Environmental and Radiological Data Summary and Health Risk Evaluation for the American Jewish University Brandeis-Bardin Campus at Simi Valley, California

Technical Memorandum

April 2016

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	Micrograms per liter
AJU	American Jewish University
ATSDR	Agency for Toxic Substances and Disease Registry
BBC	Brandeis-Bardin Campus
BBI	Brandeis-Bardin Institute
BCI	Brandeis Camp Institute
BTV	Background Threshold Values
Cal/EPA	California Environmental Protection Agency
CDM	CDM Smith (consulting firm)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cm^2	Square centimeter
COPC	Contaminants of potential concern
Cs-137	Cesium-137
CSM	Conceptual site model
DHS	Department of Health Services
DOE	Department of Energy
DQO	Data Quality Objectives
DTSC	California Department of Toxic Substances Control
EPA	Environmental Protection Agency
EPC	Exposure-point concentration
GPS	Global positioning system
HGL	HydroGeoLogic, Inc. (consulting firm)
HHRA	Human Health Risk Assessment
HI	Hazard Index
IRIS	Integrated Risk Information System
K-M	Kaplan-Meier
LA RWQCB	Los Angeles Regional Water Quality Control Board
LUT	Look-up Tables
m^3/kg	Cubic meter per kilogram
McLaren-Hart	McLaren-Hart Environmental Engineering Corporation
MDC	Minimum detectable concentration
mg/cm^2	Milligrams per square centimeter
mg/day	Milligrams per day
mg/kg	Milligrams per kilogram
mg/kg-day	Milligram per kilogram per day
mg/m^3	Milligram per cubic meter
MWH	MWH (consulting firm)
NASA	National Aeronautics and Space Administration
NBZ	Northern Buffer Zone
ng/g	Nanogram per gram

NRC	Nuclear Regulatory Commission
OEHHA	Office of Environmental Health Hazard Assessment
PA/SI	Preliminary assessment/site inspection
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated biphenyls
pCi/g	Picocuries per gram
pCi/L	Picocuries per liter
PEF	Particulate emission factors
PRG	Preliminary Remediation Goals
Pu-238	Plutonium-239
QA	Quality assurance
QC	Quality control
RAGS	Risk Assessment Guidance for Superfund
RBRA	Radiological background reference areas
RCRA	Resource Conservation and Recovery Act
RfC	Reference concentrations
RfD	Reference doses
REL	Reference exposure levels
RMDF	Radioactive Material Disposal Facility
RSBL	Risk-based screening levels
RSL	Regional Screening Levels
SF	Slope factors
SI	Site inspection
SIM	Selective ion monitoring
Sr-90	Strontium-90
SSFL	Santa Susana Field Laboratory
TCE	Trichloroethene
Tetra Tech	Tetra Tech Inc.
TPH	Total petroleum hydrocarbons
UCL95	95 percent upper confidence limit
USL95	Upper Simultaneous Limit statistic, at 95% confidence
URF	Unit risk factors
Weston	Weston Solutions Inc. (consulting firm)
Y-90	Yttrium-90

KEY TERMS DEFINED

Analyte	A substance being identified and measured.
Background Sites	Background sites are areas that have similar characteristics as the area being studied, but are not impacted by the potential contaminant source. Used for purposes of comparison.
Contaminant	The word "contaminant" has a somewhat different connotation for environmental scientists than it does in common speech. In an environmental study, "contaminant" generally refers to any physical, chemical, biological, or radiological substance present in soil or water. Because the term includes even the most minute quantity of these substances, the presence of contaminants does not necessarily indicate a health risk.
Data Gap Analysis	A review of previous environmental studies to determine if any additional testing or improved technologies should be utilized to enhance the study of the area in question.
Gamma Radiation	A type of energy emitted from both natural and artificial sources. Natural sources include the decay of naturally occurring radioisotopes, as well as cosmic rays that strike the Earth's surface. Artificial sources can include fission from nuclear reactors, fallout from nuclear weapons tests, or high-energy physics experiments.
Health Risk Evaluation	An analysis that combines environmental data with information about how the property is used to calculate a single number representing the risk posed to site users. Risk levels are presented as a probability that a site user could be affected by environmental conditions. Where the contaminants of concern are potential carcinogens, EPA generally considers a site with a risk level less than 1 in 1,000,000 to be acceptable.
Northern Buffer Zone	170-acre area of remote, undeveloped land at the border between SSFL and BBC, approximately two miles from the center of camp. Rough terrain makes this the Northern Buffer Zone very difficult to access. This property did not belong to BBC before 1972 and was sold to Boeing in the mid-1990s.
Radiological Study	Any study intended to discover the presence of radioactive substances in the environment.

EXECUTIVE SUMMARY

This Technical Memorandum presents the results of an environmental and radiological investigation and health risk evaluation performed by Tetra Tech, Inc. (Tetra Tech) at the Brandeis-Bardin Campus (BBC) located in the Simi Valley, California. The BBC is situated in close proximity to the Santa Susana Field Laboratory (SSFL), a former nuclear and rocket testing facility. Operations at the SSFL are known to have released chemical and radiological contaminants into the environment, and the SSFL has been undergoing extensive investigation and remediation for several decades under the oversight of both the Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC). The SSFL investigation has assessed contamination both on and off-site, and investigations to date have uniformly found that contaminants originating from the SSFL have not migrated to the BBC in a manner that creates a health risk for campers, residents, or other BBC visitors.

Tetra Tech was retained as a third party consultant to (1) perform a detailed review of existing environmental, chemical and radiological studies conducted within and outside the BBC property boundary; (2) determine if any additional testing or improved technologies should be utilized to enhance the study of the BBC (data gap analysis); (3) develop a strategy for further site testing; (4) execute the further site testing; and (5) evaluate the risk posed to campers, residents, and visitors of the BBC using newly-collected data.

Tetra Tech conducted a comprehensive literature review on all available relevant information and environmental investigations which have been conducted at the SSFL and associated off-site areas, including those conducted by EPA, Cal EPA, DTSC, Brandeis-Bardin and others at the BBC since 1992. This, and all other studies consistently concluded that environmental conditions at the BBC posed no risk to users of the site. Tetra Tech then conducted a critical evaluation of the existing studies to identify any additional testing protocols that might augment the work that had already done. While these studies presented no data gaps of concern, as a matter of assurance, Tetra Tech recommended, and subsequently performed, both a continuous GPS-based gamma radiation survey and soil sampling on the BBC property.

The mobile GPS-based gamma radiation survey, a technology not available when previous investigations were conducted, was performed over the entirety of the camp area as well as in the drainage areas leading from the Northern Buffer Zone toward the center of the BBC property. This survey showed no statistically significant difference in gamma radiation readings compared with background levels (or naturally occurring levels). Soil samples taken from the primary usage areas and the drainage areas were also tested for a suite of radiological and chemical analytes. Strontium-90 (Sr-90), a radionuclide that has become ubiquitous in soil globally due to atmospheric nuclear weapons testing fallout, was detected at an average concentration of 0.0817 pCi/g, with a range from non-detect (<0.075 pCi/g) to 0.182 pCi/g. Tetra Tech evaluated the risk to campers and other site users based on a series of highly conservative assumptions, including that the highest detected concentration of Sr-90 represented all soil on the property. This analysis concluded that the risk to human health caused by Sr-90 (.043 in 1,000,000 excess cancer risk) is less than one-twentieth the risk level that DTSC and EPA consider acceptable (1 in 1,000,000 excess cancer risk). All other analytes tested were found to be below background levels.

Tetra Tech's risk evaluation is consistent with prior risk assessments for off-site areas that found no appreciable risks at the BBC through soil exposure pathways. It demonstrates that human health risks associated with BBC soils are well below levels of concern and are consistent with background levels. Tetra Tech's risk evaluation, literature review, and background comparison analysis of all available site data indicate that the environmental and radiological conditions at the BBC pose no unacceptable human health risk to campers, camp counselors, visitors, or residents at the site.

1.0 INTRODUCTION

This Technical Memorandum presents the results of a critical document review, data gap analysis, and site testing performed by Tetra Tech Inc. (Tetra Tech) as a third-party professional consulting firm on behalf of the American Jewish University (AJU). Tetra Tech was tasked with analyzing and evaluating available information collected to date at the Brandeis-Bardin Campus (BBC) located in Ventura County, California, then recommending and performing further site testing to characterize any environmental health risks associated with the use of the BBC facility. Tetra Tech also conducted a radiological and soil investigation.

The BBC is in close proximity to the Santa Susana Field Laboratory (SSFL), a former nuclear and rocket science research facility that has been the subject of multiple environmental investigations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). The objective of this investigation was to identify whether the BBC property is impacted by contaminants originating from the SSFL at levels that pose an unacceptable risk to the campers, residents, and visitors of the BBC property. As described in this Technical Memorandum, Tetra Tech conducted a literature review and data gap analysis, radiological and soil sampling investigation, and risk evaluation using published risk-based screening values. As set forth in Section 8.0 below, the results of this investigation indicate that the environmental and radiological conditions at the BBC pose no unacceptable human health risk to campers, camp counselors, visitors, or residents at the site.

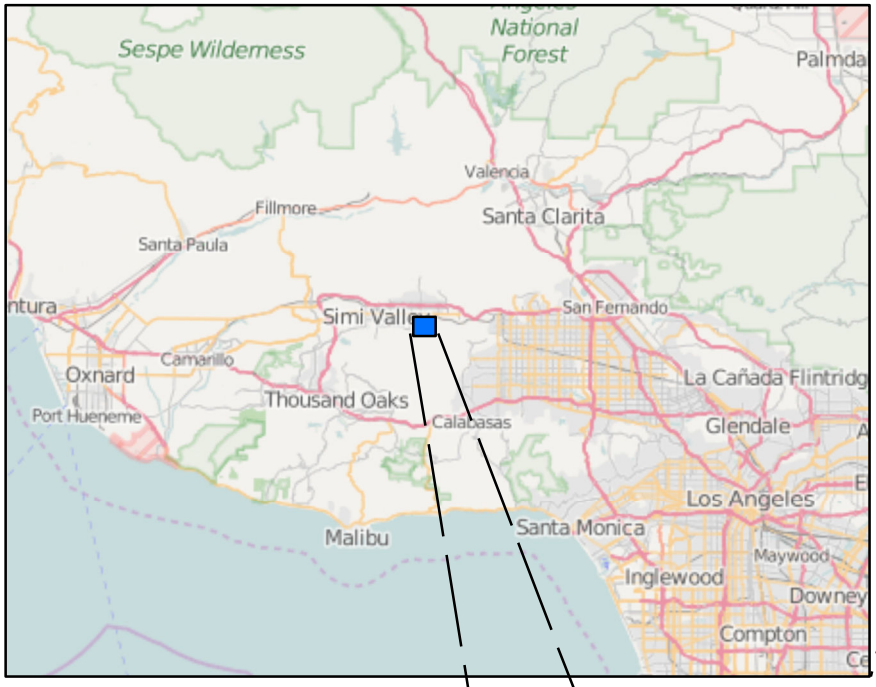
1.1 SITE LOCATION AND BACKGROUND

Originally founded by Dr. Shlomo Bardin in 1941, the Brandeis Camp Institute (BCI) was named to honor the first Jewish United States Supreme Court Justice, Louis D. Brandeis, and was originally located in various states, including New Hampshire, Pennsylvania, and North Carolina. In 1947, the BCI purchased land in the foothills of the Santa Susana Mountains in Ventura County, California. In 1953, Dr. Bardin established Camp Alonim as residential summer camp for children. The camp witnessed expansion of youth programs and unprecedented growth of its adult retreat and Shabbat afternoon programming in the 1970s and 1980s. In the 2000s, the campus began to focus on experiential and environmental programming in partnerships with a variety of institutions in Southern California and throughout North America.

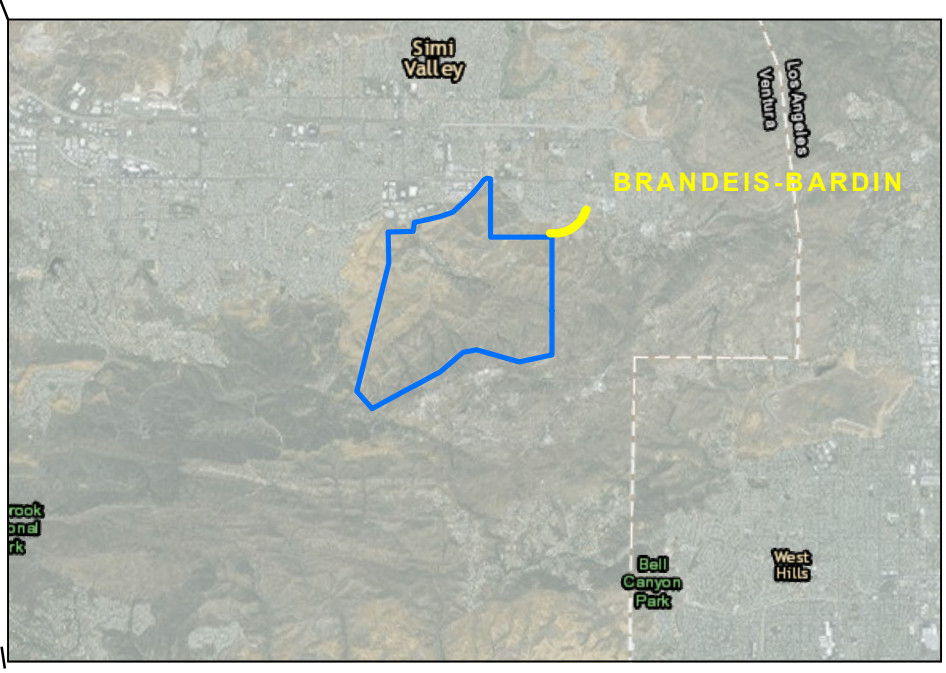
In 2007, the Brandeis-Bardin Institute (BBI) merged with the University of Judaism to become the AJU. The Ventura County property is known today as the BBC of the AJU (referred to as the BBC throughout the rest of this Technical Memorandum). The AJU acquired the campus in 2007 after internal due diligence had been conducted on the environmental conditions of the property.

The BBC is situated to the south of Simi Valley located in Ventura County, California. The BBC currently encompasses 2,878 acres and is zoned as rural agricultural; however, the property is also used for camping and hiking. Figure 1 provides a regional location map showing the BBC with respect to the Simi Valley and the State of California.

STATE MAP
NOT TO SCALE



REGIONAL LOCATION MAP
NOT TO SCALE



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LOCATION MAP
NOT TO SCALE

Brandeis-Bardin Campus Property Boundary

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SITE LOCATION MAP

Project:	Project no.:	
BRANDEIS-BARDIN CAMPUS	103P4384	**Figure 1**
Location:	Date:	
VENTURA COUNTY, CA	MAR 2016	

The SSFL, a former nuclear and rocket testing facility, is located directly adjacent and to the south of the BBC. The SSFL was built many years prior to the significant urban sprawl that currently surrounds it. Before it was developed, the SSFL was used for ranching. Development of the land started in 1948 by North American Aviation, a predecessor of Boeing (Environmental Protection Agency [EPA] 2007). The main operations at the SSFL included research, development, and testing of liquid fueled rocket engines. Prior to 1996, Rocketdyne and the Rockwell International Corporation operated at the site. Post-1996, the site was operated by Boeing, the National Aeronautics and Space Administration (NASA), and the Department of Energy (DOE).

The SSFL is divided into four administrative areas (Area I, Area II, Area III, and Area IV) and a buffer zone. Nuclear-related operations were conducted at the SSFL Area IV from 1953 until 1988, with non-nuclear operations continuing through 1998. During and after the period of Area IV operations, buildings and land in the radiological areas were decommissioned, and, if necessary, remediated, surveyed, verified, and released by the appropriate regulatory agencies including the Energy Research and Development Administration, the DOE, the Nuclear Regulatory Commission (NRC), and the California Department of Health Services (DHS). The buildings and soil have been decommissioned and released using applicable regulatory standards as authorized by Congress and the State of California (Sapere 2005). Table 1 provides the surface area and current ownership for the SSFL (EPA 2007).

Table 1 Summary of SSFL Administrative Areas Current Ownership

SSFL Administrative Area	Surface Area (acres)	Ownership
Area I	670	Boeing/NASA
Area II	409	NASA
Area III	114	Boeing
Area IV	290	Boeing/DOE

Multiple operations at the SSFL over the last six decades have resulted in contamination of surface and subsurface environmental media by various hazardous substances (EPA 2007) with the areas of the SSFL. Numerous investigations have been conducted throughout all four areas at the SSFL site over the past three decades (EPA 2007; MWH 2007).

The SSFL was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System in 1980. The SSFL is listed in the Resource Conservation and Recovery Information System database as a Treatment, Storage and Disposal Facility. Since 1980, EPA has conducted investigations at various locations throughout the SSFL. EPA completed the preliminary assessment and visual site inspection portions of the RCRA Facility Assessment in 1994. Under the authority of CERCLA and the Superfund Amendments and Reauthorization Act of 1986, a contractor (Weston Solutions Inc. [Weston]) was tasked to conduct a site inspection (SI) of Area IV (also referred to as the Energy Technology Engineering Center). The SI report on Area IV was completed in 2003 (Weston 2003). In 2007, all of the SSFL locations (Area 1 through Area IV) were combined into a parent site to allow EPA to evaluate the entire site as a single entity. Weston conducted a preliminary assessment/site inspection (PA/SI) of the SSFL, which was completed in November 2007. A number of other PA/SI investigations and reports have been conducted for selected areas within Area IV as early as 1989.

All properties located adjacent to the SSFL are referred to as "off-site" properties in this Technical Memorandum. There are six off-site areas adjacent to the SSFL, including the BBC, summarized in Table 2. The primary area of focus for this investigation is the BBC; however, careful consideration has also been given to the available regional data from the SSFL itself and within the other off-site areas.

Table 2 Summary of Off-Site Areas Adjacent to the Santa Susana Field Laboratory

Offsite Property Name	Property Size (acres)	Geographic Relation to the SSFL
Brandeis-Bardin Campus	2,354	North/Northwest
Runkle Canyon	1,523	West/Northwest
Bell Canyon	1,673	South
Sage Ranch	512	Northeast
Ahmanson Ranch	5,449	South/Southwest
Dayton Canyon	358	East

The BBC is located to the north and is hydrologically and hydraulically downgradient of the SSFL. In addition to the BBC, there are a number of off-site areas adjacent to or near the SSFL that have been the subject of one or more off-site environmental investigations (MWH 2007). Other off-site areas include: Santa Monica Mountains Conservancy's Sage Ranch, Black Canyon, Woolsey Canyon, Dayton Canyon, Chatsworth Reservoir, Bell Canyon, Ahmanson Ranch, and Runkle Canyon. Many of these properties have undergone a number of changes in ownership and name since environmental investigations have begun around the SSFL.

The California Department of Toxic Substances Control (DTSC) is the lead regulatory agency overseeing the investigation and cleanup of contaminated soil and groundwater at the SSFL. Multiple state, federal, and local government agencies also play a role in the cleanup under way at the SSFL site. Independent sampling of the off-site areas has been conducted in the past by a number of organizations, including but not limited to the following (DTSC 2016):

- Allwest Remediation for Dayton Canyon
- Argonne National Laboratory
- California DHS Environmental Management Branch
- California DHS Radiologic Health Branch
- EPA Office of Radiation and Indoor Air
- Essential Management Services for L.A. Department of Water and Power
- Foster Wheeler Environmental Corporation for Runkle Canyon
- Groundwater Resources Corporation. Later became Haley & Aldrich
- Joel Cehn as a consultant to the BBI
- Kleinfelder Corporation for Ahmanson Ranch Development
- Lawrence Livermore National Laboratory for the Rocketdyne Recreation Center
- McLaren - Hart Environmental Engineering Corporation (McLaren-Hart) for the Brandeis-Bardin and Santa Monica Mountains Conservancy

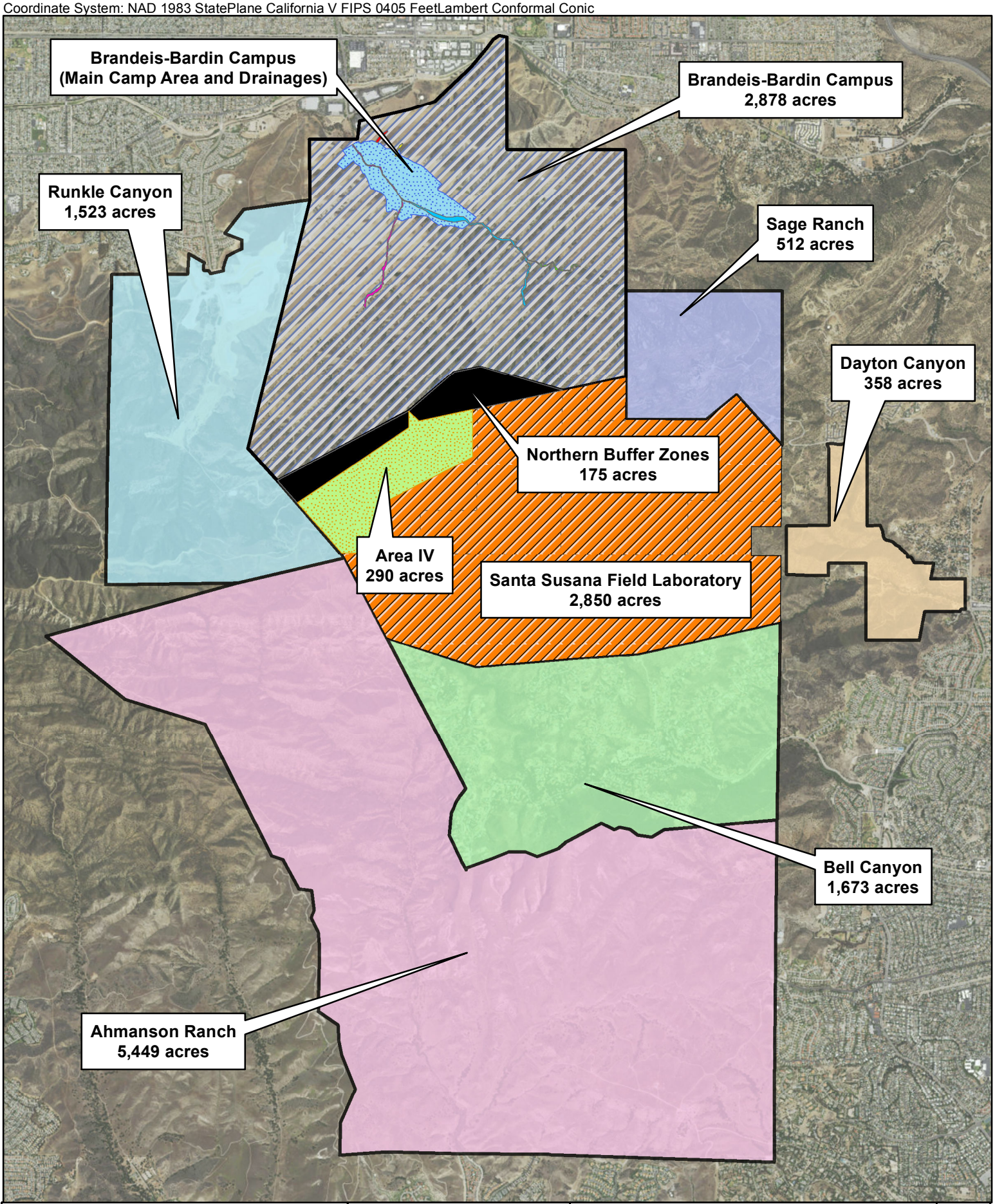
- Miller Brooks Environmental Incorporated for Runkle Canyon
- MHW
- Oak Ridge Associated Universities
- Oak Ridge Institute of Science and Education for radiological release verification sampling
- Ogden Environmental and Energy Services for Bell Canyon
- QST Environmental Incorporate for Runkle Canyon
- Regional Water Quality Control Board (RWQCB)

Rocketdyne began its off-site study at the BBC in 1992. Two multi-media studies were conducted at BBC and at Sage Ranch in 1992 and 1994, as discussed in Section 4.2 and Section 5.1. In addition to Rocketdyne's quality assurance (QA) program, EPA and DHS and BBI analyzed more than 40 split samples that Rocketdyne also analyzed. Soil and sediment monitoring studies were conducted in four main areas off the SSFL site. These areas include the BBI (McLaren-Hart 1993; 1995), the Santa Monica Mountains Conservancy (McLaren-Hart 1993; 1995), Ahmanson Ranch (Kleinfelder 2000), and the Bell Canyon areas (Ogden 1998). The focus of this investigation is specifically with the BBC; however, the reports from the other off-site areas were evaluated to identify information pertinent to the condition of the BBC. During the 1992 and 1994 studies, contamination was discovered in the region of the BBC referred to now as the Northern Buffer Zone (NBZ), a strip of land immediately adjacent to the SSFL and approximately 1.5-2 miles from BBC's main camp areas. EPA reported the results of this study confirmed the presence of radionuclides on the BBC, Boeing subsequently purchased the parcel of land containing these areas with observed contamination from the BBI in 1997. EPA determined that the radionuclides found in the NBZ of the BBC do not pose a threat to human health or the environment (EPA 1995).

The primary human activity centers for the BBC were identified through risk evaluation surveys by AJU field personnel during a site visit in February 2016 (Tetra Tech 2016). The SSFL is on a topographic high within the Simi Valley and is hydrologically upgradient of the BBC. A portion of the natural ephemeral drainage channels from the SSFL flow onto and through the BBC. In 2013, Boeing completed its Interim Source Removal Action to improve water quality in two drainage locations in the northern (leading to the BBC) and the southeastern portions of the SSFL. Additionally, Boeing utilizes both active and passive treatment technologies as part of their water management strategy aimed at improving water quality that exits the SSFL.

Figure 2 provides a map showing the primary off-site areas in relation to the SSFL, Area IV, and the NBZ. Figure 3 provides a detailed map showing the primary human activity centers within the BBC main area and the primary drainages identified by Tetra Tech that flow through the BBC. The hydrologic and geologic conditions of the BBC, SSFL, and surrounding areas are described in the following Section 1.2

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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Legend:

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SANTA SUSANA FIELD LABORATORY
OFF-SITE AREA MAP

A Revision

Project: Brandeis-Bardin Campus

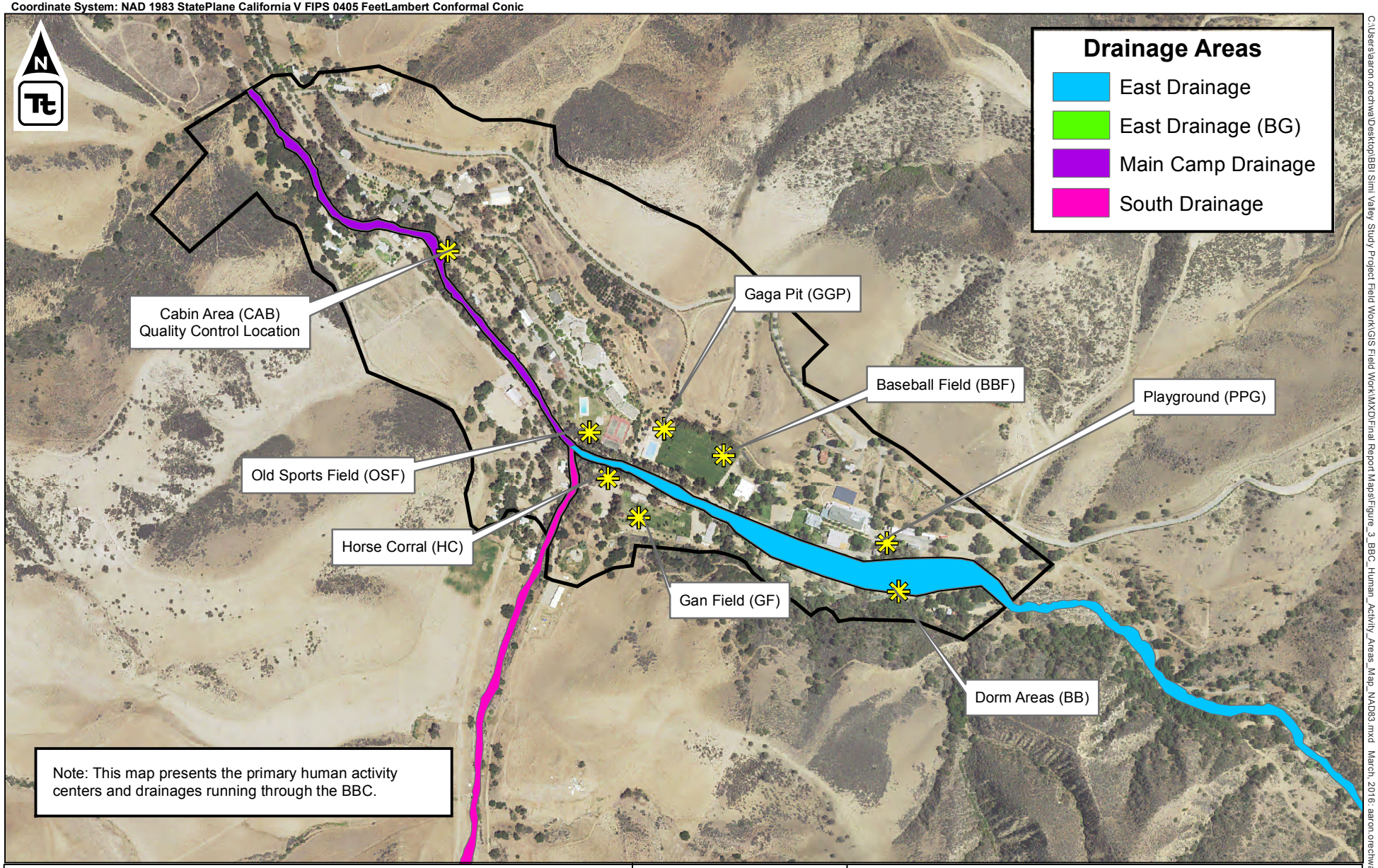
P#: 103P4384

Location: Simi Valley, CA

April, 2016

Figure 2

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
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Primary Human Activity Areas

BBC Main Area

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BRANDEIS-BARDIN CAMPUS
PRIMARY HUMAN ACTIVITY AREAS

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 3

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1.2 HYDROLOGIC AND GEOLOGIC SETTING

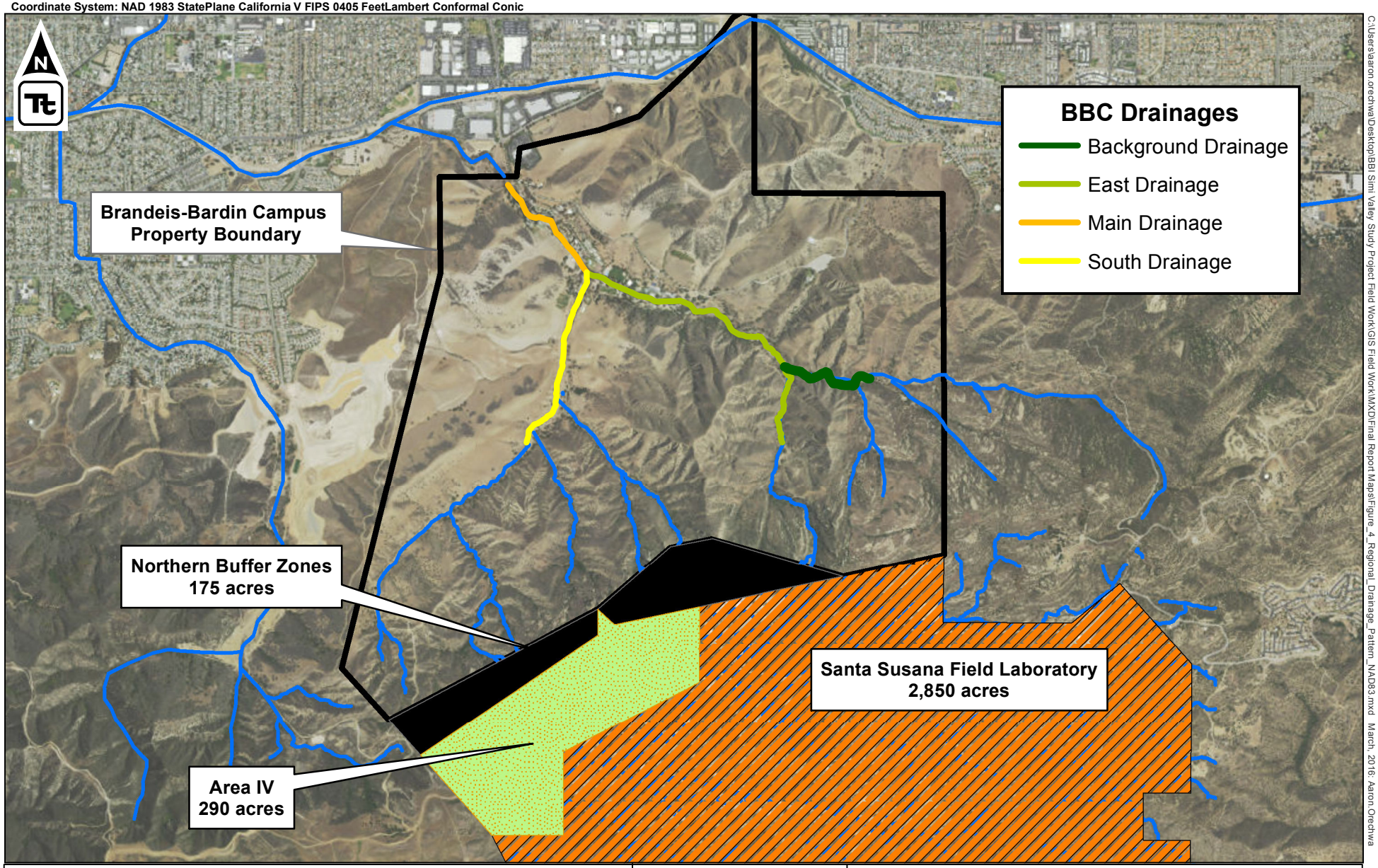
The BBC is located in a semiarid region of California where precipitation averages approximately 18 inches per year. Available regional data shows few perennial surface water features within the regional study area. In less arid environments, perennial stream flow is often sustained by groundwater discharge during the drier seasons (summer) and contributes to the total stream flow during wetter seasons (AquaResource 2007). The BBC is located hydrologically downgradient of a portion of the SSFL to the northwest. A map showing the primary drainages identified by Tetra Tech that flow through the BBC property are shown in Figure 4. Additionally, the regional drainages are shown in blue using information from the National Hydrography Dataset.

Most surface water that collects and drains at the SSFL is intermittent and is conveyed off site via one of four drainages; Northwestern Drainage, the Northern Drainage, the Happy Valley Drainage, and the Bell Creek Drainage. The majority of the surface water (estimated at greater than 60 percent) from the SSFL runs off the southern property boundary through Bell Canyon and into Bell Creek, which subsequently discharges into the Los Angeles River (MWH 2007). Historically, the remaining 40 percent of the runoff from the SSFL drains toward the BBC. As described in Section 1.1, Boeing has implemented stormwater management strategies since 2012 including removal action and both active and passive treatment technologies that improves the water quality of stormwater exiting the SSFL prior to draining to off-site areas, including the BBC. The SSFL is located on a local topographic high 800 to 900 feet above the surrounding valleys, and the groundwater from the SSFL migrates from the site downhill to the Simi Valley and the San Fernando Valley (EPA 2007).

There are two primary geologic formations within the BBC: the Chatsworth formation, and the Santa Susana formation. The Chatsworth formation consists of three unnamed members deposited in the late Cretaceous by turbidity currents in deep ocean at depths ranging from 4,000 feet to 5,000 feet. The Chatsworth formation is a fractured and faulted sandstone with interbeds of siltstones, mudstones, and shales (AquaResource 2007). This formation is the primary water-bearing formation underlying the SSFL (Cherry and others 2007). The Chatsworth formation underlies approximately 80 percent of Area IV and is composed primarily of sandstone interbedded with siltstone and shale (CDM Smith [CDM] 2015). Surface runoff may be stored and transmitted from the shallow groundwater system to the underlying Chatsworth Formation. Depth to water ranges from 2 feet to 35 feet below ground surface. Groundwater elevations are season and location dependent.

The Santa Susana formation underlies the southwestern-most portion of the Area IV study area and the majority of the BBC. The Santa Susana formation is composed of interbedded claystone, siltstone, and thin sandstone layers, underlying approximately 20 percent of Area IV. A map showing the regional geologic formations is provided in Figure 5.

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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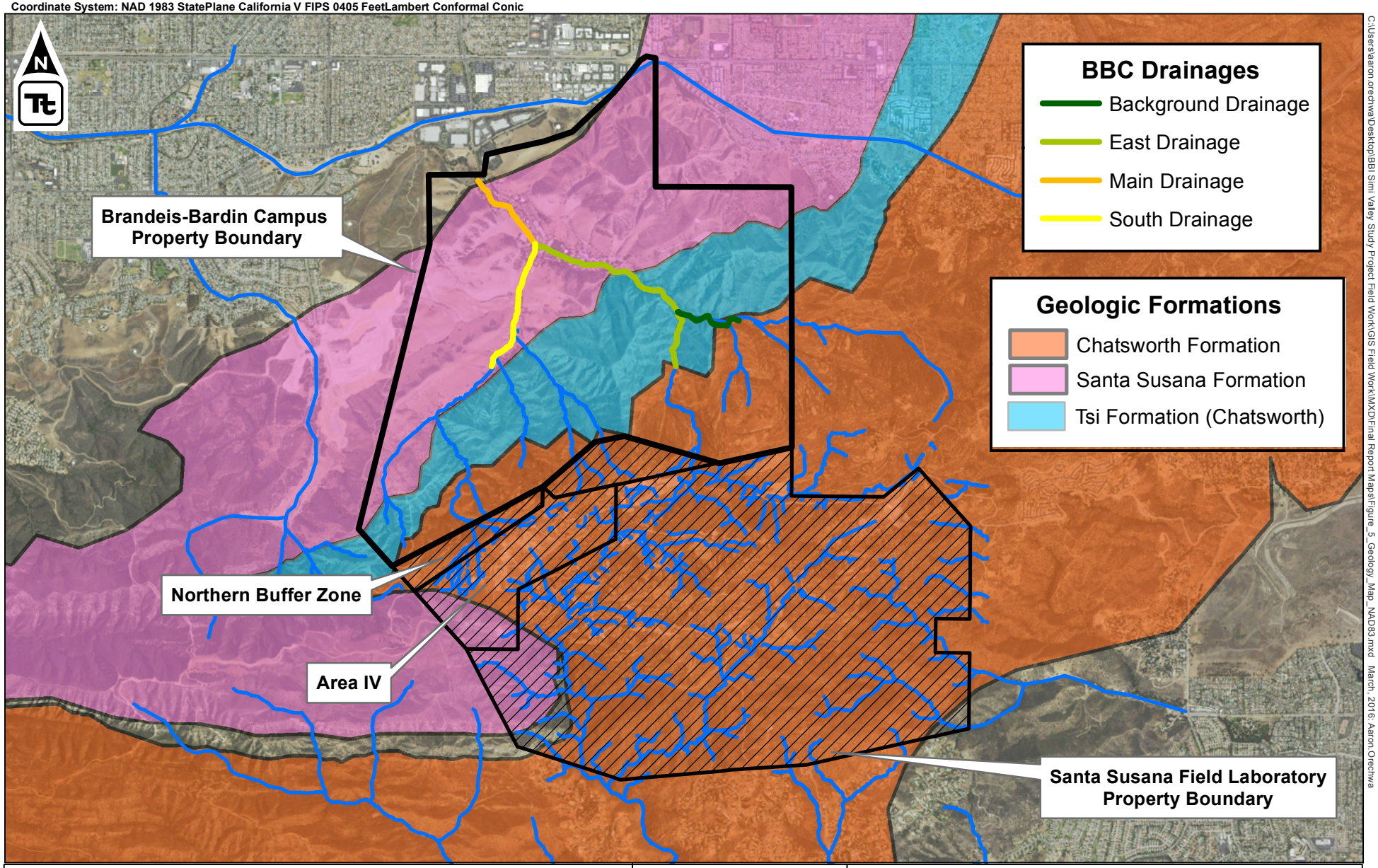
BRANDEIS-BARDEIN CAMPUS
SURFACE WATER DRAINAGE MAP

Project:	Project no.:	
BRANDEIS-BARDIN CAMPUS	103P4384	Figure 4
Location: VENTURA COUNTY, CA	Date: MARCH 2016	

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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REGIONAL GEOLOGIC FORMATIONS

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 5

1.3 DATA QUALITY OBJECTIVES

Tetra Tech used the Data Quality Objectives (DQO) process to develop a sampling strategy to satisfy the BBC radiological and soil investigation program objectives. The DQO process involves seven formalized steps discussed in EPA *Guidance for the Data Quality Objectives Process* (EPA 1994). Figure 6 provides a flowchart of the DQO process. The DQO process provides a useful framework for planning and implementation of the monitoring and data collection program. The DQO process is a systematic data collection planning process developed by EPA to ensure the right type, quality, and quantity of data are collected to support decision making (EPA 1994). DQOs are qualitative and quantitative statements to fulfill the following objectives:

- Clarify the study objectives.
- Define the most appropriate data to collect.
- Determine the most appropriate conditions for collecting the data.
- Specify acceptable levels of decision errors to be used as the basis for establishing the quantity and quality of data needed to support the decision.

