYSENE	2E-06	No	4.0E-02	5E-05
COPPER	3E-04	No	3.7E-02	8E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-09	No	3.0E-03	1E-06
DI-n-BUTYL PHTHALATE	4E-07	No	1.0E+00	4E-07
DIELDRIN	2E-08	No	5E-05	4E-04
ENDOSULFAN SULFATE	2E-08	No	6.0E-03	3E-06
ENDRIN	1E-08	No	3.0E-04	3E-05
ENDRIN ALDEHYDE	7E-08	No	3.0E-04	2E-04
FLUORANTHENE	2E-06	No	4.0E-01	5E-06
FLUORENE	2E-07	No	4.0E-01	5E-07
GAMMA BHC (LINDANE)	2E-09	No	3.0E-03	7E-07
HEPTACHLOR	7E-09	No	5.0E-04	1E-05
HEPTACHLOR EPOXIDE	2E-08	No	1.3E-05	2E-03
INDENO(1,2,3-c,d)PYRENE	8E-07	No	4.0E-02	2E-05
MERCURY	9E-07	No	3.0E-04	3E-03
METHOXYCHLOR	1E-07	No	5.3E-03	2E-05
MOLYBDENUM	8E-05	No	5.0E-03	2E-02
p,p'-DDD	3E-08	No	5.0E-04	6E-05
p,p'-DDE	5E-09	No	5.0E-04	1E-05
p,p'-DDT	2E-08	No	5.0E-04	4E-05
PCB-1260 (AROCHLOR 1260)	2E-07	No	2.0E-05	1E-02
PHENANTHRENE	2E-06	No	4.0E-02	5E-05
PYRENE	2E-06	No	3.0E-01	7E-06
SELENIUM	3E-06	No	5.0E-03	6E-04
TRICHLOROETHYLENE (TCE)	6E-08	No	6.0E-03	1E-05
ZINC	1E-03	No	3.0E-01	3E-03

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Total Pathway Hazard Index

5E-02

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	4E-04 2E-03	No No	2.5E-01 6.0E-03	2E-03 3E-01
<b>Total Pathway Hazard Index</b>				3E-01

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-11	No	2.5E-01	8E-11
ALDRIN	1E-11	No	3E-05	3E-07
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	8E-13	No	3.0E-03	3E-10
ALPHA ENDOSULFAN	7E-12	No	6.0E-03	1E-09
ANTHRACENE	1E-09	No	3.0E+00	3E-10
BENZO(a)ANTHRACENE	3E-09	No	4.0E-02	7E-08
BENZO(a)PYRENE	2E-09	No	4.0E-02	5E-08
BENZO(b)FLUORANTHENE	3E-09	No	4.0E-02	7E-08
BENZO(g,h,i)PERYLENE	1E-09	No	4.0E-02	3E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	5E-12	No	3.0E-03	2E-09
BETA ENDOSULFAN	4E-11	No	6.0E-03	7E-09
bis(2-ETHYLHEXYL) PHTHALATE	2E-09	No	6.0E-02	3E-08
CHRYSENE	3E-09	No	4.0E-02	7E-08
COPPER	1E-06	No	3.7E-02	3E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	5E-12	No	3.0E-03	2E-09
Di-n-BUTYL PHTHALATE	7E-10	No	1.0E+00	7E-10

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- = Not Calculated

DIELDRIN	3E-11	No	5E-05	6E-07
ENDOSULFAN SULFATE	3E-11	No	6.0E-03	5E-09
ENDRIN	2E-11	No	3.0E-04	7E-08
ENDRIN ALDEHYDE	1E-10	No	3.0E-04	3E-07
FLUORANTHENE	3E-09	No	4.0E-01	7E-09
FLUORENE	4E-10	No	4.0E-01	1E-09
GAMMA BHC (LINDANE)	3E-12	No	3.0E-03	1E-09
HEPTACHLOR	1E-11	No	5.0E-04	2E-08
HEPTACHLOR EPOXIDE	4E-11	No	1.3E-05	3E-06
INDENO(1,2,3-c,d)PYRENE	1E-09	No	4.0E-02	3E-08
MERCURY	2E-09	No	9.0E-05	2E-05
METHOXYCHLOR	2E-10	No	5.3E-03	4E-08
MOLYBDENUM	1E-07	No	5.0E-03	2E-05
p,p'-DDD	5E-11	No	5.0E-04	1E-07
p,p'-DDE	8E-12	No	5.0E-04	2E-08
p,p'-DDT	4E-11	No	5.0E-04	8E-08
PCB-1260 (AROCHLOR 1260)	3E-10	No	2.0E-05	1E-05
PHENANTHRENE	3E-09	No	4.0E-02	7E-08
PYRENE	3E-09	No	3.0E-01	1E-08
SELENIUM	4E-09	No	5.0E-03	8E-07
TRICHLOROETHYLENE (TCE)	1E-10	No	6.0E-03	2E-08
ZINC	9E-06	No	3.0E-01	3E-05

**Total Pathway Hazard Index**

1E-04

**Total Hazard Index**

4E-01

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 ND = No Data  
 N/A = Not Applicable  
 - = Not Calculated

