Appendix L
Human Health Risk Assessment Report

BASELINE HUMAN HEALTH RISK ASSESSMENT
OMEGA CHEMICAL SUPERFUND SITE
OPERABLE UNIT 2
MONTEBELLO FOREBAY
LOS ANGELES COUNTY, CALIFORNIA

EPA Contract No. 68-W-98-225
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CH2M HILL Project No. 335392.RR.01

Prepared for
United States Environmental Protection Agency
Region 9
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San Francisco, California 94105

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January 2008

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Contents

Section Page

Acronyms and Abbreviations iii

1. Introduction 1-1

2. Summary of the Human Health Risk Assessment for OU1 Onsite Soils 2-1

3. Organization and Components of the OU2 Baseline Human Health Risk Assessment 3-1

4. Current and Potential Future Uses of Groundwater 4-1

5. Introduction and Human Risk Summary 5-1

6. Human Health Risk Assessment Approach 6-1

6.1 Data Evaluation/Hazard Identification 6-2

6.2 Toxicity Assessment/Dose-Response Assessment 6-8

6.3 Exposure Assessment 6-9

6.3.1 Site and Potential Receptors 6-9

6.3.2 Conceptual Exposure/Pathway Analysis 6-9

6.3.3 Reasonable Maximum Exposure 6-10

6.3.4 Site Conceptual Model 6-11

6.3.5 Exposure Assessment 6-11

6.4 Risk Characterization 6-17

6.4.1 Risk Quantification Equations 6-18

6.5 Results 6-20

6.5.1 Carcinogenic Risks 6-21

6.5.2 Non-carcinogenic Health Hazards 6-22

6.5.3 Soil Gas Screening Risk Evaluation 6-23

7. Uncertainty Analysis 7-1

7.1 Selection of COPCs 7-1

7.2 Environmental Data Quality 7-2

7.3 Sampling and Analysis 7-2

7.4 Fate and Transport Estimation 7-3

7.5 Exposure Estimation 7-3

7.6 Johnson and Ettinger Model 7-3

7.7 Toxicological Data 7-4

7.7.1 Dermal Toxicological Factors 7-4

7.7.2 Trichloroethene 7-4
7.8 Risk Characterization 7-5
8. Conclusions 8-1
8.1 Key Findings 8-2
8.2 Recommendations 8-2
9. References 9-1

Appendixes

A Groundwater Risk Evaluation
B Screening-Level Soil Gas Risk Evaluation

Tables

1 Reasonable Maximum Exposure Assumptions 6-10
2 Potential Exposure Routes 6-11
3 Estimate of Potential Cancer Risk 6-21
4 Chemicals with an HQ Equal to or Greater than 1 for Child Receptor 6-23
5 Uncertainties Associated with the Human Health Risk Assessment 7-2

Figures

1 Site Location Map 1-3
2 Operable Unit Location Map, Units 1 and 2 1-5
3 PCE Plume Extent and Monitoring Well Location Map 6-3
4 Soil Gas Investigation Sample Location Map 6-5
5 Human Health Conceptual Site Model Diagram 6-13

Acronyms and Abbreviations

µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
1,1-DCE	1,1-dichloroethene
Cal-EPA	California Environmental Protection Agency
CD-SOW	Consent Decree and associated Statement of Work
CERCLA	Comprehensive Environmental Response, Comprehensive, and Liability Act of 1980
CHHSL	California Human Health Screening Level
cm/hr	centimeters per hour
cm^2	square centimeter(s)
COPC	chemical of potential concern
DA_event	absorbed dose per exposure event per area of skin exposed
DTSC	Department of Toxic Substances Control
ELCR	excess lifetime cancer risk
EPA	United States Environmental Protection Agency
EPC	exposure point concentration
Freon 11	trichlorofluoromethane
Freon 113	trichlorotrifluoromethane
FS	feasibility study
HEAST	Health Effects Assessment Summary Tables
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
HVAC	heating, ventilation, and air conditioning
IRIS	Integrated Risk Information System
J&E	Johnson and Ettinger
kg	kilogram(s)
L	liter(s)

L/day	liters per day
L/m^3	liters per cubic meter
m^3	cubic meter(s)
m^3/hr	cubic meters per hour
mg/cm^3	milligrams per cubic centimeter
mg/kg	milligrams per kilogram
mg/kg-day	milligram per kilogram per day
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MTBE	methyl tertiary butyl ether
NAS	National Academy of Sciences
NDMA	n-nitrosodimethylamine
NPL	National Priorities List
OEHHA	Office of Environmental Health Hazard Assessment
Omega	Omega Chemical Corporation
Omega Site	Omega Chemical Superfund Site
OPOG	Omega Chemical Site PRP Organized Group
ORD	Office of Research and Development (EPA)
OSVOG	Omega Small Volume Organized Group
OU	operable unit
PCE	tetrachloroethene (perchloroethene)
PRG	preliminary remediation goal
PRP	potentially responsible party
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RAGS	Risk Assessment Guidance for Superfund
RfD	reference dose
RI	remedial investigation
RME	reasonable maximum exposure
SAP	Sampling and Analysis Plan

SVOC	semivolatile organic compound
TCE	trichloroethene
UCL	upper confidence level
VOC	volatile organic compound

1. Introduction

The United States Environmental Protection Agency (EPA), under the authority of the Comprehensive Environmental Response, Comprehensive, and Liability Act of 1980 (CERCLA), is conducting a remedial investigation/feasibility study (RI/FS) to address groundwater contamination downgradient of the Omega Chemical Corporation Superfund Site (Omega Site), located in Whittier, California (Figure 1).

EPA manages the Omega Site as three operable units: Operable Unit 1 (OU1), which includes the contaminated soil and groundwater in the immediate vicinity of the former Omega property; Operable Unit 2 (OU2), comprising the groundwater contamination downgradient of OU1; and Operable Unit 3 (OU3), comprising the indoor air contamination at the former Skateland building and other buildings. The former Omega facility is located at 12504 and 12512 East Whittier Boulevard, and occupies Los Angeles County Assessor Tract Number 13486 (Lots 3 and 4). It covers an area of approximately 41,000 square feet (200 feet wide by 205 feet long) and contains two structures, a 140-foot by 50-foot warehouse and an 80-foot by 30-foot administrative building. A loading dock is attached to the rear of the warehouse. The former Omega property is paved with concrete and secured with a 7-foot-high perimeter fence and locking gate. The fence is topped with razor wire. Prior to construction of buildings at the Omega parcel in July 1951, the property was used for agriculture.

OU2 generally includes the contaminated groundwater area that extends from the former Omega facility to approximately 4.5 miles south-southwest of the site. A site map showing the approximate boundaries of OU1 and OU2 is presented in Figure 2.

The Omega Chemical Corporation (Omega) was a refrigerant/solvent recycling facility that operated from approximately 1976 to 1991. Drums and bulk loads of waste solvents and chemicals from various industrial activities were processed to produce commercial products. Wastes generated from treatment and recycling activities included still bottoms resulting from distillation of spent solvents, aqueous fractions, and nonrecoverable solvents.

The site was placed on the National Priorities List (NPL) in January 1999. The Omega Chemical Site Potentially Responsible Party (PRP) Organized Group (OPOG) entered into the Consent Decree and associated Statement of Work in February 2001 (CD-SOW). Under the CD-SOW, OPOG was to perform an RI/FS for the vadose zone soil at OU1 and install an interim groundwater remedy to cut off the contaminant flux from the former Omega property to the aquifer; both activities are ongoing. OPOG also prepared a human health risk assessment (HHRA) for the vadose zone soils at OU1 in 2007.

The RI report presents an evaluation of data collected at OU2, which EPA began in 2001. The purpose of the RI is to evaluate the nature and extent of groundwater contamination and to assess the potential risks posed by this contamination to human health and the environment. EPA's evaluation will:

- Support the determination of risk-based cleanup levels; and

- Lay the foundation for the development and evaluation of possible cleanup alternatives in the feasibility study (FS).

A baseline HHRA was prepared as part of the Omega OU2 RI report. The following paragraphs summarize the approaches followed, methods used, and results obtained from the HHRA.

This risk assessment helps to determine and document whether groundwater contamination in OU2 poses a current or potential future risk to human health. The HHRA provides the basis for determining whether unacceptable human health risks might be caused by exposure to contaminants in OU2 groundwater such that a remedial action is necessary to address contaminated groundwater in OU2. The HHRA also identifies which exposure pathways require mitigation or remediation.

EPA will use the HHRA results in determining the scope of any response action undertaken to address contaminants in the groundwater at OU2. The HHRA also helps to determine if soil gas contamination in OU2 poses a current or potential future risk to human health. This includes a screening-level risk evaluation of soil vapor intrusion into indoor air at the Whispering Fountains Apartments.

The following terms were adopted for the purpose of the OU2 RI report:

Omega Wells	This term means (a) wells installed by EPA and the potentially responsible party (PRP) group named Omega Small Volume Organized Group (OSVOG), and (b) wells installed by the Omega Chemical Site PRP Organized Group (OPOG).
Omega Contaminants	Omega Contaminants are chemicals found at concentrations exceeding their screening levels (shown in Tables 5-1 to 5-4) at OU1 wells OW1A, OW1B, OW2, OW3A, OW3B, OW8A, and OW8B. These compounds are believed to have been introduced to groundwater as a result of the hazardous substances released at the former Omega facility. The same chemicals are also believed to have been introduced to groundwater at other facilities throughout OU2. Omega Contaminants also include the degradation products of these chemicals.
Chemicals of Potential Concern (COPCs)	COPCs are all chemicals found at concentrations exceeding their screening levels in OU2. They may have originated from hazardous substances released from known and unknown sources. Some of these compounds may be naturally occurring. Treatment of these chemicals will potentially be required for the groundwater remedy.
Operable Unit 1 (OU1)	OU1 is an area encompassing the former Omega Property and extending about 100 feet southwest across Putnam Street.
Operable Unit 2 (OU2)	OU2 is defined by the extent of the Omega Contaminants that are above screening levels in groundwater. Within OU2, groundwater contamination from the Omega property has commingled with chemicals released at other source areas; consequently, it is not always possible to distinguish exactly the extent of hazardous substances released from individual sources.
Operable Unit 3 (OU3)	OU3 is defined by the extent of indoor air impacts at the former Omega Chemical property as well as adjacent and nearby properties where the underlying vadose zone has been impacted by contamination derived from the former Omega Chemical property.

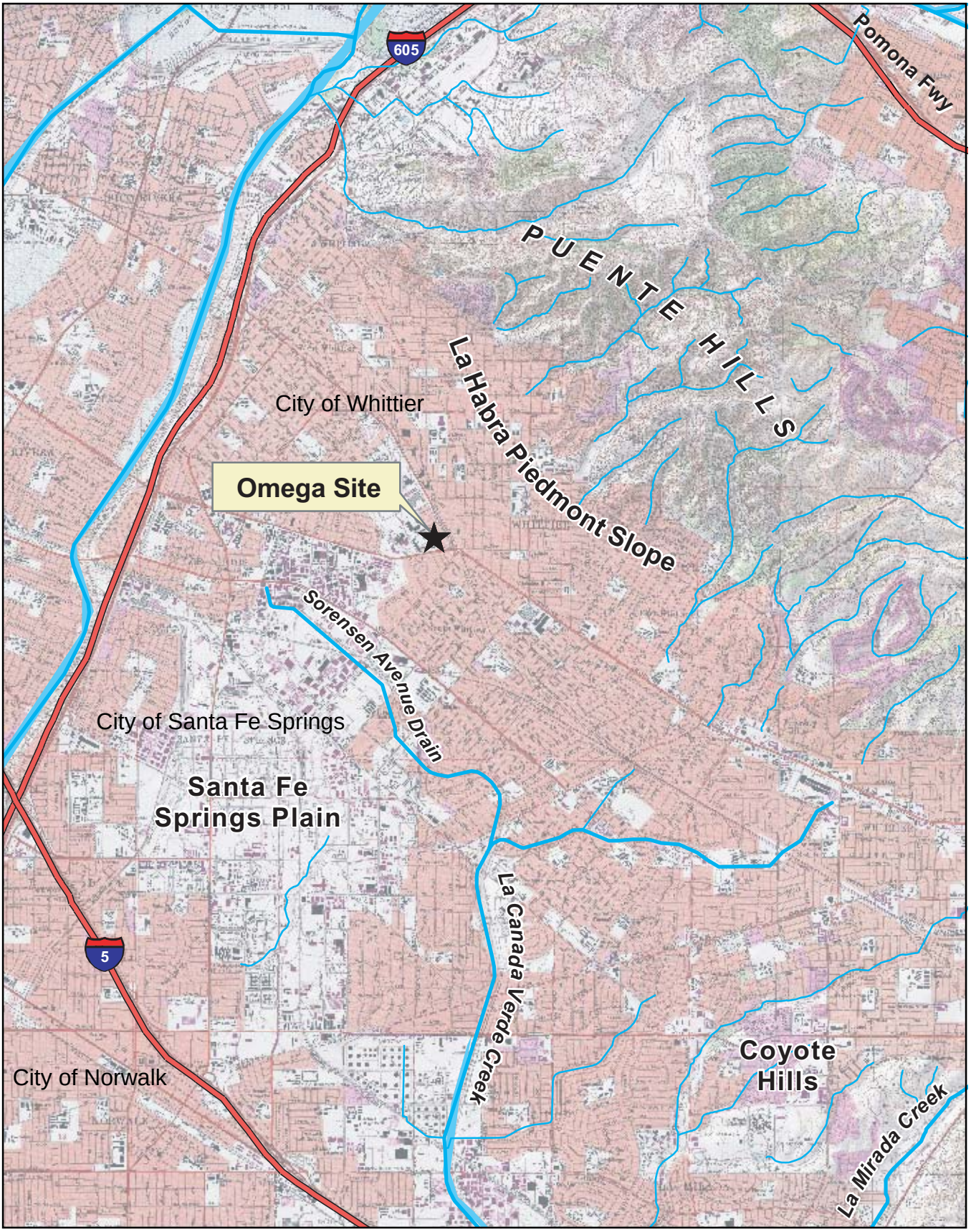

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Figure 1
Site Location Map
Omega Chemical Superfund Site

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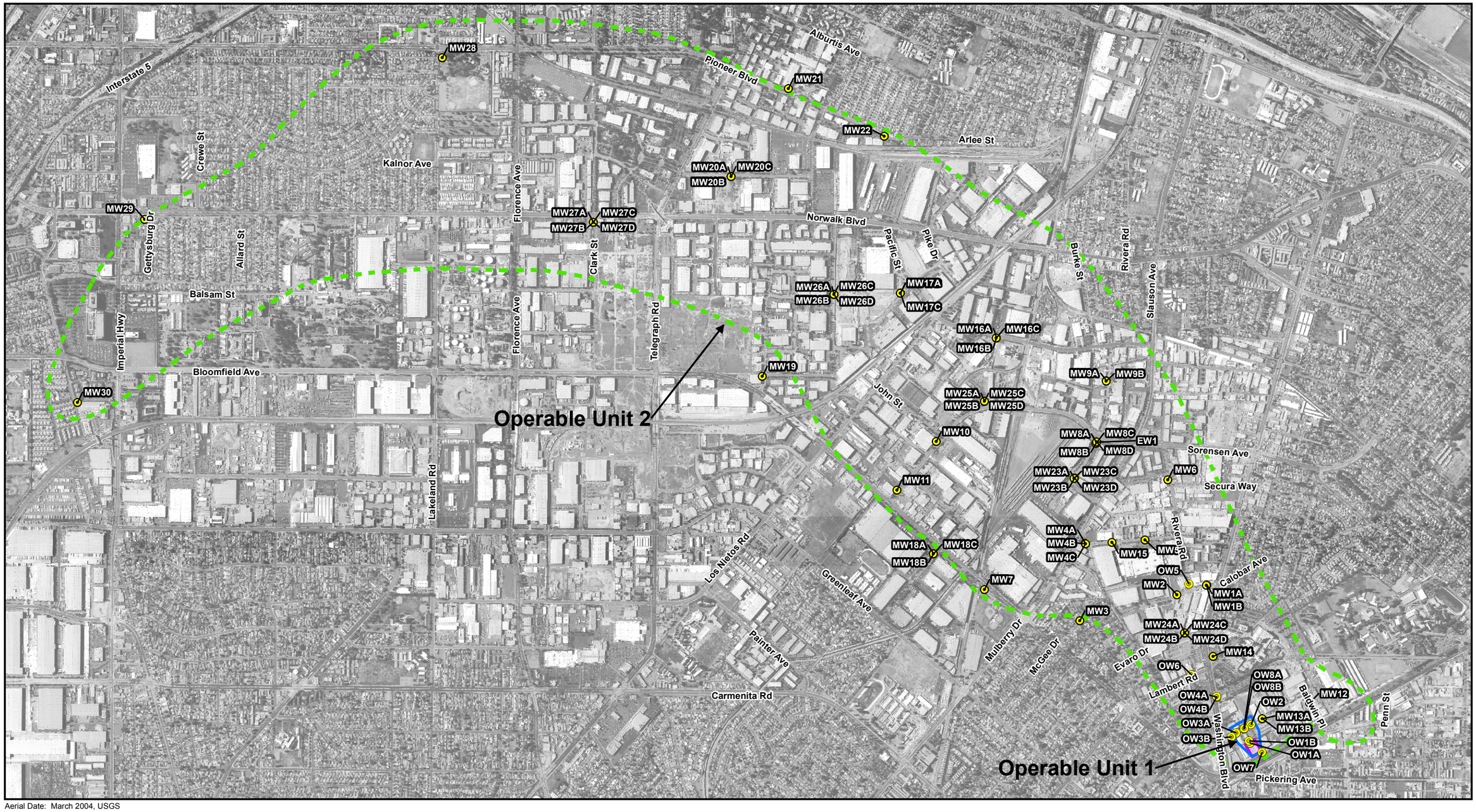

Aerial Date: March 2004, USGS

Legend

- EPA Monitoring Well
- Omega Potentially Responsible Parties Organized Group (OPOG) Monitoring Well
- Operable Unit 1
- Operable Unit 2
- Former Omega Facility

N

0 1,600 3,200 Feet

Figure 2
Operable Unit Location Map
Units 1 and 2
Omega Chemical Superfund Site

CH2MHILL

Date: December 17, 2007

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2. Summary of the Human Health Risk Assessment for OU1 Onsite Soils

Following is a brief summary of the HHRA for OU1 onsite soils (Camp, Dresser & McKee, 2007). The risk assessment presents an evaluation of potential cancer risks and non-cancer health hazards associated with exposure to residual soil and groundwater contamination (via soil gas vapor intrusion to indoor air) at the Omega Site. The HHRA was prepared in accordance with Task 2 of the CD-SOW, No. 00-12471, between EPA and OPOG.

The most prevalent contaminants detected in OU1 soil and groundwater were volatile organic compounds (VOCs), primarily tetrachloroethene (PCE) and related compounds, trichloroethene (TCE), and freons. Chlorinated compounds, including methylene chloride and chloroform, as well as acetone and toluene, also were detected at the downgradient site boundary and offsite. The principal VOCs detected in the soil gas at OU1, and at the highest concentrations, were Freon 113, Freon 11, 1,1,1-trichloroethane, and PCE.

Potentially exposed populations evaluated in the HHRA include future onsite residents, current and future onsite and offsite indoor industrial workers, future onsite outdoor industrial workers, and future onsite construction workers.

Potential exposure pathways evaluated in the HHRA include:

- Oral/dermal contact with surface soil and inhalation of fugitive dust—current industrial workers
- Inhalation of VOCs in indoor air—current industrial workers
- Inhalation of VOCs in ambient air—current industrial workers
- Oral/dermal contact with regraded surface/subsurface soil and inhalation of fugitive dust—future residents, future industrial indoor and outdoor workers, future construction workers
- Inhalation of VOCs in indoor air—future residents and future industrial indoor workers
- Inhalation of VOCs in ambient air—future residents, future industrial indoor workers, future construction workers, and future industrial outdoor workers

The OU1 HHRA addresses potential health risks and hazards associated with residual soil contamination at the Omega Site. The HHRA evaluates the current and future use of the site for commercial purposes. The site is currently occupied by two businesses: Three Kings Construction and Star City Auto Body. Risk issues at the site also include partitioning of VOCs from the soil matrix into soil gas, and subsequently into ambient and indoor air. Risks from contaminated groundwater could result from volatilization of groundwater contaminants into ambient and indoor air. Because soil-gas-related VOCs may accumulate indoors, inhalation of indoor air is quantitatively evaluated in the HHRA using measured indoor air concentrations for current industrial workers. In addition to the Omega Site, the

potential for vapor intrusion is evaluated for existing buildings using indoor air data at the following adjacent and nearby locations:

- The parcel immediately to the north currently occupied by Medlin & Sons
- The parcel immediately to the west currently occupied by TerraPave
- The parcel to the south and west of the site (currently the occupied by the Bishop Company)
- The parcel south of Bishop Company currently occupied by LA Carts and Oncology Care

Current City of Whittier zoning will allow commercial and retail redevelopment of this site with the construction of multi-level buildings. The zoning of the Omega Site as part of the Whittier Boulevard Specific Plan-Workplace District allows for Live/Work units and multi-family housing.

Total cancer risk estimates for a current commercial/industrial worker at Three Kings Construction and Star City Auto Body are primarily attributable to inhalation of indoor air.

Cancer risks for the future industrial/commercial indoor worker (all parcels) exceed 1E-04 and are primarily attributable to inhalation of indoor air.

Total cancer risk estimates for future residents on the Omega Site parcel and on the other parcels exceed 1E-04. Cancer risks for future residents are primarily attributable to inhalation of indoor air. Inhalation of PCE in soil gas accounts for 90 to 95 percent of the total inhalation risk.

Chronic non-cancer hazards for the current commercial/industrial worker (Three Kings and Star City Auto) exceed a hazard index (HI) of 1. HIs for the current commercial/industrial worker are primarily attributable to inhalation of indoor air.

Total HIs for future residents (Omega Site parcel; and other parcels) exceed an HI of 1. These HIs are attributable to inhalation exposure to PCE and 1,1-dichloroethene (1,1-DCE). Total HIs for future commercial/industrial indoor workers based on data from all parcels exceed 1. Inhalation of PCE and 1,1-DCE in indoor air are the main contributors to this hazard.

The results of the OU1 HHRA suggest that contaminated soils at the site could present a significant threat to current and future commercial/industrial workers, future construction workers, and hypothetical future residents. Cancer risk estimates ranged from 4E-07 to greater than 1E-04. HIs slightly exceeded 1 for current commercial/industrial workers at parcels other than the Omega Site parcel and were greater than 1 for future commercial/industrial workers, future construction workers, and future residents. Exposures to soil are unlikely under current conditions because most of the site surface soil is covered with improvements (buildings, concrete, and asphalt). However, future development could result in the removal of existing improvements resulting in complete exposure pathways for future receptors. Risks and hazards are primarily attributable to inhalation of indoor air for current and future commercial/industrial indoor workers and future residents, and inhalation of ambient air for future outdoor commercial/industrial workers.

Potential risks associated with exposure to vapors intruding into indoor air spaces for current commercial/industrial workers range from 9E-06 to 1E-04. HI estimates associated with current exposure for vapors intruding into indoor air spaces range from less than 1 to about 8. Possible risks associated with exposure to vapors intruding into indoor air spaces for future commercial/industrial workers range from 8E-07 to 5E-04. HI estimates for vapors intruding into indoor air spaces for these receptors are in the range of less than 1 to about 7. Risks associated with exposure to vapors intruding into indoor air spaces were highest for hypothetical future residents with risks ranging from 1E-06 to 5E-03. HI estimates for vapors intruding into indoor air spaces for these residents ranged from less than 1 to 1,089.

Conclusions of the OU1 HHRA can be summarized as follows:

- Among receptors potentially exposed to site-related contaminants, the highest cancer risks and non-cancer hazards are associated with exposure to hypothetical future residents, with cancer risks above 1E-04 and HIs above 1.
- The pathway with the highest potential for exposure involves intrusion of vapors into indoor air spaces. Inhalation of these vapors indoors results in the highest estimates of potential cancer risk and non-cancer hazard.
- PCE is the primary COPC at the Omega Site. For example, inhalation of indoor air suggests potential total inhalation cancer risks for current industrial workers ranging from 8E-06 to 7E-05. The cancer risk associated with inhalation exposure to PCE alone ranges from 5E-07 to 4E-05. Estimated HIs for PCE were relatively low however. HIs for exposure to indoor air for PCE ranged from 0.01 to 2 compared to total inhalation HIs ranging from 0.065 to 8.

3. Organization and Components of the OU2 Baseline Human Health Risk Assessment

This OU2 groundwater baseline HHRA evaluates potential risks and hazards from exposure to groundwater and soil gas associated with OU2 groundwater contaminants. The HHRA is organized into the following sections:

- Section 1—Introduction
- Section 2—Summary of the Human Health Risk Assessment for OU1 Onsite Soils
- Section 3—Organization and Components of the OU2 Baseline Human Health Risk Assessment
- Section 4—Current and Potential Future Uses of Groundwater
- Section 5—Introduction and Human Risk Summary
- Section 6—Human Health Risk Assessment Approach
  - Data Evaluation/Hazard Identification
  - Toxicity Assessment /Dose-Response Assessment
  - Exposure Assessment
  - Risk Characterization
  - Results
- Section 7—Uncertainty Analysis
- Section 8—Conclusions
- Section 9—References

Risk Assessment Guidance for Superfund (RAGS) Part D Tables (EPA, 2001a) are used to organize and present compiled groundwater data as well as cancer risk and non-cancer health hazard calculations, and to summarize the results of the risk evaluation. The RAGS Part D tables prepared for this HHRA are presented in Appendix A, and include the following:

- Table 0—Site Risk Assessment Identification
- Table 1—Selection of Exposure Pathways
- Table 2.1—Occurrence, Distribution and Selection of COPCS
- Table 3.1—Exposure Point Concentrations
- Table 4.1 through 4.3—Values Used for Intake Calculations
- Table 5.1 through 5.2—Non-cancer Toxicity Data
- Table 6.1 through 6.2—Cancer Toxicity Data
- Table 7a.1.1 through 7a.1.3—Calculation of Chemical Cancer Risks
- Table 7b.1.1 through 7b.1.2—Calculation of Chemical Non-cancer Hazards
- Table 7.1 Supplement and 7.2 Supplement—Model for Estimating Dermal Exposure
- Table 9.1.1 through 9.1.3—Summary of Receptor Risks and Hazards
- Table 10.1.1 through 10.1.3—Risk Summary

Appendix A also presents the OU2 groundwater dataset.

EPA vapor intrusion guidance (Johnson and Ettinger [J&E] model; EPA, 2004c) is used to evaluate exposure due to soil gas vapor intrusion into indoor air, to perform screening-level exposure and cancer risk and non-cancer health hazard calculations, and to summarize the results of the risk evaluation.

The screening-level risk evaluation of soil vapor intrusion into indoor air for the Whispering Fountains Apartments is presented in Appendix B; tables include the following:

- Table B-1—Soil and Building Parameters used in the J&E Model
- Table B-2—Onsite Soil Physical Properties used in the J&E Model
- Table B-3—VOCs Soil Gas Concentrations used in J&E Model
- Tables B-4 through B-13—Risk and Hazard Results and Summary

Appendix B also presents supporting materials for the screening-level soil gas evaluation, including:

- Soil gas sampling results
- HydroPunch groundwater sampling results
- J&E model input and output sheets

The following figures are included in this document to support this baseline HHRA:

- Figure 1—Site Location Map
- Figure 2—Operable Unit Location Map, Units 1 and 2
- Figure 3—PCE Plume Extent and Monitoring Well Location Map
- Figure 4—Soil Gas Investigation Sample Location Map
- Figure 5—Human Health Conceptual Site Model Diagram

4. Current and Potential Future Uses of Groundwater

Currently, groundwater from deep production wells adjacent to the sitewide groundwater OU2 study area is used for drinking and domestic purposes. Contaminated groundwater found at shallow depth at OU2 is not used for any purpose. Potential future use of this OU1 and OU2 groundwater resource can include drinking water and other domestic purposes. Because OU2 is located in a recharge area of the Central Basin, there is potential for contamination in shallow groundwater to reach deeper, drinking water aquifers.

5. Introduction and Human Risk Summary

This baseline HHRA evaluates whether groundwater contamination in OU2 poses a current or potential future risk to human health. This risk assessment supports the evaluation of potential public health impacts from the contamination of OU2 groundwater used as drinking water. This HHRA evaluates current and potential future health risks from residential exposures to contaminants observed in groundwater at OU2 and in soil gas at Whispering Fountains Apartments. This HHRA evaluates groundwater data collected from EPA and OPOG monitoring wells. Soil gas data were collected from EPA's temporary wells.

This risk assessment evaluates potential future cancer risks and non-cancer health hazards from exposure to OU2 groundwater used as tap water by adult and child residents. The results of this evaluation include:

Cancer Risks. Total adult plus child cancer risks from potential exposure through ingestion, inhalation and dermal contact to untreated groundwater at EPA and OPOG monitoring wells are 9E-01, with PCE contributing 98 percent of cancer risk. PCE, 1,2-dichloroethane, 1,4-dioxane, chloroform, 1,2-dibromo-3-chloropropane, arsenic, methylene chloride, TCE, 1,1,2-trichloroethane, benzene, tetrahydrofuran, and n-nitrosodimethylamine (NDMA) are the primary contributors to total cancer risks for groundwater monitoring wells; each of these contributes more than 1E-04 risk.

Non-cancer Health Hazards. The total estimated HI for child exposure from potential ingestion, inhalation, and dermal exposure to untreated groundwater at EPA and OPOG monitoring wells is 3,236. PCE and TCE are the major contributors to non-cancer hazards for all monitoring wells, followed by 1,2-dichloroethane, 1,2-dibromo-3-chloropropane, chloroform, 1,1-dichloroethene, and 1,1,2-trichloroethane.

Additionally, potential future carcinogenic risks and non-carcinogenic hazards are estimated from inhalation of indoor air that can be contaminated due to soil gas vapor intrusion from OU2-contaminated groundwater beneath the nearby Whispering Fountains Apartments. Estimated cancer risk from potential exposure through inhalation of indoor air for the Whispering Fountains residents is less than 1E-06. The estimated non-cancer hazard from potential exposure through inhalation of indoor air for the Whispering Fountains residents is far less than 1. Based on these results, inhalation exposure due to soil gas vapor intrusion into indoor air does not appear to pose a significant risk to the residents of Whispering Fountains Apartments.

The results of the OU2 HHRA confirm that groundwater resources have been significantly contaminated by VOCs in groundwater, and it is unsuitable as a source of tap water for domestic use. Continued action needs to be taken to protect potential receptors in OU2 from exposure to the contaminated groundwater in OU2, as well as to protect and restore the groundwater resources. This HHRA provides EPA with a human health risk basis for evaluating whether mitigation, remediation, or a removal action is warranted to mitigate the potential health effects from the VOCs, semivolatile organic compounds (SVOCs), selected inorganic ions, and metals in OU2 groundwater.

6. Human Health Risk Assessment Approach

This section presents the approach, methodology, and results of the OU2 HHRA. This HHRA evaluates existing and potential future cancer risks and non-cancer health hazards from residential (adults and children) exposures to VOCs, SVOCs, selected inorganic ions, and metals observed in OU2 sitewide groundwater. The HHRA assumes the use of untreated groundwater for drinking water or for other domestic purposes.

This HHRA also includes a screening-level evaluation of potential future cancer risks and non-cancer health hazards from residential exposure to soil gas vapor intrusion into indoor air for residents of the Whispering Fountains Apartments.

The results and conclusions of this HHRA provide EPA with a health-risk basis for evaluating whether action is warranted to mitigate potential health effects. This HHRA evaluates "baseline conditions." Baseline conditions assume that no treatment is implemented for VOCs, SVOCs, selected inorganic ions, and metals observed in OU2 groundwater. This allows EPA to decide whether action is necessary to protect human health.

The methods used to conduct this HHRA are consistent with the following EPA and California Environmental Protection Agency (Cal-EPA) regulatory guidelines:

- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A) (EPA, 1989)
- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part D) (EPA, 2001a)
- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part E) (EPA, 2004a)
- Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (Department of Toxic Substances Control [DTSC], 1992)
- User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings (EPA, 2004c)
- Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, Memorandum (EPA, 1991a)
- Risk Assessment Guidance for Superfund, Human Health Evaluation Manual, Supplemental Guidance for Default Exposure Factors (EPA, 1991b)
- Preliminary Endangerment Assessment Guidance Manual (DTSC, 1994)

The EPA and DTSC risk assessment framework consists of the following basic steps:

- Data evaluation/hazard identification
- Exposure assessment
- Toxicity assessment
- Risk characterization
- Uncertainty analysis

Evaluation of exposures, risks, and hazards was performed using the *Risk Assessment Guidance for Superfund* (EPA, 2001), RAGS Part D tables, risk calculations, methodology, and summary tables to support EPA RI report documentation. Exposure routes considered include ingestion, inhalation of VOCs, and dermal contact with groundwater. The OU2 HHRA is conducted for the following receptors:

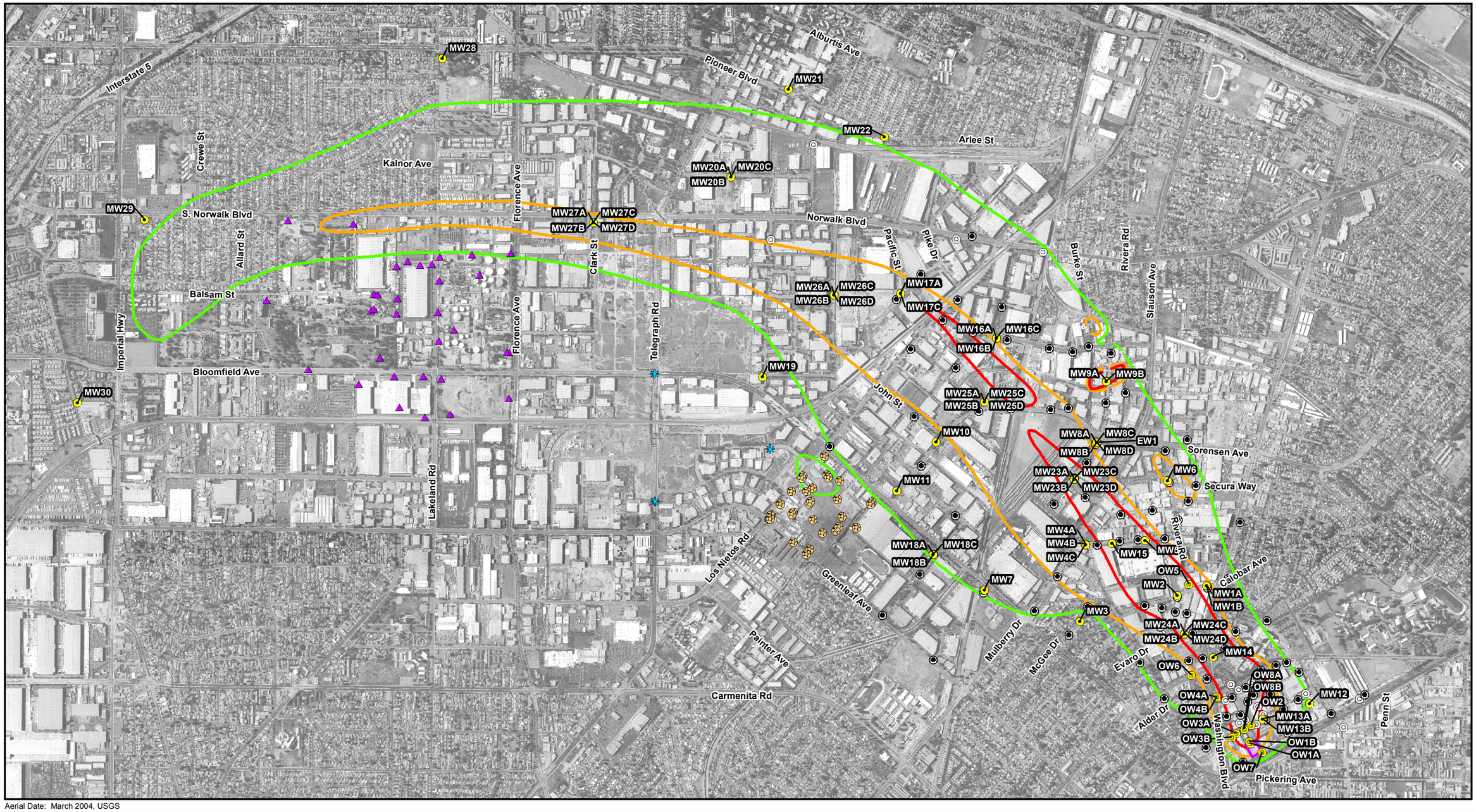
- Adult – reasonable maximum exposure (RME)
- Child – RME

The screening evaluation of exposures, and the assessment of risk and hazards from soil gas vapor intrusion to indoor air exposure for residents at Whispering Fountains Apartments follow EPA's *Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (EPA, 2004c). Exposure routes include inhalation of VOCs from indoor air. The Whispering Fountains HHRA is conducted for adult residential receptors.

6.1 Data Evaluation/Hazard Identification

PCE is the major groundwater contaminant from the Omega Property; it has the largest groundwater plume footprint and the highest groundwater contour concentrations. The PCE groundwater contamination starting from and including the Omega Property and extending downgradient approximately 1 mile southwest, with a groundwater PCE concentration at least 500 micrograms per liter (µg/L) defines the extent of the groundwater contour that is evaluated in the OU2 sitewide groundwater HHRA (Figure 3). EPA and OPOG groundwater wells inside the 500-µg/L contour (including wells used to construct the 500-µg/L contour) are evaluated in the OU2 HHRA.

This step consists of reviewing, evaluating, and compiling available groundwater analytical results for all detected VOCs, SVOCs, selected inorganic ions, and metals in OU2. This HHRA evaluates chemical contaminants that were detected in groundwater during the last 2 years (March 2004 to September 2006) of quarterly and semiannual groundwater sample collection from 13 wells (7 EPA monitoring wells and 6 OPOG wells, Figure 3). Soil gas data collected from four temporary wells in the Whispering Fountains area of OU2 in early 2007 also were reviewed, evaluated, and compiled (Figure 4).



Aerial Date: March 2004, USGS

Legend

- EPA Monitoring Well
- Omega Potentially Responsible Parties Organized Group (OPOG) Monitoring Well
- Oil Field Reclamation Project (OFRP) Well
- Waste Disposal, Inc. (WDI) Well (4th Quarter, 2002)
- CENCO Wells (November 2006)
- Production Well

Historical Boring Locations

- Auger Boring
- CPT Boring

- Former Omega Facility

Composite PCE Plume Extent

- 5 ug/L (Dashed where Approximate)
- 100 ug/L (Dashed where Approximate)
- 500 ug/L (Dashed where Approximate)

N

0 1,600 3,200 Feet

Figure 3
PCE Plume Extent and Monitoring Well Location Map
Omega Chemical Superfund Site

CH2MHILL

Date: December 18, 2007

\\galt\proj\Omega\2007\MapFiles\11x17_OperableLoc_v1.mxd

LEGEND

- Hydropunch
- Soil Gas Probe
- Soil Sample
- EPA Monitoring Well
- Approximate Residential Area Boundary
- 32-35 Depth of Hydropunch Sample (Feet below ground surface)

N

0 50 100 Feet

Figure 4
Soil Gas Investigation Sample Location Map
Omega Chemical Superfund Site

Date: 12/18/2007

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Analytical results from the 13 monitoring wells represent the OU2 groundwater data used to characterize the potential health risks and hazards from groundwater contamination in OU2.

EPA Monitoring Wells – The HHRA evaluates the groundwater data collected from seven EPA monitoring wells to estimate cumulative cancer risks and non-cancer hazards from contaminants in groundwater at locations of interest in OU2. The seven EPA wells are identified as:

- MW-2
- MW-4A
- MW-4B
- MW-5
- MW-14
- MW-15
- MW-23C

OPOG Monitoring Wells – The HHRA also uses the groundwater data collected from six OPOG monitoring wells to estimate cumulative cancer risks and non-cancer hazards from contaminants in groundwater at locations of interest in OU2. The OPOG wells are identified as:

- OW-1A
- OW-2
- OW-3
- OW-4A
- OW-5
- OW-8A

Temporary Soil Gas Sampling Wells – Data from four EPA temporary soil gas monitoring wells provide the soil gas data used to estimate potential health risks and hazards from soil gas contamination in the area surrounding the Whispering Fountains Apartment complex. The soil gas wells are identified as:

- SGRA-1
- SGRA-2
- SGRA-3
- SGRA-4

Soil gas samples were collected and analyzed by EPA Method TO-15 (VOCs) at three depth intervals from each location. Soil samples also were collected for each soil gas well location and depth interval to determine site-specific soil physical properties to support the soil gas risk evaluation. The soil gas monitoring data are used to estimate screening-level cancer risk and non-cancer hazards from soil gas vapor intrusion into indoor air for residents at the Whispering Fountains Apartment complex.

Classes of groundwater contaminants evaluated in this HHRA include:

- VOCs
- SVOCs
- Emergent compounds (1,2,3-trichloropropane, 1,4-dioxane, NDMA, and perchlorate)
- Metals

Detected chemicals in groundwater and soil gas are evaluated for risks and hazards. Background metals concentrations in groundwater from wells upgradient/cross-gradient of the Omega Site are used for screening of metals in groundwater. Only metals with concentrations above background levels in groundwater, including arsenic, hexavalent chromium, and nickel, are evaluated for risks and hazards.

COPCs in groundwater are presented in Appendix A, RAGS Part D Table 2.1.

The selection criteria for COPCs, designed to be conservative and health-protective, are described as follows:

Analytical results reviewed to date at EPA and OPOG monitoring wells are very consistent among sampling events; therefore, data from the most recent sampling events (last 2 years) are used in the HHRA to represent current conditions. The groundwater analytical results for EPA and OPOG monitoring wells are presented in Appendix A.

The 95 percent upper confidence level (UCL) of the mean of the COPC concentrations for EPA and OPOG monitoring wells in the subject groundwater plume were calculated using EPA's ProUCL 4 software. The 95 percent UCL was compared to the maximum detected concentration, and the lesser COPC concentration is used as the exposure point concentration (EPC) to represent RME conditions for this baseline risk assessment. The groundwater EPC for COPCs evaluated in the HHRA is presented in Appendix A, RAGS Part D Table 3.1.

All COPCs detected in soil gas samples at various depths were evaluated for screening-level exposure estimation using the J&E soil gas model. Soil gas concentrations used in the J&E model are presented in Appendix B, Table B-3.

6.2 Toxicity Assessment/Dose-Response Assessment

Several EPA and Cal-EPA sources are used to obtain toxicity criteria (that is, cancer slope factors and non-carcinogenic reference doses) used in the evaluation of cancer risks and non-cancer health hazards for the VOCs, SVOCs, selected inorganic ions, and metals observed in OU2 groundwater and soil gas samples. The list of sources includes:

- Integrated Risk Information System (IRIS) (EPA, 2007)
- Health Effects Assessment Summary Tables (HEAST) (EPA, 1997a)
- Provisional National Center for Environmental Assessment, TCE Toxicity Value (from the Region 9 preliminary remediation goal [PRG] tables) (EPA, 2004b)
- Office of Environmental Health Hazard Assessment (OEHHA), Toxicity Criteria Database (Cal-EPA, 2007)

The use of EPA and Cal-EPA toxicity values is in accordance with EPA Office of Solid Waste and Emergency Response Directive 9285.7-53 (EPA, 2003), which defines the EPA hierarchy of human health toxicity values for use in HHRAs and ensures the use of high-quality toxicity criteria for the estimation of risks and hazards during the HHRA process. When EPA and Cal-EPA have toxicity criteria, this HHRA uses the more conservative toxicity value comparing both Cal-EPA and EPA.

Because of the ongoing EPA assessment of the TCE toxicity criteria, this HHRA uses the TCE toxicity value from OEHHA (Cal-EPA, 2007).

Appendix A, RAGS Part D Tables 5.1, 5.2, 6.1, and 6.2 provide the toxicity criteria used for the VOCs, SVOCs, selected inorganic ions, and metals observed in OU2 groundwater.

6.3 Exposure Assessment

The exposure assessment component of the HHRA describes how individuals in or near OU2 could come in contact with chemicals in groundwater. The assessment addresses exposures that could result under existing conditions in OU2 and from reasonably anticipated potential land uses of OU2 and surrounding areas in the future. The exposure assessment contributes to the HHRA by describing the following:

- Populations that might be exposed
- Routes and exposure pathways by which individuals could become exposed
- Magnitude, frequency, and duration of potential exposures

6.3.1 Site and Potential Receptors

For OU2, this HHRA evaluates exposures and cancer risks (and non-cancer health hazards) from groundwater used as domestic tap water. For groundwater exposure, adult and child residents are evaluated as potential receptors.

Exposures and risks (and health hazards) from soil gas vapor intrusion are evaluated at one representative location. The screening-level risk assessment for soil gas exposure evaluates residents at the Whispering Fountains Apartment complex as potential receptors, because they are the closest residential receptors to the groundwater plume.

6.3.2 Conceptual Exposure/Pathway Analysis

Groundwater exposure routes include:

- Ingestion (primary exposure route for VOCs, SVOCs, and metals): Potential use of groundwater for potable use can expose people to the contaminants through ingestion as drinking water and use in food.

- Inhalation (primary exposure route for VOCs): Potential use of groundwater for domestic purposes can expose people to VOCs through inhalation during activities such as bathing and dishwashing.

- Dermal (not a primary exposure pathway for VOCs): Potential use of groundwater for domestic purposes can also expose people to VOCs, SVOCs, and metals through skin during activities such as bathing.

Exposure route for soil gas vapor intrusion to indoor air:

- Inhalation of Indoor Air: Volatile contaminants from contaminated soil and groundwater are released into soil gas. Contaminants in soil gas at shallow depths can be transported below buildings and enter into indoor air through cracks between the foundation and basement slab floor. These contaminants can accumulate in indoor air if there is poor ventilation. Building heating (and other associated heating, ventilation, and air conditioning [HVAC] system operations) can create negative pressure that can enhance the flow of soil gas into indoor air. Since VOCs at OU2 are found in shallow soil gas samples at the Whispering Fountains Apartments in close proximity to the OU2 PCE groundwater plume, exposure due to inhalation of indoor air is evaluated for the residents of the Whispering Fountains Apartments.

6.3.3 Reasonable Maximum Exposure

The assumptions used in this HHRA provide an RME estimate for adult and child residents. The RME scenario includes the assumptions in Table 1 for adult and child residents (EPA, 1989; EPA 1997b).

TABLE 1
Reasonable Maximum Exposure Assumptions

Assumption	Adult	Child
Exposure Duration	30 years	6 years
Exposure Frequency	350 days/year	350 days/year
Groundwater Ingestion Rate	2 liters/day	1 liter/day
Inhalation Rate	20 m^3/day	10 m^3/day
Body Weight	70 kg	15 kg
Averaging Time (Cancer)	25,550 days	25,550 days
Averaging Time (Non-cancer)	8,760 days	2,190 days

m^3 – cubic meters
kg – kilograms

This combination of several upper-bound assumptions provides assurance that the estimated risks presented under the RME scenario represent the high end of plausible exposure. In Appendix A, RAGS Part D Tables 4.1, 4.2, and 4.3 present a complete list of exposure assumptions used to estimate potential hazards and risks for adult and child residents.

6.3.4 Site Conceptual Model

The human health conceptual site model diagram shown in Figure 5 summarizes information about contamination and transport through the environment to potential human receptors in a schematic presentation (EPA, 1989). The human health conceptual site model consists of the following components:

- Potential primary contamination sources (Omega Site)
- Contamination release mechanisms (spills and leaks)
- Potential secondary contamination sources (contaminated soil)
- Contaminant transport mechanisms (for example, infiltration to groundwater)
- Contaminated exposure media (for example, groundwater, soil gas to indoor air)
- Exposure routes (ingestion, direct dermal contact, inhalation of VOCs during domestic water use, and inhalation of VOCs from indoor air)
- Potentially exposed receptors (for example, residents)

Based on an evaluation of potential human exposures and health risks from OU2 groundwater used as tap water or for other domestic uses by residents (adult and child), the exposure routes shown in Table 2 are determined to have potentially complete exposure pathways.

TABLE 2
Potential Exposure Routes

Receptor	Exposure-Related Activities	Exposure Route
Residential Adult and Child	Consumption of drinking water	Ingestion
	Showering/bathing	Dermal contact
	Typical domestic activities (e.g., dishwashing and laundering)	Inhalation (VOCs only)
Residential Adult	Inhalation of indoor air	Inhalation (indoor vapor intrusion, VOCs only)

6.3.5 Exposure Assessment

OU2 consists of residential areas and industrial/commercial areas. However, residential exposures represent the maximally exposed population; therefore, quantitative risk evaluation for groundwater exposures uses residential exposures for adult and child receptors.

The equations presented below are used to calculate chemical intake associated with exposure to carcinogenic and non-carcinogenic constituents in groundwater.

6.3.5.1 Exposure Parameters and Equations

Ingestion of Groundwater

To calculate intake by ingestion of groundwater, groundwater ingestion rates are applied (Appendix A, RAGS Part D Table 4). The groundwater ingestion rates identified for assessing a residential exposure are 2 liters per day (L/day) for an adult and 1 L/day for a child (EPA, 1989):

$$Intake = \frac{C_{gw} \times IR_w \times EF \times ED}{BW \times AT}$$

Where:

Intake	=	Constituent daily intake (milligrams per kilogram [mg/kg] body weight/day)
C_{gw}	=	Chemical concentration in groundwater (milligrams per liter [mg/L])
IngR	=	Groundwater ingestion rate (L/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
BW	=	Body weight (kg)
AT	=	Averaging time (days)

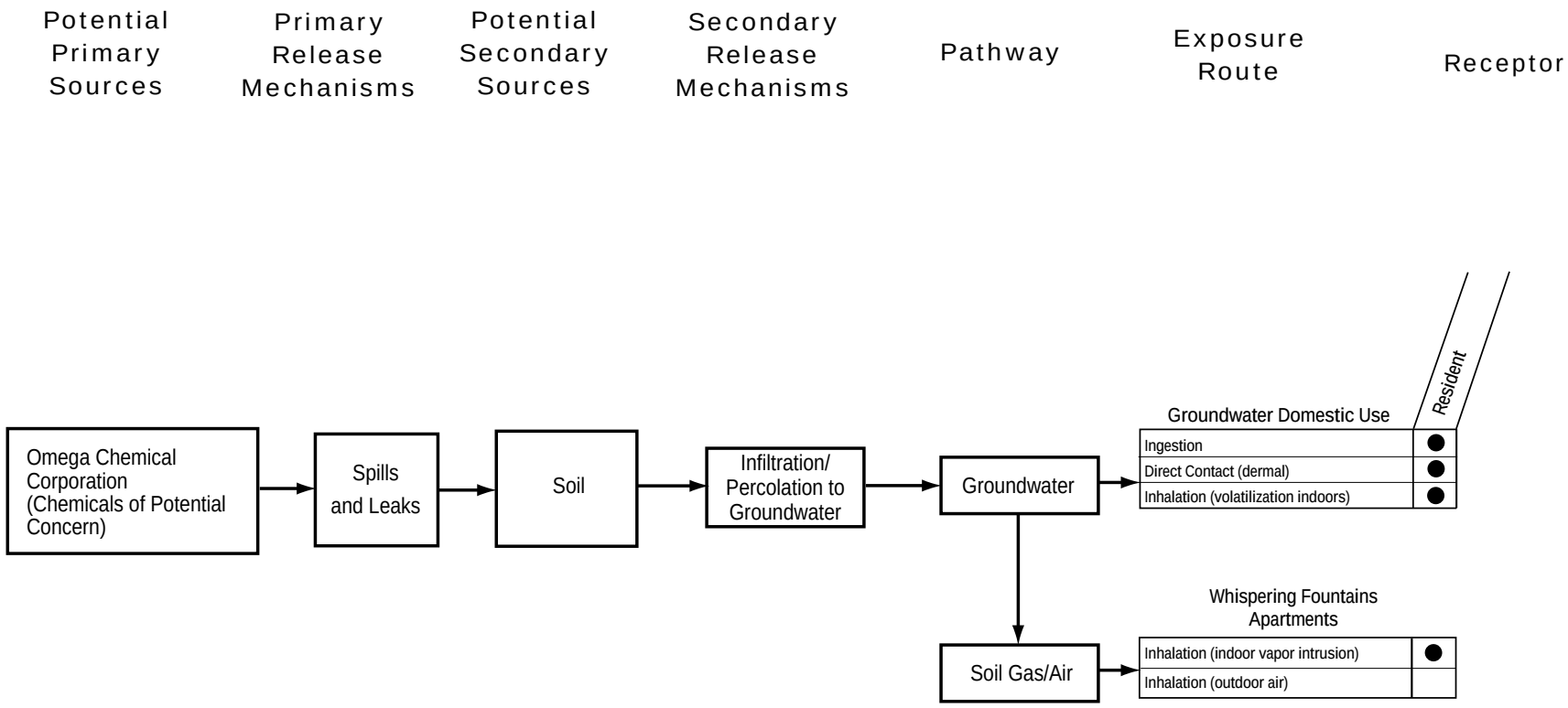
Dermal Contact with Groundwater

Exposure assumptions used in the intake calculations for the dermal contact with groundwater include body surface area and absorbed dose per exposure event per area of skin exposed (DA_event) (Appendix A, RAGS Part D, Table 4). These parameters are presented below:

- **Skin Surface Area –** The body surface area is the total amount of skin surface that can be exposed to contaminated groundwater. The resident is assumed to be exposed for a bathing scenario. The recommended exposed skin surface area is the total body surface area, which is 18,000 square centimeters (cm^2) for an adult and 6,600 cm^2 for a child (Cal-EPA, 2005b).
- **Absorbed Dose per Event (DA_event) –** The absorbed dose of a chemical per event of exposure is the total estimated dose dissolved in the skin at the end of exposure (EPA, 2004a). A chemical-specific DA_event (milligrams per cubic centimeter [mg/cm^3]-event) is applied. For organic chemical compounds, the DA_event is:

If $t_{event} > t^*$

$$DA_{event} = FA \times K_p \times C_{gw} \left[\frac{t_{event}}{1+B} + 2t\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2} \right) \right]$$



LEGEND:

● = Potentially Complete Pathway

Figure 5
Human Health Conceptual Site Model Diagram
Omega Chemical Superfund Site

CH2MHILL

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If $t_{event} \leq t^*$

$$DA_{event} = 2\ FA \times K_p \times C_{gw} \sqrt{\frac{6\tau \times t_{event}}{\Pi}}$$

For inorganic chemical compounds, the DA_event is:

$$DA_{event} = K_p \times C_{gw} \times t_{event}$$

Where:

t_{event}	=	Exposure time (hours)
t*	=	Time to reach steady state (hours)
τ	=	Lag time per event
π	=	Pi
B	=	Dimensionless coefficient (centimeters per hour [cm/hr])
FA	=	Fraction absorbed (unitless)
Kp	=	Dermal permeability coefficient (cm/hr); (presented in Appendix A, RAGS Part D Tables 7c.1.1 and Table 7c.1.2)

Chemical intake via dermal contact with groundwater was estimated according to the following equation (EPA, 1989):

$$Intake = \frac{DAevent \times SA \times EF \times ED}{BW \times AT}$$

Where:

Intake	=	Constituent daily intake (mg/kg body weight/day)
C_{gw}	=	Chemical concentration in groundwater (mg/L)
SA	=	Exposed skin surface area
ET	=	Exposure time (hours/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
BW	=	Body weight (kg)
AT	=	Averaging time (days)

Inhalation of Volatile Constituents in Groundwater

Residents may be exposed to volatile COPCs in groundwater, which travel from tap water to indoor air during showers, baths, dishwashing, laundry, and cooking.

The following equation is used to calculate intake associated with the inhalation of volatile carcinogenic and non-carcinogenic constituents in groundwater:

$$Intake = \frac{C_{gw} \times InhR \times VF \times EF \times ED \times ET}{BW \times AT}$$

Where:

Intake	=	Constituent daily intake (mg/kg body weight/day)
C_w	=	Constituent concentration in groundwater (mg/L)
InhR	=	Inhalation rate (cubic meters per hour [m^3/hr])
VF	=	Volatilization Factor (liters per cubic meter [L/m^3])
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
ET	=	Exposure time (hours/day)
BW	=	Body weight (kg)
AT	=	Averaging time (days [years * 365 days/year])

Volatilization Factor – The volatilization factor represents the amount of chemical that can be transferred into air from water. EPA (2004b) suggests a default value of 0.5, assuming the volume of water used in a residence for a family of four is 720 L/day, the volume of the dwelling is 150,000 L, and the air exchange rate is 0.25 m^3/hr (EPA, 1991c).

Soil Vapor Intrusion into Indoor Air

Soil gas exposures are estimated for adults based on the onsite soil gas values and supporting soil parameters data using the soil gas screening-level version of the J&E model (Version 3.1; EPA, 2004c).

The J&E (1991) model is used to estimate the concentration in indoor air from a contaminant vapor source located some distance below the floor of an enclosed building constructed with a basement or constructed slab-on-grade. The source of contamination is either a soil-incorporated VOC or a VOC in solution with groundwater below the top of the water table.

The source of contamination is assumed to be incorporated in soil and located some distance below the enclosed space floor. At the top boundary of contamination, the contaminant vapors move by molecular diffusion toward the soil surface until they reach the zone of influence of the building. Here, convective air movement within the soil column transports the vapors through cracks between the foundation and the basement slab floor. This convective sweep effect is induced by a negative pressure within the structure caused by a combination of wind effects and stack effects due to building heating and mechanical ventilation. The rate of soil gas entry is a function solely of convection; however, the VOC concentration entering the structure may be limited by either convection or diffusion, depending upon the magnitude of the source-building separation.

The concentration in indoor air resulting from VOC intrusion into a structure from pressure-driven airflow is calculated from the building volume (length, width, and height) and the building ventilation rate (numbers of air changes per hour).

The following list represents the major assumptions/limitations of the J&E (1991) model:

- The initial concentration of VOCs in soil does not contain a residual-phase (e.g., nonaqueous-phase liquid or solid), and the initial concentration of VOCs in groundwater is less than the aqueous solubility limit.
- Contaminant vapors enter the structure primarily through cracks and openings in the walls and foundation.
- Convective transport occurs primarily within the building zone of influence, and vapor velocities decrease rapidly with increasing distance from the structure.
- Diffusion dominates vapor transport between the source of contamination and the building zone of influence.
- All vapors originating from below the building will enter the building unless the floors and walls are perfect vapor barriers.
- All soil properties in any horizontal plane are homogeneous.
- The contaminant is homogeneously distributed within the zone of contamination.
- The areal extent of contamination is greater than that of the building floor in contact with the soil.
- Vapor transport occurs in the absence of convective water movement within the soil column (i.e., evaporation or infiltration), and in the absence of mechanical dispersion.
- The model does not account for transformation processes (e.g., biodegradation, hydrolysis, etc.).
- The soil layer in contact with the structure floor and walls is isotropic with respect to permeability.
- Both the building ventilation rate and the difference in dynamic pressure between the interior of the structure and the soil surface are constant values.