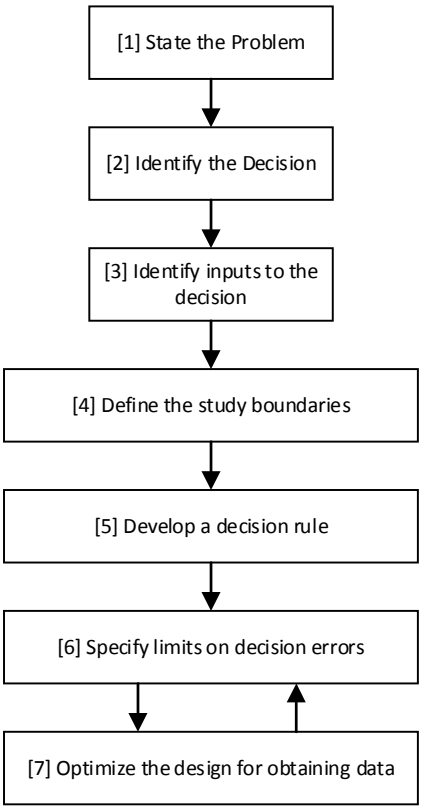


Figure 6 DQO Process Flow Chart

Application of the DQO process to this investigation involved the following six steps:

- **STEP 1:** *State the problem* – The public is concerned that SSFL operations may have resulted in residual radiation and soil contamination at the BBC property. The property is currently in use by the public, including camping in some open areas.
- **STEP 2:** *Identify the decision* – Determine whether levels of residual contamination meet the criteria for human health based on current site use and background levels.
- **STEP 3:** *Identify inputs to the decision* – Conduct literature review, data gap analysis and further site investigation to both address any identified data gaps and verify current environmental and radiological conditions. Conduct a screening level human health risk evaluation by assessing previously collected data and, if applicable, new data collected based on the data gap analysis.
- **STEP 4:** *Define the study boundaries* – Study boundaries included the BBC property, with focus on the most sensitive and critical areas within the BBC including high use areas identified through risk and exposure evaluation surveys and drainage areas flowing through the BBC property boundary.
- **STEP 5:** *Develop a decision rule* – If concentrations of applicable radionuclides and other contaminants associated with the SSFL in soil and sediment meet human health risk evaluation criteria based on current site uses or are within background levels, there is no unacceptable risk to human health.
- **STEP 6:** *Specify the limits on decision errors* – Conduct data quality review of existing data available for the site and perform a risk evaluation on any data collected at the human activity centers and/or drainages that exceed regional background concentrations.

The DQO process is iterative. A seventh step in the process is to evaluate the information from the previous steps and optimize the study design for obtaining the data.

1.4 PURPOSE AND SCOPE OF WORK

The objective of this investigation was to evaluate the environmental condition of the BBC property to determine whether contaminants originating from the SSFL pose unacceptable risk to the campers and personnel on the property. This investigation was performed by (1) performing a detailed review of existing environmental, chemical, and radiological studies conducted within and outside the BBC property boundary; (2) identifying any gaps in existing studies, based on past practices or current technologies; (3) developing a strategy for further site testing, both to fill in identified data gaps and to verify current site conditions; (4) executing the further site testing; and (5) assessing the risk posed to campers, residents, and visitors of the BBC on the basis of both existing and newly-collected data. Tetra Tech's conclusions and recommendations about the environmental and radiological conditions at the site with regard to regulatory standards and human health risk are presented in Section 9.0 and Section 10.0.

Tetra Tech conducted a literature review of site assessments, historical sampling data, and available critical studies related to the characterization of the BBC. Data quality was reviewed to verify that the appropriate sampling methodologies, laboratory analysis, sampling locations, and sampling type were utilized. Sampling locations were evaluated to determine whether the appropriate data density and sampling strategies were used and to identify whether potential outfall or exposure areas had been characterized. Additionally, statistical evaluations from past studies were reviewed to determine whether more recent guidance for statistical analysis of environmental monitoring data was available. Conclusions and data interpretations were also evaluated to verify that the data support the conclusions made by the authors of previous studies.

Based on the detailed review of the studies related to the BBC, data gaps are identified in this Technical Memorandum. Recommendations and options to fill data gaps have been provided as needed. The results of the review and data gap analysis are presented in this Technical Memorandum.

In summary, the primary objectives of this Technical Memorandum include the following:

- Perform a critical review of existing environmental, chemical, and radiological studies conducted within and outside the BBC property boundary.
- Provide a summary of contaminants of potential concern (COPC) identified within environmental media at the BBC, including soil/sediment, groundwater, surface water, indoor and outdoor air quality, and food as identified by an exposure pathway assessment.
- Determine if any additional testing or improved technologies should be utilized to enhance the study of the BBC (data gap analysis).
- Develop a strategy for further site testing.
- Execute the further site testing.
- Assess the risk posed to campers, residents, and visitors of the BBC on the basis of both existing and newly-collected data.

1.5 TECH MEMORANDUM ORGANIZATION

This memorandum is organized into eleven sections. After this introduction, this memorandum includes the following sections:

- **Section 2.0, Human Exposure Pathways**, provides an evaluation of the exposure pathways and environmental media relevant to the potential for human health risk to campers, visitors, and residents at the BBC.

- **Section 3.0, Literature Review,** provides the criteria used in selection of historical documents for review and provides a summary of the documents reviewed.

- **Section 4.0, Previous Background Investigations**, summarizes the methodology and results of previous background studies pertaining the BBC or SSFL.

- **Section 5.0, Previous Site Investigations,** summarizes selected previous site investigations, including off-site data evaluation studies that pertain to the BBC.

- **Section 6.0, Overview of Potential Contaminants from the SSFL**, discusses the COPCs associated with each environmental medium and human health exposure pathway.

- **Section 7.0, Data Gap Analysis,** provides an overview and the results of the data gap analysis.

- **Section 8.0, 2016 Site Investigation**, presents the results of 2016 radiological and soil investigation and compares these to background levels.

- **Section 9.0, Health Risk Evaluation,** provides a summary of historical risk assessments for the BBC, an overview of the screening-level risk evaluation of 2016 data collected at the BBC, results of an exposure assessment, and results of a quantitative exposure analysis at the BBC.

- **Section 10.0, Conclusions,** summarizes the overall results of the investigation**.**

- **Section 11.0, References**.

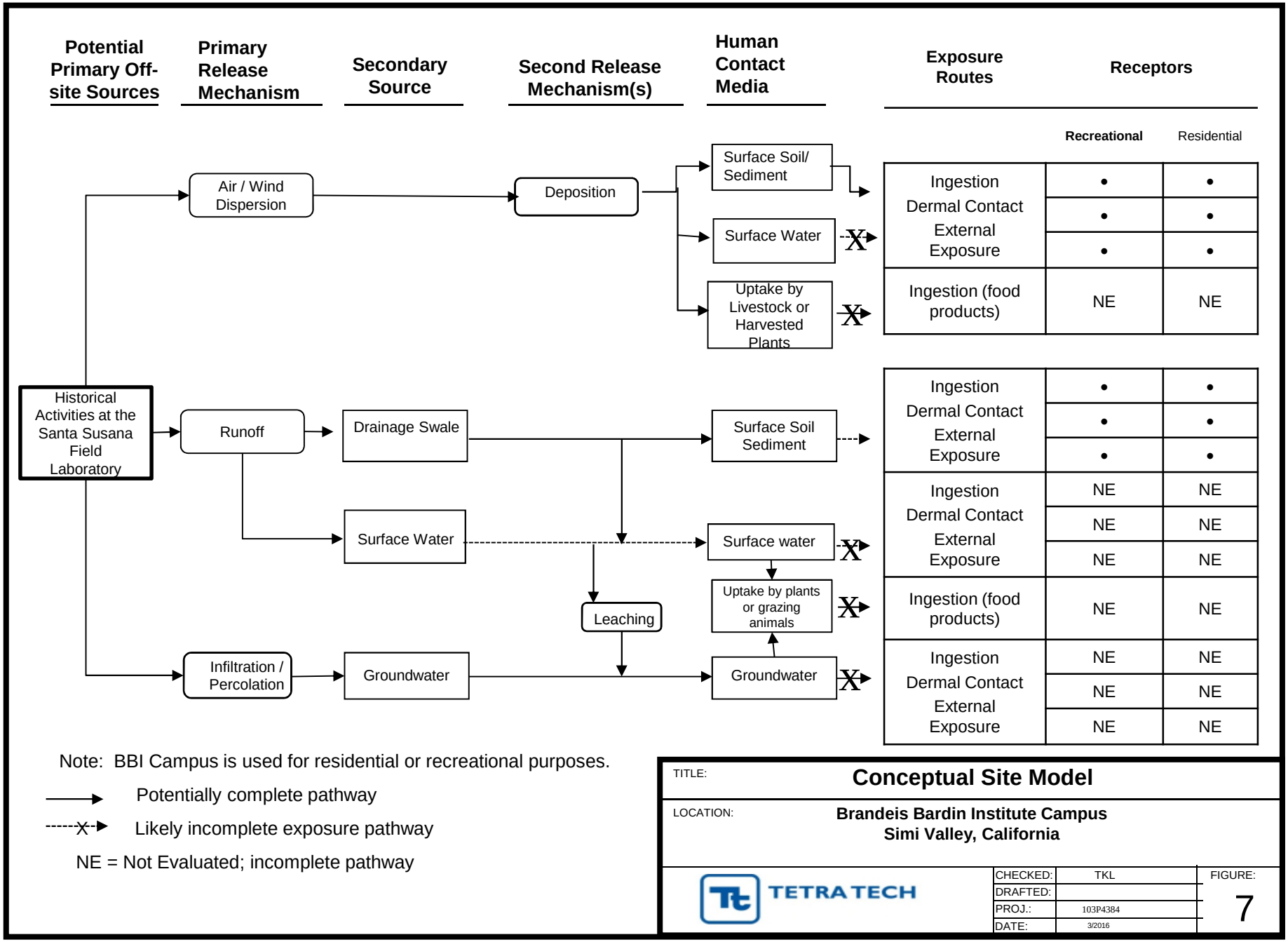
2.0 HUMAN EXPOSURE PATHWAYS

As described in Section 1.4, one purpose of this investigation is to assess whether sufficient information related to the BBC is available to ascertain the current level of risk related to the existing environmental and radiological conditions at the site, and to collect more field data if determined necessary by the data gap analysis. This section presents an overview of the environmental media that could potentially transport contaminants from the SSFL the BBC, and the potential human exposure pathways to those media.

This investigation included a literature review focused on the available information related to the BBC. The literature review focused on documents and historical data based on primary exposure pathways that pose the greatest risk to campers and residents at the BBC. A health risk evaluation for the BBC is presented in Section 9.0. Historical risk evaluations conducted at the BBC were reviewed in development of the conceptual site model (CSM) to determine the human contact media and exposure routes to identify likely receptors (Figure 7). A summary of the historical risk evaluations is provided in Section 9.0. The media evaluated to determine the primary exposure pathways included: soil/sediment, groundwater, surface water, air, and food. The following subsections describe the basis for the exposure pathway evaluation.

2.1 SOIL AND SEDIMENT

Comprehensive investigations have been conducted at the BBC to evaluate the soil radionuclide and chemical concentrations. The most comprehensive study was conducted in the 1990s prior to the establishment of the BBC in 2007. Soil contamination above background levels was determined to be present at the northern boundary of the SSFL on land subsequently purchased from the BBI by Boeing in 1997. While the other study areas in the BBC were shown to not be statistically different than background, these study areas did not necessarily focus on the primary human activity centers at the present day "camp site". Further discussion on the historical sampling investigations and the respective sampling study areas on the BBC are presented in Section 4.0 and Section 5.0. Campers, residents, and visitors potentially contact soil and sediment as part of their normal use of BBC; therefore, soil and sediment media are considered potential exposure routes and were evaluated as part of this investigation.


Potential Primary Off-site Sources
Primary Release Mechanism
Secondary Source
Second Release Mechanism(s)
Human Contact Media
Exposure Routes
Receptors
Recreational
Residential
Historical Activities at the Santa Susana Field Laboratory
Air / Wind Dispersion
Deposition
Surface Soil/ Sediment
Surface Water
Uptake by Livestock or Harvested Plants
Runoff
Drainage Swale
Surface Soil Sediment
Surface Water
Surface water
Leaching
Uptake by plants or grazing animals
Infiltration / Percolation
Groundwater
Groundwater
Ingestion
Dermal Contact
External Exposure
Ingestion (food products)
NE
Note: BBI Campus is used for residential or recreational purposes.
Potentially complete pathway
Likely incomplete exposure pathway
NE = Not Evaluated; incomplete pathway
TITLE:
Conceptual Site Model
LOCATION:
Brandeis Bardin Institute Campus
Simi Valley, California
TETRA TECH
CHECKED: TKL
DRAFTED:
PROJ.: 103P4384
DATE: 3/2016
FIGURE:
7

2.2 GROUNDWATER AND SURFACE WATER

Groundwater and surface water at the BBC are not used as potable water source. Water is supplied to the campus from the Calleguas Municipal Water District, which is strictly monitored as a drinking water source. The AJU confirmed that no groundwater or surface water from on site is currently being utilized for any site purpose (Tetra Tech 2016). Because campers and residents at the BBC are not exposed to either groundwater or surface water, these media were not identified as a potential exposure routes and were not evaluated in the quantitative exposure analysis performed by Tetra Tech. However, monitoring wells do exist on the BBC and have been sampled at regular intervals by various organizations. Additionally, groundwater flow modeling has been conducted in the past as outlined in AquaResource (2007) and Cherry et al. (2007). In general, the contaminants in groundwater that have been detected at the SSFL include trichloroethene (TCE), perchlorate, and tritium. All were detected infrequently and at low levels. TCE and tritium are discussed in the following subsections. Surface water leaving the SSFL area is regulated by the Los Angeles Regional Water Quality Control Board (LA RWQCB). The SSFL is regulated under a National Pollutant Discharge Elimination System permit that specifies the levels of contaminants that may be discharged to surface water as storm water runoff or treated groundwater that is released from the SSFL. Effective April 1, 2015, the limits are as 5 micrograms per liter (µg/L) for TCE, 6 µg/L for perchlorate, 20,000 picocuries per liter (pCi/L) for tritium and 8 pCi/L for strontium-90 (Sr-90) (LA RWQCB 2015).

2.3 AIR

In the past, when the SSFL was fully active, burning operations and other processes likely released contaminants to the air. These airborne constituents, whether particles or organic chemicals, could have traveled off site in the direction of prevailing winds at the time. However, SSFL practices have not included direct releases to air since the 1980s. The SSFL and BBC are located within the South Coast Air Quality Management District. Air pollution controls and permits at SSFL are regulated by the Ventura County Air Pollution Control District. In the absence of any known sources of nearby air contaminants, air is not a medium of concern for the BBC at this point in time, and air is accordingly not considered to be a medium for potential exposure for this investigation.

2.4 FOOD

The BBC campus has fruit orchards, as well as cows, chickens, and goats. The fruit orchards produce oranges, lemons, avocados, persimmons, and pears that are fed to the farm animals; the fruit is not harvested for human consumptions. The farm animals are not raised for consumption. The cows may produce milk, but this is not consumed by humans. Approximately 10 to 20 cows per year are sold to an off-site vendor (Tetra Tech 2016). The chickens also produce eggs but these are not consumed by campers or visitors to the BBC. Because residents and campers do not consume food products produced on site, ingestion of food is not considered an exposure pathway for this investigation. However, fruit and milk have been sampled for the presence of SSFL-related contaminants since 1993 by a private consultant hired by Brandeis-Bardin and now the AJU. Overall, more than 10 samples of food products and vegetation have been collected from the BBC. Most did not contain any SSFL-related contaminants. Crops and milk have been analyzed for dioxins, perchlorate, metals, cesium, and tritium. Dioxins were not detected. Perchlorate, metals, cesium, and tritium were found at levels consistent with background and store-purchased food items.

3.0 LITERATURE REVIEW

This investigation included a comprehensive literature review of environmental and radiological site investigations or studies conducted at the BBC, including background investigations. This section presents a summary of the literature review and selection of primary documents for a more detailed document review as part of this investigation.

The literature review conducted by Tetra Tech focused on studies related to characterization or assessment of soil contaminant levels at the BBC or surrounding areas. Generally, the primary pathways for human exposure are ingestion, inhalation, dermal contact, and external exposure to soil and sediment (Section 2.0). Therefore, the literature review focused on available information related specifically to soil and sediment investigations conducted at the BBC. The following criteria were evaluated in selecting documents for a more detailed review and summary as part of this investigation from the numerous investigations related to the BBC and SSFL:

1. The investigation involved the assessment or collection of soil and sediment contaminant data at the BBC or adjacent areas, including chemical and radionuclide laboratory analysis.
2. The investigation followed an approved work plan.
3. Data QA and quality control (QC) procedures were stringent and well documented, including recordkeeping and documentation, data validation, and laboratory data QC.

In total, 12 primary documents met the above criteria and were evaluated as part of the literature review and data summary process. Table 3 presents a comprehensive list of the primary documents reviewed as part of this investigation. A detailed analysis was conducted to evaluate the previous background investigations including both local and regional background studies related to soil and sediment concentrations. These studies are summarized in Section 4.0. Tetra Tech reviewed the primary documents and provides a detailed summary of each investigation and any pertinent conclusions from regulatory agencies related to human health risk in Section 5.0.

After reviewing the available information from the primary documents, Tetra Tech developed a list of the primary contaminations of concern (Section 6.0) and conducted a data gap analysis (Section 7.0) to identify whether any more data were needed to accurately characterize any health risks associated with present site uses. An overview of the data gap analysis is presented in Section 7.1 and the results of the data gap analysis are presented in Section 7.2.

Table 3 Summary of Primary Documents Reviewed

Title of Publication	Date	Prepared By	Prepared For	Area Evaluated
Multi-Media Sampling Report for the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy	1993	McLaren-Hart Environmental Engineering Corporation	Boeing/Rocketdyne	BBC
Additional Soil and Water Sampling The Brandeis-Badin Institute and Santa Monica Mountains Conservancy	1995	McLaren-Hart Environmental Engineering Corporation	Boeing/Rocketdyne	BBC
Bell Canyon Area Soil Sampling Report Ventura County, California, Volume I	1998	Ogden	Boeing/Rocketdyne	Located adjacent to the SSFL to the south
Site Inspection Report Energy Technology Engineering Center/Area IV Simi Hills, California	2003	Weston	EPA	SSFL and BBC
Soil Background Report Santa Susana Field Laboratory Ventura County, California	2005	MWH	Boeing/Rocketdyne	SSFL and adjacent off-site properties
Preliminary Assessment/Site Inspection Report Santa Susana Field Laboratory Simi Valley, California	2007	Weston	EPA	SSFL
Offsite Data Evaluation Report Santa Susana Field Laboratory Ventura County, California	2007	MWH	Boeing/Rocketdyne	SSFL and adjacent off-site properties, including BBC
Final Radiological Background Study Report Santa Susana Field Laboratory Ventura County, California	2011	HydroGeoLogic, Inc. (HGL)	EPA	SSFL
Final Gamma Radiation Scanning Report Area IV Radiological Study Santa Susana Field Laboratory Ventura County, California	2012	HGL	EPA	SSFL
EPA Radiological Characterization Study Results [Public Notice Document] for SSFL	2012	EPA	Public	Summary of Results and Notification of Public Meeting
Technical Memorandum Phase 3 Chemical Data Gap Investigation Sampling Results Subarea 7 and Northern Buffer Zone in Area IV	2014	CDM	DOE	BBC/SSFL
Technical Memorandum Phase 3 Chemical Data Gap Investigation Sampling Results Go-Backs, Trenches and Soil Vapor Locations Santa Susana Field Laboratory Ventura County, California	2015	CDM	DOE	BBC/SSFL
Brandeis-Bardin Institute and American Jewish University Private Consultant (Joel Cehn) Assorted Technical Memorandums and Laboratory Reporting	1991-Present	Joel Cehn	BBI/AJU	BBC

4.0 PREVIOUS BACKGROUND INVESTIGATIONS

A number of local and regional soil background investigations have been conducted at the SSFL and off-site areas, including the BBC. This section presents an overview of background studies and summarizes all of the pertinent soil background environmental and radiological background studies associated with the BBC and surrounding areas. The investigations reviewed and summarized here met the criteria for evaluation presented in Section 3.0.

4.1 OVERVIEW OF GUIDANCE RELATED TO BACKGROUND STUDIES

EPA and the Department of Navy describe "background" as substances or locations that are not influenced by existing site-related sources of contamination and are often specified as either representing the naturally occurring background or the anthropogenic background (Naval Facilities Engineering Command 2002; EPA 2002a). The following describe both of these background types (EPA 2002a):

1. *Naturally occurring*- substances present in the environment in forms that have not been influenced by human activity; and
2. *Anthropogenic*- natural and human-made substances present in the environment as a result of human activities (not specifically related to the site in question).

A number of different background studies have been conducted at the SSFL and off-site areas. For the BBC, there are substantial available background data. Tetra Tech evaluated three main soil radiological background studies including McLaren-Hart (1993; 1995), Ogden (1998), and HGL (2011) to gain a better understanding of the radionuclide background concentrations for cesium-137 (Cs-137) and Sr-90. Additionally, two main soil chemical background studies including MWH (2005) and DTSC (2012) were also evaluated and summarized in the following sections.

4.2 MULTI-MEDIA SAMPLING BACKGROUND INVESTIGATION REPORT (1992 AND 1994)

Tetra Tech identified the first soil background studies performed specifically at the BBC as those undertaken in 1992 and 1994 by McLaren-Hart. The results of these sampling effort were presented in the McLaren-Hart (1993; 1995) reports and in EPA's *Site Inspection Report* (Weston 2003). Six background reference areas were selected and sampled as part of the 1992 study. During this study, a total of three soil samples were collected at the six locations and analyzed for a suite of radionuclides including Cs-137, Sr-90, Plutonium-238 (Pu-238), and tritium. During the 1994 investigation additional background locations were identified and sampled at a higher frequency. Tetra Tech has summarized the laboratory analytical results for Cs-137 and Sr-90 for the background samples from the 1992 and 1994 field investigations. These results are provided in Table 4.

Table 4 Summary of 1992 and 1994 McLaren-Hart Soil Background Samples

Background Area	Sample ID	Year Collected	Cs-137 (pCi/g)[1]	Lab Qualifier[2]	S-90 (pCi/g)	Lab Qualifier
RP [BG-01]	BG-01-005	1992	0.092		0.03	
	BG-01-008	1992	0.04	U	0.01	
	BG-01-100	1992	0.18		0.05	
	BG-01-016	1994	0.04	U	0.09	U
	BG-01-034	1994	0.1		0.1	U
	BG-01-082	1994	0.04	U	0.08	U
	BG-01-087	1994	0.158		0.07	U
	BG-01-090	1994	0.175		0.1	U
SSP [BG-02]	BG-02-007	1992	0.17		0.02	
	BG-02-074	1992	0.04	U	0.01	U
	BG-02-076	1992	0.099		0.03	
	BG-02-007	1994	0.06	U	0.13	
	BG-02-017	1994	0.213		0.12	
	BG-02-074	1994	0.05	U	0.08	U
	BG-02-076	1994	0.04	U	0.09	U
	BG-02-085	1994	0.04	U	0.13	
BC [BG-03]	BG-03-001	1992	0.07	U	0.01	U
	BG-03-019	1992	0.07	U	0.02	
	BG-03-059	1992	0.05	U	0.01	
WSS [BG-04]	BG-04-025	1992	0.15		0.02	
	BG-04-029	1992	0.14		0.02	
	BG-04-090	1992	0.19		0.05	
HC [BG-05]	BG-05-016	1992	0.74		0.05	
	BG-05-026	1992	0.067		0.08	
	BG-05-074	1992	0.1		0.05	
	BG-05-017	1994	0.147		0.088	
	BG-05-027	1994	0.099		0.1	
	BG-05-050	1994	0.101		0.069	
	BG-05-056	1994	0.148		0.097	
	BG-05-074	1994	0.153		0.084	
SMMNRA [BG-06]	BG-06-033	1992	0.097		0.03	
	BG-06-089	1992	0.06	U	0.03	
	BG-06-096	1992	0.14		0.02	
WRP [BG-09]	BG-09-003	1994	0.05	U	0.13	
	BG-09-005	1994	0.188		0.1	U
	BG-09-013	1994	0.198		0.12	
	BG-09-057	1994	0.06	U	0.11	
	BG-09-096	1994	0.079		0.12	

Table 4 Summary of 1992 and 1994 McLaren-Hart Soil Background Samples (Continued)

Background Area	Sample ID	Year Collected	Cs-137 (pCi/g)[1]	Lab Qualifier[2]	S-90 (pCi/g)	Lab Qualifier
WRPR [BG-10]	BG-10-001	1994	0.245		0.098	
	BG-10-002	1994	0.276		0.09	U
	BG-10-003	1994	0.257		0.09	U
	BG-10-004	1994	0.215		0.04	U
	BG-10-005	1994	0.456		0.09	U
TCP [BG-11]	BG-11-010	1994	0.158		0.089	
	BG-11-011	1994	0.109		0.1	U
	BG-11-031	1994	0.059		0.09	U
	BG-11-036	1994	0.067		0.1	U
	BG-11-075	1994	0.113		0.09	U
TCPR [BG-12]	BG-12-001	1994	0.03	U	0.08	U
	BG-12-002	1994	0.031		0.09	U
	BG-12-003	1994	0.042		0.09	U
	BG-12-004	1994	0.097		0.09	U
	BG-12-005	1994	0.03	U	0.05	U
RPR [BG-14]	BG-14-001	1994	0.04	U	0.082	
	BG-14-002	1994	0.085		0.09	U
	BG-14-003	1994	0.080		0.08	U
	BG-14-004	1994	0.03	U	0.07	U
	BG-14-005	1994	0.04	U	0.05	U

[1]pCi/g = picocuries per gram
[2]Lab qualifier = "U" indicates the reported value is less than the minimum detectable concentration (MDC)

The summary statistics for the background samples collected in 1992 and 1994 are presented in McLaren-Hart (1993; 1995) and Weston (2003). In the 1992 and 1994 McLaren-Hart background investigation, the analytes that were not detected above the minimum detectable concentration (MDC), a value of one-half the detection limit was used to calculate the mean and standard deviation for the background samples (Weston 2003). These calculations resulted in a mean and standard deviation of the Cs-137 background concentration of 0.108 pCi/g and 0.096 pCi/g, respectively. Two standard deviations above the mean Cs-137 background concentration was used for comparison to site levels and resulted in 0.3 pCi/g. Similarly, these calculations resulted in a mean and standard deviation of the Sr-90 background concentration of 0.065 pCi/g and 0.034 pCi/g, respectively. Two standard deviations above the mean Sr-90 background concentration was used for comparison to site levels and resulted in 0.13 pCi/g.

Substitution is not recommended for datasets with a high percentage of non-detects – it is not an unequivocal method of analysis (Helsel 2005). Furthermore, the substitution method is not recommended by more recent EPA guidance documents (EPA 2002a), which recommend additional statistical methods for inference of summary statistics other than substitution. The standard method for estimating summary statistics of censored data is the nonparametric Kaplan-Meier (K-M) method which is an intrinsic function with ProUCL 5.0 (an EPA designed statistical software package). Therefore, Tetra Tech used ProUCL 5.0 to evaluate the 1992 and 1994 soil background datasets for Cs-137 and Sr-90, the primary radionuclide COPCs identified for this site. The mean, standard deviation, and the mean plus two times the standard deviation were calculated using the K-M statistical method as shown in Table 5. Using the same rationale

as the McLaren-Hart (1993; 1995) reports, the mean plus two times the standard deviation for Cs-137 and Sr-90 are 0.349 pCi/g and 0.127 pCi/g, respectively, both more conservative than previously estimated in McLaren-Hart (1993; 1995).

Table 5 Descriptive Statistical Summary of 1993 McLaren-Hart Soil Background Data for Radionuclides

McLaren-Hart (1993) Soil Background		
Descriptive Statistic	**Cs-137**	**S-90**
Minimum (pCi/g)	< 0.04	<0.01
Maximum (pCi/g)	0.19	0.08
# of Non-Detects	6	2
Number of Samples	18	18
% of Censored Data	33%	11%
McLaren-Hart (1995) Soil Background		
Descriptive Statistic	**Cs-137**	**S-90**
Minimum (pCi/g)	<0.03	<0.04
Maximum (pCi/g)	0.456	0.13
# of Non-Detects	13	25
Number of Samples	40	40
% of Censored Data	33%	63%
Summary Statistics for All Samples		
Mean (pCi/g)[2]	**0.117**	**0.0507**
Standard Deviation (pCi/g)[3]	**0.116**	**0.0381**
Mean + 2*SD (pCi/g)	**0.349**	**0.127**

[1]pCi/g = picocuries per gram
[2]Mean was calculated using K-M Statistics in ProUCL 5.0
[3]Standard Deviation was calculated using K-M Statistics in ProUCL 5.0

4.3 BELL CANYON SOIL BACKGROUND STUDY (1998)

In 1998, the Bell Canyon off-site area was evaluated to provide information about naturally occurring, background soil conditions. Three background locations were selected in undeveloped portions of Bell Canyon and three were located in the undeveloped, open-space southern portion of the SSFL (Ogden 1998). The results of this background study are summarized in Ogden (1998) and in Weston (2003). Note: the Cs-137 value provided in Table 3-4 in Ogden (1998) incorrectly states the measured concentration of BCBS09S01/RH046 as 0.18 pCi/g and not < 0.18 PCi/g. The background Cs-137 concentrations ranged between <0.033 pCi/g and 0.15 pCi/g. No summary statistics were provided in either of the reports. Tetra Tech calculated the mean and 95 percent upper confidence limit (95UCL) using the K-M statistical method using ProUCL 5.0 statistical software. The Bell Canyon background soil sampling results are provided in Table 6.

Table 6 Bell Canyon Soil Background Results for Cesium-137 (Ogden 1998)

Sample ID	Cs-137 (pCi/g)[1]	Lab Qualifier[2]
BCSS09 S01 (RH026)	< 0.033	U
BCSS11 S01 (RH033)	0.08	
BCSS12 S01 (RH036)	0.15	
BCSS13 S01 (RH041)	0.10	
BCBS09 S01 (RH046)	< 0.18	U
BCSS14 S01 (RH047)	0.036	
Mean (pCi/g)[3]	**0.0798**	
Standard Deviation (pCi/g)[4]	**0.0435**	
Mean + 2*SD (pCi/g)	**0.167**	

[1]pCi/g = picocuries per gram
[2]Lab qualifier = "U" indicates the reported value is less than the MDC
[3]Mean was calculated using K-M Statistics in ProUCL 5.0
[4]95 UCL = 95% Upper Confidence Limit using K-M Statistics in ProUCL 5.0

4.4 SSFL RADIOLOGICAL BACKGROUND STUDY (2012)

In September 2008, EPA released a public statement indicating their intention to conduct a study (EPA 2008) to determine the level of radioactivity in soils surrounding the SSFL. The study was intended to be the first phase of work of a full radiological characterization of the SSFL site. In November 2012, EPA announced in another fact sheet that the field work for the background study was completed (EPA 2012). This study was one of the most comprehensive and expensive technical investigations ever undertaken for low-level radioactive contamination (EPA 2012). The objective of the SSFL Radiological Background Study was to determine background radionuclide concentrations within the surface and subsurface soils overlying the two geologic formation present at the SSFL: the Chatsworth and Santa Susana formations (HGL 2011). The study was conducted by HGL on behalf of EPA. EPA's role was limited to providing technical assistance to DTSC and DOE by conducting the radiological investigation at Area IV and the NBZ, an area bounding the former Rocketdyne test facility. EPA utilized the latest technology in analytical tools and techniques to develop Background Threshold Values (BTV), which are used to identify areas that exceed background concentrations.

On November 27, 2012, EPA published the *Final Technical Memorandum Look-up Table Recommendations Santa Susana Field Laboratory Area IV Radiological Study* (HGL 2012b). This technical memorandum provided EPA's recommendations to DTSC regarding the use of BTVs as the basis for development of Look-up Tables (LUT) for radiological contamination. The BTVs provided in the technical memorandum are the basis for developing future LUT values used to identify radiological contamination. The BTVs for the COPCs identified in this Technical Memorandum are 0.193 pCi/g for Cs-137 and 0.075 pCi/g for Sr-90. EPA recommended to DTSC that BTVs be used in development of LUT values for all future phases of investigation, remediation, and closure of the Area IV study area (HGL 2012b). For comparison purposes, Tetra Tech utilized the above mentioned BTVs when comparing the 2016 site data collected, as discussed in Section 5.6 and Section 8.0.

4.5 DTSC COMBINED-DATA CHEMICAL BACKGROUND STUDY

In December 2012, DTSC issued a combined-data Background Threshold Values and Methodology Narrative Chemical Soil Background Study (DTSC 2012). The study recommended that the use of the Upper Simultaneous Limit statistic, at 95% confidence (USL95) be used for development of the LUT values to be used as field action levels in the SSFL remedial cleanup efforts. This document summarized the USL95s for soil concentrations of metals. This analysis represents the most recent and comprehensive analysis of chemical background concentrations at the SSFL, to date. Tetra Tech utilized the information from this study for comparative analysis of data collected during the 2016 soil investigation. Table 7 provides DTSC-established BTVs for chemical constituents in soils.

Table 7 DTSC Background Threshold Value for Chemical Constituents

Metals	BTV (mg/kg)[1]
Aluminum	50,300
Antimony	0.86
Arsenic	39.7
Barium	318.75
Beryllium	1.87
Boron	29.35
Cadmium	0.58
Calcium	32,000
Chromium	80.85
Cobalt	38
Copper	102
Iron	65,402
Lead	42.15
Magnesium	16387
Manganese	959
Mercury[2]	0.13
Molybdenum	2.74
Nickel	113
Potassium	12,358
Selenium	0.896
Silver	0.138
Sodium	1,530
Thallium	0.991
Vanadium	150.6
Zinc[2]	215

[1]BTV= background threshold value 95% Upper Simultaneous Limit (USL95) determined by DTSC in 2012.
[2]Lookup Table Value, DTSC (2013)
mg/kg = Milligrams per kilogram

4.6 SUMMARY OF FINDINGS

The objective of the background evaluation was to identify and summarize the soil background studies that have been conducted within the region of the BBC. This evaluation involved assessment of previous background sampling studies conducted at the SSFL, BBC, or other adjacent off-site areas for both radionuclides and chemical soil background concentrations. In some cases, Tetra Tech utilized more modern and mathematically relevant statistical approaches than the past approaches. Once the previous studies were identified and summarized, the secondary objective was to evaluate a number of factors involved in the conclusions of these studies, namely identification of reference background areas, statistical methodology used in development of background levels, and data quality assessment and validation methodology used to qualify the data. Overall, the data quality review process for the historical soil background investigations showed that the data quality meets the requirements for background identification and characterization and should be considered of sufficient quality for comparison with the other investigations.

Tetra Tech concluded that the results of the 2011 EPA Background Evaluation for the SSFL presented in HGL (2011) was the most comprehensive background evaluation performed to date and should be used for the assessment of background radionuclide concentrations for comparative analysis purposes at the BBC. However, for comparative purposes and for conservatism the McLaren-Hart (1993; 1995) and Ogden (1998) background radionuclide concentrations were also utilized. Table 8 provides the BTVs identified in the historical soil radionuclide background studies. The BTV for the McLaren-Hart (1993; 1995) and Ogden (1998) studies is the 95UCL calculated using a statistical approach for censored data sets as recommended in EPA (2002a; 2009b) and Helsel (2005; 2012).

Table 8 Summary of Soil Radionuclide Background Threshold Values for Cs-137 and Sr-90

Background Investigation	Background Threshold Value (BTV)	
	Cs-137 (pCi/g)	Sr-90 (pCi/g)
McLaren-Hart (1993; 1995)[1]	0.349	0.127
Ogden (1998)[2]	0.167	-
HGL (2011)[3]	0.193	0.075

[1,2] Based on the Mean + 2 times the Standard Deviation calculated using K-M Statistics in ProUCL 5.0
[3]Value obtained from the HGL (2012b) Look-up Table Technical Memorandum

5.0 PREVIOUS SITE INVESTIGATIONS

This section presents the summary review and results of selected environmental and radiological studies presented in Section 3.0 pertaining to the BBC. The results of the previous investigations are compared with background values where applicable and any conclusions by regulatory agencies based on the information presented in these studies are summarized as well.

5.1 MULTIMEDIA SAMPLING INVESTIGATIONS (1992, 1994)

The most comprehensive environmental and radiological sampling conducted at the BBC to date were the 1992 and 1994 field investigations summarized in McLaren-Hart (1993) and McLaren-Hart (1995), respectively. These assessments were intended by EPA to determine whether properties adjacent to and north of the SSFL, including the BBC the Sage Ranch Park properties, had been exposed to releases from SSFL (Figure 2). These studies were performed according to DTSC-approved work plans. In September 2003, Weston published the *Site Inspection Report Energy Technology Engineering Center/Area IV Simi Hills California* on behalf of EPA (Weston 2003). The Weston (2003) report summarized the results of the 1992 and 1994 investigative efforts in detail.

Soil and water sampling were conducted on the BBC and at Sage Ranch in 1992 and 1994. Background evaluations were also conducted as discussed in Section 4.2. During the 1992 study, 118 soil/sediment and a number of surface water samples were collected from nine human activity and drainage areas at the BBC and Sage Ranch. During the 1994 study, 124 soil/sediment samples were collected from nine human activity and drainage areas, and these were analyzed for tritium with additional analytes as defined by the sampling areas (McLaren-Hart 1995). Within the BBC there were 20 primary study areas evaluated, referred to as BB-01 through BB-20. A number of soil or sediment samples were collected using a random systematic grid within each of the study areas as presented in McLaren-Hart (1993; 1995) and in Weston (2003). The samples were submitted for radionuclide analysis – primarily for Cs-137, Sr-90, Pu-238, and tritium. The primary COPCs evaluated for this investigation include Cs-137 and Sr-90, and the maximum of these COPC results for each study area and the data collected are provided in Table 9. Figure 8 provides the location of most of the 1992 and 1994 study areas (with the exception of BB-11) in relation to the primary human activity areas identified in 2016. It is evident that only five study areas from 1992 and 1994 investigations were located within the BBC main area as identified in Figure 8. This was noted in Tetra Tech's data gap analysis (Section 7.0) and led to the recommendation for further sampling.

While there were individual samples above BTVs, the 1992 and 1994 studies concluded that none of the study areas had radionuclides present at concentrations statistically higher than background levels. Concentrations of Cs-137 and Sr-90 were highest in BB-16 and BB-17, both located in the NBZ which was subsequently purchased by Boeing and is no longer part of the BBC. The terrain in this region is difficult to access and likely did not provide an exposure route for users of the BBC property, even prior to its sale to Boeing in 1997.

In July 1995, EPA announced the results of the SSFL's Offsite Sampling Program in an EPA Update (EPA 1995). **This EPA Update stated that based on EPA calculations, the theoretical cancer probability or risk to campers or camp counselors was less than EPA's threshold level for action of 1 x 10^{-6} lifetime cancer risk (one additional case of cancer per 1 million people).**

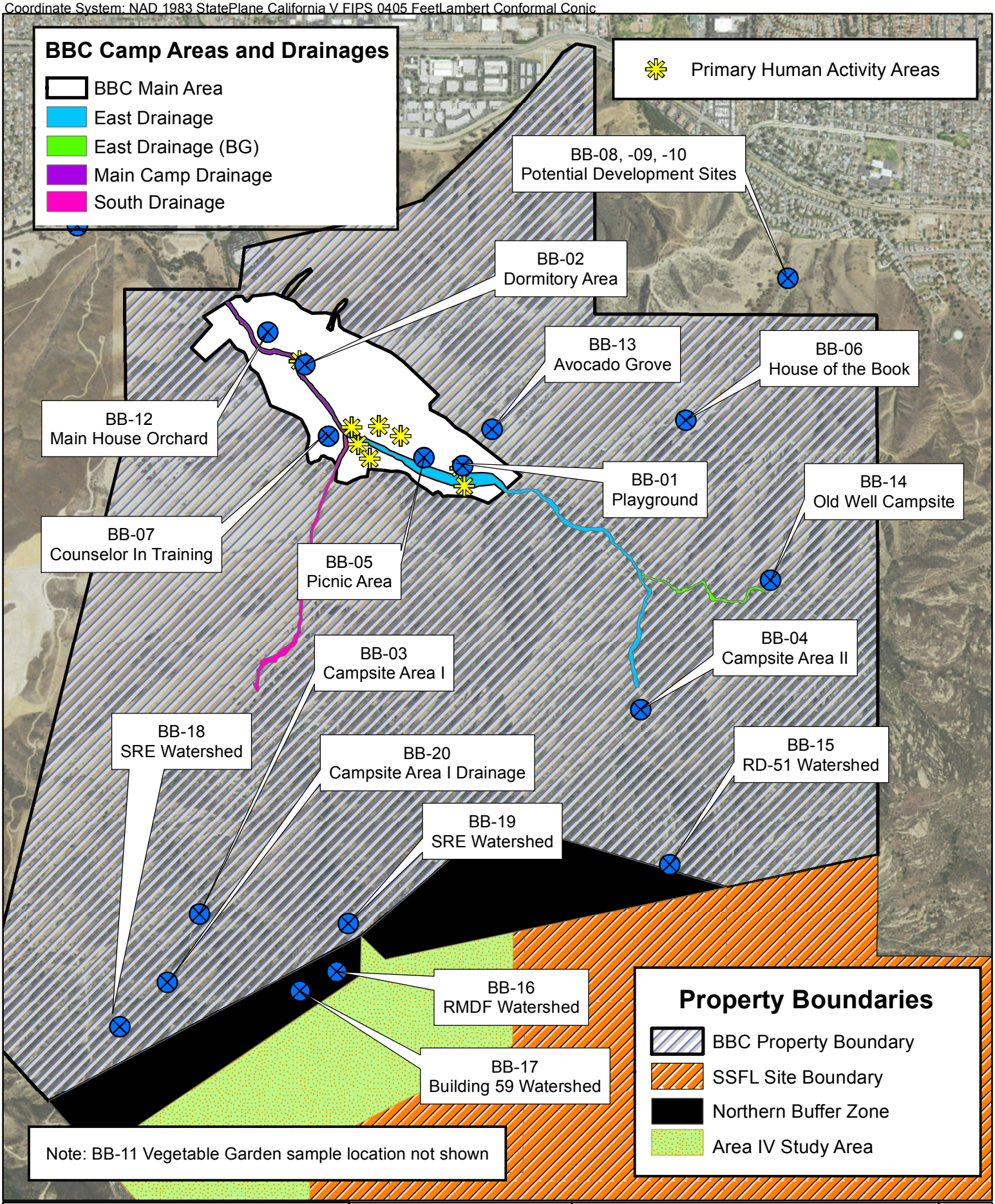
Table 9 Summary of Maximum Radionuclide Concentrations from 1992/1994 Investigations

Study Area ID	Study Area Name	Maximum Cs-137 (pCi/g)[1]	Year Collected	Maximum Sr-90 (pCi/g)	Year Collected
BB-01	Playground	0.10	1992	0.04	1992
BB-02	Dormitory Area	0.10	1992	0.02	1992
BB-03	Campsite I	0.38	1992	0.09	1992
BB-04	Campsite II	0.15	1992	0.03	1992
BB-05	Picnic Area	0.22	1992	0.06	1992
BB-06	House of Book	< 0.05 U	1992	0.02	1992
BB-07	Counselor In Training Area	0.13	1992	0.02	1992
BB-08	Potential Development Site I	0.17	1992	0.02	1992
BB-09	Potential Development Site II	0.11	1992	0.02	1992
BB-10	Potential Development Site III	0.16	1992	0.06	1992
BB-11	Vegetable Garden	0.20	1992	0.02	1992
BB-12	Main House Orchard	0.15	1992	0.04	1992
BB-13	Avocado Grove	0.10	1992	0.01	1992
BB-14	Old Well Campsite	0.27	1992	0.06	1992
BB-15	RD-51 Watershed	0.052	1992	0.01	1992
BB-16	RMHF Watershed	0.46	1994	0.24	1994
BB-17	Building 59 Watershed	0.385	1994	0.03	1992
BB-18	Sodium Burn Pit Watershed	0.085	1992	0.02	1992
BB-19	SRE Watershed	0.30	1992	0.12	1994
BB-20	Campsite I Drainage	0.11	1994	0.18	1994

[1]pCi/g = picocuries per gram
[2]Lab qualifier = "U" indicates the reported value is less than the minimum detectable concentration (MDC)
Note: BB-11 sampling location not shown on Figure 8

Tetra Tech reviewed the environmental monitoring program designed and implemented by McLaren-Hart in 1992 and 1994. The program met data quality objectives: sufficient QA/QC procedures, data validation, and sampling documentation and recordkeeping protocol were followed. The results of the data quality review indicated that the data collected were sufficient and no data gaps existed with regards to environmental sampling with the exception of the gamma radiation survey quality procedures as described in Section 7.0. Additionally, statistical techniques used in McLaren-Hart (1993; 1995) are outdated and a more robust analysis was conducted on the 1992 and 1994 background soil samples as presented in Section 4.2; Tetra Tech's approach led to higher conservatism for the background analysis. Overall, the environmental and radiological data collected in both the 1992 and 1994 McLaren-Hart field investigations should be considered valid and may be used for the purposes of risk evaluation as was done by multiple regulatory review agencies including EPA, DTSC, and Agency for Toxic Substances and Disease Registry (ATSDR).