**APPENDIX H-5**  
**REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Onsite Construction Workers**

Chemical	Reasonable Maximum Exposure ( ASD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers</b> <b>Waste Oil Tanks - Dermal Absorption of Chemicals in SubSurface Soil</b>				
1,1,1-TRICHLOROETHANE	4E-08	Yes	2.4E-01	2E-07
1,1-DICHLOROETHANE	2E-07	Yes	1.0E+00	2E-07
1,2,4-TRIMETHYLBENZENE	2E-07	Yes	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-07	Yes	ND	-
2,4-DINITROTOLUENE	2E-06	Yes	2.0E-03	1E-03
2-METHYLNAPHTHALENE	2E-06	Yes	1.9E-02	1E-04
ACENAPHTHENE	2E-06	Yes	2.9E-01	7E-06
ALDRIN	7E-09	Yes	1.5E-05	5E-04
ALPHA ENDOSULFAN	2E-08	Yes	4.7E-03	4E-06
ALUMINUM	6E-03	Yes	ND	-
ANTHRACENE	2E-06	Yes	1.9E+00	1E-06
BARIUM	4E-05	Yes	3.5E-03	1E-02
BENZO(a)ANTHRACENE	5E-06	Yes	1.9E-02	3E-04
BENZO(a)PYRENE	4E-06	Yes	1.9E-02	2E-04
BENZO(b)FLUORANTHENE	5E-06	Yes	1.9E-02	3E-04
BENZO(g,h,i)PERYLENE	3E-06	Yes	1.9E-02	2E-04
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-08	Yes	2.7E-03	7E-06
BETA ENDOSULFAN	2E-09	Yes	5.1E-03	4E-07
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	Yes	4.6E-03	4E-04
CHLOROETHANE	6E-08	Yes	3.0E+00	2E-08
CHRYSENE	6E-06	Yes	9.6E-03	6E-04
cis-1,2-DICHLOROETHYLENE	3E-07	Yes	1.0E-01	3E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	9E-09	Yes	2.8E-03	3E-06
DI-n-BUTYL PHTHALATE	3E-07	Yes	2.3E-01	1E-06
DIBENZ(a,h)ANTHRACENE	6E-07	Yes	4.0E-03	1E-04
DIBENZOFURAN	2E-06	Yes	ND	-
DIELDRIN	2E-08	Yes	2.5E-05	8E-04
ENDOSULFAN SULFATE	7E-08	Yes	4.9E-03	1E-05
ENDRIN	5E-08	Yes	3.0E-04	2E-04
ENDRIN ALDEHYDE	2E-07	Yes	3.0E-04	7E-04
ETHYLBENZENE	2E-08	Yes	8.4E-02	2E-07
FLUORANTHENE	6E-06	Yes	1.9E-01	3E-05
FLUORENE	3E-06	Yes	1.9E-01	2E-05
GAMMA BHC (LINDANE)	3E-09	Yes	3.0E-03	1E-06
HEPTACHLOR	6E-10	Yes	3.9E-04	2E-06
INDENO(1,2,3-c,d)PYRENE	3E-06	Yes	1.9E-02	2E-04
ISOPROPYLBENZENE (CUMENE)	4E-08	Yes	3.4E-01	1E-07
MERCURY	7E-08	Yes	4.5E-05	2E-03
METHOXYCHLOR	4E-08	Yes	4.8E-03	8E-06
MOLYBDENUM	8E-06	Yes	2.5E-04	3E-02

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n-BUTYLBENZENE	2E-07	Yes	ND	-
n-PROPYLBENZENE	1E-07	Yes	ND	-
NAPHTHALENE	4E-06	Yes	1.9E-02	2E-04
p,p'-DDD	3E-08	Yes	4.0E-05	7E-04
p,p'-DDE	2E-08	Yes	4.0E-05	5E-04
p,p'-DDT	5E-08	Yes	4.0E-05	1E-03
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-07	Yes	ND	-
PCB-1254 (AROCHLOR 1254)	2E-07	Yes	1.8E-05	1E-02
PHENANTHRENE	4E-06	Yes	1.9E-02	2E-04
PYRENE	6E-06	Yes	2.3E-01	3E-05
SEC-BUTYLBENZENE	2E-07	Yes	ND	-
TOLUENE	2E-08	Yes	1.7E+00	1E-08
TRICHLOROETHYLENE (TCE)	2E-07	Yes	5.8E-03	3E-05
VINYL CHLORIDE	1E-07	Yes	ND	-
XYLENES, TOTAL	2E-07	Yes	1.8E+00	1E-07
ZINC	7E-05	Yes	7.5E-02	9E-04

<b>Total Pathway Hazard Index</b>				6E-02
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Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
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**Onsite Construction Workers  
Waste Oil Tanks - Incidental Ingestion of Chemicals in SubSurface Soil**

1,1,1-TRICHLOROETHANE	1E-08	No	2.5E-01	4E-08
1,1-DICHLOROETHANE	5E-08	No	1.0E+00	5E-08
1,2,4-TRIMETHYLBENZENE	7E-08	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-07	No	ND	-
2,4-DINITROTOLUENE	2E-06	No	2.0E-03	1E-03
2-METHYLNAPHTHALENE	1E-06	No	4.0E-02	2E-05
ACENAPHTHENE	1E-06	No	6.0E-01	2E-06
ALDRIN	6E-09	No	3E-05	2E-04
ALPHA ENDOSULFAN	1E-08	No	6.0E-03	2E-06
ALUMINUM	5E-02	No	ND	-
ANTHRACENE	2E-06	No	3.0E+00	7E-07
BARIUM	3E-04	No	7.0E-02	4E-03
BENZO(a)ANTHRACENE	4E-06	No	4.0E-02	1E-04
BENZO(a)PYRENE	3E-06	No	4.0E-02	8E-05
BENZO(b)FLUORANTHENE	4E-06	No	4.0E-02	1E-04
BENZO(g,h,i)PERYLENE	2E-06	No	4.0E-02	5E-05
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-08	No	3.0E-03	7E-06
BETA ENDOSULFAN	2E-09	No	6.0E-03	3E-07
bis(2-ETHYLHEXYL) PHTHALATE	2E-06	No	2.0E-02	1E-04
CHLOROETHANE	2E-08	No	3.0E+00	7E-09
CHRYSENE	5E-06	No	4.0E-02	1E-04
cis-1,2-DICHLOROETHYLENE	1E-07	No	1.0E-01	1E-06
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-09	No	3.0E-03	2E-06