To estimate worst-case conditions, maximum soil gas concentrations are used as the initial concentrations at the source. Onsite soil physical parameters for use in the J&E model were determined for each soil gas sample collected. The soil and building parameters used in the J&E model are presented in Appendix B, Table B-2.

6.4 Risk Characterization

This HHRA follows EPA guidance to estimate future potential residential health hazards and risks from exposure to untreated groundwater used for drinking water and other domestic use (EPA, 1989, 1991a, 1991b, and 1991c). Exposures, potential cancer risks, and non-cancer hazards are estimated assuming residents are the most likely receptors to be exposed to contaminants in groundwater on a daily basis. The HHRA assumes continued, unrestricted use of groundwater in the future.

6.4.1 Risk Quantification Equations

In the risk characterization step, results of the exposure assessment (estimated chemical intakes) are combined with the results of the dose-response assessment (toxicity values identified in the toxicity assessment) to provide numerical estimates of potential cancer and non-cancer health effects. The quantification approach differs for potential non-cancer and cancer effects.

6.4.1.1 Cancer Effects

The potential for cancer effects is evaluated by estimating excess lifetime cancer risk (ELCR), the incremental increase in the probability of developing cancer during one's lifetime in addition to the background probability of developing cancer (that is, if no exposure to chemicals occurs). For example, a 2E-06 ELCR means that, for every 1 million people exposed to OU2-related carcinogens throughout their lifetimes, the average incidence of cancer might increase by two cases of cancer.

EPA developed cancer slope factors that represent upper-boundary estimates; therefore, cancer risk estimates in this assessment should be regarded as an upper boundary of the potential cancer risks rather than a representation of true cancer risk. The actual cancer risk is likely to be less than that predicted in the HHRA (EPA, 1989).

ELCRs for OU2 are estimated by using the following equation:

$$ELCR = CSF \times Intake$$

Where:

ELCR	=	Excess lifetime cancer risk
CSF	=	Cancer slope factor (risk per milligram per kilogram per day [mg/kg-day]) or $(mg/kg\text{-}day)^{-1}$
Intake	=	Chronic daily intake averaged over a lifetime (mg/kg-day)

Although synergistic or antagonistic interactions might occur between cancer-causing chemicals and other chemicals, information to predict quantitatively the effects of these potential interactions is generally unavailable in toxicological literature. Therefore, in this HHRA, the total cancer risk for an exposure route is calculated by adding cancer risks for individual chemicals for that exposure route, which is consistent with the EPA guidelines on chemical mixtures (EPA, 1989). The following equation is used to sum risks to estimate the cancer risks from exposure to multiple carcinogens from a single exposure route:

$$Risk_T = \sum_1^N Risk_i$$

Where:

$Risk_T$	=	Total cancer risk from route of exposure
$Risk_i$	=	Cancer risk for the ith chemical
N	=	Number of chemicals

EPA (2004c) guidance for the J&E model is used to calculate the screening-level ELCR associated with each VOC detected in soil gas. The following equation is used to estimate the ELCR for carcinogenic chemicals:

$$ELCR = \frac{URF \times EF \times ED \times C_{building}}{ATC \times 365\ days/year}$$

Where:

URF = Unit risk factor (micrograms per cubic meter [$\mu g/m^3$])$^{-1}$
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
ATC = Averaging time – carcinogenic (years)
$C_{building}$= Vapor concentration in the building ($\mu g/m^3$)

6.4.1.2 Non-cancer Effects

For non-cancer effects, the likelihood that a receptor will develop an adverse effect is estimated by comparing the predicted level of exposure for a particular chemical (chronic daily intake) with the highest level of exposure that is considered protective (that is, its reference dose [RfD]).

The following ratio of the chronic daily intake divided by RfD is termed the hazard quotient (HQ).

$$HQ = \frac{Intake}{RfD}$$

Where:

HQ = Hazard quotient
RfD = Reference dose (mg/kg-day)
Intake = Chronic daily intake (mg/kg-day)

An HQ greater than 1 (that is, exposure that exceeds the RfD) indicates potential non-cancer health effects. To assess the potential for non-cancer health effects posed by exposure to multiple chemicals, an HI approach is used according to EPA guidance (EPA, 1989). This approach assumes that the non-cancer hazard associated with exposure to more than one chemical is additive; therefore, synergistic or antagonistic interactions between chemicals will not occur.

The HI could exceed 1 even if all the individual HQs are less than 1. In this case, similar mechanisms of toxicity and toxicological effects could be criteria to segregate the chemicals. Separate HIs then could be derived based on mechanism and effect.

The HI is calculated as follows:

$$HI = \sum_{1}^{N} E_i \Big/ RfD_i$$

Where:

HI	=	Hazard index
E_i	=	Daily intake of the ith chemical (mg/kg-day)
RfD_i	=	Reference dose of the ith chemical (mg/kg-day)
N	=	Number of chemicals

Additionally, for each receptor, cumulative cancer risks across all relevant exposure routes are evaluated. Risks for oral, inhalation of VOCs, and dermal contact routes of exposure are summed, as available. In a similar manner, cumulative non-cancer health hazards are summed across routes.

EPA (2004c) guidance for the J&E model is used to calculate the HQ associated with each VOC detected in soil gas.

The following equation is used to estimate the HQ for non-carcinogenic chemicals:

$$HQ = \frac{EF \times ED \times \frac{1}{RfC} \times C_{buildihng}}{ATNC \times 365\ days/year}$$

Where:

RfC	=	Reference concentration (milligrams per cubic meter [mg/m^3])
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
ATNC	=	Averaging time – non-carcinogenic (years)
$C_{building}$	=	Vapor concentration in the building (mg/m^3)

6.5 Results

This section presents the results from the estimation of potential cancer risks and non-cancer health hazards from the domestic use of untreated groundwater from OU2. The results from the estimation of potential cancer risks and non-cancer hazards due to inhalation exposure from soil gas vapor intrusion to indoor air at the Whispering Fountains Apartments are also presented. For this baseline HHRA, the potential for unacceptable cancer risks and non-cancer health hazards is identified using the following criteria:

- ELCR values are compared to a risk management range of one-in-a-million (10^{-6} or 1E-06) to one-in-ten thousand (10^{-4} or 1E-04) (EPA, 2004b). ELCR values within or exceeding this range are actionable. This can then lead to a risk management decision that includes evaluating site-specific characteristics and exposure scenario factors to assess whether remedial action is warranted.

- An HI (the ratio of chemical intake to the RfD) greater than 1 indicates that there may be concern for potential non-cancer health effects associated with exposure to the contaminants of concern (EPA, 1989).

6.5.1 Carcinogenic Risks

Potential future carcinogenic risks are estimated for the domestic use of untreated groundwater from EPA and OPOG monitoring wells in OU2. The HHRA evaluates a scenario of RME for an adult, child, and adult plus child resident. Appendix A, RAGS Part D Table 3.1presents groundwater exposure point concentrations; RAGS Part D Tables 7a.1.1 through 7a.1.3 present risk calculation worksheets; and RAGS Part D Tables 9.1.1 through 9.1.3 present a detailed summary of risk results for each receptor due to exposure to OU2-related COPCs. A summary of the risks and hazards from exposure to groundwater from EPA and OPOG monitoring wells is presented in RAGS Part D Tables 10.1.1, 10.1.2, and 10.1.3.

To provide an estimate of maximum potential cancer risk, the total adult plus child risk due to ingestion, inhalation, and dermal exposure of chemicals in groundwater is estimated and presented in Table 3.

TABLE 3
Estimate of Potential Cancer Risk

Chemical of Potential Concern	Cancer Risk	Percent Contribution
1,2-Dichloroethane	2E-03	<0.5
1,4-Dioxane	1E-03	<0.5
Chloroform	4E-03	<0.5
Methylene Chloride	9E-04	<0.5
Tetrachloroethene (PCE)	9E-01	98
Trichloroethene (TCE)	1E-03	<0.5
1,1,1,2-Tetrachloroethane	9E-06	<0.5
1,1,2,2-Tetrachloroethane	1E-05	<0.5
1,1,2-Trichloroethane	1E-03	<0.5
1,1-Dichloroethane	2E-05	<0.5
1,2,4-Trichlorobenzene	7E-08	<0.5
1,2-Dibromo-3-chloropropane	4E-03	<0.5
1,2-Dichloropropane	1E-05	<0.5
1,4-Dichlorobenzene	3E-06	<0.5
Benzene	2E-04	<0.5
Bromodichloromethane	5E-06	<0.5
Bromoform	4E-07	<0.5
Carbon Tetrachloride	4E-06	<0.5
Chloroethane	5E-08	<0.5
Dibromochloromethane	1E-05	<0.5
Methyl Tertiary Butyl Ether (MTBE)	4E-07	<0.5
Naphthalene	5E-06	<0.5
Tetrahydrofuran	4E-04	<0.5

TABLE 3
Estimate of Potential Cancer Risk

Chemical of Potential Concern	Cancer Risk	Percent Contribution
Vinyl Chloride	3E-05	<0.5
1,2,3-Trichloropropane	3E-06	<0.5
Bis(2-ethylhexyl)phthalate (DEHP)	7E-06	<0.5
Isophorone	7E-08	<0.5
N-Nitrosodimethylamine (NDMA)	1E-04	<0.5
Pentachlorophenol	7E-06	<0.5
Arsenic	2E-03	<0.5
Total	**9E-01**	**100**

6.5.1.1 Summary Results and Key Findings

- Total adult plus child cancer risk from potential exposure through ingestion, inhalation, and dermal contact to untreated groundwater from the EPA and OPOG OU2 monitoring wells is 0.9E-01, with PCE contributing 98 percent of the cancer risk.
- Ingestion (56 percent) is the major contributor route of exposure to total cancer risk.
- PCE, 1,2-dichloroethane, 1,4-dioxane, chloroform, 1,2-dibromo-3-chloropropane, arsenic, methylene chloride, TCE, 1,1,2-trichloroethane, benzene, tetrahydrofuran, and NDMA are the primary contributors to total cancer risks for the OU2 groundwater monitoring wells, and each contributes 1E-04 or more risk.

6.5.2 Non-carcinogenic Health Hazards

Potential future non-carcinogenic health hazards are estimated for the domestic use of untreated groundwater at EPA and OPOG monitoring wells in OU2. The HHRA evaluates a scenario of RME for an adult and child resident. Appendix A, RAGS Part D Table 3.1 presents groundwater exposure point concentrations; RAGS Part D Tables 7b.1.1, 7b.1.2, 9.1.1, and 9.1.2 present hazard calculation worksheets and a detailed summary of hazard results for each receptor by chemical. A summary of the hazards from exposure to groundwater for EPA and OPOG monitoring wells is presented in RAGS Part D Tables 10.1.1, and 10.1.2 for monitoring wells.

Chemicals that showed a total HQ equal to or greater than 1 for the child receptor due to ingestion, inhalation, and dermal exposure of chemicals in groundwater are presented in Table 4.

6.5.2.1 Summary Results and Key Findings

- Total estimated HIs for child receptors from potential ingestion, inhalation, and dermal exposure to untreated groundwater from EPA and OPOG monitoring wells are a total of 3,236.
- Inhalation (69 percent contribution) is the major contributor route of exposure to non-cancer hazards.

- PCE (84 percent contribution) and TCE (10 percent contribution) are the major contributors to non-cancer hazards for all monitoring wells, followed by 1,2-dichloroethane, 1,2-dibromo-3-chloropropane, chloroform, 1,1-dichloroethene, and 1,1,2-trichloroethane.

TABLE 4
Chemicals with an HQ Equal to or Greater than 1 for Child Receptor

Chemical of Potential Concern	Non-cancer HQ	Percent Contribution
1,1-Dichloroethene	18	0.6
1,2-Dichloroethane	57	2
Chloroform	17	0.5
Methylene Chloride	3	<0.5
Tetrachloroethene (PCE)	2700	84
Trichloroethene (TCE)	330	10
1,1,2-Trichloroethane	17	0.5
1,2,4-Trimethylbenzene	1	<0.5
1,2-Diboromo-3-chloropropane	38	1
Benzene	1	<0.5
Bromomethane	7	<0.5
Tetrahydrofuran	3	<0.5
N-Nitrosodimethylamine (NDMA)	2	<0.5
Arsenic	3	<0.5
Total	**3,236**	

6.5.3 Soil Gas Screening Risk Evaluation

A soil gas screening risk evaluation was conducted for the nearby Whispering Fountains Apartment complex to evaluate potential future carcinogenic risks and non-carcinogenic hazards from the inhalation exposure to VOCs in indoor air due to vapor intrusion from the subsurface. Soil gas samples were collected from four locations at three depth intervals.

Screening level cancer risks and non-cancer health hazards are evaluated for the following contaminants detected in soil gas samples: benzene, chloroform, ethylbenzene, PCE, toluene, TCE, Freon 11, Freon 113, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, m,p-xylene, and o-xylene. Except for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, toluene, m,p-xylene, and o-xylene, these contaminants were also detected in HydroPunch groundwater samples collected at the same locations as the soil gas samples. The results of these collocated samples (soil gas and groundwater) support the connection between the OU2 groundwater VOC contamination and potential indoor air vapor intrusion. However, the soil gas COPCs not detected in the HydroPunch groundwater samples are also OU2 groundwater COPCs and were evaluated in the soil gas screening-level evaluation for completeness.

The screening-level soil gas evaluation using EPA's J&E soil gas screening model evaluates soil gas exposures in indoor air and the subsequent cancer risk and non-cancer health hazards for adult receptors. The screening-level soil gas risk assessment was performed on each soil gas sample for all COPCs detected in the samples. A summary of risks and

hazards from soil gas exposure due to inhalation of indoor air is presented in Appendix B, Tables B-1 to B-13, for EPA's temporary soil gas sampling wells in OU2.

6.5.3.1 Summary Results and Key Findings

- The estimated cancer risk from potential exposure to chemicals detected in soil gas through inhalation of indoor air for the Whispering Fountains residents is less than 1E-06. The estimated potential cancer risk for the four locations evaluated ranges from 3E-08 to 3E-07.
- The estimated non-cancer hazard from potential exposure to all the chemicals detected in soil gas through inhalation of indoor air for the Whispering Fountains residents is less than 1. The potential estimated non-cancer hazard for the four locations evaluated ranges from 0.0002 to 0.004.

7. Uncertainty Analysis

This HHRA presents quantitative estimates of potential future cancer risks and health hazards; however, these numbers do not predict actual health outcomes. Using approaches and methodologies based on EPA and Cal-EPA guidance documents, the health risks and hazards are calculated in a conservative, public-health-protective manner that tends to overestimate risks. Thus, any actual health impacts are likely to be lower than these estimates. Assumptions regarding domestic water consumption used in this HHRA tend to be high-biased (that is, based on the use of RME water consumption exposure factors) and, therefore, are likely to overestimate actual exposures and risks.

The EPA risk assessment paradigm includes an uncertainty analysis (EPA, 1989). The goal of the uncertainty analysis is to inform risk managers about the type of uncertainties that affect the range of potential risks and hazards estimated in the HHRA, which helps to maximize confidence in EPA decisions based on the results of the HHRA. Sources of uncertainty in the development of the OU2 HHRA are identified in this section. The potential effects of the uncertainties identified are qualitatively analyzed and discussed.

The uncertainty analysis can minimize decision making errors by identifying methods or approaches that could lead to incorrect conclusions based on the results of the HHRA. This is accomplished by evaluating the sources of uncertainty associated with key data and assumptions used to develop the HHRA. By evaluating the sources of uncertainty and reducing uncertainty in the results of the HHRA, the uncertainty analysis serves to increase confidence in the outcome and decisions made based on the HHRA.

Uncertainties associated with the HHRA can be classified into the following categories:

1. Specific uncertainties in characterizing OU2
2. Uncertainties associated with describing exposures
3. Uncertainties in the risk assessment process in general (that is, the toxicity values used to estimate risks and hazards)

Uncertainties associated with the HHRA could arise from a variety of sources as summarized in Table 5 and described in detail below.

7.1 Selection of COPCs

COPCs consisting of VOCs, SVOCs, inorganic ions, and metals are selected based on the detection of these chemicals in groundwater at EPA and OPOG monitoring wells installed as part of site investigations at OU2. COPCs are identified by reviewing all available groundwater data and compiling data for all detected chemicals for the past 2 years. Thus, unless new regulatory limits are promulgated or new toxicity criteria are identified by the State of California or EPA, it is unlikely that major new COPCs will be identified for OU2. The comprehensive nature of COPCs identified in OU2 should thus maximize confidence in decision making during the HHRA.

TABLE 5
Uncertainties Associated with the Human Health Risk Assessment

Sources of Uncertainty	Category of Uncertainty (See Notes)		
	1	2	3
Selection of COPCs	x		
Environmental data quality	x		
Sampling and analysis	x		
Fate and transport estimation	x		
Exposure estimation		x	
Toxicological data			x
Risk characterization			x

Notes:
1. Specific uncertainties in characterizing OU2
2. Uncertainties associated with describing exposures
3. Uncertainties in the risk assessment process in general (that is, the toxicity values used to estimate risks and hazards)

7.2 Environmental Data Quality

The groundwater data for OU2 come from two sources: EPA and OPOG. The soil gas data come from the EPA RI investigation. Both sources provide high-quality data, which are collected according to the EPA-approved Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP). Quality assurance/quality control (QA/QC) documentation from all sources can be obtained and reviewed, as needed. All samples are analyzed by EPA-approved analytical methods. Detection limits for each analysis are also considered for purposes of data usability for risk assessment purposes.

Groundwater data from both EPA and OPOG sources are generally compiled from multiple periodic groundwater sampling events. The data from each well are reviewed to confirm that the data present a consistent and reasonable picture of groundwater conditions. Any wide fluctuations in chemicals identified or concentrations observed are considered an indication of potential problems with that portion of the dataset.

The data evaluations performed to support the assessment of data usability document the adequacy of the groundwater data by evaluating data quality, quantity, and data comparability for the two sources (EPA and OPOG). This resulted in the use of data of known quality in the HHRA and maximizes confidence in the decisions made.

7.3 Sampling and Analysis

Uncertainty associated with sampling and analysis includes the inherent variability (standard error) in the analyses, representativeness of the samples, sampling errors, and the heterogeneous nature of the sample matrix. The QA/QC program serves to reduce errors associated with sampling and analysis of groundwater samples collected at OU2.

7.4 Fate and Transport Estimation

The risk assessment for residential uses of groundwater makes simplifying assumptions about the environmental fate and transport of OU2 contaminants. Specifically, it assumes that no dilution or reduction in chemical concentration occurs during the assessed exposure duration of 30 years.

The evaluation of future residential use of groundwater in this HHRA is a hypothetical scenario used to provide a conservative frame of reference for OU2 decision making. It assumes that the contaminant concentrations currently observed at wells would be consumed by the potential future resident under the same exposure conditions for the full 30-year exposure duration (that is, over time, no dilution or reduction in chemical concentrations occurs). This assumption is highly conservative and, therefore, likely to contribute to an overestimation of exposure to COPCs.

7.5 Exposure Estimation

The estimation of exposure requires numerous assumptions to describe potential exposure routes. A number of uncertainties exist regarding the likelihood of exposure, frequency of contact with contaminated media, the concentration of contaminants at exposure points, and the period of exposure. Assumptions used in this HHRA tend to simplify and conservatively approximate actual site conditions, thereby serving to maximize confidence in decision making during the HHRA. For instance, assumptions regarding domestic water consumption used in this HHRA tend to be high-biased (that is, based on RME water consumption exposure factors) and, thus, likely to overestimate exposures and risks.

Non-cancer and cancer risks for residential use of groundwater based estimates on typical conservative exposure assumptions for adults and children. For non-carcinogens, the estimated HI based on a child's exposure may be up to 2 times higher than the HI based on an adult's exposure due to a higher daily dose per body weight. For carcinogens, the longer length of exposure for adults offsets the higher daily dose for children. Residents could be exposed to volatile COPCs in groundwater transferred from tap water to the air from showers, baths, dishwashers, washing machines, and cooking. The assumptions used to calculate intake associated with the inhalation of volatile carcinogenic and non-carcinogenic constituents in groundwater are conservative (health protective). Thus, exposures and health impacts might be overestimated, especially in Southern California, where windows can be opened year-round to ventilate bathrooms, kitchens, and laundry rooms and to quickly exchange humid indoor air with outside air.

7.6 Johnson and Ettinger Model

Site-specific soil gas concentrations and soil physical parameters were used for the J&E soil gas modeling utilized to evaluate vapor intrusion risks at Whispering Fountains Apartments. Soil gas and soil samples for soil physical properties were measured from samples collected at four different locations and three different depth intervals at each sampling location. This approach results in the use of location-specific soil vapor attenuation factors to estimate onsite exposure and risks. This reduces the uncertainty

associated with the use of standardized soil gas screening levels such as the California Human Health Screening Levels (CHHSLs) from Cal-EPA DTSC, which are based on conservative generic soil vapor attenuation factors (Cal-EPA, 2005a and 2005c).

7.7 Toxicological Data

The use of toxicological data derived primarily from animal studies presents inherent uncertainties. General uncertainties associated with such data include extrapolation from high to low dose and from animals to humans. In laboratory studies, potential sources of uncertainty can include use of modeled animal species, gender differences, age, and strain differences in uptake, metabolism, organ distribution, and target site susceptibility. These uncertainties could be compounded when the data are used to assess risk and hazards to human populations, due to differences in diet, environment, activity patterns, and cultural factors. Specific uncertainty associated with this HHRA includes the factors described in the following subsections.

7.7.1 Dermal Toxicological Factors

The availability of dermal toxicological factors is limited. EPA has not published dermal RfDs or slope factors. Therefore, oral toxicity factors are used to estimate health impacts from dermal exposures. Dermal exposures can differ significantly from oral exposures. For example, not all of the chemical that comes into contact with a person's skin will travel across the various layers of epidermal tissue, and the toxic effects produced from this route of exposure might not be the same as when the chemical is ingested. The effect of using oral toxicity values to estimate dermal exposures could result in either underestimation or overestimation of risks, depending on whether a chemical is more or less toxic by the dermal route versus ingestion.

7.7.2 Trichloroethene

The carcinogenic toxicity values associated with TCE are a source of considerable uncertainty. Cal-EPA has established a cancer toxicity value for TCE; whereas, EPA uses a provisional TCE cancer toxicity value.

EPA's most current toxicity assessment of TCE is contained in EPA's Office of Research and Development (ORD) draft *Trichloroethylene Health Risk Assessment: Synthesis and Characterization* (draft TCE Health Risk Assessment; EPA, 2001b) released for external peer review. The draft TCE Health Risk Assessment takes into account recent scientific studies of the health risks posed by TCE.

According to the draft TCE Health Risk Assessment, for those who have increased susceptibility and/or higher background exposures, TCE could pose a higher risk through inhalation than previously considered. (The draft TCE Health Risk Assessment is available online at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=23249. The Science Advisory Board, a team of outside experts convened by EPA, reviewed the draft TCE Health Risk Assessment in 2002. The Science Advisory Board review of the draft TCE Health Risk Assessment is available at http://www.epa.gov/sab/pdf/ehc03002.pdf.)

The release of the draft TCE Health Risk Assessment preceded much debate about the quality of evidence on TCE and how that evidence should be assessed. This prompted an interagency group to request that a National Academy of Sciences (NAS) committee (National Research Council) review specific issues related to assessing the health risks from exposure to TCE.

The new report from the NAS committee (published July 27, 2006) concludes that evidence on cancer and other health risks from TCE exposure has strengthened since 2001 (National Research Council, 2006). Although the report recommends additional research to improve scientists' understanding of how the environmental contaminant TCE causes cancer and other adverse health effects, the report notes that sufficient information is available for EPA to complete the draft TCE Health Risk Assessment now. EPA is currently incorporating recommendations in the revised draft TCE Health Risk Assessment. The revised draft TCE Health Risk Assessment is likely to undergo further peer review and public comment prior to being finalized. It is likely to take several years until final TCE toxicity values (cancer slope factors) are on the IRIS.

In the HHRA for OU2, cancer risks in groundwater are evaluated using the Cal-EPA cancer toxicity values for TCE, thus providing lower values for TCE risk evaluation for groundwater than the provisional EPA value.

The EPA and Cal-EPA toxicological databases, from which toxicity values for the estimation of risks and hazards are obtained, are also a source of uncertainty. Considered collectively and based on the public health protective manner in which EPA and Cal-EPA develop the toxicity values, the factors contributing to uncertainty in toxicity values are likely to yield risk and health hazard estimates that are expected to be conservative and protective of public health. Uncertainty related to use of EPA and Cal-EPA cancer slope factors or non-cancer RfDs in this HHRA is consistent with comparable HHRAs conducted in EPA Region 9 and in the State of California.

7.8 Risk Characterization

The risk characterization assumes that the total potential risk of developing cancer from exposure to site contaminants is the sum of the risk attributed to each individual contaminant. Likewise, the potential for the development of non-cancer adverse effects is assumed to be the sum of the HQs estimated for exposure to each individual contaminant. This approach is consistent with EPA guidance; however, it does not account for the possibility of constituents interacting synergistically or antagonistically. The possibility of nonadditive interactions among COPCs results in uncertainty associated with the cumulative risks for carcinogens and HIs for non-carcinogens.

Considered collectively, the factors contributing to uncertainty are likely to yield health hazards and risk estimates that are expected to be health-conservative and protective of public health.

Cancer risk is estimated in this HHRA using a linear equation (RAGS Part A, 1989):

$$ELCR = CSF \times Intake.$$

This linear equation is valid only at low risk levels below estimated risks of 1E-02 (EPA, 1989). This HHRA estimates a total cancer risk of 9E-01, which is greater than 1E-02, using the linear equation. One contaminant, PCE contributes 98 percent of this risk. Since the estimated risk is far greater than the upper value of the risk management range one-in-ten thousand (10^{-04} or 1E-04), any risk estimation uncertainty associated with the linear equation would not have any impact on the conclusions of this HHRA.

8. Conclusions

This section presents the conclusions of the HHRA. The HHRA results will help determine if contaminants at OU2 pose a current or potential risk to human health and the environment in the absence of any remedial action. The risk assessment will assist EPA in the following areas:

- Evaluating the need for a comprehensive remedial action to address contaminated groundwater throughout OU2
- Providing justification for performing a remedial action
- Determining what exposure pathways need to be remediated

This baseline HHRA uses an approach for assessing risks that optimizes the available data set. Total baseline risk was estimated using data from all the groundwater wells within a 500-µg/L contour of PCE for groundwater exposure. A screening-level approach was used to estimate total risk for soil gas vapor intrusion to indoor air from monitoring wells impacted by VOCs identified in OU2 groundwater in the Whispering Fountains Apartment complex. The HHRA evaluates the need for a comprehensive remedial action for the entire OU2, rather than discrete actions at individual wells.

As appropriate, remedial actions could include restoring currently contaminated portions of the drinking water aquifers and/or protecting portions of the drinking water aquifers that are unaffected, so that unimpeded future use of these aquifers is possible. Thus, the HHRA will help EPA in its effort to protect groundwater at and outside OU2 as a resource and for potential use of the groundwater as a source of domestic water.

For this baseline HHRA, the potential for unacceptable cancer risks and non-cancer health hazards is identified using the following criteria:

- ELCR values are compared to a risk management range of one-in-a-million (10^{-6} or 1E-06) to one-in-ten thousand (10^{-4} or 1E-04) (EPA, 2004b). ELCR values within or exceeding this range are actionable. This can then lead to a risk management decision that includes evaluating site-specific characteristics and exposure scenario factors to assess whether remedial action is warranted.
- An HI (the ratio of chemical intake to the RfD) greater than 1 indicates that there may be concern for potential non-cancer health effects associated with exposure to the COPCs (EPA, 1989).

This baseline HHRA for the Omega Site OU2 RI confirms that VOCs have adversely impacted the groundwater resources in OU2. The VOCs most commonly encountered during this assessment, and which serve as potential risk drivers, are PCE and TCE.

8.1 Key Findings

- The estimated potential future cumulative cancer risk of 9E-01 from exposure to untreated OU2 groundwater used as residential tap water greatly exceeds the cancer risk management range of one-in-a-million (10^{-6} or 1E-06) to one-in-ten thousand (10^{-4} or 1E-04).
- PCE, 1,2-dichloroethane, 1,4-dioxane, chloroform, 1,2-dibromo-3-chloropropane, TCE, 1,1,2-trichloroethane, and arsenic are the primary contributors to cancer risks for all routes of exposure and contribute cancer risks of 1E-03, or greater.
- The estimated potential future cumulative health HI of 3,236 for child receptors greatly exceeds an HI of 1. PCE and TCE are the primary contributors to the HI for all three routes of exposure.
- Inhalation exposure due to soil gas vapor intrusion into indoor air does not pose significant risk to the residents of Whispering Fountains Apartments.

8.2 Recommendations

This HHRA provides EPA with a human health risk basis for evaluating whether mitigation, remediation, or a removal action is warranted to mitigate potential health effects from the VOCs, SVOCs, selected inorganic ions, and metals in OU2 groundwater.

Results of the OU2 HHRA confirm that groundwater resources have been significantly contaminated by VOCs in groundwater and it is unsuitable as a source of tap water for domestic use. It is recommended that further action be taken to protect potential receptors in OU2, as well as to protect and restore the groundwater resources.

9. References

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). 1992. *Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities*. Office of the Science Advisor. Sacramento, California. July.

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). 1994 (Reprinted 1999). *Preliminary Endangerment Assessment Guidance Manual.* July.

California Environmental Protection Agency (Cal-EPA). 2005a. Office of Environmental Health Hazard Assessment. *Human-Exposure Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil*. January.

California Environmental Protection Agency (Cal-EPA). 2005b. *Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities*.

California Environmental Protection Agency (Cal-EPA). 2005c. *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*. January.

California Environmental Protection Agency (Cal-EPA). 2007. Office of Environmental Health Hazard Assessment. *Toxicity Criteria Database*. August.

Camp, Dresser & McKee. 2007. *Human Health Risk Assessment for On-Site Soils for Omega Chemicals Superfund Site at Whittier, California.* Prepared by CDM for Omega Chemical Site PRP Organized Group. October.

Johnson, P.C., and R.A. Ettinger. 1991. Heuristic model for predicting the intrusion rate of contaminant vapors into buildings. *Environmental Science & Technology*. 25:1445-1452.

National Research Council. 2006. Committee on Human Health Risks of Trichloroethylene. *Assessing the Human Health Risks of Trichloroethylene: Key Scientific Issues*. July 27. 472 p.

Parker, L.V. 1994. "The Effects of Groundwater Sampling Devices on Water Quality: A Literature Review." *Ground Water Monitoring & Remediation*. Spring. pp. 130-141.

United States Environmental Protection Agency (EPA). 1989. *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final*. EPA/540-1-89/002. December 15.

United States Environmental Protection Agency (EPA). 1991a. *Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions.* Memorandum from Don R. Clay. Office of Solid Waste and Emergency Response. *OSWER Directive 9355.0-30*. Washington D.C. April 22.

United States Environmental Protection Agency (EPA). 1991b. *Risk Assessment Guidance for Superfund, Human Health Evaluation Manual, Supplemental Guidance, "Standard Default Exposure Factors."* Interim Final. OSWER Directive 9285.6-03. March 25.

United States Environmental Protection Agency (EPA). 1991c. *Human Health Evaluation Manual, Part B: Development of Risk-based Preliminary Remediation Goals.* Office of Solid Waste and Emergency Response. OSWER Directive 9285.7-01B. December.

United States Environmental Protection Agency (EPA). 1997a. *Health Effects Assessment Summary Tables (HEAST): Annual Update, FY 1997.* National Center for Environmental Assessment, Office of Research and Development and Office of Emergency and Remedial Response. Washington D.C.

United States Environmental Protection Agency (EPA). 1997b. *Exposure Factors Handbook.* EPA600/P-95/002Fc. August.

United States Environmental Protection Agency (EPA). 2001a. *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part D Standardized Planning Reporting, and Review of Superfund Risk Assessments).* Publication 9285.7-47. Office of Emergency and Remedial Response. Washington D.C. December.

United States Environmental Protection Agency (EPA). 2001b. *Trichloroethylene Health Assessment: Synthesis and Characterization*. August.

United States Environmental Protection Agency (EPA). 2003. *Human Health Toxicity Values in Superfund Risk Assessments*. Office of Solid Waste and Emergency Response. OSWER Directive 9285.7-53. December. http://epa.gov/oswer/riskassessment/pdf/hhmemo.pdf

United States Environmental Protection Agency (EPA). 2004a. *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part E Supplemental Guidance for Dermal Risk Assessment) Final.* EPA/540/R/99/005. Office of Superfund Remediation and Technology Innovation. Washington D.C. OSWER PB99-963312. July.

United States Environmental Protection Agency (EPA). 2004b. *Region 9, Preliminary Remediation Goals Tables.* October.

United States Environmental Protection Agency (EPA). 2004c. *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings*. February.

United States Environmental Protection Agency (EPA). 2007. *Integrated Risk Information System (IRIS).* http://www.epa.gov.iris/.

Appendix A
Groundwater Risk Evaluation

Appendix A – Groundwater Risk Evaluation

- RAGS Part D Tables
- Percent Contribution Tables
- Groundwater Monitoring Well Data
- Summary Statistics and EPCs for OU2
- ProUCL Statistical Software Output Files for OU2 Groundwater Data

RAGS Part D Tables

Table of Contents
Omega Chemical Superfund Site

Table	Title	Exposure Pt / Receptor
Table 0	SITE RISK ASSESSMENT IDENTIFICATION	
Table 1	SELECTION OF EXPOSURE PATHWAYS	
Table 2.1	OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN	Groundwater
Table 3.1.RME	EXPOSURE POINT CONCENTRATION SUMMARY	Groundwater
Table 4.1	VALUES USED FOR DAILY INTAKE CALCULATIONS	Adult
Table 4.2	VALUES USED FOR DAILY INTAKE CALCULATIONS	Child
Table 4.3	VALUES USED FOR DAILY INTAKE CALCULATIONS	Adult/Child
Table 5.1	NON-CANCER TOXICITY DATA -- ORAL/DERMAL	
Table 5.2	NON-CANCER TOXICITY DATA -- INHALATION	
Table 6.1	CANCER TOXICITY DATA -- ORAL/DERMAL	
Table 6.2	CANCER TOXICITY DATA -- INHALATION	
Table 7a.1.1	CALCULATION OF CHEMICAL CANCER RISKS	Groundwater, Adult
Table 7a.1.2	CALCULATION OF CHEMICAL CANCER RISKS	Groundwater, Child
Table 7a.1.3	CALCULATION OF CHEMICAL CANCER RISKS	Groundwater, Child/Adult
Table 7b.1.1	CALCULATION OF CHEMICAL NON-CANCER HAZARDS	Groundwater, Adult
Table 7b.1.2	CALCULATION OF CHEMICAL NON-CANCER HAZARDS	Groundwater, Child
Table 7-1 Adult Dermal Supplement	MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER	Groundwater, Adult
Table 7-2 Child Dermal Supplement	MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER	Groundwater, Child
Table 9.1.1	SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs	Groundwater, Adult
Table 9.1.2	SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs	Groundwater, Child
Table 9.1.3	SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs	Groundwater, Child/Adult
Table 10.1.1	RISK SUMMARY	Groundwater, Adult
Table 10.1.2	RISK SUMMARY	Groundwater, Child
Table 10.1.3	RISK SUMMARY	Groundwater, Child/Adult

TABLE 0

SITE RISK ASSESSMENT IDENTIFICATION INFORMATION

Omega Chemical Superfund Site

Site Name/OU:	Omega Chemical Superfund Site Operable Unit 2
Region:	US EPA Region 9
EPA ID Number:	CAD042245001
State:	California
Status:	Remedial Investigation
Federal Facility (Y/N):	N
EPA Project Manager:	Christopher Lichens
EPA Risk Assessor:	Stanford Smucker, Ph.D.
Prepared by (Organization):	CH2M HILL, 2280 Market Street, Suite 200, Riverside, California, 92501
Prepared for (Organization):	EPA
Document Title:	Baseline Human Health Risk Assessment, Omega Chemical Superfund Site Operable Unit 2
Document Date:	January 2008
Probabilistic Risk Assessment (Y/N):	N
Comments:	

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

Omega Chemical Superfund Site

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Groundwater	Groundwater	Groundwater	Resident	Adult	Ingestion	Quantitative	Facility is bordered by residential properties
						Dermal	Quantitative	
						Inhalation	Quantitative	
					Child	Ingestion	Quantitative	Facility is bordered by residential properties
						Dermal	Quantitative	
						Inhalation	Quantitative	
					Child/Adult	Ingestion	Quantitative	Facility is bordered by residential properties
						Dermal	Quantitative	
						Inhalation	Quantitative	

TABLE 2.1

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits (1)	Concentration Used for Screening (2)	Background Value (3)	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
Groundwater	71-55-6	1,1,1-Trichloroethane	2.0E-04 J	1.4E+01	mg/L	OW1A	61/88	5.0E-04 - 2.0E-01	NA	NA	NA	NA	NA	Y	NA
	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1.1E-02	2.8E+00	mg/L	OW8A	83/88	1.0E+00 - 6.3E+00	NA	NA	NA	NA	NA	Y	NA
	75-35-4	1,1-Dichloroethene	1.4E-02	5.1E+00	mg/L	OW1A	88/88	NA - NA	NA	NA	NA	NA	NA	Y	NA
	107-06-2	1,2-Dichloroethane	2.7E-04 J	1.3E+00	mg/L	OW8A	59/88	2.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	123-91-1	1,4-Dioxane (p-dioxane)	5.0E-04 J	2.6E+01	mg/L	OW1A	79/88	4.7E-04 - 1.0E-03	NA	NA	NA	NA	NA	Y	NA
	67-64-1	Acetone	1.1E-02	1.1E+01	mg/L	OW8A	23/88	2.0E-03 - 1.3E+01	NA	NA	NA	NA	NA	Y	NA
	67-66-3	Chloroform	2.9E-03 J	2.8E+00	mg/L	OW8A	85/88	2.0E-02 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	75-09-2	Methylene chloride	3.0E-04 J	1.1E+01	mg/L	OW8A	25/88	1.7E-04 - 1.3E+01	NA	NA	NA	NA	NA	Y	NA
	127-18-4	Tetrachloroethene	1.2E-02	2.1E+02 J	mg/L	OW1A	88/88	NA - NA	NA	NA	NA	NA	NA	Y	NA
	108-88-3	Toluene	1.4E-04 J	1.3E+00	mg/L	OW8A	18/87	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	79-01-6	Trichloroethene (TCE)	8.4E-03	1.0E+01	mg/L	OW1A	88/88	NA - NA	NA	NA	NA	NA	NA	Y	NA
	75-69-4	Trichlorofluoromethane (Freon 11)	7.0E-03	1.0E+00	mg/L	OW2	83/88	2.0E-01 - 1.3E+00	NA	NA	NA	NA	NA	Y	NA
	630-20-6	1,1,1,2-Tetrachloroethane	1.4E-03	2.2E-02	mg/L	OW1A	6/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	79-34-5	1,1,2,2-Tetrachloroethane	6.7E-04 J	6.7E-04 J	mg/L	OW1A	1/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	79-00-5	1,1,2-Trichloroethane	1.2E-04 J	2.0E+00	mg/L	OW1A	35/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	75-34-3	1,1-Dichloroethane	3.7E-04 J	1.5E-01 J	mg/L	OW8A	62/88	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	120-82-1	1,2,4-Trichlorobenzene	5.3E-04 J	5.3E-04 J	mg/L	OW8A	1/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	95-63-6	1,2,4-Trimethylbenzene	4.2E-03	5.2E-02 J	mg/L	OW8A	3/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	96-12-8	1,2-Dibromo-3-chloropropane	5.5E-03	5.5E-03	mg/L	OW4A	1/77	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	95-50-1	1,2-Dichlorobenzene	2.0E-04 J	2.8E-02	mg/L	OW8A	8/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	78-87-5	1,2-Dichloropropane	1.6E-03 J	1.6E-03 J	mg/L	OW4A	1/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	108-67-8	1,3,5-Trimethylbenzene	9.6E-04 J	3.2E-03 J	mg/L	OW8A	2/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	541-73-1	1,3-Dichlorobenzene	3.0E-04 J	1.4E-03	mg/L	OW8A	5/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	106-46-7	1,4-Dichlorobenzene	6.0E-04 J	1.7E-03	mg/L	OW1A	4/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	78-93-3	2-Butanone	2.9E-01	7.7E-01	mg/L	OW8A	4/60	2.0E-03 - 1.3E+01	NA	NA	NA	NA	NA	Y	NA
	95-49-8	2-Chlorotoluene	2.0E-04 J	6.0E-04 J	mg/L	OW1A	5/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	106-43-4	4-Chlorotoluene	4.6E-04 J	4.6E-04 J	mg/L	OW1A	1/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	108-10-1	4-Methyl-2-pentanone	7.8E-02 J	7.8E-02 J	mg/L	OW8A	1/45	4.0E-03 - 1.3E+01	NA	NA	NA	NA	NA	Y	NA
	71-43-2	Benzene	1.4E-04 J	1.8E-01 J	mg/L	OW1A	44/88	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	74-97-5	Bromochloromethane	1.2E-02 J	1.2E-02 J	mg/L	OW8A	1/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	75-27-4	Bromodichloromethane	4.0E-04 J	1.0E-03	mg/L	OW5	2/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	75-25-2	Bromoform	2.8E-03	2.8E-03	mg/L	OW3A	1/87	5.0E-04 - 1.3E+00	NA	NA	NA	NA	NA	Y	NA
	74-83-9	Bromomethane	5.6E-03 J	1.8E-01 J	mg/L	OW1A	2/86	5.0E-04 - 1.3E+00	NA	NA	NA	NA	NA	Y	NA
	75-15-0	Carbon disulfide	2.4E-01 J	2.4E-01 J	mg/L	OW1A	1/43	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	56-23-5	Carbon tetrachloride	1.4E-04 J	1.0E-03	mg/L	OW1A	16/88	2.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	108-90-7	Chlorobenzene	2.0E-03	5.0E-01 J	mg/L	OW1A	9/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA

TABLE 2.1

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits (1)	Concentration Used for Screening (2)	Background Value (3)	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
	75-00-3	Chloroethane	2.0E-04 J	2.0E-04 J	mg/L	OW1A	1/86	5.0E-04 - 1.3E+00	NA	NA	NA	NA	NA	Y	NA
	74-87-3	Chloromethane	4.0E-04 J	4.6E-03 J	mg/L	MW4A	10/86	5.0E-04 - 1.3E+00	NA	NA	NA	NA	NA	Y	NA
	156-59-2	cis-1,2-Dichloroethene	4.0E-04 J	4.8E-02	mg/L	OW5	54/88	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	110-82-7	Cyclohexane	6.3E-04	6.3E-04	mg/L	OW4A	1/35	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	124-48-1	Dibromochloromethane	5.4E-04 J	1.6E-02	mg/L	OW5	4/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	75-43-4	Dichlorofluoromethane (Freon 21)	1.6E-03 J	9.7E-03 J	mg/L	MW2	6/6	NA - NA	NA	NA	NA	NA	NA	Y	NA
	75-71-8	Dichlorodifluoromethane (Freon 12)	3.0E-04 J	4.7E-03	mg/L	MW15	34/87	5.0E-04 - 1.3E+00	NA	NA	NA	NA	NA	Y	NA
	100-41-4	Ethylbenzene	9.4E-05 J	1.5E-02 J	mg/L	OW8A	7/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	98-82-8	Isopropylbenzene	1.8E-04 J	2.4E-03	mg/L	OW1A	7/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	1634-04-4	Methyl tert-butyl ether (MTBE)	3.0E-04 J	3.4E-02 J	mg/L	MW4B	45/88	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	108-87-2	Methylcyclohexane	8.5E-04	8.5E-04	mg/L	OW4A	1/35	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	91-20-3	Naphthalene	2.1E-04 J	1.9E-03 J	mg/L	OW4A	10/79	5.0E-04 - 2.0E-01	NA	NA	NA	NA	NA	Y	NA
	103-65-1	n-Propylbenzene	3.5E-04 J	1.2E-03 J	mg/L	OW8A	5/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	99-87-6	p-Isopropyltoluene	2.9E-04 J	8.6E-04 J	mg/L	OW8A	5/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	135-98-8	sec-Butylbenzene	2.6E-04 J	3.9E-04 J	mg/L	OW8A	4/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	109-99-9	Tetrahydrofuran	5.6E-01	6.5E-01	mg/L	OW8A	2/2	NA - NA	NA	NA	NA	NA	NA	Y	NA
	156-60-5	trans-1,2-Dichloroethene	2.5E-04 J	1.3E-01 J	mg/L	OW8A	50/87	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	75-01-4	Vinyl chloride	6.4E-04	1.1E-03 J	mg/L	OW8A	4/87	2.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	1330-20-7	m,p-Xylenes	3.0E-04 J	1.3E-01 J	mg/L	OW8A	6/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	95-47-6	o-Xylene	2.5E-04 J	8.1E-02	mg/L	OW8A	9/52	5.0E-04 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	1330-20-7	Xylenes, total	1.5E-03	7.5E-02	mg/L	OW8A	2/35	5.0E-04 - 1.0E+00	NA	NA	NA	NA	NA	Y	NA
	92-52-4	1,1-Biphenyl	8.0E-04 J	8.0E-04 J	mg/L	OW4A	1/27	5.0E-03 - 5.0E-03	NA	NA	NA	NA	NA	Y	NA
	96-18-4	1,2,3-Trichloropropane	2.7E-06 J	8.7E-05	mg/L	OW8A	7/83	2.0E-06 - 6.3E-01	NA	NA	NA	NA	NA	Y	NA
	91-57-6	2-Methylnaphthalene	2.8E-03 J	2.8E-03 J	mg/L	OW4A	1/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	98-86-2	Acetophenone	2.2E-03 J	6.9E-03	mg/L	OW8A	2/27	5.0E-03 - 5.0E-03	NA	NA	NA	NA	NA	Y	NA
	117-81-7	Bis(2-ethylhexyl)phthalate (DEHP)	4.5E-04 J	8.0E-02	mg/L	MW5	16/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	105-60-2	Caprolactam	1.5E-04 J	2.8E-02	mg/L	OW1A	3/27	5.0E-03 - 5.0E-03	NA	NA	NA	NA	NA	Y	NA
	131-11-3	Dimethyl phthalate	6.8E-04 J	6.8E-04 J	mg/L	OW8A	1/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	84-74-2	Di-n-butyl phthalate	1.0E-03 J	1.0E-03 J	mg/L	MW5	2/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	78-59-1	Isophorone	2.2E-03 J	4.9E-03 J	mg/L	OW8A	2/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA

TABLE 2.1

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits (1)	Concentration Used for Screening (2)	Background Value (3)	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
	62-75-9	N-Nitrosodimethylamine	1.9E-06 J	9.0E-04	mg/L	OW8A	31/50	2.0E-06 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	87-86-5	Pentachlorophenol	3.0E-04 J	3.0E-04 J	mg/L	OW8A	1/29	5.0E-03 - 2.0E-02	NA	NA	NA	NA	NA	Y	NA
	85-01-8	Phenanthrene	6.9E-05 J	6.9E-05 J	mg/L	OW8A	1/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	108-95-2	Phenol	8.5E-03 J	2.0E-02	mg/L	OW8A	3/29	5.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	14797-73-0	Perchlorate	1.3E-03 J	5.6E-03	mg/L	OW5	42/44	2.0E-03 - 2.0E-03	NA	NA	NA	NA	NA	Y	NA
	57-12-5	Cyanide (total)	2.0E-03 J	3.4E-03 J	mg/L	OW1A	2/27	1.0E-02 - 1.0E-02	NA	NA	NA	NA	NA	Y	NA
	7440-38-2	Arsenic	6.4E-04 J-	6.5E-02 J	mg/L	OW8A	26/30	1.0E-03 - 5.0E-03	NA	NA	NA	NA	NA	Y	ABL
	18540299	Hexavalent chromium	5.7E-04	2.3E-02	mg/L	MW4A	45/49	1.0E-03 - 1.0E-03	NA	NA	NA	NA	NA	Y	ABL
	7440-02-0	Nickel	1.0E-03	1.1E-01 J+	mg/L	OW5	26/30	2.0E-03 - 2.0E-02	NA	NA	NA	NA	NA	Y	ABL
	7429-90-5	Aluminum	3.3E-01	3.3E-01	mg/L	OW5	1/25	2.0E-02 - 2.0E-01	NA	NA	NA	NA	NA	N	BBL
	7440-36-0	Antimony	1.6E-03 J	1.9E-03 J	mg/L	MW5	9/27	2.0E-03 - 6.0E-02	NA	NA	NA	NA	NA	N	BBL
	7440-39-3	Barium	1.3E-02 J	7.3E-02 J	mg/L	OW8A	28/29	2.0E-03 - 2.0E-03	NA	NA	NA	NA	NA	N	BBL
	7440-42-8	Boron	2.9E-01	3.9E-01	mg/L	MW2	6/6	NA - NA	NA	NA	NA	NA	NA	N	BBL
	7440-43-9	Cadmium	7.0E-05 J	1.0E-04 J	mg/L	OW5	4/28	1.0E-03 - 5.0E-03	NA	NA	NA	NA	NA	N	BBL
	7440-70-2	Calcium	1.4E+02	2.9E+02	mg/L	OW8A	28/28	NA - NA	NA	NA	NA	NA	NA	N	BBL
	7440-47-3	Chromium	7.5E-04 J	9.8E-02 J	mg/L	OW5	23/30	2.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	N	BBL
	7440-48-4	Cobalt	8.0E-05 J	5.0E-03	mg/L	OW4A	23/30	1.0E-03 - 2.0E-02	NA	NA	NA	NA	NA	N	BBL
	7440-50-8	Copper	4.1E-04 J	6.8E-03 J+	mg/L	OW5	21/30	4.0E-03 - 2.5E-02	NA	NA	NA	NA	NA	N	BBL
	7439-89-6	Iron	3.5E-02 J	2.6E+00	mg/L	OW8A	12/30	1.0E-01 - 1.0E-01	NA	NA	NA	NA	NA	N	BBL
	7439-92-1	Lead	4.0E-05 J	3.8E-04 J	mg/L	OW4A	15/28	1.0E-03 - 1.0E-02	NA	NA	NA	NA	NA	N	BBL
	7439-95-4	Magnesium	4.0E+01	1.0E+02	mg/L	OW8A	27/28	4.9E+01 - 4.9E+01	NA	NA	NA	NA	NA	N	BBL
	7439-96-5	Manganese	3.7E-04 J	4.0E+00	mg/L	OW8A	18/28	5.0E-04 - 1.5E-02	NA	NA	NA	NA	NA	N	BBL
	7439-97-6	Mercury	2.0E-05 J	2.2E-04	mg/L	OW8A	11/29	3.0E-05 - 2.0E-04	NA	NA	NA	NA	NA	N	BBL
	7439-98-7	Molybdenum	4.5E-03	9.5E-03	mg/L	MW2	3/7	1.0E-03 - 2.0E-02	NA	NA	NA	NA	NA	N	BBL
	7440-09-7	Potassium	1.9E+00 J	5.3E+00	mg/L	OW1A	12/28	5.0E+00 - 5.0E+00	NA	NA	NA	NA	NA	N	BBL
	7782-49-2	Selenium	1.0E-03 J	2.3E-01 J	mg/L	OW8A	26/29	2.0E-03 - 5.0E-03	NA	NA	NA	NA	NA	N	BBL
	7631-86-9	Silica (SiO2)	3.8E+01 J	4.6E+01 J	mg/L	MW2	4/4	NA - NA	NA	NA	NA	NA	NA	N	BBL
	7440-23-5	Sodium	7.2E+01	1.3E+02	mg/L	MW4A	28/28	NA - NA	NA	NA	NA	NA	NA	N	BBL
	7440-28-0	Thallium	1.0E-04 J	2.8E-02	mg/L	OW8A	3/24	1.0E-03 - 2.5E-02	NA	NA	NA	NA	NA	N	BBL
	7440-62-2	Vanadium	4.1E-04 J	5.1E-03	mg/L	OW5	22/29	1.0E-02 - 2.0E-02	NA	NA	NA	NA	NA	N	BBL
	7440-66-6	Zinc	4.7E-04 J	1.5E-02 J-	mg/L	OW1A	23/30	1.0E-02 - 2.0E-02	NA	NA	NA	NA	NA	N	BBL

TABLE 2.1

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits (1)	Concentration Used for Screening (2)	Background Value (3)	Screening Toxicity Value (N/C)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion (4)

Notes:

(1) Range of detection limits is for non-detected sample results only.

(2) Screening concentrations were not used.