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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HISTORICAL SOIL SAMPLING LOCATIONS 1992 AND 1994 MCLAREN-HART INVESTIGATION

A Revision

Project: Brandeis-Bardin Campus | P#: 103P4384

Location: Simi Valley, CA | March, 2016

Figure 8

5.2 OFF-SITE DATA EVALUATION REPORT (2007)

Pursuant to Section 3.4.9 of the Consent Order for Corrective Action signed by DTSC, Boeing, NASA, and DOE in August 2007 (EPA 2007), MWH conducted an investigative study to present and evaluate off-site chemical and radiological sampling data from various environmental media compiled from 18 different field sampling and analysis programs within a 15 mile radius of SSFL over the past nearly 60 years. MWH submitted an off-site evaluation report (MWH 2007) on behalf of DOE and Boeing. The objectives of this report were to summarize all off-site media sampling and testing data for chemicals and radionuclides conducted by Boeing, NASA, or DOE around the SSFL and evaluate the data for completeness to make conclusions and recommendations for additional sampling if needed (MWH 2007). This evaluation included data review of off-site properties and areas including the BBC. MWH concluded the off-site sampling results are sufficient with no data gaps identified except within the ongoing investigation or cleanup. **The off-site sample results, including the data evaluated at the BBC, for dioxins, polychlorinated biphenyls (PCB), perchlorate, total petroleum hydrocarbons (TPH), and radionuclides were found to be not significantly different than background.**

Groundwater contamination originating from the SSFL has migrated off site as stated in Weston (2003). The groundwater beneath the SSFL site is contaminated with TCE, with current data indicating concentrations as high as 110,000 µg/L. The release is likely attributable to the SSFL site because TCE has been used extensively throughout the SSFL's operational history (Weston 2003). The 2007 off-site data evaluation conducted by MWH concluded that available data and ongoing monitoring indicate that contaminants in groundwater have only migrated off site in the northeast portion of the SSFL area which is an area of extensive, ongoing investigations (MWH 2007). The other off-site sampling results indicate that the groundwater flow system has not transported contaminants from beneath the SSFL to off-site locations, including the BBC (MWH 2007). The AJU confirmed that no groundwater is currently being utilized at the site (Tetra Tech 2016). The main water source for the BBC is the Calleguas Municipal Water District- which is strictly monitored on many different regulatory levels. Therefore, it can be concluded that groundwater contamination is not a human health risk for campers, residents, or visitors of the BBC. Groundwater was not evaluated in the quantitative exposure analysis performed by Tetra Tech.

5.3 AREA IV RADIOLOGICAL CHARACTERIZATION STUDY (2012)

HGL was tasked by EPA to conduct an extensive radiological characterization study at the SSFL Area IV and the NBZ. The HGL study was performed to meet the requirements of the State of California's Senate Bill 990 and subsequently the Administrative Order on Consent for Remedial Action (DTSC 2010). A background study was performed as part of the HGL study. EPA's radiological characterization study involved collecting a total of 3,375 soil and sediment samples, and 215 groundwater and surface water samples within Area IV and the NBZ. Each sample was analyzed for one or more of 54 radioactive contaminants. During this evaluation no information was gathered on the BBC specifically; however, the results of this study showed very limited radiological contamination remained within the NBZ (HGL 2012a). Only isolated radionuclide detections were found in the NBZ and there was no pattern or grouping of exceedances above field action levels (HGL 2012a). Because the NBZ is situated between the SSFL and the BBC, the results of this study tend to suggest that contaminants originating from the SSFL are unlikely to have significantly impacted the BBC.

5.4 CDM PHASE 3 NORTHERN BUFFER ZONE SAMPLING (2014)

The "*Technical Memorandum Phase 3 Chemical Data Gap Investigation Sampling Results Subarea 7 and Northern Buffer Zone in Area IV"* was prepared by CDM for the DOE and published in June 2014. Figure 2-2 of CDM (2014) provides the NBZ Phase 3 soil sampling locations, and indicates that a number of samples (~22 samples) were collected on the BBC to the north of the Northern Buffer Zone boundary which is located on the BBC. The Subarea 7 and NBZ Phase 3 soil samples, including the samples collected on the BBC drainages and northern property, were subject to analysis using at least one of the following methods as part of the 2014 study:

- Metals using EPA Methods 6010C/6020A, 7471B (mercury), and 7199 (chromium VI)
- Soil pH using EPA Method 9045M
- Polycyclic Aromatic Hydrocarbons (PAH) using Method 8270D selective ion monitoring (SIM)
- N-Nitrosodimethylamine using EPA Method 8270D SIM
- Pesticides using EPA Method 8081B
- Herbicides using EPA Method 8151A
- PCBs/PCTs using EPA Method 8082A
- Dioxins/furans using EPA Method 1613B
- Formaldehyde using EPA Method 8315A
- TPH-EFH using EPA Method 8015M
- TPH-GRO using EPA Method 8015M

Samples were collected and submitted for laboratory analysis to Eurofin Lancaster Laboratory. The analytical results of the 2013 study as well as QA/QC data results from that study are summarized in Table 3-4 through Table 3-6 of CDM (2014). The 2014 CDM technical memorandum (CDM 2014) also provides a description of the sampling activities and a discussion of the analytical data review findings for Phase 3 sampling in Subarea 7 and NBZ. The technical memorandum does not provide an interpretation of the results.

5.5 CDM GO BACK SOIL SAMPLING (2014)

Tetra Tech reviewed the "*Technical Memorandum Phase 3 Chemical Data Gap Investigation Sampling Results Go-Backs, Trenches and Soil Vapor Locations Santa Susana Field Laboratory Ventura County, California"* prepared by CDM for the DOE and published in June 2015. Figure 2-1 of CDM (2015) provides the go back sampling locations. As shown on Figure 2-1, a number of samples were collected to the north of the NBZ boundary which is located within the BBC property.

A total of 10 sample locations are shown to be completely located within the BBC property boundary. An additional four samples are at or near the boundary between the NBZ and the northern portion of the BBI campus. The technical memorandum does not provide an interpretation of the results.

5.6 INDEPENDENT TESTING (2004 – PRESENT)

In addition to the studies that met the criteria described in Section 3.0, the BBI (Pre-2007) and the AJU hired independent consultant Joel Cehn to conduct environmental monitoring of the property. The environmental media sampled included soil, groundwater, surface water, vegetation, and milk. The consultant collected numerous samples over the past two decades as summarized in the Table 10. The testing was done independent of agency approved work plans and was primarily intended to verify that contaminants had not migrated from SSFL onto the BBC property. The laboratory results of these sampling events were provided in the form of technical memorandums from the consultant to the AJU (or Brandeis-Bardin pre-2007) (Cehn 2013). In many cases, the sampling was conducted in conjunction with outside consultants working with Boeing or NASA under guidance from government regulatory agencies.

Table 10 Frequency of Independent Environmental Monitoring Conducted at BBC from 2004 to Present

Date	Soil	Groundwater or Surface Water	Vegetation	Milk
3/3/2004	16	5	1	
3/1/2004	4	--	--	
4/1/2004	2	--	--	
7/8/2004	--	14	5	1
6/26/1905				
4/25/2006	1	--	--	
5/15/2006	16	--	3	2
1/8/2010	5	--	--	--
8/22/2011	--	7	6	
1/30/2012	--	8	--	--
12/30/2013	--	10	--	--
7/11/2014	--	--	--	--
9/30/2014	--	3	10	--
12/21/2015	7	6	--	--

The soil samples were submitted for non-radionuclide analytes including metals, dioxins, and PCBs. Tetra Tech evaluated the information from these sampling events and concluded that the mean soil concentrations of the metals concentrations from the samples were all below the BTVs established by DTSC in 2012, as discussed in Section 4.5.

6.0 OVERVIEW OF POTENTIAL CONTAMINANTS FROM THE SSFL

Tetra Tech's human exposure pathway assessment determined the primary pathways for human exposure are ingestion, inhalation, dermal contact, and external exposure to soil and sediment (Section 2.1). The primary COPCs identified from previous studies for soil and sediment include Cs-137, Sr-90, metals, and perchlorate. Pu-239, iodine-129, and cobalt-60 were not evaluated because these analytes were not detected above detection limits in any of the samples collected from the BBC (Weston 2003) in the 1992 McLaren-Hart study (McLaren-Hart 1993). Additionally, naturally occurring radionuclides such as uranium, thorium, and radium were not evaluated for this investigation because these are not associated with the historical operations at the SSFL. The following subsections present overview summaries of the primary COPCs for soil and sediment evaluated as part of this investigation.

6.1 CESIUM-137

Cesium is a naturally occurring element found in soil, dust, and rock in its stable form of cesium-133. Radioactive forms of cesium, such as Cs-137, are associated with nuclear fuel sources and are created from the fission of uranium in fuel rods during normal operations or from explosion of nuclear weapons. Radioactive cesium can be released to the environment through normal operations of a nuclear power facility, explosion of nuclear weapons, or accidents involving nuclear fuel (ATSDR 2004). Cs-137 is one of the man-made radionuclides which has been identified as a COPC at the SSFL due to the operational history at the facility. Cs-137 decays to stable barium-137 with a half-life of 30 years. Cs-137 is a beta/gamma emitter. Cesium tends to bind to soil particles and typically remains in the surface soil. It is not, therefore, readily available for uptake by vegetation through roots. However, natural cesium is present in plants and animals at concentrations of 1 nanogram per gram (ng/g) to 300 ng/g, and Cs-137 has been detected worldwide in surface water and food products (ATSDR 2004).

6.2 STRONTIUM-90

Radioactive Sr-90 is produced when uranium and plutonium undergo fission. Large amounts of radioactive Sr-90 were produced during atmospheric nuclear weapons tests conducted in the 1950s and 1960s. As a result of atmospheric testing and radioactive fallout, strontium was dispersed globally. Sr-90 has been identified as a COPC at the SSFL due to the operation history at the facility. Sr-90 decays to yttrium-90 (Y-90) with a half-life of 29 years. Y-90 is also unstable and decays to stable zirconium-90 with a half-life of 64 hours. Sr-90 and Y-90 are expected to be in equilibrium, a steady-state condition of equal activities. Sr-90 and Y-90 are beta emitters so are not easily detected by gamma scanning. However, the beta emission from Y-90 can produce x-rays that may be detected by gamma measurements.

6.3 METALS

Previous SSFL operations resulted in soil and groundwater contamination at the SSFL. Metals in the soils at the SSFL have been identified as primary COPCs associated with the operational history of at the facility. Metals naturally exist in all soils at concentrations representative of the local geology. Establishing background concentrations for the SSFL and surrounding areas was the focus of several investigations, with the most recent being published in 2012 that established background threshold values for non-radionuclides (DTSC 2012).

6.4 PERCHLORATE

Perchlorates are colorless salts that have no odor and dissolve easily in water. Perchlorates are used in explosives, fireworks, and rocket fuel. Perchlorates can form naturally in the atmosphere and are present in rainfall. Additionally, high levels can occur naturally in some locations (such as South Texas, New Mexico, and northern Chile) (ATSDR 2008). Ammonium perchlorate is the type of perchlorate found in rocket fuel. Perchlorate is a known SSFL-related contaminant and has been detected in groundwater at the SSFL.

7.0 DATA GAP ANALYSIS

A data gap analysis was performed after reviewing the historical information and previous investigation conducted at the BBC as described in Section 4.0 and Section 5.0. This section provides a brief overview of the data gap analysis and the results of the data gap analysis.

7.1 OVERVIEW OF DATA GAP ANALYSIS

On behalf of the DOE and Boeing, a comprehensive data evaluation was conducted by MWH in 2007 to determine whether more sampling was required to reliably evaluate health risks associated with the off-site locations. More detailed discussion of this off-site data evaluation is provided in Section 5.2. The results of the MWH off-site data evaluation concluded there were no data gaps (MWH 2007). Nonetheless, Tetra Tech conducted a data gap analysis to review the adequacy of the existing environmental and radiological data collected solely at the BBC related to various environmental media with specific reference to use the data in site characterization, background comparisons, and risk–based screening level assessments. The goal of the data gap analysis was to determine if sufficient data are available to characterize the current existing environmental and radiological conditions at the BBC in order to evaluate any risk to campers, residents, and visitors who may be at the site during various times of the year. The specific technical objective of this effort was to determine whether spatial, temporal, analytical, or data quality gaps exist.

7.2 RESULTS OF DATA GAP ANALYSIS

Site investigations were conducted at the BBC in 1992 and 1994 by McLaren-Hart, as summarized in McLaren-Hart (1993, 1995). These site investigations involved collection of static gamma exposure rate measurements. However, these reports lacked substantive information related to geospatial location, QC techniques and results, and detailed information on the radiation instrumentation used in these studies, including calibration documentation. The gamma surveys involved only static measurements; no continuous gamma surveys were conducted and thus presented a data gap based on the availability of newer technology. The development of global positioning system (GPS)-based gamma radiation surveys in the past two decades has reduced the spatial and quantitative uncertainties associated with discrete point and static-grid measurements (Whicker 2015). It was recommended that a comprehensive continuous gamma radiation survey using mobile GPS-based survey systems be conducted within the BBC main camp area and the BBC drainages as well as within identified background reference areas. The purpose of these surveys was to ascertain any statistical and radiological anomalies that may be present at the BBC to evaluate the potential for radiological contamination from gamma-emitting radionuclides.

Soil sampling for radionuclide analysis had not been conducted since the 1992 and 1994 field investigations (McLaren-Hart 1993, 1995). It was recommended that collection of sediment and soil samples at the BBC main camp area and the drainages be conducted. It was also recommended that a comprehensive soil sampling investigation be conducted at high use areas within the BBC and at drainage areas where the flow paths originated from the Area IV region of the SSFL. Sediment and soil samples were analyzed for radionuclides, metals, and perchlorate. The results of the soil investigation were compared with the results of the background reference area samples for both the sediment and soil samples. The results of this investigation are summarized in the following section and set forth in detail in Appendix A.

8.0 2016 SITE INVESTIGATION

Based on the results of the data gap analysis (Section 7.0), Tetra Tech recommended that a comprehensive continuous gamma radiation survey using mobile GPS-based survey systems within the BBC main camp area, the BBC drainages, , and identified background reference areas. The purpose of these surveys was to ascertain any statistical and radiological anomalies that may be present at the BBC to assess the potential for radiological contamination from gamma-emitting radionuclides (e.g. Cs-137). Tetra Tech also recommended collection of sediment and soil samples at the BBC main camp area and the drainages. Tetra Tech's recommendations were reviewed and approved by the AJU, and Tetra Tech implemented the proposed radiological and soil investigations in February 2016. This section presents a brief summary and conclusions of the 2016 radiological and soil investigation. The final *Radiological and Soil Investigation Report* is provided in Appendix A.

8.1 OVERVIEW

The purpose of this investigation was to assess the environmental and radiological conditions at the BBC site relative to background. The investigation was focused on areas where the potential for contaminant migration from the nearby SSFL may exist (such as drainages leading from the SSFL) and within areas where campers are most likely to be spend their time. This investigation included the following:

- Mobile GPS-based gamma radiation surveys at areas within the BBC and at identified radiological background reference areas (RBRA).
- A soil sampling investigation at drainages entering and passing through the BBC, within selected exposure areas at the BBC, and at background reference locations identified by Tetra Tech.

The goal of the continuous gamma radiation survey was to characterize the spatial distribution of gamma radiation emanating from surface soils within the BBC, at drainages entering and draining through the BBC property, and at background reference areas. The purpose of the soil sampling was to collect information on the existing radiological and chemical conditions within the drainages and primary exposure areas of the BBC. The gamma radiation survey provides information on gamma emitting radionuclides in the terrestrial environment but does not identify the specific radionuclides (man-made or naturally occurring). The surveys also do not detect certain radionuclides, such as Sr-90, that do not emit gamma radiation. Tetra Tech recommended laboratory analysis of soil samples to investigate not only the presence of non-gamma emitter radionuclides, but also non-radioactive analytes associated with the SSFL operations (i.e., certain metals and perchlorate). The following two subsections summarize the results of the gamma radiation survey and soil investigation at the BBC (Appendix A). A map providing all of the historical soil and sediment sampling locations in the vicinity of the BBC property (excluding sampling conducted on the SSFL itself) is provided in Figure 9.

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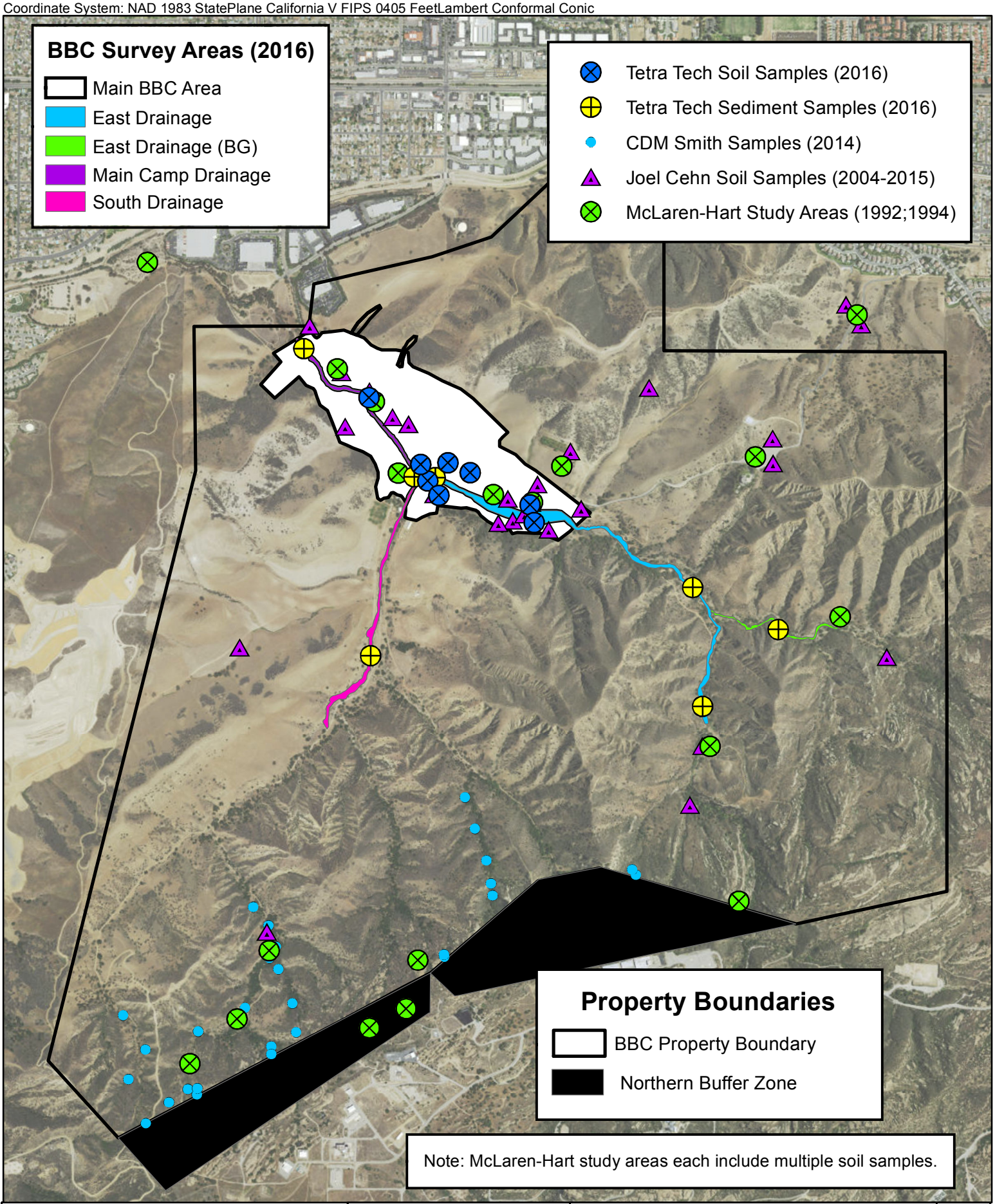

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COMPREHENSIVE SOIL AND SEDIMENT SAMPLING LOCATION MAP AT BBC

B Revision

Project: Brandeis-Bardin Campus

P#: 103P4384

Location: Simi Valley, CA

March, 2016

Figure 9

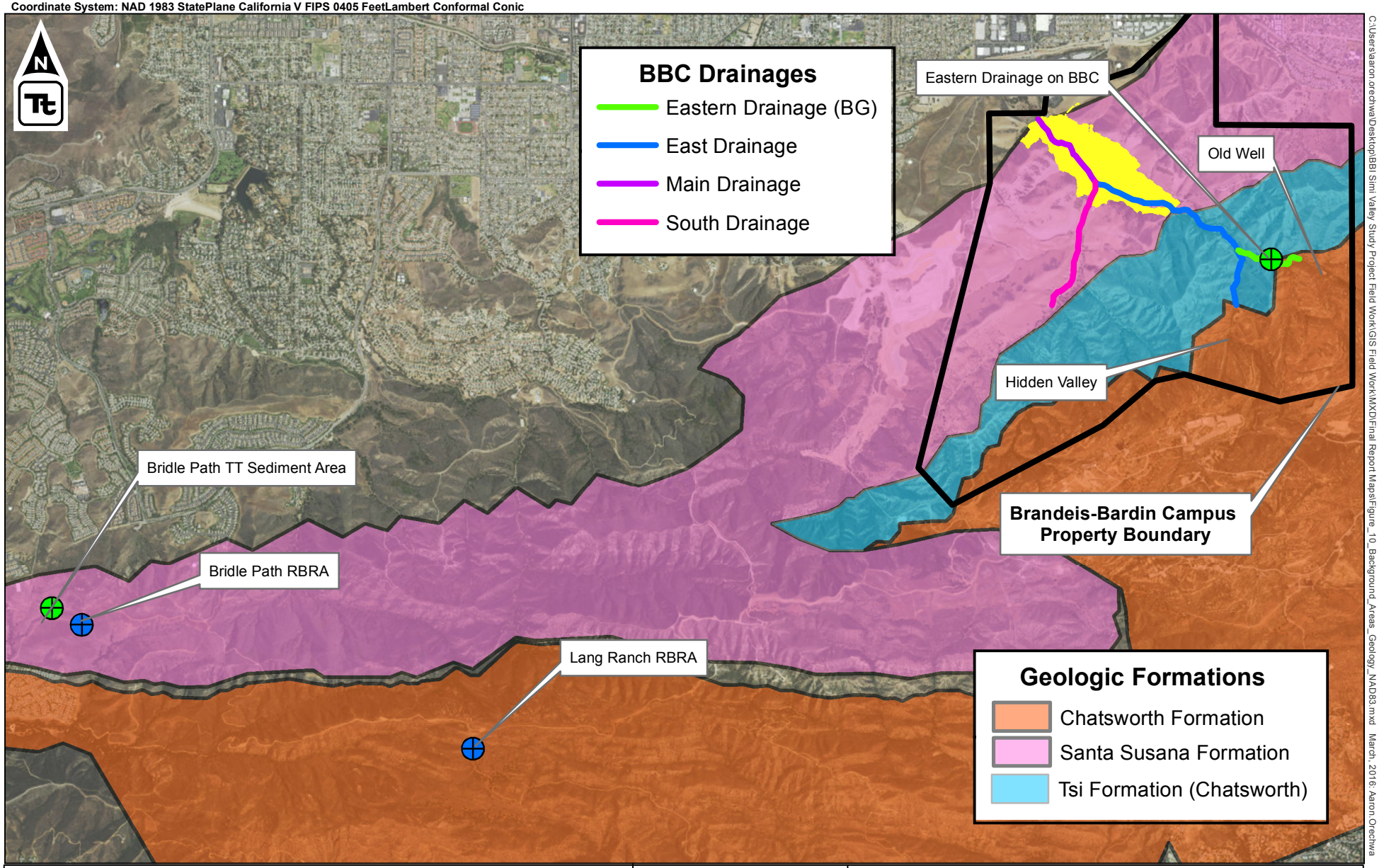
8.2 GAMMA SURVEY RESULTS

Tetra Tech performed a continuous gamma radiation survey in February 2016 at the BBC property and at four background areas following the methods outlined in Appendix A. The comprehensive continuous gamma radiation surveys used in this investigation were intended to ascertain whether radiological anomalies may be present at the BBC, and if so, to assess the potential for radiological contamination from gamma-emitting radionuclides. Tetra Tech compared on-site gamma radiation data with background reference area data that represented background conditions with no potential contamination from the SSFL. These background reference areas were selected using EPA approved background areas from HGL (2011, 2012a) referred to as RBRAs. Additional background drainage reference areas were selected based on strict criteria including geologic characteristics, proximity to existing RBRAs, and flow origination in order to avoid biases in the comparative analysis. The same measurement techniques and instrumentation were used on site and off site as recommended in the NRC guidance document NUREG 1501 (NRC 1994).

The gamma radiation survey collected 39,463 gamma exposure rate measurements within the six areas at the BBC. An additional 4,166 gamma exposure rate measurements were collected within four background reference areas within the two primary geologic formations covering the BBC and the SSFL (e.g., Santa Susana and Chatsworth) as shown in Figure 5 to establish four background reference points. A statistical analysis was performed on the gamma exposure rates collected within the BBC main camp area and the BBC drainages. The gamma radiation datasets collected within these regions of the BBC property were compared statistically with the gamma radiation datasets collected at background reference areas, which included background soil plot areas and background sediment areas. The results from the gamma radiation surveys within the BBC property showed there is no statistically significant difference between the mean of the gamma exposure rate distributions within the BBC main camp area and the gamma exposure rate distributions within EPA-selected RBRAs. Similarly, the results showed no statistically significant difference between the mean of the gamma exposure rate distributions within the BBC drainages (North, Main, South, and Eastern Drainages) and the mean of the gamma exposure rate distributions measured within the background drainage reference areas. A map showing the locations of the BBC gamma survey areas, including the Old Well and Hidden Valley areas, and the background reference areas is provided in Figure 10. The gamma exposure rate maps for the Bridle Path and Lang Ranch background reference areas are provided in Figure 11 and Figure 12, respectively. A gamma exposure rate map showing the results of the 2016 field investigation gamma radiation surveys are provided in Figure 13 and Figure 14.

A number of documents and records were generated during the field activities, including instrument calibration records, field logbooks, sample collection logs, and chain of custodies. These materials are included in Appendix A.

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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MILES
0 0.25 0.5

Background Soil Sample Location

Background Sediment Sample Location

Prepared for:
American Jewish University

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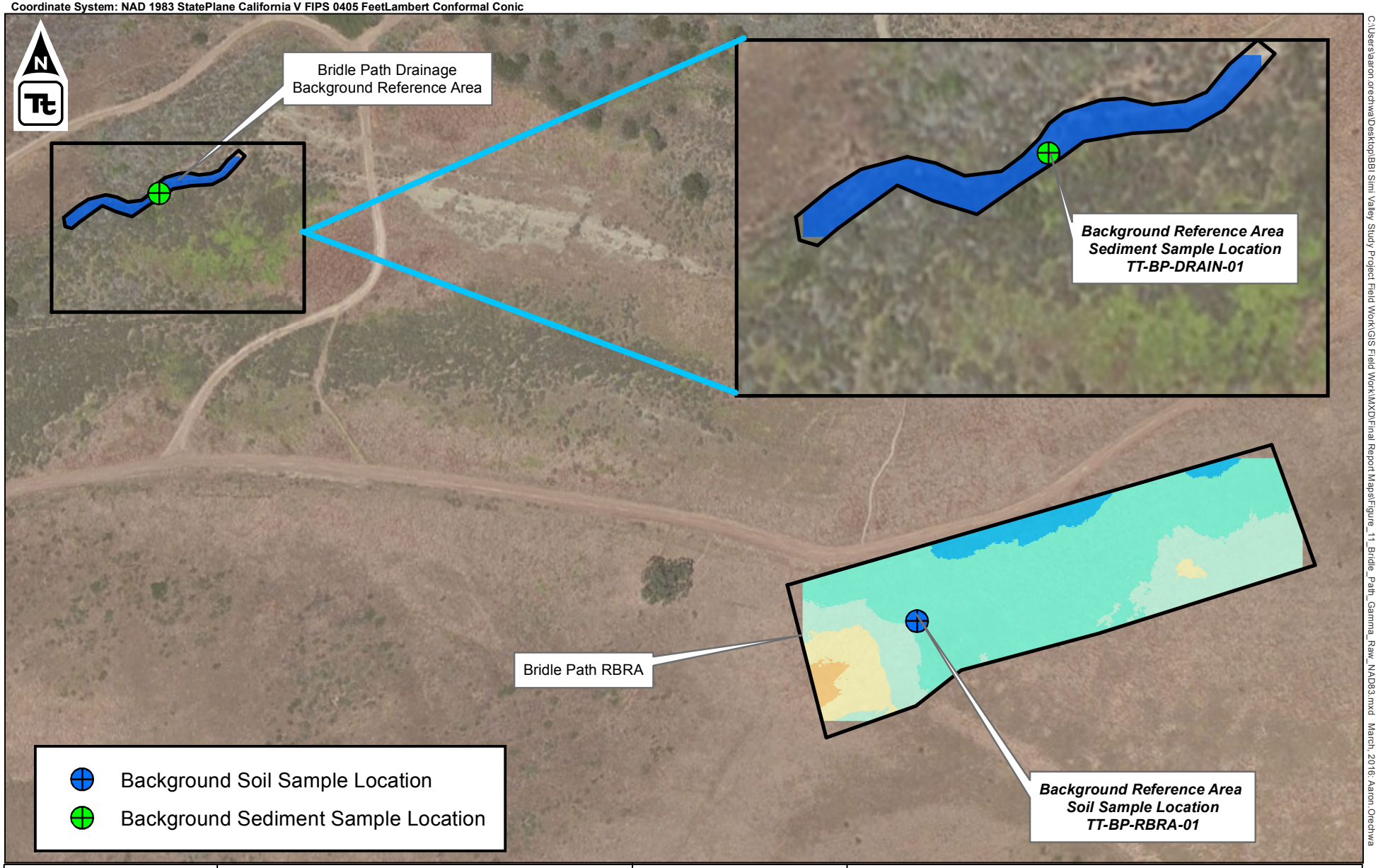
LOCATIONS OF BACKGROUND AREAS AND BBC SURVEY AREAS

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 10

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 50 100

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

Prepared for:
American Jewish University

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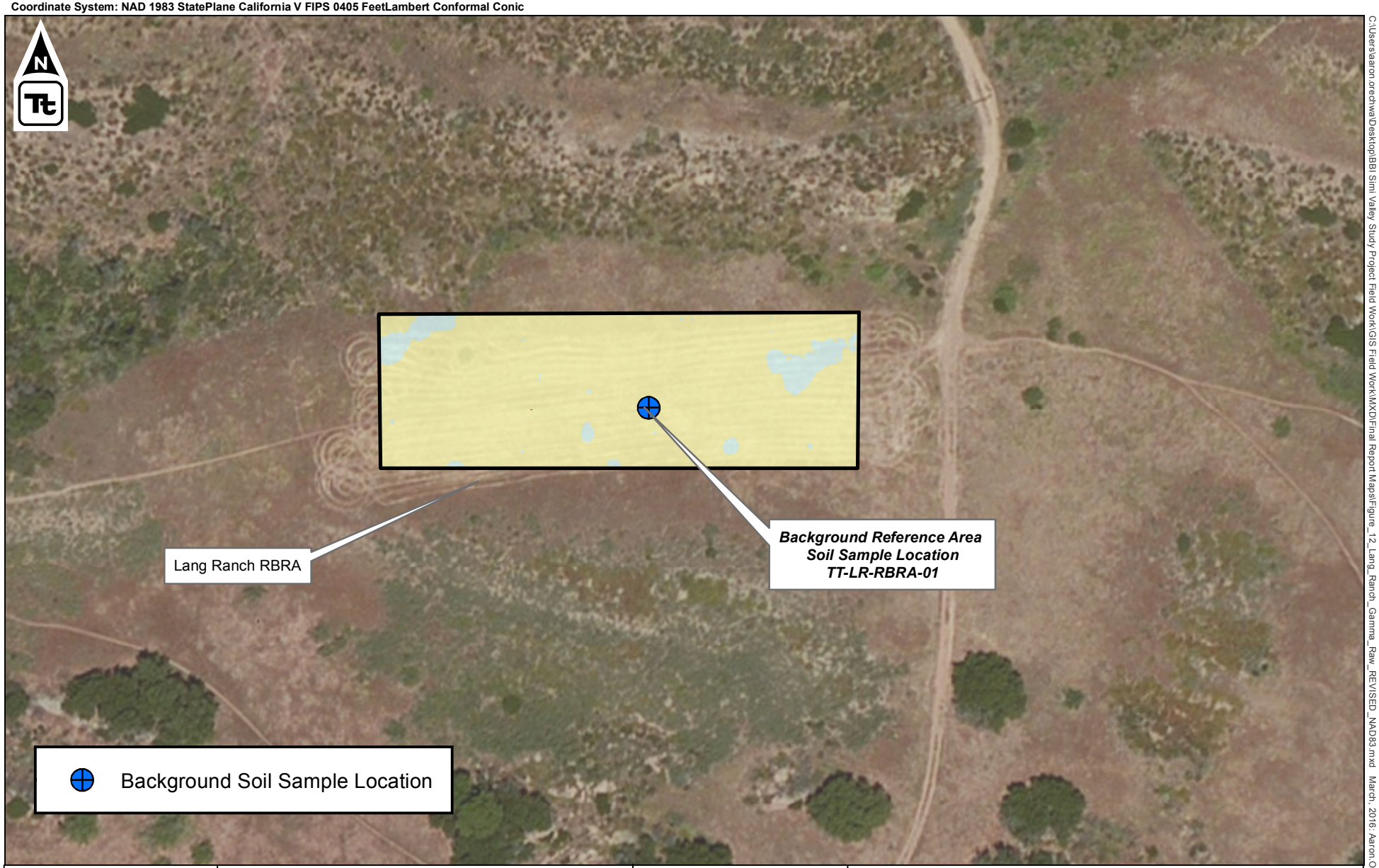
BRIDLE PATH BACKGROUND REFERENCE AREA GAMMA EXPOSURE RATE MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 11

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Final Report Maps\Figure_11_Bridle_Path_Gamma_Raw_NAD83.mxd March, 2016 Aaron.Orechwa

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 50 100

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

Prepared for:
American Jewish University

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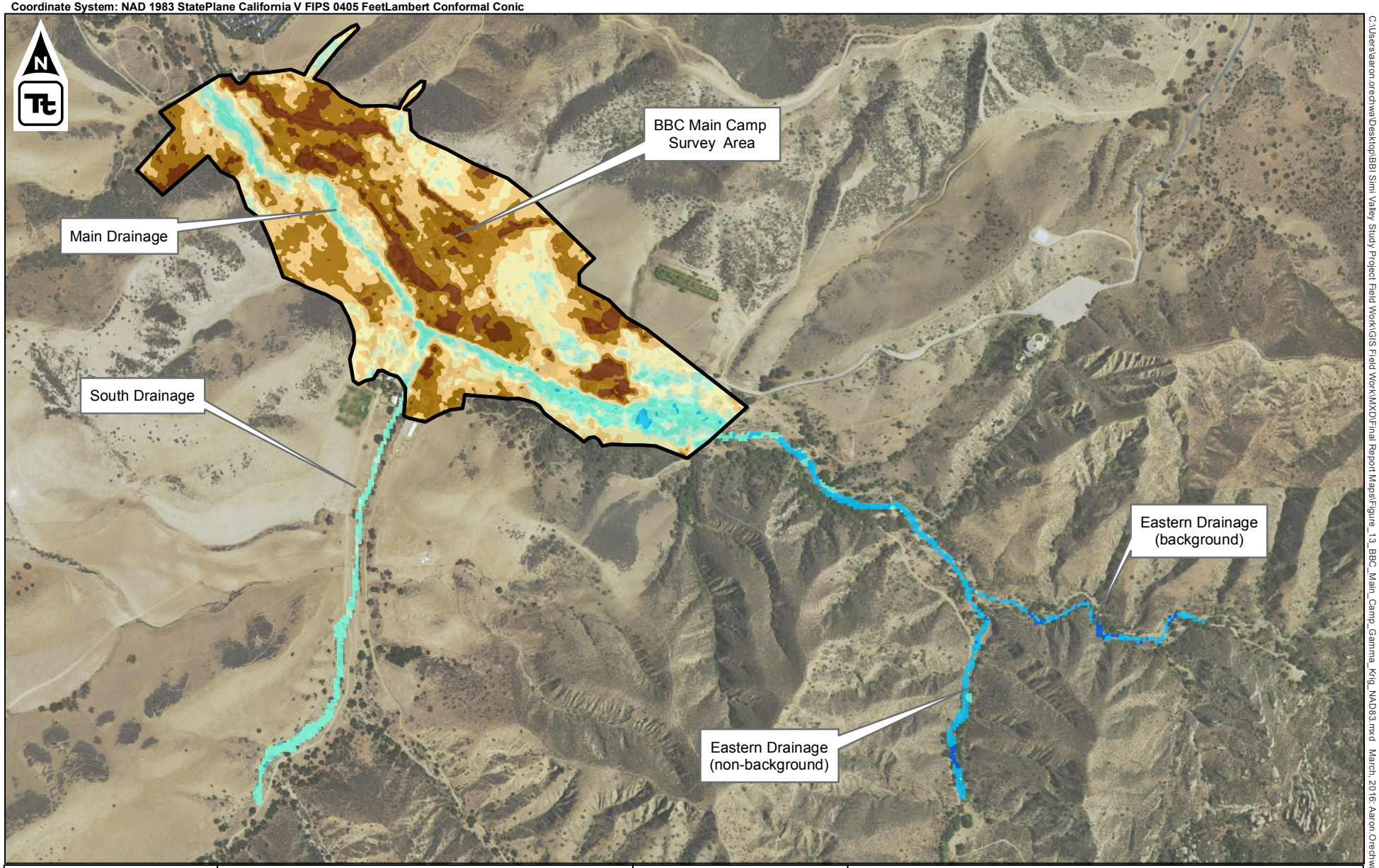
LANG RANCH BACKGROUND REFERENCE AREA GAMMA EXPOSURE RATE MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 12

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Final Report Maps\Figure_12_Lang_Ranch_Gamma_Raw_REVISED_NAD83.mxd March, 2016 Aaron Orechwa

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Final Report Maps\Figure_13_BBC_Main_Camp_Gamma_Krig_NAD83.mxd March 2016 Aaron.Orechwa

FEET
0 500 1,000

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

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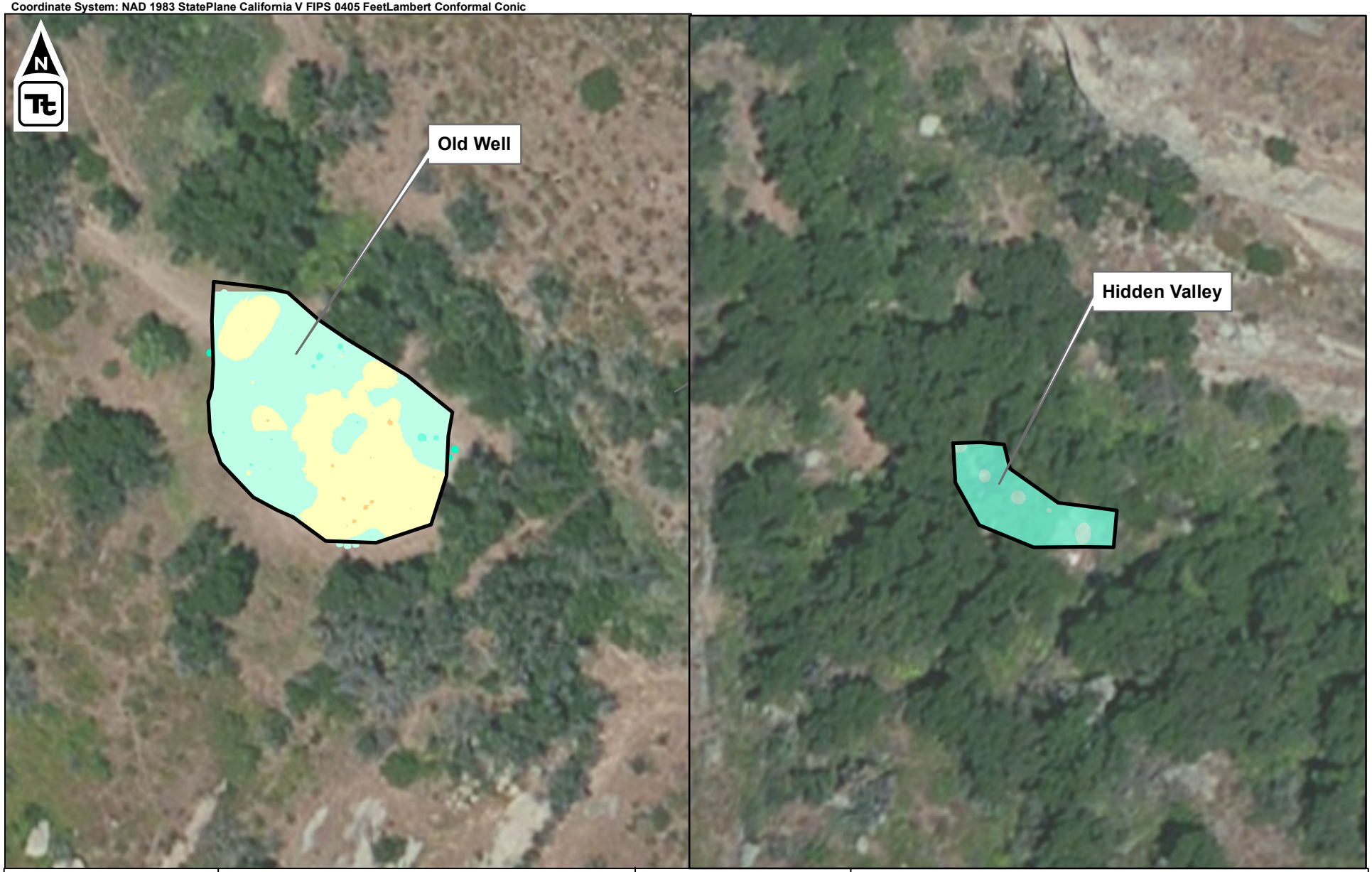
2016 FIELD INVESTIGATION GAMMA SURVEY

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 13

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Final Report Maps\Figure_14_Old_Well_Gamma_Krig_NAD83.mxd March, 2016 Aaron.Orechwa

FEET
0 25 50

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

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GAMMA EXPOSURE RATE MAP OF OLD WELL & HIDDEN VALLEY

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 14

8.3 SOIL AND SEDIMENT INVESTIGATION RESULTS

In addition to performing the gamma survey in February 2016, Tetra Tech also collected soil and sediment samples from various locations on the BBC property. The soil sampling investigation was conducted by Tetra Tech in February 2016 during the same mobilization as the gamma radiation survey. Soil and sediment samples were collected within the primary areas of high use within the BBC and at drainage areas where the flow paths potentially originate from the Area IV region of the SSFL. The purpose of the soil investigation was to collect information on the existing radiological and chemical conditions. Both the sediment and soil samples were analyzed for the COPCs identified in Section 6.0, specifically including: radionuclides, metals, and perchlorate. For validation purposes, individual soil samples were also collected within the approved RBRAs identified in HGL (2011). The results of the soil investigation from the site areas were compared with the results of the background reference area samples collected by Tetra Tech for both the sediment and soil samples as presented in Appendix A. The geospatial coordinates for the sediment and soil sampling locations are presented in Table 11 and Table 12. A map showing the locations of the soil and sediment sampling locations is provided in Figure 15.