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DI-n-BUTYL PHTHALATE	3E-07	No	1.0E+00	3E-07
DIBENZ(a,h)ANTHRACENE	5E-07	No	4.0E-02	1E-05
DIBENZOFURAN	2E-06	No	ND	-
DIELDRIN	2E-08	No	5E-05	4E-04
ENDOSULFAN SULFATE	6E-08	No	6.0E-03	1E-05
ENDRIN	4E-08	No	3.0E-04	1E-04
ENDRIN ALDEHYDE	2E-07	No	3.0E-04	7E-04
ETHYLBENZENE	6E-09	No	1.0E-01	6E-08
FLUORANTHENE	5E-06	No	4.0E-01	1E-05
FLUORENE	2E-06	No	4.0E-01	5E-06
GAMMA BHC (LINDANE)	3E-09	No	3.0E-03	1E-06
HEPTACHLOR	5E-10	No	5.0E-04	1E-06
INDENO(1,2,3-c,d)PYRENE	2E-06	No	4.0E-02	5E-05
ISOPROPYLBENZENE (CUMENE)	1E-08	No	4.0E-01	2E-08
MERCURY	6E-07	No	3.0E-04	2E-03
METHOXYCHLOR	3E-08	No	5.3E-03	6E-06
MOLYBDENUM	7E-05	No	5.0E-03	1E-02
n-BUTYLBENZENE	6E-08	No	ND	-
n-PROPYLBENZENE	4E-08	No	ND	-
NAPHTHALENE	3E-06	No	4.0E-02	8E-05
p,p'-DDD	3E-08	No	5.0E-04	6E-05
p,p'-DDE	1E-08	No	5.0E-04	2E-05
p,p'-DDT	4E-08	No	5.0E-04	8E-05
P-CYMENE (p-ISOPROPYLTOLUENE)	6E-08	No	ND	-
PCB-1254 (AROCHLOR 1254)	1E-07	No	2.0E-05	5E-03
PHENANTHRENE	3E-06	No	4.0E-02	8E-05
PYRENE	5E-06	No	3.0E-01	2E-05
SEC-BUTYLBENZENE	5E-08	No	ND	-
TOLUENE	6E-09	No	2.0E+00	3E-09
TRICHLOROETHYLENE (TCE)	6E-08	No	6.0E-03	1E-05
VINYL CHLORIDE	5E-08	No	ND	-
XYLENES, TOTAL	5E-08	No	2.0E+00	2E-08
ZINC	5E-04	No	3.0E-01	2E-03
<b>Total Pathway Hazard Index</b>				<b>3E-02</b>

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-04	No	2.5E-01	1E-03
1,1-DICHLOROETHANE	1E-03	No	1.0E+00	1E-03
1,2,4-TRIMETHYLBENZENE	2E-03	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	3E-03	No	ND	-
CHLOROETHANE	5E-04	No	3.0E+00	2E-04
cis-1,2-DICHLOROETHYLENE	3E-03	No	1.0E-01	3E-02

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DIBENZOFURAN	4E-02	No	ND	-
ETHYLBENZENE	2E-04	No	2.9E-01	7E-04
ISOPROPYLBENZENE (CUMENE)	3E-04	No	3.0E-02	1E-02
n-BUTYLBENZENE	2E-03	No	ND	-
n-PROPYLBENZENE	9E-04	No	ND	-
P-CYMENE (p-ISOPROPYLTOLUENE)	2E-03	No	ND	-
SEC-BUTYLBENZENE	1E-03	No	ND	-
TOLUENE	2E-04	No	1.0E+00	2E-04
TRICHLOROETHYLENE (TCE)	1E-03	No	6.0E-03	2E-01
VINYL CHLORIDE	1E-03	No	ND	-
XYLENES, TOTAL	1E-03	No	2.0E+00	5E-04
<b>Total Pathway Hazard Index</b>				2E-01

Chemical	Reasonable Maximum Exposure ( SDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Onsite Construction Workers (Impacted by Waste Oil Tanks) - Inhalation of Contaminated Fugitive Dust</b>				
1,1,1-TRICHLOROETHANE	2E-11	No	2.5E-01	8E-11
1,1-DICHLOROETHANE	9E-11	No	1.0E+00	9E-11
1,2,4-TRIMETHYLBENZENE	1E-10	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-10	No	ND	-
2,4-DINITROTOLUENE	3E-09	No	2.0E-03	2E-06
2-METHYLNAPHTHALENE	2E-09	No	4.0E-02	5E-08
ACENAPHTHENE	2E-09	No	6.0E-01	3E-09
ALDRIN	1E-11	No	3E-05	3E-07
ALPHA ENDOSULFAN	2E-11	No	6.0E-03	3E-09
ALUMINUM	9E-05	No	ND	-
ANTHRACENE	3E-09	No	3.0E+00	1E-09
BARIUM	5E-07	No	1.0E-04	5E-03
BENZO(a)ANTHRACENE	7E-09	No	4.0E-02	2E-07
BENZO(a)PYRENE	6E-09	No	4.0E-02	1E-07
BENZO(b)FLUORANTHENE	6E-09	No	4.0E-02	1E-07
BENZO(g,h,i)PERYLENE	4E-09	No	4.0E-02	1E-07
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-11	No	3.0E-03	1E-08
BETA ENDOSULFAN	3E-12	No	6.0E-03	5E-10
bis(2-ETHYLHEXYL) PHTHALATE	3E-09	No	6.0E-02	5E-08
CHLOROETHANE	4E-11	No	3.0E+00	1E-11
CHRYSENE	8E-09	No	4.0E-02	2E-07
cis-1,2-DICHLOROETHYLENE	2E-10	No	1.0E-01	2E-09
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-11	No	3.0E-03	3E-09
DI-n-BUTYL PHTHALATE	5E-10	No	1.0E+00	5E-10
DIBENZ(a,h)ANTHRACENE	9E-10	No	4.0E-02	2E-08
DIBENZOFURAN	3E-09	No	ND	-
DIELDRIN	3E-11	No	5E-05	6E-07
ENDOSULFAN SULFATE	1E-10	No	6.0E-03	2E-08