(3) Background values SRC

(4) Rationale Codes:

Selection Reason: Above Background Level (ABL)

Deletion Reason: Below Background Level (BBL)

Definitions:

NA = Not applicable

TABLE 3.1.RME

EXPOSURE POINT CONCENTRATION SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic (1)	Rationale
Groundwater	1,1,1-Trichloroethane	mg/L	7.8E-01	2.5E+00	1.4E+01	2.47E+00	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	mg/L	7.5E-01	9.9E-01	2.8E+00	9.92E-01	mg/L	95% KM (Chebyshev) UCL	ProUCL recommended
	1,1-Dichloroethene	mg/L	9.0E-01	1.0E+00	5.1E+00	1.04E+00	mg/L	95% Approximate Gamma UCL	ProUCL recommended
	1,2-Dichloroethane	mg/L	9.8E-02	2.5E-01	1.3E+00	2.45E-01	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	1,4-Dioxane (p-dioxane)	mg/L	1.2E+00	3.6E+00	2.6E+01	3.56E+00	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Acetone	mg/L	8.2E-01	2.0E+00	1.1E+01	2.01E+00	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Chloroform	mg/L	2.4E-01	5.8E-01	2.8E+00	5.82E-01	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Methylene chloride	mg/L	6.9E-01	1.9E+00	1.1E+01	1.93E+00	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Tetrachloroethene	mg/L	1.8E+01	6.5E+01	2.1E+02 J	6.50E+01	mg/L	99% Chebyshev (Mean, Sd) UCL	ProUCL recommended
	Toluene	mg/L	5.0E-02	7.1E-02	1.3E+00	7.14E-02	mg/L	95% KM (t) UCL	ProUCL recommended
	Trichloroethene (TCE)	mg/L	7.6E-01	1.3E+00	1.0E+01	1.32E+00	mg/L	95% H-UCL	ProUCL recommended
	Trichlorofluoromethane (Freon 11)	mg/L	2.7E-01	3.6E-01	1.0E+00	3.58E-01	mg/L	95% KM (Chebyshev) UCL	ProUCL recommended
	1,1,1,2-Tetrachloroethane	mg/L	1.7E-02	3.6E-03	2.2E-02	3.59E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	1,1,2,2-Tetrachloroethane	mg/L	2.1E-02	5.9E-02	6.7E-04 J	6.70E-04	mg/L	Maximum Result	Max < 95% UCL
	1,1,2-Trichloroethane	mg/L	4.5E-02	1.8E-01	2.0E+00	1.79E-01	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	1,1-Dichloroethane	mg/L	3.4E-02	3.8E-02	1.5E-01 J	3.78E-02	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	1,2,4-Trichlorobenzene	mg/L	1.6E-02	5.1E-02	5.3E-04 J	5.30E-04	mg/L	Maximum Result	Max < 95% UCL
	1,2,4-Trimethylbenzene	mg/L	1.4E-02	7.5E-03	5.2E-02 J	7.53E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	1,2-Dibromo-3-chloropropane	mg/L	2.7E-02	7.3E-02	5.5E-03	5.50E-03	mg/L	Maximum Result	Max < 95% UCL
	1,2-Dichlorobenzene	mg/L	2.0E-02	1.8E-03	2.8E-02	1.80E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	1,2-Dichloropropane	mg/L	2.1E-02	5.9E-02	1.6E-03 J	1.60E-03	mg/L	Maximum Result	Max < 95% UCL
	1,3,5-Trimethylbenzene	mg/L	1.5E-02	1.2E-03	3.2E-03 J	1.17E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	1,3-Dichlorobenzene	mg/L	1.8E-02	4.2E-04	1.4E-03	4.24E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	1,4-Dichlorobenzene	mg/L	2.0E-02	7.1E-04	1.7E-03	7.09E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	2-Butanone	mg/L	3.7E-01	3.3E-01	7.7E-01	3.27E-01	mg/L	95% KM (t) UCL	ProUCL recommended
	2-Chlorotoluene	mg/L	1.2E-02	4.5E-04	6.0E-04 J	4.50E-04	mg/L	95% KM (t) UCL	ProUCL recommended

TABLE 3.1.RME
EXPOSURE POINT CONCENTRATION SUMMARY
REASONABLE MAXIMUM EXPOSURE
Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic (1)	Rationale
	4-Chlorotoluene	mg/L	1.2E-02	4.1E-02	4.6E-04 J	4.60E-04	mg/L	Maximum Result	Max < 95% UCL
	4-Methyl-2-pentanone	mg/L	4.5E-01	1.4E+00	7.8E-02 J	7.80E-02	mg/L	Maximum Result	Max < 95% UCL
	Benzene	mg/L	1.3E-02	1.9E-02	1.8E-01 J	1.92E-02	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Bromochloromethane	mg/L	2.1E-02	5.9E-02	1.2E-02 J	1.20E-02	mg/L	Maximum Result	Max < 95% UCL
	Bromodichloromethane	mg/L	2.1E-02	4.4E-04	1.0E-03	4.42E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	Bromoform	mg/L	2.6E-02	7.4E-02	2.8E-03	2.80E-03	mg/L	Maximum Result	Max < 95% UCL
	Bromomethane	mg/L	2.2E-02	2.6E-02	1.8E-01 J	2.64E-02	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Carbon disulfide	mg/L	3.0E-02	9.4E-02	2.4E-01 J	9.36E-02	mg/L	Too Few Unique Detected Values	ProUCL recommended
	Carbon tetrachloride	mg/L	1.9E-02	3.1E-04	1.0E-03	3.14E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	Chlorobenzene	mg/L	2.4E-02	3.5E-02	5.0E-01 J	3.51E-02	mg/L	95% KM (Chebyshev) UCL	ProUCL recommended
	Chloroethane	mg/L	2.6E-02	7.5E-02	2.0E-04 J	2.00E-04	mg/L	Maximum Result	Max < 95% UCL
	Chloromethane	mg/L	2.6E-02	9.7E-04	4.6E-03 J	9.72E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	cis-1,2-Dichloroethene	mg/L	3.0E-02	1.4E-02	4.8E-02	1.44E-02	mg/L	95% KM (Chebyshev) UCL	ProUCL recommended
	Cyclohexane	mg/L	3.3E-02	1.2E-01	6.3E-04	6.30E-04	mg/L	Maximum Result	Max < 95% UCL
	Dibromochloromethane	mg/L	2.1E-02	1.2E-03	1.6E-02	1.19E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Dichlorofluoromethane (Freon 21)	mg/L	5.7E-03	8.6E-03	9.7E-03 J	8.57E-03	mg/L	95% Student's-t UCL	ProUCL recommended
	Dichlorodifluoromethane (Freon 12)	mg/L	4.2E-02	1.6E-03	4.7E-03	1.56E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Ethylbenzene	mg/L	2.5E-02	1.2E-03	1.5E-02 J	1.16E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Isopropylbenzene	mg/L	2.4E-02	5.3E-04	2.4E-03	5.30E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	Methyl tert-butyl ether (MTBE)	mg/L	2.4E-02	4.7E-03	3.4E-02 J	4.68E-03	mg/L	95% KM (BCA) UCL	ProUCL recommended
	Methylcyclohexane	mg/L	3.3E-02	1.2E-01	8.5E-04	8.50E-04	mg/L	Maximum Result	Max < 95% UCL
	Naphthalene	mg/L	4.4E-03	5.6E-04	1.9E-03 J	5.57E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	n-Propylbenzene	mg/L	1.9E-02	5.2E-04	1.2E-03 J	5.17E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	p-Isopropyltoluene	mg/L	1.7E-02	4.8E-04	8.6E-04 J	4.78E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	sec-Butylbenzene	mg/L	1.3E-02	3.6E-04	3.9E-04 J	3.57E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	Tetrahydrofuran	mg/L	6.1E-01	.	6.5E-01	6.50E-01	mg/L	Maximum Result	Max < 95% UCL

TABLE 3.1.RME

EXPOSURE POINT CONCENTRATION SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic (1)	Rationale
	trans-1,2-Dichloroethene	mg/L	3.1E-02	3.1E-02	1.3E-01 J	3.08E-02	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Vinyl chloride	mg/L	2.0E-02	6.8E-04	1.1E-03 J	6.80E-04	mg/L	95% KM (t) UCL	ProUCL recommended
	m,p-Xylenes	mg/L	1.7E-02	1.0E-02	1.3E-01 J	1.01E-02	mg/L	95% KM (t) UCL	ProUCL recommended
	o-Xylene	mg/L	1.9E-02	8.1E-03	8.1E-02	8.12E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Xylenes, total	mg/L	3.4E-02	3.6E-02	7.5E-02	3.56E-02	mg/L	99% KM (Chebyshev) UCL	ProUCL recommended
	1,1-Biphenyl	mg/L	2.4E-03	2.7E-03	8.0E-04 J	8.00E-04	mg/L	Maximum Result	Max < 95% UCL
	1,2,3-Trichloropropane	mg/L	7.7E-03	1.4E-05	8.7E-05	1.36E-05	mg/L	95% KM (BCA) UCL	ProUCL recommended
	2-Methylnaphthalene	mg/L	2.7E-03	3.2E-03	2.8E-03 J	2.80E-03	mg/L	Maximum Result	Max < 95% UCL
	Acetophenone	mg/L	2.7E-03	2.8E-03	6.9E-03	2.79E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Bis(2-ethylhexyl)phthalate (DEHP)	mg/L	6.2E-03	1.2E-02	8.0E-02	1.15E-02	mg/L	95% KM (BCA) UCL	ProUCL recommended
	Caprolactam	mg/L	3.7E-03	3.8E-03	2.8E-02	3.82E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Dimethyl phthalate	mg/L	2.6E-03	3.2E-03	6.8E-04 J	6.80E-04	mg/L	Maximum Result	Max < 95% UCL
	Di-n-butyl phthalate	mg/L	2.6E-03	3.2E-03	1.0E-03 J	1.00E-03	mg/L	Maximum Result	Max < 95% UCL
	Isophorone	mg/L	2.7E-03	5.9E-03	4.9E-03 J	4.90E-03	mg/L	Maximum Result	Max < 95% UCL
	N-Nitrosodimethylamine	mg/L	2.4E-04	1.9E-04	9.0E-04	1.89E-04	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended
	Pentachlorophenol	mg/L	2.9E-03	4.6E-03	3.0E-04 J	3.00E-04	mg/L	Maximum Result	Max < 95% UCL
	Phenanthrene	mg/L	2.6E-03	3.2E-03	6.9E-05 J	6.90E-05	mg/L	Maximum Result	Max < 95% UCL
	Phenol	mg/L	3.7E-03	9.8E-03	2.0E-02	9.81E-03	mg/L	95% KM (t) UCL	ProUCL recommended
	Perchlorate	mg/L	3.0E-03	3.2E-03	5.6E-03	3.24E-03	mg/L	95% KM (BCA) UCL	ProUCL recommended
	Cyanide (total)	mg/L	4.8E-03	3.9E-03	3.4E-03 J	3.40E-03	mg/L	Maximum Result	Max < 95% UCL
	Arsenic	mg/L	4.1E-03	1.4E-02	6.5E-02 J	1.35E-02	mg/L	95% KM (Chebyshev) UCL	ProUCL recommended
	Hexavalent chromium	mg/L	7.8E-03	9.3E-03	2.3E-02	9.29E-03	mg/L	95% KM (BCA) UCL	ProUCL recommended
	Nickel	mg/L	1.0E-02	3.4E-02	1.1E-01 J+	3.36E-02	mg/L	97.5% KM (Chebyshev) UCL	ProUCL recommended

Notes:

(1) UCL = Upper Confidence Limit on the mean

TABLE 4.1.RME

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference (1)	Intake Equation/ Model Name
Ingestion	Resident	Adult	Groundwater	Cgw	Chemical Concentration in Groundwater	Chemical-specific	mg/L	Table 3.1	$\frac{C_{gw} \times IngR \times EF \times ED}{BW \times AT}$
				IngR	Ingestion Rate of Groundwater	2	L/day	EPA, 1989	
				FI	Fraction Ingested	1	unitless	EPA, 1989	
				EF	Exposure Frequency	350	days/year	EPA, 1989	
				ED	Exposure Duration	24	years	EPA, 1989	
				BW	Body Weight	70	kg	EPA, 1989	
				AT_C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT_N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
Dermal	Resident	Adult	Groundwater	Cgw	Chemical Concentration in Groundwater	Chemical-specific	mg/L	Table 3.1	Where for Organics: $\frac{DA_{event} \times SA \times EF \times ED}{BW \times AT}$
				DA_{event}	Absorbed dose per event per area of skin exposed	Chemical-specific	mg/cm^2-event	EPA, 2004a	If $t_{event} > t^*$
				SA	Skin Surface Area Available for Contact	18,000	cm^2	CalEPA, 2005	$DA_{event} = FA \times K_p \times C_{gw} \left[\frac{t_{event}}{1+B} + 2\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2}\right)\right]$
				EF	Exposure Frequency	350	days/year	EPA, 1989	If $t_{event} \leq t^*$
				ED	Exposure Duration	24	years	EPA, 1989	$DA_{event} = 2\ FA \times K_p \times C_{gw} \sqrt{\frac{6\tau \times t_{event}}{\Pi}}$
				ET	Exposure Time	0.58	hrs/day	EPA, 2004a	For Inorganics
				BW	Body Weight	70	kg	EPA, 1989	$DA_{event} = K_p \times C_{gw} \times t_{event}$
				AT_C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT_N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
Inhalation	Resident	Adult	Groundwater	Cgw	Chemical Concentration in Groundwater	Chemical-specific	mg/L	Table 3.1	$\frac{C_{gw} \times InhR \times VF \times EF \times ED}{BW \times AT}$
				InhR	Inhalation Rate	20	m^3/day	EPA, 1989	
				VF	Volatilization Factor	0.5	L/m^3	EPA, 2004b	
				EF	Exposure Frequency	350	days/year	EPA, 1989	
				ED	Exposure Duration	24	years	EPA, 1989	
				BW	Body Weight	70	kg	EPA, 1989	
				ATC	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				ATNC	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	

TABLE 4.1.RME

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference (1)	Intake Equation/ Model Name

Notes:

(1) CalEPA, 2005: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities.

EPA, 1989: Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A.

EPA, 2004a: Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual. (Part E, Supplemental Guidance for Dermal Risk Assessment, Final). July.

EPA, 2004b: User's Guide and Background Technical Document for Preliminary Remediation Goals Table. Region 9. October.

Table 4.2

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference (1)	Intake Equation/ Model Name
Ingestion	Resident	Child	Groundwater	Cgw	Chemical Concentration in Groundwater	Chemical-specific	mg/kg	Table 3.1	$\frac{C_{gw} \times IngR \times EF \times ED}{BW \times AT}$
				IngR	Ingestion Rate of Groundwater	1	L/day	EPA, 1989	
				FI	Fraction Ingested	1	unitless	EPA, 1989	
				EF	Exposure Frequency	350	days/year	EPA, 1989	
				ED	Exposure Duration	6	years	EPA, 1989	
				BW	Body Weight	15	kg	EPA, 1989	
				AT_C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT_N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	
Dermal	Resident	Child	Groundwater	Cgw	Chemical Concentration in Groundwater	Chemical-specific	mg/L	Table 3.1	Where for Organics: $\frac{DA_{event} \times SA \times EF \times ED}{BW \times AT}$
				DA_{event}	Absorbed dose per event per area of skin exposed	Chemical-specific	mg/cm^2-event	EPA, 2004a	If $t_{event} > t^*$
				SA	Skin Surface Area Available for Contact	6,600	cm^2	CalEPA, 2005	$DA_{event} = FA \times K_p \times C_{gw}\left[\frac{t_{event}}{1+B} + 2\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2}\right)\right]$
				EF	Exposure Frequency	350	days/year	EPA, 1989	
				ED	Exposure Duration	6	years	EPA, 1989	If $t_{event} \leq t^*$
				ET	Exposure Time	1.0	hrs/day	EPA, 2004a	$DA_{event} = 2\ FA \times K_p \times C_{gw}\sqrt{\frac{6\tau \times t_{event}}{\Pi}}$
				BW	Body Weight	15	kg	EPA, 1989	
				AT_C	Averaging Time (Cancer)	25,550	days	EPA, 1989	For Inorganics
				AT_N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	$DA_{event} = K_p \times C_{gw} \times t_{event}$
Inhalation	Resident	Child	Groundwater	Cs	Chemical Concentration in Soil	Chemical-specific	mg/kg	Table 3.1	$\frac{C_{gw} \times InhR \times VF \times EF \times ED}{BW \times AT}$
				InhR	Inhalation Rate	10	m^3/day	EPA, 1989	
				VF	Volatilization Factor	0.5	L/m3	EPA, 2004b	
				EF	Exposure Frequency	350	days/year	EPA, 1989	
				ED	Exposure Duration	6	years	EPA, 1989	
				BW	Body Weight	15	kg	EPA, 1989	
				AT_C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT_N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	

Table 4.2

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference (1)	Intake Equation/ Model Name

Notes:

(1) CalEPA, 2005: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities.
EPA, 1989: Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A.
EPA, 2004a: Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual. (Part E, Supplemental Guidance for Dermal Risk Assessment, Final). July.
EPA, 2004b: User's Guide and Background Technical Document for Preliminary Remediation Goals Table. Region 9. October.

Table 4.3

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Resident	Child/Adult	Groundwater	--	--	--	--	--	Child/Adult cancer risks will be calculated as the sum of the Child cancer risk and the Adult cancer risk.
Dermal	Resident	Child/Adult	Groundwater	--	--	--	--	--	Child/Adult cancer risks will be calculated as the sum of the Child cancer risk and the Adult cancer risk.
Inhalation	Resident	Child/Adult	Groundwater	--	--	--	--	--	Child/Adult cancer risks will be calculated as the sum of the Child cancer risk and the Adult cancer risk.

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units	(1)	Value	Units		(2)	Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	Chronic	2.0E+00	mg/kg/day	100%	2.0E+00	mg/kg/day	Decreased body weight	1000/1	IRIS	11/12/2007
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	Chronic	3.0E+01	mg/kg/day	100%	3.0E+01	mg/kg/day	Neurological	10/1	IRIS	8/27/2007
1,1-Dichloroethene	Chronic	5.0E-02	mg/kg/day	100%	5.0E-02	mg/kg/day	Liver	100/1	IRIS	9/13/2007
1,2-Dichloroethane	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Decreased survival	NA	NCEA	10/20/2004
1,4-Dioxane (p-dioxane)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	Chronic	9.0E-01	mg/kg/day	100%	9.0E-01	mg/kg/day	Kidney	1000/1	IRIS	8/27/2007
Chloroform	Chronic	1.0E-02	mg/kg/day	100%	1.0E-02	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Methylene chloride	Chronic	6.0E-02	mg/kg/day	100%	6.0E-02	mg/kg/day	Liver	100/1	IRIS	8/27/2007
Tetrachloroethene	Chronic	1.0E-02	mg/kg/day	100%	1.0E-02	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Toluene	Chronic	8.0E-02	mg/kg/day	100%	8.0E-02	mg/kg/day	Kidney	3000	IRIS	8/27/2007
Trichloroethene (TCE)	Chronic	3.0E-04	mg/kg/day	100%	3.0E-04	mg/kg/day	Liver	NA	NCEA	10/20/2004
Trichlorofluoromethane (Freon 11)	Chronic	3.0E-01	mg/kg/day	100%	3.0E-01	mg/kg/day	General	1000/1	IRIS	8/27/2007
1,1,1,2-Tetrachloroethane	Chronic	3.0E-02	mg/kg/day	100%	3.0E-02	mg/kg/day	Kidney	3000/1	IRIS	8/24/2007
1,1,2,2-Tetrachloroethane	Chronic	6.0E-02	mg/kg/day	100%	6.0E-02	mg/kg/day	NA	NA	PPRTV	10/20/2004
1,1,2-Trichloroethane	Chronic	4.0E-03	mg/kg/day	100%	4.0E-03	mg/kg/day	Blood	1000/1	IRIS	8/27/2007
1,1-Dichloroethane	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	NOEL	NA	HEAST	7/31/1997
1,2,4-Trichlorobenzene	Chronic	1.0E-02	mg/kg/day	100%	1.0E-02	mg/kg/day	Adrenal Glands	1000/1	IRIS	8/27/2007
1,2,4-Trimethylbenzene	Chronic	5.0E-02	mg/kg/day	100%	5.0E-02	mg/kg/day	NA	NA	PPRTV	10/20/2004
1,2-Dibromo-3-chloropropane	Chronic	5.7E-05	mg/kg/day	100%	5.7E-05	mg/kg/day	Decreased survival	1000/1	Route Extrapolation	10/20/2004
1,2-Dichlorobenzene	Chronic	9.0E-02	mg/kg/day	100%	9.0E-02	mg/kg/day	NOAEL	1000/1	IRIS	8/27/2007
1,2-Dichloropropane	Chronic	1.1E-03	mg/kg/day	100%	1.1E-03	mg/kg/day	Decreased body weight	300/1	Route Extrapolation	10/20/2004
1,3,5-Trimethylbenzene	Chronic	5.0E-02	mg/kg/day	100%	5.0E-02	mg/kg/day	NA	NA	PPRTV	10/20/2004
1,3-Dichlorobenzene	Chronic	3.0E-02	mg/kg/day	100%	3.0E-02	mg/kg/day	NA	NA	NCEA	10/20/2004
1,4-Dichlorobenzene	Chronic	3.0E-02	mg/kg/day	100%	3.0E-02	mg/kg/day	Liver	NA	NCEA	10/20/2004
2-Butanone	Chronic	6.0E-01	mg/kg/day	100%	6.0E-01	mg/kg/day	Reduced birth weight	1000/1	IRIS	8/27/2007
2-Chlorotoluene	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Decreased body weight	1000/1	IRIS	8/24/2007
4-Chlorotoluene	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Decreased body weight	Surrogate	Surrogate	NA
4-Methyl-2-pentanone	Chronic	8.0E-02	mg/kg/day	100%	8.0E-02	mg/kg/day	Reduced birth weight	300/1	HEAST	7/31/1997

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units	(1)	Value	Units		(2)	Source(s)	Date(s) (MM/DD/YYYY)
Benzene	Chronic	4.0E-03	mg/kg/day	100%	4.0E-03	mg/kg/day	Immune system	300/1	IRIS	8/27/2007
Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Kidney	1000/1	IRIS	8/27/2007
Bromoform	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Bromomethane	Chronic	1.4E-03	mg/kg/day	100%	1.4E-03	mg/kg/day	GI	1000/1	IRIS	8/27/2007
Carbon disulfide	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	Teratogenicity	100/1	IRIS	8/27/2007
Carbon tetrachloride	Chronic	7.0E-04	mg/kg/day	100%	7.0E-04	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Chlorobenzene	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Liver	NA	IRIS	8/27/2007
Chloroethane	Chronic	4.0E-01	mg/kg/day	100%	4.0E-01	mg/kg/day	Reproductive	300/1	NCEA	10/20/2004
Chloromethane	Chronic	2.6E-02	mg/kg/day	100%	2.6E-02	mg/kg/day	Brain	NA	Route Extrapolation	8/27/2007
cis-1,2-Dichloroethene	Chronic	1.0E-02	mg/kg/day	100%	1.0E-02	mg/kg/day	Liver	NA	PPRTV	10/20/2004
Cyclohexane	Chronic	1.7E+00	mg/kg/day	100%	1.7E+00	mg/kg/day	Reduced birth weight	300/1	Route Extrapolation	10/20/2004
Dibromochloromethane	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Dichlorofluoromethane (Freon 21)	Chronic	2.0E-01	mg/kg/day	100%	2.0E-01	mg/kg/day	Decreased body weight	100	Surrogate	8/27/2007
Dichlorodifluoromethane (Freon 12)	Chronic	2.0E-01	mg/kg/day	100%	2.0E-01	mg/kg/day	Decreased body weight	100/1	IRIS	8/27/2007
Ethylbenzene	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Isopropylbenzene	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	Kidney	1000/1	IRIS	8/27/2007
Methyl tert-butyl ether (MTBE)	Chronic	8.6E-01	mg/kg/day	100%	8.6E-01	mg/kg/day	Liver	100/1	Route Extrapolation	10/20/2004
Methylcyclohexane	Chronic	8.6E-01	mg/kg/day	100%	8.6E-01	mg/kg/day	Kidney	NA	Route Extrapolation	10/20/2004
Naphthalene	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Decreased body weight	3000/1	IRIS	8/27/2007
n-Propylbenzene	Chronic	4.0E-02	mg/kg/day	100%	4.0E-02	mg/kg/day	NA	NA	NCEA	10/20/2004
p-Isopropyltoluene	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	NA	NA	Surrogate	NA
sec-Butylbenzene	Chronic	4.0E-02	mg/kg/day	100%	4.0E-02	mg/kg/day	NA	NA	NCEA	10/20/2004
Tetrahydrofuran	Chronic	2.1E-01	mg/kg/day	100%	2.1E-01	mg/kg/day	NA	NA	NCEA	10/20/2004
trans-1,2-Dichloroethene	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Liver	1000	IRIS	8/27/2007
Vinyl chloride	Chronic	3.0E-03	mg/kg/day	100%	3.0E-03	mg/kg/day	Liver	30	IRIS	8/27/2007

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units	(1)	Value	Units		(2)	Source(s)	Date(s) (MM/DD/YYYY)
m,p-Xylenes	Chronic	2.0E-01	mg/kg/day	100%	2.0E-01	mg/kg/day	Decreased body weight	1000	IRIS	8/27/2007
o-Xylene	Chronic	2.0E-01	mg/kg/day	100%	2.0E-01	mg/kg/day	Decreased body weight	1000	IRIS	8/27/2007
Xylenes, total	Chronic	2.0E-01	mg/kg/day	100%	2.0E-01	mg/kg/day	Decreased body weight	1000	IRIS	8/27/2007
1,1-Biphenyl	Chronic	5.0E-02	mg/kg/day	100%	5.0E-02	mg/kg/day	Kidney	100/10	IRIS	8/27/2007
1,2,3-Trichloropropane	Chronic	6.0E-03	mg/kg/day	100%	6.0E-03	mg/kg/day	Blood	NA	IRIS	8/27/2007
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg/day	100%	4.0E-03	mg/kg/day	Lungs	1000/1	IRIS	8/27/2007
Acetophenone	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	NOAEL	3000/1	IRIS	8/27/2007
Bis(2-ethylhexyl)phthalate (DEHP)	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Liver	1000/1	IRIS	8/27/2007
Caprolactam	Chronic	5.0E-01	mg/kg/day	100%	5.0E-01	mg/kg/day	Reproductive	100/1	IRIS	8/27/2007
Dimethyl phthalate	Chronic	1.0E+01	mg/kg/day	100%	1.0E+01	mg/kg/day	NA	NA	HEAST/R9	10/20/2004
Di-n-butyl phthalate	Chronic	1.0E-01	mg/kg/day	100%	1.0E-01	mg/kg/day	Decreased survival	1000/1	IRIS	8/27/2007
Isophorone	Chronic	2.0E-01	mg/kg/day	100%	2.0E-01	mg/kg/day	Kidney	1000/1	IRIS	8/27/2007
N-Nitrosodimethylamine	Chronic	8.0E-06	mg/kg/day	100%	8.0E-06	mg/kg/day	NA	NA	PPRTV	10/20/2004
Pentachlorophenol	Chronic	3.0E-02	mg/kg/day	100%	3.0E-02	mg/kg/day	Liver, Kidney	100/1	IRIS	8/27/2007
Phenanthrene	Chronic	3.0E-02	mg/kg/day	100%	3.0E-02	mg/kg/day	NA	0	Surrogate	NA
Phenol	Chronic	3.0E-01	mg/kg/day	100%	3.0E-01	mg/kg/day	Decreased body weight	300/1	IRIS	8/27/2007
Perchlorate	Chronic	7.0E-04	mg/kg/day	100%	7.0E-04	mg/kg/day	Thyroid	10/NA	IRIS	8/24/2007
Cyanide (total)	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Decreased body weight	100/5	IRIS	8/24/2007
Arsenic	Chronic	3.0E-04	mg/kg/day	100%	3.0E-04	mg/kg/day	Skin	3/1	IRIS	8/27/2007
Hexavalent chromium	Chronic	3.0E-03	mg/kg/day	100%	3.0E-03	mg/kg/day	NOAEL	300/3	IRIS	8/27/2007
Nickel	Chronic	2.0E-02	mg/kg/day	100%	2.0E-02	mg/kg/day	Decreased body weight	300/1	IRIS	8/27/2007

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (1)	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors (2)	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)

Notes:

(1) Source: Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim. Section 4.2 and Exhibit 4-1.

(2) Source: IRIS

Surrogates: Toxicity values for isopropylbenzene were used for p-Isopropyltoluene

Toxicity values for pyrene were used for phenanthrene

NA = Not available or not applicable

IRIS = Integrated Risk Information System; available at http://www.epa.gov/iris/

NCEA = National Center for Environmental Assessment; Values from EPA Region 9 PRG Table, October 2004

OEHHA = Office of Environmental Health and Hazard Assessment

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfD		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD: Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	Chronic	1.4E+00	mg/kg/day	NA	NA	Decreased body weight	1000/1	IRIS	11/12/2007
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	Chronic	8.6E+00	mg/kg/day	NA	NA	Neurological	10/1	HEAST	7/31/1997
1,1-Dichloroethene	Chronic	2.0E-02	mg/kg/day	NA	NA	Liver	100/1	OEHHA	6/12/2007
1,2-Dichloroethane	Chronic	1.4E-03	mg/kg/day	NA	NA	Decreased survival	NA	NCEA	10/20/2004
1,4-Dioxane (p-dioxane)	NA	8.6E-01	mg/kg/day	NA	NA	NA	NA	OEHHA	Cal
Acetone	Chronic	9.0E-01	mg/kg/day	NA	NA	Kidney	1000/1	Route Extrapolation	10/20/2004
Chloroform	Chronic	1.4E-02	mg/kg/day	NA	NA	Liver	1000/1	NCEA	10/20/2004
Methylene chloride	Chronic	8.6E-01	mg/kg/day	NA	NA	Liver	100/1	HEAST	Cal
Tetrachloroethene	Chronic	1.0E-02	mg/kg/day	NA	NA	Liver	1000/1	OEHHA	Cal
Toluene	Chronic	8.6E-02	mg/kg/day	NA	NA	Kidney	3000	OEHHA	Cal
Trichloroethene (TCE)	Chronic	1.7E-01	mg/kg/day	NA	NA	Liver	NA	OEHHA	6/12/2007
Trichlorofluoromethane (Freon 11)	Chronic	2.0E-01	mg/kg/day	NA	NA	General	1000/1	HEAST	7/31/1997
1,1,1,2-Tetrachloroethane	Chronic	3.0E-02	mg/kg/day	NA	NA	Kidney	3000/1	Route Extrapolation	10/20/2004
1,1,2,2-Tetrachloroethane	Chronic	6.0E-02	mg/kg/day	NA	NA	NA	NA	Route Extrapolation	10/20/2004
1,1,2-Trichloroethane	Chronic	4.0E-03	mg/kg/day	NA	NA	Blood	1000/1	Route Extrapolation	10/20/2004
1,1-Dichloroethane	Chronic	1.4E-01	mg/kg/day	NA	NA	NOEL	NA	HEAST	7/31/1997
1,2,4-Trichlorobenzene	Chronic	1.0E-03	mg/kg/day	NA	NA	Adrenal Glands	1000/1	PPRTV	10/20/2004
1,2,4-Trimethylbenzene	Chronic	1.7E-03	mg/kg/day	NA	NA	NA	NA	PPRTV	10/20/2004
1,2-Dibromo-3-chloropropane	Chronic	5.7E-05	mg/kg/day	NA	NA	Decreased survival	1000/1	IRIS	8/27/2007
1,2-Dichlorobenzene	Chronic	5.7E-02	mg/kg/day	NA	NA	NOAEL	1000/1	HEAST	7/31/1997
1,2-Dichloropropane	Chronic	1.1E-03	mg/kg/day	NA	NA	Decreased body weight	300/1	IRIS	8/27/2007
1,3,5-Trimethylbenzene	Chronic	1.7E-03	mg/kg/day	NA	NA	NA	NA	PPRTV	10/20/2004
1,3-Dichlorobenzene	Chronic	3.0E-02	mg/kg/day	NA	NA	NA	NA	Route Extrapolation	10/20/2004
1,4-Dichlorobenzene	Chronic	2.3E-01	mg/kg/day	NA	NA	Liver	NA	IRIS	8/27/2007
2-Butanone	Chronic	1.4E+00	mg/kg/day	NA	NA	Reduced birth weight	1000/1	IRIS	8/27/2007

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfD		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD: Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
2-Chlorotoluene	Chronic	2.0E-02	mg/kg/day	NA	NA	Decreased body weight	1000/1	Route Extrapolation	8/24/2007
4-Chlorotoluene	Chronic	2.0E-02	mg/kg/day	NA	NA	Decreased body weight	Surrogate	Surrogate	NA
4-Methyl-2-pentanone	Chronic	8.6E-01	mg/kg/day	NA	NA	Reduced birth weight	300/1	IRIS	8/27/2007
Benzene	Chronic	8.6E-03	mg/kg/day	NA	NA	Immune system	300/1	IRIS	8/27/2007
Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	Chronic	2.0E-02	mg/kg/day	NA	NA	Kidney	1000/1	Route Extrapolation	10/20/2004
Bromoform	Chronic	2.0E-02	mg/kg/day	NA	NA	Liver	1000/1	Route Extrapolation	10/20/2004
Bromomethane	Chronic	1.4E-03	mg/kg/day	NA	NA	GI	1000/1	IRIS	8/27/2007
Carbon disulfide	Chronic	2.0E-01	mg/kg/day	NA	NA	Teratogenicity	100/1	IRIS	8/27/2007
Carbon tetrachloride	Chronic	7.0E-04	mg/kg/day	NA	NA	Liver	1000/1	Route Extrapolation	10/20/2004
Chlorobenzene	Chronic	1.7E-02	mg/kg/day	NA	NA	Liver	NA	NCEA	10/20/2004
Chloroethane	Chronic	2.9E+00	mg/kg/day	NA	NA	Reproductive	300/1	IRIS	8/27/2007
Chloromethane	Chronic	2.6E-02	mg/kg/day	NA	NA	Brain	NA	IRIS	8/27/2007
cis-1,2-Dichloroethene	Chronic	1.0E-02	mg/kg/day	NA	NA	Liver	NA	Route Extrapolation	10/20/2004
Cyclohexane	Chronic	1.7E+00	mg/kg/day	NA	NA	Reduced birth weight	300/1	IRIS	8/27/2007
Dibromochloromethane	Chronic	2.0E-02	mg/kg/day	NA	NA	Liver	1000/1	Route Extrapolation	10/20/2004
Dichlorofluoromethane (Freon 21)	Chronic	5.7E-02	mg/kg/day	NA	NA	Decreased body weight	100	Surrogate	7/31/1997
Dichlorodifluoromethane (Freon 12)	Chronic	5.7E-02	mg/kg/day	NA	NA	Decreased body weight	100/1	HEAST	7/31/1997
Ethylbenzene	Chronic	2.9E-01	mg/kg/day	NA	NA	Liver	1000/1	IRIS	8/27/2007
Isopropylbenzene	Chronic	1.1E-01	mg/kg/day	NA	NA	Kidney	1000/1	IRIS	8/27/2007
Methyl tert-butyl ether (MTBE)	Chronic	8.6E-01	mg/kg/day	NA	NA	Liver	100/1	IRIS	8/27/2007
Methylcyclohexane	Chronic	8.6E-01	mg/kg/day	NA	NA	Kidney	NA	HEAST	7/31/1997

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfD		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD: Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Naphthalene	Chronic	8.6E-04	mg/kg/day	NA	NA	Decreased body weight	3000/1	IRIS	8/27/2007
n-Propylbenzene	Chronic	4.0E-02	mg/kg/day	NA	NA	NA	NA	Route Extrapolation	10/20/2004
p-Isopropyltoluene	Chronic	1.1E-01	mg/kg/day	NA	NA	NA	NA	IRIS	NA
sec-Butylbenzene	Chronic	4.0E-02	mg/kg/day	NA	NA	NA	NA	Route Extrapolation	10/20/2004
Tetrahydrofuran	Chronic	8.6E-02	mg/kg/day	NA	NA	NA	NA	NCEA	10/20/2004
trans-1,2-Dichloroethene	Chronic	2.0E-02	mg/kg/day	NA	NA	Liver	1000	Route Extrapolation	10/20/2004
Vinyl chloride	Chronic	2.9E-02	mg/kg/day	NA	NA	Liver	30	IRIS	8/27/2007
m,p-Xylenes	Chronic	2.9E-02	mg/kg/day	NA	NA	Decreased body weight	1000	IRIS	8/27/2007
o-Xylene	Chronic	2.9E-02	mg/kg/day	NA	NA	Decreased body weight	1000	IRIS	8/27/2007
Xylenes, total	Chronic	2.9E-02	mg/kg/day	NA	NA	Decreased body weight	1000	IRIS	8/27/2007
1,1-Biphenyl	Chronic	5.0E-02	mg/kg/day	NA	NA	Kidney	100/10	Route Extrapolation	10/20/2004
1,2,3-Trichloropropane	Chronic	1.4E-03	mg/kg/day	NA	NA	Blood	NA	NCEA	10/20/2004
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg/day	NA	NA	Lungs	1000/1	Route Extrapolation	10/20/2004
Acetophenone	Chronic	NA	NA	NA	NA	NOAEL	3000/1	NA	NA
Bis(2-ethylhexyl)phthalate (DEHP)	Chronic	2.0E-02	mg/kg/day	NA	NA	Liver	1000/1	Route Extrapolation	10/20/2004
Caprolactam	Chronic	5.0E-01	mg/kg/day	NA	NA	Reproductive	100/1	Route Extrapolation	10/20/2004
Dimethyl phthalate	Chronic	1.0E+01	mg/kg/day	NA	NA	NA	NA	Route Extrapolation	10/20/2004
Di-n-butyl phthalate	Chronic	1.0E-01	mg/kg/day	NA	NA	Decreased survival	1000/1	Route Extrapolation	10/20/2004
Isophorone	Chronic	2.0E-01	mg/kg/day	NA	NA	Kidney	1000/1	Route Extrapolation	10/20/2004
N-Nitrosodimethylamine	Chronic	8.0E-06	mg/kg/day	NA	NA	NA	NA	Route Extrapolation	10/20/2004
Pentachlorophenol	Chronic	3.0E-02	mg/kg/day	NA	NA	Liver, Kidney	100/1	Route Extrapolation	10/20/2004
Phenanthrene	Chronic	3.0E-02	mg/kg/day	NA	NA	NA	0	Route Extrapolation	NA

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfD		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD: Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Phenol	Chronic	5.7E-02	mg/kg/day	NA	NA	Decreased body weight	300/1	OEHHA	Cal
Perchlorate	Chronic	NA	NA	NA	NA	Thyroid	10/NA	IRIS	8/24/2007
Cyanide (total)	Chronic	NA	NA	NA	NA	Decreased body weight	100/5	IRIS	8/24/2007
Arsenic	Chronic	8.6E-06	mg/kg/day	NA	NA	Skin	3/1	OEHHA	8/27/2007
Hexavalent chromium	Chronic	2.2E-06	mg/kg/day	NA	NA	NOAEL	300/3	IRIS	8/27/2007
Nickel	Chronic	1.4E-05	mg/kg/day	NA	NA	Decreased body weight	300/1	OEHHA	Cal

Notes:

NA = Not available or not applicable

IRIS = Integrated Risk Information System; available at http://www.epa.gov/iris/

Route extrapolation: Values from EPA Region 9 PRG Table, October 2004

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	8/27/2007
1,2-Dichloroethane	9.1E-02	1/mg/kg/day	100%	9.1E-02	1/mg/kg/day	B2	IRIS	8/27/2007
1,4-Dioxane (p-dioxane)	2.7E-02	1/mg/kg/day	100%	2.7E-02	1/mg/kg/day	NA	OEHHA	Cal
Acetone	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	3.1E-02	1/mg/kg/day	100%	3.1E-02	1/mg/kg/day	B2	OEHHA	Cal
Methylene chloride	1.4E-02	1/mg/kg/day	100%	1.4E-02	1/mg/kg/day	B2	OEHHA	Cal
Tetrachloroethene	5.4E-01	1/mg/kg/day	100%	5.4E-01	1/mg/kg/day	NA	OEHHA	Cal
Toluene	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene (TCE)	1.3E-02	1/mg/kg/day	100%	1.3E-02	1/mg/kg/day	B2	OEHHA	6/12/2007
Trichlorofluoromethane (Freon 11)	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	2.6E-02	1/mg/kg/day	100%	2.6E-02	1/mg/kg/day	C	IRIS	8/24/2007
1,1,2,2-Tetrachloroethane	2.7E-01	1/mg/kg/day	100%	2.7E-01	1/mg/kg/day	C	OEHHA	Cal
1,1,2-Trichloroethane	7.2E-02	1/mg/kg/day	100%	7.2E-02	1/mg/kg/day	NA	OEHHA	Cal
1,1-Dichloroethane	5.7E-03	1/mg/kg/day	100%	5.7E-03	1/mg/kg/day	C	OEHHA	Cal
1,2,4-Trichlorobenzene	3.6E-03	1/mg/kg/day	100%	3.6E-03	1/mg/kg/day	D	OEHHA	Cal
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	7.0E+00	1/mg/kg/day	100%	7.0E+00	1/mg/kg/day	NA	OEHHA	Cal
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	6.8E-02	1/mg/kg/day	100%	6.8E-02	1/mg/kg/day	NA	HEAST	7/31/1997
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	2.4E-02	1/mg/kg/day	100%	2.4E-02	1/mg/kg/day	NA	HEAST	10/20/2004
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	NA	NA	NA	NA	NA	NA	IRIS	8/24/2007
4-Chlorotoluene	NA	NA	NA	NA	NA	NA	Surrogate	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1.0E-01	1/mg/kg/day	100%	1.0E-01	1/mg/kg/day	A	OEHHA	Cal
Bromochloromethane	NA	NA	NA	NA	NA	NA	IRIS	NA

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Bromodichloromethane	1.3E-01	1/mg/kg/day	100%	1.3E-01	1/mg/kg/day	D	OEHHA	Cal
Bromoform	7.9E-03	1/mg/kg/day	100%	7.9E-03	1/mg/kg/day	B2	IRIS	8/27/2007
Bromomethane	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	1.5E-01	1/mg/kg/day	100%	1.5E-01	1/mg/kg/day	B2	OEHHA	Cal
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	2.9E-03	1/mg/kg/day	100%	2.9E-03	1/mg/kg/day	NA	NCEA	10/20/2004
Chloromethane	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	9.4E-02	1/mg/kg/day	100%	9.4E-02	1/mg/kg/day	C	OEHHA	Cal
Dichlorofluoromethane (Freon 21)	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane (Freon 12)	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.1E-02	1/mg/kg/day	100%	1.1E-02	1/mg/kg/day	2B	OEHHA	11/15/2007
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether (MTBE)	1.8E-03	1/mg/kg/day	100%	1.8E-03	1/mg/kg/day	NA	OEHHA	Cal
Methylcyclohexane	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	7.6E-03	1/mg/kg/day	100%	7.6E-03	1/mg/kg/day	NA	NCEA	10/20/2004
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	1.5E+00	1/mg/kg/day	100%	1.5E+00	1/mg/kg/day	A	IRIS	8/27/2007
m,p-Xylenes	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, total	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	2.0E+00	1/mg/kg/day	100%	2.0E+00	1/mg/kg/day	NA	NCEA	10/20/2004
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Omega Chemical Superfund Site

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Bis(2-ethylhexyl)phthalate (DEHP)	1.4E-02	1/mg/kg/day	100%	1.4E-02	1/mg/kg/day	B2	IRIS	8/27/2007
Caprolactam	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	IRIS	8/27/2007
Di-n-butyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	9.5E-04	1/mg/kg/day	100%	9.5E-04	1/mg/kg/day	C	IRIS	8/27/2007
N-Nitrosodimethylamine	5.1E+01	1/mg/kg/day	100%	5.1E+01	1/mg/kg/day	B2	IRIS	10/20/2004
Pentachlorophenol	1.2E-01	1/mg/kg/day	100%	1.2E-01	1/mg/kg/day	B2	IRIS	8/27/2007
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA
Perchlorate	NA	NA	NA	NA	NA	NA	IRIS	8/24/2007
Cyanide (total)	NA	NA	NA	NA	NA	NA	IRIS	8/24/2007
Arsenic	9.5E+00	1/mg/kg/day	100%	9.5E+00	1/mg/kg/day	A	OEHHA	8/27/2007
Hexavalent chromium	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

NA = Not available or not applicable

IRIS = Integrated Risk Information System; available at http://www.epa.gov/iris/

HEAST = Health Effects Assessment Summary Table(s); Values from EPA Region 9 PRG Table, October 2004

OEHHA = Office of Environmental Health and Hazard Assessment; Online database http://www.oehha.ca.gov/risk/ChemicalDB/index.asp

Route extrapolation: Values from EPA Region 9 PRG Table, October 2004

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation CSF	
	Value	Units	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	NA		NA	NA	D	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NA		NA	NA	NA	NA	NA
1,1-Dichloroethene	NA		NA	NA	C	IRIS	8/27/2007
1,2-Dichloroethane	2.6E-05	ug/m3	9.1E-02	1/mg/kg/day	B2	IRIS	8/27/2007
1,4-Dioxane (p-dioxane)	7.7E-06	ug/m3	2.7E-02	1/mg/kg/day	NA	OEHHA	Cal
Acetone	NA		NA	NA	D	NA	NA
Chloroform	NA		8.1E-02	1/mg/kg/day	B2	IRIS	8/27/2007
Methylene chloride	1.0E-06	ug/m3	3.5E-03	1/mg/kg/day	B2	OEHHA	Cal
Tetrachloroethene	5.9E-06	ug/m3	2.1E-02	1/mg/kg/day	NA	OEHHA	Cal
Toluene	NA		NA	NA	D	NA	NA
Trichloroethene (TCE)	2.0E-06	ug/m3	7.0E-03	1/mg/kg/day	B2	OEHHA	6/12/2007
Trichlorofluoromethane (Freon 11)	NA		NA	NA	D	NA	NA
1,1,1,2-Tetrachloroethane	7.4E-06	ug/m3	2.6E-02	1/mg/kg/day	C	IRIS	8/24/2007
1,1,2,2-Tetrachloroethane	5.8E-05	ug/m3	2.0E-01	1/mg/kg/day	C	OEHHA	8/27/2007
1,1,2-Trichloroethane	1.6E-05	ug/m3	5.7E-02	1/mg/kg/day	NA	OEHHA	Cal
1,1-Dichloroethane	1.6E-06	ug/m3	5.7E-03	1/mg/kg/day	C	OEHHA	Cal
1,2,4-Trichlorobenzene	NA		NA	NA	D	NA	NA
1,2,4-Trimethylbenzene	NA		NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	1.9E-03	ug/m3	7.0E+00	1/mg/kg/day	NA	OEHHA	Cal
1,2-Dichlorobenzene	NA		NA	NA	D	NA	NA
1,2-Dichloropropane	NA		6.8E-02	1/mg/kg/day	NA	Route Extrapolation	10/20/2004
1,3,5-Trimethylbenzene	NA		NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA		NA	NA	D	NA	NA
1,4-Dichlorobenzene	1.1E-05	ug/m3	4.0E-02	1/mg/kg/day	NA	OEHHA	6/12/2007
2-Butanone	NA		NA	NA	NA	NA	NA
2-Chlorotoluene	NA		NA	NA	NA	IRIS	8/24/2007
4-Chlorotoluene	NA		NA	NA	NA	Surrogate	NA
4-Methyl-2-pentanone	NA		NA	NA	NA	NA	NA

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation CSF	
	Value	Units	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Benzene	2.9E-05	ug/m3	1.0E-01	1/mg/kg/day	A	OEHHA	Cal
Bromochloromethane	NA		NA	NA	D	NA	NA
Bromodichloromethane	3.7E-05	ug/m3	1.3E-01	1/mg/kg/day	D	OEHHA	Cal
Bromoform	1.1E-06	ug/m3	3.9E-03	1/mg/kg/day	B2	IRIS	8/27/2007
Bromomethane	NA		NA	NA	D	NA	NA
Carbon disulfide	NA		NA	NA	NA	NA	NA
Carbon tetrachloride	4.2E-05	ug/m3	1.5E-01	1/mg/kg/day	B2	OEHHA	Cal
Chlorobenzene	NA		NA	NA	D	NA	NA
Chloroethane	NA		2.9E-03	1/mg/kg/day	NA	Route Extrapolation	10/20/2004
Chloromethane	NA		NA	NA	D	IRIS	NA
cis-1,2-Dichloroethene	NA		NA	NA	D	IRIS	NA
Cyclohexane	NA		NA	NA	NA	NA	NA
Dibromochloromethane	2.7E-05	ug/m3	9.4E-02	1/mg/kg/day	C	OEHHA	Cal
Dichlorofluoromethane (Freon 21)	NA		NA	NA	D	NA	NA
Dichlorodifluoromethane (Freon 12)	NA		NA	NA	NA	NA	NA
Ethylbenzene	2.5E-06	ug/m3	8.7E-03	1/mg/kg/day	2B	OEHHA	11/15/2007
Isopropylbenzene	NA		NA	NA	D	NA	NA
Methyl tert-butyl ether (MTBE)	2.6E-07	ug/m3	9.1E-04	1/mg/kg/day	NA	OEHHA	Cal
Methylcyclohexane	NA		NA	NA	NA	NA	NA
Naphthalene	3.4E-05	ug/m3	1.2E-01	1/mg/kg/day	C	OEHHA	Cal
n-Propylbenzene	NA		NA	NA	NA	NA	NA
p-Isopropyltoluene	NA		NA	NA	NA	NA	NA
sec-Butylbenzene	NA		NA	NA	NA	NA	NA
Tetrahydrofuran	NA		6.8E-03	1/mg/kg/day	NA	NCEA	10/20/2004
trans-1,2-Dichloroethene	NA		NA	NA	NA	NA	NA
Vinyl chloride	7.8E-05	ug/m3	2.7E-01	1/mg/kg/day	A	OEHHA	Cal
m,p-Xylenes	NA		NA	NA	NA	NA	NA
o-Xylene	NA		NA	NA	E	NA	NA

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Omega Chemical Superfund Site

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation CSF	
	Value	Units	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Xylenes, total	NA		NA	NA	NA	NA	NA
1,1-Biphenyl	NA		NA	NA	D	NA	NA
1,2,3-Trichloropropane	NA		2.0E+00	1/mg/kg/day	NA	NA	NA
2-Methylnaphthalene	NA		NA	NA	NA	NA	NA
Acetophenone	NA		NA	NA	D	NA	NA
Bis(2-ethylhexyl)phthalate (DEHP)	NA		1.4E-02	1/mg/kg/day	B2	Route Extrapolation	10/20/2004
Caprolactam	NA		NA	NA	NA	NA	NA
Dimethyl phthalate	NA		NA	NA	D	NA	NA
Di-n-butyl phthalate	NA		NA	NA	NA	NA	NA
Isophorone	NA		9.5E-04	1/mg/kg/day	C	Route Extrapolation	10/20/2004
N-Nitrosodimethylamine	4.6E-03	ug/m3	1.6E+01	1/mg/kg/day	B2	OEHHA	6/12/2007
Pentachlorophenol	NA		1.2E-01	1/mg/kg/day	B2	Route Extrapolation	10/20/2004
Phenanthrene	NA		NA	NA	D	NA	NA
Phenol	NA		NA	NA	D	NA	NA
Perchlorate	NA		NA	NA	D	IRIS	8/24/2007
Cyanide (total)	NA		NA	NA	D	IRIS	8/24/2007
Arsenic	4.3E-03	ug/m3	1.5E+01	1/mg/kg/day	A	IRIS	8/27/2007
Hexavalent chromium	1.5E-01	ug/m3	5.1E+02	1/mg/kg/day	D	OEHHA	8/27/2007
Nickel	2.6E-04	ug/m3	9.1E-01	1/mg/kg/day	B2	OEHHA	Cal

Notes:

NA = Not available or not applicable

IRIS = Integrated Risk Information System; available at http://www.epa.gov/iris/

OEHHA = Office of Environmental Health and Hazard Assessment

Route extrapolation: Values from EPA Region 9 PRG Table, October 2004

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	2.5E+00	mg/L	2.3E-02	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	9.3E-03	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	9.8E-03	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	2.3E-03	mg/kg/day	9.1E-02	1/mg/kg/day	2.1E-04
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	3.3E-02	mg/kg/day	2.7E-02	1/mg/kg/day	9.0E-04
				Acetone	2.0E+00	mg/L	1.9E-02	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	5.5E-03	mg/kg/day	3.1E-02	1/mg/kg/day	1.7E-04
				Methylene chloride	1.9E+00	mg/L	1.8E-02	mg/kg/day	1.4E-02	1/mg/kg/day	2.5E-04
				Tetrachloroethene	6.5E+01	mg/L	6.1E-01	mg/kg/day	5.4E-01	1/mg/kg/day	3.3E-01
				Toluene	7.1E-02	mg/L	6.7E-04	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	1.2E-02	mg/kg/day	1.3E-02	1/mg/kg/day	1.6E-04
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	3.4E-03	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	3.4E-05	mg/kg/day	2.6E-02	1/mg/kg/day	8.8E-07
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	6.3E-06	mg/kg/day	2.7E-01	1/mg/kg/day	1.7E-06
				1,1,2-Trichloroethane	1.8E-01	mg/L	1.7E-03	mg/kg/day	7.2E-02	1/mg/kg/day	1.2E-04
				1,1-Dichloroethane	3.8E-02	mg/L	3.6E-04	mg/kg/day	5.7E-03	1/mg/kg/day	2.0E-06
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	5.0E-06	mg/kg/day	3.6E-03	1/mg/kg/day	1.8E-08
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	7.1E-05	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	5.2E-05	mg/kg/day	7.0E+00	1/mg/kg/day	3.6E-04
				1,2-Dichlorobenzene	1.8E-03	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	1.5E-05	mg/kg/day	6.8E-02	1/mg/kg/day	1.0E-06
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	1.1E-05	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	4.0E-06	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	6.7E-06	mg/kg/day	2.4E-02	1/mg/kg/day	1.6E-07
				2-Butanone	3.3E-01	mg/L	3.1E-03	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	4.2E-06	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	4.3E-06	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	7.3E-04	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	1.8E-04	mg/kg/day	1.0E-01	1/mg/kg/day	1.8E-05

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	1.1E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	4.1E-06	mg/kg/day	1.3E-01	1/mg/kg/day	5.4E-07
				Bromoform	2.8E-03	mg/L	2.6E-05	mg/kg/day	7.9E-03	1/mg/kg/day	2.1E-07
				Bromomethane	2.6E-02	mg/L	2.5E-04	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	8.8E-04	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	2.9E-06	mg/kg/day	1.5E-01	1/mg/kg/day	4.4E-07
				Chlorobenzene	3.5E-02	mg/L	3.3E-04	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	1.9E-06	mg/kg/day	2.9E-03	1/mg/kg/day	5.4E-09
				Chloromethane	9.7E-04	mg/L	9.1E-06	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	1.4E-04	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	5.9E-06	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	1.1E-05	mg/kg/day	9.4E-02	1/mg/kg/day	1.1E-06
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	8.1E-05	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	1.1E-05	mg/kg/day	1.1E-02	1/mg/kg/day	1.2E-07
				Isopropylbenzene	5.3E-04	mg/L	5.0E-06	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	4.4E-05	mg/kg/day	1.8E-03	1/mg/kg/day	7.9E-08
				Methylcyclohexane	8.5E-04	mg/L	8.0E-06	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	5.2E-06	mg/kg/day	NA	NA	--
				n-Propylbenzene	5.2E-04	mg/L	4.9E-06	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	4.5E-06	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	3.4E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	6.1E-03	mg/kg/day	7.6E-03	1/mg/kg/day	4.6E-05
				trans-1,2-Dichloroethene	3.1E-02	mg/L	2.9E-04	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	6.4E-06	mg/kg/day	1.5E+00	1/mg/kg/day	9.6E-06
				m,p-Xylenes	1.0E-02	mg/L	9.5E-05	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	7.6E-05	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	3.3E-04	mg/kg/day	NA	NA	--

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	7.5E-06	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	1.3E-07	mg/kg/day	2.0E+00	1/mg/kg/day	2.6E-07
				2-Methylnaphthalene	2.8E-03	mg/L	2.6E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	2.6E-05	mg/kg/day	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	1.1E-04	mg/kg/day	1.4E-02	1/mg/kg/day	1.5E-06
				Caprolactam	3.8E-03	mg/L	3.6E-05	mg/kg/day	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	6.4E-06	mg/kg/day	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	9.4E-06	mg/kg/day	NA	NA	--
				Isophorone	4.9E-03	mg/L	4.6E-05	mg/kg/day	9.5E-04	1/mg/kg/day	4.4E-08
				N-Nitrosodimethylamine	1.9E-04	mg/L	1.8E-06	mg/kg/day	5.1E+01	1/mg/kg/day	9.1E-05
				Pentachlorophenol	3.0E-04	mg/L	2.8E-06	mg/kg/day	1.2E-01	1/mg/kg/day	3.4E-07
				Phenanthrene	6.9E-05	mg/L	6.5E-07	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	9.2E-05	mg/kg/day	NA	NA	--
				Perchlorate	3.2E-03	mg/L	3.0E-05	mg/kg/day	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	3.2E-05	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	1.3E-04	mg/kg/day	9.5E+00	1/mg/kg/day	1.2E-03
				Hexavalent chromium	9.3E-03	mg/L	8.7E-05	mg/kg/day	NA	NA	--
				Nickel	3.4E-02	mg/L	3.2E-04	mg/kg/day	NA	NA	--
			Exp. Route Total								3.3E-01

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Dermal	1,1,1-Trichloroethane	2.5E+00	mg/L	4.4E-03	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	3.3E-03	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	1.4E-03	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	1.8E-04	mg/kg/day	9.1E-02	1/mg/kg/day	1.6E-05
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	1.2E-04	mg/kg/day	2.7E-02	1/mg/kg/day	3.2E-06
				Acetone	2.0E+00	mg/L	9.1E-05	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	4.9E-04	mg/kg/day	3.1E-02	1/mg/kg/day	1.5E-05
				Methylene chloride	1.9E+00	mg/L	6.7E-04	mg/kg/day	1.4E-02	1/mg/kg/day	9.4E-06
				Tetrachloroethene	6.5E+01	mg/L	3.6E-01	mg/kg/day	5.4E-01	1/mg/kg/day	1.9E-01
				Toluene	7.1E-02	mg/L	2.3E-04	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	2.1E-03	mg/kg/day	1.3E-02	1/mg/kg/day	2.8E-05
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	6.3E-04	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	1.3E-05	mg/kg/day	2.6E-02	1/mg/kg/day	3.5E-07
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	7.9E-07	mg/kg/day	2.7E-01	1/mg/kg/day	2.1E-07
				1,1,2-Trichloroethane	1.8E-01	mg/L	1.6E-04	mg/kg/day	7.2E-02	1/mg/kg/day	1.1E-05
				1,1-Dichloroethane	3.8E-02	mg/L	2.8E-05	mg/kg/day	5.7E-03	1/mg/kg/day	1.6E-07
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	6.5E-06	mg/kg/day	3.6E-03	1/mg/kg/day	2.3E-08
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	7.9E-05	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	9.9E-06	mg/kg/day	7.0E+00	1/mg/kg/day	6.9E-05
				1,2-Dichlorobenzene	1.8E-03	mg/L	1.1E-05	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	1.5E-06	mg/kg/day	6.8E-02	1/mg/kg/day	1.0E-07
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	8.9E-06	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	3.7E-06	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	4.4E-06	mg/kg/day	2.4E-02	1/mg/kg/day	1.1E-07
				2-Butanone	3.3E-01	mg/L	2.9E-05	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	5.1E-06	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	6.2E-07	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	2.3E-05	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	2.7E-05	mg/kg/day	1.0E-01	1/mg/kg/day	2.7E-06

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	4.9E-06	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	3.4E-07	mg/kg/day	1.3E-01	1/mg/kg/day	4.4E-08
				Bromoform	2.8E-03	mg/L	1.8E-06	mg/kg/day	7.9E-03	1/mg/kg/day	1.4E-08
				Bromomethane	2.6E-02	mg/L	7.9E-06	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	1.5E-04	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	7.8E-07	mg/kg/day	1.5E-01	1/mg/kg/day	1.2E-07
				Chlorobenzene	3.5E-02	mg/L	1.2E-04	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	1.1E-07	mg/kg/day	2.9E-03	1/mg/kg/day	3.2E-10
				Chloromethane	9.7E-04	mg/L	2.7E-07	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	6.2E-06	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	7.6E-07	mg/kg/day	9.4E-02	1/mg/kg/day	7.1E-08
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	1.1E-05	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	1.7E-06	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	6.5E-06	mg/kg/day	1.1E-02	1/mg/kg/day	7.2E-08
				Isopropylbenzene	5.3E-04	mg/L	5.8E-06	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	1.0E-06	mg/kg/day	1.8E-03	1/mg/kg/day	1.8E-09
				Methylcyclohexane	8.5E-04	mg/L	1.0E-05	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	3.5E-06	mg/kg/day	NA	NA	--
				n-Propylbenzene	5.2E-04	mg/L	4.6E-06	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	8.0E-06	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	5.5E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	1.6E-04	mg/kg/day	7.6E-03	1/mg/kg/day	1.2E-06
				trans-1,2-Dichloroethene	3.1E-02	mg/L	2.6E-05	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	3.4E-07	mg/kg/day	1.5E+00	1/mg/kg/day	5.1E-07
				m,p-Xylenes	1.0E-02	mg/L	6.1E-05	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	6.5E-05	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	2.2E-04	mg/kg/day	NA	NA	--

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	1.1E-05	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	2.0E-08	mg/kg/day	2.0E+00	1/mg/kg/day	4.0E-08
				2-Methylnaphthalene	2.8E-03	mg/L	3.6E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	1.6E-06	mg/kg/day	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	2.1E-04	mg/kg/day	1.4E-02	1/mg/kg/day	2.9E-06
				Caprolactam	3.8E-03	mg/L	4.6E-07	mg/kg/day	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	2.3E-07	mg/kg/day	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	7.5E-06	mg/kg/day	NA	NA	--
				Isophorone	4.9E-03	mg/L	2.3E-06	mg/kg/day	9.5E-04	1/mg/kg/day	2.2E-09
				N-Nitrosodimethylamine	1.9E-04	mg/L	4.7E-09	mg/kg/day	5.1E+01	1/mg/kg/day	2.4E-07
				Pentachlorophenol	3.0E-04	mg/L	3.4E-05	mg/kg/day	1.2E-01	1/mg/kg/day	4.1E-06
				Phenanthrene	6.9E-05	mg/L	1.8E-06	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	4.5E-06	mg/kg/day	NA	NA	--
				Perchlorate	3.2E-03	mg/L	1.6E-07	mg/kg/day	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	1.7E-07	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	6.6E-07	mg/kg/day	9.5E+00	1/mg/kg/day	6.3E-06
				Hexavalent chromium	9.3E-03	mg/L	9.1E-07	mg/kg/day	NA	NA	--
				Nickel	3.4E-02	mg/L	3.3E-07	mg/kg/day	NA	NA	--
			Exp. Route Total								1.9E-01