Table 11 Geospatial Information for Sediment Sample Locations

Sample ID	Background (Y/N)	QC	Latitude[1]	Longitude
TT-SD1-01	-	Primary	34.24957740	-118.7122916
TT-BPDRAINAGE-01	Y	Primary	34.22185176	-118.8113390
TT-SEDBG-01	Y	Primary	34.25070834	-118.6931649
TT-ED1-01	-	Primary	34.24770261	-118.6966891
TT-ED2-01	-	Primary	34.25230858	-118.6971849
TT-ED3-01	-	Primary	34.25652561	-118.7093089
TT-SD2-01	-	Primary	34.25742761	-118.7113001
TT-BBCSED-01	-	Primary	34.26152343	-118.7155219

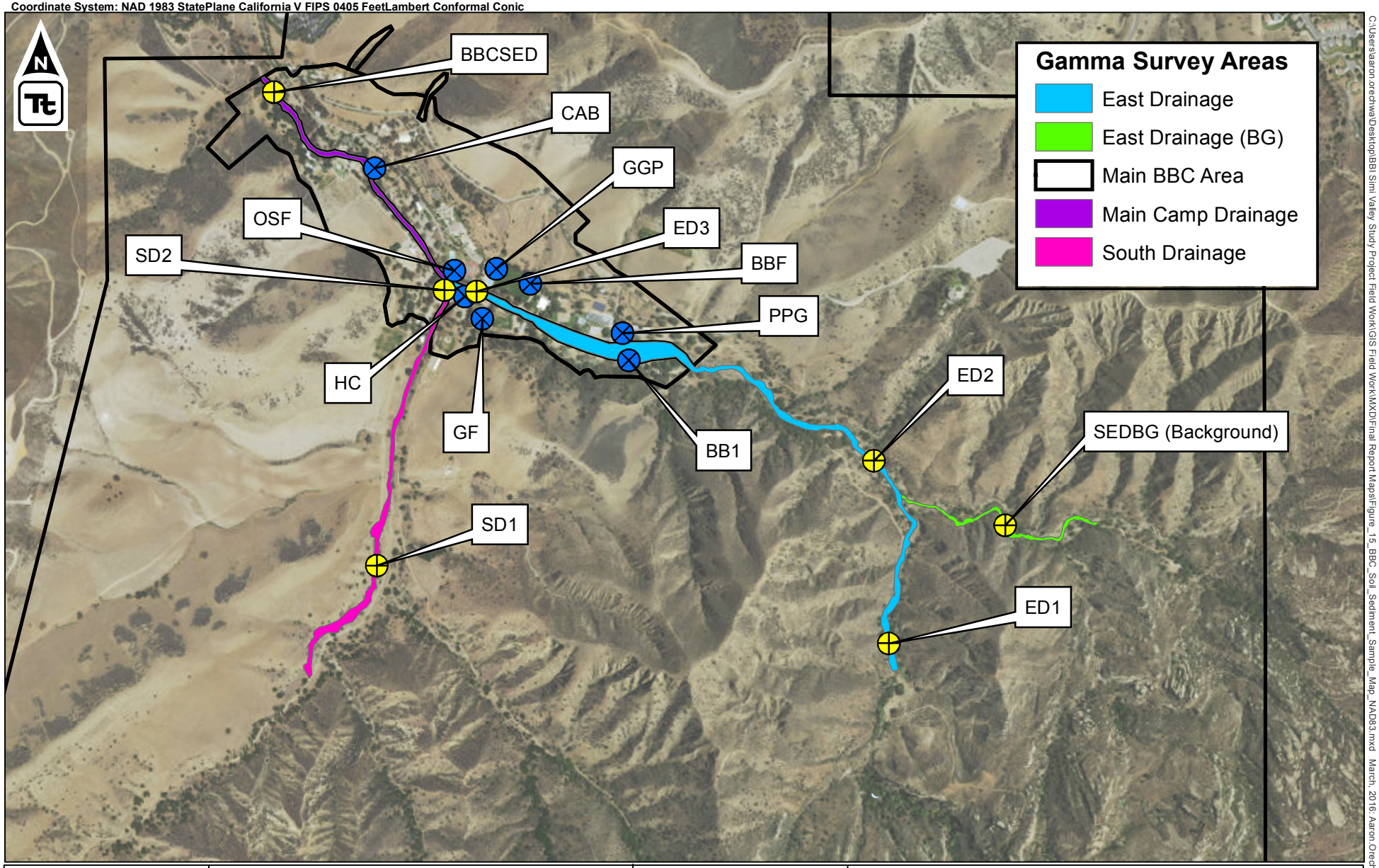
[1]The coordinates are provided in WGS84.

Table 12 Geospatial Information for Soil Sample Locations

Sample ID	Background (Y/N)	QC	Latitude[1]	Longitude
TT-BP-RBRA-01	Y	Primary	34.220501230	-118.808406299
TT-PPG-01	-	Primary	34.255498222	-118.704861556
TT-BB1-01	-	Primary	34.254806065	-118.704658109
TT-BBF-01	-	Primary	34.256729301	-118.707671696
TT-GGP-01	-	Primary	34.257103941	-118.708705857
TT-HC-01	-	Primary	34.256395463	-118.709662709
TT-GF-01	-	Primary	34.255834150	-118.709124137
TT-OSF-01	-	Primary	34.257047021	-118.709985644
TT-CAB-01	-	Primary	34.259619495	-118.712440820
TT-LR-RBRA-01	Y	Primary	34.210758977	-118.770357270

[1]The coordinates are provided in WGS84.

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 500 1,000

Sediment Sample Location

Soil Sample Location

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2016 SOIL INVESTIGATION MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 15

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Final Report Maps\Figure_15_BBC_Soil_Sediment_Sample_Map_NAD83.mxd March, 2016, Aaron.Orechwa

8.3.1 Sediment Investigation Results

The sediment samples were submitted to a certified laboratory for analysis of Cs-137, Sr-90, metals, and perchlorate. Appendix A presents the results of the sediment samples compared with the background drainage reference areas, and are summarized briefly below. The sediment sample locations are provided in Table 11 and Figure 15 (Note: one background sediment sample location not shown in Figure 10 is provided on a map in Appendix A). A total of six sediment samples were collected at non-background locations within drainages entering or flowing through the BBC. An additional two sediment samples were collected in background reference drainage areas. The sediment samples were submitted for Cs-137, Sr-90, metals, and perchlorate. All of the perchlorate results were below MDCs and are not presented in tables. The sediment samples were submitted to a certified laboratory for analysis of Cs-137, Sr-90, metals, and perchlorate. Appendix A presents the results of the sediment samples compared with the background drainage reference areas, and are summarized briefly below.

All of the reported Cs-137 concentrations for the sediment samples were below the laboratory reported MDCs and all of the results were below the background Cs-137 values for the samples collected by Tetra Tech in February 2016. Table 13 presents the sediment sample Cs-137 results compared with the background values established from previous background investigations summarized in Section 4.6. All of the sediment samples are within the limits of the background values for Cs-137.

Table 13 Summary of 2016 Sediment Sample Cs-137 Results Compared with Background Values

Sample ID	Sample Area	Cesium-137			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-ED1-01	Non-Background	< 0.097	-	0.097	U
TT-ED2-01	Non-Background	< 0.090	-	0.09	U, G
TT-ED3-01	Non-Background	< 0.091	-	0.091	U, G
TT-SD1-01	Non-Background	< 0.095	-	0.095	U, G
TT-SD2-01	Non-Background	< 0.095	-	0.095	U, G
TT-BBCSED-01	Non-Background	< 0.087	-	0.087	U
Background Comparison					
Sample Area	**Data Source**	**BTV[4] (pCi/g)**	**Description**		
Background	McLaren-Hart (1993; 1995)	**0.349**	**Mean +2 times Standard Deviation[5]**		
Background	Ogden (1998)	**0.167**			
Background	HGL (2011)	**0.193**	**Look-up Table BTV (HGL 2012b)**		

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample
[4]BTV = background threshold value (value considered to be background for comparison)
[5]The mean and the standard deviation were calculated using the K-M statistics in ProUCL 5.0

Five of the six reported Sr-90 concentrations for the sediment samples were below the laboratory reported MDCs. With the exception of TT-SD2-01, all samples were below the background Sr-90 values for the samples collected by Tetra Tech in February 2016. Table 14 presents the sediment sample Sr-90 results compared with the background values established from previous background investigations summarized in Section 4.6. All of the sediment samples, with the exception of TT-SD2-01, are within the limits of the background values for Sr-90. The Sr-90 value for TT-SD2-01 is 0.182 pCi/g +/- 0.064 pCi/g; the lower limit of the detection sensitivity is calculated to be 0.118 pCi/g, which is below the background value calculated for the McLaren-Hart (1993; 1995) dataset but higher than the BTV established in HGL (2012b). Therefore, a risk evaluation using risk-based screening levels was performed and is summarized in Section 9.0.

Table 14 Summary of 2016 Sediment Sample Sr-90 Results Compared to Background Values

Sample ID	Sample Area	Strontium-90			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-ED1-01	Non-background	< 0.088	-	0.088	U
TT-ED2-01	Non-background	< 0.097	-	0.097	U
TT-ED3-01	Non-background	< 0.089	-	0.089	U
TT-SD1-01	Non-background	< 0.075	-	0.075	U
TT-SD2-01	Non-background	0.182	0.064	0.081	
TT-BBCSED-01	Non-background	< 0.104	-	0.104	U
Background Comparison					
Sample Area	**Data Source**	**BTV[4] (pCi/g)**	**Description**		
Background	McLaren-Hart (1993; 1995)	**0.127**	**Mean +2 times Standard Deviation[5]**		
Background	HGL (2011)	**0.075**	**Look-up Table BTV**		

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample
[4]BTV = background threshold value (value considered to be background for comparison)
[5]The mean and the standard deviation were calculated using the K-M statistics in ProUCL 5.0

All of the average metals concentrations measured from the sediment samples collected at the BBC drainages had reported concentrations below the background values. Detailed summary of tables of all of the laboratory analytical results are provided in the soils investigation report in Appendix A. For comparative purposes, Tetra Tech compared the average of the sediment metals concentrations with the background values presented for these metals by DTSC in 2012, as discussed in Section 4.5. The results of the sediment sample metals concentrations compared with the background values are presented in Table 15. All of the average metals concentrations measured from the sediment samples collected at the BBC drainages had reported concentrations below the background values.

Table 15 Sediment Metals Concentrations Compared to Background Levels

Analyte	Non-Background Sediment Sample			BTV (mg/kg)[1]
	Min	Max	Average	
Aluminum	2,400	8,700	5,300	50,300
Antimony	0.035	0.15	0.10	0.86
Arsenic	1.3	4.7	2.8	39.7
Barium	16.00	61	40.2	318.75
Beryllium	0.13	0.5	0.29	1.87
Cadmium	< 0.017	0.13	0.07	0.58
Calcium	840	4,300	2,440	32,000
Chromium	3.7	13.0	8.0	80.85
Cobalt	1.7	8	4.0	38
Copper	2.60	10.0	6.2	102
Iron	5,700	20,000	11,683	65,402
Lead	2.700	8.9	5.8	42.15
Magnesium	1,100	4,600	2,667	16387
Manganese	65.0	340	189	959
Mercury	< 0.0034	0.011	0.007	0.13[2]
Nickel	2.30	9.2	5.43	113
Potassium	960	3,000	1,943	12,358
Selenium	0.35	0.83	0.532	0.896
Silver	0.022	0.07	0.047	0.138
Sodium	80	160	125	1,530
Thallium	0.077	0.240	0.148	0.991
Vanadium	8.6	34	20	150.6
Zinc	16.00	59	35.8	215[2]

[1]BTV= background threshold value USL95 determined by DTSC in 2012.
[2]LUT Value, DTSC (2013)
mg/kg = Milligram per kilogram

All of the perchlorate results in sediment were below MDCs.

8.3.2 Soil Investigation Results

A total of eight soil samples were collected at non-background locations within areas of high use (Figure 3). An additional two soil samples were collected in the RBRAs (i.e. Bridle Path and Lang Ranch). The soil sample locations are provided in Table 12 and Figure 15 (Note some background soil locations that are not shown in Figure 10 are provided on maps in Appendix A). Like the sediment samples, the soil samples were submitted to a certified laboratory for analysis of Cs-137, Sr-90, metals, and perchlorate. Appendix A presents the results of the soil samples compared with the background drainage reference areas, and these are summarized briefly below.

All of the reported Cs-137 concentrations for the soil samples were below the laboratory reported MDCs, with the exception of TT-OSF-01 (0.101 pCi/g). However, all of the results were below the background Cs-137 values for the samples collected by Tetra Tech in February 2016. Table 16 presents the soil sample Cs-137 results compared with the background values established from previous background investigations summarized in Section 4.6. All of the soil samples are within the limits of the background values for Cs-137.

Table 16 Summary of 2016 Soil Sample Cs-137 Results Compared to Background Values

Sample ID	Sample Area	Cesium-137			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-BB1-01	Non-Background	< 0.097	-	0.097	U, G
TT-BBF-01	Non-Background	< 0.098	-	0.098	U
TT-CAB-01	Non-Background	< 0.081	-	0.081	U, G
TT-GF-01	Non-Background	< 0.098	-	0.098	U, G
TT-GGP-01	Non-Background	< 0.097	-	0.097	U
TT-HC-01	Non-Background	< 0.092	-	0.092	U, G
TT-OSF-01	Non-Background	0.101	-	0.099	G
TT-PPG-01	Non-Background	< 0.095	-	0.095	U
Background Comparison					
Sample Area	**Data Source**	**BTV (pCi/g)**	**Description**		
Background	McLaren-Hart (1993; 1995)	**0.349**	**Mean +2 times Standard Deviation**		
Background	Ogden (1998)	**0.167**			
Background	HGL (2011)	**0.193**	**Look-up Table BTV (HGL 2012b)**		

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample
[4]BTV = background threshold value (value considered to be background for comparison)
[5]The mean and the standard deviation were calculated using the K-M statistics in ProUCL 5.0

All of the eight reported Sr-90 concentrations for the soil samples were below the laboratory reported MDCs and were also below the background Sr-90 values for the samples collected by Tetra Tech in February 2016. Table 17 presents the soil sample Sr-90 results compared with the background values established from previous background investigations summarized in Section 4.6. All of the soil samples are within the limits of the background values for Sr-90.

Table 17 Summary of 2016 Soil Sample Sr-90 Results Compared to Background Values

Sample ID	Sample Area	Strontium-90			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-BB1-01	Non-background	< 0.081	-	0.081	U
TT-BBF-01	Non-background	< 0.081	-	0.081	U
TT-CAB-01	Non-background	< 0.092	-	0.092	U
TT-GF-01	Non-background	< 0.104	-	0.104	U
TT-GGP-01	Non-background	< 0.074	-	0.074	U
TT-HC-01	Non-background	< 0.082	-	0.082	U
TT-OSF-01	Non-background	< 0.096	-	0.096	U
TT-PPG-01	Non-background	<0.097	-	0.097	U
Background Comparison					
Sample Area	**Data Source**	**BTV[4] (pCi/g)**	**Description**		
Background	McLaren-Hart (1993; 1995)	**0.127**	**Mean +2 times Standard Deviation[5]**		
Background	HGL (2011)	**0.075**	**Look-up Table BTV**		

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample
[4]BTV = background threshold value (value considered to be background for comparison)
[5]The mean and the standard deviation were calculated using the K-M statistics in ProUCL 5.0

All of the average metals concentrations measured from the soil samples collected at the areas of highest use within the BBC had reported concentrations below the background values. The sediment samples were submitted for laboratory analysis of metals. Detailed summary of tables of all of the laboratory analytical results are provided in the soils investigation report in Appendix A. For comparative purposes, Tetra Tech compared the average of the sediment metals concentrations with the background values presented for these metals by DTSC in 2012, as discussed in Section 4.5. The results of the sediment sample metals concentrations compared with the background values are presented in Table 18. All of the average metals concentrations measured from the soil samples collected at the areas of highest use within the BBC had reported concentrations below the background values.

Table 18 Soil Metals Concentrations Compared to Background Levels

Analyte	Non-Background Soil Sample (mg/kg)			BTV (mg/kg)[1]
	Min	Max	Average	
Aluminum	1,200	13,000	7,025	50,300
Antimony	0.038	0.28	0.16	0.86
Arsenic	0.85	5.8	3.5	39.7
Barium	9.40	170	77.4	318.75
Beryllium	0.11	0.59	0.35	1.87
Cadmium	0.03	0.57	0.23	0.58
Calcium	2,100	14,000	6,150	32,000
Chromium	3.3	22.0	11.6	80.85
Cobalt	0.93	11	5.1	38
Copper	1.50	34.0	12.6	102
Iron	2,800	24,000	13,250	65,402
Lead	0.620	31.0	10.3	42.15
Magnesium	510	6,500	3,364	16387
Manganese	39.0	480	246	959
Mercury	0.038	0.043	0.0405	0.13[2]
Nickel	1.80	18.0	8.70	113
Potassium	310	5,100	2,933	12,358
Selenium	0.32	1.9	0.819	0.896
Silver	0.0065	0.10	0.051	0.138
Sodium	100	990	353	1,530
Thallium	0.024	0.280	0.153	0.991
Vanadium	6.1	50	28	150.6
Zinc	4.80	150	54.4	215[2]

[1]BTV= background threshold value USL95 determined by DTSC in 2012.
[2]Lookup Table Value, DTSC (2013)
mg/kg = Milligrams per kilogram

All of the perchlorate results were below MDCs.

9.0 HEALTH RISK EVALUATION

Samples have been collected at the BBC in various media historically, and on-site soil and sediment samples were collected in February 2016. This section evaluates the current environmental health risks associated with BBC by synthesizing prior studies with the 2016 BBC data.

9.1 SUMMARY OF HISTORICAL RISK EVALUATIONS FOR BBC

As part of the investigations and remedial actions performed for the SSFL, off-site areas had been investigated to determine whether, and to what extent, contamination had migrated off-site through air, runoff, surface water, and groundwater. As described in Section 4.0, off-site background areas had also been identified.

Data from these prior studies were analyzed using risk-based screening levels (RSBL) identified by regulatory agencies. The RBSLs included many potentially complete exposure pathways to allow efficient and conservative risk-based evaluations of sampling results. Note that many investigations have been performed at the SSFL itself; risk assessments for on-site areas or those to the west, east, and south are not reviewed here as those assessments and reports do not reflect exposures at the BBC. Published assessments related to the BBC are summarized below.

9.1.1 1993 and 1995 McLaren-Hart Reports

The sampling results from the 1992 and 1994 investigations at the BBC are presented in McLaren-Hart (1993; 1995) and Weston (2003). While the studies involved both the BBC and Sage Mountain Ranch areas, only the information relating to BBC is discussed here. As summarized in EPA (1995), the off-site study began in 1992 by collecting 118 soil samples, seven surface water samples, four groundwater samples and nine fruit samples. Forty samples collected by Rocketdyne were also independently analyzed by EPA, California DHS, and the BBI. McLaren-Hart (1993) provided results of samples collected in 1992 at the BBC from the following locations (many are shown on Figure 8):

- Perimeter of Playground (BB-01)
- Dormitory Area (BB-02)
- Campsite Area 1 (BB-03)
- Campsite Area 2 (BB-04)
- Picnic Area (BB-05)
- House of the Book (BB-06)
- Counselor-in-Training Area (BB-07)
- Potential development Sites 1, 2, and 3 (BB-08, BB-09, BB-10)
- Vegetable Garden (BB-11)
- Main House Orchard (BB-12)
- Avocado Grove (BB-13)
- Old Well Campsite (BB-14)

The 1993 study found two areas on BBI property near the Rocketdyne property boundary where tritium, cesium, and strontium results could either have been related to SSFL activities or to background. Therefore, additional on-site sampling at BBC and background sampling for radionuclides were conducted in 1994 and reported in McLaren-Hart (1995). McLaren-Hart (1993) noted one area that had an elevated mercury result for sediment (location BB-18) near the property boundary of BBC and Rocketdyne. This area was remediated after the 1993 report and confirmation sampling showed no residual contamination (McLaren-Hart 1995).

Surface soil samples were collected in 1994 from the same areas as in 1992 with the exception of the Counsellor-in-training Area (BB-07), Potential Development Sites 1, 2, and 3 (BB-08 through BB-10), and the Vegetable Garden area (BB-11). The surface soil samples from 10 areas were re-analyzed for tritium, as samples from the 1993 study could not be validated by the laboratory for those areas. Again, the samples were collected in cooperation with EPA, California DHS, and Brandeis-Bardin. The 1995 study identified only two impacted areas – the Building 59 Watershed (BB-17) and the Radioactive Material Disposal Facility (RMDF) Watershed (BB-16) – that contained tritium, cesium, or strontium at concentrations above background. No other samples from the BBC contained radionuclides statistically above background levels (Weston 2003). The Building 59 Watershed and the RMDF Watershed sample locations are located within the existing NBZ and both are over 1.5 miles to the south from the center of the BBC Main Area as shown on Figure 8. **In addition, EPA determined that the radionuclides in the watershed sediment samples were at concentrations that "do not pose a threat to human health or the environment" (EPA 1995).** Specifically, EPA calculated a risk to campers and camp counselors of less than 1 in one million from direct daily exposure to those locations for at least one month per year for 4 years; such exposure would have been unlikely given the distance of the impacted areas from the designated campground areas and the areas used by BBI for camp activities. EPA communicated these findings both in the *EPA Update* of July 1995 and in a public meeting in August 1995.

Boeing purchased the locations found to have above-background concentrations of radionuclides and mercury from BBI in 1997 and no longer are available for use by the BBC campers or residents. Additionally, the terrain in this region makes access extremely difficult for members of the public.

9.1.2 ATSDR 1999

In 1999, the ATSDR reviewed SSFL data, potential releases from the SSFL, and potential off-site exposures to chemicals and radionuclides through air, surface water, and groundwater. Regarding airborne exposures, ATSDR concluded (ATSDR 1999):

> "Based on the distance from the on-site release sources to off-site residential areas, the predominant wind directions, the meteorological conditions at the site, and the rapid dispersion and degradation of oxidants in air, *it is unlikely that off-site residents have been, or currently are being exposed to chemicals and radionuclides at concentrations that would result in adverse human health effects*." [Emphasis in original].

The report also states that the surface soil that may have been impacted by SSFL activities was confined to the area just north of the Rocketdyne property boundary and "this area has been purchased by Rocketdyne and is now part of the SSFL buffer zone. Sr-90 and tritium were detected at concentrations slightly above background levels in these areas" (ATSDR 1999). The ASTDR (1999) noted that Sr-90 at 7.79 pCi/L and tritium at 1,500 pCi/L were detected in the RMDF Watershed (BB-16) but concluded that these concentrations do not pose a risk to off-site receptors.

Regarding chemicals in groundwater and surface water (groundwater emerging as seeps and springs), ATSDR concluded:

> "Plumes of TCE-contaminated ground water have migrated off site along the northeast and northwest boundaries of SSFL ... The facility purchased the property overlying the northwest TCE plume from the Brandeis-Bardin Institute such that this area is now on site [*i.e.*, a part of the SSFL property] and comprises the northwest buffer area."

While TCE may have been migrating off-site toward the BBC, Boeing purchased this land area and access was no longer granted to BBC patrons or employees. The 1999 ATSDR report also noted that since 1987, the SSFL operated a network of groundwater remediation and treatment wells and eight contaminant treatment systems. By 1999, more than 1.4 billion gallons of contaminated water had been treated since initiation of the treatment system. The ATSDR report (1999) also stated that "water level data from the monitor, remediation, and supply wells indicates that long term water levels underlying SSFL have declined as much as 200 feet." This decline in water elevations, per the ATSDR report, "creates ground water flows towards the central portion of the SSFL facility and has likely reduced off-site migration of ground water contaminants."

The ATSDR (1999) report concluded the following in regard to groundwater and surface water:

> ***"Based on our preliminary review of the available data, there is no indication that residents living near the SSFL have been exposed, or are currently being exposed to chemicals or radionuclides in ground water or surface water at levels that would result in adverse human health effects."***

Overall, after review of SSFL and data reported in the McLaren-Hart 1993 and 1995 reports, ASTDR concluded (ATSDR 1999) that:

> "Chemicals and radionuclides have migrated by sediment transport in surface water runoff from the SSFL to off-site areas. In general, maximum concentrations have been detected *just outside* the SSFL property boundary; concentrations decrease rapidly with increasing distance from the facility. The area surrounding the SSFL is rugged and hilly and not easily accessible to persons in the nearby community. There is a limited likelihood that persons in the community would come into contact with chemicals and radionuclides in soils and sediment just off site of the SSFL. In addition, maximum concentrations of chemicals and radionuclides at these off-site areas are not at levels that would result in adverse human health effects if human exposure were to occur (DeRosa 1997; ATSDR 1997, 1998]. Chemicals and radionuclides have not been found in samples collected in *more distant* residential or recreational areas surrounding the SSFL, including Bell Canyon, Brandeis-Bardin Institute, and Santa Monica Mountains Conservancy, at levels that would result in adverse human health effects if any human exposure were to occur in these off-site areas."

9.2 OVERVIEW OF RISK EVALUATION USING 2016 DATA

Tetra Tech conducted a human health risk evaluation from COPCs detected in the sampled environmental media at the BBC. The goal was to evaluate the investigation data and relevant risk assessment information to systematically estimate potential exposures and associated risks. The key components of the risk evaluation include:

- Identification of COPCs;
- Assessment of potential exposures to COPCs;
- Assessment of health effects of the COPCs; and
- Characterization of health risks and discussion of uncertainties.

The human health risk evaluation was conducted in accordance with guidance developed by EPA in the Risk Assessment Guidance for Superfund (RAGS) [EPA 1989; 1992a; 1992b; 1992c; 1996a; 1996b; 1997; 2002a; 2002b; 2002c; 2004; 2009a; 2016a], DTSC in the Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (DTSC 1992; 1997; 2009a; 2009b, 2014), and the Preliminary Endangerment Assessment Guidance (DTSC 2015a).

The analysis was conducted using RBSLs for surface soils. RBSLs were selected from two primary sources: Human Health Risk Assessment (HHRA) Note 3 (DTSC 2016a) and EPA Regional Screening Levels (RSL) (EPA 2015). DTSC values were used preferentially (DTSC 2015b), and EPA RSLs were used if DTSC had not calculated an alternative screening level. RBSLs used for this screening evaluation are presented in Table 19 and are described further in Section 9.5.4.

Both DTSC and EPA publish RBSLs that may be used to evaluate and remediate potentially contaminated sites. The screening levels, based on default exposure parameters for the general population including adults and children, are chemical- and medium-specific. RBSLs that are based on a residential exposure, listed below in Table 14, are those for metals that were included in the soil analyses. Additionally, an RBSL for Sr-90 was calculated using the EPA calculator for radionuclides; this value was calculated to include the same exposure pathways and parameters as those of the published RBSLs for metals.

Both DTSC and EPA have published values based on residential exposure assumptions (350 days per year, 26 years, including exposures of both adults and children); DTSC provides RBSLs based on its preferred toxicity values for those chemicals where the calculated RBSL is 3 times lower than the EPA value (DTSC 2016a), as is the case for arsenic, cadmium, lead, mercury, and nickel. The values are tabulated below for chemicals analyzed in the 2016 soil and sediment samples. A further description of the RBSLs and risk assessment principles is provided in Section 9.5.1 to Section 9.5.4.

Table 19 Risk-based Screening Levels for Residential Exposures

Chemical	EPA Residential RBSLs (mg/kg)[1]	DTSC RBSLs (mg/kg)[2]
Aluminum	77,000	--
Antimony	31	--
Arsenic	0.68*	0.067*
Barium	15,000	--
Cadmium	71	5.23
Cobalt	23	--
Copper	3,100	--
Lead	400	80
Manganese	1,800	--
Mercury (soluble salts)	23	8.8
Nickel	1,500	490
Selenium	390	--
Silver	390	--
Thallium	0.78	--
Vanadium	390	--
Zinc	23,000	--
Radionuclides	EPA PRGs [3]	
Sr-90+daughters	4.2 pCi/g	Not Applicable

[1]Residential soil RBSL (EPA 2015). Includes pathways of soil ingestion, dermal contact, and inhalation of particulates as appropriate.
[2]Residential soil RBSL (DTSC 2016). Values are calculated by DTSC only for those chemicals that differ significantly from EPA values and includes pathways of soil ingestion, dermal contact, and inhalation of particulates as appropriate.
[3]EPA 2016a. Radionuclide PRG Calculator, Residential Soil Concentrations – includes soil ingestion, external exposure, and inhalation exposures.
PRG = Preliminary Remediation Goals

Note that specific RBSLs have been calculated for a variety of off-site receptors of the SSFL. Those screening levels have been reviewed by EPA and DTSC (MWH 2012) for use for off-site receptors. However, the exposures at BBC are different from those used in the SSFL calculations. Therefore, RBSLs from EPA and DTSC were used in this evaluation, along with calculated site-specific risk-based concentrations for Sr-90.

9.3 CHEMICALS OF POTENTIAL CONCERN

COPCs for the BBC are those chemicals and radionuclides, detected in surface soil samples at concentrations that exceed background or ambient levels. For the purposes of the screening level risk evaluation, the background comparison consisted of a comparison of each BBC sediment and soil sample to the two sediment or two soil background samples collected from reference areas in 2016 as well as to the BTVs established by DTSC for the SSFL area (DTSC 2012). An analyte was retained for the risk assessment if the detected concentration exceeded the BTV. A description of the development of BTVs is available in DTSC 2012. This comparison resulted in only Sr-90 being retained as a COPC.

Perchlorate was not detected in any soil or sediment sample at a detection limit of less than 25 microgram per kilogram and was therefore not further evaluated.

9.4 EXPOSURE ASSESSMENT

The CSM for the BBC provides the basis for identifying and evaluating the potentially complete human exposure pathways. As shown in the CSM (Figure 7), potential sources of COPCs at the BBC include soil, sediment, groundwater, and surface water. The CSM also illustrates the potential chemical migration pathways, exposure points, and exposure routes that have been considered for the BBC. Based on an initial evaluation, chemical fate and transport processes were used to define the potential migration pathways, and include (1) transfer of COPCs between environmental media, such as soil and air; and (2) transport of COPCs through movement of an environmental medium by natural advective and dispersive processes, such as air dispersion or runoff. Each of these potential exposure pathways is shown on the CSM (Figure 7) as are the groups of receptors potentially exposed to the COPCs in each environmental medium. The exposure pathways assumed to be complete for each group of receptors are incidental ingestion of soil, inhalation of particulates, dermal contact with soil (nonradionuclides only), and external exposure (radionuclides only).

The BBC is topographically downgradient and to the north of the SSFL. To the east, the BBC is bordered by recreational space at Sage Ranch and Santa Susana Knolls (a residential development), and residential development has also occurred to the west. As described previously, migration of contaminants from the SSFL can occur through air dispersion, movement of surface or groundwater, and sediment transport through drainages. Groundwater is not currently used at the BBC for any human contact or consumption purposes. Therefore, groundwater exposure pathways were not considered in the risk evaluation. As indicated previously, the surface water that is intermittently present at the Site has been sampled as part of the past investigations. Surface water samples collected from two locations were analyzed for tritium as reported in 1995 (McLaren-Hart 1995) and have been periodically tested for tritium since that time, with all results reported as consistent with rainfall, background, or well below screening levels. It has been noted that surface water is rarely, if ever, present during the summer months when campers are present at the BBC. Surface water exposure, therefore, was not included in the risk evaluation. Ingestion of food products grown at the BBC is also not a completed exposure pathway for humans, as food products grown at the BBC are not for human consumption, and harvesting of food products is prohibited.

Currently, the BBC is used throughout the year for religious ceremonies, conferences, retreats, and occasional camping by permission only. During the summer, the BBC hosts both day and overnight campers for varying numbers of weeks. During the summer, camp counselors and counselors-in-training may be present for up to 9 weeks. Most camp activities occur within the area shaded in blue on Figure 2. Those attending the camps could have direct contact with soil, including incidental ingestion of soil and dermal contact with soil. In addition, there are year-round residents at the BBC. Direct contact (resulting in incidental soil ingestion, inhalation of particulates, and dermal contact with soil) with COPCs in soil are also complete pathways for on-site residents. Neither group of receptors has contact with groundwater, nor are they permitted to harvest fruits or vegetables grown at the BBC. They are not likely to have any contact with surface water as it is only present intermittently within the camp area and usually not present in the summer.

Based on current site use, two groups of receptors were identified as potentially exposed to COPCs in soil and sediment at the BBC: campers and on-site residents. Both groups of receptors are assumed to have direct contact with soil through incidental ingestion, dermal contact, and inhalation of airborne particulates. For radionuclides, the exposure pathways are soil ingestion, inhalation, and external exposure. Given that the default exposure assumptions for a residential receptor include a longer exposure duration (26 years) and frequency (350 day per year) than a camper could feasibly experience,

the residential RSLs were used to provide an upper-bound evaluation of potential risks for both campers and on-site residents. The potentially complete exposure pathways included in the screening levels are also shown in Figure 7.

9.5 QUANTITATIVE EXPOSURE ANALYSIS

Chemical exposure is a result of the intake or uptake of a chemical from the environment. Each complete exposure pathway selected for quantitative analysis was included in the RBSLs and evaluated using pathway-specific models as described in EPA (1989) guidance.

The screening levels are calculated using the same principles and exposure parameters as a forward risk calculation. In general, the formula used for calculating a screening level for soil is as follows:

$$Screening\ Level\ \left(\frac{mg}{kg}\right) = \frac{TR\ \times BW\ \times AT}{TF\ \times\ CR\ \times EF\ \times ED}$$

where

TR = Target Risk (1×10^{-6});

BW = Body weight (kg);

AT = Averaging time for pathway-specific exposure period (days);

TF = Toxicity factor (chemical and pathway specific);

CR = Contact rate with environmental medium per unit time (e.g., milligrams per day [mg/day]);

EF = Exposure frequency (days/year); and

ED = Exposure duration (years).

This generalized formula is modified according to the factors necessary to evaluate each complete exposure pathway and is expanded to include exposure through all completed exposure pathways. For the residential exposure scenario, this included ingestion of soil, particulate inhalation, dermal contact with soil (nonradionuclides only), and external exposure (radionuclides only).

EPA publishes RSLs for many chemicals, and they are updated regularly to include any changes in toxicity values, exposure parameters, or other chemical and physical properties of the chemicals that are relevant to the calculation of RBSLs (EPA 2015). DTSC has also published screening levels for some chemicals when DTSC recommends toxicity values that are significantly different from EPA-recommended values. Formulas for calculating RSLs are presented in DTSC (2016).

Both EPA and DTSC RBSLs employ the same methodology. RBSLs are calculated using default exposure parameters and, for soil, include the exposure pathways of incidental ingestion, dermal contact, and inhalation of particulates (for volatile chemicals, the RBSL also includes the inhalation of volatilized COPC). Each chemical is provided a composite screening value that includes all of these pathways. A full list of RBSLs is included as Appendix B. EPA and DTSC recommend that, at sites with more than one COPC, a sum of the ratios approach be used to sum risks or hazards across all COPCs, as follows:

$$Risk = \left[\left(\frac{Conc_x}{SL_x}\right) + \left(\frac{Conc_y}{SL_y}\right) + \left(\frac{Conc_z}{SL_z}\right)\right] \times 10^{-6}$$

Where:

$Conc_x$ = concentration of $COPC_x$

SL_x = screening level for $COPC_x$ based on carcinogenic endpoint

A similar approach is used for noncarcinogenic chemicals to calculate a total hazard index (HI). However, as there was only one COPC retained for the risk evaluation, it was not necessary to sum risks across chemicals.

9.5.1 Exposure Parameters

Table 20 presents the exposure parameters that were used to conservatively estimate risks from exposure to COPCs identified in soil at the BBC.

9.5.1.1 Campers

Campers are assumed to be children that may visit the Site for varying numbers of days and weeks depending on age and type of camp in which they are enrolled. Day campers are assumed to be 5 to 12 years old, attend camp for 8 hours per day for a maximum of 40 days per year (5 days per week for 8 weeks) for a maximum of 7 years. For the overnight campers, sessions are offered for 2 to 3 weeks for ages 8 to 15 years; it was assumed that the overnight camper would be present 24 hours per day for 3 weeks, for a maximum of 7 years. Finally, counselors and counselors in training, typically 15 years old and older, could be at the camp for 9 weeks over the summer, again for 25 hours per day. To evaluate the maximum exposure, it was assumed that a "camper receptor" would therefore be exposed to the campsite areas 65 days per year, for 6 years as a child and for 20 years as an adult. As these values are lower than those assumed for a residential receptor, the residential risk-based concentrations published by DTSC and EPA were used to evaluate this exposure scenario to ensure a conservative analysis of risk.

9.5.1.2 On-Site Residents

There are some residential tenants at the BBC, whose leases are renewed on an annual basis. The health protective assumption was made that a resident could live at the site with an exposure duration of a total of 26 years (6 as a child and 20 as an adult). This assumption was made to be consistent with residential exposure used for evaluation of other off-site areas, and is a conservative assumption regarding residential exposures (DTSC 2016; EPA 2015). Default exposure parameters were used to evaluate risk to these receptors.

9.5.2 Exposure Point Concentrations

An exposure-point concentration (EPC) is the concentration of a chemical in the environmental medium (e.g., soil) at the point of contact with a receptor (e.g., camper). In accordance with EPA (1989, 2002a) guidance, the EPCs for soil were represented by the reasonable maximum exposure point concentrations, i.e., the lower of the maximum or the 95UCL on the mean concentration. Maximum concentrations were typically used as EPCs only when insufficient samples or detected concentrations were available to calculate a 95UCL concentration. Sr-90 was only detected once; therefore the sole detected concentration

was used as the EPC for the screening level risk evaluation, in accordance with DTSC guidance (DTSC 2015a, 2015b).

Table 20 Exposure Parameters Used in Residential RBSLs

Exposure Parameter	Residential Scenario Value	Source
Exposure Frequency [EF] (days/year)	350	DTSC 2014
		EPA 2015
Exposure Duration [ED] (years)	26 (6 child/ 20 adult)	DTSC 2014
		EPA 2015
Exposure Time [ET] (hours/day)	24	DTSC 2014
		EPA 2015
Body Weight [BW] kg	15 (child) / 80 (adult)	DTSC 2014
		EPA 2015
Soil ingestion [IR] (mg/day)	200 (child) / 100 (adult)	DTSC 2014
		EPA 2015
Dermal Contact – Soil [SA] (cm^2/event)	2373 (child)/6032 (adult)	EPA 2015
Particulate Emission Factor [PEF] (m^3/kg)	1.32E+09	DTSC 2014
		EPA 2015
Adherence Factor (**AF**) (mg/cm^2)	0.2 (child) / 0.07 (adult)	DTSC 2014
		EPA 2015

cm^2 = Square centimeter
m^3/kg = cubic meter per kilogram
mg/cm^2 = Milligrams per square centimeter

9.5.3 Particulate Emission Factors

Particulate emission factors (PEF) were used to assess potential exposure to dust particulates emitted from soil and dispersed atmospherically. The residential screening levels are calculated using a particulate emission factor of 1.36 x 10^9 cubic meter per kilogram (m^3/kg), per DTSC (2016) and EPA (2015). This parameter is listed in Table 20. As described in EPA (1991a), "the PEF relates the contaminant concentration in soil with the concentration of respirable particles in air due to fugitive dust from surface soil."