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ENDRIN	7E-11	No	3.0E-04	2E-07
ENDRIN ALDEHYDE	3E-10	No	3.0E-04	1E-06
ETHYLBENZENE	1E-11	No	2.9E-01	3E-11
FLUORANTHENE	8E-09	No	4.0E-01	2E-08
FLUORENE	4E-09	No	4.0E-01	1E-08
GAMMA BHC (LINDANE)	5E-12	No	3.0E-03	2E-09
HEPTACHLOR	8E-13	No	5.0E-04	2E-09
INDENO(1,2,3-c,d)PYRENE	4E-09	No	4.0E-02	1E-07
ISOPROPYLBENZENE (CUMENE)	2E-11	No	3.0E-02	7E-10
MERCURY	1E-09	No	9.0E-05	1E-05
METHOXYCHLOR	5E-11	No	5.3E-03	9E-09
MOLYBDENUM	1E-07	No	5.0E-03	2E-05
n-BUTYLBENZENE	1E-10	No	ND	-
n-PROPYLBENZENE	6E-11	No	ND	-
NAPHTHALENE	6E-09	No	4.0E-02	1E-07
p,p'-DDD	4E-11	No	5.0E-04	8E-08
p,p'-DDE	2E-11	No	5.0E-04	4E-08
p,p'-DDT	6E-11	No	5.0E-04	1E-07
P-CYMENE (p-ISOPROPYLTOLUENE)	1E-10	No	ND	-
PCB-1254 (AROCHLOR 1254)	2E-10	No	2.0E-05	1E-05
PHENANTHRENE	6E-09	No	4.0E-02	1E-07
PYRENE	8E-09	No	3.0E-01	3E-08
SEC-BUTYLBENZENE	9E-11	No	ND	-
TOLUENE	1E-11	No	1.0E+00	1E-11
TRICHLOROETHYLENE (TCE)	1E-10	No	6.0E-03	2E-08
VINYL CHLORIDE	8E-11	No	ND	-
XYLENES, TOTAL	9E-11	No	2.0E+00	4E-11
ZINC	9E-07	No	3.0E-01	3E-06

**Total Pathway Hazard Index**

5E-03

**Total Hazard Index**

3E-01

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**APPENDIX H-5**  
**REASONABLE MAXIMUM CASE HAZARD INDEX ESTIMATES**  
**Future Land Use**  
**Offsite 30-year Residents**

Chemical	Reasonable Maximum Exposure (ACD) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents</b>				
<b>Dermal Absorption of Chemicals in Shower Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	5E-07	Yes	2.4E-01	2E-06
1,1-DICHLOROETHANE	1E-06	Yes	1.0E-01	1E-05
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5E-08	Yes	ND	-
ALDRIN	3E-10	Yes	1.5E-05	2E-05
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	3E-10	Yes	2.9E-04	1E-06
ALPHA ENDOSULFAN	8E-11	Yes	4.7E-03	2E-08
ALUMINUM	6E-05	Yes	ND	-
ARSENIC	7E-07	Yes	2.9E-04	2E-03
BARIUM	1E-05	Yes	3.5E-03	3E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-10	Yes	2.7E-04	2E-06
BETA ENDOSULFAN	3E-10	Yes	5.1E-03	6E-08
CHLOROMETHANE	7E-08	Yes	ND	-
cis-1,2-DICHLOROETHYLENE	2E-05	Yes	1.0E-02	2E-03
COPPER	2E-07	Yes	1.9E-02	1E-05
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	7E-10	Yes	2.8E-04	3E-06
ENDOSULFAN SULFATE	4E-10	Yes	4.9E-03	8E-08
ENDRIN	1E-09	Yes	3.0E-04	3E-06
ENDRIN ALDEHYDE	3E-09	Yes	3.0E-04	1E-05
ETHYLBENZENE	3E-06	Yes	8.4E-02	4E-05
GAMMA BHC (LINDANE)	8E-11	Yes	3.0E-04	3E-07
HEPTACHLOR EPOXIDE	5E-09	Yes	1.0E-05	5E-04
MANGANESE	9E-05	Yes	1.5E-04	6E-01
METHOXYCHLOR	6E-09	Yes	4.8E-03	1E-06
p,p'-DDD	3E-08	Yes	4.0E-05	7E-04
p,p'-DDE	2E-06	Yes	4.0E-05	5E-02
p,p'-DDT	4E-07	Yes	4.0E-05	1E-02
THALLIUM	3E-06	Yes	4.0E-06	7E-01
TRICHLOROETHYLENE (TCE)	2E-05	Yes	5.8E-03	3E-03
VANADIUM	4E-07	Yes	1.8E-04	2E-03
VINYL CHLORIDE	1E-07	Yes	ND	-
XYLENES, TOTAL	1E-08	Yes	1.8E+00	6E-09
ZINC	1E-06	Yes	7.5E-02	1E-05
<b>Total Pathway Hazard Index</b>				<b>1E+00</b>