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Inhalation	1,1,1-Trichloroethane	2.5E+00	mg/L	1.2E-01	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	4.7E-02	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	4.9E-02	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	1.2E-02	mg/kg/day	9.1E-02	1/mg/kg/day	1.0E-03
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	NV	NA	2.7E-02	1/mg/kg/day	--
				Acetone	2.0E+00	mg/L	9.5E-02	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	2.7E-02	mg/kg/day	8.1E-02	1/mg/kg/day	2.2E-03
				Methylene chloride	1.9E+00	mg/L	9.1E-02	mg/kg/day	3.5E-03	1/mg/kg/day	3.2E-04
				Tetrachloroethene	6.5E+01	mg/L	3.1E+00	mg/kg/day	2.1E-02	1/mg/kg/day	6.3E-02
				Toluene	7.1E-02	mg/L	3.4E-03	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	6.2E-02	mg/kg/day	7.0E-03	1/mg/kg/day	4.3E-04
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	1.7E-02	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	1.7E-04	mg/kg/day	2.6E-02	1/mg/kg/day	4.4E-06
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	3.1E-05	mg/kg/day	2.0E-01	1/mg/kg/day	6.4E-06
				1,1,2-Trichloroethane	1.8E-01	mg/L	8.4E-03	mg/kg/day	5.7E-02	1/mg/kg/day	4.8E-04
				1,1-Dichloroethane	3.8E-02	mg/L	1.8E-03	mg/kg/day	5.7E-03	1/mg/kg/day	1.0E-05
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	2.5E-05	mg/kg/day	NA	NA	--
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	3.5E-04	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	2.6E-04	mg/kg/day	7.0E+00	1/mg/kg/day	1.8E-03
				1,2-Dichlorobenzene	1.8E-03	mg/L	8.5E-05	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	7.5E-05	mg/kg/day	6.8E-02	1/mg/kg/day	5.1E-06
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	5.5E-05	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	2.0E-05	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	3.3E-05	mg/kg/day	4.0E-02	1/mg/kg/day	1.3E-06
				2-Butanone	3.3E-01	mg/L	1.5E-02	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	2.1E-05	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	2.2E-05	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	3.7E-03	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	9.0E-04	mg/kg/day	1.0E-01	1/mg/kg/day	9.2E-05

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	5.6E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	2.1E-05	mg/kg/day	1.3E-01	1/mg/kg/day	2.7E-06
				Bromoform	2.8E-03	mg/L	NV	NA	3.9E-03	1/mg/kg/day	--
				Bromomethane	2.6E-02	mg/L	1.2E-03	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	4.4E-03	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	1.5E-05	mg/kg/day	1.5E-01	1/mg/kg/day	2.2E-06
				Chlorobenzene	3.5E-02	mg/L	1.6E-03	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	9.4E-06	mg/kg/day	2.9E-03	1/mg/kg/day	2.7E-08
				Chloromethane	9.7E-04	mg/L	4.6E-05	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	6.8E-04	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	3.0E-05	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	5.6E-05	mg/kg/day	9.4E-02	1/mg/kg/day	5.3E-06
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	4.0E-04	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	7.3E-05	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	5.5E-05	mg/kg/day	8.7E-03	1/mg/kg/day	4.8E-07
				Isopropylbenzene	5.3E-04	mg/L	2.5E-05	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	2.2E-04	mg/kg/day	9.1E-04	1/mg/kg/day	2.0E-07
				Methylcyclohexane	8.5E-04	mg/L	4.0E-05	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	2.6E-05	mg/kg/day	1.2E-01	1/mg/kg/day	3.1E-06
				n-Propylbenzene	5.2E-04	mg/L	2.4E-05	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	2.2E-05	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	3.1E-02	mg/kg/day	6.8E-03	1/mg/kg/day	2.1E-04
				trans-1,2-Dichloroethene	3.1E-02	mg/L	1.4E-03	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	3.2E-05	mg/kg/day	2.7E-01	1/mg/kg/day	8.7E-06
				m,p-Xylenes	1.0E-02	mg/L	4.7E-04	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	3.8E-04	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	1.7E-03	mg/kg/day	NA	NA	--

Table 7a.1.1

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	3.8E-05	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	6.4E-07	mg/kg/day	2.0E+00	1/mg/kg/day	1.3E-06
				2-Methylnaphthalene	2.8E-03	mg/L	1.3E-04	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	NV	NA	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	NV	NA	1.4E-02	1/mg/kg/day	--
				Caprolactam	3.8E-03	mg/L	NV	NA	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	NV	NA	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	NV	NA	NA	NA	--
				Isophorone	4.9E-03	mg/L	NV	NA	9.5E-04	1/mg/kg/day	--
				N-Nitrosodimethylamine	1.9E-04	mg/L	NV	NA	1.6E+01	1/mg/kg/day	--
				Pentachlorophenol	3.0E-04	mg/L	NV	NA	1.2E-01	1/mg/kg/day	--
				Phenanthrene	6.9E-05	mg/L	3.2E-06	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	NV	NA	NA	NA	--
				Perchlorate	3.2E-03	mg/L	NV	NA	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	1.6E-04	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	NV	NA	1.5E+01	1/mg/kg/day	--
				Hexavalent chromium	9.3E-03	mg/L	NV	NA	5.1E+02	1/mg/kg/day	--
				Nickel	3.4E-02	mg/L	NV	NA	9.1E-01	1/mg/kg/day	--
			Exp. Route Total								7.0E-02
		Exposure Point Total									6.0E-01
	Exposure Medium Total										6.0E-01
Medium Total											6.0E-01
										Total of Receptor Risks Across All Media	6E-01

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	2.5E+00	mg/L	1.4E-02	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	5.4E-03	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	5.7E-03	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	1.3E-03	mg/kg/day	9.1E-02	1/mg/kg/day	1.2E-04
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	2.0E-02	mg/kg/day	2.7E-02	1/mg/kg/day	5.3E-04
				Acetone	2.0E+00	mg/L	1.1E-02	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	3.2E-03	mg/kg/day	3.1E-02	1/mg/kg/day	9.9E-05
				Methylene chloride	1.9E+00	mg/L	1.1E-02	mg/kg/day	1.4E-02	1/mg/kg/day	1.5E-04
				Tetrachloroethene	6.5E+01	mg/L	3.6E-01	mg/kg/day	5.4E-01	1/mg/kg/day	1.9E-01
				Toluene	7.1E-02	mg/L	3.9E-04	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	7.2E-03	mg/kg/day	1.3E-02	1/mg/kg/day	9.4E-05
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	2.0E-03	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	2.0E-05	mg/kg/day	2.6E-02	1/mg/kg/day	5.1E-07
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	3.7E-06	mg/kg/day	2.7E-01	1/mg/kg/day	9.9E-07
				1,1,2-Trichloroethane	1.8E-01	mg/L	9.8E-04	mg/kg/day	7.2E-02	1/mg/kg/day	7.1E-05
				1,1-Dichloroethane	3.8E-02	mg/L	2.1E-04	mg/kg/day	5.7E-03	1/mg/kg/day	1.2E-06
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	2.9E-06	mg/kg/day	3.6E-03	1/mg/kg/day	1.0E-08
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	4.1E-05	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	3.0E-05	mg/kg/day	7.0E+00	1/mg/kg/day	2.1E-04
				1,2-Dichlorobenzene	1.8E-03	mg/L	9.9E-06	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	8.8E-06	mg/kg/day	6.8E-02	1/mg/kg/day	6.0E-07
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	6.4E-06	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	2.3E-06	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	3.9E-06	mg/kg/day	2.4E-02	1/mg/kg/day	9.3E-08
				2-Butanone	3.3E-01	mg/L	1.8E-03	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	2.5E-06	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	2.5E-06	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	4.3E-04	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	1.1E-04	mg/kg/day	1.0E-01	1/mg/kg/day	1.1E-05

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	6.6E-05	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	2.4E-06	mg/kg/day	1.3E-01	1/mg/kg/day	3.1E-07
				Bromoform	2.8E-03	mg/L	1.5E-05	mg/kg/day	7.9E-03	1/mg/kg/day	1.2E-07
				Bromomethane	2.6E-02	mg/L	1.4E-04	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	5.1E-04	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	1.7E-06	mg/kg/day	1.5E-01	1/mg/kg/day	2.6E-07
				Chlorobenzene	3.5E-02	mg/L	1.9E-04	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	1.1E-06	mg/kg/day	2.9E-03	1/mg/kg/day	3.2E-09
				Chloromethane	9.7E-04	mg/L	5.3E-06	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	7.9E-05	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	3.5E-06	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	6.5E-06	mg/kg/day	9.4E-02	1/mg/kg/day	6.1E-07
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	4.7E-05	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	8.5E-06	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	6.4E-06	mg/kg/day	1.1E-02	1/mg/kg/day	7.0E-08
				Isopropylbenzene	5.3E-04	mg/L	2.9E-06	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	2.6E-05	mg/kg/day	1.8E-03	1/mg/kg/day	4.6E-08
				Methylcyclohexane	8.5E-04	mg/L	4.7E-06	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	3.1E-06	mg/kg/day	NA	NA	--
				n-Propylbenzene	5.2E-04	mg/L	2.8E-06	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	2.6E-06	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	2.0E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	3.6E-03	mg/kg/day	7.6E-03	1/mg/kg/day	2.7E-05
				trans-1,2-Dichloroethene	3.1E-02	mg/L	1.7E-04	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	3.7E-06	mg/kg/day	1.5E+00	1/mg/kg/day	5.6E-06
				m,p-Xylenes	1.0E-02	mg/L	5.5E-05	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	4.4E-05	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	2.0E-04	mg/kg/day	NA	NA	--

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	4.4E-06	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	7.5E-08	mg/kg/day	2.0E+00	1/mg/kg/day	1.5E-07
				2-Methylnaphthalene	2.8E-03	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	6.3E-05	mg/kg/day	1.4E-02	1/mg/kg/day	8.8E-07
				Caprolactam	3.8E-03	mg/L	2.1E-05	mg/kg/day	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	3.7E-06	mg/kg/day	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	5.5E-06	mg/kg/day	NA	NA	--
				Isophorone	4.9E-03	mg/L	2.7E-05	mg/kg/day	9.5E-04	1/mg/kg/day	2.6E-08
				N-Nitrosodimethylamine	1.9E-04	mg/L	1.0E-06	mg/kg/day	5.1E+01	1/mg/kg/day	5.3E-05
				Pentachlorophenol	3.0E-04	mg/L	1.6E-06	mg/kg/day	1.2E-01	1/mg/kg/day	2.0E-07
				Phenanthrene	6.9E-05	mg/L	3.8E-07	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	5.4E-05	mg/kg/day	NA	NA	--
				Perchlorate	3.2E-03	mg/L	1.8E-05	mg/kg/day	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	1.9E-05	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	7.4E-05	mg/kg/day	9.5E+00	1/mg/kg/day	7.0E-04
				Hexavalent chromium	9.3E-03	mg/L	5.1E-05	mg/kg/day	NA	NA	--
				Nickel	3.4E-02	mg/L	1.8E-04	mg/kg/day	NA	NA	--
			Exp. Route Total								1.9E-01

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Dermal	1,1,1-Trichloroethane	2.5E+00	mg/L	2.5E-03	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	1.9E-03	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	7.8E-04	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	1.0E-04	mg/kg/day	9.1E-02	1/mg/kg/day	9.4E-06
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	7.0E-05	mg/kg/day	2.7E-02	1/mg/kg/day	1.9E-06
				Acetone	2.0E+00	mg/L	5.5E-05	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	2.8E-04	mg/kg/day	3.1E-02	1/mg/kg/day	8.6E-06
				Methylene chloride	1.9E+00	mg/L	4.0E-04	mg/kg/day	1.4E-02	1/mg/kg/day	5.6E-06
				Tetrachloroethene	6.5E+01	mg/L	2.0E-01	mg/kg/day	5.4E-01	1/mg/kg/day	1.1E-01
				Toluene	7.1E-02	mg/L	1.3E-04	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	1.2E-03	mg/kg/day	1.3E-02	1/mg/kg/day	1.6E-05
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	3.6E-04	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	7.5E-06	mg/kg/day	2.6E-02	1/mg/kg/day	1.9E-07
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	4.4E-07	mg/kg/day	2.7E-01	1/mg/kg/day	1.2E-07
				1,1,2-Trichloroethane	1.8E-01	mg/L	8.8E-05	mg/kg/day	7.2E-02	1/mg/kg/day	6.3E-06
				1,1-Dichloroethane	3.8E-02	mg/L	1.6E-05	mg/kg/day	5.7E-03	1/mg/kg/day	9.1E-08
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	3.7E-06	mg/kg/day	3.6E-03	1/mg/kg/day	1.3E-08
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	4.4E-05	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	5.5E-06	mg/kg/day	7.0E+00	1/mg/kg/day	3.9E-05
				1,2-Dichlorobenzene	1.8E-03	mg/L	6.2E-06	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	8.4E-07	mg/kg/day	6.8E-02	1/mg/kg/day	5.7E-08
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	5.0E-06	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	2.1E-06	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	2.5E-06	mg/kg/day	2.4E-02	1/mg/kg/day	6.0E-08
				2-Butanone	3.3E-01	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	2.8E-06	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	3.5E-07	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	1.3E-05	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	1.6E-05	mg/kg/day	1.0E-01	1/mg/kg/day	1.6E-06

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	2.8E-06	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	1.9E-07	mg/kg/day	1.3E-01	1/mg/kg/day	2.5E-08
				Bromoform	2.8E-03	mg/L	1.0E-06	mg/kg/day	7.9E-03	1/mg/kg/day	8.0E-09
				Bromomethane	2.6E-02	mg/L	4.6E-06	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	9.0E-05	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	4.4E-07	mg/kg/day	1.5E-01	1/mg/kg/day	6.6E-08
				Chlorobenzene	3.5E-02	mg/L	6.6E-05	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	6.5E-08	mg/kg/day	2.9E-03	1/mg/kg/day	1.9E-10
				Chloromethane	9.7E-04	mg/L	1.6E-07	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	9.8E-06	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	3.6E-06	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	4.3E-07	mg/kg/day	9.4E-02	1/mg/kg/day	4.0E-08
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	6.2E-06	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	9.8E-07	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	3.8E-06	mg/kg/day	1.1E-02	1/mg/kg/day	4.1E-08
				Isopropylbenzene	5.3E-04	mg/L	3.3E-06	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	5.9E-07	mg/kg/day	1.8E-03	1/mg/kg/day	1.1E-09
				Methylcyclohexane	8.5E-04	mg/L	5.8E-06	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	1.9E-06	mg/kg/day	NA	NA	--
				n-Propylbenzene	5.2E-04	mg/L	2.6E-06	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	4.5E-06	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	3.1E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	9.3E-05	mg/kg/day	7.6E-03	1/mg/kg/day	7.1E-07
				trans-1,2-Dichloroethene	3.1E-02	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	2.0E-07	mg/kg/day	1.5E+00	1/mg/kg/day	3.0E-07
				m,p-Xylenes	1.0E-02	mg/L	3.5E-05	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	3.8E-05	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	1.2E-04	mg/kg/day	NA	NA	--

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	6.4E-06	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	1.1E-08	mg/kg/day	2.0E+00	1/mg/kg/day	2.2E-08
				2-Methylnaphthalene	2.8E-03	mg/L	2.0E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	9.2E-07	mg/kg/day	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	1.2E-04	mg/kg/day	1.4E-02	1/mg/kg/day	1.6E-06
				Caprolactam	3.8E-03	mg/L	2.6E-07	mg/kg/day	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	1.3E-07	mg/kg/day	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	4.2E-06	mg/kg/day	NA	NA	--
				Isophorone	4.9E-03	mg/L	1.3E-06	mg/kg/day	9.5E-04	1/mg/kg/day	1.3E-09
				N-Nitrosodimethylamine	1.9E-04	mg/L	2.8E-09	mg/kg/day	5.1E+01	1/mg/kg/day	1.4E-07
				Pentachlorophenol	3.0E-04	mg/L	1.9E-05	mg/kg/day	1.2E-01	1/mg/kg/day	2.3E-06
				Phenanthrene	6.9E-05	mg/L	9.9E-07	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	2.6E-06	mg/kg/day	NA	NA	--
				Perchlorate	3.2E-03	mg/L	1.2E-07	mg/kg/day	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	1.2E-07	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	4.9E-07	mg/kg/day	9.5E+00	1/mg/kg/day	4.6E-06
				Hexavalent chromium	9.3E-03	mg/L	6.7E-07	mg/kg/day	NA	NA	--
				Nickel	3.4E-02	mg/L	2.4E-07	mg/kg/day	NA	NA	--
			Exp. Route Total								1.1E-01

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Inhalation	1,1,1-Trichloroethane	2.5E+00	mg/L	6.8E-02	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	2.7E-02	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	2.9E-02	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	6.7E-03	mg/kg/day	9.1E-02	1/mg/kg/day	6.1E-04
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	NV	NA	2.7E-02	1/mg/kg/day	--
				Acetone	2.0E+00	mg/L	5.5E-02	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	1.6E-02	mg/kg/day	8.1E-02	1/mg/kg/day	1.3E-03
				Methylene chloride	1.9E+00	mg/L	5.3E-02	mg/kg/day	3.5E-03	1/mg/kg/day	1.9E-04
				Tetrachloroethene	6.5E+01	mg/L	1.8E+00	mg/kg/day	2.1E-02	1/mg/kg/day	3.7E-02
				Toluene	7.1E-02	mg/L	2.0E-03	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	3.6E-02	mg/kg/day	7.0E-03	1/mg/kg/day	2.5E-04
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	9.8E-03	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	9.8E-05	mg/kg/day	2.6E-02	1/mg/kg/day	2.6E-06
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	1.8E-05	mg/kg/day	2.0E-01	1/mg/kg/day	3.7E-06
				1,1,2-Trichloroethane	1.8E-01	mg/L	4.9E-03	mg/kg/day	5.7E-02	1/mg/kg/day	2.8E-04
				1,1-Dichloroethane	3.8E-02	mg/L	1.0E-03	mg/kg/day	5.7E-03	1/mg/kg/day	5.9E-06
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	2.1E-04	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	1.5E-04	mg/kg/day	7.0E+00	1/mg/kg/day	1.1E-03
				1,2-Dichlorobenzene	1.8E-03	mg/L	4.9E-05	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	4.4E-05	mg/kg/day	6.8E-02	1/mg/kg/day	3.0E-06
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	3.2E-05	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	1.2E-05	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	1.9E-05	mg/kg/day	4.0E-02	1/mg/kg/day	7.8E-07
				2-Butanone	3.3E-01	mg/L	9.0E-03	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	1.2E-05	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	1.3E-05	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	2.1E-03	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	5.3E-04	mg/kg/day	1.0E-01	1/mg/kg/day	5.3E-05

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	3.3E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	1.2E-05	mg/kg/day	1.3E-01	1/mg/kg/day	1.6E-06
				Bromoform	2.8E-03	mg/L	NV	NA	3.9E-03	1/mg/kg/day	--
				Bromomethane	2.6E-02	mg/L	7.2E-04	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	2.6E-03	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	8.6E-06	mg/kg/day	1.5E-01	1/mg/kg/day	1.3E-06
				Chlorobenzene	3.5E-02	mg/L	9.6E-04	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	5.5E-06	mg/kg/day	2.9E-03	1/mg/kg/day	1.6E-08
				Chloromethane	9.7E-04	mg/L	2.7E-05	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	3.9E-04	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	3.3E-05	mg/kg/day	9.4E-02	1/mg/kg/day	3.1E-06
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	2.3E-04	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	4.3E-05	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	3.2E-05	mg/kg/day	8.7E-03	1/mg/kg/day	2.8E-07
				Isopropylbenzene	5.3E-04	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	1.3E-04	mg/kg/day	9.1E-04	1/mg/kg/day	1.2E-07
				Methylcyclohexane	8.5E-04	mg/L	2.3E-05	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	1.5E-05	mg/kg/day	1.2E-01	1/mg/kg/day	1.8E-06
				n-Propylbenzene	5.2E-04	mg/L	1.4E-05	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	1.3E-05	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	9.8E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	1.8E-02	mg/kg/day	6.8E-03	1/mg/kg/day	1.2E-04
				trans-1,2-Dichloroethene	3.1E-02	mg/L	8.4E-04	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	1.9E-05	mg/kg/day	2.7E-01	1/mg/kg/day	5.1E-06
				m,p-Xylenes	1.0E-02	mg/L	2.8E-04	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	2.2E-04	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	9.8E-04	mg/kg/day	NA	NA	--

Table 7a.1.2

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	2.2E-05	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	3.7E-07	mg/kg/day	2.0E+00	1/mg/kg/day	7.5E-07
				2-Methylnaphthalene	2.8E-03	mg/L	7.7E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	NV	NA	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	NV	NA	1.4E-02	1/mg/kg/day	--
				Caprolactam	3.8E-03	mg/L	NV	NA	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	NV	NA	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	NV	NA	NA	NA	--
				Isophorone	4.9E-03	mg/L	NV	NA	9.5E-04	1/mg/kg/day	--
				N-Nitrosodimethylamine	1.9E-04	mg/L	NV	NA	1.6E+01	1/mg/kg/day	--
				Pentachlorophenol	3.0E-04	mg/L	NV	NA	1.2E-01	1/mg/kg/day	--
				Phenanthrene	6.9E-05	mg/L	1.9E-06	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	NV	NA	NA	NA	--
				Perchlorate	3.2E-03	mg/L	NV	NA	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	9.3E-05	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	NV	NA	1.5E+01	1/mg/kg/day	--
				Hexavalent chromium	9.3E-03	mg/L	NV	NA	5.1E+02	1/mg/kg/day	--
				Nickel	3.4E-02	mg/L	NV	NA	9.1E-01	1/mg/kg/day	--
			Exp. Route Total								4.1E-02
		Exposure Point Total									3.4E-01
	Exposure Medium Total										3.4E-01
Medium Total											3.4E-01
										Total of Receptor Risks Across All Media	3E-01

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	2.5E+00	mg/L	3.7E-02	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	1.5E-02	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	1.6E-02	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	3.6E-03	mg/kg/day	9.1E-02	1/mg/kg/day	3.3E-04
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	5.3E-02	mg/kg/day	2.7E-02	1/mg/kg/day	1.4E-03
				Acetone	2.0E+00	mg/L	3.0E-02	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	8.7E-03	mg/kg/day	3.1E-02	1/mg/kg/day	2.7E-04
				Methylene chloride	1.9E+00	mg/L	2.9E-02	mg/kg/day	1.4E-02	1/mg/kg/day	4.0E-04
				Tetrachloroethene	6.5E+01	mg/L	9.7E-01	mg/kg/day	5.4E-01	1/mg/kg/day	5.2E-01
				Toluene	7.1E-02	mg/L	1.1E-03	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	2.0E-02	mg/kg/day	1.3E-02	1/mg/kg/day	2.6E-04
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	5.3E-03	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	5.3E-05	mg/kg/day	2.6E-02	1/mg/kg/day	1.4E-06
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	1.0E-05	mg/kg/day	2.7E-01	1/mg/kg/day	2.7E-06
				1,1,2-Trichloroethane	1.8E-01	mg/L	2.7E-03	mg/kg/day	7.2E-02	1/mg/kg/day	1.9E-04
				1,1-Dichloroethane	3.8E-02	mg/L	5.6E-04	mg/kg/day	5.7E-03	1/mg/kg/day	3.2E-06
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	7.9E-06	mg/kg/day	3.6E-03	1/mg/kg/day	2.8E-08
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	1.1E-04	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	8.2E-05	mg/kg/day	7.0E+00	1/mg/kg/day	5.7E-04
				1,2-Dichlorobenzene	1.8E-03	mg/L	2.7E-05	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	2.4E-05	mg/kg/day	6.8E-02	1/mg/kg/day	1.6E-06
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	6.3E-06	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	1.1E-05	mg/kg/day	2.4E-02	1/mg/kg/day	2.5E-07
				2-Butanone	3.3E-01	mg/L	4.9E-03	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	6.7E-06	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	6.8E-06	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	1.2E-03	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	2.9E-04	mg/kg/day	1.0E-01	1/mg/kg/day	2.9E-05

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	1.8E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	6.6E-06	mg/kg/day	1.3E-01	1/mg/kg/day	8.5E-07
				Bromoform	2.8E-03	mg/L	4.2E-05	mg/kg/day	7.9E-03	1/mg/kg/day	3.3E-07
				Bromomethane	2.6E-02	mg/L	3.9E-04	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	1.4E-03	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	4.7E-06	mg/kg/day	1.5E-01	1/mg/kg/day	7.0E-07
				Chlorobenzene	3.5E-02	mg/L	5.2E-04	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	3.0E-06	mg/kg/day	2.9E-03	1/mg/kg/day	8.6E-09
				Chloromethane	9.7E-04	mg/L	1.4E-05	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	2.1E-04	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	9.4E-06	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	1.8E-05	mg/kg/day	9.4E-02	1/mg/kg/day	1.7E-06
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	1.3E-04	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	2.3E-05	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	1.7E-05	mg/kg/day	1.1E-02	1/mg/kg/day	1.9E-07
				Isopropylbenzene	5.3E-04	mg/L	7.9E-06	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	7.0E-05	mg/kg/day	1.8E-03	1/mg/kg/day	1.3E-07
				Methylcyclohexane	8.5E-04	mg/L	1.3E-05	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	8.3E-06	mg/kg/day	NA	NA	--
				n-Propylbenzene	5.2E-04	mg/L	7.7E-06	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	7.1E-06	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	5.3E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	9.7E-03	mg/kg/day	7.6E-03	1/mg/kg/day	7.3E-05
				trans-1,2-Dichloroethene	3.1E-02	mg/L	4.6E-04	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	1.0E-05	mg/kg/day	1.5E+00	1/mg/kg/day	1.5E-05
				m,p-Xylenes	1.0E-02	mg/L	1.5E-04	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	1.2E-04	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	5.3E-04	mg/kg/day	NA	NA	--

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	1.2E-05	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	2.0E-07	mg/kg/day	2.0E+00	1/mg/kg/day	4.0E-07
				2-Methylnaphthalene	2.8E-03	mg/L	4.2E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	4.1E-05	mg/kg/day	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	1.7E-04	mg/kg/day	1.4E-02	1/mg/kg/day	2.4E-06
				Caprolactam	3.8E-03	mg/L	5.7E-05	mg/kg/day	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	1.0E-05	mg/kg/day	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	1.5E-05	mg/kg/day	NA	NA	--
				Isophorone	4.9E-03	mg/L	7.3E-05	mg/kg/day	9.5E-04	1/mg/kg/day	6.9E-08
				N-Nitrosodimethylamine	1.9E-04	mg/L	2.8E-06	mg/kg/day	5.1E+01	1/mg/kg/day	1.4E-04
				Pentachlorophenol	3.0E-04	mg/L	4.5E-06	mg/kg/day	1.2E-01	1/mg/kg/day	5.4E-07
				Phenanthrene	6.9E-05	mg/L	1.0E-06	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	1.5E-04	mg/kg/day	NA	NA	--
				Perchlorate	3.2E-03	mg/L	4.8E-05	mg/kg/day	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	5.1E-05	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	2.0E-04	mg/kg/day	9.5E+00	1/mg/kg/day	1.9E-03
				Hexavalent chromium	9.3E-03	mg/L	1.4E-04	mg/kg/day	NA	NA	--
				Nickel	3.4E-02	mg/L	5.0E-04	mg/kg/day	NA	NA	--
			Exp. Route Total								5.3E-01

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Dermal	1,1,1-Trichloroethane	2.5E+00	mg/L	6.8E-03	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	5.2E-03	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	2.1E-03	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	2.8E-04	mg/kg/day	9.1E-02	1/mg/kg/day	2.6E-05
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	1.9E-04	mg/kg/day	2.7E-02	1/mg/kg/day	5.1E-06
				Acetone	2.0E+00	mg/L	1.5E-04	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	7.7E-04	mg/kg/day	3.1E-02	1/mg/kg/day	2.4E-05
				Methylene chloride	1.9E+00	mg/L	1.1E-03	mg/kg/day	1.4E-02	1/mg/kg/day	1.5E-05
				Tetrachloroethene	6.5E+01	mg/L	5.6E-01	mg/kg/day	5.4E-01	1/mg/kg/day	3.0E-01
				Toluene	7.1E-02	mg/L	3.6E-04	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	3.3E-03	mg/kg/day	1.3E-02	1/mg/kg/day	4.3E-05
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	9.9E-04	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	2.1E-05	mg/kg/day	2.6E-02	1/mg/kg/day	5.4E-07
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	1.2E-06	mg/kg/day	2.7E-01	1/mg/kg/day	3.3E-07
				1,1,2-Trichloroethane	1.8E-01	mg/L	2.4E-04	mg/kg/day	7.2E-02	1/mg/kg/day	1.8E-05
				1,1-Dichloroethane	3.8E-02	mg/L	4.4E-05	mg/kg/day	5.7E-03	1/mg/kg/day	2.5E-07
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	1.0E-05	mg/kg/day	3.6E-03	1/mg/kg/day	3.7E-08
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	1.2E-04	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	1.5E-05	mg/kg/day	7.0E+00	1/mg/kg/day	1.1E-04
				1,2-Dichlorobenzene	1.8E-03	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	2.3E-06	mg/kg/day	6.8E-02	1/mg/kg/day	1.6E-07
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	1.4E-05	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	5.7E-06	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	6.9E-06	mg/kg/day	2.4E-02	1/mg/kg/day	1.7E-07
				2-Butanone	3.3E-01	mg/L	4.6E-05	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	7.9E-06	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	9.7E-07	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	3.7E-05	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	4.4E-05	mg/kg/day	1.0E-01	1/mg/kg/day	4.4E-06

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	7.7E-06	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	5.3E-07	mg/kg/day	1.3E-01	1/mg/kg/day	6.9E-08
				Bromoform	2.8E-03	mg/L	2.8E-06	mg/kg/day	7.9E-03	1/mg/kg/day	2.2E-08
				Bromomethane	2.6E-02	mg/L	1.2E-05	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	2.4E-04	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	1.2E-06	mg/kg/day	1.5E-01	1/mg/kg/day	1.8E-07
				Chlorobenzene	3.5E-02	mg/L	1.8E-04	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	1.7E-07	mg/kg/day	2.9E-03	1/mg/kg/day	5.1E-10
				Chloromethane	9.7E-04	mg/L	4.3E-07	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	2.7E-05	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	9.8E-06	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	1.2E-06	mg/kg/day	9.4E-02	1/mg/kg/day	1.1E-07
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	1.7E-05	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	2.7E-06	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	1.0E-05	mg/kg/day	1.1E-02	1/mg/kg/day	1.1E-07
				Isopropylbenzene	5.3E-04	mg/L	9.1E-06	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	1.6E-06	mg/kg/day	1.8E-03	1/mg/kg/day	2.9E-09
				Methylcyclohexane	8.5E-04	mg/L	1.6E-05	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	5.4E-06	mg/kg/day	NA	NA	--
				n-Propylbenzene	5.2E-04	mg/L	7.2E-06	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	1.2E-05	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	8.6E-06	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	2.5E-04	mg/kg/day	7.6E-03	1/mg/kg/day	1.9E-06
				trans-1,2-Dichloroethene	3.1E-02	mg/L	4.0E-05	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	5.4E-07	mg/kg/day	1.5E+00	1/mg/kg/day	8.1E-07
				m,p-Xylenes	1.0E-02	mg/L	9.7E-05	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	1.0E-04	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	3.4E-04	mg/kg/day	NA	NA	--

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	1.8E-05	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	3.1E-08	mg/kg/day	2.0E+00	1/mg/kg/day	6.2E-08
				2-Methylnaphthalene	2.8E-03	mg/L	5.6E-05	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	2.5E-06	mg/kg/day	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	3.2E-04	mg/kg/day	1.4E-02	1/mg/kg/day	4.5E-06
				Caprolactam	3.8E-03	mg/L	7.2E-07	mg/kg/day	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	3.6E-07	mg/kg/day	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	1.2E-05	mg/kg/day	NA	NA	--
				Isophorone	4.9E-03	mg/L	3.7E-06	mg/kg/day	9.5E-04	1/mg/kg/day	3.5E-09
				N-Nitrosodimethylamine	1.9E-04	mg/L	7.5E-09	mg/kg/day	5.1E+01	1/mg/kg/day	3.8E-07
				Pentachlorophenol	3.0E-04	mg/L	5.3E-05	mg/kg/day	1.2E-01	1/mg/kg/day	6.3E-06
				Phenanthrene	6.9E-05	mg/L	2.7E-06	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	7.1E-06	mg/kg/day	NA	NA	--
				Perchlorate	3.2E-03	mg/L	2.8E-07	mg/kg/day	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	2.9E-07	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	1.2E-06	mg/kg/day	9.5E+00	1/mg/kg/day	1.1E-05
				Hexavalent chromium	9.3E-03	mg/L	1.6E-06	mg/kg/day	NA	NA	--
				Nickel	3.4E-02	mg/L	5.7E-07	mg/kg/day	NA	NA	--
			Exp. Route Total								3.0E-01

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Inhalation	1,1,1-Trichloroethane	2.5E+00	mg/L	1.8E-01	mg/kg/day	NA	NA	--
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	7.4E-02	mg/kg/day	NA	NA	--
				1,1-Dichloroethene	1.0E+00	mg/L	7.8E-02	mg/kg/day	NA	NA	--
				1,2-Dichloroethane	2.5E-01	mg/L	1.8E-02	mg/kg/day	9.1E-02	1/mg/kg/day	1.7E-03
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	NV	NA	2.7E-02	1/mg/kg/day	--
				Acetone	2.0E+00	mg/L	1.5E-01	mg/kg/day	NA	NA	--
				Chloroform	5.8E-01	mg/L	4.3E-02	mg/kg/day	8.1E-02	1/mg/kg/day	3.5E-03
				Methylene chloride	1.9E+00	mg/L	1.4E-01	mg/kg/day	3.5E-03	1/mg/kg/day	5.0E-04
				Tetrachloroethene	6.5E+01	mg/L	4.8E+00	mg/kg/day	2.1E-02	1/mg/kg/day	1.0E-01
				Toluene	7.1E-02	mg/L	5.3E-03	mg/kg/day	NA	NA	--
				Trichloroethene (TCE)	1.3E+00	mg/L	9.8E-02	mg/kg/day	7.0E-03	1/mg/kg/day	6.9E-04
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	2.7E-02	mg/kg/day	NA	NA	--
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	2.7E-04	mg/kg/day	2.6E-02	1/mg/kg/day	6.9E-06
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	5.0E-05	mg/kg/day	2.0E-01	1/mg/kg/day	1.0E-05
				1,1,2-Trichloroethane	1.8E-01	mg/L	1.3E-02	mg/kg/day	5.7E-02	1/mg/kg/day	7.6E-04
				1,1-Dichloroethane	3.8E-02	mg/L	2.8E-03	mg/kg/day	5.7E-03	1/mg/kg/day	1.6E-05
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	3.9E-05	mg/kg/day	NA	NA	--
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	5.6E-04	mg/kg/day	NA	NA	--
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	4.1E-04	mg/kg/day	7.0E+00	1/mg/kg/day	2.9E-03
				1,2-Dichlorobenzene	1.8E-03	mg/L	1.3E-04	mg/kg/day	NA	NA	--
				1,2-Dichloropropane	1.6E-03	mg/L	1.2E-04	mg/kg/day	6.8E-02	1/mg/kg/day	8.1E-06
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	8.7E-05	mg/kg/day	NA	NA	--
				1,3-Dichlorobenzene	4.2E-04	mg/L	3.2E-05	mg/kg/day	NA	NA	--
				1,4-Dichlorobenzene	7.1E-04	mg/L	5.3E-05	mg/kg/day	4.0E-02	1/mg/kg/day	2.1E-06
				2-Butanone	3.3E-01	mg/L	2.4E-02	mg/kg/day	NA	NA	--
				2-Chlorotoluene	4.5E-04	mg/L	3.3E-05	mg/kg/day	NA	NA	--
				4-Chlorotoluene	4.6E-04	mg/L	3.4E-05	mg/kg/day	NA	NA	--
				4-Methyl-2-pentanone	7.8E-02	mg/L	5.8E-03	mg/kg/day	NA	NA	--
				Benzene	1.9E-02	mg/L	1.4E-03	mg/kg/day	1.0E-01	1/mg/kg/day	1.4E-04

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	8.9E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	3.3E-05	mg/kg/day	1.3E-01	1/mg/kg/day	4.3E-06
				Bromoform	2.8E-03	mg/L	NV	NA	3.9E-03	1/mg/kg/day	--
				Bromomethane	2.6E-02	mg/L	2.0E-03	mg/kg/day	NA	NA	--
				Carbon disulfide	9.4E-02	mg/L	7.0E-03	mg/kg/day	NA	NA	--
				Carbon tetrachloride	3.1E-04	mg/L	2.3E-05	mg/kg/day	1.5E-01	1/mg/kg/day	3.4E-06
				Chlorobenzene	3.5E-02	mg/L	2.6E-03	mg/kg/day	NA	NA	--
				Chloroethane	2.0E-04	mg/L	1.5E-05	mg/kg/day	2.9E-03	1/mg/kg/day	4.3E-08
				Chloromethane	9.7E-04	mg/L	7.2E-05	mg/kg/day	NA	NA	--
				cis-1,2-Dichloroethene	1.4E-02	mg/L	1.1E-03	mg/kg/day	NA	NA	--
				Cyclohexane	6.3E-04	mg/L	4.7E-05	mg/kg/day	NA	NA	--
				Dibromochloromethane	1.2E-03	mg/L	8.8E-05	mg/kg/day	9.4E-02	1/mg/kg/day	8.3E-06
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	6.4E-04	mg/kg/day	NA	NA	--
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	1.2E-04	mg/kg/day	NA	NA	--
				Ethylbenzene	1.2E-03	mg/L	8.7E-05	mg/kg/day	8.7E-03	1/mg/kg/day	7.5E-07
				Isopropylbenzene	5.3E-04	mg/L	3.9E-05	mg/kg/day	NA	NA	--
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	3.5E-04	mg/kg/day	9.1E-04	1/mg/kg/day	3.2E-07
				Methylcyclohexane	8.5E-04	mg/L	6.3E-05	mg/kg/day	NA	NA	--
				Naphthalene	5.6E-04	mg/L	4.1E-05	mg/kg/day	1.2E-01	1/mg/kg/day	4.9E-06
				n-Propylbenzene	5.2E-04	mg/L	3.8E-05	mg/kg/day	NA	NA	--
				p-Isopropyltoluene	4.8E-04	mg/L	3.6E-05	mg/kg/day	NA	NA	--
				sec-Butylbenzene	3.6E-04	mg/L	2.7E-05	mg/kg/day	NA	NA	--
				Tetrahydrofuran	6.5E-01	mg/L	4.8E-02	mg/kg/day	6.8E-03	1/mg/kg/day	3.3E-04
				trans-1,2-Dichloroethene	3.1E-02	mg/L	2.3E-03	mg/kg/day	NA	NA	--
				Vinyl chloride	6.8E-04	mg/L	5.1E-05	mg/kg/day	2.7E-01	1/mg/kg/day	1.4E-05
				m,p-Xylenes	1.0E-02	mg/L	7.5E-04	mg/kg/day	NA	NA	--
				o-Xylene	8.1E-03	mg/L	6.0E-04	mg/kg/day	NA	NA	--
				Xylenes, total	3.6E-02	mg/L	2.6E-03	mg/kg/day	NA	NA	--

Table 7a.1.3

CALCULATION OF CHEMICAL CANCER RISKS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	5.9E-05	mg/kg/day	NA	NA	--
				1,2,3-Trichloropropane	1.4E-05	mg/L	1.0E-06	mg/kg/day	2.0E+00	1/mg/kg/day	2.0E-06
				2-Methylnaphthalene	2.8E-03	mg/L	2.1E-04	mg/kg/day	NA	NA	--
				Acetophenone	2.8E-03	mg/L	NV	NA	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	NV	NA	1.4E-02	1/mg/kg/day	--
				Caprolactam	3.8E-03	mg/L	NV	NA	NA	NA	--
				Dimethyl phthalate	6.8E-04	mg/L	NV	NA	NA	NA	--
				Di-n-butyl phthalate	1.0E-03	mg/L	NV	NA	NA	NA	--
				Isophorone	4.9E-03	mg/L	NV	NA	9.5E-04	1/mg/kg/day	--
				N-Nitrosodimethylamine	1.9E-04	mg/L	NV	NA	1.6E+01	1/mg/kg/day	--
				Pentachlorophenol	3.0E-04	mg/L	NV	NA	1.2E-01	1/mg/kg/day	--
				Phenanthrene	6.9E-05	mg/L	5.1E-06	mg/kg/day	NA	NA	--
				Phenol	9.8E-03	mg/L	NV	NA	NA	NA	--
				Perchlorate	3.2E-03	mg/L	NV	NA	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	2.5E-04	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	NV	NA	1.5E+01	1/mg/kg/day	--
				Hexavalent chromium	9.3E-03	mg/L	NV	NA	5.1E+02	1/mg/kg/day	--
				Nickel	3.4E-02	mg/L	NV	NA	9.1E-01	1/mg/kg/day	--
			Exp. Route Total								1.1E-01
		Exposure Point Total									9.4E-01
	Exposure Medium Total										9.4E-01
Medium Total											9.4E-01
										Total of Receptor Risks Across All Media	9E-01

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	2.5E+00	mg/L	6.8E-02	mg/kg/day	2.0E+00	mg/kg/day	3.4E-02
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	2.7E-02	mg/kg/day	3.0E+01	mg/kg/day	9.1E-04
				1,1-Dichloroethene	1.0E+00	mg/L	2.9E-02	mg/kg/day	5.0E-02	mg/kg/day	5.7E-01
				1,2-Dichloroethane	2.5E-01	mg/L	6.7E-03	mg/kg/day	2.0E-02	mg/kg/day	3.4E-01
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	9.8E-02	mg/kg/day	NA	NA	--
				Acetone	2.0E+00	mg/L	5.5E-02	mg/kg/day	9.0E-01	mg/kg/day	6.1E-02
				Chloroform	5.8E-01	mg/L	1.6E-02	mg/kg/day	1.0E-02	mg/kg/day	1.6E+00
				Methylene chloride	1.9E+00	mg/L	5.3E-02	mg/kg/day	6.0E-02	mg/kg/day	8.8E-01
				Tetrachloroethene	6.5E+01	mg/L	1.8E+00	mg/kg/day	1.0E-02	mg/kg/day	1.8E+02
				Toluene	7.1E-02	mg/L	2.0E-03	mg/kg/day	8.0E-02	mg/kg/day	2.4E-02
				Trichloroethene (TCE)	1.3E+00	mg/L	3.6E-02	mg/kg/day	3.0E-04	mg/kg/day	1.2E+02
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	9.8E-03	mg/kg/day	3.0E-01	mg/kg/day	3.3E-02
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	9.8E-05	mg/kg/day	3.0E-02	mg/kg/day	3.3E-03
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	1.8E-05	mg/kg/day	6.0E-02	mg/kg/day	3.1E-04
				1,1,2-Trichloroethane	1.8E-01	mg/L	4.9E-03	mg/kg/day	4.0E-03	mg/kg/day	1.2E+00
				1,1-Dichloroethane	3.8E-02	mg/L	1.0E-03	mg/kg/day	1.0E-01	mg/kg/day	1.0E-02
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	1.5E-05	mg/kg/day	1.0E-02	mg/kg/day	1.5E-03
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	2.1E-04	mg/kg/day	5.0E-02	mg/kg/day	4.1E-03
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	1.5E-04	mg/kg/day	5.7E-05	mg/kg/day	2.6E+00
				1,2-Dichlorobenzene	1.8E-03	mg/L	4.9E-05	mg/kg/day	9.0E-02	mg/kg/day	5.5E-04
				1,2-Dichloropropane	1.6E-03	mg/L	4.4E-05	mg/kg/day	1.1E-03	mg/kg/day	4.0E-02
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	3.2E-05	mg/kg/day	5.0E-02	mg/kg/day	6.4E-04
				1,3-Dichlorobenzene	4.2E-04	mg/L	1.2E-05	mg/kg/day	3.0E-02	mg/kg/day	3.9E-04
				1,4-Dichlorobenzene	7.1E-04	mg/L	1.9E-05	mg/kg/day	3.0E-02	mg/kg/day	6.5E-04
				2-Butanone	3.3E-01	mg/L	9.0E-03	mg/kg/day	6.0E-01	mg/kg/day	1.5E-02
				2-Chlorotoluene	4.5E-04	mg/L	1.2E-05	mg/kg/day	2.0E-02	mg/kg/day	6.2E-04
				4-Chlorotoluene	4.6E-04	mg/L	1.3E-05	mg/kg/day	2.0E-02	mg/kg/day	6.3E-04
				4-Methyl-2-pentanone	7.8E-02	mg/L	2.1E-03	mg/kg/day	8.0E-02	mg/kg/day	2.7E-02
				Benzene	1.9E-02	mg/L	5.3E-04	mg/kg/day	4.0E-03	mg/kg/day	1.3E-01

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	3.3E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	1.2E-05	mg/kg/day	2.0E-02	mg/kg/day	6.0E-04
				Bromoform	2.8E-03	mg/L	7.7E-05	mg/kg/day	2.0E-02	mg/kg/day	3.8E-03
				Bromomethane	2.6E-02	mg/L	7.2E-04	mg/kg/day	1.4E-03	mg/kg/day	5.2E-01
				Carbon disulfide	9.4E-02	mg/L	2.6E-03	mg/kg/day	1.0E-01	mg/kg/day	2.6E-02
				Carbon tetrachloride	3.1E-04	mg/L	8.6E-06	mg/kg/day	7.0E-04	mg/kg/day	1.2E-02
				Chlorobenzene	3.5E-02	mg/L	9.6E-04	mg/kg/day	2.0E-02	mg/kg/day	4.8E-02
				Chloroethane	2.0E-04	mg/L	5.5E-06	mg/kg/day	4.0E-01	mg/kg/day	1.4E-05
				Chloromethane	9.7E-04	mg/L	2.7E-05	mg/kg/day	2.6E-02	mg/kg/day	1.0E-03
				cis-1,2-Dichloroethene	1.4E-02	mg/L	3.9E-04	mg/kg/day	1.0E-02	mg/kg/day	3.9E-02
				Cyclohexane	6.3E-04	mg/L	1.7E-05	mg/kg/day	1.7E+00	mg/kg/day	1.0E-05
				Dibromochloromethane	1.2E-03	mg/L	3.3E-05	mg/kg/day	2.0E-02	mg/kg/day	1.6E-03
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	2.3E-04	mg/kg/day	2.0E-01	mg/kg/day	1.2E-03
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	4.3E-05	mg/kg/day	2.0E-01	mg/kg/day	2.1E-04
				Ethylbenzene	1.2E-03	mg/L	3.2E-05	mg/kg/day	1.0E-01	mg/kg/day	3.2E-04
				Isopropylbenzene	5.3E-04	mg/L	1.5E-05	mg/kg/day	1.0E-01	mg/kg/day	1.5E-04
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	1.3E-04	mg/kg/day	8.6E-01	mg/kg/day	1.5E-04
				Methylcyclohexane	8.5E-04	mg/L	2.3E-05	mg/kg/day	8.6E-01	mg/kg/day	2.7E-05
				Naphthalene	5.6E-04	mg/L	1.5E-05	mg/kg/day	2.0E-02	mg/kg/day	7.6E-04
				n-Propylbenzene	5.2E-04	mg/L	1.4E-05	mg/kg/day	4.0E-02	mg/kg/day	3.5E-04
				p-Isopropyltoluene	4.8E-04	mg/L	1.3E-05	mg/kg/day	1.0E-01	mg/kg/day	1.3E-04
				sec-Butylbenzene	3.6E-04	mg/L	9.8E-06	mg/kg/day	4.0E-02	mg/kg/day	2.4E-04
				Tetrahydrofuran	6.5E-01	mg/L	1.8E-02	mg/kg/day	2.1E-01	mg/kg/day	8.5E-02
				trans-1,2-Dichloroethene	3.1E-02	mg/L	8.4E-04	mg/kg/day	2.0E-02	mg/kg/day	4.2E-02
				Vinyl chloride	6.8E-04	mg/L	1.9E-05	mg/kg/day	3.0E-03	mg/kg/day	6.2E-03
				m,p-Xylenes	1.0E-02	mg/L	2.8E-04	mg/kg/day	2.0E-01	mg/kg/day	1.4E-03
				o-Xylene	8.1E-03	mg/L	2.2E-04	mg/kg/day	2.0E-01	mg/kg/day	1.1E-03
				Xylenes, total	3.6E-02	mg/L	9.8E-04	mg/kg/day	2.0E-01	mg/kg/day	4.9E-03

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	2.2E-05	mg/kg/day	5.0E-02	mg/kg/day	4.4E-04
				1,2,3-Trichloropropane	1.4E-05	mg/L	3.7E-07	mg/kg/day	6.0E-03	mg/kg/day	6.2E-05
				2-Methylnaphthalene	2.8E-03	mg/L	7.7E-05	mg/kg/day	4.0E-03	mg/kg/day	1.9E-02
				Acetophenone	2.8E-03	mg/L	7.6E-05	mg/kg/day	1.0E-01	mg/kg/day	7.6E-04
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	3.2E-04	mg/kg/day	2.0E-02	mg/kg/day	1.6E-02
				Caprolactam	3.8E-03	mg/L	1.0E-04	mg/kg/day	5.0E-01	mg/kg/day	2.1E-04
				Dimethyl phthalate	6.8E-04	mg/L	1.9E-05	mg/kg/day	1.0E+01	mg/kg/day	1.9E-06
				Di-n-butyl phthalate	1.0E-03	mg/L	2.7E-05	mg/kg/day	1.0E-01	mg/kg/day	2.7E-04
				Isophorone	4.9E-03	mg/L	1.3E-04	mg/kg/day	2.0E-01	mg/kg/day	6.7E-04
				N-Nitrosodimethylamine	1.9E-04	mg/L	5.2E-06	mg/kg/day	8.0E-06	mg/kg/day	6.5E-01
				Pentachlorophenol	3.0E-04	mg/L	8.2E-06	mg/kg/day	3.0E-02	mg/kg/day	2.7E-04
				Phenanthrene	6.9E-05	mg/L	1.9E-06	mg/kg/day	3.0E-02	mg/kg/day	6.3E-05
				Phenol	9.8E-03	mg/L	2.7E-04	mg/kg/day	3.0E-01	mg/kg/day	9.0E-04
				Perchlorate	3.2E-03	mg/L	8.9E-05	mg/kg/day	7.0E-04	mg/kg/day	1.3E-01
				Cyanide (total)	3.4E-03	mg/L	9.3E-05	mg/kg/day	2.0E-02	mg/kg/day	4.7E-03
				Arsenic	1.4E-02	mg/L	3.7E-04	mg/kg/day	3.0E-04	mg/kg/day	1.2E+00
				Hexavalent chromium	9.3E-03	mg/L	2.5E-04	mg/kg/day	3.0E-03	mg/kg/day	8.5E-02
				Nickel	3.4E-02	mg/L	9.2E-04	mg/kg/day	2.0E-02	mg/kg/day	4.6E-02
			Exp. Route Total								3.1E+02

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Dermal	1,1,1-Trichloroethane	2.5E+00	mg/L	1.3E-02	mg/kg/day	2.0E+00	mg/kg/day	6.4E-03
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	9.7E-03	mg/kg/day	3.0E+01	mg/kg/day	3.2E-04
				1,1-Dichloroethene	1.0E+00	mg/L	3.9E-03	mg/kg/day	5.0E-02	mg/kg/day	7.9E-02
				1,2-Dichloroethane	2.5E-01	mg/L	5.2E-04	mg/kg/day	2.0E-02	mg/kg/day	2.6E-02
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	3.5E-04	mg/kg/day	NA	NA	--
				Acetone	2.0E+00	mg/L	2.6E-04	mg/kg/day	9.0E-01	mg/kg/day	2.9E-04
				Chloroform	5.8E-01	mg/L	1.4E-03	mg/kg/day	1.0E-02	mg/kg/day	1.4E-01
				Methylene chloride	1.9E+00	mg/L	2.0E-03	mg/kg/day	6.0E-02	mg/kg/day	3.3E-02
				Tetrachloroethene	6.5E+01	mg/L	1.1E+00	mg/kg/day	1.0E-02	mg/kg/day	1.1E+02
				Toluene	7.1E-02	mg/L	6.7E-04	mg/kg/day	8.0E-02	mg/kg/day	8.4E-03
				Trichloroethene (TCE)	1.3E+00	mg/L	6.2E-03	mg/kg/day	3.0E-04	mg/kg/day	2.1E+01
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	1.8E-03	mg/kg/day	3.0E-01	mg/kg/day	6.2E-03
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	3.9E-05	mg/kg/day	3.0E-02	mg/kg/day	1.3E-03
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	2.3E-06	mg/kg/day	6.0E-02	mg/kg/day	3.8E-05
				1,1,2-Trichloroethane	1.8E-01	mg/L	4.6E-04	mg/kg/day	4.0E-03	mg/kg/day	1.1E-01
				1,1-Dichloroethane	3.8E-02	mg/L	8.1E-05	mg/kg/day	1.0E-01	mg/kg/day	8.1E-04
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	1.9E-05	mg/kg/day	1.0E-02	mg/kg/day	1.9E-03
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	2.3E-04	mg/kg/day	5.0E-02	mg/kg/day	4.6E-03
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	2.9E-05	mg/kg/day	5.7E-05	mg/kg/day	5.0E-01
				1,2-Dichlorobenzene	1.8E-03	mg/L	3.2E-05	mg/kg/day	9.0E-02	mg/kg/day	3.6E-04
				1,2-Dichloropropane	1.6E-03	mg/L	4.4E-06	mg/kg/day	1.1E-03	mg/kg/day	4.0E-03
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	2.6E-05	mg/kg/day	5.0E-02	mg/kg/day	5.2E-04
				1,3-Dichlorobenzene	4.2E-04	mg/L	1.1E-05	mg/kg/day	3.0E-02	mg/kg/day	3.6E-04
				1,4-Dichlorobenzene	7.1E-04	mg/L	1.3E-05	mg/kg/day	3.0E-02	mg/kg/day	4.3E-04
				2-Butanone	3.3E-01	mg/L	8.4E-05	mg/kg/day	6.0E-01	mg/kg/day	1.4E-04
				2-Chlorotoluene	4.5E-04	mg/L	1.5E-05	mg/kg/day	2.0E-02	mg/kg/day	7.4E-04
				4-Chlorotoluene	4.6E-04	mg/L	1.8E-06	mg/kg/day	2.0E-02	mg/kg/day	9.0E-05
				4-Methyl-2-pentanone	7.8E-02	mg/L	6.8E-05	mg/kg/day	8.0E-02	mg/kg/day	8.4E-04
				Benzene	1.9E-02	mg/L	8.0E-05	mg/kg/day	4.0E-03	mg/kg/day	2.0E-02

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	1.4E-05	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	9.8E-07	mg/kg/day	2.0E-02	mg/kg/day	4.9E-05
				Bromoform	2.8E-03	mg/L	5.3E-06	mg/kg/day	2.0E-02	mg/kg/day	2.6E-04
				Bromomethane	2.6E-02	mg/L	2.3E-05	mg/kg/day	1.4E-03	mg/kg/day	1.6E-02
				Carbon disulfide	9.4E-02	mg/L	4.5E-04	mg/kg/day	1.0E-01	mg/kg/day	4.5E-03
				Carbon tetrachloride	3.1E-04	mg/L	2.3E-06	mg/kg/day	7.0E-04	mg/kg/day	3.3E-03
				Chlorobenzene	3.5E-02	mg/L	3.4E-04	mg/kg/day	2.0E-02	mg/kg/day	1.7E-02
				Chloroethane	2.0E-04	mg/L	3.2E-07	mg/kg/day	4.0E-01	mg/kg/day	8.0E-07
				Chloromethane	9.7E-04	mg/L	7.8E-07	mg/kg/day	2.6E-02	mg/kg/day	3.0E-05
				cis-1,2-Dichloroethene	1.4E-02	mg/L	4.9E-05	mg/kg/day	1.0E-02	mg/kg/day	4.9E-03
				Cyclohexane	6.3E-04	mg/L	1.8E-05	mg/kg/day	1.7E+00	mg/kg/day	1.1E-05
				Dibromochloromethane	1.2E-03	mg/L	2.2E-06	mg/kg/day	2.0E-02	mg/kg/day	1.1E-04
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	3.1E-05	mg/kg/day	2.0E-01	mg/kg/day	1.6E-04
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	5.1E-06	mg/kg/day	2.0E-01	mg/kg/day	2.5E-05
				Ethylbenzene	1.2E-03	mg/L	1.9E-05	mg/kg/day	1.0E-01	mg/kg/day	1.9E-04
				Isopropylbenzene	5.3E-04	mg/L	1.7E-05	mg/kg/day	1.0E-01	mg/kg/day	1.7E-04
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	3.0E-06	mg/kg/day	8.6E-01	mg/kg/day	3.4E-06
				Methylcyclohexane	8.5E-04	mg/L	2.9E-05	mg/kg/day	8.6E-01	mg/kg/day	3.4E-05
				Naphthalene	5.6E-04	mg/L	1.0E-05	mg/kg/day	2.0E-02	mg/kg/day	5.0E-04
				n-Propylbenzene	5.2E-04	mg/L	1.3E-05	mg/kg/day	4.0E-02	mg/kg/day	3.4E-04
				p-Isopropyltoluene	4.8E-04	mg/L	2.3E-05	mg/kg/day	1.0E-01	mg/kg/day	2.3E-04
				sec-Butylbenzene	3.6E-04	mg/L	1.6E-05	mg/kg/day	4.0E-02	mg/kg/day	4.0E-04
				Tetrahydrofuran	6.5E-01	mg/L	4.5E-04	mg/kg/day	2.1E-01	mg/kg/day	2.2E-03
				trans-1,2-Dichloroethene	3.1E-02	mg/L	7.5E-05	mg/kg/day	2.0E-02	mg/kg/day	3.7E-03
				Vinyl chloride	6.8E-04	mg/L	9.9E-07	mg/kg/day	3.0E-03	mg/kg/day	3.3E-04
				m,p-Xylenes	1.0E-02	mg/L	1.8E-04	mg/kg/day	2.0E-01	mg/kg/day	8.9E-04
				o-Xylene	8.1E-03	mg/L	1.9E-04	mg/kg/day	2.0E-01	mg/kg/day	9.5E-04
				Xylenes, total	3.6E-02	mg/L	6.3E-04	mg/kg/day	2.0E-01	mg/kg/day	3.1E-03