9.5.4 Toxicity Values

Toxicity values used in the calculation of risk-based concentrations are based on either carcinogenic effects or noncarcinogenic effects. Some chemicals are considered to have both carcinogenic and noncarcinogenic effects. Both types of toxicity values are described below.

Certain chemicals are regulated as carcinogens based on the likelihood that exposure could potentially cause cancer in humans. Numerical estimates of cancer risk for these chemicals are presented as cancer potency factors (or slope factors [SF]) and unit risk factors (URF). The SF and URF defines the cancer risk posed by constant lifetime exposure to one unit of a carcinogen (in units of risk per milligram per kilogram per day [mg/kg-day] for oral SFs and risk per milligram per cubic meter [mg/m^3] for inhalation URFs) and assumes that there is no threshold for the effect. Oral cancer slope factors and inhalation URFs (SF_o and

URFs) were obtained from several sources, based on the hierarchy identified in DTSC (2015a) and EPA (2009a) guidance. The hierarchy of sources is as follows:

1. California EPA's (Cal/EPA's) Office of Environmental Health Hazard Assessment (Toxicity Criteria database) (OEHHA 2016);
2. Integrated Risk Information System (IRIS) database (EPA 2016b);
3. EPA's Provisional Peer Reviewed Toxicity Values;
4. ATSDR; and
5. EPA's Health Effects Assessment Summary Tables.

The toxicity values used are integrated in DTSC- and EPA-calculated risk based screening levels. The tables included in Appendix B contain the toxicity values used by these respective agencies in the calculation of the residential RBSLs.

All radionuclides are considered to be carcinogenic and toxicity values are based only on carcinogenic potential. The units for radionuclide toxicity values are expressed as risk/pCi rather than mass per body weight because body weight is not included in the assessment of radionuclide risk. Table 21 lists the toxicity value used for Sr-90 in the calculation of a RBSL.

Table 21 Toxicity Values for Strontium-90

Isotope	Inhalation (risk/pCi)	External Exposure (risk/year per pCi/g)	Ingestion (risk/pCi)
Sr-90+D	4.33×10^{-10}	1.95×10^{-8}	1.35×10^{-10}

Some chemicals have not been shown to have carcinogenic effects and different toxicity values are used to assess health effects of these chemicals. Non-carcinogenic health effects are evaluated using reference doses (RfD) and reference concentrations (RfC) developed by EPA and reference exposure levels (REL) developed by Cal/EPA. The RfDs, RfCs, and RELS are health-based criteria based on the assumption that a threshold exists for non-carcinogenic toxic effects (e.g., liver or kidney damage). In general, the RfD, RfC, or REL is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime of exposure (EPA 1989). RfDs and oral RELs are expressed as acceptable daily doses in mg/kg-day, while RfCs are expressed as acceptable exposure concentrations in units of mg/m^3.

The RfDs, RfCs, and RELs are obtained from Cal/EPA and IRIS, based on the hierarchy identified in DTSC (2015a) and EPA (2015) guidance. Again, toxicity values are included in the risk-based concentrations calculated by DTSC and EPA and are listed in those tables, included as Appendix B.

9.5.5 Risk Characterization

Risk characterization integrates the exposure assessment and chemical toxicity information to quantitatively estimate potential health risks due to COPCs. In a risk characterization, risk estimates are determined for each COPC based on the potentially complete pathways, and results are summed across

all COPCs. In this report, Sr-90 was the only COPC detected in any sample above background levels. Sr-90 therefore represents the only potential risk factor to be characterized.

Risk probabilities can be compared with the generally acceptable risk range specified by EPA. According to the revised National Contingency Plan, carcinogenic risks from exposures at Superfund sites are considered to be unacceptable at a level greater than 1×10^{-4} (1 in 10,000), whereas risks less than 1×10^{-6} (1 in 1,000,000) are considered to be acceptable. Action may not be necessary in the risk range of 10^{-6} to 10^{-4}. This statement is supported in the directive "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" (EPA 1991b), which indicates action is generally warranted at a site when the cumulative carcinogenic risk for any medium is greater than 10^{-4} or the cumulative non-carcinogenic HI exceeds 1. In general, a potential excess individual lifetime cancer risk of 1×10^{-6} is used by EPA and DTSC as a "point of departure" when determining whether chemical exposures represent a potentially unacceptable level of risk to public health. This range of potentially acceptable risks helps put the numerical risk estimate into perspective.

Hazards associated with noncarcinogenic effects can be similarly estimated as hazard indices. However, Sr-90 is not assessed for noncarcinogenic effects and hazard indices are therefore not presented in this Technical Memorandum.

As described in Section 6.2.2 of Appendix A, the Sr-90 concentrations for all of the samples ranged between < 0.074 pCi/g to 0.182 pCi/g, and the mean Sr-90 concentration for all of the soil samples is 0.0817 pCi/g. The highest concentration of Sr-90 detected in the soil samples collected by Tetra Tech (which was also the only detection that exceeded background levels) was 0.182 pCi/g. At a concentration of 0.182 pCi/g, Sr-90 is associated with a risk to a residential receptor of $.043 \times 10^{-6}$ (4 in 100,000,000), well below the level of significance per EPA or DTSC. This risk incorporates exposure through soil ingestion, inhalation of particulates, and external exposure. It represents the incremental lifetime risk of cancer to an individual exposed to that concentration for 350 days per year for 26 years. It includes the exposure of a child for 6 years and an adult for 20 years. These exposure assumptions are at the high end of potential exposures for residents and greatly exceed the exposures of campers and counselors. The estimated risk is, therefore, highly conservative and is likely a significant overestimate of potential risk to BBC residents, campers, counselors, CITs, visitors, and other site users.

It should also be noted that the concentration assessed, 0.182 pCi/g, may still be at background levels even though it was retained as a COPC. As described in Section 4.0, the Look-up table values used to evaluate whether radionuclides are above background are dependent on the precision reported by the laboratory. The precision varies and can change the calculated upper limit of background values for a given dataset depending on the laboratory used for the soil analysis.

In addition, Sr-90 was detected only once, but the risk evaluation assumes that a person would be consistently exposed to this concentration for a 26-year duration, which is unlikely, especially as it was detected in a drainage sample rather than an area of regular, daily contact. This conservative assumption is made for the purposes of estimating an upper-bound risk, but it ignores that 17 other site samples did not report a detection of Sr-90. If these samples were averaged to provide a more typical long-term EPC, the risks would be significantly lower than 0.043×10^{-6}.

10.0 CONCLUSIONS

Numerous investigations have been conducted at the SSFL and associated off-site areas over the past three decades. Tetra Tech conducted a comprehensive literature review on all available information and environmental investigations conducted on the BBC and at SSFL and associated off-site areas since 1992. These studies consistently concluded that environmental conditions at BBC posed no risk to users of the site. Tetra Tech then conducted a critical evaluation of the existing studies to identify any additional testing protocols that might augment the work that had already done. Based on that analysis, Tetra Tech recommended, and subsequently performed in 2016, both a continuous gamma radiation survey and soil sampling on the BBC property.

The mobile GPS-based gamma radiation survey, a technology not available when previous investigations were conducted, was performed over the entirety of the camp area as well as in the drainage areas leading from the Northern Buffer Zone toward the center of the BBC property. This survey showed no statistically significant difference in gamma radiation readings compared with background levels (or naturally occurring levels). Soil samples taken from the primary usage areas and the drainage areas were also tested for a suite of radiological and chemical analytes. Strontium-90 (Sr-90), a radionuclide that has become ubiquitous in soil globally due to atmospheric nuclear weapons testing fallout, was detected at an average concentration of 0.0817 pCi/g, with a range from non-detect (<0.075 pCi/g) to 0.182 pCi/g. Tetra Tech evaluated the risk to campers and other site users based on a series of highly conservative assumptions, including that the highest detected concentration of Sr-90 represented all soil on the property. This analysis concluded that the risk to human health caused by Sr-90 (.043 in 1,000,000 excess cancer risk) is less than one-twentieth the risk level that DTSC and EPA consider acceptable (1 in 1,000,000 excess cancer risk). All other analytes tested were found to be below background levels.

Tetra Tech's risk evaluation is consistent with previously conducted risk assessments for off-site areas that found no appreciable risks at the BBC through soil exposure pathways. It demonstrates that human health risks associated with BBC soils are well below levels of concern and are consistent with background levels. ***The 2016 risk evaluation and comparative background analysis of all available site data indicate that the environmental and radiological conditions at the BBC pose no unacceptable human health risk to campers, camp counselors, visitors, or residents at the site.***

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APPENDIX A

RADIOLOGICAL AND SOIL INVESTIGATION REPORT

Radiological and Soil Investigation Report for the American Jewish University Brandeis-Bardin Campus at Simi Valley, California

April 2016

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1.0 INTRODUCTION

This technical report presents the methods and results of the radiological and soil sampling investigation conducted by Tetra Tech Inc. (Tetra Tech) at the American Jewish University (AJU) Brandeis-Bardin Campus (BBC) property in Simi Valley, California. The following subsections present the scope of work and report organization.

1.1 SCOPE OF WORK

The purpose of this investigation was to assess the environmental and radiological conditions at the BBC site relative to background. Following a review and analysis of prior BBC studies dating back to 1992, Tetra Tech recommended the further site testing described below to verify and enhance existing information about the environmental condition of the BBC. The investigation was focused on areas where the potential for contaminant migration from the nearby Santa Susana Field Laboratory (SSFL) may exist (such as drainages leading from the SSFL) and within areas where campers are most likely to be spend their time. This investigation included the following:

- Mobile GPS-based gamma radiation surveys at areas within the BBC and at identified radiological background reference areas (RBRA).
- A soil sampling investigation at drainages entering and passing through the BBC, within selected high use areas at the BBC, and at background reference locations identified by Tetra Tech.

1.2 DATA QUALITY OBJECTIVES

Tetra Tech used the Data Quality Objectives (DQO) process to develop a sampling strategy to satisfy the objectives of the BBC radiological and soil investigation program. The DQO process involves seven steps discussed in the U.S. Environmental Protection Agency (EPA) *Guidance for the Data Quality Objectives Process* (EPA 1994). Figure 1 is a flowchart of the DQO process. The DQO process provides a useful framework for planning and implementing the monitoring and data collection program. The DQO process is a systematic data collection planning process developed by EPA to ensure the right type, quality, and quantity of data are collected to support decision making (EPA 1994). DQOs are qualitative and quantitative statements to fulfill the following objectives:

1. Clarify the study objectives.
2. Define the most appropriate data to collect.
3. Determine the most appropriate conditions for collecting the data.
4. Specify acceptable levels of decision errors to be used as the basis for establishing the quantity and quality of data needed to support the decision.

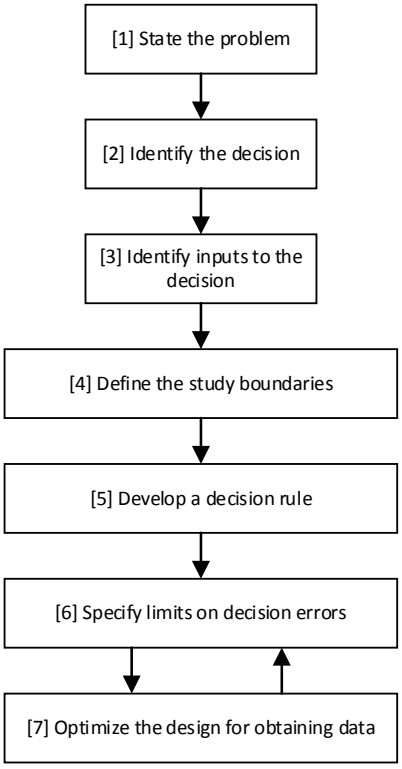

Figure 1 DQO Process Flow Chart

Application of the DQO process to this investigation involved the following six steps:

- STEP 1: State the problem – SSFL operations may have resulted in residual radiation and soil contamination at the BBC property. The property is currently in use by the public, including camping in some open areas.
- STEP 2: Identify the decision – Determine whether levels of residual contamination meet the criteria for human health based on current site use and/or background.
- STEP 3: Identify inputs to the decision – Concentrations of applicable radionuclides, metals, and perchlorate in soil (Gamma exposure rate scanning data and soil sample analysis data).
- STEP 4: Define the study boundaries – Study boundaries include the BBC high use areas where campers spend the majority of their time, drainages leading into and flowing through the site, and background reference areas identified by Tetra Tech.
- STEP 5: Develop a decision rule – If concentrations of applicable radionuclides in soil meet human health risk assessment criteria based on current site uses or are within background levels, there is no unacceptable risk to human health.
- STEP 6: Specify the limits on decision errors – A systematic grid based approach for gamma radiation survey transects was used. Additionally, soil sampling was performed at camp areas and at drainages.

The DQO process is iterative. A seventh step in the process is to evaluate the information from the previous steps and optimize the study design for obtaining the data.

1.3 REPORT ORGANIZATION

This report is organized into seven sections including the following:

- **Section 2.0, Site Background**, provides a brief summary of the environmental setting and describes the area investigated.
- **Section 3.0, Methods**, discusses the various investigation activities.
- **Section 4.0, Overview of Background Reference Area Selection and Results,** discusses the selection process used to identify and survey/sample background reference areas, including results of the gamma radiation survey within the background reference areas.
- **Section 5.0, Gamma Radiation Survey Results**, presents the results of the gamma radiation survey within the BBC property and the drainages entering and flowing through the BBC property.
- **Section 6.0, Soil Sampling Investigation Results,** summarizes the overall results and transmits the soil sampling laboratory analysis results**.**
- **Section 7.0, Comparative Background Gamma Analysis**, presents a comparison of reference and site data.
- **Section 8.0, Conclusions,** summarizes the overall results of the investigation**.**
- **Section 9.0, References**.

2.0 SITE BACKGROUND

The BBC property is located in the Simi Valley, California, northwest of the Santa Susana Field Laboratory. Figure 2 shows the gamma survey and areas of highest use at the BBC. A number of environmental and radiological investigations have previously been conducted at the BBC. The most comprehensive investigations to date at the BBC include the 1992 and 1994 field investigations by Rocketdyne under oversight by EPA (McLaren-Hart 1993; 1995). Limited gamma exposure rate measurements have been collected at the BBC. Based on review of McLaren-Hart (1993, 1995) studies, it was concluded that a site assessment would benefit from additional gamma survey work, particularly because more precise surveying technology has been developed since the McLaren-Hart study time period. Furthermore, the information available lacked clear methods and quality assurance/quality control (QA/QC) results, making it difficult to validate the data presented. Additionally, the radiation levels were measured at static locations on a random grid sampling pattern. Newer technologies that were not available at the time of the McLaren-Hart studies have integrated mobile sensors with positioning systems. These new systems allow for greater data acquisition in a more efficient manner through continuous gamma scanning, rather than discrete gamma measurements at set intervals. Tetra Tech recommended conducting a comprehensive continuous gamma radiation survey as described in the main text of the Technical Memorandum. A conventional gamma scan to acquire data at each study area was employed using a mobile scanning system with integrated global positioning systems. Scanning refers to a portable mobile radiation detection system moved across the surface of the study area at a specified density, with the intent of identifying anomalies of the radiation field within the BBC property compared with background reference areas.

Under EPA oversight, multi-media investigations were performed at the BBC in 1992 and 1994 (McLaren-Hart 1993, 1995) involving sediment and soil sampling throughout the BBC property. Samples were analyzed for selected radionuclides and non-radionuclide analytes. A review of the historical data collected at the BBC is presented in the main text of the Technical Memorandum. Tetra Tech collected soil samples as part of this investigation to provide an independent analysis of the radiological and environmental conditions at the BBC property, particularly focused on main areas of interest within the BBC camp where residents and campers spend the majority of their time. The following section discusses the field investigation methods.

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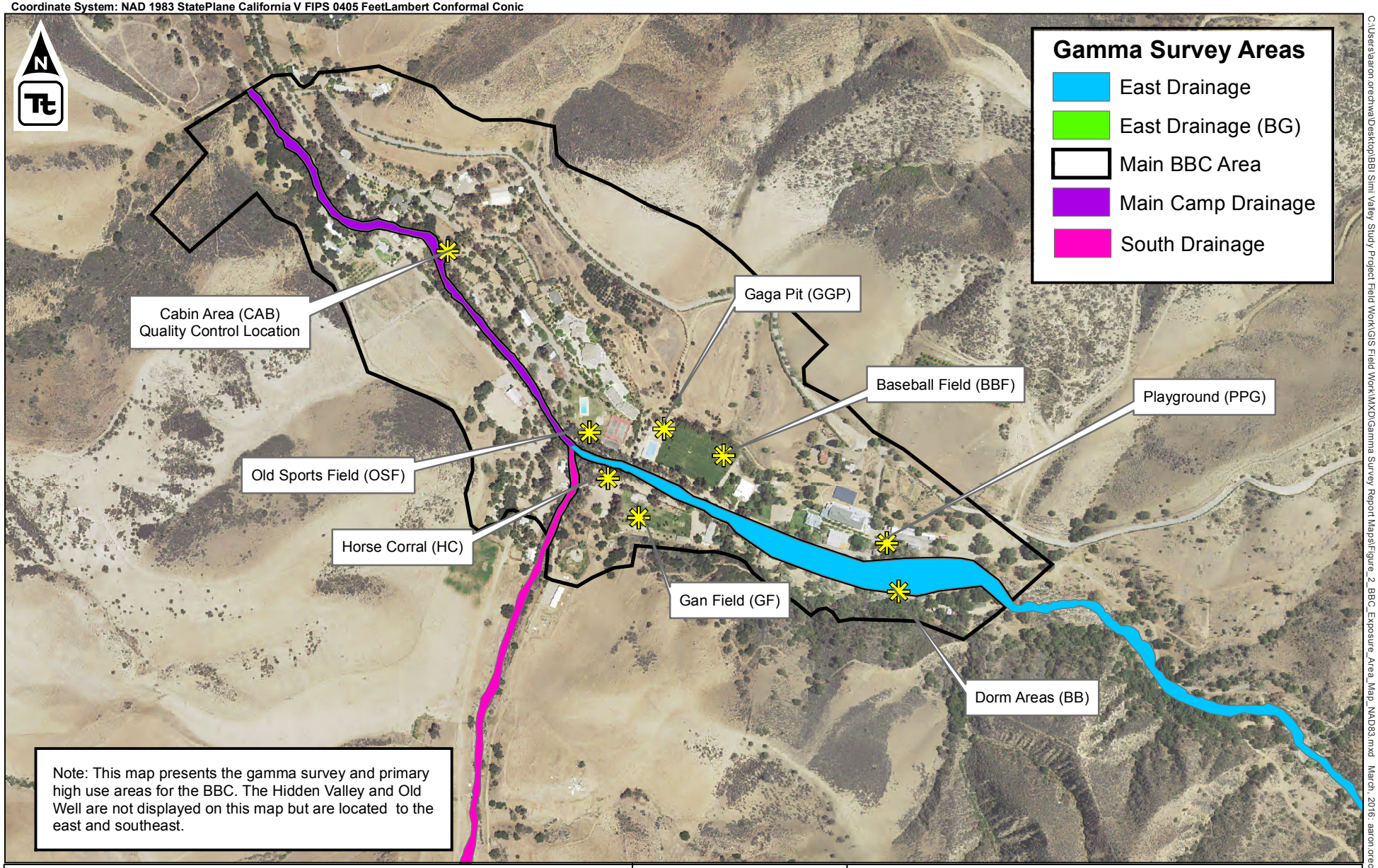

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Primary BBC Human Activity Areas

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BBC GAMMA SURVEY AND PRIMARY HIGH USE AREAS

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 2

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_2_BBC_Exposure_Area_Map_NAD83.mxd March, 2016: aaron.orechwa

3.0 METHODS

This section describes the radiological field survey and soil sampling investigation methods performed by Tetra Tech in February 2016.

3.1 RADIOLOGICAL FIELD SURVEYS

This section presents the purpose, methods, and quality assurance/quality control procedures associated with the radiological field surveys conducted by Tetra Tech.

3.1.1 Purpose

Gamma radiation surveys are non-destructive methods of analysis that can be applicable as a screening and radionuclide-specific methodology and can be used as part of the baseline data collection process (EPA 2006) or for assessment of radiological anomalies or identifying potential contamination areas. On open ground, about two-thirds of the gamma radiation dose comes from radionuclides contained in the top 15 centimeters (cm) of soil (NRC 1994). Radionuclides found in the terrestrial environment can be natural or man-made. Soils and rock exhibit differing levels of radioactivity, depending on concentrations of naturally occurring potassium, uranium, thorium, and radium. Anthropogenic events, such as nuclear weapons testing and the recent Fukushima disaster, have spread detectable concentrations of radionuclides across the globe. The use of Global Positioning System (GPS)-based gamma radiation survey systems (both in situ spectroscopy and total gamma count) is an established methodology for characterizing the spatial distribution of gamma radiation from naturally occurring radioactive materials [NORM] (Whicker and others 2015) and man-man made radionuclides in soils (HGL 2012).

The spatial variability of gamma exposure rates at a particular site provides a better measure of the variation of radionuclide activity in soil for that particular site. The goal of the continuous gamma radiation survey was to characterize the spatial distribution of gamma radiation emanating from surface soils within the BBC, at drainages entering and draining through the BBC property, and at background reference areas. Additionally, the gamma data can then be used to predict the effective dose rates from the surface soils using cross calibration and correlation methods. There are two primary purposes of this survey:

1. *Identify the spatial distribution of gamma radiation emanating from the terrestrial environment at the BBC, drainages, and background reference areas.*
2. *Utilize the data collected to guide soil sampling to determine the concentration of man-made radionuclide present in surface soils at the BBC and drainages.*

Tetra Tech conducted a continuous gamma radiation survey at the BBC property and at various background areas following the methods outlined in Section 3.1.2. The gamma radiation survey QA/QC methods are presented in Section 3.1.4.

3.1.2 Gamma Radiation Survey Method

Tetra Tech performed a comprehensive continuous gamma radiation survey within the BBC and drainages and at five background reference areas. The gamma radiation survey was performed in accordance with Standard Operating Procedure (SOP) 1, Mobile Gamma Radiation Surveying, included in Attachment A. Tetra Tech used mobile backpack scanning systems consisting of non-collimated 2-inch by 2-inch Ludlum 44-10 thallium laced sodium iodide (NaI(Tl)) scintillation detectors coupled to Ludlum 2350-1 data loggers

and a portable GPS. The mobile gamma survey systems consisted of GPS receivers and gamma radiation detectors along with proprietary software developed by Tetra Tech (2006) installed on field laptop computers. The survey was conducted in a manner allowing for rapid gamma exposure rate scanning and simultaneous geospatial data acquisition; paired data were recorded once every 1 to 2 seconds. The GPS systems used the Wide Area Augmentation System (WAAS), providing GPS signal correction to enhance position accuracy within ±2 meters. All of the instruments used during the gamma scan survey were factory-calibrated within the manufacturer-recommended 12-month period, as discussed further in Section 3.1.4. A scanning rate of 0.5 meters per second (m/s) (about 1 mph) is used for distributed gamma emitting constituents (NRC 2000). A detector height of 1 meter (m) above ground surface was used for this study as recommended for baseline radiological studies (OSD 2012; EPA 1999) and used in other projects (ERG 2009a, 2009b; Tetra Tech 2010).

All measurement data were automatically stored and processed with the measurement location information for mapping and real-time analysis by field engineers. Real-time mapping allows the field engineer to maintain position on pre-determined scan transect lines and to help identify any problems that arise during the scanning efforts. The gamma radiation survey was performed on initial scan transects of 30-m spacing within the BBC and background areas and on 2-m spacing through the sediment drainage areas. NaI(Tl) detector systems exhibit energy-dependent response characteristics as shown in Figure 3; the radiation energy spectrum associated with background radiation from soils found at sites contaminated with man-made radionuclides such as cesium-137 (Cs-137) or with naturally occurring radionuclides can be adequately characterized for the purposes set forth in this investigation using these systems. Tetra Tech's experience at similar sites indicates that NaI(Tl) detector response to significant above-background gamma radiation sources near the ground surface ranges horizontally to about 1.5 m, giving the detector an estimated ground surface field of view about 3 m in diameter.

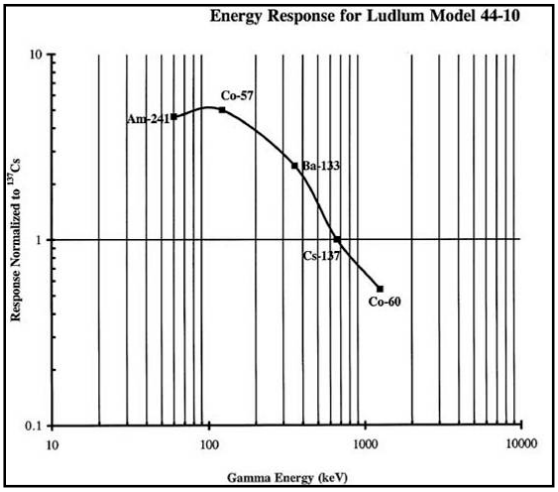


Figure 3 Energy Response for Ludlum Model 44-10 with Cesium-137 Source

The Ludlum 2350-1 data logger system employs a calibration factor to internally convert detector counts per minute to exposure rate. The calculated exposure rate, directly proportional to the measured count rate, is transmitted by the data logger to the scanning system portable computer. No record of count rate is retained by the system, but count rate can be back-calculated using the instrument-specific calibration factor. The results of the gamma radiation survey within the background reference areas and BBC/drainage areas are presented in Section 4.0 and Section 5.0, respectively.

3.1.3 Geospatial Mapping Methods

Geostatistical methods are powerful tools for mapping spatial data and providing interpolation between existing data points and are commonly used in geographic, geological, and environmental sciences as outlined in Journel et al. (1978), David (1977), and Verly et al. (1984). More specifically, geospatial analysis kriging techniques applied to radiological survey data are discussed in Whicker et al. (2008). For the purposes of the BBC radiological study, kriging was used to interpolate the gamma radiation point data. Kriging is a geostatistical method utilizing the statistical properties of the measured points. Kriging is the method of geospatial interpolation used for this project. There are three types of kriging: ordinary, simple, and universal. The kriging results are displayed on a grid or mesh and provide detailed informative characterizations of radiological parameters across the entire BBC survey areas. Tetra Tech utilized ArcGIS© Geostatistical Analyst to perform all analyses on the radiological. The exploratory spatial data analysis tools contained within ArcGIS© Geostatistical Analyst, allows the engineer to visualize and explore the data sets using statistical methods to best determine which model and parameters most accurately represent the data. Multiple kriging scenarios were evaluated for the BBC survey areas and the best method was selected based on a number of criteria prior to final model selection. The gamma radiation survey maps for this project are kriged maps.

3.1.4 Radiological Investigation QA/QC Methods

Tetra Tech adhered to strict QA/QC protocols in conducting the gamma radiation surveys in this investigation. QA includes qualitative factors that provide confidence in the results, while QC involves quantitative field evidence that supports the validity of results. Tetra Tech used data quality indicators as recommended in Multi-Agency Radiological Survey Site Investigation Manual (MARSSIM) (NRC 2000) and Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP) (NRC 2004) where possible to ensure the data being collected are reliable. All of the radiation detection instruments employed during the field work were factory calibrated within the previous 12 months. Data developed with the field-qualified instruments are then interchangeable, allowing instrument substitution when needed. Copies of factory calibration documentation for the three detectors used during the survey are provided in Attachment B. Under the QC program, factory-calibrated instruments were required to meet on-site field test criteria (for example, calibration checks). Tetra Tech field personnel collected quantitative measurements as part of the QC program, including:

1. Pre-survey and post-survey field instrument calibration checks.
2. Field instrument checks performed beginning of each day, middle of day, and end of day including: background, field strip, Cs-137 source check.

Detailed descriptions of the QA/QC procedures and project QC requirements are provided in Attachment C. Additionally, the results of the gamma radiation survey and data validation review are presented in Attachment C.

3.2 SOIL SAMPLING INVESTIGATION

3.2.1 Purpose

The purpose of the soil sampling was to collect information on the existing radiological and chemical conditions within the drainages and high use areas of the BBC. The gamma radiation survey provides information on gamma emitting radionuclides in the terrestrial environment but does not specify which

radionuclides are present (man-made or naturally occurring) and to what extent. The surveys also do not provide information on radionuclides, such as strontium-90 (Sr-90), that are undetectable within the field gamma scanning detection systems. Laboratory analysis of soil samples can provide this information, and this sampling was conducted as part of this study.

3.2.2 Soil Investigation Methods

All surface sediment and soil samples were collected at a depth of 0 to 15 cm below ground surface (bgs). The sediment and soil sampling was conducted in accordance with SOP 2, Soil Sampling, included in Attachment A. Sample locations were identified by field engineers based on a risk assessment interview with camp personnel (Tetra Tech 2016) to select strategic locations based on camper and residence activities. Soil samples were also collected within the drainages upstream of the BBC. Discrete samples were collected at all of the locations. Soil samples were submitted to an accredited laboratory for analysis [ALS Laboratories, Fort Collins, Colorado]. All soil samples were submitted for the laboratory analytical procedures and minimum detection limits specified in Table 1. The QA/QC methods and data validation project criteria for the soil investigation program are presented in Section 3.2.3 and in SOP 2. A scanned copy of the field logbook is provided in Attachment D. A photographic log showing the gamma radiation survey field activities is provided in Attachment E.

Table 1 Summary of Laboratory Analytical Methods and Detection Limits

Analyte	Laboratory MDC[1]/(Reporting Limit)	Method
Cesium-137	0.1 pCi/g[2]	EPA 901.1 M
Strontium-90	0.25 pCi/g	ASTM D5811
Mercury	3.6 µg/kg[3] (33.3 µg/kg)	EPA SW 7471A
Metals (TAL[4])	varies	EPA SW 6020
Perchlorate	20 µg/kg	EPA 314.0

[1]MDC = minimum detectable concentration. Varies by method and sample. May be lower than specified in this table.
[2]pCi/g = picocuries per gram
[2]µg/kg = micrograms per kilogram
[4]TAL = target analyte list. Includes 23 metals with varying MDCs

3.2.3 Soil Investigation QA/QC Methods

Tetra Tech followed the QA/QC procedures presented in SOP 2, Soil Sampling, in Attachment A. Field duplicate samples were collected as part of the QC program. A field duplicate is defined as a second sample from the same location, collected in immediate succession, using identical techniques; these samples were submitted to the laboratory to quantify precision and bias. One field duplicate was submitted for every 20 primary samples. Data validation testing, including evaluation of precision and QA acceptance criteria for the soil investigation program, is described in SOP 2, Soil Sampling, in Attachment A.

4.0 OVERVIEW OF BACKGROUND REFERENCE AREA SELECTION AND RESULTS

This section presents an overview of the selection process used by Tetra Tech to identify appropriate background reference areas from unimpacted sites for comparison with data collected on site at the BBC. The results of the gamma radiation surveys at the background reference areas are presented in this section.

4.1 OVERVIEW

Background ionizing radiation consists of four major sources: terrestrial, cosmic, cosmogenic, and man-made. Terrestrial radiation produces the largest dose to people living in the United States. The remaining three components are relatively minor contributors to the dose from background at sea level compared with terrestrial radiation (NRC 1994). Virtually all materials found in nature have some natural radioactivity. Rocks, soil, water, plants, and animal life all have varying degree of terrestrial radionuclides (NRC 1994). The most significant of these are naturally occurring (such as uranium, thorium, and potassium). Nuclear reactors and weapons have produced large quantities of radionuclides through the fissioning of uranium and other heavy elements and the activation of various elements. It is well documented that Cs-137 and Sr-90 were deposited throughout the globe as a result of nuclear weapons tests conducted in the atmosphere.

A number of investigations have been performed to date to establish a local baseline or background reference data values for comparison to the SSFL and adjacent off-site areas. Background soil data were collected and evaluated by McLaren-Hart on behalf of the U.S. EPA Region 9 in both 1992 and 1994, as summarized in McLaren-Hart (1993, 1995). The data from these two investigative efforts were evaluated, reviewed, validated, and summarized in the Site Inspection Report prepared for the EPA and described in Weston (2003). The most extensive radiological characterization study to date of the SSFL at Area IV and the Northern Buffer Zone was conducted by HydroGeoLogic Inc. (HGL) in 2011 for the EPA. The results of this study are presented in HGL (2011). HGL identified Radiological Background Reference Areas (RBRA) at unimpacted locations 3 to 6 miles outside the SSFL boundary. These areas were surveyed for gamma radiation and soil radionuclide concentrations. Surface and subsurface soil samples were collected at three RBRAs for the primary background study (HGL 2011). Two of these RBRAs overlie the Chatsworth geologic formation (Lang Ranch and Rocky Peak), and one overlies the Santa Susana formation (Bridle Path).

Differences in the distribution of both naturally occurring and man-made gamma-emitting radionuclides within the terrestrial environment (such as in soil) can be found across sites locally and across the U.S. The concentrations of terrestrial radionuclides vary from place to place in much the same way that mineral deposits can be expected to vary from geologic processes over time; the variation in total gamma radiation levels among sites relates directly to the concentrations of principal gamma-emitting radionuclides in the local soil (NRC 1994). Background radiation levels should be established from appropriate background reference areas and include assessment of exposure rates in various media (Abelquist 2001). The selection of the reference areas is an important factor that must be considered when comparing on-site BBC radiation values that could be affected by anthropogenic activities, including the historical activities at the SSFL.

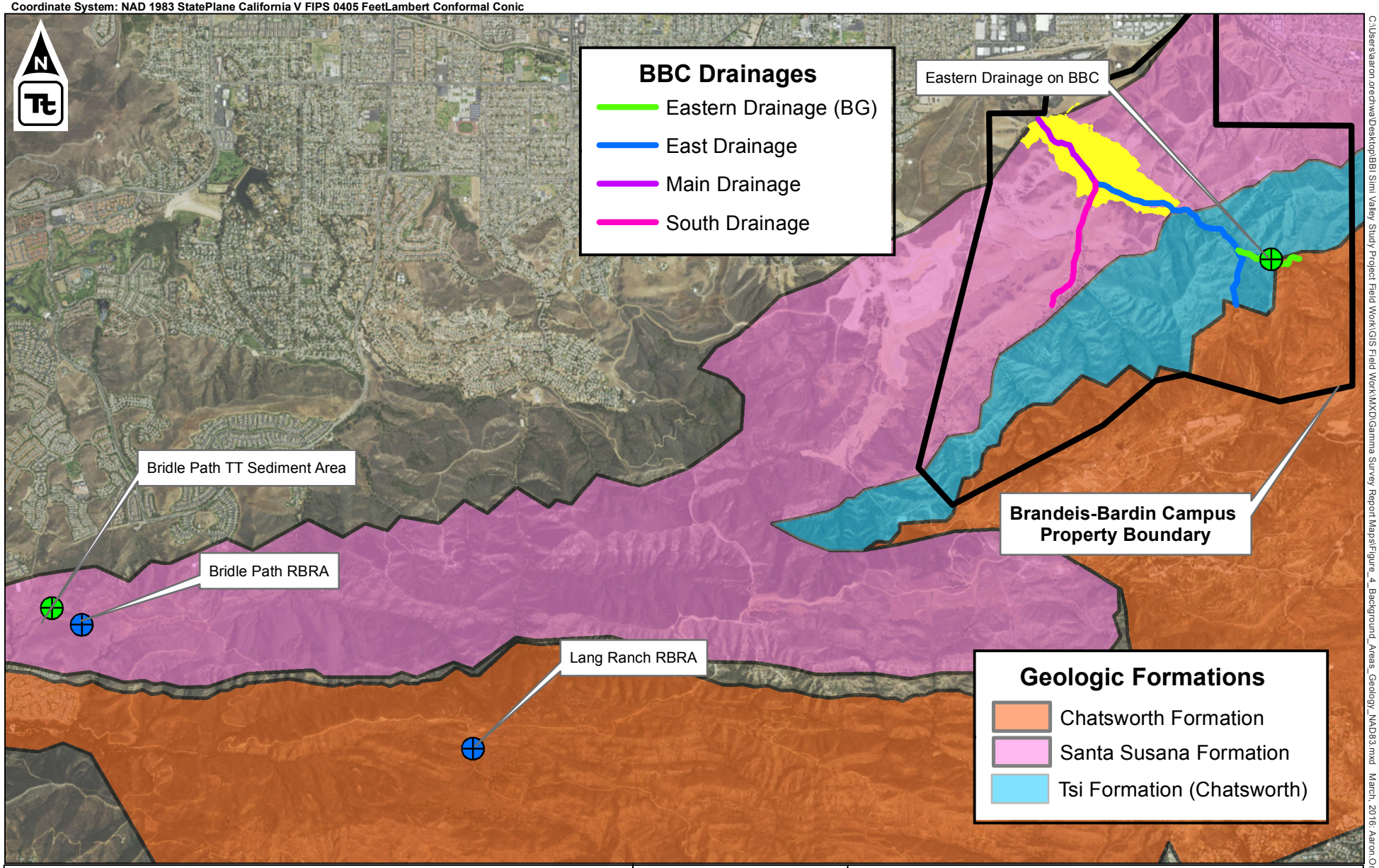
Tetra Tech conducted a background study at a number of locations using information available from previous investigations and from information collected in the field. The purpose of the Tetra Tech background investigation was to collect individual data sets of gamma exposure rates and soil concentrations from selected background reference areas and compare these data to the data collected within the BBC and drainages. Tetra Tech designed the background study to incorporate the EPA identified background areas as well as selecting additional background reference areas within specified unimpacted drainages for comparison. A total of five background reference areas from two primary sources were evaluated as part of this investigation: (1) RBRAs from the U.S. EPA background study in HGL (2011), and (2) locations identified by Tetra Tech field engineers. An objective of this background field investigation was to evaluate the potential that radioactive and other chemical constituents were released to the BBC from SSFL-related activities at concentrations greater than background levels. The selection of unimpacted background reference areas in similar geology and soils is crucial for comparing on-site radiological measurements and radionuclide soil concentrations (and non-radionuclide) to the background reference areas. Table 2 presents the background reference areas and geologic formations underlain in each area and the surface soil types for each area. Surface soil maps were obtained from the on-line Natural Resources Conservation Service (NRCS) web soil survey program and determined for each background reference area.

Table 2 Summary Information for Selected Radiological Background Reference Areas

Background Reference Area ID	Geologic Formation	Surface Soil Type
Bridle Path RBRA	Santa Susana	Castaic-Balcom complex, 30 to 50 percent slopes [CfF2]; Soper gravelly loam, 30 to 50 percent slopes, eroded [SvF2]
Bridle Path TT Drainage Area		Castaic-Balcom complex, 30 to 50 percent slopes [CfF2]
Lang Ranch RBRA	Chatsworth	Botella loam, 2 to 9 percent slopes, warm MAAT, higher MA
Eastern Drainage on BBC		Cortina stony sandy loam, 2 to 9 percent slopes

In addition to the Bridle Path RBRA identified in HGL (2011), Tetra Tech identified another area within the vicinity (less than 500 feet) of the Bridle Path RBRA as suitable background drainage reference area. This sediment drainage nearby was evaluated to provide a reference drainage to compare with the BBC drainages within the Santa Susana formation. A drainage that does not receive hydrologic inputs from the SSFL Area IV was evaluated (Eastern Drainage). The Eastern drainage falls within the Chatsworth formation. The sediment and soil background reference area data were compared to the sediment and soil areas identified and evaluated within the BBC property.