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 ND = No Data  
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 - = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents Ingestion of Chemicals in Drinking Water (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	1E-05	No	2.5E-01	4E-05
1,1-DICHLOROETHANE	5E-05	No	1.0E-01	5E-04
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-05	No	ND	-
ALDRIN	7E-08	No	3E-05	2E-03
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-07	No	3.0E-04	3E-04
ALPHA ENDOSULFAN	4E-08	No	6.0E-03	7E-06
ALUMINUM	3E-02	No	ND	-
ARSENIC	3E-04	No	3.0E-04	1E+00
BARIUM	6E-03	No	7.0E-02	9E-02
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	2E-07	No	3.0E-04	7E-04
BETA ENDOSULFAN	1E-07	No	6.0E-03	2E-05
CHLOROMETHANE	7E-06	No	ND	-
cis-1,2-DICHLOROETHYLENE	8E-04	No	1.0E-02	8E-02
COPPER	8E-05	No	3.7E-02	2E-03
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	3E-07	No	3.0E-04	1E-03
ENDOSULFAN SULFATE	2E-07	No	6.0E-03	3E-05
ENDRIN	3E-08	No	3.0E-04	1E-04
ENDRIN ALDEHYDE	8E-08	No	3.0E-04	3E-04
ETHYLBENZENE	1E-06	No	1.0E-01	1E-05
GAMMA BHC (LINDANE)	3E-08	No	3.0E-04	1E-04
HEPTACHLOR EPOXIDE	2E-07	No	1.3E-05	2E-02
MANGANESE	4E-02	No	5.0E-03	8E+00
METHOXYCHLOR	2E-06	No	5.3E-03	4E-04
p,p'-DDD	5E-08	No	5.0E-04	1E-04
p,p'-DDE	4E-06	No	5.0E-04	8E-03
p,p'-DDT	4E-07	No	5.0E-04	8E-04
THALLIUM	1E-03	No	8.0E-05	1E+01
TRICHLOROETHYLENE (TCE)	5E-05	No	6.0E-03	8E-03
VANADIUM	2E-04	No	7.0E-03	3E-02
VINYL CHLORIDE	7E-06	No	ND	-
XYLENES, TOTAL	5E-06	No	2.0E+00	3E-06
ZINC	9E-04	No	3.0E-01	3E-03
<b>Total Pathway Hazard Index</b>				<b>2E+01</b>

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ND = No Data  
N/A = Not Applicable  
- = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents Inhalation of VOCs While Showering (from Groundwater - Deep Zone)</b>				
1,1,1-TRICHLOROETHANE	8E-04	No	2.5E-01	3E-03
1,1-DICHLOROETHANE	3E-03	No	1.0E-01	3E-02
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-03	No	ND	-
CHLOROMETHANE	4E-04	No	ND	-
cis-1,2-DICHLOROETHYLENE	5E-02	No	1.0E-02	5E+00
ETHYLBENZENE	6E-05	No	2.9E-01	2E-04
TRICHLOROETHYLENE (TCE)	3E-03	No	6.0E-03	5E-01
VINYL CHLORIDE	4E-04	No	ND	-
XYLENES, TOTAL	3E-04	No	2.0E+00	1E-04
<b>Total Pathway Hazard Index</b>				6E+00

Chemical	Reasonable Maximum Exposure ( ACD ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents Dermal Absorption of Chemicals in Shower Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	8E-06	Yes	2.4E-01	3E-05
1,1-DICHLOROETHANE	1E-05	Yes	1.0E-01	1E-04
1,1-DICHLOROETHENE	1E-06	Yes	9.0E-03	1E-04
1,2,4-TRIMETHYLBENZENE	9E-07	Yes	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-06	Yes	ND	-
ALDRIN	2E-10	Yes	1.5E-05	1E-05
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	3E-11	Yes	2.9E-04	1E-07
ALPHA ENDOSULFAN	9E-11	Yes	4.7E-03	2E-08
ALUMINUM	3E-04	Yes	ND	-
ARSENIC	7E-07	Yes	2.9E-04	2E-03
BARIUM	2E-05	Yes	3.5E-03	6E-03
BERYLLIUM	7E-08	Yes	2.5E-05	3E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	6E-10	Yes	2.7E-04	2E-06
BETA ENDOSULFAN	3E-10	Yes	5.1E-03	6E-08
BROMODICHLOROMETHANE	1E-07	Yes	2.0E-02	5E-06