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	3.3E-05	mg/kg/day	5.0E-02	mg/kg/day	6.7E-04
				1,2,3-Trichloropropane	1.4E-05	mg/L	5.8E-08	mg/kg/day	6.0E-03	mg/kg/day	9.7E-06
				2-Methylnaphthalene	2.8E-03	mg/L	1.1E-04	mg/kg/day	4.0E-03	mg/kg/day	2.6E-02
				Acetophenone	2.8E-03	mg/L	4.8E-06	mg/kg/day	1.0E-01	mg/kg/day	4.8E-05
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	6.0E-04	mg/kg/day	2.0E-02	mg/kg/day	3.0E-02
				Caprolactam	3.8E-03	mg/L	1.3E-06	mg/kg/day	5.0E-01	mg/kg/day	2.7E-06
				Dimethyl phthalate	6.8E-04	mg/L	6.8E-07	mg/kg/day	1.0E+01	mg/kg/day	6.8E-08
				Di-n-butyl phthalate	1.0E-03	mg/L	2.2E-05	mg/kg/day	1.0E-01	mg/kg/day	2.2E-04
				Isophorone	4.9E-03	mg/L	6.8E-06	mg/kg/day	2.0E-01	mg/kg/day	3.4E-05
				N-Nitrosodimethylamine	1.9E-04	mg/L	1.4E-08	mg/kg/day	8.0E-06	mg/kg/day	1.7E-03
				Pentachlorophenol	3.0E-04	mg/L	9.9E-05	mg/kg/day	3.0E-02	mg/kg/day	3.3E-03
				Phenanthrene	6.9E-05	mg/L	5.1E-06	mg/kg/day	3.0E-02	mg/kg/day	1.7E-04
				Phenol	9.8E-03	mg/L	1.3E-05	mg/kg/day	3.0E-01	mg/kg/day	4.3E-05
				Perchlorate	3.2E-03	mg/L	4.6E-07	mg/kg/day	7.0E-04	mg/kg/day	6.6E-04
				Cyanide (total)	3.4E-03	mg/L	4.9E-07	mg/kg/day	2.0E-02	mg/kg/day	2.4E-05
				Arsenic	1.4E-02	mg/L	1.9E-06	mg/kg/day	3.0E-04	mg/kg/day	6.4E-03
				Hexavalent chromium	9.3E-03	mg/L	2.7E-06	mg/kg/day	3.0E-03	mg/kg/day	8.9E-04
				Nickel	3.4E-02	mg/L	9.6E-07	mg/kg/day	2.0E-02	mg/kg/day	4.8E-05
			Exp. Route Total								1.3E+02

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Inhalation	1,1,1-Trichloroethane	2.5E+00	mg/L	3.4E-01	mg/kg/day	1.4E+00	mg/kg/day	2.4E-01
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	1.4E-01	mg/kg/day	8.6E+00	mg/kg/day	1.6E-02
				1,1-Dichloroethene	1.0E+00	mg/L	1.4E-01	mg/kg/day	2.0E-02	mg/kg/day	7.2E+00
				1,2-Dichloroethane	2.5E-01	mg/L	3.4E-02	mg/kg/day	1.4E-03	mg/kg/day	2.4E+01
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	NV	NA	8.6E-01	mg/kg/day	--
				Acetone	2.0E+00	mg/L	2.8E-01	mg/kg/day	9.0E-01	mg/kg/day	3.1E-01
				Chloroform	5.8E-01	mg/L	8.0E-02	mg/kg/day	1.4E-02	mg/kg/day	5.7E+00
				Methylene chloride	1.9E+00	mg/L	2.6E-01	mg/kg/day	8.6E-01	mg/kg/day	3.1E-01
				Tetrachloroethene	6.5E+01	mg/L	8.9E+00	mg/kg/day	1.0E-02	mg/kg/day	8.9E+02
				Toluene	7.1E-02	mg/L	9.8E-03	mg/kg/day	8.6E-02	mg/kg/day	1.1E-01
				Trichloroethene (TCE)	1.3E+00	mg/L	1.8E-01	mg/kg/day	1.7E-01	mg/kg/day	1.1E+00
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	4.9E-02	mg/kg/day	2.0E-01	mg/kg/day	2.5E-01
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	4.9E-04	mg/kg/day	3.0E-02	mg/kg/day	1.6E-02
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	9.2E-05	mg/kg/day	6.0E-02	mg/kg/day	1.5E-03
				1,1,2-Trichloroethane	1.8E-01	mg/L	2.5E-02	mg/kg/day	4.0E-03	mg/kg/day	6.1E+00
				1,1-Dichloroethane	3.8E-02	mg/L	5.2E-03	mg/kg/day	1.4E-01	mg/kg/day	3.6E-02
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	7.3E-05	mg/kg/day	1.0E-03	mg/kg/day	7.3E-02
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	1.0E-03	mg/kg/day	1.7E-03	mg/kg/day	6.1E-01
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	7.5E-04	mg/kg/day	5.7E-05	mg/kg/day	1.3E+01
				1,2-Dichlorobenzene	1.8E-03	mg/L	2.5E-04	mg/kg/day	5.7E-02	mg/kg/day	4.3E-03
				1,2-Dichloropropane	1.6E-03	mg/L	2.2E-04	mg/kg/day	1.1E-03	mg/kg/day	2.0E-01
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	1.6E-04	mg/kg/day	1.7E-03	mg/kg/day	9.4E-02
				1,3-Dichlorobenzene	4.2E-04	mg/L	5.8E-05	mg/kg/day	3.0E-02	mg/kg/day	1.9E-03
				1,4-Dichlorobenzene	7.1E-04	mg/L	9.7E-05	mg/kg/day	2.3E-01	mg/kg/day	4.2E-04
				2-Butanone	3.3E-01	mg/L	4.5E-02	mg/kg/day	1.4E+00	mg/kg/day	3.2E-02
				2-Chlorotoluene	4.5E-04	mg/L	6.2E-05	mg/kg/day	2.0E-02	mg/kg/day	3.1E-03
				4-Chlorotoluene	4.6E-04	mg/L	6.3E-05	mg/kg/day	2.0E-02	mg/kg/day	3.2E-03
				4-Methyl-2-pentanone	7.8E-02	mg/L	1.1E-02	mg/kg/day	8.6E-01	mg/kg/day	1.2E-02
				Benzene	1.9E-02	mg/L	2.6E-03	mg/kg/day	8.6E-03	mg/kg/day	3.1E-01

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	1.6E-03	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	6.0E-05	mg/kg/day	2.0E-02	mg/kg/day	3.0E-03
				Bromoform	2.8E-03	mg/L	NV	NA	2.0E-02	mg/kg/day	--
				Bromomethane	2.6E-02	mg/L	3.6E-03	mg/kg/day	1.4E-03	mg/kg/day	2.6E+00
				Carbon disulfide	9.4E-02	mg/L	1.3E-02	mg/kg/day	2.0E-01	mg/kg/day	6.4E-02
				Carbon tetrachloride	3.1E-04	mg/L	4.3E-05	mg/kg/day	7.0E-04	mg/kg/day	6.1E-02
				Chlorobenzene	3.5E-02	mg/L	4.8E-03	mg/kg/day	1.7E-02	mg/kg/day	2.8E-01
				Chloroethane	2.0E-04	mg/L	2.7E-05	mg/kg/day	2.9E+00	mg/kg/day	9.6E-06
				Chloromethane	9.7E-04	mg/L	1.3E-04	mg/kg/day	2.6E-02	mg/kg/day	5.1E-03
				cis-1,2-Dichloroethene	1.4E-02	mg/L	2.0E-03	mg/kg/day	1.0E-02	mg/kg/day	2.0E-01
				Cyclohexane	6.3E-04	mg/L	8.6E-05	mg/kg/day	1.7E+00	mg/kg/day	5.1E-05
				Dibromochloromethane	1.2E-03	mg/L	1.6E-04	mg/kg/day	2.0E-02	mg/kg/day	8.2E-03
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	1.2E-03	mg/kg/day	5.7E-02	mg/kg/day	2.1E-02
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	2.1E-04	mg/kg/day	5.7E-02	mg/kg/day	3.7E-03
				Ethylbenzene	1.2E-03	mg/L	1.6E-04	mg/kg/day	2.9E-01	mg/kg/day	5.5E-04
				Isopropylbenzene	5.3E-04	mg/L	7.3E-05	mg/kg/day	1.1E-01	mg/kg/day	6.6E-04
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	6.4E-04	mg/kg/day	8.6E-01	mg/kg/day	7.5E-04
				Methylcyclohexane	8.5E-04	mg/L	1.2E-04	mg/kg/day	8.6E-01	mg/kg/day	1.4E-04
				Naphthalene	5.6E-04	mg/L	7.6E-05	mg/kg/day	8.6E-04	mg/kg/day	8.9E-02
				n-Propylbenzene	5.2E-04	mg/L	7.1E-05	mg/kg/day	4.0E-02	mg/kg/day	1.8E-03
				p-Isopropyltoluene	4.8E-04	mg/L	6.6E-05	mg/kg/day	1.1E-01	mg/kg/day	6.0E-04
				sec-Butylbenzene	3.6E-04	mg/L	4.9E-05	mg/kg/day	4.0E-02	mg/kg/day	1.2E-03
				Tetrahydrofuran	6.5E-01	mg/L	8.9E-02	mg/kg/day	8.6E-02	mg/kg/day	1.0E+00
				trans-1,2-Dichloroethene	3.1E-02	mg/L	4.2E-03	mg/kg/day	2.0E-02	mg/kg/day	2.1E-01
				Vinyl chloride	6.8E-04	mg/L	9.3E-05	mg/kg/day	2.9E-02	mg/kg/day	3.3E-03
				m,p-Xylenes	1.0E-02	mg/L	1.4E-03	mg/kg/day	2.9E-02	mg/kg/day	4.8E-02
				o-Xylene	8.1E-03	mg/L	1.1E-03	mg/kg/day	2.9E-02	mg/kg/day	3.8E-02
				Xylenes, total	3.6E-02	mg/L	4.9E-03	mg/kg/day	2.9E-02	mg/kg/day	1.7E-01

Table 7b.1.1

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	1.1E-04	mg/kg/day	5.0E-02	mg/kg/day	2.2E-03
				1,2,3-Trichloropropane	1.4E-05	mg/L	1.9E-06	mg/kg/day	1.4E-03	mg/kg/day	1.3E-03
				2-Methylnaphthalene	2.8E-03	mg/L	3.8E-04	mg/kg/day	4.0E-03	mg/kg/day	9.6E-02
				Acetophenone	2.8E-03	mg/L	NV	NA	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	NV	NA	2.0E-02	mg/kg/day	--
				Caprolactam	3.8E-03	mg/L	NV	NA	5.0E-01	mg/kg/day	--
				Dimethyl phthalate	6.8E-04	mg/L	NV	NA	1.0E+01	mg/kg/day	--
				Di-n-butyl phthalate	1.0E-03	mg/L	NV	NA	1.0E-01	mg/kg/day	--
				Isophorone	4.9E-03	mg/L	NV	NA	2.0E-01	mg/kg/day	--
				N-Nitrosodimethylamine	1.9E-04	mg/L	NV	NA	8.0E-06	mg/kg/day	--
				Pentachlorophenol	3.0E-04	mg/L	NV	NA	3.0E-02	mg/kg/day	--
				Phenanthrene	6.9E-05	mg/L	9.5E-06	mg/kg/day	3.0E-02	mg/kg/day	3.2E-04
				Phenol	9.8E-03	mg/L	NV	NA	5.7E-02	mg/kg/day	--
				Perchlorate	3.2E-03	mg/L	NV	NA	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	4.7E-04	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	NV	NA	8.6E-06	mg/kg/day	--
				Hexavalent chromium	9.3E-03	mg/L	NV	NA	2.2E-06	mg/kg/day	--
				Nickel	3.4E-02	mg/L	NV	NA	1.4E-05	mg/kg/day	--
			Exp. Route Total								9.6E+02
		Exposure Point Total									1.4E+03
	Exposure Medium Total										1.4E+03
Medium Total											1.4E+03
										Total of Receptor Hazards Across All Media	1392

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	2.5E+00	mg/L	1.6E-01	mg/kg/day	2.0E+00	mg/kg/day	7.9E-02
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	6.3E-02	mg/kg/day	3.0E+01	mg/kg/day	2.1E-03
				1,1-Dichloroethene	1.0E+00	mg/L	6.7E-02	mg/kg/day	5.0E-02	mg/kg/day	1.3E+00
				1,2-Dichloroethane	2.5E-01	mg/L	1.6E-02	mg/kg/day	2.0E-02	mg/kg/day	7.8E-01
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	2.3E-01	mg/kg/day	NA	NA	--
				Acetone	2.0E+00	mg/L	1.3E-01	mg/kg/day	9.0E-01	mg/kg/day	1.4E-01
				Chloroform	5.8E-01	mg/L	3.7E-02	mg/kg/day	1.0E-02	mg/kg/day	3.7E+00
				Methylene chloride	1.9E+00	mg/L	1.2E-01	mg/kg/day	6.0E-02	mg/kg/day	2.1E+00
				Tetrachloroethene	6.5E+01	mg/L	4.2E+00	mg/kg/day	1.0E-02	mg/kg/day	4.2E+02
				Toluene	7.1E-02	mg/L	4.6E-03	mg/kg/day	8.0E-02	mg/kg/day	5.7E-02
				Trichloroethene (TCE)	1.3E+00	mg/L	8.4E-02	mg/kg/day	3.0E-04	mg/kg/day	2.8E+02
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	2.3E-02	mg/kg/day	3.0E-01	mg/kg/day	7.6E-02
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	2.3E-04	mg/kg/day	3.0E-02	mg/kg/day	7.6E-03
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	4.3E-05	mg/kg/day	6.0E-02	mg/kg/day	7.1E-04
				1,1,2-Trichloroethane	1.8E-01	mg/L	1.1E-02	mg/kg/day	4.0E-03	mg/kg/day	2.9E+00
				1,1-Dichloroethane	3.8E-02	mg/L	2.4E-03	mg/kg/day	1.0E-01	mg/kg/day	2.4E-02
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	3.4E-05	mg/kg/day	1.0E-02	mg/kg/day	3.4E-03
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	4.8E-04	mg/kg/day	5.0E-02	mg/kg/day	9.6E-03
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	3.5E-04	mg/kg/day	5.7E-05	mg/kg/day	6.2E+00
				1,2-Dichlorobenzene	1.8E-03	mg/L	1.2E-04	mg/kg/day	9.0E-02	mg/kg/day	1.3E-03
				1,2-Dichloropropane	1.6E-03	mg/L	1.0E-04	mg/kg/day	1.1E-03	mg/kg/day	9.3E-02
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	7.5E-05	mg/kg/day	5.0E-02	mg/kg/day	1.5E-03
				1,3-Dichlorobenzene	4.2E-04	mg/L	2.7E-05	mg/kg/day	3.0E-02	mg/kg/day	9.0E-04
				1,4-Dichlorobenzene	7.1E-04	mg/L	4.5E-05	mg/kg/day	3.0E-02	mg/kg/day	1.5E-03
				2-Butanone	3.3E-01	mg/L	2.1E-02	mg/kg/day	6.0E-01	mg/kg/day	3.5E-02
				2-Chlorotoluene	4.5E-04	mg/L	2.9E-05	mg/kg/day	2.0E-02	mg/kg/day	1.4E-03
				4-Chlorotoluene	4.6E-04	mg/L	2.9E-05	mg/kg/day	2.0E-02	mg/kg/day	1.5E-03
				4-Methyl-2-pentanone	7.8E-02	mg/L	5.0E-03	mg/kg/day	8.0E-02	mg/kg/day	6.2E-02
				Benzene	1.9E-02	mg/L	1.2E-03	mg/kg/day	4.0E-03	mg/kg/day	3.1E-01

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	7.7E-04	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	2.8E-05	mg/kg/day	2.0E-02	mg/kg/day	1.4E-03
				Bromoform	2.8E-03	mg/L	1.8E-04	mg/kg/day	2.0E-02	mg/kg/day	8.9E-03
				Bromomethane	2.6E-02	mg/L	1.7E-03	mg/kg/day	1.4E-03	mg/kg/day	1.2E+00
				Carbon disulfide	9.4E-02	mg/L	6.0E-03	mg/kg/day	1.0E-01	mg/kg/day	6.0E-02
				Carbon tetrachloride	3.1E-04	mg/L	2.0E-05	mg/kg/day	7.0E-04	mg/kg/day	2.9E-02
				Chlorobenzene	3.5E-02	mg/L	2.2E-03	mg/kg/day	2.0E-02	mg/kg/day	1.1E-01
				Chloroethane	2.0E-04	mg/L	1.3E-05	mg/kg/day	4.0E-01	mg/kg/day	3.2E-05
				Chloromethane	9.7E-04	mg/L	6.2E-05	mg/kg/day	2.6E-02	mg/kg/day	2.4E-03
				cis-1,2-Dichloroethene	1.4E-02	mg/L	9.2E-04	mg/kg/day	1.0E-02	mg/kg/day	9.2E-02
				Cyclohexane	6.3E-04	mg/L	4.0E-05	mg/kg/day	1.7E+00	mg/kg/day	2.4E-05
				Dibromochloromethane	1.2E-03	mg/L	7.6E-05	mg/kg/day	2.0E-02	mg/kg/day	3.8E-03
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	5.5E-04	mg/kg/day	2.0E-01	mg/kg/day	2.7E-03
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	1.0E-04	mg/kg/day	2.0E-01	mg/kg/day	5.0E-04
				Ethylbenzene	1.2E-03	mg/L	7.4E-05	mg/kg/day	1.0E-01	mg/kg/day	7.4E-04
				Isopropylbenzene	5.3E-04	mg/L	3.4E-05	mg/kg/day	1.0E-01	mg/kg/day	3.4E-04
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	3.0E-04	mg/kg/day	8.6E-01	mg/kg/day	3.5E-04
				Methylcyclohexane	8.5E-04	mg/L	5.4E-05	mg/kg/day	8.6E-01	mg/kg/day	6.3E-05
				Naphthalene	5.6E-04	mg/L	3.6E-05	mg/kg/day	2.0E-02	mg/kg/day	1.8E-03
				n-Propylbenzene	5.2E-04	mg/L	3.3E-05	mg/kg/day	4.0E-02	mg/kg/day	8.3E-04
				p-Isopropyltoluene	4.8E-04	mg/L	3.1E-05	mg/kg/day	1.0E-01	mg/kg/day	3.1E-04
				sec-Butylbenzene	3.6E-04	mg/L	2.3E-05	mg/kg/day	4.0E-02	mg/kg/day	5.7E-04
				Tetrahydrofuran	6.5E-01	mg/L	4.2E-02	mg/kg/day	2.1E-01	mg/kg/day	2.0E-01
				trans-1,2-Dichloroethene	3.1E-02	mg/L	2.0E-03	mg/kg/day	2.0E-02	mg/kg/day	9.8E-02
				Vinyl chloride	6.8E-04	mg/L	4.3E-05	mg/kg/day	3.0E-03	mg/kg/day	1.4E-02
				m,p-Xylenes	1.0E-02	mg/L	6.5E-04	mg/kg/day	2.0E-01	mg/kg/day	3.2E-03
				o-Xylene	8.1E-03	mg/L	5.2E-04	mg/kg/day	2.0E-01	mg/kg/day	2.6E-03
				Xylenes, total	3.6E-02	mg/L	2.3E-03	mg/kg/day	2.0E-01	mg/kg/day	1.1E-02

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	5.1E-05	mg/kg/day	5.0E-02	mg/kg/day	1.0E-03
				1,2,3-Trichloropropane	1.4E-05	mg/L	8.7E-07	mg/kg/day	6.0E-03	mg/kg/day	1.4E-04
				2-Methylnaphthalene	2.8E-03	mg/L	1.8E-04	mg/kg/day	4.0E-03	mg/kg/day	4.5E-02
				Acetophenone	2.8E-03	mg/L	1.8E-04	mg/kg/day	1.0E-01	mg/kg/day	1.8E-03
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	7.4E-04	mg/kg/day	2.0E-02	mg/kg/day	3.7E-02
				Caprolactam	3.8E-03	mg/L	2.4E-04	mg/kg/day	5.0E-01	mg/kg/day	4.9E-04
				Dimethyl phthalate	6.8E-04	mg/L	4.3E-05	mg/kg/day	1.0E+01	mg/kg/day	4.3E-06
				Di-n-butyl phthalate	1.0E-03	mg/L	6.4E-05	mg/kg/day	1.0E-01	mg/kg/day	6.4E-04
				Isophorone	4.9E-03	mg/L	3.1E-04	mg/kg/day	2.0E-01	mg/kg/day	1.6E-03
				N-Nitrosodimethylamine	1.9E-04	mg/L	1.2E-05	mg/kg/day	8.0E-06	mg/kg/day	1.5E+00
				Pentachlorophenol	3.0E-04	mg/L	1.9E-05	mg/kg/day	3.0E-02	mg/kg/day	6.4E-04
				Phenanthrene	6.9E-05	mg/L	4.4E-06	mg/kg/day	3.0E-02	mg/kg/day	1.5E-04
				Phenol	9.8E-03	mg/L	6.3E-04	mg/kg/day	3.0E-01	mg/kg/day	2.1E-03
				Perchlorate	3.2E-03	mg/L	2.1E-04	mg/kg/day	7.0E-04	mg/kg/day	3.0E-01
				Cyanide (total)	3.4E-03	mg/L	2.2E-04	mg/kg/day	2.0E-02	mg/kg/day	1.1E-02
				Arsenic	1.4E-02	mg/L	8.6E-04	mg/kg/day	3.0E-04	mg/kg/day	2.9E+00
				Hexavalent chromium	9.3E-03	mg/L	5.9E-04	mg/kg/day	3.0E-03	mg/kg/day	2.0E-01
				Nickel	3.4E-02	mg/L	2.1E-03	mg/kg/day	2.0E-02	mg/kg/day	1.1E-01
			Exp. Route Total								7.2E+02

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Dermal	1,1,1-Trichloroethane	2.5E+00	mg/L	2.9E-02	mg/kg/day	2.0E+00	mg/kg/day	1.4E-02
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	2.2E-02	mg/kg/day	3.0E+01	mg/kg/day	7.2E-04
				1,1-Dichloroethene	1.0E+00	mg/L	9.1E-03	mg/kg/day	5.0E-02	mg/kg/day	1.8E-01
				1,2-Dichloroethane	2.5E-01	mg/L	1.2E-03	mg/kg/day	2.0E-02	mg/kg/day	6.1E-02
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	8.2E-04	mg/kg/day	NA	NA	--
				Acetone	2.0E+00	mg/L	6.4E-04	mg/kg/day	9.0E-01	mg/kg/day	7.1E-04
				Chloroform	5.8E-01	mg/L	3.2E-03	mg/kg/day	1.0E-02	mg/kg/day	3.2E-01
				Methylene chloride	1.9E+00	mg/L	4.6E-03	mg/kg/day	6.0E-02	mg/kg/day	7.7E-02
				Tetrachloroethene	6.5E+01	mg/L	2.4E+00	mg/kg/day	1.0E-02	mg/kg/day	2.4E+02
				Toluene	7.1E-02	mg/L	1.6E-03	mg/kg/day	8.0E-02	mg/kg/day	1.9E-02
				Trichloroethene (TCE)	1.3E+00	mg/L	1.4E-02	mg/kg/day	3.0E-04	mg/kg/day	4.7E+01
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	4.1E-03	mg/kg/day	3.0E-01	mg/kg/day	1.4E-02
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	8.7E-05	mg/kg/day	3.0E-02	mg/kg/day	2.9E-03
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	5.2E-06	mg/kg/day	6.0E-02	mg/kg/day	8.6E-05
				1,1,2-Trichloroethane	1.8E-01	mg/L	1.0E-03	mg/kg/day	4.0E-03	mg/kg/day	2.6E-01
				1,1-Dichloroethane	3.8E-02	mg/L	1.9E-04	mg/kg/day	1.0E-01	mg/kg/day	1.9E-03
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	4.3E-05	mg/kg/day	1.0E-02	mg/kg/day	4.3E-03
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	5.2E-04	mg/kg/day	5.0E-02	mg/kg/day	1.0E-02
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	6.5E-05	mg/kg/day	5.7E-05	mg/kg/day	1.1E+00
				1,2-Dichlorobenzene	1.8E-03	mg/L	7.2E-05	mg/kg/day	9.0E-02	mg/kg/day	8.0E-04
				1,2-Dichloropropane	1.6E-03	mg/L	9.8E-06	mg/kg/day	1.1E-03	mg/kg/day	8.9E-03
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	5.8E-05	mg/kg/day	5.0E-02	mg/kg/day	1.2E-03
				1,3-Dichlorobenzene	4.2E-04	mg/L	2.4E-05	mg/kg/day	3.0E-02	mg/kg/day	8.0E-04
				1,4-Dichlorobenzene	7.1E-04	mg/L	2.9E-05	mg/kg/day	3.0E-02	mg/kg/day	9.7E-04
				2-Butanone	3.3E-01	mg/L	2.0E-04	mg/kg/day	6.0E-01	mg/kg/day	3.4E-04
				2-Chlorotoluene	4.5E-04	mg/L	3.3E-05	mg/kg/day	2.0E-02	mg/kg/day	1.7E-03
				4-Chlorotoluene	4.6E-04	mg/L	4.1E-06	mg/kg/day	2.0E-02	mg/kg/day	2.0E-04
				4-Methyl-2-pentanone	7.8E-02	mg/L	1.6E-04	mg/kg/day	8.0E-02	mg/kg/day	2.0E-03
				Benzene	1.9E-02	mg/L	1.9E-04	mg/kg/day	4.0E-03	mg/kg/day	4.7E-02

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	3.2E-05	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	2.2E-06	mg/kg/day	2.0E-02	mg/kg/day	1.1E-04
				Bromoform	2.8E-03	mg/L	1.2E-05	mg/kg/day	2.0E-02	mg/kg/day	5.9E-04
				Bromomethane	2.6E-02	mg/L	5.3E-05	mg/kg/day	1.4E-03	mg/kg/day	3.8E-02
				Carbon disulfide	9.4E-02	mg/L	1.1E-03	mg/kg/day	1.0E-01	mg/kg/day	1.1E-02
				Carbon tetrachloride	3.1E-04	mg/L	5.1E-06	mg/kg/day	7.0E-04	mg/kg/day	7.3E-03
				Chlorobenzene	3.5E-02	mg/L	7.7E-04	mg/kg/day	2.0E-02	mg/kg/day	3.8E-02
				Chloroethane	2.0E-04	mg/L	7.6E-07	mg/kg/day	4.0E-01	mg/kg/day	1.9E-06
				Chloromethane	9.7E-04	mg/L	1.9E-06	mg/kg/day	2.6E-02	mg/kg/day	7.3E-05
				cis-1,2-Dichloroethene	1.4E-02	mg/L	1.1E-04	mg/kg/day	1.0E-02	mg/kg/day	1.1E-02
				Cyclohexane	6.3E-04	mg/L	4.2E-05	mg/kg/day	1.7E+00	mg/kg/day	2.4E-05
				Dibromochloromethane	1.2E-03	mg/L	5.0E-06	mg/kg/day	2.0E-02	mg/kg/day	2.5E-04
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	7.2E-05	mg/kg/day	2.0E-01	mg/kg/day	3.6E-04
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	1.1E-05	mg/kg/day	2.0E-01	mg/kg/day	5.7E-05
				Ethylbenzene	1.2E-03	mg/L	4.4E-05	mg/kg/day	1.0E-01	mg/kg/day	4.4E-04
				Isopropylbenzene	5.3E-04	mg/L	3.8E-05	mg/kg/day	1.0E-01	mg/kg/day	3.8E-04
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	6.9E-06	mg/kg/day	8.6E-01	mg/kg/day	8.1E-06
				Methylcyclohexane	8.5E-04	mg/L	6.7E-05	mg/kg/day	8.6E-01	mg/kg/day	7.8E-05
				Naphthalene	5.6E-04	mg/L	2.3E-05	mg/kg/day	2.0E-02	mg/kg/day	1.1E-03
				n-Propylbenzene	5.2E-04	mg/L	3.0E-05	mg/kg/day	4.0E-02	mg/kg/day	7.5E-04
				p-Isopropyltoluene	4.8E-04	mg/L	5.2E-05	mg/kg/day	1.0E-01	mg/kg/day	5.2E-04
				sec-Butylbenzene	3.6E-04	mg/L	3.6E-05	mg/kg/day	4.0E-02	mg/kg/day	9.0E-04
				Tetrahydrofuran	6.5E-01	mg/L	1.1E-03	mg/kg/day	2.1E-01	mg/kg/day	5.2E-03
				trans-1,2-Dichloroethene	3.1E-02	mg/L	1.7E-04	mg/kg/day	2.0E-02	mg/kg/day	8.6E-03
				Vinyl chloride	6.8E-04	mg/L	2.3E-06	mg/kg/day	3.0E-03	mg/kg/day	7.8E-04
				m,p-Xylenes	1.0E-02	mg/L	4.1E-04	mg/kg/day	2.0E-01	mg/kg/day	2.1E-03
				o-Xylene	8.1E-03	mg/L	4.4E-04	mg/kg/day	2.0E-01	mg/kg/day	2.2E-03
				Xylenes, total	3.6E-02	mg/L	1.5E-03	mg/kg/day	2.0E-01	mg/kg/day	7.3E-03

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	7.5E-05	mg/kg/day	5.0E-02	mg/kg/day	1.5E-03
				1,2,3-Trichloropropane	1.4E-05	mg/L	1.3E-07	mg/kg/day	6.0E-03	mg/kg/day	2.2E-05
				2-Methylnaphthalene	2.8E-03	mg/L	2.4E-04	mg/kg/day	4.0E-03	mg/kg/day	5.9E-02
				Acetophenone	2.8E-03	mg/L	1.1E-05	mg/kg/day	1.0E-01	mg/kg/day	1.1E-04
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	1.4E-03	mg/kg/day	2.0E-02	mg/kg/day	6.8E-02
				Caprolactam	3.8E-03	mg/L	3.0E-06	mg/kg/day	5.0E-01	mg/kg/day	6.0E-06
				Dimethyl phthalate	6.8E-04	mg/L	1.5E-06	mg/kg/day	1.0E+01	mg/kg/day	1.5E-07
				Di-n-butyl phthalate	1.0E-03	mg/L	4.9E-05	mg/kg/day	1.0E-01	mg/kg/day	4.9E-04
				Isophorone	4.9E-03	mg/L	1.5E-05	mg/kg/day	2.0E-01	mg/kg/day	7.7E-05
				N-Nitrosodimethylamine	1.9E-04	mg/L	3.3E-08	mg/kg/day	8.0E-06	mg/kg/day	4.1E-03
				Pentachlorophenol	3.0E-04	mg/L	2.2E-04	mg/kg/day	3.0E-02	mg/kg/day	7.4E-03
				Phenanthrene	6.9E-05	mg/L	1.2E-05	mg/kg/day	3.0E-02	mg/kg/day	3.8E-04
				Phenol	9.8E-03	mg/L	3.0E-05	mg/kg/day	3.0E-01	mg/kg/day	1.0E-04
				Perchlorate	3.2E-03	mg/L	1.4E-06	mg/kg/day	7.0E-04	mg/kg/day	2.0E-03
				Cyanide (total)	3.4E-03	mg/L	1.4E-06	mg/kg/day	2.0E-02	mg/kg/day	7.2E-05
				Arsenic	1.4E-02	mg/L	5.7E-06	mg/kg/day	3.0E-04	mg/kg/day	1.9E-02
				Hexavalent chromium	9.3E-03	mg/L	7.8E-06	mg/kg/day	3.0E-03	mg/kg/day	2.6E-03
				Nickel	3.4E-02	mg/L	2.8E-06	mg/kg/day	2.0E-02	mg/kg/day	1.4E-04
			Exp. Route Total								2.9E+02

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Inhalation	1,1,1-Trichloroethane	2.5E+00	mg/L	7.9E-01	mg/kg/day	1.4E+00	mg/kg/day	5.5E-01
				1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	mg/L	3.2E-01	mg/kg/day	8.6E+00	mg/kg/day	3.7E-02
				1,1-Dichloroethene	1.0E+00	mg/L	3.3E-01	mg/kg/day	2.0E-02	mg/kg/day	1.7E+01
				1,2-Dichloroethane	2.5E-01	mg/L	7.8E-02	mg/kg/day	1.4E-03	mg/kg/day	5.6E+01
				1,4-Dioxane (p-dioxane)	3.6E+00	mg/L	NV	NA	8.6E-01	mg/kg/day	--
				Acetone	2.0E+00	mg/L	6.4E-01	mg/kg/day	9.0E-01	mg/kg/day	7.1E-01
				Chloroform	5.8E-01	mg/L	1.9E-01	mg/kg/day	1.4E-02	mg/kg/day	1.3E+01
				Methylene chloride	1.9E+00	mg/L	6.2E-01	mg/kg/day	8.6E-01	mg/kg/day	7.2E-01
				Tetrachloroethene	6.5E+01	mg/L	2.1E+01	mg/kg/day	1.0E-02	mg/kg/day	2.1E+03
				Toluene	7.1E-02	mg/L	2.3E-02	mg/kg/day	8.6E-02	mg/kg/day	2.7E-01
				Trichloroethene (TCE)	1.3E+00	mg/L	4.2E-01	mg/kg/day	1.7E-01	mg/kg/day	2.5E+00
				Trichlorofluoromethane (Freon 11)	3.6E-01	mg/L	1.1E-01	mg/kg/day	2.0E-01	mg/kg/day	5.7E-01
				1,1,1,2-Tetrachloroethane	3.6E-03	mg/L	1.1E-03	mg/kg/day	3.0E-02	mg/kg/day	3.8E-02
				1,1,2,2-Tetrachloroethane	6.7E-04	mg/L	2.1E-04	mg/kg/day	6.0E-02	mg/kg/day	3.6E-03
				1,1,2-Trichloroethane	1.8E-01	mg/L	5.7E-02	mg/kg/day	4.0E-03	mg/kg/day	1.4E+01
				1,1-Dichloroethane	3.8E-02	mg/L	1.2E-02	mg/kg/day	1.4E-01	mg/kg/day	8.5E-02
				1,2,4-Trichlorobenzene	5.3E-04	mg/L	1.7E-04	mg/kg/day	1.0E-03	mg/kg/day	1.7E-01
				1,2,4-Trimethylbenzene	7.5E-03	mg/L	2.4E-03	mg/kg/day	1.7E-03	mg/kg/day	1.4E+00
				1,2-Dibromo-3-chloropropane	5.5E-03	mg/L	1.8E-03	mg/kg/day	5.7E-05	mg/kg/day	3.1E+01
				1,2-Dichlorobenzene	1.8E-03	mg/L	5.8E-04	mg/kg/day	5.7E-02	mg/kg/day	1.0E-02
				1,2-Dichloropropane	1.6E-03	mg/L	5.1E-04	mg/kg/day	1.1E-03	mg/kg/day	4.6E-01
				1,3,5-Trimethylbenzene	1.2E-03	mg/L	3.7E-04	mg/kg/day	1.7E-03	mg/kg/day	2.2E-01
				1,3-Dichlorobenzene	4.2E-04	mg/L	1.4E-04	mg/kg/day	3.0E-02	mg/kg/day	4.5E-03
				1,4-Dichlorobenzene	7.1E-04	mg/L	2.3E-04	mg/kg/day	2.3E-01	mg/kg/day	9.9E-04
				2-Butanone	3.3E-01	mg/L	1.0E-01	mg/kg/day	1.4E+00	mg/kg/day	7.5E-02
				2-Chlorotoluene	4.5E-04	mg/L	1.4E-04	mg/kg/day	2.0E-02	mg/kg/day	7.2E-03
				4-Chlorotoluene	4.6E-04	mg/L	1.5E-04	mg/kg/day	2.0E-02	mg/kg/day	7.4E-03
				4-Methyl-2-pentanone	7.8E-02	mg/L	2.5E-02	mg/kg/day	8.6E-01	mg/kg/day	2.9E-02
				Benzene	1.9E-02	mg/L	6.1E-03	mg/kg/day	8.6E-03	mg/kg/day	7.2E-01

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				Bromochloromethane	1.2E-02	mg/L	3.8E-03	mg/kg/day	NA	NA	--
				Bromodichloromethane	4.4E-04	mg/L	1.4E-04	mg/kg/day	2.0E-02	mg/kg/day	7.1E-03
				Bromoform	2.8E-03	mg/L	NV	NA	2.0E-02	mg/kg/day	--
				Bromomethane	2.6E-02	mg/L	8.4E-03	mg/kg/day	1.4E-03	mg/kg/day	6.0E+00
				Carbon disulfide	9.4E-02	mg/L	3.0E-02	mg/kg/day	2.0E-01	mg/kg/day	1.5E-01
				Carbon tetrachloride	3.1E-04	mg/L	1.0E-04	mg/kg/day	7.0E-04	mg/kg/day	1.4E-01
				Chlorobenzene	3.5E-02	mg/L	1.1E-02	mg/kg/day	1.7E-02	mg/kg/day	6.6E-01
				Chloroethane	2.0E-04	mg/L	6.4E-05	mg/kg/day	2.9E+00	mg/kg/day	2.2E-05
				Chloromethane	9.7E-04	mg/L	3.1E-04	mg/kg/day	2.6E-02	mg/kg/day	1.2E-02
				cis-1,2-Dichloroethene	1.4E-02	mg/L	4.6E-03	mg/kg/day	1.0E-02	mg/kg/day	4.6E-01
				Cyclohexane	6.3E-04	mg/L	2.0E-04	mg/kg/day	1.7E+00	mg/kg/day	1.2E-04
				Dibromochloromethane	1.2E-03	mg/L	3.8E-04	mg/kg/day	2.0E-02	mg/kg/day	1.9E-02
				Dichlorofluoromethane (Freon 21)	8.6E-03	mg/L	2.7E-03	mg/kg/day	5.7E-02	mg/kg/day	4.8E-02
				Dichlorodifluoromethane (Freon 12)	1.6E-03	mg/L	5.0E-04	mg/kg/day	5.7E-02	mg/kg/day	8.7E-03
				Ethylbenzene	1.2E-03	mg/L	3.7E-04	mg/kg/day	2.9E-01	mg/kg/day	1.3E-03
				Isopropylbenzene	5.3E-04	mg/L	1.7E-04	mg/kg/day	1.1E-01	mg/kg/day	1.5E-03
				Methyl tert-butyl ether (MTBE)	4.7E-03	mg/L	1.5E-03	mg/kg/day	8.6E-01	mg/kg/day	1.7E-03
				Methylcyclohexane	8.5E-04	mg/L	2.7E-04	mg/kg/day	8.6E-01	mg/kg/day	3.2E-04
				Naphthalene	5.6E-04	mg/L	1.8E-04	mg/kg/day	8.6E-04	mg/kg/day	2.1E-01
				n-Propylbenzene	5.2E-04	mg/L	1.7E-04	mg/kg/day	4.0E-02	mg/kg/day	4.1E-03
				p-Isopropyltoluene	4.8E-04	mg/L	1.5E-04	mg/kg/day	1.1E-01	mg/kg/day	1.4E-03
				sec-Butylbenzene	3.6E-04	mg/L	1.1E-04	mg/kg/day	4.0E-02	mg/kg/day	2.9E-03
				Tetrahydrofuran	6.5E-01	mg/L	2.1E-01	mg/kg/day	8.6E-02	mg/kg/day	2.4E+00
				trans-1,2-Dichloroethene	3.1E-02	mg/L	9.8E-03	mg/kg/day	2.0E-02	mg/kg/day	4.9E-01
				Vinyl chloride	6.8E-04	mg/L	2.2E-04	mg/kg/day	2.9E-02	mg/kg/day	7.6E-03
				m,p-Xylenes	1.0E-02	mg/L	3.2E-03	mg/kg/day	2.9E-02	mg/kg/day	1.1E-01
				o-Xylene	8.1E-03	mg/L	2.6E-03	mg/kg/day	2.9E-02	mg/kg/day	8.9E-02
				Xylenes, total	3.6E-02	mg/L	1.1E-02	mg/kg/day	2.9E-02	mg/kg/day	3.9E-01

Table 7b.1.2

CALCULATION OF CHEMICAL NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		RfD		Hazard Quotient
							Value	Units	Value	Units	
				1,1-Biphenyl	8.0E-04	mg/L	2.6E-04	mg/kg/day	5.0E-02	mg/kg/day	5.1E-03
				1,2,3-Trichloropropane	1.4E-05	mg/L	4.3E-06	mg/kg/day	1.4E-03	mg/kg/day	3.1E-03
				2-Methylnaphthalene	2.8E-03	mg/L	8.9E-04	mg/kg/day	4.0E-03	mg/kg/day	2.2E-01
				Acetophenone	2.8E-03	mg/L	NV	NA	NA	NA	--
				Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	mg/L	NV	NA	2.0E-02	mg/kg/day	--
				Caprolactam	3.8E-03	mg/L	NV	NA	5.0E-01	mg/kg/day	--
				Dimethyl phthalate	6.8E-04	mg/L	NV	NA	1.0E+01	mg/kg/day	--
				Di-n-butyl phthalate	1.0E-03	mg/L	NV	NA	1.0E-01	mg/kg/day	--
				Isophorone	4.9E-03	mg/L	NV	NA	2.0E-01	mg/kg/day	--
				N-Nitrosodimethylamine	1.9E-04	mg/L	NV	NA	8.0E-06	mg/kg/day	--
				Pentachlorophenol	3.0E-04	mg/L	NV	NA	3.0E-02	mg/kg/day	--
				Phenanthrene	6.9E-05	mg/L	2.2E-05	mg/kg/day	3.0E-02	mg/kg/day	7.4E-04
				Phenol	9.8E-03	mg/L	NV	NA	5.7E-02	mg/kg/day	--
				Perchlorate	3.2E-03	mg/L	NV	NA	NA	NA	--
				Cyanide (total)	3.4E-03	mg/L	1.1E-03	mg/kg/day	NA	NA	--
				Arsenic	1.4E-02	mg/L	NV	NA	8.6E-06	mg/kg/day	--
				Hexavalent chromium	9.3E-03	mg/L	NV	NA	2.2E-06	mg/kg/day	--
				Nickel	3.4E-02	mg/L	NV	NA	1.4E-05	mg/kg/day	--
			Exp. Route Total								2.2E+03
		Exposure Point Total									3.2E+03
	Exposure Medium Total										3.2E+03
Medium Total											3.2E+03
										Total of Receptor Hazards Across All Media	3236

Table 7-1 Adult Dermal Supplement

MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

ORGANICS

If tevent > t*:

$$DA_{event} = FA \times K_p \times C_{gw}\left[\frac{t_{event}}{1+B} + 2\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2}\right)\right]$$

If tevent ≤ t*:

$$DA_{event} = 2\,FA \times K_p \times C_{gw}\sqrt{\frac{6\tau \times t_{event}}{\Pi}}$$

INORGANICS

$$DA_{event} = K_p \times C_{gw} \times t_{event}$$

$$\log K_p = -2.8 + 0.66\log K_{ow} - 0.0056MW$$

$$B = K_p\frac{\sqrt{MW}}{2.6}$$

$$If\ B \le 0.6\ then\ t^* = 2.4\tau$$

$$If\ B > 0.6\ then\ t^* = 6\left(b - \sqrt{b^2 - c^2}\right)\tau$$

$$\tau = \frac{l_{sc}^{\ 2}}{6\ D_{sc}}$$

$$b = \frac{2}{\pi}(1+B)^2 - c$$

$$c = \frac{1+3B+3B^2}{3(1+B)}$$

$$\log\frac{D_{sc}}{l_{sc}} = -2.80 - 0.0056MW$$

Dermally-absorbed dose	DAD	calculated	mg/kg-day
Concentration in water	Conc (Cv)	chem-specific	mg/cm3
Permeability coefficient	Kp	calculated	cm/hr
Lag time per event (hours)	*tau (t)*	calculated	hours
Time to reach steady-state (hours)	t*	calculated	hours
Dimensionless coefficient	B	calculated	
Pi	π	3.1416	
Exposure Time	t_event	0.58	hr/event
Number of exposure events	EV	1	event/day
Exposure Duration	ED	24	year
Exposure Frequency	EF	350	days/year
Exposed Skin Surface Area	SA	18000	cm2
Fraction Absorbed	FA	chem-specific	
Body Weight	BW	70	kg
Averaging time - noncarcinogenic	AT_N	24	years
Averaging time - carcinogenic	AT_C	70	years
Conversion Factor	CF	0.001	mg/ug

Thickness of stratum corneum	*lsc (cm)*	0.001
Molecular Weight	g/mol	chem-specific
log octanol-water partition coefficient	Log Kow	chem-specific
log permeability coefficient	log Kp	calculated
Permeability coefficient (cm/hr)	Kp	calculated
Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis	B	calculated
Effective diffusion coefficient for transfer of a chemical across the stratum corneum (cm2/hr)	Dsc	calculated
Lag time per event (hours)	τ	calculated
Time to reach steady-state (hours)	t*	calculated
Correlation coefficients fitted to data set used in USEPA's methodology (see equations A7 and A8, USEPA, 2001)	b,c	calculated

Table 7-1 Adult Dermal Supplement

MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Constituent	Conc (mg/L)	Conc (mg/cm3)	MW	FA	Log Kow	Kp (cm/hr) Select	Log Kp	B	Dsc/Isc	Dsc (cm2/hr)	τ (ηουρσ)	b	c	t* (hours)	DA_inorg (mg/cm2-event)	DA_1 (mg/cm2-event)	DA_2 (mg/cm2-event)	Selected DA (mg/cm2-event)
1,1,1-Trichloroethane	2.5E+00	2.5E-03	1.3E+02	1.0	2.5E+00	1.3E-02	-1.9E+00	0.058	2.8E-04	2.8E-07	5.9E-01	0.34	0.37	1.4E+00	NA	5.2E-05	5.8E-05	5.2E-05
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	9.9E-04	1.9E+02	1.0	3.2E+00	1.7E-02	-1.8E+00	0.091	1.4E-04	1.4E-07	1.2E+00	0.36	0.40	2.8E+00	NA	3.9E-05	5.3E-05	3.9E-05
1,1-Dichloroethene	1.0E+00	1.0E-03	9.7E+01	1.0	2.1E+00	1.2E-02	-1.9E+00	0.045	4.5E-04	4.5E-07	3.7E-01	0.33	0.36	8.8E-01	NA	1.6E-05	1.7E-05	1.6E-05
1,2-Dichloroethane	2.5E-01	2.5E-04	9.9E+01	1.0	1.5E+00	6.7E-03	-2.4E+00	0.026	4.4E-04	4.4E-07	3.8E-01	0.32	0.35	9.0E-01	NA	2.1E-06	2.2E-06	2.1E-06
1,4-Dioxane (p-dioxane)	3.6E+00	3.6E-03	8.8E+01	1.0	-2.7E-01	3.3E-04	-3.5E+00	0.0012	5.1E-04	5.1E-07	3.3E-01	0.30	0.33	7.9E-01	NA	1.4E-06	1.5E-06	1.4E-06
Acetone	2.0E+00	2.0E-03	5.8E+01	1.0	-2.4E-01	5.2E-04	-3.3E+00	0.0015	7.5E-04	7.5E-07	2.2E-01	0.30	0.33	5.3E-01	NA	1.0E-06	1.1E-06	1.1E-06
Chloroform	5.8E-01	5.8E-04	1.2E+02	1.0	2.0E+00	6.8E-03	-2.2E+00	0.029	3.4E-04	3.4E-07	4.9E-01	0.32	0.35	1.2E+00	NA	5.8E-06	6.2E-06	5.8E-06
Methylene chloride	1.9E+00	1.9E-03	8.5E+01	1.0	1.3E+00	3.5E-03	-2.5E+00	0.012	5.3E-04	5.3E-07	3.1E-01	0.31	0.34	7.5E-01	NA	8.0E-06	8.2E-06	8.0E-06
Tetrachloroethene	6.5E+01	6.5E-02	1.7E+02	1.0	3.4E+00	3.3E-02	-1.5E+00	0.16	1.9E-04	1.9E-07	8.9E-01	0.41	0.45	2.1E+00	NA	4.3E-03	5.5E-03	4.3E-03
Toluene	7.1E-02	7.1E-05	9.2E+01	1.0	2.7E+00	3.1E-02	-1.5E+00	0.11	4.8E-04	4.8E-07	3.4E-01	0.38	0.41	8.3E-01	NA	2.7E-06	2.9E-06	2.7E-06
Trichloroethene (TCE)	1.3E+00	1.3E-03	1.3E+02	1.0	2.4E+00	1.2E-02	-1.9E+00	0.053	2.9E-04	2.9E-07	5.7E-01	0.34	0.37	1.4E+00	NA	2.5E-05	2.8E-05	2.5E-05
Trichlorofluoromethane (Freon 11)	3.6E-01	3.6E-04	1.4E+02	1.0	2.5E+00	1.3E-02	-1.9E+00	0.057	2.7E-04	2.7E-07	6.2E-01	0.34	0.37	1.5E+00	NA	7.5E-06	8.4E-06	7.5E-06
1,1,1,2-Tetrachloroethane	3.6E-03	3.6E-06	1.7E+02	1.0	2.9E+00	2.2E-02	-1.8E+00	0.11	1.8E-04	1.8E-07	9.2E-01	0.37	0.41	2.2E+00	NA	1.6E-07	2.0E-07	1.6E-07
1,1,2,2-Tetrachloroethane	6.7E-04	6.7E-07	1.7E+02	1.0	2.4E+00	6.9E-03	-2.2E+00	0.034	1.8E-04	1.8E-07	9.2E-01	0.32	0.36	2.2E+00	NA	9.3E-09	1.1E-08	9.3E-09
1,1,2-Trichloroethane	1.8E-01	1.8E-04	1.3E+02	1.0	2.1E+00	6.4E-03	-2.2E+00	0.028	2.8E-04	2.8E-07	5.9E-01	0.32	0.35	1.4E+00	NA	1.8E-06	2.0E-06	1.8E-06
1,1-Dichloroethane	3.8E-02	3.8E-05	9.9E+01	1.0	1.8E+00	6.7E-03	-2.2E+00	0.026	4.4E-04	4.4E-07	3.8E-01	0.32	0.35	9.0E-01	NA	3.3E-07	3.4E-07	3.3E-07
1,2,4-Trichlorobenzene	5.3E-04	5.3E-07	1.8E+02	1.0	4.0E+00	6.6E-02	-1.2E+00	0.34	1.5E-04	1.5E-07	1.1E+00	0.56	0.59	2.6E+00	NA	7.7E-08	1.2E-07	7.7E-08
1,2,4-Trimethylbenzene	7.5E-03	7.5E-06	1.2E+02	1.0	3.6E+00	8.4E-02	-1.1E+00	0.35	3.4E-04	3.4E-07	5.0E-01	0.57	0.60	1.2E+00	NA	9.3E-07	1.1E-06	9.3E-07
1,2-Dibromo-3-chloropropane	5.5E-03	5.5E-06	2.4E+02	1.0	3.0E+00	6.8E-03	-2.2E+00	0.040	7.5E-05	7.5E-08	2.2E+00	0.33	0.36	5.3E+00	NA	1.2E-07	1.9E-07	1.2E-07
1,2-Dichlorobenzene	1.8E-03	1.8E-06	1.5E+02	1.0	3.4E+00	4.1E-02	-1.4E+00	0.19	2.4E-04	2.4E-07	7.0E-01	0.43	0.47	1.7E+00	NA	1.3E-07	1.6E-07	1.3E-07
1,2-Dichloropropane	1.6E-03	1.6E-06	1.1E+02	1.0	2.0E+00	7.8E-03	-2.1E+00	0.032	3.7E-04	3.7E-07	4.5E-01	0.32	0.35	1.1E+00	NA	1.8E-08	1.9E-08	1.8E-08
1,3,5-Trimethylbenzene	1.2E-03	1.2E-06	1.2E+02	1.0	3.4E+00	6.1E-02	-1.2E+00	0.26	3.4E-04	3.4E-07	5.0E-01	0.48	0.52	1.2E+00	NA	1.1E-07	1.2E-07	1.1E-07
1,3-Dichlorobenzene	4.2E-04	4.2E-07	1.5E+02	1.0	3.6E+00	5.8E-02	-1.2E+00	0.27	2.4E-04	2.4E-07	7.0E-01	0.49	0.53	1.7E+00	NA	4.3E-08	5.5E-08	4.3E-08
1,4-Dichlorobenzene	7.1E-04	7.1E-07	1.5E+02	1.0	3.4E+00	4.2E-02	-1.4E+00	0.20	2.4E-04	2.4E-07	7.0E-01	0.44	0.47	1.7E+00	NA	5.2E-08	6.4E-08	5.2E-08
2-Butanone	3.3E-01	3.3E-04	7.2E+01	1.0	2.9E-01	9.6E-04	-3.0E+00	0.0031	6.3E-04	6.3E-07	2.7E-01	0.31	0.34	6.4E-01	NA	3.4E-07	3.5E-07	3.4E-07
2-Chlorotoluene	4.5E-04	4.5E-07	1.3E+02	1.0	3.4E+00	8.6E-02	-1.3E+00	0.37	3.1E-04	3.1E-07	5.4E-01	0.58	0.62	1.3E+00	NA	6.0E-08	7.3E-08	6.0E-08
4-Chlorotoluene	4.6E-04	4.6E-07	1.3E+02	1.0	2.0E+00	1.0E-02	-2.2E+00	0.045	3.1E-04	3.1E-07	5.4E-01	0.33	0.36	1.3E+00	NA	7.3E-09	8.0E-09	7.3E-09
4-Methyl-2-pentanone	7.8E-02	7.8E-05	1.0E+02	1.0	1.2E+00	2.7E-03	-2.6E+00	0.010	4.4E-04	4.4E-07	3.8E-01	0.31	0.34	9.2E-01	NA	2.7E-07	2.8E-07	2.7E-07
Benzene	1.9E-02	1.9E-05	7.8E+01	1.0	2.1E+00	1.5E-02	-1.8E+00	0.051	5.8E-04	5.8E-07	2.9E-01	0.34	0.37	6.9E-01	NA	3.3E-07	3.3E-07	3.3E-07
Bromochloromethane	1.2E-02	1.2E-05	1.3E+02	1.0	1.4E+00	3.1E-03	-2.6E+00	0.014	3.0E-04	3.0E-07	5.6E-01	0.31	0.34	1.3E+00	NA	5.8E-08	6.3E-08	5.8E-08
Bromodichloromethane	4.4E-04	4.4E-07	1.6E+02	1.0	2.0E+00	4.6E-03	-2.4E+00	0.023	1.9E-04	1.9E-07	8.7E-01	0.32	0.35	2.1E+00	NA	4.0E-09	4.8E-09	4.0E-09
Bromoform	2.8E-03	2.8E-06	2.5E+02	1.0	2.4E+00	2.2E-03	-2.6E+00	0.013	6.1E-05	6.1E-08	2.7E+00	0.31	0.34	6.6E+00	NA	2.1E-08	3.8E-08	2.1E-08
Bromomethane	2.6E-02	2.6E-05	9.5E+01	1.0	1.2E+00	2.8E-03	-2.5E+00	0.010	4.7E-04	4.7E-07	3.6E-01	0.31	0.34	8.6E-01	NA	9.3E-08	9.6E-08	9.3E-08
Carbon disulfide	9.4E-02	9.4E-05	8.0E+01	1.0	2.2E+00	1.7E-02	-1.8E+00	0.058	5.6E-04	5.6E-07	3.0E-01	0.34	0.37	7.1E-01	NA	1.8E-06	1.9E-06	1.8E-06
Carbon tetrachloride	3.1E-04	3.1E-07	1.5E+02	1.0	2.8E+00	1.6E-02	-1.8E+00	0.076	2.2E-04	2.2E-07	7.6E-01	0.35	0.39	1.8E+00	NA	9.2E-09	1.1E-08	9.2E-09
Chlorobenzene	3.5E-02	3.5E-05	1.1E+02	1.0	2.8E+00	2.8E-02	-1.6E+00	0.11	3.7E-04	3.7E-07	4.5E-01	0.38	0.41	1.1E+00	NA	1.4E-06	1.5E-06	1.4E-06
Chloroethane	2.0E-04	2.0E-07	6.5E+01	1.0	1.4E+00	6.1E-03	-2.2E+00	0.019	6.9E-04	6.9E-07	2.4E-01	0.31	0.35	5.8E-01	NA	1.3E-09	1.3E-09	1.3E-09
Chloromethane	9.7E-04	9.7E-07	5.1E+01	1.0	9.1E-01	3.3E-03	-2.5E+00	0.0090	8.3E-04	8.3E-07	2.0E-01	0.31	0.34	4.8E-01	NA	3.0E-09	3.1E-09	3.1E-09
cis-1,2-Dichloroethene	1.4E-02	1.4E-05	9.7E+01	1.0	2.1E+00	1.1E-02	-2.0E+00	0.041	4.5E-04	4.5E-07	3.7E-01	0.33	0.36	8.8E-01	NA	2.0E-07	2.1E-07	2.0E-07
Cyclohexane	6.3E-04	6.3E-07	8.4E+01	1.0	3.4E+00	1.0E-01	-1.0E+00	0.35	5.4E-04	5.4E-07	3.1E-01	0.57	0.60	7.5E-01	NA	7.4E-08	7.9E-08	7.4E-08
Dibromochloromethane	1.2E-03	1.2E-06	2.1E+02	1.0	2.2E+00	2.9E-03	-2.5E+00	0.016	1.1E-04	1.1E-07	1.5E+00	0.31	0.34	3.7E+00	NA	9.0E-09	1.3E-08	9.0E-09
Dichlorofluoromethane (Freon 21)	8.6E-03	8.6E-06	1.0E+02	1.0	2.2E+00	1.1E-02	-2.0E+00	0.044	4.2E-04	4.2E-07	4.0E-01	0.33	0.36	9.5E-01	NA	1.3E-07	1.3E-07	1.3E-07
Dichlorodifluoromethane (Freon 12)	1.6E-03	1.6E-06	1.2E+02	1.0	2.2E+00	8.9E-03	-2.1E+00	0.038	3.3E-04	3.3E-07	5.0E-01	0.33	0.36	1.2E+00	NA	2.1E-08	2.2E-08	2.1E-08
Ethylbenzene	1.2E-03	1.2E-06	1.1E+02	1.0	3.2E+00	4.9E-02	-1.3E+00	0.19	4.0E-04	4.0E-07	4.1E-01	0.43	0.47	9.9E-01	NA	7.7E-08	8.4E-08	7.7E-08
Isopropylbenzene	5.3E-04	5.3E-07	1.2E+02	1.0	3.7E+00	8.8E-02	-1.1E+00	0.37	3.4E-04	3.4E-07	5.0E-01	0.58	0.61	1.2E+00	NA	6.9E-08	8.1E-08	6.9E-08
Methyl tert-butyl ether (MTBE)	4.7E-03	4.7E-06	8.8E+01	1.0	9.4E-01	2.1E-03	-2.7E+00	0.0077	5.1E-04	5.1E-07	3.3E-01	0.31	0.34	7.9E-01	NA	1.2E-08	1.2E-08	1.2E-08
Methylcyclohexane	8.5E-04	8.5E-07	9.8E+01	1.0	3.6E+00	1.1E-01	-9.7E-01	0.41	4.5E-04	4.5E-07	3.7E-01	0.62	0.65	9.0E-01	NA	1.2E-07	1.3E-07	1.2E-07
Naphthalene	5.6E-04	5.6E-07	1.3E+02	1.0	3.3E+00	4.7E-02	-1.3E+00	0.20	3.0E-04	3.0E-07	5.5E-01	0.44	0.48	1.3E+00	NA	4.1E-08	4.7E-08	4.1E-08