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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BACKGROUND REFERENCE AREA LOCATION AND GEOLOGIC MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

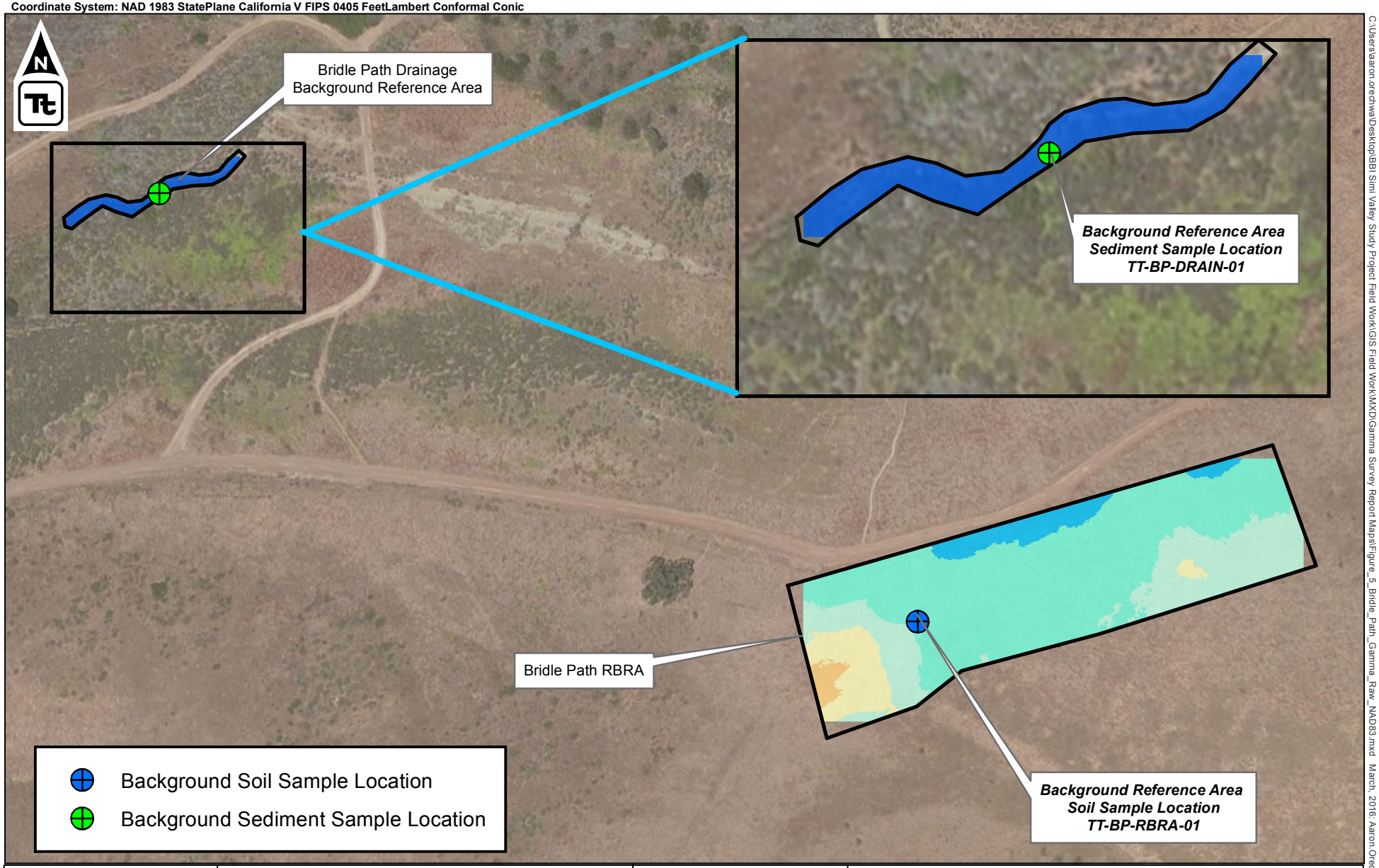
Figure 4

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_4_Background_Areas_Geology_NAD83.mxd March, 2016 Aaron.Orechwa

4.2 GAMMA SURVEY RESULTS IN BACKGROUND REFERENCE AREAS

Tetra Tech conducted a gamma radiation survey in the five background reference areas presented in Table 2 and Figure 4 in accordance with the methods presented in Section 3.1 and SOP 1, Mobile Gamma Radiation Surveying included in Attachment A. Field engineers collected 4,166 gamma exposure rate measurements within the five background reference areas from February 16, 2016, through February 18, 2016 (Figure 5 and Figure 6). Soil samples were also collected within Bridle Path RBRA, Bridle Path (TT-Drainage), Lang Ranch RBRA, and Eastern Drainage (BG). Soil samples were submitted for radiochemical laboratory analysis of Cs-137 and Sr-90. Prior studies have uniformly indicated that the primary radionuclides associated with the SSFL are Cs-137 and Sr-90. Furthermore, the 1992 and 1994 investigative efforts at BBC showed that other radionuclides, such as plutonium-239 (Pu-239) and cobalt-60 (Co-60), were not present above detection limits (Weston 2003). Accordingly, Pu-239 and Co-60 were not included in this investigation. The following subsections present the results of the background gamma radiation surveys for each of the background reference area evaluated. The laboratory results for the sediment and soil samples collected in the background reference areas are provided in Section 6.0.

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 50 100

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

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BRIDLE PATH BACKGROUND REFERENCE AREA GAMMA EXPOSURE RATE MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 5

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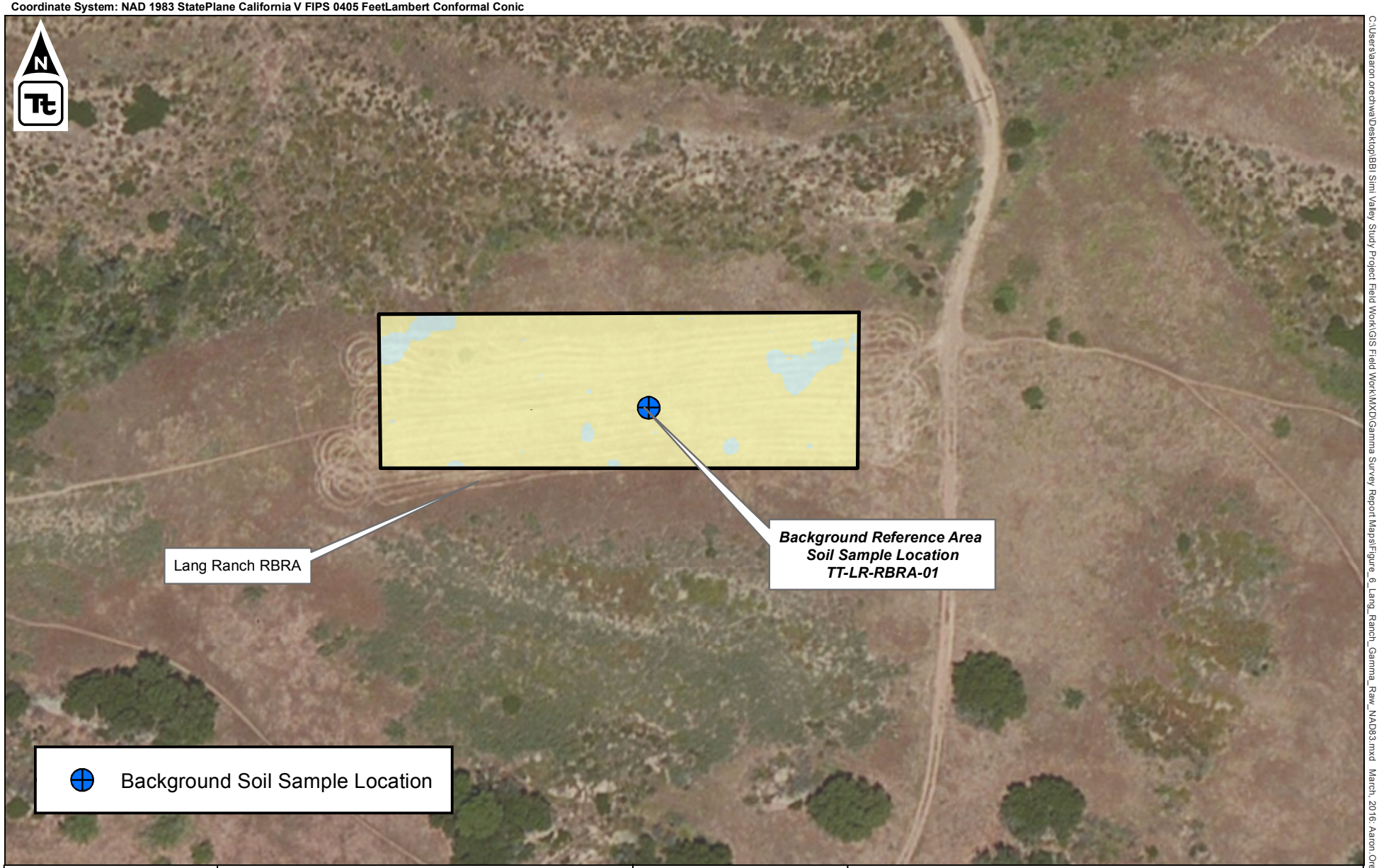
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 50 100

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

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LANG RANCH BACKGROUND REFERENCE AREA GAMMA EXPOSURE RATE MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 6

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_6_Lang_Ranch_Gamma_Raw_NAD83.mxd March, 2016; Aaron.Orechwa

4.2.1 Bridle Path RBRA (EPA Location)

Bridle Path RBRA was selected as background reference location because it was evaluated in the HGL (2011) study and significant data are available from the previous investigative efforts. The Bridle Path RBRA is approximately 6 miles from the BBC and is underlain by the Santa Susana formation, the same geologic formation that the majority of the BBC property falls within, as shown in Figure 4. The results of the gamma radiation survey are presented graphically in Figure 5 and summarized in Table 3. A Goodness of fit test (GOF) using the EPA software, ProUCL 5.0, was used to calculate an appropriate statistical distribution that best fits the gamma exposure rate measurements collected within the Bridle Path RBRA. This information is useful when statistically comparing the data from within the BBC areas and the background reference areas evaluated during this investigation. The results of the GOF showed that the data within the Bridle Path RBRA fit a number of distributions (including normal, lognormal, and gamma). A statistical representation of the gamma exposure rates for the Bridle Path RBRA is shown in Figure 7. The probability plot and histogram show graphically how well the data fit a lognormal distribution.

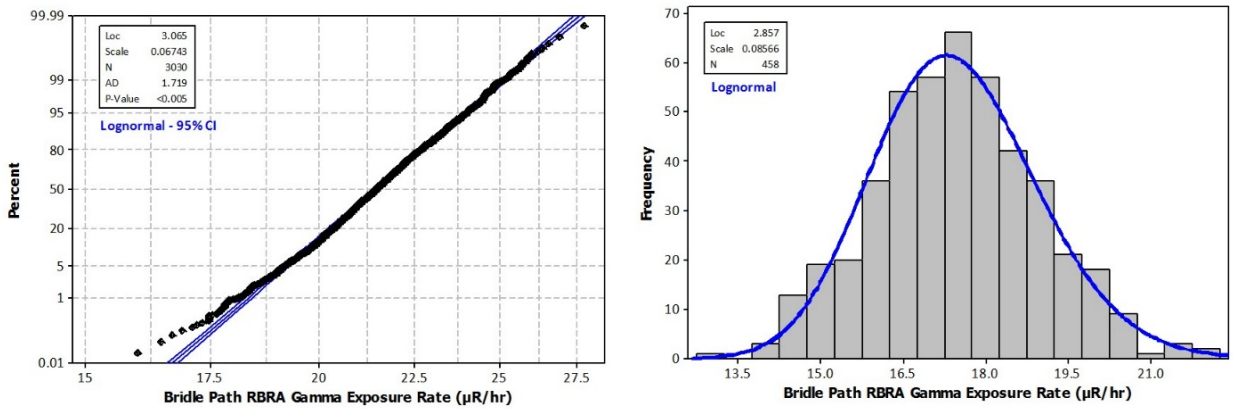


Figure 7 Probability Plot and Frequency Histogram of Bridle Path RBRA Gamma Exposure Rates

The ground cover observed during this investigation included high grass and moist soil conditions. The sampling conditions within the Bridle Path RBRA can be observed through the photographic log provided in Attachment E. The background conditions for the soil area at the Bridle Path RBRA may not reflect the radiological conditions within a drainage environment due to vegetative cover, soil moisture, and soil type. Therefore, an alternative background drainage reference area within the same geology as the Bridle Path RBRA was selected to study, as shown in Figure 4. The results of this analysis are provided in Section 4.2.3.

4.2.2 Lang Ranch RBRA (EPA Location)

The Lang Ranch RBRA was selected as background reference location because it was evaluated in the HGL (2011) study and significant data are available from the previous investigation efforts. The Lang Ranch RBRA is approximately 5 miles from the BBC and is underlain by the Chatsworth formation, the same geologic formation that is the origin of the drainage channels that enter the BBC from the south, as shown in Figure 4. The results of the gamma radiation survey are presented graphically in Figure 6 and summarized in Table 3. A GOF test using the EPA software, ProUCL 5.0, was used to calculate an appropriate statistical distribution that best fits the gamma exposure rate measurements collected within the Lang Ranch RBRA. This information is useful when statistically comparing the data from within the BBC areas and the background reference areas evaluated during this investigation. The results of the GOF

showed that the data within the Lang Ranch RBRA fits a number of distributions (including normal, lognormal, and gamma). A statistical graphical representation of the gamma exposure rates for the Lang Ranch Path RBRA is shown in Figure 8. The probability plot and histogram show graphically how well the data fit a lognormal distribution.

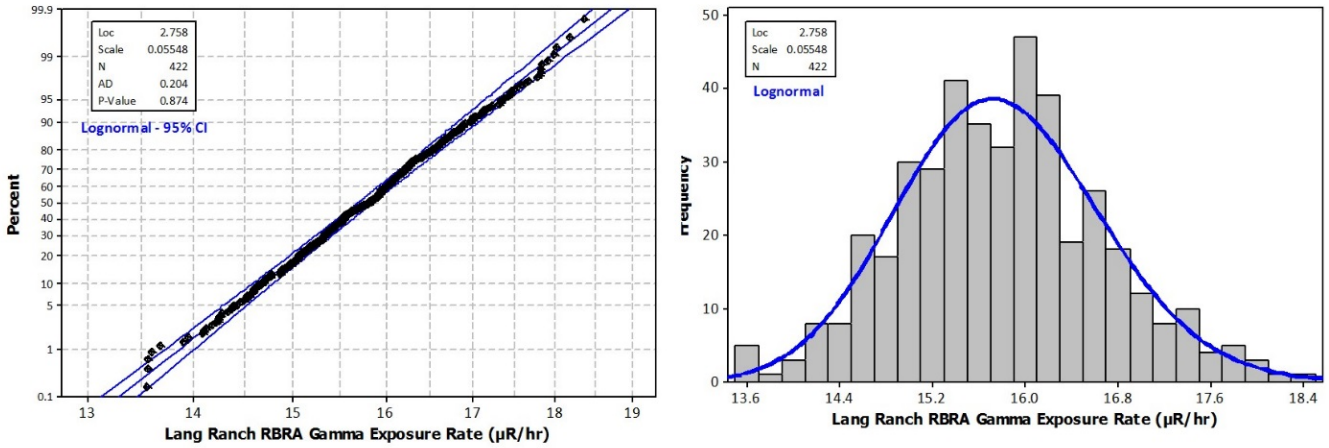


Figure 8 Probability Plot and Frequency Histogram of Lang Ranch Path RBRA Gamma Exposure Rates

The ground cover observed during this investigation included high grass and moist soil conditions. The sampling conditions within the Lang Ranch RBRA can be observed through the photographic log provided in Attachment E. The background conditions for the soil area at the Lang Ranch RBRA may not reflect the radiological conditions within a drainage environment due to vegetative cover, soil moisture, and soil type. Therefore, an alternative background drainage reference area within the same geology as the Lang Ranch RBRA was selected to study, as shown in Figure 4. The results of this analysis are provided in Section 4.2.3.

4.2.3 Summary of Background Drainage Reference Areas (Tetra Tech Locations)

In addition to the two RBRAs identified in the HGL (2011) background study, Tetra Tech field engineers identified two additional background reference areas. The rationale for selecting these locations is described in Section 4.2. Two of these locations were in close proximity to, and had similar geologic and surface soil characteristics as, the Bridle Path RBRA. These locations were selected to demonstrate the variability of terrestrial radiation within just a short distance from the EPA-identified RBRAs, in addition to evaluating the radiological characteristics of drainages rather than the open soil environment. Figure 5 shows the background drainage reference area evaluated and the close proximity to the main Bridle Path RBRA evaluation area. The second background drainage reference location identified by Tetra Tech was from the Eastern Drainage (BG) entering the BBC site. This background reference area was selected because it does not receive its primary drainage flows from the known radiologically contaminated region of the SSFL referred to as Area IV. Summary statistics for the gamma radiation surveys for all of the background reference areas are presented in Table 3.

4.2.3.1 Bridle Path TT-Drainage Background Reference Area (Tetra Tech Location)

The Bridle Path TT-drainage background reference area is located near Thousand Oaks, California, adjacent to the EPA-identified Bridle Path RBRA and approximately 6.4 miles from the centroid of the BBC property. This area was selected as a background reference location based on its proximity to the

EPA-identified Bridle Path RBRA and because it represents the conditions of an unimpacted drainage within the Santa Susana geologic formation. This region has been identified as unimpacted in the HGL (2011) report and fits the requirements for a background reference area well. The results of the gamma radiation survey within the Bridle Path drainage are shown on Figure 5. This background reference area exhibited gamma readings up to 38.6 microroentgens per hour (µr/hr), which is higher than any exposure level observed on the BBI property during this investigation. A statistical graphical summary is provided in Figure 9. The data collected within this drainage do not fall within any specified parametric distribution and follow closely to a bimodal distribution.

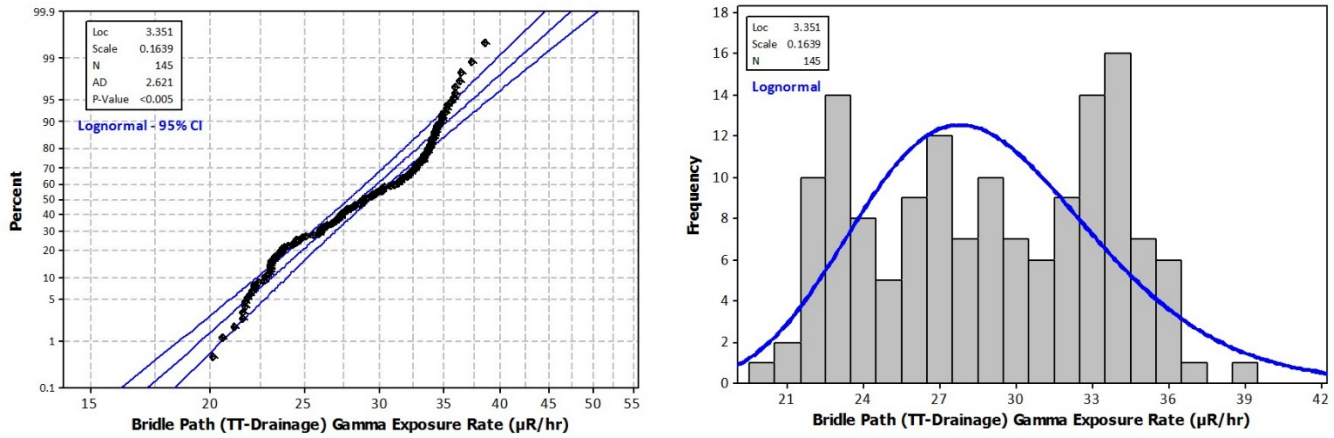


Figure 9 Probability Plot and Frequency Histogram of Bridle Path TT-Drainage Gamma Exposure Rates

4.2.3.2 Eastern Drainage (BG) Background Reference Area (Tetra Tech Location)

The Eastern Drainage (BG) background reference area is a drainage entering the primary Eastern Drainage into the BBC. This area was selected as a background reference location because it represents the conditions of a channel draining the Chatsworth formation that is unimpacted from the Area IV region of the SSFL. This drainage region has been identified as hydrologically unimpacted from the SSFL's Area IV operations based on review of local flow paths obtained from the National Hydrography Dataset (NHD) from the U.S. Geological Survey (USGS) and fits the requirements for a background reference area as well. Further discussion is provided in the main text of the Technical Memorandum.

A GOF test using the EPA software, ProUCL 5.0, was used to calculate an appropriate statistical distribution that best fits the gamma exposure rate measurements collected within the Eastern Drainage background reference area. This information is useful for statistically comparing the data from within the BBC areas and the background reference areas evaluated during this investigation. The results of the GOF showed that the data within the Eastern Drainage (BG) background reference area fit a number of distributions (including normal, lognormal, and gamma). A statistical graphical representation of the gamma exposure rates for the Eastern Drainage (BG) background reference area is shown in Figure 10. The probability plot and histogram show graphically how well the data fit a lognormal distribution.

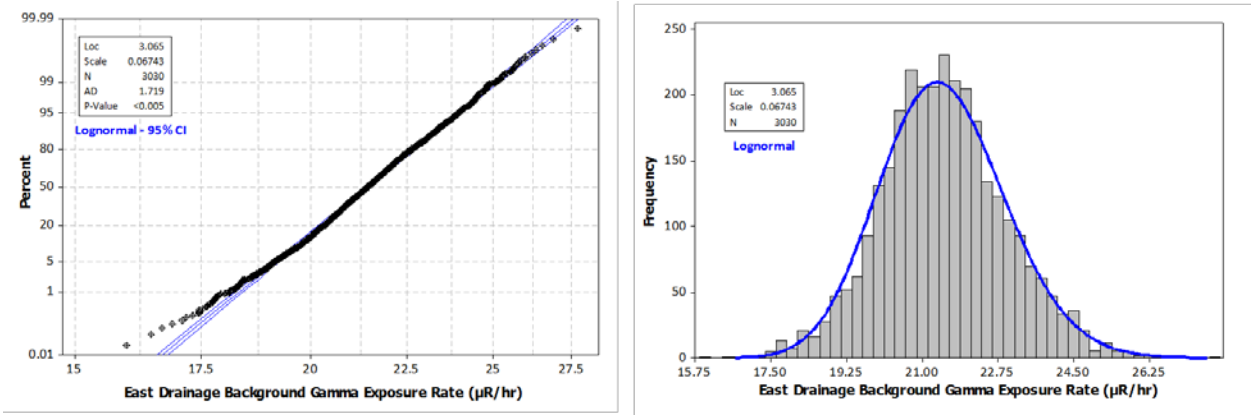


Figure 10 Probability Plot and Frequency Histogram of East Drainage Gamma Exposure Rates

4.2.4 Summary of Background Drainage Reference Areas (Tetra Tech Locations)

The summary statistics of the gamma radiation surveys at the background reference areas are provided in Table 3. Figure 5 and Figure 6 depict the raw gamma exposure rates for the Bridle Path and Lang Ranch background reference areas, respectively. The gamma exposure rate measurements for the Eastern Drainage (BG) is provided in Section 5.0, given its proximity to the BBC property. A lognormal probability plot showing the multiple background reference area gamma exposure rates on one graph is provided in Figure 11. A statistical evaluation comparing the gamma exposure rates collected within the BBC main area and drainages and the gamma exposure rates collected within the background reference areas is provided in Section 7.0.

Table 3 Summary Statistics of Gamma Exposure Rate Measurements at Background Reference Areas

Background Reference Area	# of Points	Minimum (µR/hr)	Maximum (µR/hr)	Average (µR/hr)	Standard Deviation (µR/hr)	Median (µR/hr)	95th Percentile (µR/hr)	99th Percentile (µR/hr)
Bridle Path RBRA	458	13.1	21.9	17.5	1.5	17.5	20.0	21.3
Bridle Path (TT-Drainage)	145	20.1	38.6	28.9	4.6	28.7	35.5	36.9
Lang Ranch RBRA	422	13.5	18.4	15.8	0.9	15.8	17.3	17.9
East Drainage (BG)	3,030	16.0	27.7	21.5	1.4	21.4	24.0	25.1
All Areas	**4,166**	**13.1**	**38.6**	**20.8**	**3.0**	**21.1**	**24.4**	**32.6**

[1]µR/hr = microroentgen per hour

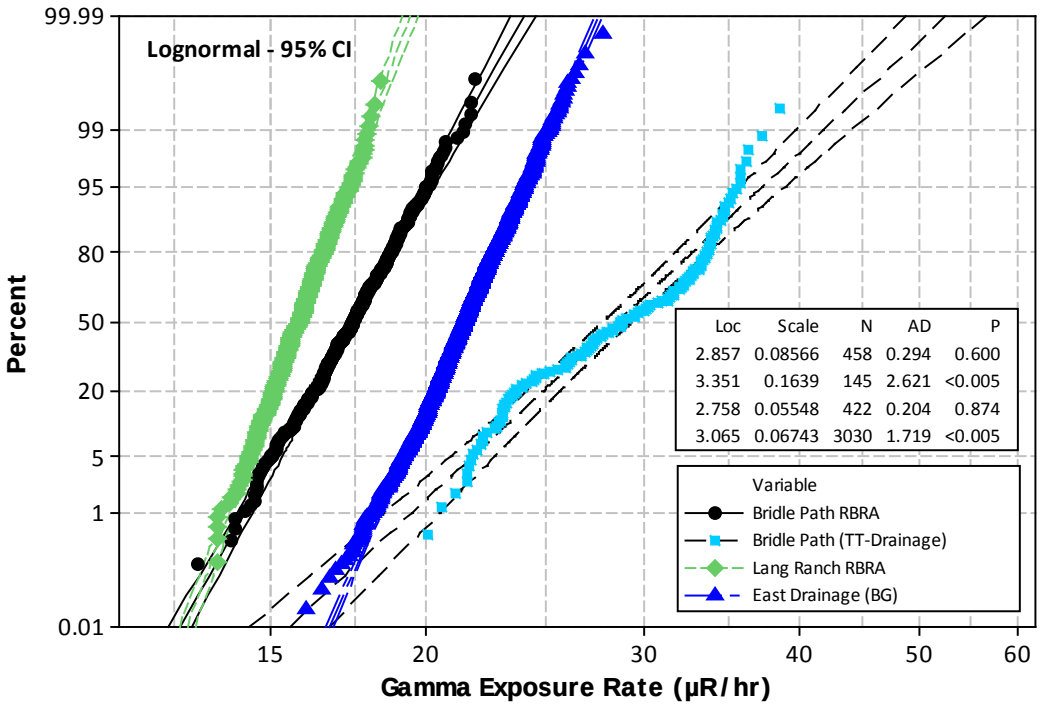


Figure 11 Bridle Path Background Reference Area Gamma Exposure Rate Map

5.0 GAMMA RADIATION SURVEY RESULTS

This section presents the results of the gamma radiation survey conducted by Tetra Tech field engineers the week of February 15, 2016.

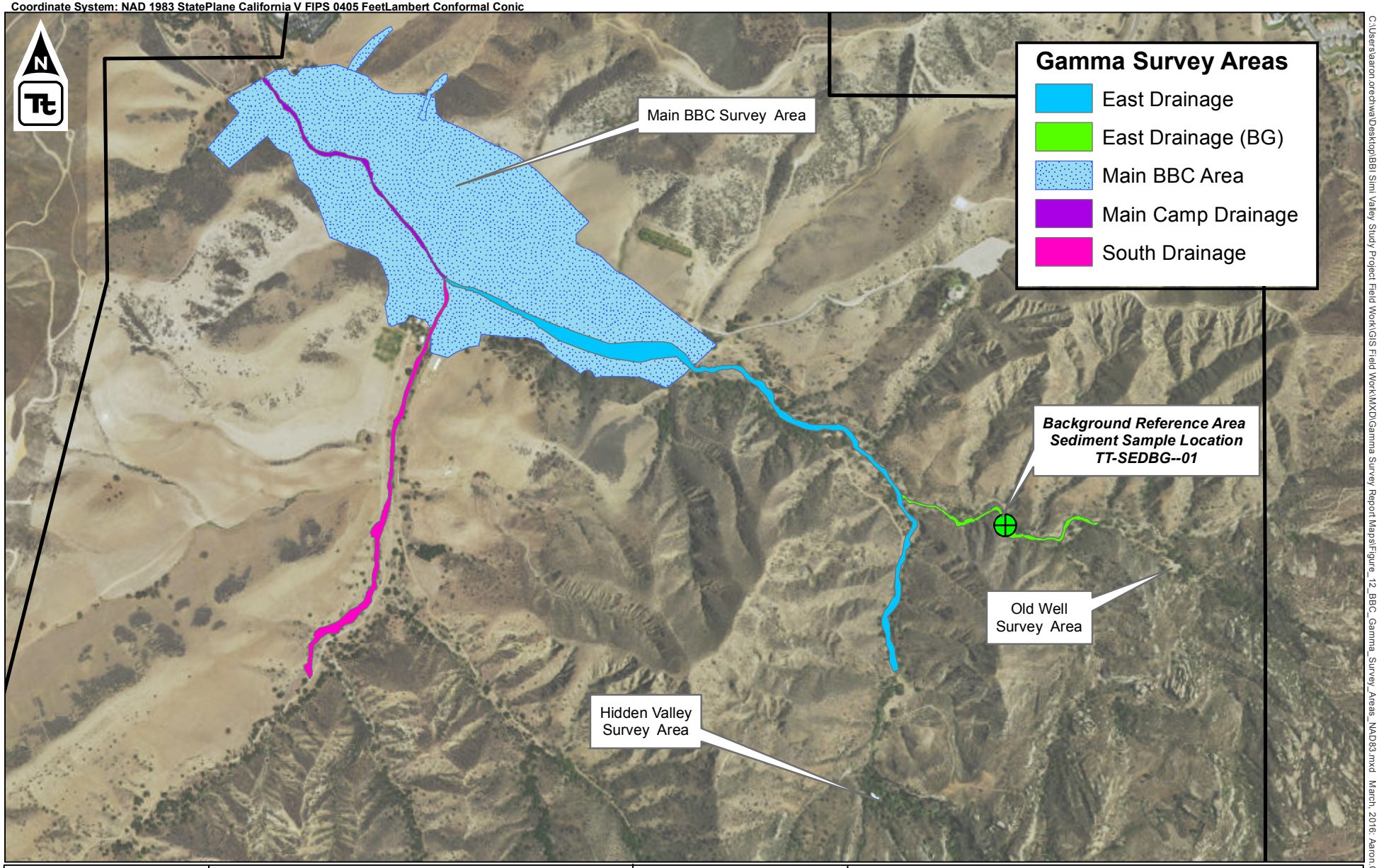
Tetra Tech conducted gamma radiation surveys at the BBC property from February 16, 2016 through February 18, 2016. The surveys were performed in accordance with the methods presented in Section 3.1 and in accordance with SOP 1, *Mobile Gamma Radiation Surveying* included in Attachment A. Field engineers collected 39,463 gamma exposure rate measurements within the six areas identified in Table 4. The gamma exposure rates ranged between 8.2 µR/hr to 25.5 µR/hr. The summary statistics of the gamma radiation surveys performed at these areas are also presented in Table 4. A map delineating the different survey areas is provided on Figure 12. Figure 13 provides a kriged gamma exposure rate map of the BBC main camp area and drainage survey areas. Figure 14 provides a kriged gamma exposure rate map of the Old Well and Hidden Valley survey areas. The Old Well and Hidden Valley areas were also surveyed to assess the existing radiological conditions; these areas are potential exposure centers to campers evaluated in the McLaren-Hart (1993; 1995) investigations. The raw gamma exposure rate maps are provided in Attachment F.

Table 4 Summary of Gamma Exposure Rate Measurements Collected at the BBC

Survey Area	Number of Points	Minimum (µR/hr)[1]	Maximum (µR/hr)	Average (µR/hr)	Median (µR/hr)	Standard Deviation (µR/hr)	95th Percentile (µR/hr)	99th Percentile (µR/hr)
BBC Main Area	25,585	8.2	22.4	14.4	14.3	1.6	17.0	18.3
Hidden Valley	59	15.1	19.5	17.5	17.6	1.0	18.8	19.3
Old Well	124	13.7	18.5	16.1	16.1	1.0	17.7	18.1
South Drainage	4,330	13.3	22.0	17.6	17.7	1.2	19.6	20.4
Main Channel Drainage	1,681	12.2	20.5	17.2	17.3	1.2	19.1	19.7
East Channel Drainage	7,684	11.1	25.5	19.2	19.1	1.7	22.0	23.4
All Non-Background Survey Areas	39,463	8.2	25.5	15.8	15.4	2.5	20.3	22.0

[1]µR/hr = microroentgen per hour

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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BBC Property Boundary

Background Sediment Sample Location

Prepared for:
American Jewish University

Prepared By:
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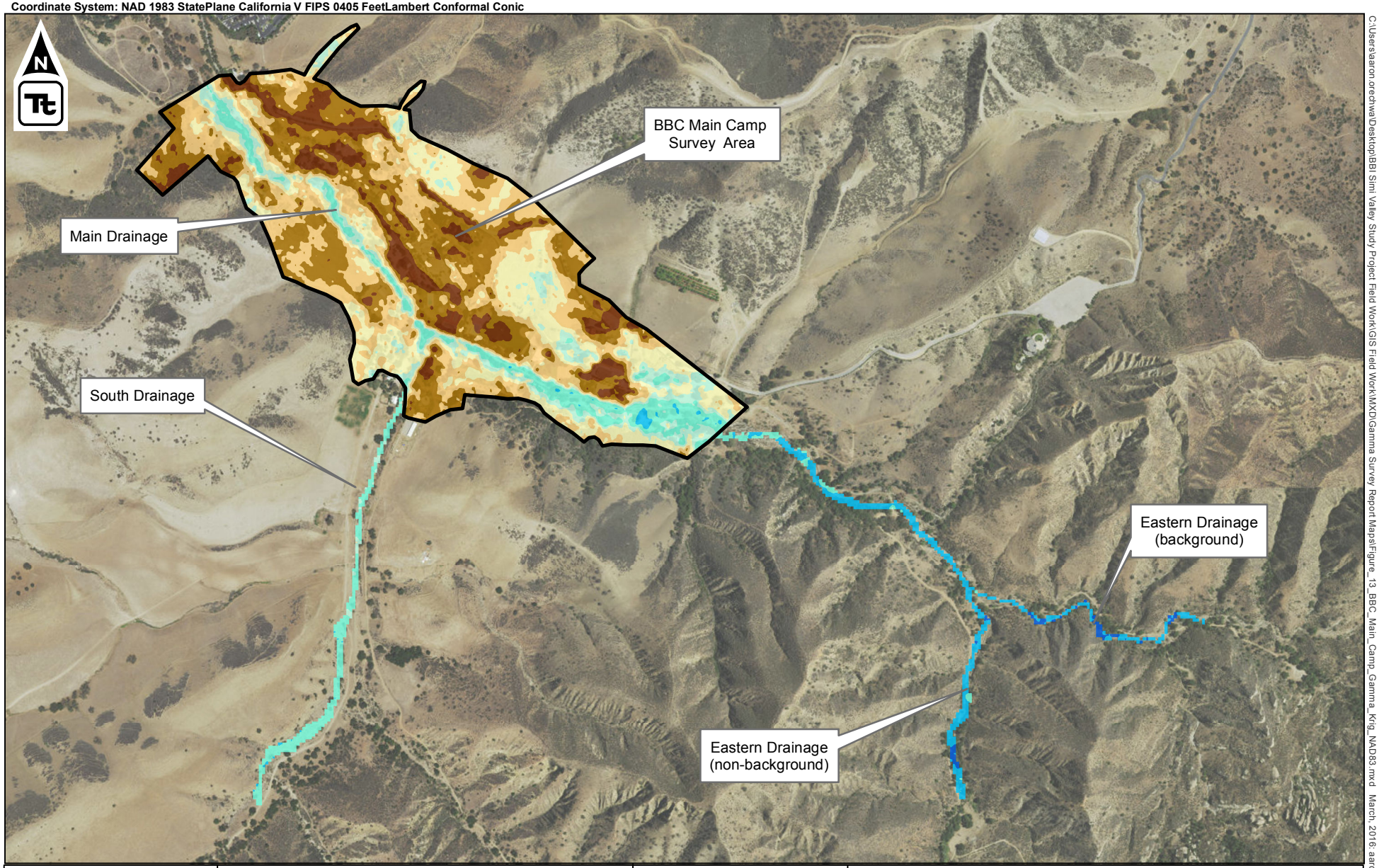
GAMMA SURVEY AREA DELINEATION MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 12

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_12_BBC_Gamma_Survey_Areas_NAD83.mxd March, 2016; Aaron Orechwa

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



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FEET
0 500 1,000

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

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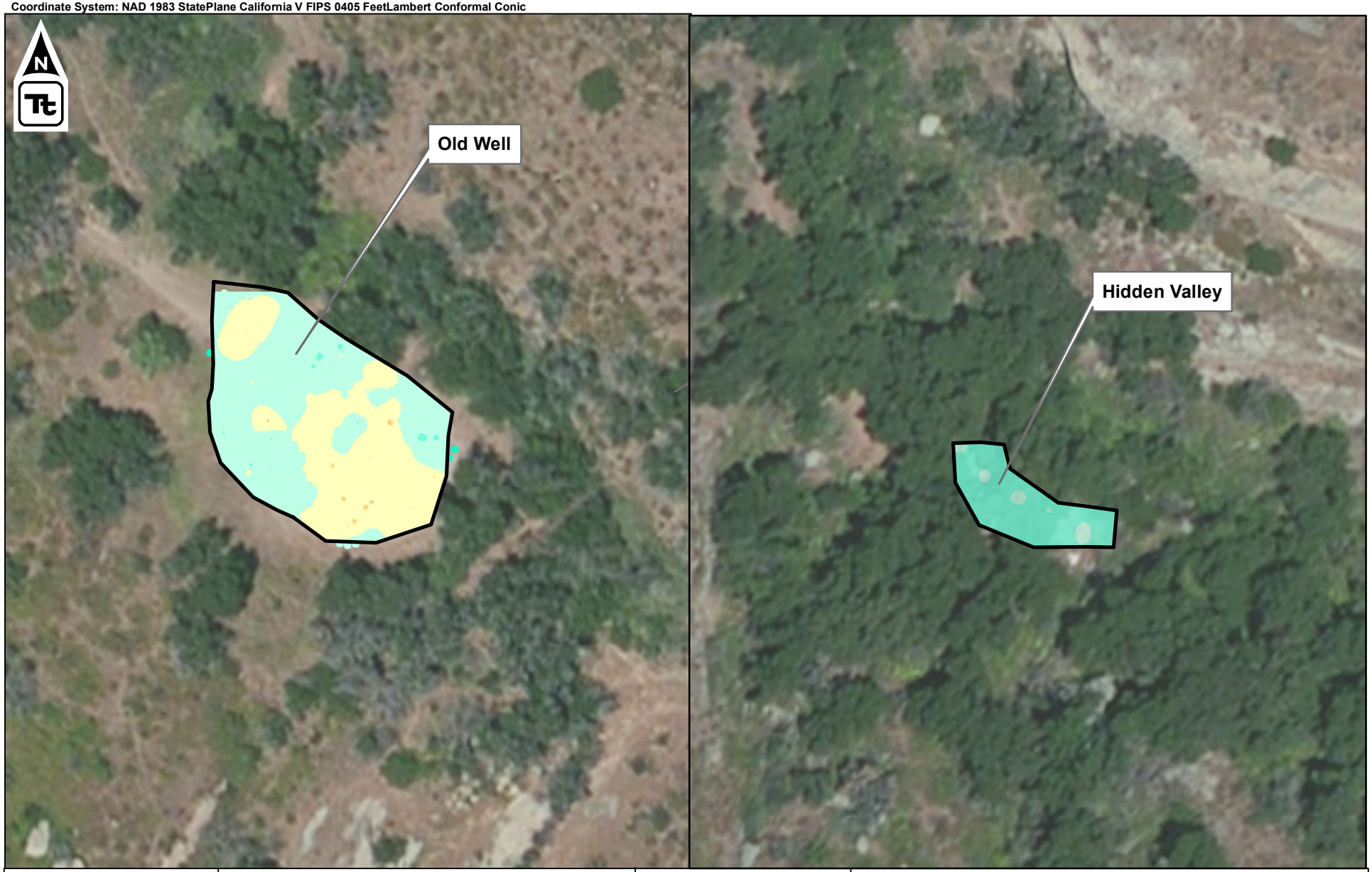
GAMMA EXPOSURE RATE MAP OF BBC MAIN CAMP AND DRAINAGES

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 13

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 25 50

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

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GAMMA EXPOSURE RATE MAP OF OLD WELL & HIDDEN VALLEY

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 14

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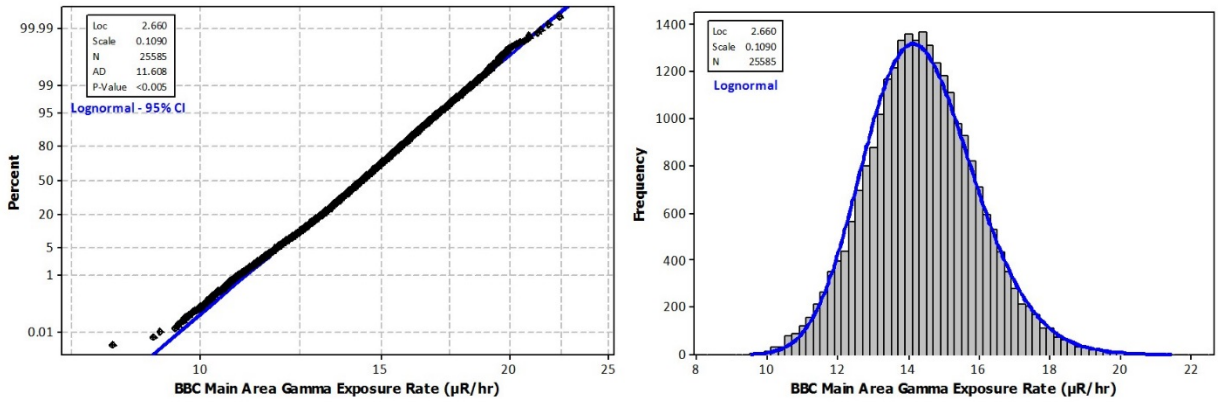


Figure 15 Probability Plot and Frequency Histogram of BBC Main Area Gamma Exposure Rates

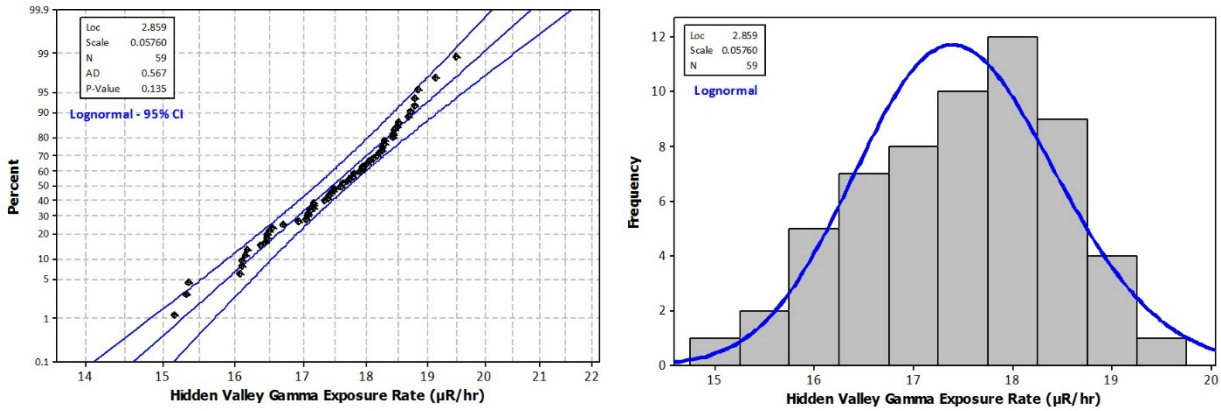


Figure 16 Probability Plot and Frequency Histogram of Hidden Valley Gamma Exposure Rates