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ND = No Data

N/A = Not Applicable

- = Not Calculated

CARBON TETRACHLORIDE	2E-07	Yes	6.7E-04	3E-04
CHLOROETHANE	2E-06	Yes	3.0E+00	7E-07
CHLOROFORM	2E-06	Yes	9.6E-03	2E-04
CHROMIUM, TOTAL	3E-06	Yes	6.5E-05	5E-02
cis-1,2-DICHLOROETHYLENE	7E-05	Yes	1.0E-02	7E-03
COPPER	3E-06	Yes	1.9E-02	2E-04
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-10	Yes	2.8E-04	1E-06
DI-n-BUTYL PHTHALATE	5E-08	Yes	2.3E-02	2E-06
DIELDRIN	1E-09	Yes	2.5E-05	4E-05
ENDOSULFAN SULFATE	9E-11	Yes	4.9E-03	2E-08
ENDRIN	6E-09	Yes	3.0E-04	2E-05
ENDRIN ALDEHYDE	8E-09	Yes	3.0E-04	3E-05
ETHYLBENZENE	3E-06	Yes	8.4E-02	4E-05
GAMMA BHC (LINDANE)	3E-10	Yes	3.0E-04	1E-06
HEPTACHLOR	2E-09	Yes	3.9E-04	5E-06
HEPTACHLOR EPOXIDE	2E-09	Yes	1.0E-05	2E-04
ISOPROPYLBENZENE (CUMENE)	6E-08	Yes	3.4E-02	2E-06
MANGANESE	3E-04	Yes	1.5E-04	2E+00
METHOXYCHLOR	6E-10	Yes	4.8E-03	1E-07
n-PROPYLBENZENE	6E-08	Yes	ND	-
NAPHTHALENE	9E-07	Yes	1.9E-02	5E-05
NICKEL	3E-07	Yes	1.1E-03	3E-04
p,p'-DDD	1E-07	Yes	4.0E-05	2E-03
p,p'-DDE	5E-08	Yes	4.0E-05	1E-03
p,p'-DDT	2E-08	Yes	4.0E-05	5E-04
SILVER	4E-07	Yes	1.1E-03	4E-04
TOLUENE	2E-05	Yes	1.7E-01	1E-04
trans-1,2-DICHLOROETHENE	1E-07	Yes	2.0E-02	5E-06
TRICHLOROETHYLENE (TCE)	2E-03	Yes	5.8E-03	3E-01
TRICHLOROFLUOROMETHANE	1E-06	Yes	3.0E-01	3E-06
VANADIUM	8E-07	Yes	1.8E-04	4E-03
VINYL CHLORIDE	3E-06	Yes	ND	-
XYLENES, TOTAL	1E-07	Yes	1.8E+00	6E-08
ZINC	1E-06	Yes	7.5E-02	1E-05
<b>Total Pathway Hazard Index</b>				<b>2E+00</b>

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents Ingestion of Chemicals in Drinking Water (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	2E-04	No	2.5E-01	8E-04
1,1-DICHLOROETHANE	7E-04	No	1.0E-01	7E-03
1,1-DICHLOROETHENE	4E-05	No	9.0E-03	4E-03
1,2,4-TRIMETHYLBENZENE	4E-04	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	1E-03	No	ND	-

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 - = Not Calculated



ALDRIN	4E-08	No	3E-05	1E-03
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	1E-08	No	3.0E-04	3E-05
ALPHA ENDOSULFAN	4E-08	No	6.0E-03	7E-06
ALUMINUM	1E-01	No	ND	-
ARSENIC	3E-04	No	3.0E-04	1E+00
BARIUM	9E-03	No	7.0E-02	1E-01
BERYLLIUM	3E-05	No	5.0E-03	6E-03
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	3E-07	No	3.0E-04	1E-03
BETA ENDOSULFAN	1E-07	No	6.0E-03	2E-05
BROMODICHLOROMETHANE	7E-06	No	2.0E-02	3E-04
CARBON TETRACHLORIDE	3E-06	No	7.0E-04	4E-03
CHLOROETHANE	9E-05	No	3.0E+00	3E-05
CHLOROFORM	1E-05	No	1.0E-02	1E-03
CHROMIUM, TOTAL	7E-04	No	5.0E-03	1E-01
cis-1,2-DICHLOROETHYLENE	3E-03	No	1.0E-02	3E-01
COPPER	1E-03	No	3.7E-02	3E-02
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	2E-07	No	3.0E-04	7E-04
DI-n-BUTYL PHTHALATE	2E-05	No	1.0E-01	2E-04
DIELDRIN	3E-08	No	5E-05	6E-04
ENDOSULFAN SULFATE	4E-08	No	6.0E-03	7E-06
ENDRIN	2E-07	No	3.0E-04	7E-04
ENDRIN ALDEHYDE	2E-07	No	3.0E-04	7E-04
ETHYLBENZENE	1E-06	No	1.0E-01	1E-05
GAMMA BHC (LINDANE)	1E-07	No	3.0E-04	3E-04
HEPTACHLOR	6E-08	No	5.0E-04	1E-04
HEPTACHLOR EPOXIDE	1E-07	No	1.3E-05	8E-03
ISOPROPYLBENZENE (CUMENE)	3E-05	No	4.0E-02	8E-04
MANGANESE	1E-01	No	5.0E-03	2E+01
METHOXYCHLOR	3E-07	No	5.3E-03	6E-05
n-PROPYLBENZENE	2E-05	No	ND	-
NAPHTHALENE	6E-06	No	4.0E-02	2E-04
NICKEL	1E-03	No	2.0E-02	5E-02
p,p'-DDD	2E-07	No	5.0E-04	4E-04
p,p'-DDE	9E-08	No	5.0E-04	2E-04
p,p'-DDT	2E-08	No	5.0E-04	4E-05
SILVER	3E-04	No	5.0E-03	6E-02
TOLUENE	8E-06	No	2.0E-01	4E-05
trans-1,2-DICHLOROETHENE	5E-06	No	2.0E-02	3E-04
TRICHLOROETHYLENE (TCE)	4E-03	No	6.0E-03	7E-01
TRICHLOROFLUOROMETHANE	3E-05	No	3.0E-01	1E-04
VANADIUM	3E-04	No	7.0E-03	4E-02
VINYL CHLORIDE	2E-04	No	ND	-
XYLENES, TOTAL	4E-05	No	2.0E+00	2E-05
ZINC	1E-03	No	3.0E-01	3E-03
<b>Total Pathway Hazard Index</b>				<b>2E+01</b>