Table 7-1 Adult Dermal Supplement

MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Constituent	Conc (mg/L)	Conc (mg/cm3)	MW	FA	Log Kow	Kp (cm/hr) Select	Log Kp	B	Dsc/Isc	Dsc (cm2/hr)	τ (ηουρσ)	b	c	t* (hours)	DA_inorg (mg/cm2-event)	DA_1 (mg/cm2-event)	DA_2 (mg/cm2-event)	Selected DA (mg/cm2-event)
n-Propylbenzene	5.2E-04	5.2E-07	1.2E+02	1.0	3.5E+00	7.1E-02	-1.1E+00	0.30	3.4E-04	3.4E-07	5.0E-01	0.52	0.56	1.2E+00	NA	5.4E-08	6.3E-08	5.4E-08
p-Isopropyltoluene	4.8E-04	4.8E-07	1.3E+02	1.0	4.0E+00	1.2E-01	-9.1E-01	0.54	2.8E-04	2.8E-07	5.9E-01	0.76	0.76	1.4E+00	NA	9.5E-08	1.2E-07	9.5E-08
sec-Butylbenzene	3.6E-04	3.6E-07	1.3E+02	1.0	3.9E+00	1.1E-01	-9.5E-01	0.50	2.8E-04	2.8E-07	5.9E-01	0.71	0.72	1.4E+00	NA	6.5E-08	8.4E-08	6.5E-08
Tetrahydrofuran	6.5E-01	6.5E-04	7.2E+01	1.0	9.4E-01	2.6E-03	-2.6E+00	0.008	6.3E-04	6.3E-07	2.7E-01	0.31	0.34	6.4E-01	NA	1.8E-06	1.9E-06	1.8E-06
trans-1,2-Dichloroethene	3.1E-02	3.1E-05	9.7E+01	1.0	1.9E+00	7.7E-03	-2.1E+00	0.029	4.5E-04	4.5E-07	3.7E-01	0.32	0.35	8.8E-01	NA	3.0E-07	3.1E-07	3.0E-07
Vinyl chloride	6.8E-04	6.8E-07	6.3E+01	1.0	1.4E+00	5.6E-03	-2.3E+00	0.017	7.1E-04	7.1E-07	2.4E-01	0.31	0.34	5.7E-01	NA	3.9E-09	4.0E-09	4.0E-09
m,p-Xylenes	1.0E-02	1.0E-05	1.1E+02	1.0	3.2E+00	5.3E-02	-1.3E+00	0.21	4.0E-04	4.0E-07	4.1E-01	0.45	0.49	9.9E-01	NA	7.2E-07	7.9E-07	7.2E-07
o-Xylene	8.1E-03	8.1E-06	1.1E+02	1.0	3.1E+00	7.0E-02	-1.3E+00	0.28	4.0E-04	4.0E-07	4.1E-01	0.50	0.54	9.9E-01	NA	7.7E-07	8.6E-07	7.7E-07
Xylenes, total	3.6E-02	3.6E-05	1.1E+02	1.0	3.2E+00	5.3E-02	-1.3E+00	0.21	4.0E-04	4.0E-07	4.1E-01	0.45	0.49	9.9E-01	NA	2.6E-06	2.8E-06	2.6E-06
1,1-Biphenyl	8.0E-04	8.0E-07	1.5E+02	1.0	4.0E+00	9.2E-02	-1.0E+00	0.44	2.2E-04	2.2E-07	7.7E-01	0.65	0.67	1.8E+00	NA	1.4E-07	1.9E-07	1.4E-07
1,2,3-Trichloropropane	1.4E-05	1.4E-08	1.5E+02	1.0	2.3E+00	9.8E-03	-2.1E+00	0.05	2.4E-04	2.4E-07	7.0E-01	0.33	0.36	1.7E+00	NA	2.4E-10	2.7E-10	2.4E-10
2-Methylnaphthalene	2.8E-03	2.8E-06	1.4E+02	1.0	3.9E+00	8.9E-02	-1.0E+00	0.41	2.5E-04	2.5E-07	6.6E-01	0.62	0.65	1.6E+00	NA	4.3E-07	5.6E-07	4.3E-07
Acetophenone	2.8E-03	2.8E-06	1.2E+02	1.0	1.6E+00	4.7E-03	-2.4E+00	0.020	3.4E-04	3.4E-07	5.0E-01	0.32	0.35	1.2E+00	NA	1.9E-08	2.1E-08	1.9E-08
Bis(2-ethylhexyl)phthalate (DEHP)	1.2E-02	1.2E-05	3.9E+02	1.0	5.1E+00	2.5E-02	-1.6E+00	0.19	1.0E-05	1.0E-08	1.6E+01	0.43	0.47	3.9E+01	NA	2.4E-06	1.1E-05	2.4E-06
Caprolactam	3.8E-03	3.8E-06	1.1E+02	1.0	6.6E-01	1.0E-03	-3.0E+00	0.0041	3.7E-04	3.7E-07	4.5E-01	0.31	0.34	1.1E+00	NA	5.4E-09	5.7E-09	5.4E-09
Dimethyl phthalate	6.8E-04	6.8E-07	1.9E+02	1.0	1.6E+00	1.7E-03	-2.8E+00	0.0091	1.3E-04	1.3E-07	1.3E+00	0.31	0.34	3.1E+00	NA	2.8E-09	3.7E-09	2.8E-09
Di-n-butyl phthalate	1.0E-03	1.0E-06	2.8E+02	0.9	4.1E+00	2.4E-02	-1.6E+00	0.15	4.4E-05	4.4E-08	3.8E+00	0.40	0.44	9.1E+00	NA	8.9E-08	2.0E-07	8.9E-08
Isophorone	4.9E-03	4.9E-06	1.4E+02	1.0	1.7E+00	3.4E-03	-2.5E+00	0.015	2.7E-04	2.7E-07	6.2E-01	0.31	0.34	1.5E+00	NA	2.8E-08	3.1E-08	2.8E-08
N-Nitrosodimethylamine	1.9E-04	1.9E-07	7.4E+01	1.0	-5.7E-01	2.7E-04	-3.6E+00	0.00088	6.1E-04	6.1E-07	2.7E-01	0.30	0.33	6.6E-01	NA	5.5E-11	5.6E-11	5.5E-11
Pentachlorophenol	3.0E-04	3.0E-07	2.7E+02	0.9	5.9E+00	3.9E-01	-4.2E-01	2.4	5.1E-05	5.1E-08	3.3E+00	5.0	2.5	1.4E+01	NA	4.0E-07	1.5E-06	4.0E-07
Phenanthrene	6.9E-05	6.9E-08	1.8E+02	1.0	4.5E+00	1.4E-01	-8.5E-01	0.72	1.6E-04	1.6E-07	1.0E+00	1.0	0.91	4.1E+00	NA	2.1E-08	3.5E-08	2.1E-08
Phenol	9.8E-03	9.8E-06	9.4E+01	1.0	1.5E+00	4.3E-03	-2.4E+00	0.016	4.7E-04	4.7E-07	3.5E-01	0.3	0.34	8.5E-01	NA	5.3E-08	5.4E-08	5.3E-08
Perchlorate	3.2E-03	3.2E-06	9.9E+01	1.0	NA	1.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.88E-09	NA	NA	1.9E-09
Cyanide (total)	3.4E-03	3.4E-06	NA	1.0	NA	1.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.97E-09	NA	NA	2.0E-09
Arsenic	1.4E-02	1.4E-05	NA	1.0	NA	1.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	7.83E-09	NA	NA	7.8E-09
Hexavalent chromium	9.3E-03	9.3E-06	NA	1.0	NA	2.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.08E-08	NA	NA	1.1E-08
Nickel	3.4E-02	3.4E-05	NA	1.0	NA	2.0E-04	NA	NA	NA	NA	NA	NA	NA	NA	3.90E-09	NA	NA	3.9E-09

Source: EPA, 2004. RAGS Part E

Table 7-2 Child Dermal Supplement

MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

ORGANICS

If tevent > t*:

$$DA_{event} = FA \times K_p \times C_{gw} \left[\frac{t_{event}}{1+B} + 2\tau \times \left(\frac{1+3B+3B^2}{(1+B)^2} \right) \right]$$

If tevent ≤ t*:

$$DA_{event} = 2\,FA \times K_p \times C_{gw} \sqrt{\frac{6\tau \times t_{event}}{\Pi}}$$

INORGANICS

$$DA_{event} = K_p \times C_{gw} \times t_{event}$$

$$\log K_p = -2.8 + 0.66 \log K_{ow} - 0.0056 MW$$

$$B = K_p \frac{\sqrt{MW}}{2.6}$$

$$If\ B \le 0.6\ then\ t^* = 2.4\tau$$

$$If\ B > 0.6\ then\ t^* = 6\left(b - \sqrt{b^2 - c^2}\right)\tau$$

$$\tau = \frac{l_{sc}^{\ 2}}{6\ D_{sc}}$$

$$b = \frac{2}{\pi}(1+B)^2 - c$$

$$c = \frac{1+3B+3B^2}{3(1+B)}$$

$$\log \frac{D_{sc}}{l_{sc}} = -2.80 - 0.0056 MW$$

Dermally-absorbed dose	DAD	calculated	mg/kg-day
Concentration in water	Conc (Cv)	chem-specific	mg/cm3
permeability coefficient	Kp	calculated	cm/hr
Lag time per event (hours)	*tau (t)*	calculated	hours
Time to reach steady-state (hours)	t*	calculated	hours
Dimensionless coefficient	B	calculated	
Pi	π	3.1416	
Exposure Time	t_event	1	hr/event
Number of exposure events	EV	1	event/day
Exposure Duration	ED	6	year
Exposure Frequency	EF	350	days/year
Exposed Skin Surface Area	SA	6600	cm2
Fraction Absorbed	FA	chem-specific	
Body Weight	BW	15	kg
Averaging time - noncarcinogenic	AT_N	6	years
Averaging time - carcinogenic	AT_C	70	years
Conversion Factor	CF	0.001	mg/ug

Thickness of stratum corneum	*lsc (cm)*	0.001
Molecular Weight	g/mol	chem-specific
log octanol-water partition coefficient	Log Kow	chem-specific
log permeability coefficient	log Kp	calculated
Permeability coefficient (cm/hr)	Kp	calculated
Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis	B	calculated
Effective diffusion coefficient for transfer of a chemical across the stratum corneum (cm2/hr)	Dsc	calculated
Lag time per event (hours)	τ	calculated
Time to reach steady-state (hours)	t*	calculated
Correlation coefficients fitted to data set used in USEPA's methodology (see equations A7 and A8, USEPA, 2001)	b,c	calculated

Table 7-2 Child Dermal Supplement

MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Constituent	Conc (mg/L)	Conc (mg/cm3)	MW	FA	Log Kow	Kp (cm/hr) Select	Log Kp	B	Dsc/Isc	Dsc (cm2/hr)	τ (ηουρσ)	b	c	t* (hours)	DA_inorg (mg/cm2-event)	DA_1 (mg/cm2-event)	DA_2 (mg/cm2-event)	Selected DA (mg/cm2-event)
1,1,1-Trichloroethane	2.5E+00	2.5E-03	1.3E+02	1.0	2.5E+00	1.30E-02	-1.90E+00	5.77E-02	0.000284	2.84E-07	5.87E-01	0.3	0.37	1.41E+00	NA	6.81E-05	7.03E-05	6.81E-05
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.9E-01	9.9E-04	1.9E+02	1.0	3.2E+00	1.73E-02	-1.76E+00	9.11E-02	0.000142	1.42E-07	1.17E+00	0.4	0.40	2.81E+00	NA	5.14E-05	5.97E-05	5.14E-05
1,1-Dichloroethene	1.0E+00	1.0E-03	9.7E+01	1.0	2.1E+00	1.20E-02	-1.94E+00	4.54E-02	0.000454	4.54E-07	3.67E-01	0.3	0.36	8.80E-01	NA	2.10E-05	2.16E-05	2.16E-05
1,2-Dichloroethane	2.5E-01	2.5E-04	9.9E+01	1.0	1.5E+00	6.70E-03	-2.38E+00	2.56E-02	0.000442	4.42E-07	3.77E-01	0.3	0.35	9.05E-01	NA	2.79E-06	2.87E-06	2.87E-06
1,4-Dioxane (p-dioxane)	3.6E+00	3.6E-03	8.8E+01	1.0	-2.7E-01	3.30E-04	-3.47E+00	1.19E-03	0.000509	5.09E-07	3.27E-01	0.3	0.33	7.86E-01	NA	1.86E-06	1.95E-06	1.95E-06
Acetone	2.0E+00	2.0E-03	5.8E+01	1.0	-2.4E-01	5.20E-04	-3.28E+00	1.53E-03	0.000749	7.49E-07	2.22E-01	0.3	0.33	5.34E-01	NA	1.37E-06	1.51E-06	1.51E-06
Chloroform	5.8E-01	5.8E-04	1.2E+02	1.0	2.0E+00	6.80E-03	-2.17E+00	2.86E-02	0.00034	3.40E-07	4.90E-01	0.3	0.35	1.18E+00	NA	7.66E-06	7.84E-06	7.66E-06
Methylene chloride	1.9E+00	1.9E-03	8.5E+01	1.0	1.3E+00	3.50E-03	-2.45E+00	1.24E-02	0.00053	5.30E-07	3.14E-01	0.3	0.34	7.54E-01	NA	1.05E-05	1.10E-05	1.10E-05
Tetrachloroethene	6.5E+01	6.5E-02	1.7E+02	1.0	3.4E+00	3.30E-02	-1.48E+00	1.63E-01	0.000187	1.87E-07	8.92E-01	0.4	0.45	2.14E+00	NA	5.60E-03	6.28E-03	5.60E-03
Toluene	7.1E-02	7.1E-05	9.2E+01	1.0	2.7E+00	3.10E-02	-1.51E+00	1.14E-01	0.000483	4.83E-07	3.45E-01	0.4	0.41	8.28E-01	NA	3.59E-06	3.69E-06	3.69E-06
Trichloroethene (TCE)	1.3E+00	1.3E-03	1.3E+02	1.0	2.4E+00	1.20E-02	-1.94E+00	5.29E-02	0.000291	2.91E-07	5.72E-01	0.3	0.37	1.37E+00	NA	3.31E-05	3.41E-05	3.31E-05
11)	3.6E-01	3.6E-04	1.4E+02	1.0	2.5E+00	1.27E-02	-1.90E+00	5.70E-02	0.000271	2.71E-07	6.15E-01	0.3	0.37	1.48E+00	NA	9.83E-06	1.02E-05	9.83E-06
1,1,1,2-Tetrachloroethane	3.6E-03	3.6E-06	1.7E+02	1.0	2.9E+00	2.18E-02	-1.81E+00	1.09E-01	0.000182	1.82E-07	9.16E-01	0.4	0.41	2.20E+00	NA	2.07E-07	2.29E-07	2.07E-07
1,1,2,2-Tetrachloroethane	6.7E-04	6.7E-07	1.7E+02	1.0	2.4E+00	6.90E-03	-2.16E+00	3.44E-02	0.000182	1.82E-07	9.16E-01	0.3	0.36	2.20E+00	NA	1.22E-08	1.32E-08	1.22E-08
1,1,2-Trichloroethane	1.8E-01	1.8E-04	1.3E+02	1.0	2.1E+00	6.40E-03	-2.19E+00	2.84E-02	0.000284	2.84E-07	5.87E-01	0.3	0.35	1.41E+00	NA	2.43E-06	2.50E-06	2.43E-06
1,1-Dichloroethane	3.8E-02	3.8E-05	9.9E+01	1.0	1.8E+00	6.70E-03	-2.17E+00	2.56E-02	0.000442	4.42E-07	3.77E-01	0.3	0.35	9.05E-01	NA	4.30E-07	4.43E-07	4.43E-07
1,2,4-Trichlorobenzene	5.3E-04	5.3E-07	1.8E+02	1.0	4.0E+00	6.60E-02	-1.19E+00	3.42E-01	0.000153	1.53E-07	1.09E+00	0.6	0.59	2.62E+00	NA	1.01E-07	1.27E-07	1.01E-07
1,2,4-Trimethylbenzene	7.5E-03	7.5E-06	1.2E+02	1.0	3.6E+00	8.37E-02	-1.08E+00	3.53E-01	0.000336	3.36E-07	4.95E-01	0.6	0.60	1.19E+00	NA	1.23E-06	1.30E-06	1.23E-06
1,2-Dibromo-3-chloropropane	5.5E-03	5.5E-06	2.4E+02	1.0	3.0E+00	6.76E-03	-2.17E+00	4.00E-02	7.53E-05	7.53E-08	2.21E+00	0.3	0.36	5.32E+00	NA	1.53E-07	2.07E-07	1.53E-07
1,2-Dichlorobenzene	1.8E-03	1.8E-06	1.5E+02	1.0	3.4E+00	4.10E-02	-1.39E+00	1.91E-01	0.000238	2.38E-07	7.00E-01	0.4	0.47	1.68E+00	NA	1.71E-07	1.85E-07	1.71E-07
1,2-Dichloropropane	1.6E-03	1.6E-06	1.1E+02	1.0	2.0E+00	7.80E-03	-2.11E+00	3.19E-02	0.000369	3.69E-07	4.51E-01	0.3	0.35	1.08E+00	NA	2.32E-08	2.37E-08	2.32E-08
1,3,5-Trimethylbenzene	1.2E-03	1.2E-06	1.2E+02	1.0	3.4E+00	6.08E-02	-1.22E+00	2.56E-01	0.000336	3.36E-07	4.95E-01	0.5	0.52	1.19E+00	NA	1.38E-07	1.44E-07	1.38E-07
1,3-Dichlorobenzene	4.2E-04	4.2E-07	1.5E+02	1.0	3.6E+00	5.80E-02	-1.25E+00	2.70E-01	0.000238	2.38E-07	7.00E-01	0.5	0.53	1.68E+00	NA	5.69E-08	6.27E-08	5.69E-08
1,4-Dichlorobenzene	7.1E-04	7.1E-07	1.5E+02	1.0	3.4E+00	4.20E-02	-1.39E+00	1.96E-01	0.000238	2.38E-07	7.00E-01	0.4	0.47	1.68E+00	NA	6.88E-08	7.45E-08	6.88E-08
2-Butanone	3.3E-01	3.3E-04	7.2E+01	1.0	2.9E-01	9.60E-04	-3.01E+00	3.13E-03	0.000626	6.26E-07	2.66E-01	0.3	0.34	6.39E-01	NA	4.48E-07	4.81E-07	4.81E-07
2-Chlorotoluene	4.5E-04	4.5E-07	1.3E+02	1.0	3.4E+00	8.63E-02	-1.25E+00	3.73E-01	0.00031	3.10E-07	5.38E-01	0.6	0.62	1.29E+00	NA	7.88E-08	8.46E-08	7.88E-08
4-Chlorotoluene	4.6E-04	4.6E-07	1.3E+02	1.0	2.0E+00	1.03E-02	-2.19E+00	4.46E-02	0.00031	3.10E-07	5.38E-01	0.3	0.36	1.29E+00	NA	9.60E-09	9.86E-09	9.60E-09
4-Methyl-2-pentanone	7.8E-02	7.8E-05	1.0E+02	1.0	1.2E+00	2.70E-03	-2.57E+00	1.04E-02	0.000437	4.37E-07	3.82E-01	0.3	0.34	9.16E-01	NA	3.60E-07	3.71E-07	3.71E-07
Benzene	1.9E-02	1.9E-05	7.8E+01	1.0	2.1E+00	1.50E-02	-1.83E+00	5.10E-02	0.000579	5.79E-07	2.88E-01	0.3	0.37	6.91E-01	NA	4.27E-07	4.48E-07	4.48E-07
Bromochloromethane	1.2E-02	1.2E-05	1.3E+02	1.0	1.4E+00	3.10E-03	-2.59E+00	1.36E-02	0.000299	2.99E-07	5.58E-01	0.3	0.34	1.34E+00	NA	7.68E-08	7.88E-08	7.68E-08
Bromodichloromethane	4.4E-04	4.4E-07	1.6E+02	1.0	2.0E+00	4.60E-03	-2.40E+00	2.27E-02	0.000191	1.91E-07	8.71E-01	0.3	0.35	2.09E+00	NA	5.24E-09	5.61E-09	5.24E-09
Bromoform	2.8E-03	2.8E-06	2.5E+02	1.0	2.4E+00	2.20E-03	-2.63E+00	1.35E-02	6.09E-05	6.09E-08	2.74E+00	0.3	0.34	6.56E+00	NA	2.82E-08	4.02E-08	2.82E-08
Bromomethane	2.6E-02	2.6E-05	9.5E+01	1.0	1.2E+00	2.80E-03	-2.54E+00	1.05E-02	0.000466	4.66E-07	3.58E-01	0.3	0.34	8.59E-01	NA	1.22E-07	1.27E-07	1.27E-07
Carbon disulfide	9.4E-02	9.4E-05	8.0E+01	1.0	2.2E+00	1.70E-02	-1.77E+00	5.85E-02	0.000565	5.65E-07	2.95E-01	0.3	0.37	7.08E-01	NA	2.39E-06	2.50E-06	2.50E-06
Carbon tetrachloride	3.1E-04	3.1E-07	1.5E+02	1.0	2.8E+00	1.60E-02	-1.79E+00	7.63E-02	0.000218	2.18E-07	7.64E-01	0.4	0.39	1.83E+00	NA	1.21E-08	1.29E-08	1.21E-08
Chlorobenzene	3.5E-02	3.5E-05	1.1E+02	1.0	2.8E+00	2.80E-02	-1.56E+00	1.14E-01	0.000371	3.71E-07	4.49E-01	0.4	0.41	1.08E+00	NA	1.82E-06	1.86E-06	1.82E-06
Chloroethane	2.0E-04	2.0E-07	6.5E+01	1.0	1.4E+00	6.10E-03	-2.22E+00	1.88E-02	0.00069	6.90E-07	2.42E-01	0.3	0.35	5.80E-01	NA	1.66E-09	1.80E-09	1.80E-09
Chloromethane	9.7E-04	9.7E-07	5.1E+01	1.0	9.1E-01	3.30E-03	-2.48E+00	9.02E-03	0.000826	8.26E-07	2.02E-01	0.3	0.34	4.84E-01	NA	3.98E-09	4.48E-09	4.48E-09
cis-1,2-Dichloroethene	1.4E-02	1.4E-05	9.7E+01	1.0	2.1E+00	1.09E-02	-1.96E+00	4.12E-02	0.000454	4.54E-07	3.67E-01	0.3	0.36	8.81E-01	NA	2.62E-07	2.70E-07	2.70E-07
Cyclohexane	6.3E-04	6.3E-07	8.4E+01	1.0	3.4E+00	9.98E-02	-1.00E+00	3.52E-01	0.000535	5.35E-07	3.11E-01	0.6	0.60	7.47E-01	NA	9.69E-08	9.85E-08	9.85E-08
Dibromochloromethane	1.2E-03	1.2E-06	2.1E+02	1.0	2.2E+00	2.88E-03	-2.54E+00	1.60E-02	0.000108	1.08E-07	1.54E+00	0.3	0.34	3.70E+00	NA	1.18E-08	1.41E-08	1.18E-08
21)	8.6E-03	8.6E-06	1.0E+02	1.0	2.2E+00	1.12E-02	-1.95E+00	4.37E-02	0.00042	4.20E-07	3.96E-01	0.3	0.36	9.52E-01	NA	1.67E-07	1.71E-07	1.71E-07
Dichlorodifluoromethane (Freon 1	1.6E-03	1.6E-06	1.2E+02	1.0	2.2E+00	8.87E-03	-2.05E+00	3.75E-02	0.000333	3.33E-07	5.01E-01	0.3	0.36	1.20E+00	NA	2.71E-08	2.77E-08	2.71E-08
Ethylbenzene	1.2E-03	1.2E-06	1.1E+02	1.0	3.2E+00	4.90E-02	-1.32E+00	1.94E-01	0.000403	4.03E-07	4.14E-01	0.4	0.47	9.93E-01	NA	1.01E-07	1.04E-07	1.04E-07
Isopropylbenzene	5.3E-04	5.3E-07	1.2E+02	1.0	3.7E+00	8.76E-02	-1.06E+00	3.69E-01	0.000336	3.36E-07	4.95E-01	0.6	0.61	1.19E+00	NA	9.03E-08	9.56E-08	9.03E-08
Methyl tert-butyl ether (MTBE)	4.7E-03	4.7E-06	8.8E+01	1.0	9.4E-01	2.12E-03	-2.67E+00	7.66E-03	0.000509	5.09E-07	3.28E-01	0.3	0.34	7.87E-01	NA	1.57E-08	1.64E-08	1.64E-08
Methylcyclohexane	8.5E-04	8.5E-07	9.8E+01	1.0	3.6E+00	1.08E-01	-9.67E-01	4.11E-01	0.000447	4.47E-07	3.73E-01	0.6	0.65	8.95E-01	NA	1.55E-07	1.59E-07	1.59E-07
Naphthalene	5.6E-04	5.6E-07	1.3E+02	1.0	3.3E+00	4.70E-02	-1.34E+00	2.05E-01	0.000303	3.03E-07	5.49E-01	0.4	0.48	1.32E+00	NA	5.37E-08	5.62E-08	5.37E-08

Table 7-2 Child Dermal Supplement

MODEL FOR ESTIMATING DERMAL EXPOSURE FROM CONTACT WITH CHEMICALS IN WATER

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Constituent	Conc (mg/L)	Conc (mg/cm3)	MW	FA	Log Kow	Kp (cm/hr) Select	Log Kp	B	Dsc/Isc	Dsc (cm2/hr)	τ (ηουρσ)	b	c	t* (hours)	DA_inorg (mg/cm2-event)	DA_1 (mg/cm2-event)	DA_2 (mg/cm2-event)	
n-Propylbenzene	5.2E-04	5.2E-07	1.2E+02	1.0	3.5E+00	7.11E-02	-1.15E+00	3.00E-01	0.000336	3.36E-07	4.95E-01	0.5	0.56	1.19E+00	NA	7.14E-08	7.50E-08	7.14E-08
p-Isopropyltoluene	4.8E-04	4.8E-07	1.3E+02	1.0	4.0E+00	1.22E-01	-9.14E-01	5.43E-01	0.000281	2.81E-07	5.94E-01	0.8	0.76	1.42E+00	NA	1.24E-07	1.40E-07	1.24E-07
sec-Butylbenzene	3.6E-04	3.6E-07	1.3E+02	1.0	3.9E+00	1.12E-01	-9.51E-01	4.99E-01	0.000281	2.81E-07	5.94E-01	0.7	0.72	1.42E+00	NA	8.50E-08	9.51E-08	8.50E-08
Tetrahydrofuran	6.5E-01	6.5E-04	7.2E+01	1.0	9.4E-01	2.60E-03	-2.59E+00	8.48E-03	0.000625	6.25E-07	2.66E-01	0.3	0.34	6.40E-01	NA	2.41E-06	2.58E-06	2.58E-06
trans-1,2-Dichloroethene	3.1E-02	3.1E-05	9.7E+01	1.0	1.9E+00	7.70E-03	-2.12E+00	2.92E-02	0.000454	4.54E-07	3.67E-01	0.3	0.35	8.80E-01	NA	3.97E-07	4.10E-07	4.10E-07
Vinyl chloride	6.8E-04	6.8E-07	6.3E+01	1.0	1.4E+00	5.60E-03	-2.25E+00	1.70E-02	0.000708	7.08E-07	2.35E-01	0.3	0.34	5.65E-01	NA	5.11E-09	5.57E-09	5.57E-09
m,p-Xylenes	1.0E-02	1.0E-05	1.1E+02	1.0	3.2E+00	5.30E-02	-1.28E+00	2.10E-01	0.000403	4.03E-07	4.13E-01	0.4	0.49	9.92E-01	NA	9.51E-07	9.75E-07	9.75E-07
o-Xylene	8.1E-03	8.1E-06	1.1E+02	1.0	3.1E+00	7.04E-02	-1.34E+00	2.79E-01	0.000403	4.03E-07	4.13E-01	0.5	0.54	9.92E-01	NA	1.02E-06	1.05E-06	1.05E-06
Xylenes, total	3.6E-02	3.6E-05	1.1E+02	1.0	3.2E+00	5.30E-02	-1.28E+00	2.10E-01	0.000403	4.03E-07	4.14E-01	0.4	0.49	9.93E-01	NA	3.35E-06	3.44E-06	3.44E-06
1,1-Biphenyl	8.0E-04	8.0E-07	1.5E+02	1.0	4.0E+00	9.19E-02	-1.04E+00	4.39E-01	0.000217	2.17E-07	7.68E-01	0.6	0.67	1.84E+00	NA	1.78E-07	2.09E-07	1.78E-07
1,2,3-Trichloropropane	1.4E-05	1.4E-08	1.5E+02	1.0	2.3E+00	9.83E-03	-2.13E+00	4.59E-02	0.000237	2.37E-07	7.04E-01	0.3	0.36	1.69E+00	NA	3.10E-10	3.25E-10	3.10E-10
2-Methylnaphthalene	2.8E-03	2.8E-06	1.4E+02	1.0	3.9E+00	8.94E-02	-1.05E+00	4.10E-01	0.000253	2.53E-07	6.58E-01	0.6	0.65	1.58E+00	NA	5.61E-07	6.30E-07	5.61E-07
Acetophenone	2.8E-03	2.8E-06	1.2E+02	1.0	1.6E+00	4.67E-03	-2.43E+00	1.97E-02	0.000337	3.37E-07	4.95E-01	0.3	0.35	1.19E+00	NA	2.53E-08	2.59E-08	2.53E-08
(DEHP)	1.2E-02	1.2E-05	3.9E+02	1.0	5.1E+00	2.50E-02	-1.62E+00	1.90E-01	1.02E-05	1.02E-08	1.63E+01	0.4	0.47	3.91E+01	NA	3.21E-06	1.13E-05	3.21E-06
Caprolactam	3.8E-03	3.8E-06	1.1E+02	1.0	6.6E-01	1.00E-03	-3.00E+00	4.11E-03	0.000368	3.68E-07	4.52E-01	0.3	0.34	1.09E+00	NA	7.13E-09	7.31E-09	7.13E-09
Dimethyl phthalate	6.8E-04	6.8E-07	1.9E+02	1.0	1.6E+00	1.70E-03	-2.83E+00	9.11E-03	0.00013	1.30E-07	1.29E+00	0.3	0.34	3.09E+00	NA	3.62E-09	4.15E-09	3.62E-09
Di-n-butyl phthalate	1.0E-03	1.0E-06	2.8E+02	0.9	4.1E+00	2.40E-02	-1.63E+00	1.54E-01	4.4E-05	4.40E-08	3.79E+00	0.4	0.44	9.10E+00	NA	1.16E-07	2.07E-07	1.16E-07
Isophorone	4.9E-03	4.9E-06	1.4E+02	1.0	1.7E+00	3.40E-03	-2.47E+00	1.54E-02	0.000267	2.67E-07	6.25E-01	0.3	0.34	1.50E+00	NA	3.64E-08	3.75E-08	3.64E-08
N-Nitrosodimethylamine	1.9E-04	1.9E-07	7.4E+01	1.0	-5.7E-01	2.65E-04	-3.59E+00	8.77E-04	0.00061	6.10E-07	2.73E-01	0.3	0.33	6.56E-01	NA	7.24E-11	7.74E-11	7.74E-11
Pentachlorophenol	3.0E-04	3.0E-07	2.7E+02	0.9	5.9E+00	3.90E-01	-4.24E-01	2.45E+00	5.11E-05	5.11E-08	3.26E+00	5.0	2.54	1.36E+01	NA	5.26E-07	1.55E-06	5.26E-07
Phenanthrene	6.9E-05	6.9E-08	1.8E+02	1.0	4.5E+00	1.40E-01	-8.54E-01	7.19E-01	0.000159	1.59E-07	1.05E+00	1.0	0.91	4.05E+00	NA	2.73E-08	3.78E-08	2.73E-08
Phenol	9.8E-03	9.8E-06	9.4E+01	1.0	1.5E+00	4.30E-03	-2.36E+00	1.60E-02	0.000471	4.71E-07	3.54E-01	0.3	0.34	8.49E-01	NA	6.94E-08	7.19E-08	7.19E-08
Perchlorate	3.2E-03	3.2E-06	9.9E+01	1.0	NA	1.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	3.24E-09	NA	NA	3.24E-09
Cyanide (total)	3.4E-03	3.4E-06	NA	1.0	NA	1.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	3.40E-09	NA	NA	3.40E-09
Arsenic	1.4E-02	1.4E-05	NA	1.0	NA	1.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.35E-08	NA	NA	1.35E-08
Hexavalent chromium	9.3E-03	9.3E-06	NA	1.0	NA	2.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.86E-08	NA	NA	1.86E-08
Nickel	3.4E-02	3.4E-05	NA	1.0	NA	2.00E-04	NA	NA	NA	NA	NA	NA	NA	NA	6.72E-09	NA	NA	6.72E-09

Source: EPA, 2004. RAGS Part E

Table 9.1.1

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	--	--	--	NA	--	Decreased body weight	3.4E-02	2.4E-01	6.4E-03	2.8E-01
			1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	NA	--	Neurological	9.1E-04	1.6E-02	3.2E-04	1.7E-02
			1,1-Dichloroethene	--	--	--	NA	--	Liver	5.7E-01	7.2E+00	7.9E-02	7.8E+00
			1,2-Dichloroethane	2.1E-04	1.0E-03	1.6E-05	NA	1.3E-03	Decreased survival	3.4E-01	2.4E+01	2.6E-02	2.4E+01
			1,4-Dioxane (p-dioxane)	9.0E-04	--	3.2E-06	NA	9.1E-04	NA	--	--	--	--
			Acetone	--	--	--	NA	--	Kidney	6.1E-02	3.1E-01	2.9E-04	3.7E-01
			Chloroform	1.7E-04	2.2E-03	1.5E-05	NA	2.4E-03	Liver	1.6E+00	5.7E+00	1.4E-01	7.4E+00
			Methylene chloride	2.5E-04	3.2E-04	9.4E-06	NA	5.8E-04	Liver	8.8E-01	3.1E-01	3.3E-02	1.2E+00
			Tetrachloroethene	3.3E-01	6.3E-02	1.9E-01	NA	5.9E-01	Liver	1.8E+02	8.9E+02	1.1E+02	1.2E+03
			Toluene	--	--	--	NA	--	Kidney	2.4E-02	1.1E-01	8.4E-03	1.5E-01
			Trichloroethene (TCE)	1.6E-04	4.3E-04	2.8E-05	NA	6.2E-04	Liver	1.2E+02	1.1E+00	2.1E+01	1.4E+02
			Trichlorofluoromethane (Freon 11)	--	--	--	NA	--	General	3.3E-02	2.5E-01	6.2E-03	2.8E-01
			1,1,1,2-Tetrachloroethane	8.8E-07	4.4E-06	3.5E-07	NA	5.6E-06	Kidney	3.3E-03	1.6E-02	1.3E-03	2.1E-02
			1,1,2,2-Tetrachloroethane	1.7E-06	6.4E-06	2.1E-07	NA	8.3E-06	NA	3.1E-04	1.5E-03	3.8E-05	1.9E-03
			1,1,2-Trichloroethane	1.2E-04	4.8E-04	1.1E-05	NA	6.1E-04	Blood	1.2E+00	6.1E+00	1.1E-01	7.5E+00
			1,1-Dichloroethane	2.0E-06	1.0E-05	1.6E-07	NA	1.2E-05	NOEL	1.0E-02	3.6E-02	8.1E-04	4.7E-02
			1,2,4-Trichlorobenzene	1.8E-08	--	2.3E-08	NA	4.1E-08	Adrenal Glands	1.5E-03	7.3E-02	1.9E-03	7.6E-02
			1,2,4-Trimethylbenzene	--	--	--	NA	--	NA	4.1E-03	6.1E-01	4.6E-03	6.2E-01
			1,2-Dibromo-3-chloropropane	3.6E-04	1.8E-03	6.9E-05	NA	2.2E-03	Decreased survival	2.6E+00	1.3E+01	5.0E-01	1.6E+01
			1,2-Dichlorobenzene	--	--	--	NA	--	NOAEL	5.5E-04	4.3E-03	3.6E-04	5.2E-03
			1,2-Dichloropropane	1.0E-06	5.1E-06	1.0E-07	NA	6.2E-06	Decreased body weight	4.0E-02	2.0E-01	4.0E-03	2.4E-01
			1,3,5-Trimethylbenzene	--	--	--	NA	--	NA	6.4E-04	9.4E-02	5.2E-04	9.5E-02
			1,3-Dichlorobenzene	--	--	--	NA	--	NA	3.9E-04	1.9E-03	3.6E-04	2.7E-03
			1,4-Dichlorobenzene	1.6E-07	1.3E-06	1.1E-07	NA	1.6E-06	Liver	6.5E-04	4.2E-04	4.3E-04	1.5E-03
			2-Butanone	--	--	--	NA	--	Reduced birth weight	1.5E-02	3.2E-02	1.4E-04	4.7E-02
			2-Chlorotoluene	--	--	--	NA	--	Decreased body weight	6.2E-04	3.1E-03	7.4E-04	4.4E-03
			4-Chlorotoluene	--	--	--	NA	--	Decreased body weight	6.3E-04	3.2E-03	9.0E-05	3.9E-03
			4-Methyl-2-pentanone	--	--	--	NA	--	Reduced birth weight	2.7E-02	1.2E-02	8.4E-04	4.0E-02
			Benzene	1.8E-05	9.2E-05	2.7E-06	NA	1.1E-04	Immune system	1.3E-01	3.1E-01	2.0E-02	4.6E-01

Table 9.1.1

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			Bromochloromethane	--	--	--	NA	--	NA	--	--	--	--
			Bromodichloromethane	5.4E-07	2.7E-06	4.4E-08	NA	3.3E-06	Kidney	6.0E-04	3.0E-03	4.9E-05	3.7E-03
			Bromoform	2.1E-07	--	1.4E-08	NA	2.2E-07	Liver	3.8E-03	--	2.6E-04	4.1E-03
			Bromomethane	--	--	--	NA	--	GI	5.2E-01	2.6E+00	1.6E-02	3.1E+00
			Carbon disulfide	--	--	--	NA	--	Teratogenicity	2.6E-02	6.4E-02	4.5E-03	9.4E-02
			Carbon tetrachloride	4.4E-07	2.2E-06	1.2E-07	NA	2.7E-06	Liver	1.2E-02	6.1E-02	3.3E-03	7.7E-02
			Chlorobenzene	--	--	--	NA	--	Liver	4.8E-02	2.8E-01	1.7E-02	3.5E-01
			Chloroethane	5.4E-09	2.7E-08	3.2E-10	NA	3.3E-08	Reproductive	1.4E-05	9.6E-06	8.0E-07	2.4E-05
			Chloromethane	--	--	--	NA	--	Brain	1.0E-03	5.1E-03	3.0E-05	6.2E-03
			cis-1,2-Dichloroethene	--	--	--	NA	--	Liver	3.9E-02	2.0E-01	4.9E-03	2.4E-01
			Cyclohexane	--	--	--	NA	--	Reduced birth weight	1.0E-05	5.1E-05	1.1E-05	7.2E-05
			Dibromochloromethane	1.1E-06	5.3E-06	7.1E-08	NA	6.4E-06	Liver	1.6E-03	8.2E-03	1.1E-04	9.9E-03
			Dichlorofluoromethane (Freon 21)	--	--	--	NA	--	Decreased body weight	1.2E-03	2.1E-02	1.6E-04	2.2E-02
			Dichlorodifluoromethane (Freon 12)	--	--	--	NA	--	Decreased body weight	2.1E-04	3.7E-03	2.5E-05	4.0E-03
			Ethylbenzene	1.2E-07	4.8E-07	7.2E-08	NA	6.7E-07	Liver	3.2E-04	5.5E-04	1.9E-04	1.1E-03
			Isopropylbenzene	--	--	--	NA	--	Kidney	1.5E-04	6.6E-04	1.7E-04	9.7E-04
			Methyl tert-butyl ether (MTBE)	7.9E-08	2.0E-07	1.8E-09	NA	2.8E-07	Liver	1.5E-04	7.5E-04	3.4E-06	9.0E-04
			Methylcyclohexane	--	--	--	NA	--	Kidney	2.7E-05	1.4E-04	3.4E-05	2.0E-04
			Naphthalene	--	3.1E-06	--	NA	3.1E-06	Decreased body weight	7.6E-04	8.9E-02	5.0E-04	9.0E-02
			n-Propylbenzene	--	--	--	NA	--	NA	3.5E-04	1.8E-03	3.4E-04	2.5E-03
			p-Isopropyltoluene	--	--	--	NA	--	NA	1.3E-04	6.0E-04	2.3E-04	9.6E-04
			sec-Butylbenzene	--	--	--	NA	--	NA	2.4E-04	1.2E-03	4.0E-04	1.9E-03
			Tetrahydrofuran	4.6E-05	2.1E-04	1.2E-06	NA	2.6E-04	NA	8.5E-02	1.0E+00	2.2E-03	1.1E+00
			trans-1,2-Dichloroethene	--	--	--	NA	--	Liver	4.2E-02	2.1E-01	3.7E-03	2.6E-01
			Vinyl chloride	9.6E-06	8.7E-06	5.1E-07	NA	1.9E-05	Liver	6.2E-03	3.3E-03	3.3E-04	9.8E-03
			m,p-Xylenes	--	--	--	NA	--	Decreased body weight	1.4E-03	4.8E-02	8.9E-04	5.0E-02
			o-Xylene	--	--	--	NA	--	Decreased body weight	1.1E-03	3.8E-02	9.5E-04	4.0E-02
			Xylenes, total	--	--	--	NA	--	Decreased body weight	4.9E-03	1.7E-01	3.1E-03	1.8E-01

Table 9.1.1

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			1,1-Biphenyl	--	--	--	NA	--	Kidney	4.4E-04	2.2E-03	6.7E-04	3.3E-03
			1,2,3-Trichloropropane	2.6E-07	1.3E-06	4.0E-08	NA	1.6E-06	Blood	6.2E-05	1.3E-03	9.7E-06	1.4E-03
			2-Methylnaphthalene	--	--	--	NA	--	Lungs	1.9E-02	9.6E-02	2.6E-02	1.4E-01
			Acetophenone	--	--	--	NA	--	NOAEL	7.6E-04	--	4.8E-05	8.1E-04
			Bis(2-ethylhexyl)phthalate (DEHP)	1.5E-06	--	2.9E-06	NA	4.4E-06	Liver	1.6E-02	--	3.0E-02	4.6E-02
			Caprolactam	--	--	--	NA	--	Reproductive	2.1E-04	--	2.7E-06	2.1E-04
			Dimethyl phthalate	--	--	--	NA	--	NA	1.9E-06	--	6.8E-08	1.9E-06
			Di-n-butyl phthalate	--	--	--	NA	--	Decreased survival	2.7E-04	--	2.2E-04	4.9E-04
			Isophorone	4.4E-08	--	2.2E-09	NA	4.6E-08	Kidney	6.7E-04	--	3.4E-05	7.1E-04
			N-Nitrosodimethylamine	9.1E-05	--	2.4E-07	NA	9.1E-05	NA	6.5E-01	--	1.7E-03	6.5E-01
			Pentachlorophenol	3.4E-07	--	4.1E-06	NA	4.4E-06	Liver, Kidney	2.7E-04	--	3.3E-03	3.6E-03
			Phenanthrene	--	--	--	NA	--	NA	6.3E-05	3.2E-04	1.7E-04	5.5E-04
			Phenol	--	--	--	NA	--	Decreased body weight	9.0E-04	--	4.3E-05	9.4E-04
			Perchlorate	--	--	--	NA	--	Thyroid	1.3E-01	--	6.6E-04	1.3E-01
			Cyanide (total)	--	--	--	NA	--	Decreased body weight	4.7E-03	--	2.4E-05	4.7E-03
			Arsenic	1.2E-03	--	6.3E-06	NA	1.2E-03	Skin	1.2E+00	--	6.4E-03	1.2E+00
			Hexavalent chromium	--	--	--	NA	--	NOAEL	8.5E-02	--	8.9E-04	8.6E-02
			Nickel	--	--	--	NA	--	Decreased body weight	4.6E-02	--	4.8E-05	4.6E-02
			Chemical Total	3.3E-01	7.0E-02	1.9E-01		6.0E-01		3.1E+02	9.6E+02	1.3E+02	1.4E+03
		Exposure Point Total						6.0E-01					1.4E+03
	Exposure Medium Total							6.0E-01					1.4E+03
Receptor Total							Receptor Risk Total	6E-01				Receptor HI Total	1392

Total Liver HI Across All Media =	1334
Total Decreased Survival HI Across All Media =	41
Total Blood HI Across All Media =	7.5
Total GI HI Across All Media =	3.1
Total Skin HI Across All Media =	1.2
Total Decreased Body Weight HI Across All Media =	0.96
Total Kidney HI Across All Media =	0.54

Notes

NA = Not available or not applicable

Table 9.1.1

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total

Total Immune System HI Across All Media =	0.46
Total General HI Across All Media =	0.28
Total Lungs HI Across All Media =	0.14
Total Thyroid HI Across All Media =	0.13
Total Teratogenicity HI Across All Media =	0.09
Total Reduced Birth Weight HI Across All Media =	0.09
Total Adrenal Glands HI Across All Media =	0.08
Total Neurological HI Across All Media =	0.02
Total Brain HI Across All Media =	0.01
Total Reproductive HI Across All Media =	0.00024

Table 9.1.2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	--	--	--	NA	--	Decreased body weight	7.9E-02	5.5E-01	1.4E-02	6.5E-01
			1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	NA	--	Neurological	2.1E-03	3.7E-02	7.2E-04	4.0E-02
			1,1-Dichloroethene	--	--	--	NA	--	Liver	1.3E+00	1.7E+01	1.8E-01	1.8E+01
			1,2-Dichloroethane	1.2E-04	6.1E-04	9.4E-06	NA	7.4E-04	Decreased survival	7.8E-01	5.6E+01	6.1E-02	5.7E+01
			1,4-Dioxane (p-dioxane)	5.3E-04	--	1.9E-06	NA	5.3E-04	NA	--	--	--	--
			Acetone	--	--	--	NA	--	Kidney	1.4E-01	7.1E-01	7.1E-04	8.6E-01
			Chloroform	9.9E-05	1.3E-03	8.6E-06	NA	1.4E-03	Liver	3.7E+00	1.3E+01	3.2E-01	1.7E+01
			Methylene chloride	1.5E-04	1.9E-04	5.6E-06	NA	3.4E-04	Liver	2.1E+00	7.2E-01	7.7E-02	2.9E+00
			Tetrachloroethene	1.9E-01	3.7E-02	1.1E-01	NA	3.4E-01	Liver	4.2E+02	2.1E+03	2.4E+02	2.7E+03
			Toluene	--	--	--	NA	--	Kidney	5.7E-02	2.7E-01	1.9E-02	3.4E-01
			Trichloroethene (TCE)	9.4E-05	2.5E-04	1.6E-05	NA	3.6E-04	Liver	2.8E+02	2.5E+00	4.7E+01	3.3E+02
			Trichlorofluoromethane (Freon 11)	--	--	--	NA	--	General	7.6E-02	5.7E-01	1.4E-02	6.6E-01
			1,1,1,2-Tetrachloroethane	5.1E-07	2.6E-06	1.9E-07	NA	3.3E-06	Kidney	7.6E-03	3.8E-02	2.9E-03	4.9E-02
			1,1,2,2-Tetrachloroethane	9.9E-07	3.7E-06	1.2E-07	NA	4.8E-06	NA	7.1E-04	3.6E-03	8.6E-05	4.4E-03
			1,1,2-Trichloroethane	7.1E-05	2.8E-04	6.3E-06	NA	3.6E-04	Blood	2.9E+00	1.4E+01	2.6E-01	1.7E+01
			1,1-Dichloroethane	1.2E-06	5.9E-06	9.1E-08	NA	7.2E-06	NOEL	2.4E-02	8.5E-02	1.9E-03	1.1E-01
			1,2,4-Trichlorobenzene	1.0E-08	--	1.3E-08	NA	2.4E-08	Adrenal Glands	3.4E-03	1.7E-01	4.3E-03	1.8E-01
			1,2,4-Trimethylbenzene	--	--	--	NA	--	NA	9.6E-03	1.4E+00	1.0E-02	1.4E+00
			1,2-Dibromo-3-chloropropane	2.1E-04	1.1E-03	3.9E-05	NA	1.3E-03	Decreased survival	6.2E+00	3.1E+01	1.1E+00	3.8E+01
			1,2-Dichlorobenzene	--	--	--	NA	--	NOAEL	1.3E-03	1.0E-02	8.0E-04	1.2E-02
			1,2-Dichloropropane	6.0E-07	3.0E-06	5.7E-08	NA	3.6E-06	Decreased body weight	9.3E-02	4.6E-01	8.9E-03	5.7E-01
			1,3,5-Trimethylbenzene	--	--	--	NA	--	NA	1.5E-03	2.2E-01	1.2E-03	2.2E-01
			1,3-Dichlorobenzene	--	--	--	NA	--	NA	9.0E-04	4.5E-03	8.0E-04	6.2E-03
			1,4-Dichlorobenzene	9.3E-08	7.8E-07	6.0E-08	NA	9.3E-07	Liver	1.5E-03	9.9E-04	9.7E-04	3.5E-03
			2-Butanone	--	--	--	NA	--	Reduced birth weight	3.5E-02	7.5E-02	3.4E-04	1.1E-01
			2-Chlorotoluene	--	--	--	NA	--	Decreased body weight	1.4E-03	7.2E-03	1.7E-03	1.0E-02
			4-Chlorotoluene	--	--	--	NA	--	Decreased body weight	1.5E-03	7.4E-03	2.0E-04	9.0E-03
			4-Methyl-2-pentanone	--	--	--	NA	--	Reduced birth weight	6.2E-02	2.9E-02	2.0E-03	9.3E-02
			Benzene	1.1E-05	5.3E-05	1.6E-06	NA	6.6E-05	Immune system	3.1E-01	7.2E-01	4.7E-02	1.1E+00

Table 9.1.2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			Bromochloromethane	--	--	--	NA	--	NA	--	--	--	--
			Bromodichloromethane	3.1E-07	1.6E-06	2.5E-08	NA	1.9E-06	Kidney	1.4E-03	7.1E-03	1.1E-04	8.6E-03
			Bromoform	1.2E-07	--	8.0E-09	NA	1.3E-07	Liver	8.9E-03	--	5.9E-04	9.5E-03
			Bromomethane	--	--	--	NA	--	GI	1.2E+00	6.0E+00	3.8E-02	7.3E+00
			Carbon disulfide	--	--	--	NA	--	Teratogenicity	6.0E-02	1.5E-01	1.1E-02	2.2E-01
			Carbon tetrachloride	2.6E-07	1.3E-06	6.6E-08	NA	1.6E-06	Liver	2.9E-02	1.4E-01	7.3E-03	1.8E-01
			Chlorobenzene	--	--	--	NA	--	Liver	1.1E-01	6.6E-01	3.8E-02	8.1E-01
			Chloroethane	3.2E-09	1.6E-08	1.9E-10	NA	1.9E-08	Reproductive	3.2E-05	2.2E-05	1.9E-06	5.6E-05
			Chloromethane	--	--	--	NA	--	Brain	2.4E-03	1.2E-02	7.3E-05	1.4E-02
			cis-1,2-Dichloroethene	--	--	--	NA	--	Liver	9.2E-02	4.6E-01	1.1E-02	5.6E-01
			Cyclohexane	--	--	--	NA	--	Reduced birth weight	2.4E-05	1.2E-04	2.4E-05	1.7E-04
			Dibromochloromethane	6.1E-07	3.1E-06	4.0E-08	NA	3.7E-06	Liver	3.8E-03	1.9E-02	2.5E-04	2.3E-02
			Dichlorofluoromethane (Freon 21)	--	--	--	NA	--	Decreased body weight	2.7E-03	4.8E-02	3.6E-04	5.1E-02
			Dichlorodifluoromethane (Freon 12	--	--	--	NA	--	Decreased body weight	5.0E-04	8.7E-03	5.7E-05	9.3E-03
			Ethylbenzene	7.0E-08	2.8E-07	4.1E-08	NA	3.9E-07	Liver	7.4E-04	1.3E-03	4.4E-04	2.5E-03
			Isopropylbenzene	--	--	--	NA	--	Kidney	3.4E-04	1.5E-03	3.8E-04	2.3E-03
			Methyl tert-butyl ether (MTBE)	4.6E-08	1.2E-07	1.1E-09	NA	1.6E-07	Liver	3.5E-04	1.7E-03	8.1E-06	2.1E-03
			Methylcyclohexane	--	--	--	NA	--	Kidney	6.3E-05	3.2E-04	7.8E-05	4.6E-04
			Naphthalene	--	1.8E-06	--	NA	1.8E-06	Decreased body weight	1.8E-03	2.1E-01	1.1E-03	2.1E-01
			n-Propylbenzene	--	--	--	NA	--	NA	8.3E-04	4.1E-03	7.5E-04	5.7E-03
			p-Isopropyltoluene	--	--	--	NA	--	NA	3.1E-04	1.4E-03	5.2E-04	2.2E-03
			sec-Butylbenzene	--	--	--	NA	--	NA	5.7E-04	2.9E-03	9.0E-04	4.3E-03
			Tetrahydrofuran	2.7E-05	1.2E-04	7.1E-07	NA	1.5E-04	NA	2.0E-01	2.4E+00	5.2E-03	2.6E+00
			trans-1,2-Dichloroethene	--	--	--	NA	--	Liver	9.8E-02	4.9E-01	8.6E-03	6.0E-01
			Vinyl chloride	5.6E-06	5.1E-06	3.0E-07	NA	1.1E-05	Liver	1.4E-02	7.6E-03	7.8E-04	2.3E-02
			m,p-Xylenes	--	--	--	NA	--	Decreased body weight	3.2E-03	1.1E-01	2.1E-03	1.2E-01
			o-Xylene	--	--	--	NA	--	Decreased body weight	2.6E-03	8.9E-02	2.2E-03	9.4E-02
			Xylenes, total	--	--	--	NA	--	Decreased body weight	1.1E-02	3.9E-01	7.3E-03	4.1E-01

Table 9.1.2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			1,1-Biphenyl	--	--	--	NA	--	Kidney	1.0E-03	5.1E-03	1.5E-03	7.6E-03
			1,2,3-Trichloropropane	1.5E-07	7.5E-07	2.2E-08	NA	9.2E-07	Blood	1.4E-04	3.1E-03	2.2E-05	3.3E-03
			2-Methylnaphthalene	--	--	--	NA	--	Lungs	4.5E-02	2.2E-01	5.9E-02	3.3E-01
			Acetophenone	--	--	--	NA	--	NOAEL	1.8E-03	--	1.1E-04	1.9E-03
			Bis(2-ethylhexyl)phthalate (DEHP)	8.8E-07	--	1.6E-06	NA	2.5E-06	Liver	3.7E-02	--	6.8E-02	1.0E-01
			Caprolactam	--	--	--	NA	--	Reproductive	4.9E-04	--	6.0E-06	4.9E-04
			Dimethyl phthalate	--	--	--	NA	--	NA	4.3E-06	--	1.5E-07	4.5E-06
			Di-n-butyl phthalate	--	--	--	NA	--	Decreased survival	6.4E-04	--	4.9E-04	1.1E-03
			Isophorone	2.6E-08	--	1.3E-09	NA	2.7E-08	Kidney	1.6E-03	--	7.7E-05	1.6E-03
			N-Nitrosodimethylamine	5.3E-05	--	1.4E-07	NA	5.3E-05	NA	1.5E+00	--	4.1E-03	1.5E+00
			Pentachlorophenol	2.0E-07	--	2.3E-06	NA	2.5E-06	Liver, Kidney	6.4E-04	--	7.4E-03	8.0E-03
			Phenanthrene	--	--	--	NA	--	NA	1.5E-04	7.4E-04	3.8E-04	1.3E-03
			Phenol	--	--	--	NA	--	Decreased body weight	2.1E-03	--	1.0E-04	2.2E-03
			Perchlorate	--	--	--	NA	--	Thyroid	3.0E-01	--	2.0E-03	3.0E-01
			Cyanide (total)	--	--	--	NA	--	Decreased body weight	1.1E-02	--	7.2E-05	1.1E-02
			Arsenic	7.0E-04	--	4.6E-06	NA	7.0E-04	Skin	2.9E+00	--	1.9E-02	2.9E+00
			Hexavalent chromium	--	--	--	NA	--	NOAEL	2.0E-01	--	2.6E-03	2.0E-01
			Nickel	--	--	--	NA	--	Decreased body weight	1.1E-01	--	1.4E-04	1.1E-01
			Chemical Total	1.9E-01	4.1E-02	1.1E-01		3.4E-01		7.2E+02	2.2E+03	2.9E+02	3.2E+03
		Exposure Point Total						3.4E-01					3.2E+03
	Exposure Medium Total							3.4E-01					3.2E+03
Receptor Total							Receptor Risk Total	3E-01				Receptor HI Total	3236

Notes

NA = Not available or not applicable

Total Liver HI Across All Media =	3101
Total Decreased Survival HI Across All Media =	95
Total Blood HI Across All Media =	17
Total GI HI Across All Media =	7.3
Total Skin HI Across All Media =	3
Total Decreased Body Weight HI Across All Media =	2.2
Total Kidney HI Across All Media =	1.3

Table 9.1.2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total

Total Immune System HI Across All Media =	1.1
Total General HI Across All Media =	0.66
Total Lungs HI Across All Media =	0.33
Total Thyroid HI Across All Media =	0.30
Total Teratogenicity HI Across All Media =	0.22
Total Reduced Birth Weight HI Across All Media =	0.20
Total Adrenal Glands HI Across All Media =	0.18
Total Neurological HI Across All Media =	0.04
Total Brain HI Across All Media =	0.01
Total Reproductive HI Across All Media =	0.00055