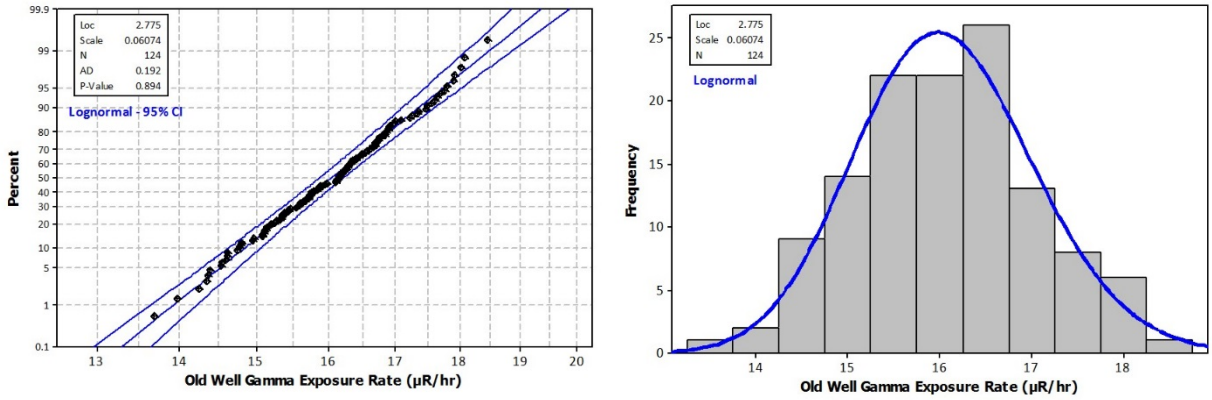


Figure 17 Probability Plot and Frequency Histogram of Old Well Gamma Exposure Rates

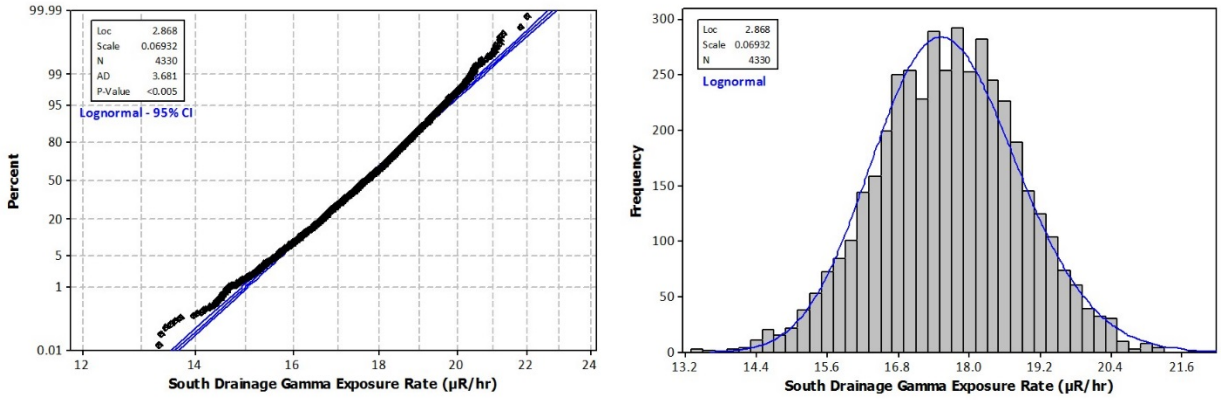


Figure 18 Probability Plot and Frequency Histogram of South Drainage Gamma Exposure Rates

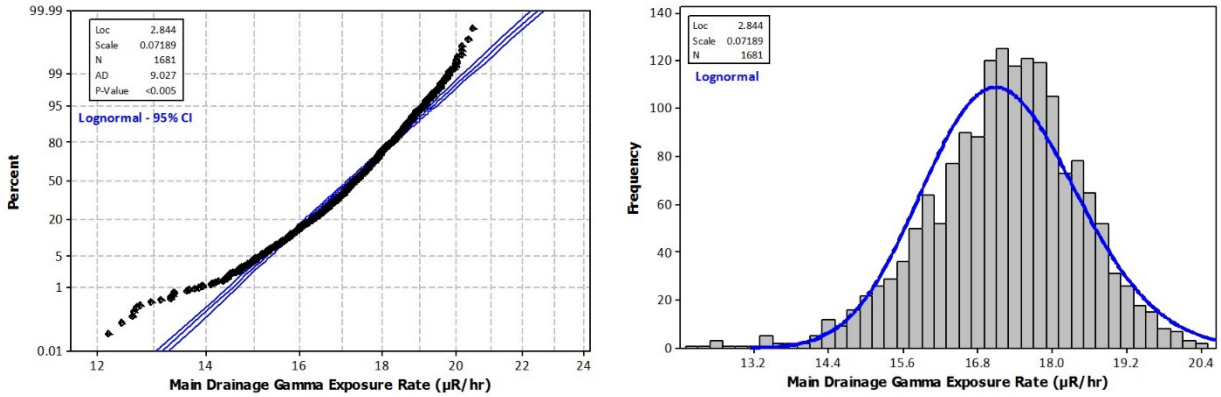


Figure 19 Probability Plot and Frequency Histogram of Main Drainage Gamma Exposure Rates

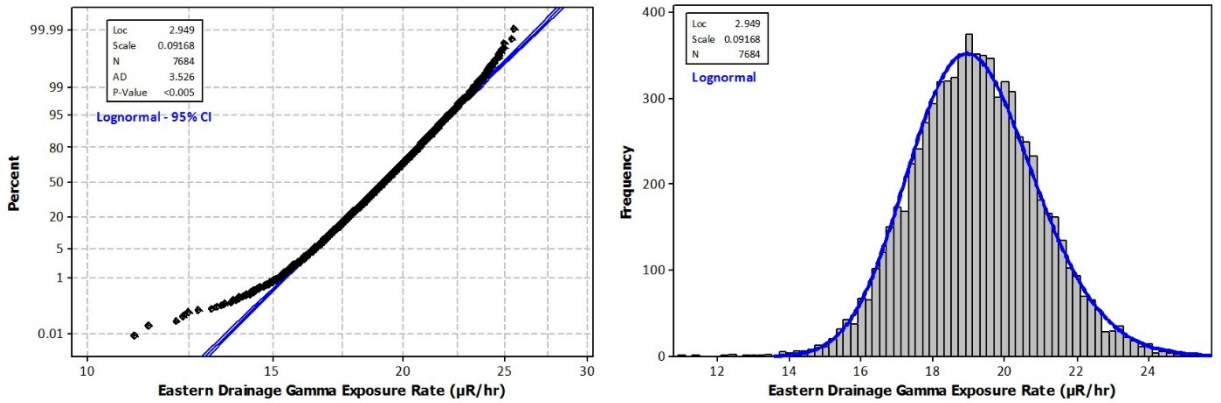


Figure 20 Probability Plot and Frequency Histogram of Eastern Drainage Gamma Exposure Rates

6.0 SOIL SAMPLING INVESTIGATION RESULTS

Tetra Tech collected eight drainage sediment samples (drainages were dry at the time of sample collection) and ten soil samples as part of the BBC radiological and soil investigation in accordance with the methods outlined in Section 3.2. The geology and considerations for background sediment and soil sampling are discussed in Section 4.0.

Two of the sediment samples were collected in background drainage reference areas in accordance with the sampling methods presented in Section 3.2. One background sediment sample (TT-BP-DRAINAGE-01) was collected at the background drainage adjacent to the EPA identified Bridle Path RBRA as shown on Figure 5. The other background sediment sample (TT-SEDBG-01) was collected within the Eastern Drainage (background) as shown on Figure 12. The two background soil samples were collected from the RBRAs identified in HGL (2011), one from the Bridle Path area, and one from the Lang Ranch area.

Table 5 and Table 6 provide the sample identification and geospatial information for the sediment and soil sample locations, respectively. The sediment and soil samples were submitted for laboratory analysis of radionuclides, metals, and perchlorate as presented in Table 1. Figure 21 shows the locations of the sediment and soil samples collected within the BBC main camp area and the primary drainages entering the BBC. The following subsections present the laboratory analytical results for the sediment and soil samples analyzed for Cs-137 (Section 6.1), Sr-90 (Section 6.2), (Section 6.3), and perchlorate (Section 6.4).

All sediment and soil samples were collected in accordance with the methods described in Section 3.2 and in SOP 2 in Attachment 1. A scanned copy of the field logbook is provided in Attachment D. A photographic log, which includes photos of most sampling locations, is provided in Attachment E. Laboratory analytical reports for the sediment and soil samples are provided in Attachment G.

Table 5 Geospatial Information for Sediment Sample Locations

Sample ID	Background (Y/N)	QC	Latitude[1]	Longitude
TT-SD1-01	-	Primary	34.24957740	-118.7122916
TT-BPDRAINAGE-01	Y	Primary	34.22185176	-118.8113390
TT-SEDBG-01	Y	Primary	34.25070834	-118.6931649
TT-ED1-01	-	Primary	34.24770261	-118.6966891
TT-ED2-01	-	Primary	34.25230858	-118.6971849
TT-ED3-01	-	Primary	34.25652561	-118.7093089
TT-SD2-01	-	Primary	34.25742761	-118.7113001
TT-BBCSED-01	-	Primary	34.26152343	-118.7155219

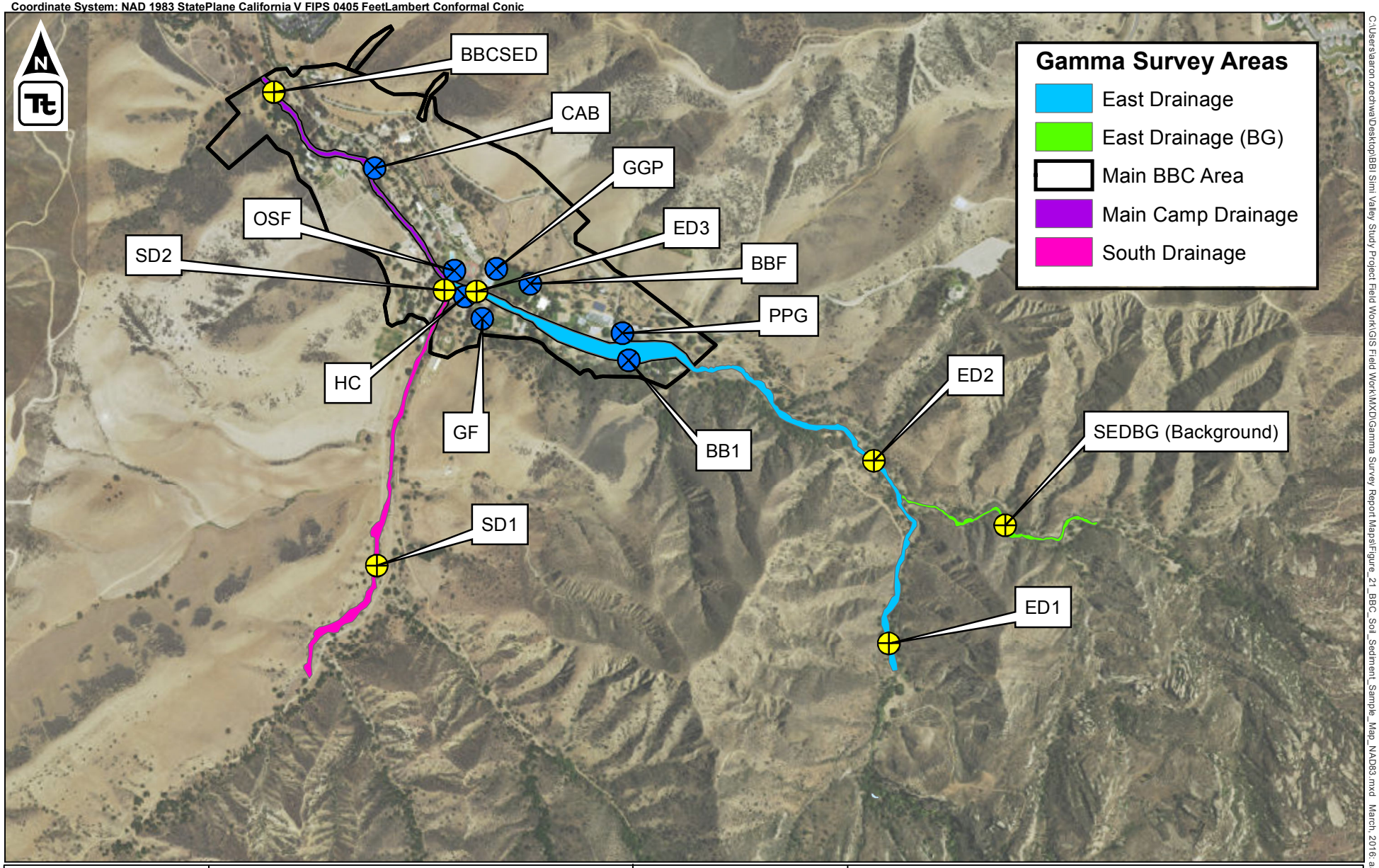
[1]The coordinates are provided in WGS 84.

Table 6 Geospatial Information for Soil Sample Locations

Sample ID	Background (Y/N)	QC	Latitude[1]	Longitude
TT-BP-RBRA-01	Y	Primary	34.220501230	-118.808406299
TT-PPG-01	-	Primary	34.255498222	-118.704861556
TT-BB1-01	-	Primary	34.254806065	-118.704658109
TT-BBF-01	-	Primary	34.256729301	-118.707671696
TT-GGP-01	-	Primary	34.257103941	-118.708705857
TT-HC-01	-	Primary	34.256395463	-118.709662709
TT-GF-01	-	Primary	34.255834150	-118.709124137
TT-GF-02	-	Duplicate	34.255834150	-118.709124137
TT-OSF-01	-	Primary	34.257047021	-118.709985644
TT-CAB-01	-	Primary	34.259619495	-118.712440820
TT-LR-RBRA-01	Y	Primary	34.210758977	-118.770357270

[1]The coordinates are provided in WGS 84.

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_21_BBC_Soil_Sediment_Sample_Map_NAD83.mxd March 2016 aaron.orechwa

FEET
0 500 1,000

Sediment Sample Location

Soil Sample Location

Prepared for:
American Jewish University

Prepared By:
TETRA TECH
3801 Automation Way Suite 100
Fort Collins, Colorado 80525
(970) 223-9600 (970) 223-7171 fax

SEDIMENT AND SOIL SAMPLING LOCATIONS AT THE BRANDEIS-BARDIN CAMPUS

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure 21

6.1 CESIUM-137 ANALYTICAL RESULTS

This section presents the laboratory analytical results for Cs-137 within the sediment and soil samples collected at background reference areas, within the BBC main camp area, and within the BBC drainages.

6.1.1 Background Reference Area Cs-137 Sediment and Soil Sample Results

Tetra Tech collected sediment and soil samples within the background reference areas as described in Section 4.0. These samples were submitted to an accredited laboratory for analysis of Cs-137 for the methods and requested MDCs presented in Table 1. Table 7 presents the laboratory analytical results of the Cs-137 mass activity concentrations for the background reference area locations.

Table 7 Cs-137 Laboratory Results for Sediment and Soil Background Samples

Sample ID	Sample Type	Cesium-137			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-SEDBG1-01	Sediment	< 0.099	0.061	0.099	U
TT-BP-DRAIN-01	Sediment	0.140	0.065	0.094	G
TT-BP-RBRA-01	Soil	< 0.090	0.058	0.090	U, G
TT-LR-RBRA-01	Soil	< 0.098	0.063	0.098	U, G

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration.
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample

6.1.2 BBC Main Camp Area and BBC Drainage Cs-137 Sediment and Soil Sample Results

Tetra Tech collected six non-background sediment samples within the primary drainages entering the BBC as shown on Figure 21. The Cs-137 laboratory analytical results for the non-background sediment samples are presented in Table 8. For comparative purposes, the background reference Cs-137 laboratory analytical results are also provided in Table 8. All six of the sediment samples were below the minimum detection concentrations (MDC) for Cs-137 by gamma spectroscopy (EPA 901.1). The maximum MDC for the sediment Cs-137 analysis results was < 0.097 picocuries per gram (pCi/g). One of the two background reference sediment samples was a non-detect (< 0.087 pCi/g); the other sample (TT-BP-DRAIN-01), had a reported value of 0.140 pCi/g with a precision of +/- 0.052 pCi/g. All of the non-background sediment samples were below the MDC and below the levels of the background drainage area reference samples.

Table 8 Cs-137 Laboratory Results for Sediment Samples

Sample ID	Sample Area	Cesium-137			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-ED1-01	Non-Background	< 0.097	0.057	0.097	U
TT-ED2-01	Non-Background	< 0.090	0.057	0.090	U, G
TT-ED3-01	Non-Background	< 0.091	0.050	0.091	U, G
TT-SD1-01	Non-Background	< 0.095	0.053	0.095	U, G
TT-SD2-01	Non-Background	< 0.095	0.056	0.095	U, G
TT-BBCSED-01	Non-Background	< 0.087	0.052	0.087	U
TT-BBCSED-01	**Background**	**< 0.087**	**0.052**	**0.087**	**U**
TT-BP-DRAIN-01	**Background**	**0.140**	**0.065**	**0.094**	**G**

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration.
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample

Tetra Tech collected eight non-background soil samples throughout the BBC high use areas throughout the BBC as shown on Figure 21. The Cs-137 laboratory analytical results for the non-background soil samples are presented in Table 9. For comparative purposes, the background reference Cs-137 laboratory analytical results are also provided in Table 9. Seven of the eight soil samples were below the laboratory reported MDC. The soil sample collected at the "Old Sports Field" (TT-OSF-01) had a detectable Cs-137 concentration of 0.101 pCi/g- lower than any risk or background based criteria, as discussed in the Technical Memorandum. The maximum MDC for the soil Cs-137 analysis results was <0.098 pCi/g. Both of the two background reference soil samples were below the laboratory reported Cs-137 MDC.

The summary statistics, including the sample mean and standard deviation, for the Cs-137 non-background soil sampling data were computed using the Kaplan-Meier (K-M) method, which was applied using the EPA's ProUCL.5.0 statistical software package. This method is a nonparametric survival analysis method for left censored data which should be applied to data sets with larger portions of non-detect data (Helsel 2005, 2012; EPA 2009). The mean Cs-137 concentration for all of the soil samples is 0.0835 pCi/g with a standard deviation of 0.007 pCi/g.

Table 9 Cs-137 Laboratory Results for Soil Samples

Sample ID	Sample Area	Cesium-137			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-BB1-01	Non-Background	< 0.097	0.058	0.097	U, G
TT-BBF-01	Non-Background	< 0.098	0.055	0.098	U
TT-CAB-01	Non-Background	< 0.081	0.055	0.081	U, G
TT-GF-01	Non-Background	< 0.098	0.056	0.098	U, G
TT-GGP-01	Non-Background	< 0.097	0.055	0.097	U
TT-HC-01	Non-Background	< 0.092	0.053	0.092	U, G
TT-OSF-01	Non-Background	0.101	0.065	0.099	G
TT-PPG-01	Non-Background	< 0.095	0.053	0.095	U
TT-BP-RBRA-01	**Background**	**< 0.090**	**0.058**	**0.090**	**U, G**
TT-LR-RBRA-01	**Background**	**< 0.098**	**0.063**	**0.098**	**U, G**

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration.
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample

6.2 STRONTIUM-90 ANALYTICAL RESULTS

This section presents the laboratory analytical results for Sr-90 within the sediment and soil samples collected at background reference areas, within the BBC main camp area, and within the BBC drainages.

6.2.1 Background Reference Area Sr-90 Sediment and Soil Sample Results

Tetra Tech collected sediment and soil samples within the background reference areas as described in Section 4.0. These samples were submitted to an accredited laboratory for analysis of Sr-90 for the methods and requested MDCs presented in Table 1. Table 10 presents the laboratory analytical results of the Sr-90 mass activity concentrations for the background reference area locations. All of the background reference sample Sr-90 results were below the MDC. The reported Sr-90 lab results ranged between < 0.075 pCi/g to < 0.096 pCi/g.

Table 10 Summary of Sr-90 Laboratory Results for Sediment and Soil Background Samples

Sample ID	Sample Type	Strontium-90			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-SEDBG1-01	Sediment	< 0.075	-	0.075	U
TT-BP-DRAIN-01	Sediment	< 0.083	-	0.083	U
TT-BP-RBRA-01	Soil	< 0.096	-	0.096	U
TT-LR-RBRA-01	Soil	< 0.089	-	0.089	U

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration.
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample

6.2.2 BBC Main Camp Area and BBC Drainage Sr-90 Sediment and Soil Sample Results

Tetra Tech collected six non-background sediment samples within the primary drainages entering the BBC as shown on Figure 21. The Sr-90 laboratory analytical results for the non-background sediment samples are presented in Table 11. For comparative purposes, the background reference Sr-90 laboratory analytical results are also provided in Table 11. Five of the six sediment samples were below the MDC for Sr-90. The sample location, TT-SD2-01, had a detectable concentration of 0.182 pCi/g of Sr-90. Both of the two background reference sediment samples were non-detects (< 0.075 pCi/g and < 0.083 pCi/g). Five of the six the non-background sediment samples were below the MDC and therefore below the levels for one background drainage reference area.

Table 11 Summary of Sr-90 Laboratory Results for Sediment Samples

Sample ID	Sample Area	Strontium-90			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-ED1-01	Non-background	< 0.088	-	0.088	U
TT-ED2-01	Non-background	< 0.097	-	0.097	U
TT-ED3-01	Non-background	< 0.089	-	0.089	U
TT-SD1-01	Non-background	< 0.075	-	0.075	U
TT-SD2-01	Non-background	0.182	0.064	0.081	
TT-BBCSED-01	Non-background	< 0.104	-	0.104	U
TT-SEDBG1-01	**Background**	**< 0.075**	**-**	**0.075**	**U**
TT-BP-DRAIN-01	**Background**	**< 0.083**	**-**	**0.083**	**U**

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration.
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample

Tetra Tech collected eight non-background soil samples throughout the BBC high use areas throughout the BBC as shown on Figure 21. The Sr-90 laboratory analytical results for the non-background soil samples are presented in Table 12. For comparative purposes, the background reference Sr-90 laboratory analytical results are also provided in Table 12. All eight of the soil samples were below the laboratory reported MDC.

Table 12 Summary of Sr-90 Laboratory Results for Soil Samples

Sample ID	Sample Area	Strontium-90			
		Result (pCi/g)[1]	Precision +/-	MDC[2]	Lab Qualifier[3]
TT-BB1-01	Non-background	< 0.081	-	0.081	U
TT-BBF-01	Non-background	< 0.081	-	0.081	U
TT-CAB-01	Non-background	< 0.092	-	0.092	U
TT-GF-01	Non-background	< 0.104	-	0.104	U
TT-GGP-01	Non-background	< 0.074	-	0.074	U
TT-HC-01	Non-background	< 0.082	-	0.082	U
TT-OSF-01	Non-background	< 0.096	-	0.096	U
TT-PPG-01	Non-background	<0.097	-	0.097	U
TT-BP-RBRA-01	**Background**	**< 0.096**	**-**	**0.096**	**U**
TT-LR-RBRA-01	**Background**	**< 0.089**	**-**	**0.089**	**U**

[1]pCi/g = picocuries per gram
[2]MDC = minimum detectable concentration.
[3]Lab qualifier = "U" less than MDC; "G" sample density differs more than 15% from laboratory control sample

The mean concentration for the Sr-90 non-background soil and sediment sampling data collected at the BBC was computed using the K-M method, which was applied using the EPA's ProUCL.5.0 statistical software package. This method is a nonparametric survival analysis method for left censored data which should be applied to data sets with larger portions of non-detect data (Helsel 2005, 2012; EPA 2009). The K-M method was used here because 14 of the 15 samples were below the detection limits for Sr-90. The Sr-90 concentrations for all of the samples ranged between < 0.074 pCi/g to 0.182 pCi/g, and the mean Sr-90 concentration for all of the soil samples is 0.0817 pCi/g.

6.3 METALS

The soil samples collected by Tetra Tech were submitted to ALS Laboratory for analysis of a variety of metals.

6.3.1 Background Reference Area Metals Sediment and Soil Sample Results

Tetra Tech collected sediment and soil samples within the background reference areas as described in Section 4.0. These samples were submitted to an accredited laboratory for analysis of 23 metals for the methods and requested MDCs presented in Table 1. Table 13 through Table 18 presents the laboratory analytical results of the metals concentrations for the background reference area locations.

Table 13 Metals Laboratory Results for Sediment and Soil Background Samples (Al, Sb, As, Ba)

Sample ID	Sample Type	Aluminum (mg/kg)[1]	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)
TT-SEDBG1-01	Sediment	4,800	0.081	2	36
TT-BP-DRAIN-01	Sediment	14,000	0.17	6.1	87
TT-BP-RBRA-01	Soil	13,000	0.21	5.9	100
TT-LR-RBRA-01	Soil	14,000	0.34	10	130

[1]mg/kg = milligrams per kilogram

Table 14 Metals Laboratory Results for Sediment and Soil Background Samples (Be, Cd, Ca, Cr)

Sample ID	Sample Type	Beryllium (mg/kg) [1]	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)
TT-SEDBG1-01	Sediment	0.21	0.064	2,900	6.7
TT-BP-DRAIN-01	Sediment	0.54	0.21	22,000	34
TT-BP-RBRA-01	Soil	0.65	0.27	3,700	24
TT-LR-RBRA-01	Soil	0.81	0.36	3,600	30

[1]mg/kg = milligrams per kilogram

Table 15 Metals Laboratory Results for Sediment and Soil Background Samples (Co, Cu, Fe, Pb)

Sample ID	Sample Type	Cobalt (mg/kg) [1]	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)
TT-SEDBG1-01	Sediment	2.9	4	9,700	4.3
TT-BP-DRAIN-01	Sediment	9.1	13	29,000	10
TT-BP-RBRA-01	Soil	8.4	12	24,000	12
TT-LR-RBRA-01	Soil	11	19	28,000	16

[1]mg/kg = milligrams per kilogram

Table 16 Metals Laboratory Results for Sediment and Soil Background Samples (Mg, Mn, Hg, Ni)

Sample ID	Sample Type	Magnesium (mg/kg) [1]	Manganese (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)
TT-SEDBG1-01	Sediment	2,500	160	0.0055[J]	5.4
TT-BP-DRAIN-01	Sediment	1,0000	470	0.021[J]	14
TT-BP-RBRA-01	Soil	5,000	380	0.023[J]	13
TT-LR-RBRA-01	Soil	6,200	510	0.027[J]	31

[1]mg/kg = milligrams per kilogram
Lab qualifier = "J" indicates the same result is less than the Reporting Limit but greater than Method Detection Limit (MDL)

Table 17 Metals Laboratory Results for Sediment and Soil Background Samples (K, Se, Ag, Na)

Sample ID	Sample Type	Potassium (mg/kg) [1]	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)
TT-SEDBG1-01	Sediment	1,600	0.55	0.013	120
TT-BP-DRAIN-01	Sediment	3,300	1	0.03	310
TT-BP-RBRA-01	Soil	4,000	1.3	0.021	190
TT-LR-RBRA-01	Soil	5,100	1.5	0.053	190

[1]mg/kg = milligrams per kilogram

Table 18 Metals Laboratory Results for Sediment and Soil Background Samples (Tl, V, Z)

Sample ID	Sample Type	Thallium (mg/kg) [1]	Vanadium (mg/kg)	Zinc (mg/kg)
TT-SEDBG1-01	Sediment	0.13	17	31
TT-BP-DRAIN-01	Sediment	0.24	74	71
TT-BP-RBRA-01	Soil	0.32	52	62
TT-LR-RBRA-01	Soil	0.39	47	80

[1]mg/kg = milligrams per kilogram

6.3.2 BBC Main Camp Area and BBC Drainage Metals Sediment and Soil Sample Results

Tetra Tech collected six non-background sediment samples within the primary drainages entering the BBC as shown on Figure 21. The metals laboratory analytical results for the non-background sediment samples are presented in Table 19 through Table 24. For comparative purposes, the background reference metals laboratory analytical results are also provided in these tables. In general, all of the metals results for the non-background sediment samples were within the reported metals concentrations of the two background sediment samples.

Table 19 Metals Laboratory Results for Sediment Samples (Al, Sb, As, Ba)

Sample ID	Sample Area	Aluminum (mg/kg) [1]	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)
TT-ED1-01	Non-Background	3,700	0.035	2.2	29
TT-ED2-01	Non-Background	6,300	0.11	2.7	57
TT-ED3-01	Non-Background	5,600	0.15	3	41
TT-SD1-01	Non-Background	8,700	0.12	4.7	61
TT-SD2-01	Non-Background	5,100	0.086	3.1	37
TT-BBCSED-01	Non-Background	2,400	0.077	1.3	16
TT-SEDBG1-01	**Background**	**4,800**	**0.081**	**2**	**36**
TT-BP-DRAIN-01	**Background**	**14,000**	**0.17**	**6.1**	**87**

[1]mg/kg = milligrams per kilogram

Table 20 Metals Laboratory Results for Sediment Samples (Be, Cd, Ca, Cr)

Sample ID	Sample Area	Beryllium (mg/kg) [1]	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)
TT-ED1-01	Non-Background	0.22	0.036	2,500	4.9
TT-ED2-01	Non-Background	0.32	0.13	2,300	8.9
TT-ED3-01	Non-Background	0.28	0.091	4,300	9.6
TT-SD1-01	Non-Background	0.5	0.058	2,800	13
TT-SD2-01	Non-Background	0.27	0.08	1,900	7.7
TT-BBCSED-01	Non-Background	0.13	< 0.017[U]	840	3.7
TT-SEDBG1-01	**Background**	**0.21**	**0.064**	**2,900**	**6.7**
TT-BP-DRAIN-01	**Background**	**0.54**	**0.21**	**22,000**	**34**

[1]mg/kg = milligrams per kilogram
Lab qualifier = "U" less than MDC

Table 21 Metals Laboratory Results for Sediment Samples (Co, Cu, Fe, Pb)

Sample ID	Sample Area	Cobalt (mg/kg) [1]	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)
TT-ED1-01	Non-Background	2.6	3.2	8,400	3.4
TT-ED2-01	Non-Background	3.9	6.3	12,000	8.9
TT-ED3-01	Non-Background	4.3	10	12,000	6.1
TT-SD1-01	Non-Background	7.6	10	20,000	8.4
TT-SD2-01	Non-Background	4	4.9	12,000	5
TT-BBCSED-01	Non-Background	1.7	2.6	5,700	2.7
TT-SEDBG1-01	**Background**	**2.9**	**4**	**9,700**	**4.3**
TT-BP-DRAIN-01	**Background**	**9.1**	**13**	**29,000**	**10**

[1]mg/kg = milligrams per kilogram

Table 22 Metals Laboratory Results for Sediment Samples (Mg, Mn, Hg, Ni)

Sample ID	Sample Area	Magnesium (mg/kg) [1]	Manganese (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)
TT-ED1-01	Non-Background	1,800	150	0.0057[J]	2.8
TT-ED2-01	Non-Background	3,100	220	0.011[J]	6.3
TT-ED3-01	Non-Background	3,100	200	0.011[J]	7
TT-SD1-01	Non-Background	4,600	340	0.0081[J]	9.2
TT-SD2-01	Non-Background	2,300	160	0.0071[J]	5
TT-BBCSED-01	Non-Background	1,100	65	< 0.0034[U]	2.3
TT-SEDBG1-01	**Background**	**2,500**	**160**	**0.0055[J]**	**5.4**
TT-BP-DRAIN-01	**Background**	**10,000**	**470**	**0.021[J]**	**14**

[1]mg/kg = milligrams per kilogram
Lab qualifier = "U" less than MDC
Lab qualifier = "J" indicates the same result is less than the Reporting Limit but greater than Method Detection Limit (MDL)

Table 23 Metals Laboratory Results for Sediment Samples (K, Se, Ag, Na)

Sample ID	Sample Area	Potassium (mg/kg) [1]	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)
TT-ED1-01	Non-Background	1,300	0.54	0.061	150
TT-ED2-01	Non-Background	2,300	0.4	0.058	160
TT-ED3-01	Non-Background	2,300	0.35	0.066	120
TT-SD1-01	Non-Background	3,000	0.83	0.028	120
TT-SD2-01	Non-Background	1,800	0.43	< 0.0054[U]	80
TT-BBCSED-01	Non-Background	960	0.64	0.022	120
TT-SEDBG1-01	**Background**	**1,600**	**0.55**	**0.013**	**120**
TT-BP-DRAIN-01	**Background**	**3,300**	**1**	**0.03**	**310**

[1]mg/kg = milligrams per kilogram
Lab qualifier = "U" less than MDC

Table 24 Metals Laboratory Results for Sediment Samples (Tl, V, Zn)

Sample ID	Sample Area	Thallium (mg/kg) [1]	Vanadium (mg/kg)	Zinc (mg/kg)
TT-ED1-01	Non-Background	0.11	13	24
TT-ED2-01	Non-Background	0.18	21	43
TT-ED3-01	Non-Background	0.14	22	40
TT-SD1-01	Non-Background	0.24	34	59
TT-SD2-01	Non-Background	0.14	20	33
TT-BBCSED-01	Non-Background	0.077	8.6	16
TT-SEDBG1-01	**Background**	**0.13**	**17**	**31**
TT-BP-DRAIN-01	**Background**	**0.24**	**74**	**71**

[1]mg/kg = milligrams per kilogram

Tetra Tech collected eight non-background soil samples from the highest use areas throughout the BBC as shown on Figure 21. The laboratory analytical results for metals in the non-background soil samples are presented in Table 25 through Table 30. For comparative purposes, the background reference metals laboratory analytical results are also provided in these tables. In general, all of the metals results for the non-background sediment samples were within the reported metals concentrations of the two background sediment samples.

Table 25 Metals Laboratory Results for Soil Samples (Al, Sb, As, Ba)

Sample ID	Sample Type	Aluminum (mg/kg) [1]	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)
TT-BB1-01	Non-Background	4,600	0.18	3.5	39
TT-BBF-01	Non-Background	7,500	0.15	5.8	170
TT-CAB-01	Non-Background	13,000	0.28	5.1	120
TT-GF-01	Non-Background	9,600	0.18	3.7	75
TT-GGP-01	Non-Background	1,200	0.038	0.85	9.4
TT-HC-01	Non-Background	5,700	0.18	3.1	87
TT-OSF-01	Non-Background	12,000	0.21	4.9	90
TT-PPG-01	Non-Background	2,600	0.082	1.4	29
TT-BP-RBRA-01	**Background**	**13,000**	**0.21**	**5.9**	**100**
TT-LR-RBRA-01	**Background**	**14,000**	**0.34**	**10**	**130**

[1]mg/kg = milligrams per kilogram

Table 26 Metals Laboratory Results for Soil Samples (Be, Cd, Ca, Cr)

Sample ID	Sample Type	Beryllium (mg/kg) [1]	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)
TT-BB1-01	Non-Background	0.3	0.099	2,100	6.8
TT-BBF-01	Non-Background	0.24	0.064	4,900	7.6
TT-CAB-01	Non-Background	0.59	0.48	8,400	22
TT-GF-01	Non-Background	0.5	0.23	4,100	15
TT-GGP-01	Non-Background	0.026[J]	0.03[J]	5,300	3.3
TT-HC-01	Non-Background	0.23	0.34	14,000	11
TT-OSF-01	Non-Background	0.49	0.57	5,000	21
TT-PPG-01	Non-Background	0.11	0.031[J]	5,400	6
TT-BP-RBRA-01	**Background**	**0.65**	**0.27**	**3,700**	**24**
TT-LR-RBRA-01	**Background**	**0.81**	**0.36**	**3,600**	**30**

[1]mg/kg = milligrams per kilogram
Lab qualifier = "J" indicates the same result is less than the Reporting Limit but greater than Method Detection Limit (MDL)

Table 27 Metals Laboratory Results for Soil Samples (Co, Cu, Fe, Pb)

Sample ID	Sample Type	Cobalt (mg/kg) [1]	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)
TT-BB1-01	Non-Background	3.2	5.7	11,000	7.6
TT-BBF-01	Non-Background	3.2	6.7	9,700	7.7
TT-CAB-01	Non-Background	11	34	24,000	31
TT-GF-01	Non-Background	6.4	11	20,000	11
TT-GGP-01	Non-Background	0.93	1.5	2,800	0.62
TT-HC-01	Non-Background	4.4	11	10,000	5.2
TT-OSF-01	Non-Background	10	**27**	23,000	**17**
TT-PPG-01	Non-Background	1.9	3.7	5,500	2.3
TT-BP-RBRA-01	**Background**	**8.4**	**12**	**24,000**	**12**
TT-LR-RBRA-01	**Background**	**11**	**19**	**28,000**	**16**

[1]mg/kg = milligrams per kilogram

Table 28 Metals Laboratory Results for Soil Samples (Mg, Mn, Hg, Ni)

Sample ID	Sample Type	Magnesium (mg/kg) [1]	Manganese (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)
TT-BB1-01	Non-Background	1,900	170	0.014[J]	5.1
TT-BBF-01	Non-Background	2,400	250	0.011[J]	3.2
TT-CAB-01	Non-Background	6,500	450	0.038	18
TT-GF-01	Non-Background	5,000	320	0.017[J]	11
TT-GGP-01	Non-Background	510	39	0.0084[J]	1.8
TT-HC-01	Non-Background	3,000	180	0.02[J]	11
TT-OSF-01	Non-Background	**6,300**	480	0.043	16
TT-PPG-01	Non-Background	1,300	81	0.0081[J]	3.5
TT-BP-RBRA-01	**Background**	**5,000**	**380**	**0.023[J]**	**13**
TT-LR-RBRA-01	**Background**	**6,200**	**510**	**0.027[J]**	**31**

[1]mg/kg = milligrams per kilogram
Lab qualifier = "J" indicates the same result is less than the Reporting Limit but greater than Method Detection Limit (MDL)

Table 29 Metals Laboratory Results for Soil Samples (K, Se, Ag, Na)

Sample ID	Sample Type	Potassium (mg/kg) [1]	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)
TT-BB1-01	Non-Background	1,800	1.9	0.0065	120
TT-BBF-01	Non-Background	1,800	0.32	0.023	410
TT-CAB-01	Non-Background	5,100	0.78	0.095	160
TT-GF-01	Non-Background	4,400	0.97	0.047	370
TT-GGP-01	Non-Background	310	0.44	< 0.0052[U]	100
TT-HC-01	Non-Background	4,900	0.76	0.035	990
TT-OSF-01	Non-Background	4,400	1	0.1	520
TT-PPG-01	Non-Background	750	0.38	< 0.0052[U]	150
TT-BP-RBRA-01	**Background**	**4,000**	**1.3**	**0.021**	**190**
TT-LR-RBRA-01	**Background**	**5,100**	**1.5**	**0.053**	**190**

[1]mg/kg = milligrams per kilogram
Lab qualifier = "U" less than MDC

Table 30 Metals Laboratory Results for Soil Samples (Tl, V, Zn)

Sample ID	Sample Area	Thallium (mg/kg) [1]	Vanadium (mg/kg)	Zinc (mg/kg)
TT-BB1-01	Non-Background	0.11	19	38
TT-BBF-01	Non-Background	0.15	28	23
TT-CAB-01	Non-Background	0.28	50	150
TT-GF-01	Non-Background	0.26	34	71
TT-GGP-01	Non-Background	0.024	6.1	4.8
TT-HC-01	Non-Background	0.1	25	35
TT-OSF-01	Non-Background	0.25	46	100
TT-PPG-01	Non-Background	0.053	13	13
TT-BP-RBRA-01	**Background**	**0.32**	**52**	**62**
TT-LR-RBRA-01	**Background**	**0.39**	**47**	**80**

[1]mg/kg = milligrams per kilogram

6.4 PERCHLORATE

Perchlorate was analyzed in all samples collected at the background, BBC, and sediment locations. All of the perchlorate results were below the MDC. A copy of the laboratory analytical results for the perchlorate analysis is provided in Attachment G.

7.0 COMPARATIVE BACKGROUND GAMMA ANALYSIS

7.1 DISCUSSION OF METHODOLOGY

Tetra Tech compared the gamma data sets from the background reference areas with the BBC main camp area and the BBC drainages to determine if any radiological anomalies exist or if there is potential for contamination on site associated with the SSFL operations. The BBC main camp area and the BBC drainages are potentially receiving runoff from the SSFL. To compare these areas with the background reference areas, Tetra Tech conducted analysis using ProUCL 5.0 (ProUCL) software. The ProUCL capabilities include two-population hypothesis testing used to perform site versus background comparisons. The two primary two-population hypothesis testing methods used for the comparative background analysis included the Student's t-test and the Wilcoxon-Mann-Whitney (WMW). Both of these tests assume the following null hypothesis (Ho): Ho: The mean (and/or median) of Sample 1 (e.g. the Site Area) is less than or equal to Sample 2 (background sample). If the data is consistent with the null hypothesis, then the Site Area gamma exposure field is at or below background.

Tetra Tech surveyed four areas as discussed in Section 5.0. These survey areas included: BBC Main Area, Main Drainage, South Drainage, and Eastern Drainage (non-BG). The BBC Main Area was compared with the RBRAs identified by the EPA (Bridle Path and Lang Ranch) which represent both of the geologic formations found on site at the BBC property. Figure 22 presents the distribution on lognormal probability plots for the BBC Main Camp Area and the two soil background reference areas. A number of statistical analysis calculations were conducted as part of this comparative analysis. The results of the model outputs are provided in Attachment H.