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N/A = Not Applicable

- = Not Calculated

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents Inhalation of VOCs While Showering (from Groundwater - Shallow Zone)</b>				
1,1,1-TRICHLOROETHANE	1E-02	No	2.5E-01	4E-02
1,1-DICHLOROETHANE	4E-02	No	1.0E-01	4E-01
1,1-DICHLOROETHENE	2E-03	No	9.0E-03	2E-01
1,2,4-TRIMETHYLBENZENE	2E-02	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	6E-02	No	ND	-
BROMODICHLOROMETHANE	4E-04	No	2.0E-02	2E-02
CARBON TETRACHLORIDE	2E-04	No	7.0E-04	3E-01
CHLOROFORM	6E-04	No	1.0E-02	6E-02
cis-1,2-DICHLOROETHYLENE	2E-01	No	1.0E-02	2E+01
ETHYLBENZENE	6E-05	No	2.9E-01	2E-04
ISOPROPYLBENZENE (CUMENE)	2E-03	No	3.0E-03	7E-01
n-PROPYLBENZENE	1E-03	No	ND	-
TRICHLOROETHYLENE (TCE)	3E-01	No	6.0E-03	5E+01
TRICHLOROFLUOROMETHANE	2E-03	No	3.0E-01	7E-03
VINYL CHLORIDE	9E-03	No	ND	-
XYLENES, TOTAL	3E-03	No	2.0E+00	2E-03
<b>Total Pathway Hazard Index</b>				<b>7E+01</b>

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	3E-09	No	2.5E-01	1E-08
ACETONE	3E-07	No	1.0E-01	3E-06
BROMOMETHANE	2E-08	No	1.4E-03	1E-05
DIBENZOFURAN	2E-10	No	ND	-
DICHLORODIFLUOROMETHANE	8E-12	No	5.0E-01	2E-11
METHYLENE CHLORIDE	1E-08	No	9.0E-01	1E-08
TETRACHLOROETHYLENE(PCE)	8E-10	No	1.0E-02	8E-08
TRICHLOROETHYLENE (TCE)	2E-08	No	6.0E-03	3E-06

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**Total Pathway Hazard Index**

2E-05

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE (TCE)	1E-08 7E-08	No No	2.5E-01 6.0E-03	4E-08 1E-05
<b>Total Pathway Hazard Index</b>				1E-05

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Volatile Organic Compounds</b>				
1,1,1-TRICHLOROETHANE	2E-10	No	2.5E-01	8E-10
1,1-DICHLOROETHANE	6E-10	No	1.0E-01	6E-09
1,2,4-TRIMETHYLBENZENE	1E-11	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	2E-11	No	ND	-
CHLOROETHANE	1E-09	No	3.0E+00	3E-10
cis-1,2-DICHLOROETHYLENE	1E-09	No	1.0E-02	1E-07
DIBENZOFURAN	5E-10	No	ND	-
ETHYLBENZENE	6E-11	No	2.9E-01	2E-10
ISOPROPYLBENZENE (CUMENE)	3E-12	No	3.0E-03	1E-09
n-BUTYLBENZENE	6E-09	No	ND	-
n-PROPYLBENZENE	3E-10	No	ND	-
P-CYMENE (p-ISOPROPYLTOLUENE)	9E-10	No	ND	-
SEC-BUTYLBENZENE	1E-09	No	ND	-
TOLUENE	1E-10	No	1.0E-01	1E-09
TRICHLOROETHYLENE (TCE)	2E-09	No	6.0E-03	3E-07
VINYL CHLORIDE	5E-09	No	ND	-

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XYLENES, TOTAL	5E-10	No	2.0E+00	3E-10
<b>Total Pathway Hazard Index</b>				4E-07

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Plating Room Area) - Inhalation of Contaminated Fugitive Dust</b>				
ACETONE	2E-12	No	1.0E-01	2E-11
ALDRIN	2E-16	No	3E-05	7E-12
ALPHA ENDOSULFAN	5E-15	No	6.0E-03	8E-13
ARSENIC	5E-11	No	3.0E-04	2E-07
BARIUM	2E-10	No	1.0E-03	2E-07
BENZO(a)ANTHRACENE	4E-13	No	4.0E-02	1E-11
BERYLLIUM	2E-12	No	5.0E-03	4E-10
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-15	No	3.0E-04	3E-12
BETA ENDOSULFAN	3E-15	No	6.0E-03	5E-13
bis(2-ETHYLHEXYL) PHTHALATE	2E-12	No	2.0E-02	1E-10
CADMIUM	2E-11	No	5.0E-04	4E-08
CHROMIUM, TOTAL	3E-10	No	1.1E-06	3E-04
CHRYSENE	3E-13	No	4.0E-02	7E-12
COBALT	3E-11	No	ND	-
COPPER	3E-10	No	3.7E-02	8E-09
CYANIDE	3E-12	No	2.0E-02	1E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-16	No	3.0E-04	1E-12
DIELDRIN	4E-16	No	5E-05	8E-12
ENDOSULFAN SULFATE	7E-15	No	6.0E-03	1E-12
FLUORANTHENE	5E-13	No	4.0E-02	1E-11
GAMMA BHC (LINDANE)	4E-16	No	3.0E-04	1E-12
MANGANESE	2E-09	No	1.0E-05	2E-04
MERCURY	3E-13	No	9.0E-05	3E-09
METHOXYCHLOR	2E-14	No	5.3E-03	4E-12
METHYLENE CHLORIDE	2E-14	No	9.0E-01	2E-14
MOLYBDENUM	2E-08	No	5.0E-03	4E-06
NICKEL	3E-10	No	2.0E-02	1E-08
p,p'-DDD	4E-15	No	5.0E-04	8E-12
p,p'-DDT	3E-15	No	5.0E-04	6E-12
PYRENE	3E-13	No	3.0E-02	1E-11
TETRACHLOROETHYLENE(PCE)	5E-15	No	1.0E-02	5E-13
TRICHLOROETHYLENE (TCE)	6E-14	No	6.0E-03	1E-11
VANADIUM	4E-11	No	7.0E-03	6E-09
ZINC	6E-10	No	3.0E-01	2E-09