Table 9.1.3

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	NA	--	Neurological	NA	NA	NA	NA
			1,1-Dichloroethene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			1,2-Dichloroethane	3.3E-04	1.7E-03	2.6E-05	NA	2.0E-03	Decreased survival	NA	NA	NA	NA
			1,4-Dioxane (p-dioxane)	1.4E-03	--	5.1E-06	NA	1.4E-03	NA	NA	NA	NA	NA
			Acetone	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Chloroform	2.7E-04	3.5E-03	2.4E-05	NA	3.8E-03	Liver	NA	NA	NA	NA
			Methylene chloride	4.0E-04	5.0E-04	1.5E-05	NA	9.2E-04	Liver	NA	NA	NA	NA
			Tetrachloroethene	5.2E-01	1.0E-01	3.0E-01	NA	9.3E-01	Liver	NA	NA	NA	NA
			Toluene	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Trichloroethene (TCE)	2.6E-04	6.9E-04	4.3E-05	NA	9.9E-04	Liver	NA	NA	NA	NA
			Trichlorofluoromethane (Freon 11)	--	--	--	NA	--	General	NA	NA	NA	NA
			1,1,1,2-Tetrachloroethane	1.4E-06	6.9E-06	5.4E-07	NA	8.9E-06	Kidney	NA	NA	NA	NA
			1,1,2,2-Tetrachloroethane	2.7E-06	1.0E-05	3.3E-07	NA	1.3E-05	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	1.9E-04	7.6E-04	1.8E-05	NA	9.7E-04	Blood	NA	NA	NA	NA
			1,1-Dichloroethane	3.2E-06	1.6E-05	2.5E-07	NA	1.9E-05	NOEL	NA	NA	NA	NA
			1,2,4-Trichlorobenzene	2.8E-08	--	3.7E-08	NA	6.5E-08	Adrenal Glands	NA	NA	NA	NA
			1,2,4-Trimethylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			1,2-Dibromo-3-chloropropane	5.7E-04	2.9E-03	1.1E-04	NA	3.5E-03	Decreased survival	NA	NA	NA	NA
			1,2-Dichlorobenzene	--	--	--	NA	--	NOAEL	NA	NA	NA	NA
			1,2-Dichloropropane	1.6E-06	8.1E-06	1.6E-07	NA	9.9E-06	Decreased body weight	NA	NA	NA	NA
			1,3,5-Trimethylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			1,3-Dichlorobenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			1,4-Dichlorobenzene	2.5E-07	2.1E-06	1.7E-07	NA	2.5E-06	Liver	NA	NA	NA	NA
			2-Butanone	--	--	--	NA	--	Reduced birth weight	NA	NA	NA	NA
			2-Chlorotoluene	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			4-Chlorotoluene	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			4-Methyl-2-pentanone	--	--	--	NA	--	Reduced birth weight	NA	NA	NA	NA
			Benzene	2.9E-05	1.4E-04	4.4E-06	NA	1.8E-04	Immune system	NA	NA	NA	NA

Table 9.1.3

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			Bromochloromethane	--	--	--	NA	--	NA	NA	NA	NA	NA
			Bromodichloromethane	8.5E-07	4.3E-06	6.9E-08	NA	5.2E-06	Kidney	NA	NA	NA	NA
			Bromoform	3.3E-07	--	2.2E-08	NA	3.5E-07	Liver	NA	NA	NA	NA
			Bromomethane	--	--	--	NA	--	GI	NA	NA	NA	NA
			Carbon disulfide	--	--	--	NA	--	Teratogenicity	NA	NA	NA	NA
			Carbon tetrachloride	7.0E-07	3.4E-06	1.8E-07	NA	4.3E-06	Liver	NA	NA	NA	NA
			Chlorobenzene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			Chloroethane	8.6E-09	4.3E-08	5.1E-10	NA	5.2E-08	Reproductive	NA	NA	NA	NA
			Chloromethane	--	--	--	NA	--	Brain	NA	NA	NA	NA
			cis-1,2-Dichloroethene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			Cyclohexane	--	--	--	NA	--	Reduced birth weight	NA	NA	NA	NA
			Dibromochloromethane	1.7E-06	8.3E-06	1.1E-07	NA	1.0E-05	Liver	NA	NA	NA	NA
			Dichlorofluoromethane (Freon 21)	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Dichlorodifluoromethane (Freon 12)	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Ethylbenzene	1.9E-07	7.5E-07	1.1E-07	NA	1.1E-06	Liver	NA	NA	NA	NA
			Isopropylbenzene	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Methyl tert-butyl ether (MTBE)	1.3E-07	3.2E-07	2.9E-09	NA	4.4E-07	Liver	NA	NA	NA	NA
			Methylcyclohexane	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Naphthalene	--	4.9E-06	--	NA	4.9E-06	Decreased body weight	NA	NA	NA	NA
			n-Propylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			p-Isopropyltoluene	--	--	--	NA	--	NA	NA	NA	NA	NA
			sec-Butylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			Tetrahydrofuran	7.3E-05	3.3E-04	1.9E-06	NA	4.0E-04	NA	NA	NA	NA	NA
			trans-1,2-Dichloroethene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			Vinyl chloride	1.5E-05	1.4E-05	8.1E-07	NA	3.0E-05	Liver	NA	NA	NA	NA
			m,p-Xylenes	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			o-Xylene	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Xylenes, total	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA

Table 9.1.3

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			1,1-Biphenyl	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			1,2,3-Trichloropropane	4.0E-07	2.0E-06	6.2E-08	NA	2.5E-06	Blood	NA	NA	NA	NA
			2-Methylnaphthalene	--	--	--	NA	--	Lungs	NA	NA	NA	NA
			Acetophenone	--	--	--	NA	--	NOAEL	NA	NA	NA	NA
			Bis(2-ethylhexyl)phthalate (DEHP)	2.4E-06	--	4.5E-06	NA	6.9E-06	Liver	NA	NA	NA	NA
			Caprolactam	--	--	--	NA	--	Reproductive	NA	NA	NA	NA
			Dimethyl phthalate	--	--	--	NA	--	NA	NA	NA	NA	NA
			Di-n-butyl phthalate	--	--	--	NA	--	Decreased survival	NA	NA	NA	NA
			Isophorone	6.9E-08	--	3.5E-09	NA	7.3E-08	Kidney	NA	NA	NA	NA
			N-Nitrosodimethylamine	1.4E-04	--	3.8E-07	NA	1.4E-04	NA	NA	NA	NA	NA
			Pentachlorophenol	5.4E-07	--	6.3E-06	NA	6.9E-06	Liver, Kidney	NA	NA	NA	NA
			Phenanthrene	--	--	--	NA	--	NA	NA	NA	NA	NA
			Phenol	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Perchlorate	--	--	--	NA	--	Thyroid	NA	NA	NA	NA
			Cyanide (total)	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Arsenic	1.9E-03	--	1.1E-05	NA	1.9E-03	Skin	NA	NA	NA	NA
			Hexavalent chromium	--	--	--	NA	--	NOAEL	NA	NA	NA	NA
			Nickel	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Chemical Total	5.3E-01	1.1E-01	3.0E-01		9.4E-01					NA
		Exposure Point Total						9.4E-01					NA
	Exposure Medium Total							9.4E-01					NA
Receptor Total							Receptor Risk Total	9E-01				Receptor HI Total	NA

Table 10.1.1

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	--	--	--	NA	--	Decreased body weight	3.4E-02	2.4E-01	6.4E-03	2.8E-01
			1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	NA	--	Neurological	9.1E-04	1.6E-02	3.2E-04	1.7E-02
			1,1-Dichloroethene	--	--	--	NA	--	Liver	5.7E-01	7.2E+00	7.9E-02	7.8E+00
			1,2-Dichloroethane	2.1E-04	1.0E-03	1.6E-05	NA	1.3E-03	Decreased survival	3.4E-01	2.4E+01	2.6E-02	2.4E+01
			1,4-Dioxane (p-dioxane)	9.0E-04	--	3.2E-06	NA	9.1E-04	NA	--	--	--	--
			Acetone	--	--	--	NA	--	Kidney	6.1E-02	3.1E-01	2.9E-04	3.7E-01
			Chloroform	1.7E-04	2.2E-03	1.5E-05	NA	2.4E-03	Liver	1.6E+00	5.7E+00	1.4E-01	7.4E+00
			Methylene chloride	2.5E-04	3.2E-04	9.4E-06	NA	5.8E-04	Liver	8.8E-01	3.1E-01	3.3E-02	1.2E+00
			Tetrachloroethene	3.3E-01	6.3E-02	1.9E-01	NA	5.9E-01	Liver	1.8E+02	8.9E+02	1.1E+02	1.2E+03
			Toluene	--	--	--	NA	--	Kidney	2.4E-02	1.1E-01	8.4E-03	1.5E-01
			Trichloroethene (TCE)	1.6E-04	4.3E-04	2.8E-05	NA	6.2E-04	Liver	1.2E+02	1.1E+00	2.1E+01	1.4E+02
			Trichlorofluoromethane (Freon 11)	--	--	--	NA	--	General	3.3E-02	2.5E-01	6.2E-03	2.8E-01
			1,1,1,2-Tetrachloroethane	8.8E-07	4.4E-06	3.5E-07	NA	5.6E-06	Kidney	3.3E-03	1.6E-02	1.3E-03	2.1E-02
			1,1,2,2-Tetrachloroethane	1.7E-06	6.4E-06	2.1E-07	NA	8.3E-06	NA	3.1E-04	1.5E-03	3.8E-05	1.9E-03
			1,1,2-Trichloroethane	1.2E-04	4.8E-04	1.1E-05	NA	6.1E-04	Blood	1.2E+00	6.1E+00	1.1E-01	7.5E+00
			1,1-Dichloroethane	2.0E-06	1.0E-05	1.6E-07	NA	1.2E-05	NOEL	1.0E-02	3.6E-02	8.1E-04	4.7E-02
			1,2,4-Trichlorobenzene	1.8E-08	--	2.3E-08	NA	4.1E-08	Adrenal Glands	1.5E-03	7.3E-02	1.9E-03	7.6E-02
			1,2,4-Trimethylbenzene	--	--	--	NA	--	NA	4.1E-03	6.1E-01	4.6E-03	6.2E-01
			1,2-Dibromo-3-chloropropane	3.6E-04	1.8E-03	6.9E-05	NA	2.2E-03	Decreased survival	2.6E+00	1.3E+01	5.0E-01	1.6E+01
			1,2-Dichlorobenzene	--	--	--	NA	--	NOAEL	5.5E-04	4.3E-03	3.6E-04	5.2E-03
			1,2-Dichloropropane	1.0E-06	5.1E-06	1.0E-07	NA	6.2E-06	Decreased body weight	4.0E-02	2.0E-01	4.0E-03	2.4E-01
			1,3,5-Trimethylbenzene	--	--	--	NA	--	NA	6.4E-04	9.4E-02	5.2E-04	9.5E-02
			1,3-Dichlorobenzene	--	--	--	NA	--	NA	3.9E-04	1.9E-03	3.6E-04	2.7E-03
			1,4-Dichlorobenzene	1.6E-07	1.3E-06	1.1E-07	NA	1.6E-06	Liver	6.5E-04	4.2E-04	4.3E-04	1.5E-03
			2-Butanone	--	--	--	NA	--	Reduced birth weight	1.5E-02	3.2E-02	1.4E-04	4.7E-02
			2-Chlorotoluene	--	--	--	NA	--	Decreased body weight	6.2E-04	3.1E-03	7.4E-04	4.4E-03
			4-Chlorotoluene	--	--	--	NA	--	Decreased body weight	6.3E-04	3.2E-03	9.0E-05	3.9E-03
			4-Methyl-2-pentanone	--	--	--	NA	--	Reduced birth weight	2.7E-02	1.2E-02	8.4E-04	4.0E-02
			Benzene	1.8E-05	9.2E-05	2.7E-06	NA	1.1E-04	Immune system	1.3E-01	3.1E-01	2.0E-02	4.6E-01

Table 10.1.1

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			Bromochloromethane	--	--	--	NA	--	NA	--	--	--	--
			Bromodichloromethane	5.4E-07	2.7E-06	4.4E-08	NA	3.3E-06	Kidney	6.0E-04	3.0E-03	4.9E-05	3.7E-03
			Bromoform	2.1E-07	--	1.4E-08	NA	2.2E-07	Liver	3.8E-03	--	2.6E-04	4.1E-03
			Bromomethane	--	--	--	NA	--	GI	5.2E-01	2.6E+00	1.6E-02	3.1E+00
			Carbon disulfide	--	--	--	NA	--	Teratogenicity	2.6E-02	6.4E-02	4.5E-03	9.4E-02
			Carbon tetrachloride	4.4E-07	2.2E-06	1.2E-07	NA	2.7E-06	Liver	1.2E-02	6.1E-02	3.3E-03	7.7E-02
			Chlorobenzene	--	--	--	NA	--	Liver	4.8E-02	2.8E-01	1.7E-02	3.5E-01
			Chloroethane	5.4E-09	2.7E-08	3.2E-10	NA	3.3E-08	Reproductive	1.4E-05	9.6E-06	8.0E-07	2.4E-05
			Chloromethane	--	--	--	NA	--	Brain	1.0E-03	5.1E-03	3.0E-05	6.2E-03
			cis-1,2-Dichloroethene	--	--	--	NA	--	Liver	3.9E-02	2.0E-01	4.9E-03	2.4E-01
			Cyclohexane	--	--	--	NA	--	Reduced birth weight	1.0E-05	5.1E-05	1.1E-05	7.2E-05
			Dibromochloromethane	1.1E-06	5.3E-06	7.1E-08	NA	6.4E-06	Liver	1.6E-03	8.2E-03	1.1E-04	9.9E-03
			Dichlorofluoromethane (Freon 21)	--	--	--	NA	--	Decreased body weight	1.2E-03	2.1E-02	1.6E-04	2.2E-02
			Dichlorodifluoromethane (Freon 12)	--	--	--	NA	--	Decreased body weight	2.1E-04	3.7E-03	2.5E-05	4.0E-03
			Ethylbenzene	1.2E-07	4.8E-07	7.2E-08	NA	6.7E-07	Liver	3.2E-04	5.5E-04	1.9E-04	1.1E-03
			Isopropylbenzene	--	--	--	NA	--	Kidney	1.5E-04	6.6E-04	1.7E-04	9.7E-04
			Methyl tert-butyl ether (MTBE)	7.9E-08	2.0E-07	1.8E-09	NA	2.8E-07	Liver	1.5E-04	7.5E-04	3.4E-06	9.0E-04
			Methylcyclohexane	--	--	--	NA	--	Kidney	2.7E-05	1.4E-04	3.4E-05	2.0E-04
			Naphthalene	--	3.1E-06	--	NA	3.1E-06	Decreased body weight	7.6E-04	8.9E-02	5.0E-04	9.0E-02
			n-Propylbenzene	--	--	--	NA	--	NA	3.5E-04	1.8E-03	3.4E-04	2.5E-03
			p-Isopropyltoluene	--	--	--	NA	--	NA	1.3E-04	6.0E-04	2.3E-04	9.6E-04
			sec-Butylbenzene	--	--	--	NA	--	NA	2.4E-04	1.2E-03	4.0E-04	1.9E-03
			Tetrahydrofuran	4.6E-05	2.1E-04	1.2E-06	NA	2.6E-04	NA	8.5E-02	1.0E+00	2.2E-03	1.1E+00
			trans-1,2-Dichloroethene	--	--	--	NA	--	Liver	4.2E-02	2.1E-01	3.7E-03	2.6E-01
			Vinyl chloride	9.6E-06	8.7E-06	5.1E-07	NA	1.9E-05	Liver	6.2E-03	3.3E-03	3.3E-04	9.8E-03
			m,p-Xylenes	--	--	--	NA	--	Decreased body weight	1.4E-03	4.8E-02	8.9E-04	5.0E-02
			o-Xylene	--	--	--	NA	--	Decreased body weight	1.1E-03	3.8E-02	9.5E-04	4.0E-02
			Xylenes, total	--	--	--	NA	--	Decreased body weight	4.9E-03	1.7E-01	3.1E-03	1.8E-01

Table 10.1.1

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			1,1-Biphenyl	--	--	--	NA	--	Kidney	4.4E-04	2.2E-03	6.7E-04	3.3E-03
			1,2,3-Trichloropropane	2.6E-07	1.3E-06	4.0E-08	NA	1.6E-06	Blood	6.2E-05	1.3E-03	9.7E-06	1.4E-03
			2-Methylnaphthalene	--	--	--	NA	--	Lungs	1.9E-02	9.6E-02	2.6E-02	1.4E-01
			Acetophenone	--	--	--	NA	--	NOAEL	7.6E-04	--	4.8E-05	8.1E-04
			Bis(2-ethylhexyl)phthalate (DEHP)	1.5E-06	--	2.9E-06	NA	4.4E-06	Liver	1.6E-02	--	3.0E-02	4.6E-02
			Caprolactam	--	--	--	NA	--	Reproductive	2.1E-04	--	2.7E-06	2.1E-04
			Dimethyl phthalate	--	--	--	NA	--	NA	1.9E-06	--	6.8E-08	1.9E-06
			Di-n-butyl phthalate	--	--	--	NA	--	Decreased survival	2.7E-04	--	2.2E-04	4.9E-04
			Isophorone	4.4E-08	--	2.2E-09	NA	4.6E-08	Kidney	6.7E-04	--	3.4E-05	7.1E-04
			N-Nitrosodimethylamine	9.1E-05	--	2.4E-07	NA	9.1E-05	NA	6.5E-01	--	1.7E-03	6.5E-01
			Pentachlorophenol	3.4E-07	--	4.1E-06	NA	4.4E-06	Liver, Kidney	2.7E-04	--	3.3E-03	3.6E-03
			Phenanthrene	--	--	--	NA	--	NA	6.3E-05	3.2E-04	1.7E-04	5.5E-04
			Phenol	--	--	--	NA	--	Decreased body weight	9.0E-04	--	4.3E-05	9.4E-04
			Perchlorate	--	--	--	NA	--	Thyroid	1.3E-01	--	6.6E-04	1.3E-01
			Cyanide (total)	--	--	--	NA	--	Decreased body weight	4.7E-03	--	2.4E-05	4.7E-03
			Arsenic	1.2E-03	--	6.3E-06	NA	1.2E-03	Skin	1.2E+00	--	6.4E-03	1.2E+00
			Hexavalent chromium	--	--	--	NA	--	NOAEL	8.5E-02	--	8.9E-04	8.6E-02
			Nickel	--	--	--	NA	--	Decreased body weight	4.6E-02	--	4.8E-05	4.6E-02
			Chemical Total	3.3E-01	7.0E-02	1.9E-01		6.0E-01		3.1E+02	9.6E+02	1.3E+02	1.4E+03
		Exposure Point Total						6.0E-01					1.4E+03
	Exposure Medium Total							6.0E-01					1.4E+03
Receptor Total							Receptor Risk Total	6E-01				Receptor HI Total	1392

Total Liver HI Across All Media =	1.3E+03
Total Decreased Body Weight HI Across All Media =	9.6E-01
Total Kidney HI Across All Media =	5.4E-01
Total Immune System HI Across All Media =	4.6E-01
Total General HI Across All Media =	2.8E-01
Total Teratogenicity HI Across All Media =	9.4E-02
Total Thyroid HI Across All Media =	1.3E-01

Notes

NA = Not available or not applicable

Table 10.1.1

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
												Total Lungs HI Across All Media =	1.4E-01
												Total Adrenal Glands HI Across All Media =	7.6E-02
												Total Neurological HI Across All Media =	1.7E-02
												Total Brain HI Across All Media =	6.2E-03
												Total Reduced Birth Weight HI Across All Media =	8.7E-02

Table 10.1.2

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	--	--	--	NA	--	Decreased body weight	7.9E-02	5.5E-01	1.4E-02	6.5E-01
			1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	NA	--	Neurological	2.1E-03	3.7E-02	7.2E-04	4.0E-02
			1,1-Dichloroethene	--	--	--	NA	--	Liver	1.3E+00	1.7E+01	1.8E-01	1.8E+01
			1,2-Dichloroethane	1.2E-04	6.1E-04	9.4E-06	NA	7.4E-04	Decreased survival	7.8E-01	5.6E+01	6.1E-02	5.7E+01
			1,4-Dioxane (p-dioxane)	5.3E-04	--	1.9E-06	NA	5.3E-04	NA	--	--	--	--
			Acetone	--	--	--	NA	--	Kidney	1.4E-01	7.1E-01	7.1E-04	8.6E-01
			Chloroform	9.9E-05	1.3E-03	8.6E-06	NA	1.4E-03	Liver	3.7E+00	1.3E+01	3.2E-01	1.7E+01
			Methylene chloride	1.5E-04	1.9E-04	5.6E-06	NA	3.4E-04	Liver	2.1E+00	7.2E-01	7.7E-02	2.9E+00
			Tetrachloroethene	1.9E-01	3.7E-02	1.1E-01	NA	3.4E-01	Liver	4.2E+02	2.1E+03	2.4E+02	2.7E+03
			Toluene	--	--	--	NA	--	Kidney	5.7E-02	2.7E-01	1.9E-02	3.4E-01
			Trichloroethene (TCE)	9.4E-05	2.5E-04	1.6E-05	NA	3.6E-04	Liver	2.8E+02	2.5E+00	4.7E+01	3.3E+02
			Trichlorofluoromethane (Freon 11)	--	--	--	NA	--	General	7.6E-02	5.7E-01	1.4E-02	6.6E-01
			1,1,1,2-Tetrachloroethane	5.1E-07	2.6E-06	1.9E-07	NA	3.3E-06	Kidney	7.6E-03	3.8E-02	2.9E-03	4.9E-02
			1,1,2,2-Tetrachloroethane	9.9E-07	3.7E-06	1.2E-07	NA	4.8E-06	NA	7.1E-04	3.6E-03	8.6E-05	4.4E-03
			1,1,2-Trichloroethane	7.1E-05	2.8E-04	6.3E-06	NA	3.6E-04	Blood	2.9E+00	1.4E+01	2.6E-01	1.7E+01
			1,1-Dichloroethane	1.2E-06	5.9E-06	9.1E-08	NA	7.2E-06	NOEL	2.4E-02	8.5E-02	1.9E-03	1.1E-01
			1,2,4-Trichlorobenzene	1.0E-08	--	1.3E-08	NA	2.4E-08	Adrenal Glands	3.4E-03	1.7E-01	4.3E-03	1.8E-01
			1,2,4-Trimethylbenzene	--	--	--	NA	--	NA	9.6E-03	1.4E+00	1.0E-02	1.4E+00
			1,2-Dibromo-3-chloropropane	2.1E-04	1.1E-03	3.9E-05	NA	1.3E-03	Decreased survival	6.2E+00	3.1E+01	1.1E+00	3.8E+01
			1,2-Dichlorobenzene	--	--	--	NA	--	NOAEL	1.3E-03	1.0E-02	8.0E-04	1.2E-02
			1,2-Dichloropropane	6.0E-07	3.0E-06	5.7E-08	NA	3.6E-06	Decreased body weight	9.3E-02	4.6E-01	8.9E-03	5.7E-01
			1,3,5-Trimethylbenzene	--	--	--	NA	--	NA	1.5E-03	2.2E-01	1.2E-03	2.2E-01
			1,3-Dichlorobenzene	--	--	--	NA	--	NA	9.0E-04	4.5E-03	8.0E-04	6.2E-03
			1,4-Dichlorobenzene	9.3E-08	7.8E-07	6.0E-08	NA	9.3E-07	Liver	1.5E-03	9.9E-04	9.7E-04	3.5E-03
			2-Butanone	--	--	--	NA	--	Reduced birth weight	3.5E-02	7.5E-02	3.4E-04	1.1E-01
			2-Chlorotoluene	--	--	--	NA	--	Decreased body weight	1.4E-03	7.2E-03	1.7E-03	1.0E-02
			4-Chlorotoluene	--	--	--	NA	--	Decreased body weight	1.5E-03	7.4E-03	2.0E-04	9.0E-03
			4-Methyl-2-pentanone	--	--	--	NA	--	Reduced birth weight	6.2E-02	2.9E-02	2.0E-03	9.3E-02
			Benzene	1.1E-05	5.3E-05	1.6E-06	NA	6.6E-05	Immune system	3.1E-01	7.2E-01	4.7E-02	1.1E+00

Table 10.1.2
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			Bromochloromethane	--	--	--	NA	--	NA	--	--	--	--
			Bromodichloromethane	3.1E-07	1.6E-06	2.5E-08	NA	1.9E-06	Kidney	1.4E-03	7.1E-03	1.1E-04	8.6E-03
			Bromoform	1.2E-07	--	8.0E-09	NA	1.3E-07	Liver	8.9E-03	--	5.9E-04	9.5E-03
			Bromomethane	--	--	--	NA	--	GI	1.2E+00	6.0E+00	3.8E-02	7.3E+00
			Carbon disulfide	--	--	--	NA	--	Teratogenicity	6.0E-02	1.5E-01	1.1E-02	2.2E-01
			Carbon tetrachloride	2.6E-07	1.3E-06	6.6E-08	NA	1.6E-06	Liver	2.9E-02	1.4E-01	7.3E-03	1.8E-01
			Chlorobenzene	--	--	--	NA	--	Liver	1.1E-01	6.6E-01	3.8E-02	8.1E-01
			Chloroethane	3.2E-09	1.6E-08	1.9E-10	NA	1.9E-08	Reproductive	3.2E-05	2.2E-05	1.9E-06	5.6E-05
			Chloromethane	--	--	--	NA	--	Brain	2.4E-03	1.2E-02	7.3E-05	1.4E-02
			cis-1,2-Dichloroethene	--	--	--	NA	--	Liver	9.2E-02	4.6E-01	1.1E-02	5.6E-01
			Cyclohexane	--	--	--	NA	--	Reduced birth weight	2.4E-05	1.2E-04	2.4E-05	1.7E-04
			Dibromochloromethane	6.1E-07	3.1E-06	4.0E-08	NA	3.7E-06	Liver	3.8E-03	1.9E-02	2.5E-04	2.3E-02
			Dichlorofluoromethane (Freon 21)	--	--	--	NA	--	Decreased body weight	2.7E-03	4.8E-02	3.6E-04	5.1E-02
			Dichlorodifluoromethane (Freon 12)	--	--	--	NA	--	Decreased body weight	5.0E-04	8.7E-03	5.7E-05	9.3E-03
			Ethylbenzene	7.0E-08	2.8E-07	4.1E-08	NA	3.9E-07	Liver	7.4E-04	1.3E-03	4.4E-04	2.5E-03
			Isopropylbenzene	--	--	--	NA	--	Kidney	3.4E-04	1.5E-03	3.8E-04	2.3E-03
			Methyl tert-butyl ether (MTBE)	4.6E-08	1.2E-07	1.1E-09	NA	1.6E-07	Liver	3.5E-04	1.7E-03	8.1E-06	2.1E-03
			Methylcyclohexane	--	--	--	NA	--	Kidney	6.3E-05	3.2E-04	7.8E-05	4.6E-04
			Naphthalene	--	1.8E-06	--	NA	1.8E-06	Decreased body weight	1.8E-03	2.1E-01	1.1E-03	2.1E-01
			n-Propylbenzene	--	--	--	NA	--	NA	8.3E-04	4.1E-03	7.5E-04	5.7E-03
			p-Isopropyltoluene	--	--	--	NA	--	NA	3.1E-04	1.4E-03	5.2E-04	2.2E-03
			sec-Butylbenzene	--	--	--	NA	--	NA	5.7E-04	2.9E-03	9.0E-04	4.3E-03
			Tetrahydrofuran	2.7E-05	1.2E-04	7.1E-07	NA	1.5E-04	NA	2.0E-01	2.4E+00	5.2E-03	2.6E+00
			trans-1,2-Dichloroethene	--	--	--	NA	--	Liver	9.8E-02	4.9E-01	8.6E-03	6.0E-01
			Vinyl chloride	5.6E-06	5.1E-06	3.0E-07	NA	1.1E-05	Liver	1.4E-02	7.6E-03	7.8E-04	2.3E-02
			m,p-Xylenes	--	--	--	NA	--	Decreased body weight	3.2E-03	1.1E-01	2.1E-03	1.2E-01
			o-Xylene	--	--	--	NA	--	Decreased body weight	2.6E-03	8.9E-02	2.2E-03	9.4E-02
			Xylenes, total	--	--	--	NA	--	Decreased body weight	1.1E-02	3.9E-01	7.3E-03	4.1E-01

Table 10.1.2

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			1,1-Biphenyl	--	--	--	NA	--	Kidney	1.0E-03	5.1E-03	1.5E-03	7.6E-03
			1,2,3-Trichloropropane	1.5E-07	7.5E-07	2.2E-08	NA	9.2E-07	Blood	1.4E-04	3.1E-03	2.2E-05	3.3E-03
			2-Methylnaphthalene	--	--	--	NA	--	Lungs	4.5E-02	2.2E-01	5.9E-02	3.3E-01
			Acetophenone	--	--	--	NA	--	NOAEL	1.8E-03	--	1.1E-04	1.9E-03
			Bis(2-ethylhexyl)phthalate (DEHP)	8.8E-07	--	1.6E-06	NA	2.5E-06	Liver	3.7E-02	--	6.8E-02	1.0E-01
			Caprolactam	--	--	--	NA	--	Reproductive	4.9E-04	--	6.0E-06	4.9E-04
			Dimethyl phthalate	--	--	--	NA	--	NA	4.3E-06	--	1.5E-07	4.5E-06
			Di-n-butyl phthalate	--	--	--	NA	--	Decreased survival	6.4E-04	--	4.9E-04	1.1E-03
			Isophorone	2.6E-08	--	1.3E-09	NA	2.7E-08	Kidney	1.6E-03	--	7.7E-05	1.6E-03
			N-Nitrosodimethylamine	5.3E-05	--	1.4E-07	NA	5.3E-05	NA	1.5E+00	--	4.1E-03	1.5E+00
			Pentachlorophenol	2.0E-07	--	2.3E-06	NA	2.5E-06	Liver, Kidney	6.4E-04	--	7.4E-03	8.0E-03
			Phenanthrene	--	--	--	NA	--	NA	1.5E-04	7.4E-04	3.8E-04	1.3E-03
			Phenol	--	--	--	NA	--	Decreased body weight	2.1E-03	--	1.0E-04	2.2E-03
			Perchlorate	--	--	--	NA	--	Thyroid	3.0E-01	--	2.0E-03	3.0E-01
			Cyanide (total)	--	--	--	NA	--	Decreased body weight	1.1E-02	--	7.2E-05	1.1E-02
			Arsenic	7.0E-04	--	4.6E-06	NA	7.0E-04	Skin	2.9E+00	--	1.9E-02	2.9E+00
			Hexavalent chromium	--	--	--	NA	--	NOAEL	2.0E-01	--	2.6E-03	2.0E-01
			Nickel	--	--	--	NA	--	weight	1.1E-01	--	1.4E-04	1.1E-01
			Chemical Total	1.9E-01	4.1E-02	1.1E-01		3.4E-01		7.2E+02	2.2E+03	2.9E+02	3.2E+03
		Exposure Point Total						3.4E-01					3.2E+03
	Exposure Medium Total							3.4E-01					3.2E+03
Receptor Total							Receptor Risk Total	3E-01				Receptor HI Total	3236

Notes

NA = Not available or not applicable

Total Liver HI Across All Media =	3.1E+03
Total Decreased Body Weight HI Across All Media =	2.2E+00
Total Kidney HI Across All Media =	1.3E+00
Total Immune System HI Across All Media =	1.1E+00
Total General HI Across All Media =	6.6E-01
Total Teratogenicity HI Across All Media =	2.2E-01
Total Thyroid HI Across All Media =	3.0E-01

Table 10.1.2

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
												Total Lungs HI Across All Media =	3.3E-01
												Total Adrenal Glands HI Across All Media =	1.8E-01
												Total Neurological HI Across All Media =	4.0E-02
												Total Brain HI Across All Media =	1.4E-02
												Total Reduced Birth Weight HI Across All Media =	2.0E-01

Table 10.1.3

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	NA	--	Neurological	NA	NA	NA	NA
			1,1-Dichloroethene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			1,2-Dichloroethane	3.3E-04	1.7E-03	2.6E-05	NA	2.0E-03	Decreased survival	NA	NA	NA	NA
			1,4-Dioxane (p-dioxane)	1.4E-03	--	5.1E-06	NA	1.4E-03	NA	NA	NA	NA	NA
			Acetone	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Chloroform	2.7E-04	3.5E-03	2.4E-05	NA	3.8E-03	Liver	NA	NA	NA	NA
			Methylene chloride	4.0E-04	5.0E-04	1.5E-05	NA	9.2E-04	Liver	NA	NA	NA	NA
			Tetrachloroethene	5.2E-01	1.0E-01	3.0E-01	NA	9.3E-01	Liver	NA	NA	NA	NA
			Toluene	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Trichloroethene (TCE)	2.6E-04	6.9E-04	4.3E-05	NA	9.9E-04	Liver	NA	NA	NA	NA
			Trichlorofluoromethane (Freon 11)	--	--	--	NA	--	General	NA	NA	NA	NA
			1,1,1,2-Tetrachloroethane	1.4E-06	6.9E-06	5.4E-07	NA	8.9E-06	Kidney	NA	NA	NA	NA
			1,1,2,2-Tetrachloroethane	2.7E-06	1.0E-05	3.3E-07	NA	1.3E-05	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	1.9E-04	7.6E-04	1.8E-05	NA	9.7E-04	Blood	NA	NA	NA	NA
			1,1-Dichloroethane	3.2E-06	1.6E-05	2.5E-07	NA	1.9E-05	NOEI	NA	NA	NA	NA
			1,2,4-Trichlorobenzene	2.8E-08	--	3.7E-08	NA	6.5E-08	Adrenal Glands	NA	NA	NA	NA
			1,2,4-Trimethylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			1,2-Dibromo-3-chloropropane	5.7E-04	2.9E-03	1.1E-04	NA	3.5E-03	Decreased survival	NA	NA	NA	NA
			1,2-Dichlorobenzene	--	--	--	NA	--	NOAEL	NA	NA	NA	NA
			1,2-Dichloropropane	1.6E-06	8.1E-06	1.6E-07	NA	9.9E-06	Decreased body weight	NA	NA	NA	NA
			1,3,5-Trimethylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			1,3-Dichlorobenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			1,4-Dichlorobenzene	2.5E-07	2.1E-06	1.7E-07	NA	2.5E-06	Liver	NA	NA	NA	NA
			2-Butanone	--	--	--	NA	--	Reduced birth weight	NA	NA	NA	NA
			2-Chlorotoluene	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			4-Chlorotoluene	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			4-Methyl-2-pentanone	--	--	--	NA	--	Reduced birth weight	NA	NA	NA	NA
			Benzene	2.9E-05	1.4E-04	4.4E-06	NA	1.8E-04	Immune system	NA	NA	NA	NA

Table 10.1.3
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			Bromochloromethane	--	--	--	NA	--	NA	NA	NA	NA	NA
			Bromodichloromethane	8.5E-07	4.3E-06	6.9E-08	NA	5.2E-06	Kidney	NA	NA	NA	NA
			Bromoform	3.3E-07	--	2.2E-08	NA	3.5E-07	Liver	NA	NA	NA	NA
			Bromomethane	--	--	--	NA	--	GI	NA	NA	NA	NA
			Carbon disulfide	--	--	--	NA	--	Teratogenicity	NA	NA	NA	NA
			Carbon tetrachloride	7.0E-07	3.4E-06	1.8E-07	NA	4.3E-06	Liver	NA	NA	NA	NA
			Chlorobenzene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			Chloroethane	8.6E-09	4.3E-08	5.1E-10	NA	5.2E-08	Reproductive	NA	NA	NA	NA
			Chloromethane	--	--	--	NA	--	Brain	NA	NA	NA	NA
			cis-1,2-Dichloroethene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			Cyclohexane	--	--	--	NA	--	Reduced birth weight	NA	NA	NA	NA
			Dibromochloromethane	1.7E-06	8.3E-06	1.1E-07	NA	1.0E-05	Liver	NA	NA	NA	NA
			Dichlorofluoromethane (Freon 21)	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Dichlorodifluoromethane (Freon 12)	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Ethylbenzene	1.9E-07	7.5E-07	1.1E-07	NA	1.1E-06	Liver	NA	NA	NA	NA
			Isopropylbenzene	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Methyl tert-butyl ether (MTBE)	1.3E-07	3.2E-07	2.9E-09	NA	4.4E-07	Liver	NA	NA	NA	NA
			Methylcyclohexane	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			Naphthalene	--	4.9E-06	--	NA	4.9E-06	Decreased body weight	NA	NA	NA	NA
			n-Propylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			p-Isopropyltoluene	--	--	--	NA	--	NA	NA	NA	NA	NA
			sec-Butylbenzene	--	--	--	NA	--	NA	NA	NA	NA	NA
			Tetrahydrofuran	7.3E-05	3.3E-04	1.9E-06	NA	4.0E-04	NA	NA	NA	NA	NA
			trans-1,2-Dichloroethene	--	--	--	NA	--	Liver	NA	NA	NA	NA
			Vinyl chloride	1.5E-05	1.4E-05	8.1E-07	NA	3.0E-05	Liver	NA	NA	NA	NA
			m,p-Xylenes	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			o-Xylene	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Xylenes, total	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA

Table 10.1.3

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

Omega Chemical Superfund Site

Scenario Timeframe:	Current/Future
Receptor Population:	Resident
Receptor Age:	Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
			1,1-Biphenyl	--	--	--	NA	--	Kidney	NA	NA	NA	NA
			1,2,3-Trichloropropane	4.0E-07	2.0E-06	6.2E-08	NA	2.5E-06	Blood	NA	NA	NA	NA
			2-Methylnaphthalene	--	--	--	NA	--	Lungs	NA	NA	NA	NA
			Acetophenone	--	--	--	NA	--	NOAEL	NA	NA	NA	NA
			Bis(2-ethylhexyl)phthalate (DEHP)	2.4E-06	--	4.5E-06	NA	6.9E-06	Liver	NA	NA	NA	NA
			Caprolactam	--	--	--	NA	--	Reproductive	NA	NA	NA	NA
			Dimethyl phthalate	--	--	--	NA	--	NA	NA	NA	NA	NA
			Di-n-butyl phthalate	--	--	--	NA	--	Decreased survival	NA	NA	NA	NA
			Isophorone	6.9E-08	--	3.5E-09	NA	7.3E-08	Kidney	NA	NA	NA	NA
			N-Nitrosodimethylamine	1.4E-04	--	3.8E-07	NA	1.4E-04	NA	NA	NA	NA	NA
			Pentachlorophenol	5.4E-07	--	6.3E-06	NA	6.9E-06	Liver, Kidney	NA	NA	NA	NA
			Phenanthrene	--	--	--	NA	--	NA	NA	NA	NA	NA
			Phenol	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Perchlorate	--	--	--	NA	--	Thyroid	NA	NA	NA	NA
			Cyanide (total)	--	--	--	NA	--	Decreased body weight	NA	NA	NA	NA
			Arsenic	1.9E-03	--	1.1E-05	NA	1.9E-03	Skin	NA	NA	NA	NA
			Hexavalent chromium	--	--	--	NA	--	NOAEL	NA	NA	NA	NA
			Nickel	--	--	--	NA	--	weight	NA	NA	NA	NA
			Chemical Total	5.3E-01	1.1E-01	3.0E-01		9.4E-01					NA
		Exposure Point Total						9.4E-01					NA
	Exposure Medium Total							9.4E-01					NA
Receptor Total							Receptor Risk Total	9E-01				Receptor HI Total	NA

Percent Contribution Tables

Cancer Risk Percent Contribution

Percent Contribution for Contaminants in Groundwater - Cancer Risk

Omega Chemical Superfund Site

Chemical	Adult		Child		Child/Adult	
	Total Risk	% Contribution	Total Risk	% Contribution	Total Risk	% Contribution
1,1,1-Trichloroethane	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--
1,2-Dichloroethane	1.3E-03	<0.5%	7.4E-04	<0.5%	2.0E-03	<0.5%
1,4-Dioxane (p-dioxane)	9.1E-04	<0.5%	5.3E-04	<0.5%	1.4E-03	<0.5%
Acetone	--	--	--	--	--	--
Chloroform	2.4E-03	<0.5%	1.4E-03	<0.5%	3.8E-03	<0.5%
Methylene chloride	5.8E-04	<0.5%	3.4E-04	<0.5%	9.2E-04	<0.5%
Tetrachloroethene	**5.9E-01**	**98%**	**3.4E-01**	**98%**	**9.3E-01**	**98%**
Toluene	--	--	--	--	--	--
Trichloroethene (TCE)	6.2E-04	<0.5%	3.6E-04	<0.5%	9.9E-04	<0.5%
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	5.6E-06	<0.5%	3.3E-06	<0.5%	8.9E-06	<0.5%
1,1,2,2-Tetrachloroethane	8.3E-06	<0.5%	4.8E-06	<0.5%	1.3E-05	<0.5%
1,1,2-Trichloroethane	6.1E-04	<0.5%	3.6E-04	<0.5%	9.7E-04	<0.5%
1,1-Dichloroethane	1.2E-05	<0.5%	7.2E-06	<0.5%	1.9E-05	<0.5%
1,2,4-Trichlorobenzene	4.1E-08	<0.5%	2.4E-08	<0.5%	6.5E-08	<0.5%
1,2,4-Trimethylbenzene	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	2.2E-03	<0.5%	1.3E-03	<0.5%	3.5E-03	<0.5%
1,2-Dichlorobenzene	--	--	--	--	--	--
1,2-Dichloropropane	6.2E-06	<0.5%	3.6E-06	<0.5%	9.9E-06	<0.5%
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,4-Dichlorobenzene	1.6E-06	<0.5%	9.3E-07	<0.5%	2.5E-06	<0.5%
2-Butanone	--	--	--	--	--	--
2-Chlorotoluene	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	--	--
Benzene	1.1E-04	<0.5%	6.6E-05	<0.5%	1.8E-04	<0.5%
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	3.3E-06	<0.5%	1.9E-06	<0.5%	5.2E-06	<0.5%
Bromoform	2.2E-07	<0.5%	1.3E-07	<0.5%	3.5E-07	<0.5%
Bromomethane	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--
Carbon tetrachloride	2.7E-06	<0.5%	1.6E-06	<0.5%	4.3E-06	<0.5%
Chlorobenzene	--	--	--	--	--	--
Chloroethane	3.3E-08	<0.5%	1.9E-08	<0.5%	5.2E-08	<0.5%
Chloromethane	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--
Cyclohexane	--	--	--	--	--	--
Dibromochloromethane	6.4E-06	<0.5%	3.7E-06	<0.5%	1.0E-05	<0.5%
Dichlorofluoromethane (Freon 21)	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--
Ethylbenzene	6.7E-07	<0.5%	3.9E-07	<0.5%	1.1E-06	<0.5%
Isopropylbenzene	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	2.8E-07	<0.5%	1.6E-07	<0.5%	4.4E-07	<0.5%
Methylcyclohexane	--	--	--	--	--	--
Naphthalene	3.1E-06	<0.5%	1.8E-06	<0.5%	4.9E-06	<0.5%
n-Propylbenzene	--	--	--	--	--	--
p-Isopropyltoluene	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--

Percent Contribution for Contaminants in Groundwater - Cancer Risk

Omega Chemical Superfund Site

Chemical	Adult		Child		Child/Adult	
	Total Risk	% Contribution	Total Risk	% Contribution	Total Risk	% Contribution
Tetrahydrofuran	2.6E-04	<0.5%	1.5E-04	<0.5%	4.0E-04	<0.5%
trans-1,2-Dichloroethene	--	--	--	--	--	--
Vinyl chloride	1.9E-05	<0.5%	1.1E-05	<0.5%	3.0E-05	<0.5%
m,p-Xylenes	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--
Xylenes, total	--	--	--	--	--	--
1,1-Biphenyl	--	--	--	--	--	--
1,2,3-Trichloropropane	1.6E-06	<0.5%	9.2E-07	<0.5%	2.5E-06	<0.5%
2-Methylnaphthalene	--	--	--	--	--	--
Acetophenone	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate (DEHP)	4.4E-06	<0.5%	2.5E-06	<0.5%	6.9E-06	<0.5%
Caprolactam	--	--	--	--	--	--
Dimethyl phthalate	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	--	--	--	--
Isophorone	4.6E-08	<0.5%	2.7E-08	<0.5%	7.3E-08	<0.5%
N-Nitrosodimethylamine	9.1E-05	<0.5%	5.3E-05	<0.5%	1.4E-04	<0.5%
Pentachlorophenol	4.4E-06	<0.5%	2.5E-06	<0.5%	6.9E-06	<0.5%
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	--	--	--	--
Perchlorate	--	--	--	--	--	--
Cyanide (total)	--	--	--	--	--	--
Arsenic	1.2E-03	<0.5%	7.0E-04	<0.5%	1.9E-03	<0.5%
Hexavalent chromium	--	--	--	--	--	--
Nickel	--	--	--	--	--	--
Chemical Total	6.0E-01	100%	3.4E-01	100%	9.4E-01	100%

Non-cancer Hazards Percent Contribution

Percent Contribution for Contaminants in Groundwater - Non-cancer Health Hazards
Omega Chemical Superfund Site

	Adult		Child	
Chemical	**Non-cancer Hazard**	**% Contribution**	**Non-cancer Hazard**	**% Contribution**
1,1,1-Trichloroethane	2.8E-01	<0.5%	6.5E-01	<0.5%
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1.7E-02	<0.5%	4.0E-02	<0.5%
1,1-Dichloroethene	7.8E+00	<0.5%	1.8E+01	0.6%
1,2-Dichloroethane	2.4E+01	<0.5%	5.7E+01	2%
1,4-Dioxane (p-dioxane)	--	--	--	--
Acetone	3.7E-01	<0.5%	8.6E-01	<0.5%
Chloroform	7.4E+00	<0.5%	1.7E+01	0.5%
Methylene chloride	1.2E+00	<0.5%	2.9E+00	<0.5%
Tetrachloroethene	**1.2E+03**	**84%**	**2.7E+03**	**84%**
Toluene	1.5E-01	<0.5%	3.4E-01	<0.5%
Trichloroethene (TCE)	**1.4E+02**	**10%**	**3.3E+02**	**10%**
Trichlorofluoromethane (Freon 11)	2.8E-01	<0.5%	6.6E-01	<0.5%
1,1,1,2-Tetrachloroethane	2.1E-02	<0.5%	4.9E-02	<0.5%
1,1,2,2-Tetrachloroethane	1.9E-03	<0.5%	4.4E-03	<0.5%
1,1,2-Trichloroethane	7.5E+00	<0.5%	1.7E+01	0.5%
1,1-Dichloroethane	4.7E-02	<0.5%	1.1E-01	<0.5%
1,2,4-Trichlorobenzene	7.6E-02	<0.5%	1.8E-01	<0.5%
1,2,4-Trimethylbenzene	6.2E-01	<0.5%	1.4E+00	<0.5%
1,2-Dibromo-3-chloropropane	1.6E+01	<0.5%	3.8E+01	1%
1,2-Dichlorobenzene	5.2E-03	<0.5%	1.2E-02	<0.5%
1,2-Dichloropropane	2.4E-01	<0.5%	5.7E-01	<0.5%
1,3,5-Trimethylbenzene	9.5E-02	<0.5%	2.2E-01	<0.5%
1,3-Dichlorobenzene	2.7E-03	<0.5%	6.2E-03	<0.5%
1,4-Dichlorobenzene	1.5E-03	<0.5%	3.5E-03	<0.5%
2-Butanone	4.7E-02	<0.5%	1.1E-01	<0.5%
2-Chlorotoluene	4.4E-03	<0.5%	1.0E-02	<0.5%
4-Chlorotoluene	3.9E-03	<0.5%	9.0E-03	<0.5%
4-Methyl-2-pentanone	4.0E-02	<0.5%	9.3E-02	<0.5%
Benzene	4.6E-01	<0.5%	1.1E+00	<0.5%
Bromochloromethane	--	--	--	--
Bromodichloromethane	3.7E-03	<0.5%	8.6E-03	<0.5%
Bromoform	4.1E-03	<0.5%	9.5E-03	<0.5%
Bromomethane	3.1E+00	<0.5%	7.3E+00	<0.5%
Carbon disulfide	9.4E-02	<0.5%	2.2E-01	<0.5%
Carbon tetrachloride	7.7E-02	<0.5%	1.8E-01	<0.5%
Chlorobenzene	3.5E-01	<0.5%	8.1E-01	<0.5%
Chloroethane	2.4E-05	<0.5%	5.6E-05	<0.5%
Chloromethane	6.2E-03	<0.5%	1.4E-02	<0.5%
cis-1,2-Dichloroethene	2.4E-01	<0.5%	5.6E-01	<0.5%
Cyclohexane	7.2E-05	<0.5%	1.7E-04	<0.5%
Dibromochloromethane	9.9E-03	<0.5%	2.3E-02	<0.5%
Dichlorofluoromethane (Freon 21)	2.2E-02	<0.5%	5.1E-02	<0.5%
Dichlorodifluoromethane (Freon 12)	4.0E-03	<0.5%	9.3E-03	<0.5%
Ethylbenzene	1.1E-03	<0.5%	2.5E-03	<0.5%
Isopropylbenzene	9.7E-04	<0.5%	2.3E-03	<0.5%
Methyl tert-butyl ether (MTBE)	9.0E-04	<0.5%	2.1E-03	<0.5%
Methylcyclohexane	2.0E-04	<0.5%	4.6E-04	<0.5%
Naphthalene	9.0E-02	<0.5%	2.1E-01	<0.5%
n-Propylbenzene	2.5E-03	<0.5%	5.7E-03	<0.5%
p-Isopropyltoluene	9.6E-04	<0.5%	2.2E-03	<0.5%
sec-Butylbenzene	1.9E-03	<0.5%	4.3E-03	<0.5%

Percent Contribution for Contaminants in Groundwater - Non-cancer Health Hazards
Omega Chemical Superfund Site

	Adult		Child	
Chemical	Non-cancer Hazard	% Contribution	Non-cancer Hazard	% Contribution
Tetrahydrofuran	1.1E+00	<0.5%	2.6E+00	<0.5%
trans-1,2-Dichloroethene	2.6E-01	<0.5%	6.0E-01	<0.5%
Vinyl chloride	9.8E-03	<0.5%	2.3E-02	<0.5%
m,p-Xylenes	5.0E-02	<0.5%	1.2E-01	<0.5%
o-Xylene	4.0E-02	<0.5%	9.4E-02	<0.5%
Xylenes, total	1.8E-01	<0.5%	4.1E-01	<0.5%
1,1-Biphenyl	3.3E-03	<0.5%	7.6E-03	<0.5%
1,2,3-Trichloropropane	1.4E-03	<0.5%	3.3E-03	<0.5%
2-Methylnaphthalene	1.4E-01	<0.5%	3.3E-01	<0.5%
Acetophenone	8.1E-04	<0.5%	1.9E-03	<0.5%
Bis(2-ethylhexyl)phthalate (DEHP)	4.6E-02	<0.5%	1.0E-01	<0.5%
Caprolactam	2.1E-04	<0.5%	4.9E-04	<0.5%
Dimethyl phthalate	1.9E-06	<0.5%	4.5E-06	<0.5%
Di-n-butyl phthalate	4.9E-04	<0.5%	1.1E-03	<0.5%
Isophorone	7.1E-04	<0.5%	1.6E-03	<0.5%
N-Nitrosodimethylamine	6.5E-01	<0.5%	1.5E+00	<0.5%
Pentachlorophenol	3.6E-03	<0.5%	8.0E-03	<0.5%
Phenanthrene	5.5E-04	<0.5%	1.3E-03	<0.5%
Phenol	9.4E-04	<0.5%	2.2E-03	<0.5%
Perchlorate	1.3E-01	<0.5%	3.0E-01	<0.5%
Cyanide (total)	4.7E-03	<0.5%	1.1E-02	<0.5%
Arsenic	1.2E+00	<0.5%	2.9E+00	<0.5%
Hexavalent chromium	8.6E-02	<0.5%	2.0E-01	<0.5%
Nickel	4.6E-02	<0.5%	1.1E-01	<0.5%
Chemical Total	1392	100%	3.2E+03	100%

Groundwater Monitoring Well Data

OU2 Groundwater Data

Groundwater Data for Operable Unit 2 (OU2)
Baseline Human Health Risk Assessment
Omega Chemical Superfund Site