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Total Pathway Hazard Index

5E-04

Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Reservoir Area) - Inhalation of Contaminated Fugitive Dust</b>				
ALDRIN	7E-14	No	3E-05	2E-09
ALPHA ENDOSULFAN	9E-15	No	6.0E-03	1E-12
ALUMINUM	6E-07	No	ND	-
BENZO(a)ANTHRACENE	9E-12	No	4.0E-02	2E-10
BENZO(a)PYRENE	6E-12	No	4.0E-02	1E-10
BENZO(b)FLUORANTHENE	1E-11	No	4.0E-02	2E-10
BETA ENDOSULFAN	1E-14	No	6.0E-03	2E-12
bis(2-ETHYLHEXYL) PHTHALATE	9E-12	No	2.0E-02	4E-10
CHROMIUM, TOTAL	7E-10	No	1.1E-06	6E-04
CHRYSENE	9E-12	No	4.0E-02	2E-10
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	4E-14	No	3.0E-04	1E-10
DI-n-BUTYL PHTHALATE	4E-12	No	1.0E-01	4E-11
DIELDRIN	2E-13	No	5E-05	4E-09
ENDOSULFAN SULFATE	1E-13	No	6.0E-03	2E-11
ENDRIN	3E-14	No	3.0E-04	1E-10
ENDRIN ALDEHYDE	6E-13	No	3.0E-04	2E-09
FLUORANTHENE	1E-11	No	4.0E-02	2E-10
GAMMA BHC (LINDANE)	2E-14	No	3.0E-04	7E-11
HEPTACHLOR	9E-14	No	5.0E-04	2E-10
HEPTACHLOR EPOXIDE	2E-13	No	1.3E-05	2E-08
MANGANESE	2E-08	No	1.0E-05	2E-03
METHOXYCHLOR	7E-14	No	5.3E-03	1E-11
MOLYBDENUM	8E-10	No	5.0E-03	2E-07
p,p'-DDD	3E-14	No	5.0E-04	6E-11
p,p'-DDE	4E-14	No	5.0E-04	8E-11
p,p'-DDT	6E-14	No	5.0E-04	1E-10
PHENANTHRENE	3E-12	No	4.0E-02	7E-11
PYRENE	1E-11	No	3.0E-02	3E-10
TRICHLOROETHYLENE (TCE)	4E-13	No	6.0E-03	7E-11
<b>Total Pathway Hazard Index</b>				<b>3E-03</b>

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Chemical	Reasonable Maximum Exposure ( CDI ) mg/kg-day	Adjusted for Absorption	RFD (mg/kg-day)	Hazard Quotient
<b>Offsite 30-year Residents (Impacted by Waste Oil Tank Area) - Inhalation of Contaminated Fugitive Dust</b>				
1,1-DICHLOROETHANE	2E-15	No	1.0E-01	2E-14
1,2,4-TRIMETHYLBENZENE	3E-15	No	ND	-
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	5E-15	No	ND	-
ALDRIN	6E-16	No	3E-05	2E-11
ALPHA ENDOSULFAN	4E-16	No	6.0E-03	7E-14
ALUMINUM	1E-08	No	ND	-
BARIUM	9E-11	No	1.0E-03	9E-08
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	1E-15	No	3.0E-04	3E-12
BETA ENDOSULFAN	5E-16	No	6.0E-03	8E-14
CHROMIUM, TOTAL	2E-11	No	1.1E-06	2E-05
cis-1,2-DICHLOROETHYLENE	2E-14	No	1.0E-02	2E-12
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	1E-15	No	3.0E-04	3E-12
DIELDRIN	5E-15	No	5E-05	1E-10
ENDRIN ALDEHYDE	5E-14	No	3.0E-04	2E-10
HEPTACHLOR	1E-16	No	5.0E-04	2E-13
MANGANESE	8E-10	No	1.0E-05	8E-05
MOLYBDENUM	2E-11	No	5.0E-03	4E-09
NAPHTHALENE	2E-13	No	4.0E-02	5E-12
p,p'-DDD	7E-15	No	5.0E-04	1E-11
p,p'-DDE	1E-15	No	5.0E-04	2E-12
<b>Total Pathway Hazard Index</b>				1E-04
<b>Total Hazard Index</b>				1E+02

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# **A P P E N D I X I**

## **IEUBK MODEL RESULTS FOR THE 0.5 TO 7 YEAR OLD OFFSITE RESIDENT CHILD EXPOSURE TO LEAD**

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LEAD MODEL Version 0.99d

AIR CONCENTRATION: 0.000 ug Pb/m<sup>3</sup>

Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 79.60 ug Pb/L

WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	200.0	200.0
1-2	200.0	200.0
2-3	200.0	200.0
3-4	200.0	200.0
4-5	200.0	200.0
5-6	200.0	200.0
6-7	200.0	200.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model

Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	7.2	13.53	4.36	2.36	6.80	0.00	0.00
1-2:	9.8	24.71	6.48	2.31	15.92	0.00	0.00
2-3:	9.6	26.22	6.63	2.66	16.94	0.00	0.00
3-4:	9.3	27.09	6.79				
4-5:	8.8	26.62	5.17				
5-6:	8.4	27.61	4.71				
6-7:	7.9	28.22	4.49				

3-4:	2.62	17.68	0.00	0.00
4-5:	2.59	18.86	0.00	0.00
5-6:	2.76	20.13	0.00	0.00
6-7:	3.08	20.66	0.00	0.00