Location	Sample Name	Date Sampled	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene
		Region 9 PRG:	*0.43 ca*	*3200 nc*	*0.055 ca*	*59,000 nc*	*0.2 ca*	*810 nc/ CalEPA 2.0 ca*	*340 nc*			*7.2 nc*	*12 nc*	*0.048 ca/ CalEPA 0.0016 ca*	*0.0056 ca*	*370 nc*	*0.12 ca*	*0.16 ca*	*12 nc*
		EPA MCL:		*200*			*5*		*7*			*70*		*0.2*		*600*	*5*	*5*	
		CalDPH MCL/NL/AL:		*200*	*1*	*1,200*	*5*	*5*	*6*			*5*	*330 NL*	*0.2*		*600*	*0.5*	*5*	*330 NL*
MW2	OC2-MW2A-W-0-4	02-Mar-04	--	2 J	<0.5 J	790 J	0.54 J	2.7 J	690 J	--	<0.50	<0.50	--	<0.5 J	<0.50	<0.50	12 J	<0.5 J	--
	OC2-MW2A-W-0-40	22-Jun-04	--	<2.50	<2.50	320	<2.50	2.2 J	260	--	<2.50	<2.50	--	<2.50	<2.50	<2.50	9.1	<2.50	--
	OC2-MW2A-W-0-64	14-Sep-04	--	<2.50	<2.50	800 J	<2.50	1.4 J	550	--	<2.50	<2.50	--	<2.5 J	<2.50	<2.50	5.1	<2.50	--
	OC2-MW2A-W-0-106	08-Dec-04	--	<2.00	<2.00	600	<2.00	<2.00	370	--	<2.00	<2.00	--	<2 R	<2.00	<2.00	5.1	<2.00	--
	OC2-MW2-W-0-126	02-Mar-05	--	<21.0	<21.0	500	<21.0	<21 J	600	--	<21.0	<21.0	--	<21.0	<21.0	<21.0	<21.0	<21.0	--
	OC2-MW2-W-0-149	02-Sep-05	--	0.53	<0.50	350	<0.50	2.2 J	400	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	10	<0.50	--
	OC2-MW2-W-0-174	08-Mar-06	<0.50	1.2	<0.50	630	1.2	4.6	840	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	25	<0.50	<0.50
	OC2-MW2-W-0-251	07-Sep-06	<0.50	1.3	<0.50	660	1.3	4.4	750	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	0.2 J	24	<0.50	<0.50
MW4A	OC2-MW4A-W-0-5	03-Mar-04	--	2.2	<0.50	840 J	0.35 J	2.5 J	740	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	2.6	<0.50	--
	OC2-MW4A-W-1-6	03-Mar-04	--	2.3	<0.50	680 J	0.39 J	2.6 J	700	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	2.7	<0.50	--
	OC2-MW4A-W-0-36	21-Jun-04	--	<5.00	<5.00	280	<5.00	2.5 J	350	--	<5.00	<5.00	--	<5.00	<5.00	<5.00	1.7 J	<5.00	--
	OC2-MW4A-W-1-37	21-Jun-04	--	<5.00	<5.00	490	<5.00	2.8 J	450	--	<5.00	<5.00	--	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC2-MW4A-W-0-58	13-Sep-04	--	<5.00	<5.00	750 J	<5.00	<5.00	770	--	<5.00	<5.00	--	<5 J	<5.00	<5.00	<5.00	<5.00	--
	OC2-MW4A-W-0-92	06-Dec-04	--	<5.00	<5.00	440 J	<5.00	<5.00	400 J	--	<5.00	<5.00	--	<5 R	<5.00	<5.00	<5.00	<5.00	--
	OC2-MW4A-W-0-116	28-Feb-05	--	0.97	<0.50	450	0.24 J	1.8 J	460	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	2.3	<0.50	--
	OC2-MW4A-W-1-112	28-Feb-05	--	0.87	<0.50	820	0.22 J	1.6 J	780	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	2	<0.50	--
	OC2-MW4A-W-0-135	30-Aug-05	--	0.72	<0.50	410	0.21 J	1.4 J	380	--	<0.5 J	<0.50	--	<0.50	<0.50	<0.50	2.1	<0.50	--
	OC2-MW4A-W-0-163	07-Mar-06	<0.50	0.7	<0.50	510	<0.50	1.6	550	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	2.1	<0.50	<0.50
	OC2-MW4A-W-5-217	29-Aug-06	<0.50	0.6	<0.50	680	0.2 J	1.4	610	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	2.2	<0.50	<0.50
MW4B	OC2-MW4B-W-0-7	03-Mar-04	--	3.3	<0.50	1,300 J	0.49 J	3.2 J	1,200	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	5.4	<0.50	--
	OC2-MW4B-W-0-38	21-Jun-04	--	<5.00	<5.00	430	<5.00	<5.00	360	--	<5.00	<5.00	--	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC2-MW4B-W-0-59	13-Sep-04	--	<5.00	<5.00	820	<5.00	<5.00	660	--	<5.00	<5.00	--	<5 J	<5.00	<5.00	2.9 J	<5.00	--
	OC2-MW4B-W-1-60	13-Sep-04	--	<5.00	<5.00	730 J	<5.00	<5.00	600	--	<5.00	<5.00	--	<5 J	<5.00	<5.00	2.4 J	<5.00	--
	OC2-MW4B-W-0-93	06-Dec-04	--	<5.00	<5.00	420 J	<5.00	<5.00	340 J	--	<5.00	<5.00	--	<5 R	<5.00	<5.00	<5.00	<5.00	--
	OC2-MW4B-W-1-94	06-Dec-04	--	<2.00	<2.00	500 J	<2.00	<2.00	390 J	--	<2.00	<2.00	--	<2 R	<2.00	<2.00	<2.00	<2.00	--
	OC2-MW4B-W-5-113	28-Feb-05	--	0.54	<0.50	190	0.12 J	0.92 J	190	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	1.5	<0.50	--
	OC2-MW4B-W-0-134	30-Aug-05	--	0.26 J	<0.5 R	240 J	<0.5 R	0.52 J	190 J	--	<0.5 R	<0.5 R	--	<0.5 R	<0.5 R	<0.5 R	1.1 J	<0.5 R	--
	OC2-MW4B-W-0-164	07-Mar-06	<0.50	0.2 J	<0.50	170	<0.50	0.4 J	140	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	1.4	<0.50	<0.50
	OC2-MW4B-W-0-215	29-Aug-06	<0.50	0.7	<0.50	920	0.2 J	1.4	800	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	3.7	<0.50	<0.50
	OC2-MW4B-W-1-216	29-Aug-06	<0.50	0.7	<0.50	930	0.2 J	1.5	790	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	3.7	<0.50	<0.50
MW5	OC2-MW5A-W-0-9	03-Mar-04	--	3	<0.50	1,100 J	0.75	4.3 J	1,100	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	17	<0.50	--
	OC2-MW5A-W-0-41	22-Jun-04	--	<2.50	<2.50	310	<2.50	2.8 J	280	--	<2.50	<2.50	--	<2.50	<2.50	<2.50	12	<2.50	--
	OC2-MW5A-W-0-66	14-Sep-04	--	0.99 J	<5.00	930 J	<5.00	<5.00	820	--	<5.00	<5.00	--	<5 J	<5.00	<5.00	7.4	<5.00	--
	OC2-MW5A-W-0-97	06-Dec-04	--	<4.00	<4.00	290	<4.00	<4.00	250	--	<4.00	<4.00	--	<4 R	<4.00	<4.00	7	<4.00	--
	OC2-MW5-W-0-117	28-Feb-05	--	1.6	<0.50	1,300	0.66	3.7 J	1,400	--	<0.50	<0.50	--	<0.50	<0.50	<0.50	14	<0.50	--
	OC2-MW5-W-5-139	30-Aug-05	--	0.75	<0.5 J	190	0.26 J	1.9 J	300	--	<0.50	<0.50	--	<0.5 J	<0.50	<0.50	5.9	<0.50	--
	OC2-MW5-W-0-167	07-Mar-06	<0.50	0.5	<0.50	470	0.5	2.1	420	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	9.1	<0.50	<0.50
	OC2-MW5-W-1-168	07-Mar-06	<0.50	0.5	<0.50	460	0.5	2.2	410	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	9	<0.50	<0.50
	OC2-MW5-W-0-218	29-Aug-06	<0.50	0.7	<0.50	600	0.9	2.6	560	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	18	<0.50	<0.50
MW14	OC2-MW14-W-0-206	07-Jul-06	<0.50	0.2 J	<0.50	290	<0.50	0.4 J	200	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	2.1	<0.50	<0.50
	OC2-MW14-W-0-263	11-Sep-06	<10.0	<10.0	<10.0	380	<10.0	<10.0	210	<10.0	<10.0	<10.0	<10.0	<40.0	<10.0	<10.0	<10.0	<10.0	<10.0
MW15	OC2-MW15-W-0-198	15-Mar-06	<0.50	2	<0.50	1,400	0.7	5.2	2,000	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	17	<0.50	<0.50
	OC2-MW15-W-1-199	15-Mar-06	<0.50	1.7	<0.50	910	0.8	4.4	1,000	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	17	<0.50	<0.50
	OC2-MW15-W-0-219	29-Aug-06	<0.50	1	<0.50	1,300	0.6	2.3	1,200	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	11	<0.50	<0.50
MW23C	OC2-MW23C-W-0-195	14-Mar-06	<0.50	0.7	<0.50	580	0.5	2.3	450	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	11	<0.50	<0.50
	OC2-MW23C-W-0-261	11-Sep-06	<0.50	0.5	<0.50	790	0.2 J	2.1	600	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	6.4	<0.50	<0.50
	OC2-MW23C-W-1-262	11-Sep-06	<0.50	0.4 J	<0.50	350	0.3 J	1.6	270	<0.50	<0.50	<0.50	<0.50	<1 J	<0.50	<0.50	<0.50	<0.50	<0.50
OW1A	OC1-OW1-W-0-3	24-Feb-04	8.9 J	6,900	<0.5	370 J	<0.5	51	<1500	<0.5	<0.5	<0.5	<0.5	<1	<0.5	6.4	18	<0.5	<0.5
	OC-GW-OW1-022404	24-Feb-04	12	9,600	<1.00	380 J	0.58 J	52	2,100	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	7	22	<1.00	<1.00
	OC2-OW1A-W-0-34	17-Jun-04	--	6,800	<1000	<1000	<1000	<1000	1,600	--	<1000	<1000	--	<1000	<1000	<1000	<1000	<1000	--
	OC1-OW1-W-0-23	27-Aug-04	6.7 J	6,400	<0.50	180	<0.50	54	2,100 J	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	4.3	17	<0.50	<0.50
	OC-GW-OW1-082704	27-Aug-04	<400	8,500	<400	<2000	<400	<400	1,900	<400	<400	<400	<400	<2000	<400	<400	<200	<400	<400
	OC-GW-OW1k-082704	27-Aug-04	5.3	12,000	<1.00	150	0.35 J	45	2,000	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	3.8	12	<1.00	<1.00
	OC2-OW1A-W-0-90	08-Dec-04	--	6,900	<1000	370 J	2,000	<1000	1,900	--	<1000	<1000	--	<1000 R	<1000	<1000	<1000	<1000	--
	OC-GW-OW1-022505	25-Feb-05	5	6,500	<1.00	94	<1.00	41	1,300	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	5.3	7.2	<1.00	<1.00
	OC1-OW1-W-0-47	24-Aug-05	<50.0	5,500	<50.0	170	<50.0	62	2,100	<50.0	<50.0	<50.0	<50.0	<200	<50.0	<50.0	<50.0	<50.0	<50.0
	OC-GW-OW1-082405	24-Aug-05	16	14,000	<5.00	160	<5.00	67	5,100	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	4.6 J	39	<5.00	<5.00
	OC-GW-OW1-02206	22-Feb-06	<200	4,600	<200	<1000	<200	<200	1,500	<200	<200	<200	<200	<1000	<200	<200	<100	<200	<200
	OW-1	13-Mar-06	<630	3,700	<630	<6300	<630	<630	1,500	<630	<630	<630	<630	<630	<630	<630	<630	<630	<630
	OW-GW-OW-1-082406	24-Aug-06	22	3,200	0.67 J	140	<1.00	48	1,000	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	4.2	25	<1.00	<1.00
OW2	OC1-OW2-W-0-1	24-Feb-04	<0.5	5.5	<0.5	400	<0.5	3.5	680	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.5	<0.5
	OC1-OW2-W-5-2	24-Feb-04	<0.5	5	<0.5	460 J	<0.5	3.4	910	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.2	<0.5	<0.5
	OC-GW-OW2-022404	24-Feb-04	<5.00	4.2 J	<5.00	420	<5.00	2.5 J	930	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	<5.00	<2.50	<5.00	<5.00
	OC2-OW2-W-0-32	17-Jun-04	--	<20.0	<20.0	600	<20.0	<20.0	1,900	--	<20.0	<20.0	--	<20.0	<20.0	<20.0	<20.0	<20.0	--
	OC-GW-OW2-082404	24-Aug-04	<10.0	3.3 J	<10.0	670	<10.0	2.9 J	1,000	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<5.00	<10.0	<10.0
	OC2-OW2-W-0-89	02-Dec-04	--	<10.0	<10.0	320	<10.0	<10.0	330	--	<10.0	<10.0	--	<10 R	<10.0	<10.0	<10.0	<10.0	--
	OC-GW-OW2-022405	24-Feb-05	<10.0	<10.0	<10.0	1,100	<10.0	3.9 J	970	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<5.00	<10.0	<10.0
	OC-GW-OW2-082405	24-Aug-05	<5.00	2.6 J	<5.00	1,300	<5.00	5	720	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	<5.00	<2.50	<5.00	<5.00
	OC-GW-OW2-02206	22-Feb-06	<10.0	5 J	<10.0	1,200	<10.0	12	1,900	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<5.00	<10.0	<10.0
	OC-GW-OW-2-082206	22-Aug-06	<5.00	<5.00	<5.00	1,400	<5.00	2.2 J	300	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	<5.00	<2.50	<5.00	<5.00
OW3	OC1-OW3-W-0-4	25-Feb-04	<10	11 J	<10	330	<10	<10	1,800	<10	<10	<10	<10	<20	<10	<10	<5	<10	<10
	OC-GW-OW3-022504	25-Feb-04	<10.0	11	<10.0	390	<10.0	2.8 J	1,500	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<5.00	<10.0	<10.0
	OC2-OW3-W-0-30	17-Jun-04	--	<10.0	<10.0	410	<10.0	<10.0	1,400	--	<10.0	<10.0	--	<10.0	<10.0	<10.0	<10.0	<10.0	--
	OC2-OW3-W-1-31	17-Jun-04	--	<10.0	<10.0	360	<10.0	<10.0	1,400	--	<10.0	<10.0	--	<10.0	<10.0	<10.0	<10.0	<10.0	--
	OC-GW-OW3-082404	24-Aug-04	<5.00	7.4	<5.00	340	<5.00	2.6 J	1,200	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	<5.00	<2.50	<5.00	<5.00
	OC2-OW3-W-0-85	01-Dec-04	--	2.9 J	<5.00	190	<5.00	<5.00	350	--	<5.00	<5.00	--	<5 R	<5.00	<5.00	<5.00	<5.00	--
	OC-GW-OW3-022305	23-Feb-05	<1.00	6	<1.00	370	<1.00	3	1,400	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<0.50	<1.00	<1.00
	OC-GW-OW3-082405	24-Aug-05	<1.00	4.2	<1.00	380	<1.00	3.4	1,600	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	0.29 J	<1.00	<1.00
	OC1-OW3-W-0-60	21-Feb-06	<0.50	4.9	<0.50	230	<0.50	3.7	1,300	<0.50	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	<0.50	<0.50	<0.50
	OC-GW-OW3-02106	21-Feb-06	<5.00	5.2	<5.00	280	<5.00	4.5 J	1,200	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	<5.00	<2.50	<5.00	<5.00
	OW-GW-OW-3-082306	23-Aug-06	<1.00	2.5	<1.00	200	<1.00	2.8	630	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<0.50	<1.00	<1.00
OW4A	OC-GW-OW4A-022704	27-Feb-04	<1.00	<1.00	<1.00	11	<1.00	<1.00	14	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<0.50	<1.00	<1.00
	OC2-MW4A-W-0-25	15-Jun-04	--	<2.50	<2.50	120	<2.50	<2.50	110	--	<2.50	<2.50	--	<2.50	<2.50	<2.50	<2.50	1.6 J	--
	OC-GW-OW4a-082504	25-Aug-04	<1.00	0.3 J	<1.00	230	<1.00	<1.00	140	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	0.45 J	<1.00	<1.00
	OC-GW-OW4ak-082504	25-Aug-04	<1.00	0.32 J	<1.00	230	<1.00	<1.00	130	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	0.43 J	<1.00	<1.00
	OC2-OW4A-W-0-81	30-Nov-04	--	<0.50	<0.50	62	<0.50	<0.50	62	--	<0.5 J	<0.5 J	--	<0.5 R	<0.50	<0.50	0.27 J	<0.50	--
	OC-GW-OW4A-022505	25-Feb-05	<1.00	<1.00	<1.00	310	<1.00	<1.00	110	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<0.50	<1.00	<1.00
	OC-GW-OW4a-082505	25-Aug-05	<1.00	0.46 J	<1.00	360	<1.00	0.45 J	260	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	1.9	<1.00	<1.00
	OC-GW-OW4A-02206	22-Feb-06	<1.00	<1.00	<1.00	91	<1.00	0.37 J	140	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	1.5	<1.00	<1.00
	OW-GW-OW-4A-082306	23-Aug-06	<1.00	<1.00	<1.00	110	<1.00	0.55 J	120	<1.00	<1.00	<1.00	<1.00	5.5	<1.00	<1.00	2.7	<1.00	<1.00
OW5	OC-GW-OW5-022404	24-Feb-04	<1.00	3.1	<1.00	450	0.91 J	3.8	390	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	26	<1.00	<1.00
	OC2-OW5-W-5-26	16-Jun-04	--	<10.0	<10.0	1,100	<10.0	10	1,400 J	--	<10.0	<10.0	--	<10.0	<10.0	<10.0	55	<10.0	--
	OC-GW-OW5-082504	25-Aug-04	<1.00	2.6	<1.00	900	1.2	5.1	910	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	33	<1.00	<1.00
	OC2-OW5-W-0-86	02-Dec-04	--	0.46 J	<2.50	84	<2.50	<2.50	150	--	<2.50	<2.50	--	<2.5 R	<2.50	<2.50	8	<2.50	--
	OC2-OW5-W-1-87	02-Dec-04	--	<2.50	<2.50	100	<2.5 J	<2.50	160	--	<2.50	<2.50	--	<2.5 R	<2.5 J	<2.50	8.1	<2.50	--
	OC-GW-OW5-022405	24-Feb-05	<1.00	0.38 J	<1.00	240	<1.00	0.69 J	130	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	3.7	<1.00	<1.00
	OC-GW-OW5-082305	22-Aug-05	<5.00	2.8 J	<5.00	930	1.8 J	9.2	1,100	<5.00	<5.00	<5.00	<5.00	<25.0	<5.00	<5.00	53	<5.00	<5.00
	OC-GW-OW5-021706	17-Feb-06	<1.00	1.8	<1.00	950	1.3	7.8	930	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	33	<1.00	<1.00
	OW-GW-OW-5-082406	24-Aug-06	<1.00	1.2	<1.00	750	1.7	6.2	630	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	33	<1.00	<1.00
OW8A	OC-GW-OW8-022404	24-Feb-04	<50.0	35 J	<50.0	2,200	52	56	1,400	<50.0	<50.0	<50.0	<50.0	<250	<50.0	<50.0	350	<50.0	<50.0
	OC2-OW8-W-0-29	16-Jun-04	--	45 J	<50.0	2,800	150	120	1,300	--	<50.0	<50.0	--	<50.0	<50.0	<50.0	730	<50.0	--
	OC-GW-OW8-082404	24-Aug-04	<100	51 J	<100	2,200	130	110	1,300	<100	<100	<100	<100	<500	<100	<100	780	<100	<100
	OC2-OW8-W-0-91	03-Dec-04	--	<100	<100	1,700 J	130	110	2,200 J	--	<100	<100	--	<100 R	<100	<100	690	<100	--
	OC1-OW8A-W-0-40	23-Feb-05	<2.50	450	<2.50	1,100	120	120	1,600	<2.50	<2.50	<2.50	37	<10.0	<2.50	25	1,000	<2.50	8.3
	OC-GW-OW8-022305	23-Feb-05	1.4	400 J	<1.00	2,500	94	130	2,200	<1.00	<1.00	<1.00	52	<5.00	<1.00	39	1,100	<1.00	13
	OC-GW-OW8-K-022305	23-Feb-05	<200	420	<200	2,500	82 J	150 J	2,200	<200	<200	<200	52 J	<1000	<200	<200	1,300	<200	<200
	OC1-OW8A-W-0-48	24-Aug-05	<50.0	390	<50.0	1,600	40 J	120	2,400	<50.0	<50.0	<50.0	<50.0	<200	<50.0	26 J	970	<50.0	<50.0
	OC-GW-OW8a-082405	24-Aug-05	<1.00	450	<1.00	2,400	49	92	2,700	<1.00	<1.00	<1.00	23	<5.00	<1.00	24	1,200	<1.00	5.6
	OC-GW-OW8a-K-082405	24-Aug-05	<1.00	430	<1.00	2,000	55	110	2,500	<1.00	<1.00	0.53 J	25	<5.00	<1.00	28	1,200	<1.00	6.4
	OC1-OW8A-W-5-59	21-Feb-06	<0.50	--	<0.50	1,800	110	94	930	<0.50	<0.50	<0.50	16 J	<2.00	<0.50	8.5	570	<0.50	3.2 J
	OC-GW-OW8-022106	21-Feb-06	<100	50 J	<100	2,200	110	120	1,100	<100	<100	<100	<100	<500	<100	<100	720	<100	<100
	OC-GW-OW8K-022106	21-Feb-06	<50.0	38 J	<50.0	2,200	96	99	1,000	<50.0	<50.0	<50.0	<50.0	<250	<50.0	<50.0	640	<50.0	<50.0
	OW-8	13-Mar-06	<200	<200	<200	<2000	<200	<200	860	<200	<200	<200	<200	<200	<200	<200	450	<200	<200
	OW-GW-OW-8-082406	24-Aug-06	3	17	<1.00	1,700	43	41	450	<1.00	<1.00	<1.00	4.2	<5.00	<1.00	3.3	210	<1.00	0.96 J
	OW-GW-OW-8K-082406	24-Aug-06	0.58 J	21	<1.00	1,800	35	43	370	<1.00	<1.00	<1.00	3.2	<5.00	<1.00	2.7	230	<1.00	0.67 J

Groundwater Data for Operable Unit 2 (OU2)
Baseline Human Health Risk Assessment
Omega Chemical Superfund Site

Location	Sample Name	Date Sampled	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-dichloropropane	2-Butanone	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide
		Region 9 PRG:	*180 nc*	*120 nc*	*0.5 ca*		*7,000 nc*	*120 nc*				*5,500 nc*	*0.35 ca*	*20 nc*		*0.18 ca*	*8.5 ca*	*8.7 nc*	*1000 nc*
		EPA MCL:			*75*								*5*			*80*	*80*		
		CalDPH MCL/NL/AL:			*5*			*140 NL*		*140 NL*			*1*						*160 NL*
MW2	OC2-MW2A-W-0-4	02-Mar-04	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	<5.00	0.99 J	--	<0.50	<0.5 J	<0.50	<0.5 R	<0.5 R
	OC2-MW2A-W-0-40	22-Jun-04	<2.50	--	<2.50	--	<25.0	--	<25.0	--	<25.0	<25.0	0.74 J	--	<2.50	<2.50	<2.50	<2.50	<2.50
	OC2-MW2A-W-0-64	14-Sep-04	<2.50	--	<2.50	--	<25 J	--	<25 J	--	<25.0	<25 J	<2.5 J	--	<2.50	<2.50	<2.50	<2.5 J	<2.50
	OC2-MW2A-W-0-106	08-Dec-04	<2.00	--	<2.00	--	<20.0	--	<20.0	--	<20.0	88	0.48 J	--	<2.00	<2.00	<2.00	<2.00	<2.00
	OC2-MW2-W-0-126	02-Mar-05	<21.0	--	<21.0	--	<210	--	<210	--	<210	<210	<21.0	--	<21.0	<21.0	<21.0	<21.0	<21 J
	OC2-MW2-W-0-149	02-Sep-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	29	0.3 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW2-W-0-174	08-Mar-06	<0.50	<0.50	<0.50	<0.50	<4 J	<0.50	--	<0.50	--	<2 J	0.4 J	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW2-W-0-251	07-Sep-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.4 J	<0.50	<0.50	<0.50	<0.50	<0.2 J	<0.50
MW4A	OC2-MW4A-W-0-5	03-Mar-04	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	120	0.58	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4A-W-1-6	03-Mar-04	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	120	0.64	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4A-W-0-36	21-Jun-04	<5.00	--	<5.00	--	<50.0	--	<50.0	--	<50.0	<50.0	0.57 J	--	<5.00	<5.00	<5.00	<5.00	<5.00
	OC2-MW4A-W-1-37	21-Jun-04	<5.00	--	<5.00	--	<50.0	--	<50.0	--	<50.0	<50.0	0.64 J	--	<5.00	<5.00	<5.00	<5.00	<5.00
	OC2-MW4A-W-0-58	13-Sep-04	<5.00	--	<5.00	--	<50 J	--	<50 J	--	<50.0	<50 J	<5 J	--	<5.00	<5.00	<5.00	<5 J	<5.00
	OC2-MW4A-W-0-92	06-Dec-04	<5.00	--	<5.00	--	<50.0	--	<50.0	--	<50.0	97	<5.00	--	<5.00	<5.00	<5.00	<5.00	<5.00
	OC2-MW4A-W-0-116	28-Feb-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	<5 J	0.27 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4A-W-1-112	28-Feb-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	<5 J	0.26 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4A-W-0-135	30-Aug-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	48	0.24 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4A-W-0-163	07-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4 J	0.2 J	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW4A-W-5-217	29-Aug-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.2 J	<0.50	<0.50	<0.50	<0.2 J	<0.50	<0.50
MW4B	OC2-MW4B-W-0-7	03-Mar-04	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	180 J	0.64	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4B-W-0-38	21-Jun-04	<5.00	--	<5.00	--	<50.0	--	<50.0	--	<50.0	<50.0	0.68 J	--	<5.00	<5.00	<5.00	<5.00	<5.00
	OC2-MW4B-W-0-59	13-Sep-04	<5.00	--	<5.00	--	<50 J	--	<50 J	--	<50.0	<50 J	<5.00	--	<5.00	<5.00	<5.00	<5 J	<5.00
	OC2-MW4B-W-1-60	13-Sep-04	<5.00	--	<5.00	--	<7.6 J	--	<50 J	--	<50.0	<50 J	<5.00	--	<5.00	<5.00	<5.00	<5 J	<5.00
	OC2-MW4B-W-0-93	06-Dec-04	<5.00	--	<5.00	--	<50.0	--	<50.0	--	<50.0	80	<5.00	--	<5.00	<5.00	<5.00	<5.00	<5.00
	OC2-MW4B-W-1-94	06-Dec-04	<2.00	--	<2.00	--	<20.0	--	<20.0	--	<20.0	72	<2.00	--	<2.00	<2.00	<2.00	<2.00	<2.00
	OC2-MW4B-W-5-113	28-Feb-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	<5 J	0.17 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW4B-W-0-134	30-Aug-05	<0.5 R	--	<0.5 R	--	<5 R	--	<5 R	--	<5 R	20 J	0.14 J	--	<0.5 R	<0.5 R	<0.5 R	<0.5 R	<0.5 R
	OC2-MW4B-W-0-164	07-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4 J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW4B-W-0-215	29-Aug-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.2 J	<0.50	<0.50	<0.50	<0.2 J	<0.50	<0.50
	OC2-MW4B-W-1-216	29-Aug-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.2 J	<0.50	<0.50	<0.50	<0.2 J	<0.50	<0.50
MW5	OC2-MW5A-W-0-9	03-Mar-04	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	<5.00	0.85	--	<0.50	<0.50	<0.50	<0.5 J	<0.5 J
	OC2-MW5A-W-0-41	22-Jun-04	<2.50	--	<2.50	--	<25.0	--	<25.0	--	<25.0	<25.0	<25 J	--	<2.50	<2.50	<2.50	<2.50	<2.50
	OC2-MW5A-W-0-66	14-Sep-04	<5.00	--	<5.00	--	<50 J	--	<50 J	--	<50.0	<50 J	<5.00	--	<5.00	<5.00	<5.00	<5 J	<5.00
	OC2-MW5A-W-0-97	06-Dec-04	<4.00	--	<4.00	--	<40.0	--	<40.0	--	<40.0	130	<4.00	--	<4.00	<4.00	<4.00	<4.00	<4.00
	OC2-MW5-W-0-117	28-Feb-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	<5 J	0.5	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW5-W-5-139	30-Aug-05	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5.00	41	0.32 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC2-MW5-W-0-167	07-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4 J	0.3 J	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW5-W-1-168	07-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4 J	0.3 J	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW5-W-0-218	29-Aug-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.3 J	<0.50	<0.50	0.4 J	<0.2 J	<0.50	<0.50
MW14	OC2-MW14-W-0-206	07-Jul-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	--	<0.50	--	<2 J	<0.50	<0.50	<0.50	<0.50	<0.2 J	<0.50	--
	OC2-MW14-W-0-263	11-Sep-06	<10.0	<10.0	<10.0	<10.0	<40 J	<10.0	<40 J	<10.0	<80.0	<40 J	<10.0	<10.0	<10.0	<10.0	<5 J	<10.0	<10.0
MW15	OC2-MW15-W-0-198	15-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4.00	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW15-W-1-199	15-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4.00	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW15-W-0-219	29-Aug-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.3 J	<0.50	<0.50	<0.50	<0.2 J	<0.50	<0.50
MW23C	OC2-MW23C-W-0-195	14-Mar-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4 J	0.3 J	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC2-MW23C-W-0-261	11-Sep-06	<0.50	<0.50	<0.50	<0.50	<2 J	<0.50	<4.00	<0.50	<4.00	<2 J	0.3 J	<0.50	<0.50	<0.50	<0.2 J	<0.50	<0.50
	OC2-MW23C-W-1-262	11-Sep-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	<4.00	<0.50	<4.00	<2 J	0.2 J	<0.50	<0.50	<0.50	<0.50	<0.2 J	<0.50
OW1A	OC1-OW1-W-0-3	24-Feb-04	0.7 J	<0.5	1.5	<0.5	<2	0.6 J	--	<0.5	--	<2	10	<0.5	<0.5	<0.5	<0.5	<0.5	--
	OC-GW-OW1-022404	24-Feb-04	0.77 J	<1.00	1.7	<1.00	--	0.44 J	--	<1.00	--	<10.0	8.8	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC2-OW1A-W-0-34	17-Jun-04	<1000	--	<1000	--	<10000	--	<10000	--	<10000	<10000	88 J	--	<1000	<1000	<1000	<1000	240 J
	OC1-OW1-W-0-23	27-Aug-04	0.6	<0.50	1	<0.50	<4.00	<0.50	--	<0.50	--	11 J	9.3	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC-GW-OW1-082704	27-Aug-04	<400	<400	<400	<400	--	<400	--	<400	--	<4000	<200	<400	<400	<400	<400	<400	--
	OC-GW-OW1k-082704	27-Aug-04	0.48 J	<1.00	0.89 J	<1.00	--	0.28 J	--	<1.00	--	8.7 J	7	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC2-OW1A-W-0-90	08-Dec-04	<1000	--	<1000	--	<10000	--	<10000	--	<10000	<10000	180 J	--	<1000	<1000	<1000	180 J	<1000
	OC-GW-OW1-022505	25-Feb-05	0.76 J	<1.00	1.3	<1.00	--	0.41 J	--	<1.00	--	11	7.6	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC1-OW1-W-0-47	24-Aug-05	<50.0	<50.0	<50.0	<50.0	<400	<50.0	--	<50.0	--	<400	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	--
	OC-GW-OW1-082405	24-Aug-05	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	9.4	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC-GW-OW1-02206	22-Feb-06	<200	<200	<200	<200	--	<200	--	<200	--	<2000	<100	<200	<200	<200	<200	<200	--
	OW-1	13-Mar-06	<630	<630	<630	<630	<13000	<630	<13000	<630	<13000	<13000	<630	<630	<630	<630	<1300	<1300	<630
	OW-GW-OW-1-082406	24-Aug-06	0.61 J	<1.00	1.1	<1.00	--	0.47 J	--	0.46 J	--	<10.0	10	<1.00	<1.00	<1.00	<1.00	<1.00	--
OW2	OC1-OW2-W-0-1	24-Feb-04	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	OC1-OW2-W-5-2	24-Feb-04	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	OC-GW-OW2-022404	24-Feb-04	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	<2.50	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC2-OW2-W-0-32	17-Jun-04	<20.0	--	<20.0	--	<200	--	<200	--	<200	<200	<20.0	--	<20.0	<20.0	<20.0	<20.0	<20.0
	OC-GW-OW2-082404	24-Aug-04	<10.0	<10.0	<10.0	<10.0	--	<10.0	--	<10.0	--	<100	<5.00	<10.0	<10.0	<10.0	<10.0	<10.0	--
	OC2-OW2-W-0-89	02-Dec-04	<10.0	--	<10.0	--	<100	--	<100	--	<100	<100	<10.0	--	<10.0	<10.0	<10.0	5.6 J	<10.0
	OC-GW-OW2-022405	24-Feb-05	<10.0	<10.0	<10.0	<10.0	--	<10.0	--	<10.0	--	<100	<5.00	<10.0	<10.0	<10.0	<10.0	<10.0	--
	OC-GW-OW2-082405	24-Aug-05	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	<2.50	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC-GW-OW2-02206	22-Feb-06	<10.0	<10.0	<10.0	<10.0	--	<10.0	--	<10.0	--	<100	<5.00	<10.0	<10.0	<10.0	<10.0	<10.0	--
	OC-GW-OW-2-082206	22-Aug-06	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	<2.50	<5.00	<5.00	<5.00	<5.00	<5.00	--
OW3	OC1-OW3-W-0-4	25-Feb-04	<10	<10	<10	<10	<40	<10	--	<10	--	<40	<10	<10	<10	<10	<10	<10	--
	OC-GW-OW3-022504	25-Feb-04	<10.0	<10.0	<10.0	<10.0	--	<10.0	--	<10.0	--	<100	<5.00	<10.0	<10.0	<10.0	<10.0	<10.0	--
	OC2-OW3-W-0-30	17-Jun-04	<10.0	--	<10.0	--	<100	--	<100	--	<100	<100	<10.0	--	<10.0	<10.0	<10.0	<10.0	<10.0
	OC2-OW3-W-1-31	17-Jun-04	<10.0	--	<10.0	--	<100	--	<100	--	<100	<100	<10.0	--	<10.0	<10.0	<10.0	<10.0	<10.0
	OC-GW-OW3-082404	24-Aug-04	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	<2.50	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC2-OW3-W-0-85	01-Dec-04	<5.00	--	<5.00	--	<50.0	--	<50.0	--	<50.0	<50.0	<5.00	--	<5.00	<5.00	<5.00	<5 J	<5.00
	OC-GW-OW3-022305	23-Feb-05	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	0.43 J	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC-GW-OW3-082405	24-Aug-05	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	0.41 J	<1.00	<1.00	<1.00	2.8	<1.00	--
	OC1-OW3-W-0-60	21-Feb-06	<0.50	<0.50	<0.50	<0.50	<4.00	<0.50	--	<0.50	--	<4.00	0.4 J	<0.50	<0.50	<0.50	<0.50	<0.50	--
	OC-GW-OW3-02106	21-Feb-06	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	<2.50	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OW-GW-OW-3-082306	23-Aug-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	0.31 J	<1.00	<1.00	<1.00	<1.00	<1.00	--
OW4A	OC-GW-OW4A-022704	27-Feb-04	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC2-MW4A-W-0-25	15-Jun-04	<2.50	--	<2.50	--	<25.0	--	<25.0	--	<25.0	<25.0	<2.50	--	<2.50	<2.50	<2.50	<2.50	<2.50
	OC-GW-OW4a-082504	25-Aug-04	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	12	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC-GW-OW4ak-082504	25-Aug-04	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	9 J	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC2-OW4A-W-0-81	30-Nov-04	<0.50	--	<0.50	--	<5.00	--	<5.00	--	<5 J	<5.00	<0.5 J	--	<0.50	<0.50	<0.50	<0.50	<0.50
	OC-GW-OW4A-022505	25-Feb-05	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC-GW-OW4a-082505	25-Aug-05	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	<0.50	<1.00	<1.00	<1.00	<5.00	<1.00	--
	OC-GW-OW4A-02206	22-Feb-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OW-GW-OW-4A-082306	23-Aug-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	<0.50	<1.00	<1.00	<1.00	<1.00	<1.00	--
OW5	OC-GW-OW5-022404	24-Feb-04	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	0.89	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC2-OW5-W-5-26	16-Jun-04	<10.0	--	<10.0	--	<100	--	<100	--	<100	<100	1.9 J	--	<10.0	<10.0	<10.0	<10.0	<10.0
	OC-GW-OW5-082504	25-Aug-04	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	14	0.81	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC2-OW5-W-0-86	02-Dec-04	<2.50	--	<2.50	--	<25.0	--	<25.0	--	<25.0	54	<2.50	--	<2.50	<2.50	<2.50	<2.5 J	<2.50
	OC2-OW5-W-1-87	02-Dec-04	<2.50	--	<2.50	--	<25.0	--	<25.0	--	<25.0	<25.0	<2.50	--	<2.50	<2.50	<2.5 J	<2.5 J	<2.50
	OC-GW-OW5-022405	24-Feb-05	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	<0.50	<1.00	<1.00	1	<1.00	<1.00	--
	OC-GW-OW5-082305	22-Aug-05	<5.00	<5.00	<5.00	<5.00	--	<5.00	--	<5.00	--	<50.0	1.4 J	<5.00	<5.00	<5.00	<5.00	<5.00	--
	OC-GW-OW5-021706	17-Feb-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	0.78	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OW-GW-OW-5-082406	24-Aug-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	<10.0	0.7	<1.00	<1.00	<1.00	<1.00	<1.00	--
OW8A	OC-GW-OW8-022404	24-Feb-04	<50.0	<50.0	<50.0	<50.0	--	<50.0	--	<50.0	--	2,000	<25.0	<50.0	<50.0	<50.0	<50.0	<50.0	--
	OC2-OW8-W-0-29	16-Jun-04	<50.0	--	<50.0	--	770	--	<500	--	<500	11,000	<50.0	--	<50.0	<50.0	<50.0	<50.0	<50.0
	OC-GW-OW8-082404	24-Aug-04	<100	<100	<100	<100	--	<100	--	<100	--	7,400	<50.0	<100	<100	<100	<100	<100	--
	OC2-OW8-W-0-91	03-Dec-04	<100	--	<100	--	<1000	--	<1000	--	<1000	3,300	<100	--	<100	<100	<100	<100	<100
	OC1-OW8A-W-0-40	23-Feb-05	<2.50	<2.50	2.2 J	<2.50	520	<2.50	--	<2.50	--	3,900 J	11	<2.50	<2.50	<2.50	<2.50	<2.50	--
	OC-GW-OW8-022305	23-Feb-05	1.4	<1.00	3.6	<1.00	570	<1.00	--	<1.00	--	10,000	14	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC-GW-OW8-K-022305	23-Feb-05	<200	<200	<200	<200	--	<200	--	<200	--	10,000	<100	<200	<200	<200	<200	<200	--
	OC1-OW8A-W-0-48	24-Aug-05	<50.0	<50.0	<50.0	<50.0	<400	<50.0	--	<50.0	--	2,400	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	--
	OC-GW-OW8a-082405	24-Aug-05	1.2	<1.00	2.6	<1.00	270	<1.00	--	<1.00	--	1,900	12	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC-GW-OW8a-K-082405	24-Aug-05	1.4	<1.00	3	<1.00	290	<1.00	--	<1.00	--	1,900	14	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OC1-OW8A-W-5-59	21-Feb-06	0.3 J	<0.50	0.6 J	<0.50	460	0.2 J	--	<0.50	78 J	6,600 J	10	<0.50	12 J	<0.50	<0.50	<0.50	--
	OC-GW-OW8-022106	21-Feb-06	<100	<100	<100	<100	--	<100	--	<100	--	7,700	<50.0	<100	<100	<100	<100	<100	--
	OC-GW-OW8K-022106	21-Feb-06	<50.0	<50.0	<50.0	<50.0	--	<50.0	--	<50.0	--	5,500	<25.0	<50.0	<50.0	<50.0	<50.0	<50.0	--
	OW-8	13-Mar-06	<200	<200	<200	<200	<4000	<200	<4000	<200	<4000	5,700	<200	<200	<200	<200	<400	<400	<200
	OW-GW-OW-8-082406	24-Aug-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	1,000	4.9	<1.00	<1.00	<1.00	<1.00	<1.00	--
	OW-GW-OW-8K-082406	24-Aug-06	<1.00	<1.00	<1.00	<1.00	--	<1.00	--	<1.00	--	730	3.9	<1.00	<1.00	<1.00	<1.00	<1.00	--

Groundwater Data for Operable Unit 2 (OU2)
Baseline Human Health Risk Assessment
Omega Chemical Superfund Site

Location	Sample Name	Date Sampled	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Dibromomethane	Dichlorofluoromethane	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Isopropanol	Isopropylbenzene	Methyl acetate
			Volatile Organics (ug/L)																
		Region 9 PRG:	*0.17 ca*	*110 nc*	*4.6 ca*	*0.17 ca*	*160 nc*	*61 nc*	*0.40 ca*	*10000 nc*	*0.13 ca*	*61 nc*		*390 nc*	*1,300 nc*	*0.86 ca*		*660 nc*	*6100 nc*
		EPA MCL:	*5*	*100*				*70*							*700*				
		CalDPH MCL/NL/AL:	*0.5*	*70*				*6*						*1000 NL*	*300*			*770 NL*	
MW2	OC2-MW2A-W-0-4	02-Mar-04	<0.5 J	<0.50	<0.5 R	110 J	<0.5 R	31 J	<0.5 J	<0.5 J	<0.50	--	--	2.3 J	<0.5 J	--	--	<0.5 J	<0.5 J
	OC2-MW2A-W-0-40	22-Jun-04	<2.50	<2.50	<2.50	110 J	<2.50	24 J	<2.50	<2.50	<2.50	--	--	<2.50	<2.50	--	--	<2.50	<2.50
	OC2-MW2A-W-0-64	14-Sep-04	<2.50	<2.50	<2.50	58	3.4	28 J	<2.50	<2.50	<2.50	--	--	<2.50	<2.50	--	--	<2.50	<2.5 J
	OC2-MW2A-W-0-106	08-Dec-04	<2.00	<2.00	<2.00	55	<2.00	44 J	<2.00	<2.00	<2.00	--	--	1.1 J	<2.00	--	--	<2.00	<2.00
	OC2-MW2-W-0-126	02-Mar-05	<21.0	<21.0	<21.0	140	<21.0	<21.0	<21 J	<21.0	<21.0	--	--	<21.0	<21.0	--	--	<21.0	<21 J
	OC2-MW2-W-0-149	02-Sep-05	<0.50	<0.50	<0.50	86 J	<0.50	2	<0.50	<0.50	<0.50	--	--	<0.50	<0.50	--	--	<0.50	<0.50
	OC2-MW2-W-0-174	08-Mar-06	0	<0.50	<0.50	200	<0.50	3.2	<0.50	--	<0.50	<0.50	0.0097 J	1.6	<0.50	<0.50	--	<0.50	--
	OC2-MW2-W-0-251	07-Sep-06	<0.50	<0.50	<0.50	160	<0.50	5.6	<0.50	--	<0.50	<0.50	--	1.8 J	<0.50	<0.50	--	<0.50	--
MW4A	OC2-MW4A-W-0-5	03-Mar-04	<0.50	<0.50	<0.50	52 J	<0.50	7.9	<0.50	<0.50	<0.50	--	--	1.6	<0.50	--	--	<0.50	<0.50
	OC2-MW4A-W-1-6	03-Mar-04	<0.50	<0.50	<0.50	49 J	<0.50	7.8	<0.50	<0.50	<0.50	--	--	1.5	<0.50	--	--	<0.50	<0.50
	OC2-MW4A-W-0-36	21-Jun-04	<5.00	<5.00	<5.00	64	<5.00	5 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5.00
	OC2-MW4A-W-1-37	21-Jun-04	<5.00	<5.00	<5.00	71	2 J	5.2 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5.00
	OC2-MW4A-W-0-58	13-Sep-04	<5.00	<5.00	<5.00	40	4.6 J	2.4 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5 J
	OC2-MW4A-W-0-92	06-Dec-04	<5.00	<5.00	<5.00	27	<5.00	1.4 J	<5.00	<5.00	<5.00	--	--	<5 J	<5.00	--	--	<5.00	<5.00
	OC2-MW4A-W-0-116	28-Feb-05	0.29 J	<0.50	<0.50	34	<0.50	2.6 J	<0.50	<0.50	<0.50	--	--	0.8 J	<0.50	--	--	<0.50	<0.5 J
	OC2-MW4A-W-1-112	28-Feb-05	0.27 J	<0.50	<0.50	51	<0.50	2.4 J	<0.50	<0.50	<0.50	--	--	0.71	<0.50	--	--	<0.50	<0.5 J
	OC2-MW4A-W-0-135	30-Aug-05	0.14 J	<0.50	<0.50	46	0.5	3.1	<0.50	<0.50	<0.50	--	--	0.47 J	<0.50	--	--	<0.50	<0.50
	OC2-MW4A-W-0-163	07-Mar-06	<0.50	<0.50	<0.50	39	<0.50	2.7	<0.50	--	<0.50	<0.50	0.0045 J	1	<0.50	<0.50	--	<0.50	--
	OC2-MW4A-W-5-217	29-Aug-06	0.2 J	<0.50	<0.50	45	<0.50	3.8	<0.50	--	<0.50	<0.50	--	1	<0.50	<0.50	--	<0.50	--
MW4B	OC2-MW4B-W-0-7	03-Mar-04	0.23 J	<0.50	<0.50	120 J	<0.50	3.6	<0.50	<0.50	<0.50	--	--	3.3	<0.50	--	--	<0.50	<0.50
	OC2-MW4B-W-0-38	21-Jun-04	<5.00	<5.00	<5.00	79	2.6 J	2.1 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5.00
	OC2-MW4B-W-0-59	13-Sep-04	<5.00	<5.00	<5.00	57	4 J	1.8 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5 J
	OC2-MW4B-W-1-60	13-Sep-04	<5.00	<5 J	<5.00	49	4.4 J	1.5 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5 J
	OC2-MW4B-W-0-93	06-Dec-04	<5.00	<5.00	<5.00	31	<5.00	<5.00	<5.00	<5.00	<5.00	--	--	<5 J	<5.00	--	--	<5.00	<5.00
	OC2-MW4B-W-1-94	06-Dec-04	<2.00	<2.00	<2.00	30	<2.00	<2.00	<2.00	<2.00	<2.00	--	--	<2 J	<2.00	--	--	<2.00	<2.00
	OC2-MW4B-W-5-113	28-Feb-05	0.34 J	<0.50	<0.50	20	<0.50	1.3 J	<0.50	<0.50	<0.50	--	--	0.38 J	<0.50	--	--	<0.50	<0.5 J
	OC2-MW4B-W-0-134	30-Aug-05	0.26 J	<0.5 R	<0.5 R	17 J	<0.5 R	0.66 J	<0.5 R	<0.5 R	<0.5 R	--	--	<0.5 R	<0.5 R	--	--	<0.5 R	<0.5 R
	OC2-MW4B-W-0-164	07-Mar-06	0.2 J	<0.50	<0.50	15	<0.50	0.4 J	<0.50	--	<0.50	<0.50	0.0016 J	0.3 J	<0.50	<0.50	--	<0.50	--
	OC2-MW4B-W-0-215	29-Aug-06	0.2 J	<0.50	<0.50	69	<0.50	1.7	<0.50	--	<0.50	<0.50	--	1.3	<0.50	<0.50	--	<0.50	--
	OC2-MW4B-W-1-216	29-Aug-06	0.3 J	<0.50	<0.50	64	<0.50	1.7	<0.50	--	<0.50	<0.50	--	1.3	<0.50	<0.50	--	<0.50	--
MW5	OC2-MW5A-W-0-9	03-Mar-04	0.2 J	<0.50	<0.5 J	240 J	<0.5 J	21	<0.50	<0.50	<0.50	--	--	3.3 J	<0.50	--	--	<0.50	<0.50
	OC2-MW5A-W-0-41	22-Jun-04	<2.50	<2.50	<2.50	78	<2.50	9.6 J	<2.50	<2.50	<2.50	--	--	<2.50	<2.50	--	--	<2.50	<2.50
	OC2-MW5A-W-0-66	14-Sep-04	<5.00	<5.00	<5.00	100	3.6 J	6 J	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5.00	<5 J
	OC2-MW5A-W-0-97	06-Dec-04	<4.00	<4.00	<4.00	91	<4.00	6.7 J	<4.00	<4.00	<4.00	--	--	<4 J	<4.00	--	--	<4.00	<4.00
	OC2-MW5-W-0-117	28-Feb-05	0.21 J	<0.50	<0.50	220	<0.50	16 J	<0.50	<0.50	<0.50	--	--	1.5	<0.50	--	--	<0.50	<0.5 J
	OC2-MW5-W-5-139	30-Aug-05	<0.50	<0.50	<0.50	85	<0.50	34	<0.50	<0.50	<0.50	--	--	1 J	<0.50	--	--	<0.50	<0.50
	OC2-MW5-W-0-167	07-Mar-06	<0.50	<0.50	<0.50	82	<0.50	24	<0.50	--	<0.50	<0.50	0.0096 J	1.2	<0.50	<0.50	--	<0.50	--
	OC2-MW5-W-1-168	07-Mar-06	<0.50	<0.50	<0.50	84	<0.50	26	<0.50	--	<0.50	<0.50	0.0097 J	1.2	<0.50	<0.50	--	<0.50	--
	OC2-MW5-W-0-218	29-Aug-06	<0.50	<0.50	<0.50	100	<0.50	14	<0.50	--	<0.50	<0.50	--	0.9	<0.50	<0.50	--	<0.50	--
MW14	OC2-MW14-W-0-206	07-Jul-06	<0.50	<0.50	<0.50	18	<0.50	0.7	<0.50	--	<0.50	<0.50	--	0.8 J	<0.50	<0.50	--	<0.50	--
	OC2-MW14-W-0-263	11-Sep-06	<10.0	<10.0	<10.0	12	<10.0	<10.0	<10.0	--	<10.0	<10.0	--	<5 J	<10.0	<10.0	--	<10.0	--
MW15	OC2-MW15-W-0-198	15-Mar-06	0.2 J	<0.50	<0.50	440	<0.50	7.5	<0.50	--	<0.50	<0.50	0.0051 J	4.7	<0.50	<0.50	--	<0.50	--
	OC2-MW15-W-1-199	15-Mar-06	0.2 J	<0.50	<0.50	210	<0.50	6.1	<0.50	--	<0.50	<0.50	0.0062 J	2.7	<0.50	<0.50	--	<0.50	--
	OC2-MW15-W-0-219	29-Aug-06	<0.50	<0.50	<0.50	170	<0.50	2.6	<0.50	--	<0.50	<0.50	--	1.9	<0.50	<0.50	--	<0.50	--
MW23C	OC2-MW23C-W-0-195	14-Mar-06	<0.50	<0.50	<0.50	110	<0.50	20	<0.50	--	<0.50	<0.50	0.0024 J	0.9	<0.50	<0.50	--	<0.50	--
	OC2-MW23C-W-0-261	11-Sep-06	<0.50	<0.50	<0.50	91	<0.50	24	<0.50	--	<0.50	<0.50	--	1	<0.50	<0.50	--	<0.50	--
	OC2-MW23C-W-1-262	11-Sep-06	<0.50	<0.50	<0.50	--	<0.50	16	<0.50	--	<0.50	<0.50	--	0.5 J	<0.50	<0.50	--	<0.50	--
OW1A	OC1-OW1-W-0-3	24-Feb-04	<0.2	3.2 J	<0.5	90	<0.5	5.3	<0.2	--	<0.5	<0.5	--	<0.5	4.7 J	<0.5	--	2.4	--
	OC-GW-OW1-022404	24-Feb-04	1	3.4	<1.00	81	<1.00	4.5	<0.50	--	<1.00	<1.00	--	<5.00	4.4	<1.00	--	2.3	--
	OC2-OW1A-W-0-34	17-Jun-04	<1000	500 J	<1000	88 J	<1000	<1000	<1000	<1000	<1000	--	--	<1000	<1000	--	--	<1000	<1000
	OC1-OW1-W-0-23	27-Aug-04	<0.50	2.3 J	0.2 J	60	0.4 J	6.6	<0.50	--	<0.50	<0.50	--	0.5	3.9 J	<0.50	--	2.1	--
	OC-GW-OW1-082704	27-Aug-04	<200	<400	<400	<400	<400	<400	<200	--	<400	<400	--	<2000	<400	<400	--	<400	--
	OC-GW-OW1k-082704	27-Aug-04	0.44 J	1.9	<1.00	59	<1.00	4.6	<0.50	--	<1.00	<1.00	--	<5.00	3.1	<1.00	--	1.5	--
	OC2-OW1A-W-0-90	08-Dec-04	<1000	<1000	<1000	200 J	<1000	<1000	<1000	<1000	<1000	--	--	<1000	<1000	--	--	<1000	<1000
	OC-GW-OW1-022505	25-Feb-05	0.6	2.5	<1.00	52	<1.00	3.4	<0.50	--	<1.00	<1.00	--	<5.00	3.4	<1.00	--	2.4	--
	OC1-OW1-W-0-47	24-Aug-05	<50.0	<50.0	<50.0	86	<50.0	<50.0	<50.0	--	<50.0	<50.0	--	<50.0	<50.0	<50.0	--	<50.0	--
	OC-GW-OW1-082405	24-Aug-05	<2.50	2.8 J	<5.00	100	<5.00	6.8	<2.50	--	<5.00	<5.00	--	<25.0	3.8 J	<5.00	--	2 J	--
	OC-GW-OW1-02206	22-Feb-06	<100	<200	<200	98 J	<200	<200	<100	--	<200	<200	--	<1000	<200	<200	--	<200	--
	OW-1	13-Mar-06	<630	<630	<1300	<630	<1300	<630	<630	--	<630	<630	--	<1300	<630	<630	--	<630	--
	OW-GW-OW-1-082406	24-Aug-06	0.54	5	<1.00	120	<1.00	6	<0.50	--	<1.00	<1.00	--	<5.00	4	<1.00	--	1.7	--
OW2	OC1-OW2-W-0-1	24-Feb-04	<0.2	<0.5	<0.5	4.8	<0.5	0.6 J	<0.2	--	<0.5	<0.5	--	0.7 J	<0.5	<0.5	--	<0.5	--
	OC1-OW2-W-5-2	24-Feb-04	<0.2	<0.5	<0.5	4.3	<0.5	0.5 J	<0.2	--	<0.5	<0.5	--	0.8 J	<0.5	<0.5	--	<0.5	--
	OC-GW-OW2-022404	24-Feb-04	<2.50	<5.00	<5.00	3.4 J	<5.00	<5.00	<2.50	--	<5.00	<5.00	--	<25.0	<5.00	<5.00	--	<5.00	--
	OC2-OW2-W-0-32	17-Jun-04	<20.0	9.5 J	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	--	--	<20.0	<20.0	--	--	<20.0	<20.0
	OC-GW-OW2-082404	24-Aug-04	<5.00	<10.0	<10.0	4.4 J	<10.0	<10.0	<5.00	--	<10.0	<10.0	--	<50.0	<10.0	<10.0	--	<10.0	--
	OC2-OW2-W-0-89	02-Dec-04	<10.0	<10.0	<10.0	5.4 J	2.6 J	<10.0	<10.0	<10.0	<10.0	--	--	<10.0	<10.0	--	--	<10.0	<10.0
	OC-GW-OW2-022405	24-Feb-05	<5.00	<10.0	<10.0	5.1 J	<10.0	<10.0	<5.00	--	<10.0	<10.0	--	<50.0	<10.0	<10.0	--	<10.0	--
	OC-GW-OW2-082405	24-Aug-05	<2.50	<5.00	<5.00	7.1	<5.00	<5.00	<2.50	--	<5.00	<5.00	--	<25.0	<5.00	<5.00	--	<5.00	--
	OC-GW-OW2-02206	22-Feb-06	<5.00	<10.0	<10.0	17	<10.0	<10.0	<5.00	--	<10.0	<10.0	--	<50.0	<10.0	<10.0	--	<10.0	--
	OC-GW-OW-2-082206	22-Aug-06	<2.50	<5.00	<5.00	2.9 J	<5.00	<5.00	<2.50	--	<5.00	<5.00	--	<25.0	<5.00	<5.00	--	<5.00	--
OW3	OC1-OW3-W-0-4	25-Feb-04	<5	<10	<10	13 J	<10	<10	<5	--	<10	<10	--	<10	<10	<10	--	<10	--
	OC-GW-OW3-022504	25-Feb-04	<5.00	<10.0	<10.0	14	<10.0	<10.0	<5.00	--	<10.0	<10.0	--	<50.0	<10.0	<10.0	--	<10.0	--
	OC2-OW3-W-0-30	17-Jun-04	<10.0	5.4 J	<10.0	20	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	<10.0	<10.0	--	--	<10.0	<10.0
	OC2-OW3-W-1-31	17-Jun-04	<10.0	4.8 J	<10.0	18	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	<10.0	<10.0	--	--	<10.0	<10.0
	OC-GW-OW3-082404	24-Aug-04	<2.50	<5.00	<5.00	16	<5.00	<5.00	<2.50	--	<5.00	<5.00	--	<25.0	<5.00	<5.00	--	<5.00	--
	OC2-OW3-W-0-85	01-Dec-04	<5.00	<5.00	<5.00	11	<5.00	<5.00	<5.00	<5.00	<5.00	--	--	<5.00	<5.00	--	--	<5 J	<5.00
	OC-GW-OW3-022305	23-Feb-05	<0.50	<1.00	<1.00	19	<1.00	1.2	<0.50	--	<1.00	<1.00	--	0.94 J	<1.00	<1.00	--	<1.00	--
	OC-GW-OW3-082405	24-Aug-05	<0.50	<1.00	<1.00	22	<1.00	1.5	<0.50	--	0.6 J	<1.00	--	0.91 J	<1.00	<1.00	--	<1.00	--
	OC1-OW3-W-0-60	21-Feb-06	0.2 J	<0.50	<0.50	31	<0.50	1.6	<0.50	--	<0.50	<0.50	--	0.9	<0.50	<0.50	--	<0.50	--
	OC-GW-OW3-02106	21-Feb-06	<2.50	<5.00	<5.00	39	<5.00	<5.00	<2.50	--	<5.00	<5.00	--	<25.0	<5.00	<5.00	--	<5.00	--
	OW-GW-OW-3-082306	23-Aug-06	<0.50	<1.00	<1.00	23	<1.00	1.2	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
OW4A	OC-GW-OW4A-022704	27-Feb-04	<0.50	<1.00	<1.00	22	<1.00	<1.00	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
	OC2-MW4A-W-0-25	15-Jun-04	<2.50	<2.50	<2.50	7.4	<2.50	<2.50	<2.50	<2.50	<2.50	--	--	<2.50	<2.50	--	--	<2.50	<2.50
	OC-GW-OW4a-082504	25-Aug-04	<0.50	<1.00	<1.00	6.4	<1.00	<1.00	<0.50	--	<1.00	<1.00	--	0.87 J	<1.00	<1.00	--	<1.00	--
	OC-GW-OW4ak-082504	25-Aug-04	<0.50	<1.00	<1.00	6.7	0.65 J	<1.00	<0.50	--	<1.00	<1.00	--	0.94 J	<1.00	<1.00	--	<1.00	--
	OC2-OW4A-W-0-81	30-Nov-04	<0.50	<0.50	<0.50	5.8	<0.50	<0.50	<0.50	0.63	<0.50	--	--	<0.50	0.094 J	--	--	0.18 J	<0.50
	OC-GW-OW4A-022505	25-Feb-05	<0.50	<1.00	<1.00	5	<1.00	<1.00	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
	OC-GW-OW4a-082505	25-Aug-05	<0.50	<1.00	<1.00	14	<1.00	<1.00	<0.50	--	3.2	<1.00	--	1.1 J	<1.00	<1.00	--	<1.00	--
	OC-GW-OW4A-02206	22-Feb-06	<0.50	<1.00	<1.00	12	<1.00	<1.00	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
	OW-GW-OW-4A-082306	23-Aug-06	<0.50	<1.00	<1.00	17	<1.00	<1.00	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
OW5	OC-GW-OW5-022404	24-Feb-04	<0.50	<1.00	<1.00	160	<1.00	33	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
	OC2-OW5-W-5-26	16-Jun-04	<10.0	<10.0	<10.0	490 J	<10.0	26 J	<10.0	<10.0	<10.0	--	--	3.6 J	<10.0	--	--	<10.0	<10.0
	OC-GW-OW5-082504	25-Aug-04	<0.50	<1.00	<1.00	300	<1.00	14	<0.50	--	<1.00	<1.00	--	1.8 J	<1.00	<1.00	--	<1.00	--
	OC2-OW5-W-0-86	02-Dec-04	<2.50	<2.50	<2.50	62	<2.50	4.6 J	<2.50	<2.50	<2.50	--	--	<2.50	<2.50	--	--	<2.5 J	<2.50
	OC2-OW5-W-1-87	02-Dec-04	<2.50	<2.50	<2.50	67	<2.50	5.8 J	<2.5 J	<2.50	<2.5 J	--	--	<2.50	<2.50	--	--	<2.5 J	<2.50
	OC-GW-OW5-022405	24-Feb-05	<0.50	<1.00	<1.00	32	<1.00	2.4	<0.50	--	0.54 J	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
	OC-GW-OW5-082305	22-Aug-05	<2.50	<5.00	<5.00	400	<5.00	27	<2.50	--	16	<5.00	--	<25.0	<5.00	<5.00	--	<5.00	--
	OC-GW-OW5-021706	17-Feb-06	<0.50	<1.00	<1.00	320	<1.00	31	<0.50	--	<1.00	<1.00	--	1.1 J	<1.00	<1.00	--	<1.00	--
	OW-GW-OW-5-082406	24-Aug-06	<0.50	<1.00	<1.00	180	<1.00	48	<0.50	--	<1.00	<1.00	--	<5.00	<1.00	<1.00	--	<1.00	--
OW8A	OC-GW-OW8-022404	24-Feb-04	<25.0	<50.0	<50.0	670	<50.0	<50.0	<25.0	--	<50.0	<50.0	--	<250	<50.0	<50.0	--	<50.0	--
	OC2-OW8-W-0-29	16-Jun-04	<50.0	<50.0	<50.0	1,600	<50.0	<50.0	<50.0	<50.0	<50.0	--	--	<50.0	15 J	--	--	<50.0	<50.0
	OC-GW-OW8-082404	24-Aug-04	<50.0	<100	<100	1,700	<100	<100	<50.0	--	<100	<100	--	<500	<100	<100	--	<100	--
	OC2-OW8-W-0-91	03-Dec-04	<100	<100	<100	1,600	<100	25 J	<100	<100	<100	--	--	<100 J	<100	--	--	<100	1,300
	OC1-OW8A-W-0-40	23-Feb-05	<2.50	5.7	<2.50	2,400	<2.50	12	<2.50	--	<2.50	<2.50	--	2 J	31	<2.50	--	3.6	--
	OC-GW-OW8-022305	23-Feb-05	<0.50	7.6	<1.00	2,700	<1.00	16	<0.50	--	<1.00	<1.00	--	1.2 J	41	<1.00	--	6.7	--
	OC-GW-OW8-K-022305	23-Feb-05	<100	<200	<200	2,800	<200	<200	<100	--	<200	<200	--	<1000	<200	<200	--	<200	--
	OC1-OW8A-W-0-48	24-Aug-05	<50.0	<50.0	<50.0	2,200	<50.0	<50.0	<50.0	--	<50.0	<50.0	--	<50.0	<50.0	<50.0	--	<50.0	--
	OC-GW-OW8a-082405	24-Aug-05	<0.50	4.8	<1.00	2,400	<1.00	16	<0.50	--	<1.00	<1.00	--	1.1 J	15	<1.00	--	4.1	--
	OC-GW-OW8a-K-082405	24-Aug-05	<0.50	5.6	<1.00	2,400	<1.00	20	<0.50	--	<1.00	<1.00	--	1.6 J	17	<1.00	--	4.9	--
	OC1-OW8A-W-5-59	21-Feb-06	<0.50	4.4 J	<0.50	1,500	<0.50	16 J	<0.50	--	<0.50	<0.50	--	2.3 J	24 J	<0.50	--	1.4 J	--
	OC-GW-OW8-022106	21-Feb-06	<50.0	<100	<100	1,700	<100	<100	<50.0	--	<100	<100	--	<500	<100	<100	--	<100	--
	OC-GW-OW8K-022106	21-Feb-06	<25.0	<50.0	<50.0	1,500	<50.0	<50.0	<25.0	--	<50.0	<50.0	--	<250	15 J	<50.0	--	<50.0	--
	OW-8	13-Mar-06	<200	<200	<400	1,100	<400	<200	<200	--	<200	<200	--	<400	<200	<200	--	<200	--
	OW-GW-OW-8-082406	24-Aug-06	<0.50	2	<1.00	790	<1.00	4.5	<0.50	--	<1.00	<1.00	--	<5.00	6.8	<1.00	--	0.53 J	--
	OW-GW-OW-8K-082406	24-Aug-06	<0.50	1.7	<1.00	520	<1.00	4	<0.50	--	<1.00	<1.00	--	0.79 J	5.2	<1.00	--	0.37 J	--