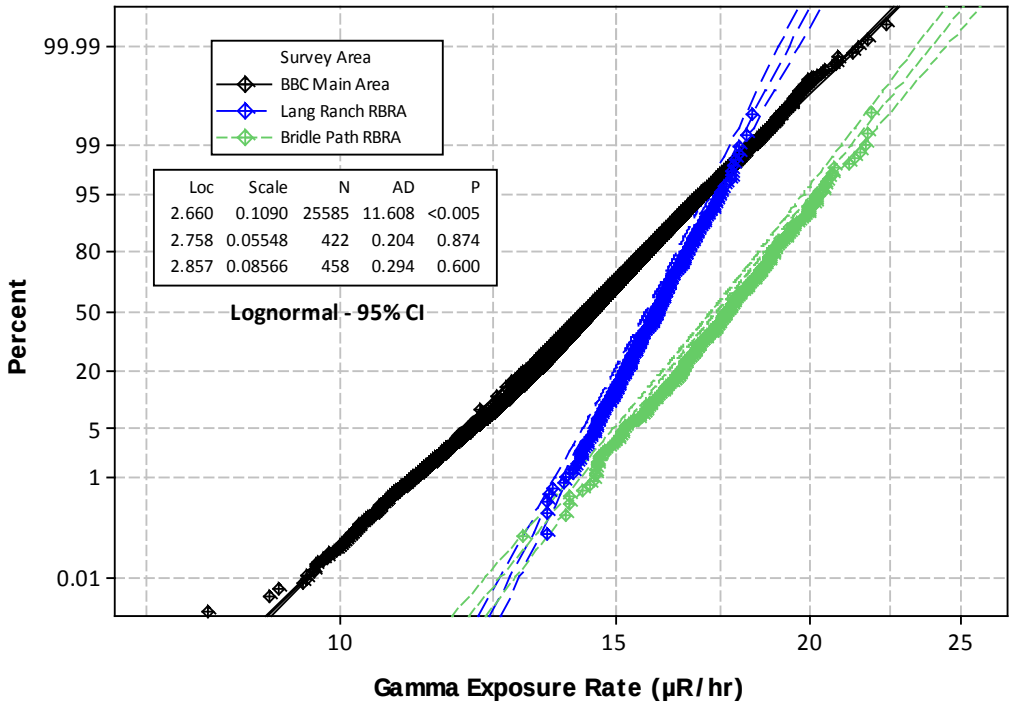


Figure 22 Probability Plot for BBC Main Camp Area and Background Reference Areas

7.2 STATISTICAL ANALYSIS OF SITE AREA GAMMA RESULTS COMPARED TO BACKGROUND

Table 31 provides the results of two-sample hypothesis testing for the two different statistical tests mentioned earlier (t-test and WMW) for both RRBAs. **For all four scenarios (1A/1B and 2A/2B) the null hypothesis was not rejected. It can therefore be concluded that the gamma exposure field within the BBC Main Camp is less than or equal to the gamma exposure field of the background RBRAs.** All of the tests had a confidence level of 95 percent ($\alpha = 0.05$).

Table 31 Summary of Hypothesis Testing Results for BBC Main Camp Area vs. Background Gamma

Scenario	Two Sample Test	Sample 1	Sample 2	H_o	Result	Conclusion
1A	t-test	BBC Main Camp	Lang Ranch RBRA	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	BBC Main Camp gamma mean is less than or equal to Lang Ranch RBRA background gamma mean
1B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	BBC Main Camp gamma mean/median is less than or equal to Lang Ranch RBRA background gamma mean/median
2A	t-test	BBC Main Camp	Bridle Path RBRA	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	BBC Main Camp gamma mean is less than or equal to Bridle Path RBRA background gamma mean
2B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	BBC Main Camp gamma mean/median is less than or equal to Bridle Path RBRA background gamma mean/median

The Main Drainage was compared with the background reference drainage areas identified by the Tetra Tech which represent both of the geologic formations found onsite within the BBC property drainages. Figure 23 presents the distribution on lognormal probability plots for the Main Drainage and the two soil background drainage reference areas.

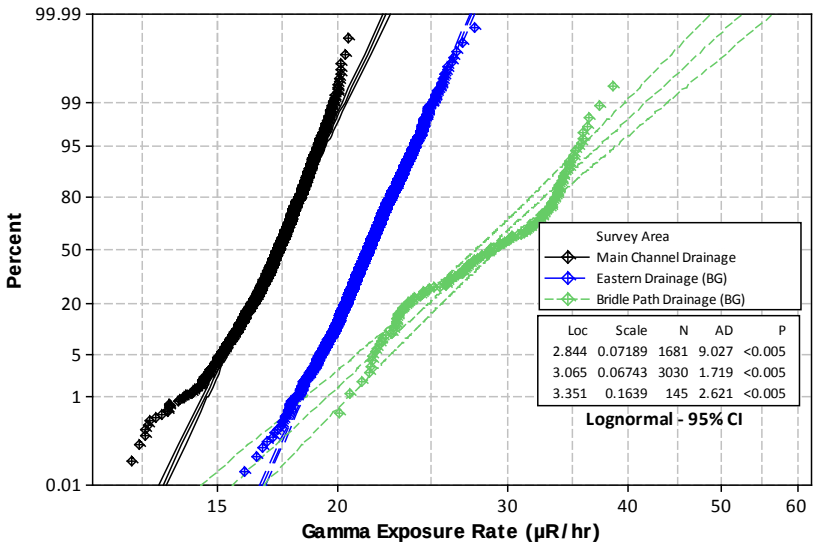


Figure 23 Probability Plot for Main Drainage and Background Drainage Reference Areas

Table 32 provides the results of two-sample hypothesis testing for the two different statistical tests mentioned earlier (t-test and WMW) comparing the Main Drainage and the two background sediment drainages. **For all four scenarios (1A/1B and 2A/2B) the null hypothesis was not rejected. We therefore conclude that the gamma exposure field within the Main Drainage is less than or equal to the gamma exposure field of the unimpacted drainages.** All of the tests had a confidence level of 95 percent ($\alpha = 0.05$).

Table 32 Summary of Hypothesis Testing Results for Main Drainage vs. Background Gamma

Scenario	Two Sample Test	Sample 1	Sample 2	H_o	Result	Conclusion
1A	t-test	Main Drainage	East Drainage (BG)	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	Main Drainage gamma mean is less than or equal to East Drainage (BG) gamma mean
1B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	Main Drainage gamma mean/median is less than or equal to East Drainage (BG) gamma mean/median
2A	t-test	Main Drainage	Bridle Path Drainage (BG)	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	Main Drainage gamma mean is less than or equal to Bridle Path Drainage (BG) gamma mean
2B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	Main Drainage gamma mean/median is less than or equal to Bridle Path Drainage (BG) gamma mean/median

The South Drainage was compared with the background reference drainage areas identified by the Tetra Tech which represent both of the geologic formations found onsite within the BBC property drainages. Figure 24 presents the distribution on lognormal probability plots for the Main Drainage and the two soil background drainage reference areas.

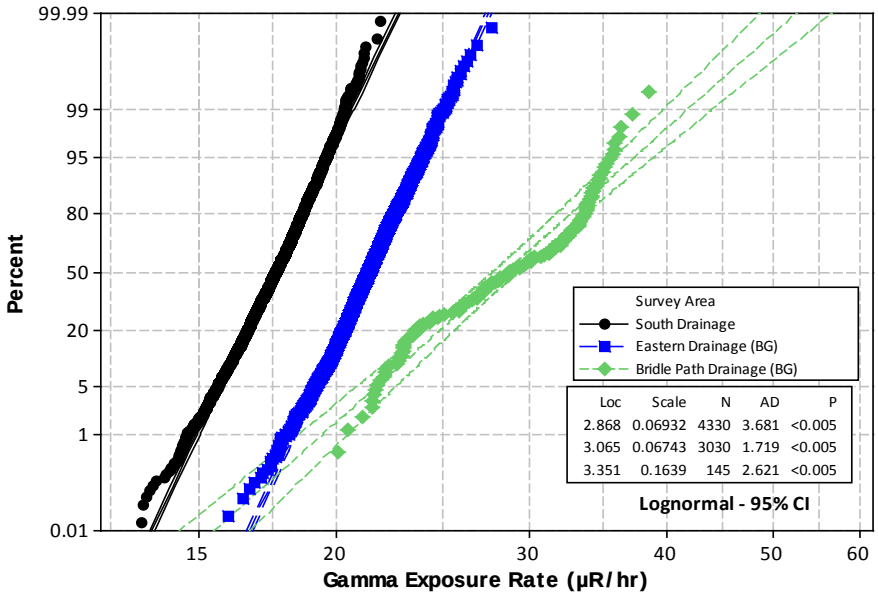


Figure 24 Probability Plot for South Drainage and Background Drainage Reference Areas

Table 33 provides the results of two-sample hypothesis testing for the two different statistical tests mentioned earlier (t-test and WMW) comparing the South Drainage and the two background sediment drainages. **For all four scenarios (1A/1B and 2A/2B) the null hypothesis was not rejected. We therefore conclude the gamma exposure field within the South Drainage is less than or equal to the background gamma exposure field within the unimpacted drainages.** All of the tests had a confidence level of 95 percent ($\alpha = 0.05$).

Table 33 Summary of Hypothesis Testing Results for South Drainage vs. Background Gamma

Scenario	Two Sample Test	Sample 1	Sample 2	H_o	Result	Conclusion
1A	t-test	South Drainage	East Drainage (BG)	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	South Drainage gamma mean is less than or equal to East Drainage (BG) gamma mean
1B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	South Drainage gamma mean/median is less than or equal to East Drainage (BG) gamma mean/median
2A	t-test	South Drainage	Bridle Path Drainage (BG)	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	South Drainage gamma mean is less than or equal to Bridle Path Drainage (BG) gamma mean
2B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	South Drainage gamma mean/median is less than or equal to Bridle Path Drainage (BG) gamma mean/median

The Eastern Drainage (non-BG) are compared with the background reference drainage areas identified by the Tetra Tech which represent both of the geologic formation found onsite within the BBC property drainages. Figure 25 presents the distribution on lognormal probability plots for the Main Drainage and the two soil background drainage reference areas.

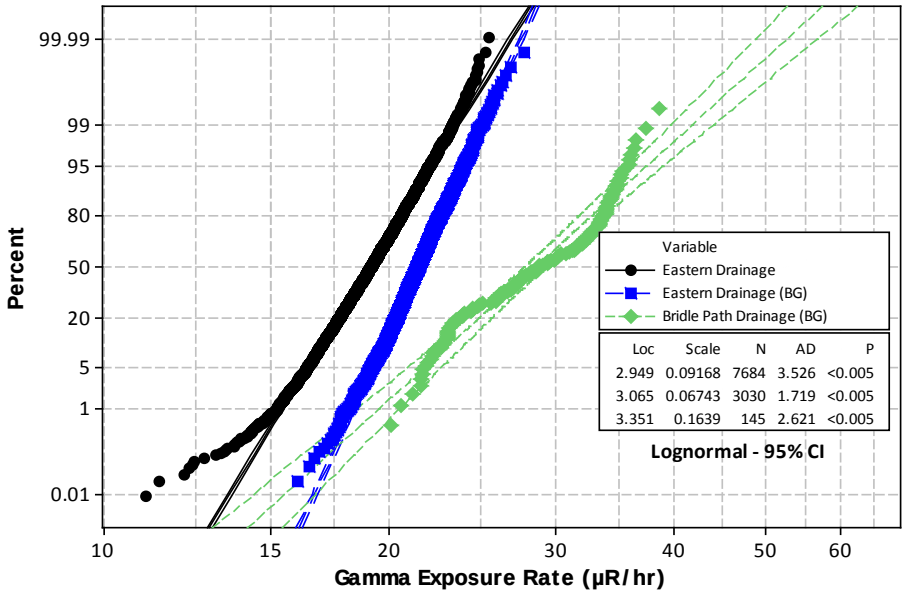


Figure 25 Probability Plot for Eastern Drainage and Background Drainage Reference Areas

Table 34 provides the results of two-sample hypothesis testing for the two different statistical tests mentioned earlier (t-test and WMW) comparing the East Drainage (non-background) and the two background sediment drainages. **For all four scenarios (1A/1B and 2A/2B) the null hypothesis was not rejected. We therefore conclude that the gamma exposure field within the Eastern Drainage (non-BG) is less than or equal to the gamma exposure field of the unimpacted drainages.** All of the tests had a confidence level of 95 percent ($\alpha = 0.05$).

Table 34 Summary of Hypothesis Testing Results for Eastern Drainage vs. Background Gamma

Scenario	Two Sample Test	Sample 1	Sample 2	H_o	Result	Conclusion
1A	t-test	Eastern Drainage (non-BG)	East Drainage (BG)	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	Eastern Drainage (non-BG) gamma mean is less than or equal to East Drainage (BG) gamma mean
1B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	Eastern Drainage (non-BG) gamma mean/median is less than or equal to East Drainage (BG) gamma mean/median
2A	t-test	Eastern Drainage (non-BG)	Bridle Path Drainage (BG)	Sample 1 Mean <= Sample 2 Mean	Do Not Reject H_o	Eastern Drainage (non-BG) gamma mean is less than or equal to Bridle Path Drainage (BG) gamma mean
2B	WMW			Sample 1 Mean/Median <= Sample 2 Mean/Median	Do Not Reject H_o	Eastern Drainage (non-BG) gamma mean/median is less than or equal to Bridle Path Drainage (BG) gamma mean/median

8.0 CONCLUSIONS

Comprehensive investigations have been conducted at the Brandeis-Bardin Institute's campus by a number of different entities and individuals within the past three decades, including those conducted by EPA, Cal EPA, DTSC, etc. These historical investigations are evaluated and presented in the main text of the Technical Memorandum. As part of the Data Gap Analysis presented in the main text of the Technical Memorandum, additional sampling of the BBC main camp area and drainages entering the BBC main camp area (BBC drainages) had been recommended. The purpose of the additional sampling is described in the Technical Memorandum and discussed below.

The comprehensive continuous gamma radiation surveys used in this investigation were intended to ascertain whether radiological anomalies may be present at the BBC, and if so, to assess the potential for radiological contamination from gamma-emitting radionuclides. The gamma radiation survey was performed in February 2016 by Tetra Tech's radiological field engineers. A statistical analysis was performed on the gamma exposure rates collected within the BBC main camp area and the BBC drainages. The gamma radiation datasets collected within these regions of the BBC property were compared statistically with the gamma radiation datasets collected at background reference areas, which included background soil plot areas and background sediment areas.

The results from the gamma radiation surveys within the BBC property showed there is no statistically significant difference between the mean of the gamma exposure rate distributions within the BBC main camp area and the gamma exposure rate distributions within the EPA-selected RBRAs. Similarly, there is no statistically significant difference between the mean of the gamma exposure rate distributions within the BBC drainages (North, Main, South, and Eastern Drainages) and the mean of the gamma exposure rate distributions measured within the background drainage reference areas.

The soil sampling investigation was conducted at the high use areas within the BBC and at drainage areas where the flow paths potentially originate from the Area IV region of the Santa Susana Field Laboratory to collect information on the existing radiological and chemical conditions. Both the sediment and soil samples were analyzed for radionuclides, metals, and perchlorate. The results of the soil investigation from the site areas were compared with the results of the background reference area samples collected by Tetra Tech for both the sediment and soil samples. A more comprehensive background comparative analysis is presented within the main text of the Technical Memorandum. The Cs-137 concentrations measured in all sediment samples were all below the MDCs. Similarly, all but one of the Cs-137 concentrations measured in the soil samples were below the MDCs. The Cs-137 concentration of the one sample which exceeded the MDC was detected at 0.101 pCi/g, which is within the detection sensitivity limits of the background regional limits. Five of the six of the sediment samples were below the MDC for Sr-90, with the exception of location TT-SD2-01 which had a detectable concentration of 0.182 pCi/g. A risk assessment for Sr-90 is provided in the main text of the Technical Memorandum. The Sr-90 concentrations measured in the soil samples were all below the MDCs. The metals concentrations for the sediment and soil samples collected at the BBC are within the expected ranges of background identified from the samples collected during this investigation. All of the sediment and soil samples submitted for perchlorate analysis were below the MDCs. Further discussion of the comparative background analysis and risk assessment is provided in the main text of the Technical Memorandum.

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ATTACHMENT A

SURVEY AND SOIL SAMPLING STANDARD OPERATING PROCEDURES

SOP 1 – MOBILE GAMMA RADIATION SURVEYING

TABLE OF CONTENTS

LIST OF FIGURES

1.0 PURPOSE

This Standard Operating Procedure (SOP) describes the protocol and methods for performing a continuous mobile gamma radiation survey as part of the monitoring program for the Brandeis-Bardin Campus (BBC) radiological and soil investigation conducted by Tetra Tech Inc. (Tetra Tech). The methods presented in this SOP include equipment operation, survey techniques, and instrument calibration requirements.

1.1 EQUIPMENT AND MATERIALS

Each mobile gamma survey system consists of:

(1) USB-compatible laptop or mobile computer installed with Tetra Tech *ScanSystem* software, *GammaViewer* software, and a global mapping software

(1) Standard backpack or ATV (shown on Figure 1)

(2) *USGlobalSat* global positioning system (GPS) Receiver with USB Interface

(1) Ludlum 44-10 Sodium Iodide (NaI) scintillation detector (shown in Figure 2)

(1) Ludlum 2350-1 data logger (shown in Figure 2)

(1) 4 port USB hub

(1) 3-foot Ludlum coaxial cable

(1) RS232 Serial to USB Converter

(1) Ludlum RS232 data cable

Figure 1 Mobile GPS Integrated Gamma Survey System – Backpack (left) and ATV (right)

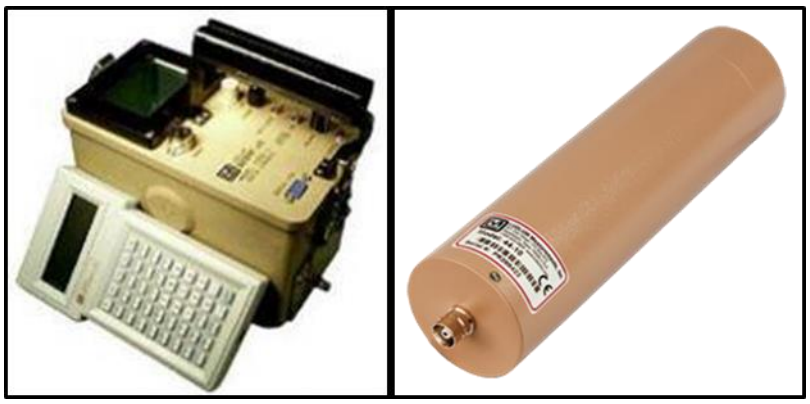

Figure 2 Ludlum 2350-1 Data Logger (left) and Ludlum 44-10 NaI Scintillator

2.0 PROCEDURE

2.1 BACKPACK AND SYSTEM SETUP

Ensure the 2350-1 data logger has sufficient battery voltage, which is defined as greater than 5.6 volts (V). If the charge is less than 5.6V, place four new D-size batteries correctly without allowing the battery to drop directly into the battery compartment. Connect the RS232 serial converter to the RS232 port on the Ludlum 2350-1 data logger. Connect GPS receivers and serial converter to the 4-port USB hub and connect the USB hub to the field computer. Open "Device Manager" and note which COMM ports have been assigned to the various USB devices.

2.2 SCANSYSTEM SOFTWARE OPERATIONS

ScanSystem software will be used to record simultaneous GPS location data and gamma exposure rate data When the program is first launched, click the "Configure" button, and then the "Disable Ports" function. Assign the correct COMM port ID to the Rad and GPS locations. Select "Enable Ports" and close the window. Next click "Start GPS." Both GPS and gamma exposure rate data should now be displayed in real time on the ScanSystem main screen. A screenshot showing the ScanSystem menu is shown in Figure 3.

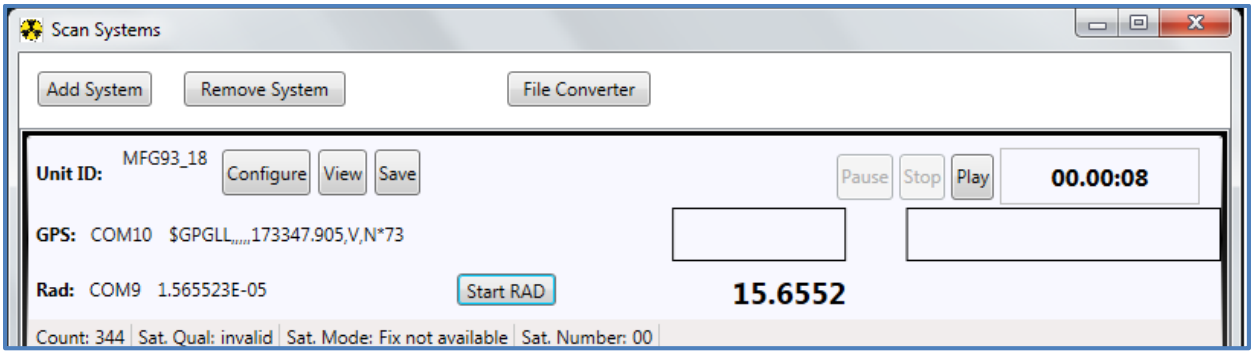

Figure 3 ScanSystem Screenshot

To log data, click the "Play" button. The software will ask if previous data are to be overwritten (Figure 4). To save data, click "Stop," then the "Save" icon, select a directory, and name the text file. Warning: if you select "Overwrite Data" by mistake, you should save a new file with a different name to avoid erasing the existing scan data file.

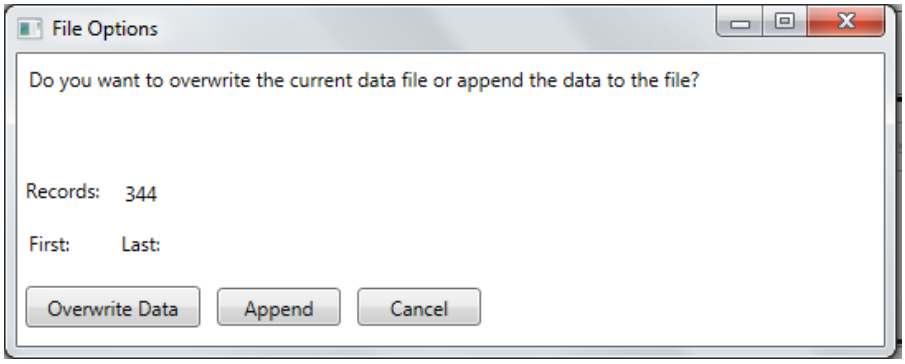

Figure 4 Screenshot of Interface (overwrite screen)

Text file names should include the detector ID, date and time, and project ID. The software will ask if current data are to be cleared from the application at this point (Figure 5). If you will continue scanning for the day, do not clear the application. Clear the application only at the beginning of a new scanning day. If you do clear the application by mistake, just save a new file and continue to append to the new file.

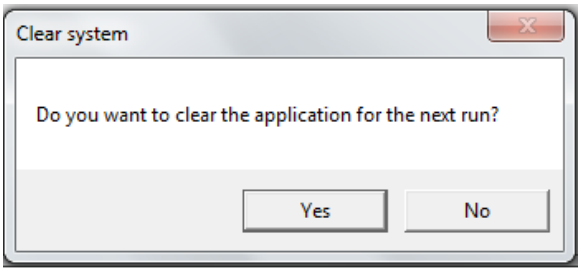

Figure 5 Screenshot of Interface (clear screen)

2.3 Mapping Software Operations

Mapping software can be used to visually guide operators over the pre-defined survey path. It displays current location overlaid on shapefiles. Shapefiles, as long as properly projected, are supported with different software types. The WGS84 datum is preferred to avoid confusion. It is recommended to use mapping software with pre-entered transect lines to be viewed on a laptop or hand-held GPS device.

2.4 Scan Process

The proposed gamma exposure rate scanning methodology is consistent with Nuclear Regulatory Commission Regulation [NUREG] 1620 (NRC 2003) and Multi-Agency Radiation Survey and Site Investigation Manual [MARRSIM] (NRC 2000) guidance documents. Gamma scanning will be conducted under the oversight of a qualified and trained engineer. Transects will be surveyed to attain the coverage as determined by the Lead Field Engineer. Scanning speed will be maintained between 1 and 3 miles per

hour. The gamma detector will be positioned at a height of approximately 1 meter above ground surface, whether backpack or ATV mounted. The detector "sees" terrestrial sources of gamma radiation with relatively good efficiency from a circular area with a radius of approximately 1 meter when held at a height of 1 meter. Care must be taken during scanning to prevent slips, trips, and falls as well as contact with biological hazards such as snakes and insects.

3.0 RECORDS

3.1 SURVEY RECORDS

Documenting scanning results and observations from the field is important (NRC 2000). Surveys will be recorded as follows:

- Field personnel will record survey information in the field logbook.
- Surveys will be documented in writing. The person performing the survey is responsible for correct and accurate documentation of survey data.
- Surveys will be documented as they are performed whenever possible in a clear and legible manner using black or blue ink.
- Survey points or sample locations will be indicated, as applicable, and the associated measurements recorded. Provide sufficient detail to adequately describe each specific area surveyed.
- Instrument check records must be included with the survey records in the field logbook.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

All radiological characterization projects Tetra Tech conducts incorporate specific data quality assurance and quality control (QA/QC) protocols. In general, QA includes qualitative factors that provide confidence in the results, while QC involves quantitative field evidence that supports the validity of the results. Tetra Tech uses QA/QC methods as data quality indicators that are outlined in NRC (2000). The QA/QC survey procedures used by Tetra Tech are industry accepted techniques that ensure the data collected are of the highest quality and reliability.

4.1 QUALITY ASSURANCE

Calibration refers to the measurement and adjustment of the instrument response in a particular radiation field of known intensity (NRC, 2000). Calibration of all radiation detection equipment is the primary method for QA that is used to ensure the data collected are of high quality and reliable. Tetra Tech ensures all instruments used during radiological projects are factory calibrated within 12 months per the manufacturer's recommendation. Scanned copies of calibration documentation for all instruments are included in Attachment B of this report.

4.2 QUALITY CONTROL

The primary QC method Tetra Tech uses involves daily QC checks. These checks are measurements performed each time an instrument is used to ensure consistency of performance during the project, including for any given instrument over time, and between different instruments on any given day. The specified protocol used on this project involves quantitative QC checks using a background as well as a known source.

The daily QC checks that are used include:

- **Daily Checks:** Daily background, field strip, and check source QC measurements that will be conducted in the field at the site. Daily QC measurements will be collected on site at a designated background location selected by the lead field engineer. Control charts are used to present the results.
- **Pre- and Post-survey:** Pre-survey and post-survey background and check source QC measurements that will be performed at a designated location off site. The results are presented in tables, probability plots, and histograms.

4.2.1 Daily QC Measurements

Each day before the gamma radiation survey, instrument comparison QC measurements will be performed for all NaI detectors potentially used to survey the site. Sets of individual background QC measurements will be compared under the same counting geometries. Under the QA program, factory-calibrated instruments must also meet on-site field test criteria. Data developed using any of the field-qualified instruments are then interchangeable, allowing instrument substitution if needed.

- Field Check Results:
    - For normally distributed data, 99 percent of all measurements are expected to fall within ±3 standard deviations from the mean. Background, field strip, and check source standard deviation values are recalculated twice daily throughout the project. Any instrument with a QC measurement result falling outside ±3 standard deviations from the mean of all QC measurements on the field check control chart requires investigation. A detector exceeding control limits on any QC check (background or source check) is replaced with a pre-qualified spare detector and returned to the manufacturer for evaluation, repair, and recalibration.
    - QC measurements, including a background check and a source check, are performed twice daily during the work for each scanning system in use. These checks are performed outdoors at a specified location.

The Ludlum 2350 data logger system employs a calibration factor to internally convert detector counts per minute to exposure rate. The calculated exposure rate, directly proportional to the measured count rate, is transmitted by the data logger to the scanning system portable computer. The system does not retain a record of count rate, but count rates can be calculated using the instrument-specific calibration factors.

Daily count rate variations within these limits are functions of several possible variables, including exact placement of detector systems during daily checks and recent variations in barometric pressure. Low detector count rates at very low background gamma exposure rates contribute significantly to variability in count rates. Differences in the internal characteristics of the detector, including minor issues with the NaI detector crystal or variations in the photomultiplier tube optical interface, can also affect NaI detector readings.

The data should be compiled and input into control charts and analyzed at the end of each day to identify any anomalies. Control charts are used to monitor performance of the radiation detection instruments and also provide quantitative indications of data uncertainty. A control chart is a graphical plot of measurement results with respect to time; an example control chart is shown below in Figure 6. A control chart of the daily calibration checks for the duration of the project will be included in the final report.

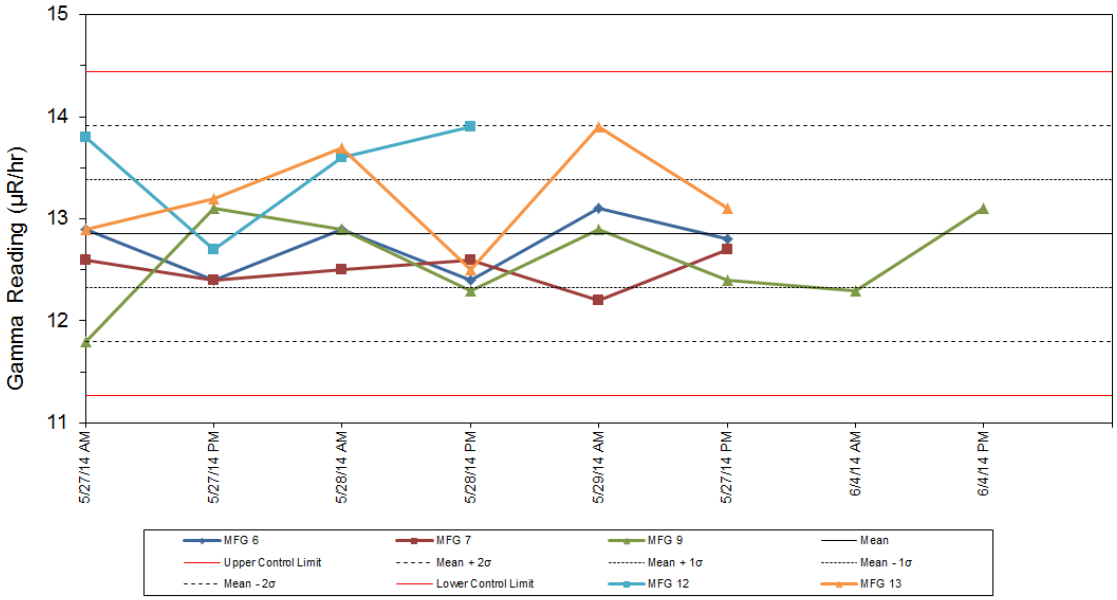

Figure 6 Example of Control Chart

4.2.2 Pre-Survey and Post-Survey QC Measurements

Before and after the gamma survey, field personnel will collect instrument QC measurements at a designated indoor location for each NaI detector that could be used for the gamma survey. The purpose of the pre-survey and post-survey QC protocol is to quantify the consistency of readings among the different detection systems. The pre-survey and post-survey calibration checks consist of background and source cesium-137 (Cs-137) measurements collected at the Tetra Tech office in Fort Collins, Colorado. The average value of the measurements will be compared using the mean, probability plots, and histograms and comparing various statistical measures such as the Anderson-Darling coefficient and the correlation coefficient (R). An example of this analysis is shown in Figure 7 and Figure 8.

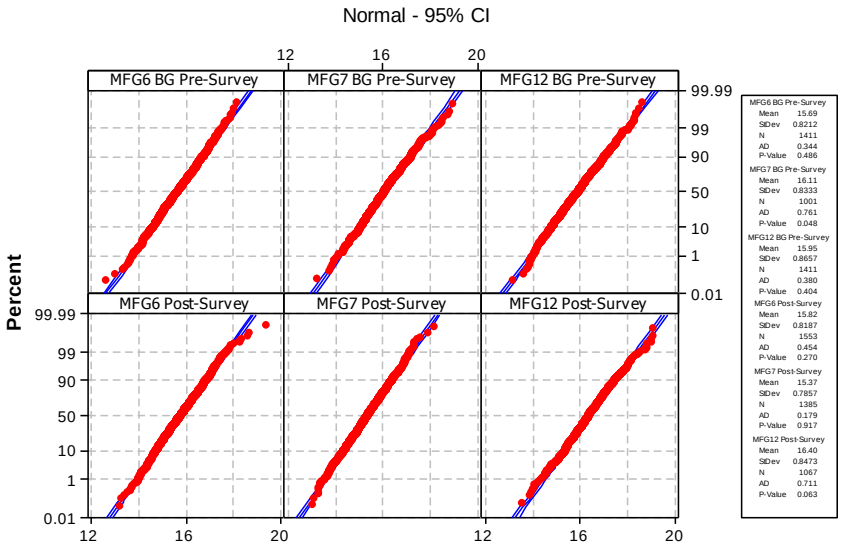

Figure 7 Example of Probability Plot Comparisons

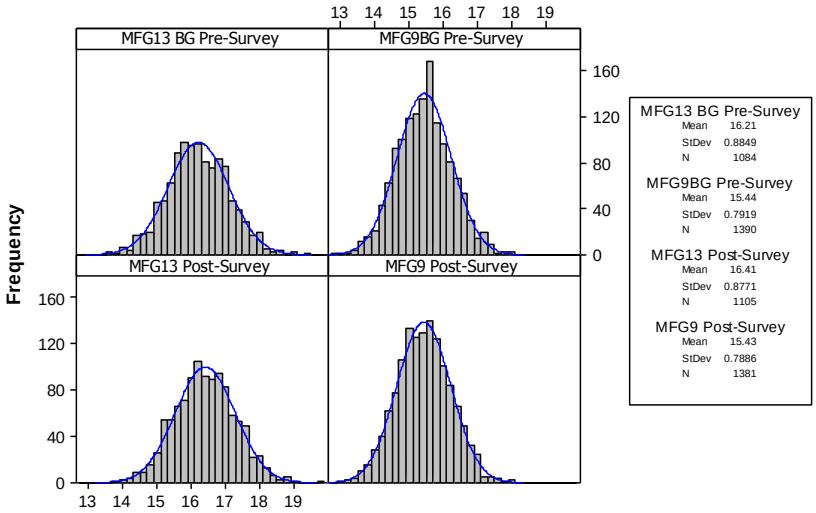

Figure 8 Example of Frequency Histogram Comparisons

5.0 REFERENCES

U.S. Nuclear Regulatory Commission (NRC). 2000. Multi-Agency Radiological Site Survey and Investigation Manual. NUREG-1575, Rev. 1. August 2000 (with 2001 addendum).

NRC. 2003. Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978. Final Report. NUREG-1620, Rev. 1. June.

SOP 2 – SOIL SAMPLING

TABLE OF CONTENTS

LIST OF TABLES

1.0 PURPOSE

This Standard Operating Procedure (SOP) describes the protocol and methods for collecting surface soil samples as part of the monitoring program for the Brandeis-Bardin Campus (BBC) radiological and soil investigation. Sample handling, labeling, documentation, preservation, shipping, and analysis are addressed in Sections 5 and 6 of this SOP.

2.0 PRECAUTIONS

The following precautions will be observed during sampling:

- All sample containers will be inspected for cleanliness and flaws prior to use.
- Latex or nitrile gloves will be worn during sample collection.
- Sample collection equipment will be decontaminated as described in this document.

3.0 EQUIPMENT AND MATERIALS

The following equipment is required to collect soil samples:

- Field logbook or equivalent and permanent black pens
- Sample containers (plastic 1-gallon Ziploc ® bags)
- Stainless steel spoons
- Scoop, shovel, or other device for collecting soil samples
- 5 gallon buckets for collecting and mixing soil samples
- Riffle splitter with ½-inch slot for homogenizing and splitting
- Engineer's tape (graduated in centimeter [cm] increments)
- Decontamination equipment and supplies
- Disposable latex / nitrile gloves
- Digital camera

4.0 PROCEDURE

The following procedures will be used to decontaminate equipment and collect soil samples.

4.1 SAMPLING LOCATIONS

Soil sampling locations will be selected in the field by the Lead Field Engineer. Sampling locations may be adjusted in the field as necessary for access and to accommodate field conditions. The sampling information, including time, date, and sample identification (ID), will be entered into the field logbook.

4.2 EQUIPMENT DECONTAMINATION PROCEDURES

Sampling equipment will be decontaminated between sample collection points, if the equipment is not disposable, to avoid cross contamination between samples. Decontamination equipment may include pump sprayers, spray bottles, deionized water, phosphate-free soap solution, scrub brushes, buckets, disposable gloves, and paper towels. Field personnel will wear disposable gloves while decontaminating equipment.

The following decontamination procedures will be followed for sampling equipment:

1. Visually inspect sampling equipment for adhered soil; a disposable paper towel or stiff brush will be used to remove any visible material.
2. If visible contamination remains, wash the field equipment with phosphate-free soap and water, rinse with distilled water, and air dry or wipe with disposable paper towels.
3. Deposit all disposable items, such as paper towels and disposable gloves, into a garbage bag and dispose of properly.

4.3 PRE-SAMPLING INSPECTION

Prior to sampling, the sampling site will be inspected and any unusual conditions will be noted in the field logbook. Photographs will also be taken to document sampling location any unusual site conditions.

4.4 SOIL SAMPLE COLLECTION

The soil sample for each grid will consist of collection of a discrete sample and will consist of approximately equal volumes of soil. The sample will be collected using a trowel or shovel as appropriate for the material. Sufficient volume of soil will be collected such that the 1-gallon plastic bag will be approximately half full. If necessary, rocks and vegetation will be removed as recommended in Section 5.2.2 [5] of Nuclear Regulatory Commission Regulation (NUREG) 1620 (NRC 2003). Visible soil will be brushed off the sampling tools between sampling. All soil samples will be submitted to ALS Laboratory in Fort Collins, Colorado. Samples are to be analyzed for cesium-137 (Cs-137), strontium-90 (Sr-90), target analyte metals, mercury, and perchlorate; the laboratory methods are specified in Table 1.

Table 1 Laboratory Analytical Methods

Analyte	Laboratory MDC[1]/(Reporting Limit)	Method
Cesium-137	0.1 pCi/g[2]	901.1 M
Strontium-90	0.25 pCi/g	ASTM D5811
Mercury	3.6 µg/kg (33.3 µg/kg)	SW 7471A
Metals (TAL[2])	varies	SW 6020
Perchlorate	20 µg/kg	314.0

[1]MDC = minimum detectable concentration. Varies by method and sample. May be lower than specified in this table.
[2]pCi/g = picocuries per gram
[3]TAL = target analyte list. Includes 23 metals with varying MDCs
Unless otherwise noted methods are published by the U.S. Environmental Protection Agency.

4.5 QUALITY CONTROL

Duplicate samples will be collected during soil sampling for quality control (QC) purposes. These QC samples are known as field duplicates. QC samples will be labeled with QC identification numbers (Section 5.4) and sent to the laboratory with the other samples for analysis. A field duplicate is defined as a second sample (or measurement) from the same location, collected in immediate succession, using identical techniques. Both the primary samples and field duplicate samples will be homogenized and split as described above. A minimum of one field duplicate will be submitted per 20 primary samples during the soil sampling. Data validation will be performed on the laboratory results for primary and duplicate samples as described in the sections below.

4.5.1 Evaluation of Precision of QC Samples

Data will be validated by an independent data validation specialist. Data validation will include a quantitative evaluation of precision between primary and field duplicate samples. Precision can be defined by the amount of scatter or variance that occurs in repeated measurements of a particular analyte. Two types of duplicate equations are used to evaluate the precision between the primary soil sample and the field duplicate soil sample. The first criterion for precision acceptance or rejection for this project is the relative percent difference (RPD) between the primary and field duplicate samples. The RPD equation is as follows:

$$RPD(\%) = \frac{|S - D|}{\frac{(S + D)}{2}} \times 100$$

where:

RPD = relative percent difference, non-detects are excluded
S = concentration of primary sample
D = concentration of field duplicate sample

The second criterion is the duplicate error ratio (DER), which accounts for uncertainties from both the primary and duplicate sample into the equation. The DER is calculated when precision estimates are provided using the following equation:

$$DER = \frac{|S - D|}{\sqrt{{\sigma_s}^2 + {\sigma_d}^2}}$$

where:

S = primary sample result
D = duplicate sample result measured field sample concentration
σ_s = primary sample uncertainty
σ_d = duplicate sample uncertainty

4.5.2 QC Acceptance for Sampling Data

The project QC acceptance limits are based on the RPD and DER testing results for all applicable samples. Analytical results for field duplicate soil samples will be evaluated by calculating the RPD and DER between the two samples when both values of the primary/field duplicate sample pair are greater than five times the reporting limit (RL) for a given analyte. The QC acceptance limits are an RPD of less than 30 percent and a DER less than 1.96. Data validation flags or data qualifiers are assigned to the analytical data that

exceed the project QC acceptance limits. The data qualifiers shown in Table 2 are applied to the data that do not meet the performance acceptance criteria discussed above. The QC acceptance goal is that 85 percent of the samples must meet the project QC acceptance criteria.

Table 2 Summary of Data QC Qualifiers

Data Qualifier	Description of Data Qualifier
K	RPD > 30% and the concentration is greater than five times the RL[1]
J	RPD > 30% and the concentration is less than five times the RL
G	DER > 1.96 and the concentration is greater than five times the RL
H	DER > 1.96 and the concentration is less than five times the RL

[1]*RL = reporting limit*

5.0 SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

5.1 SAMPLE CONTAINERS

Proper sample preparation practices will be observed to minimize sample contamination and potential repeat analyses caused by anomalous analytical results. Appropriately sized re-sealable freezer plastic bags will be used for the grid samples. The sample bags will be labeled as described in Section 5.4.1.

5.2 SAMPLE PRESERVATION

No sample preservation is required for soil samples.

5.3 SAMPLE HOLDING TIMES

Limits on sample holding times are established to minimize chemical changes in a sample prior to analysis or extraction. A holding time is defined as the maximum allowable time between sample collection and analysis or extraction, based on the nature of the analyte of interest and chemical stability factors. There is no specified holding time for samples to be submitted for Cs-137 or Sr-90. A 180-day holding time is recommended for analysis of metals. Samples will be submitted as soon as is practicable after samples are collected to facilitate timely turn-around of analytical results.

After they are collected, samples will be labeled as described in the following section, prepared as described in the previous sections, and placed in a cooler for delivery to the laboratory. The coolers will be taped shut and chain-of-custody (CoC) seals will be attached to the outside of the cooler to ensure that the cooler cannot be opened without breaking the seal.

5.4 SAMPLE LABELING

Sample containers will be identified using the following labeling scheme. Each sample will identify the Survey unit where a sample was collected in as well as the number corresponding to the sample grid. The date and time of each sample will be noted on the sample container as well.

Primary Sample Label: **TT-BBF-01**
Field Duplicate Sample Label: **TT-BBF-02**

Where:

BBF = Location identifier (for example, BBF = baseball field)
01/02 = Primary or Field Duplicate Sample ID

6.0 RECORDS

6.1 FIELD LOGBOOK

All information pertinent to field sampling will be recorded in a field logbook or equivalent. The field logbook will be a bound book with consecutively numbered pages. All entries in logbooks will be made in waterproof ink, and corrections will consist of line-out deletions. Entries in the logbook will include the following, as applicable:

- Date and time of sample collection
- Sample identification
- Sample location (global positioning system [GPS] coordinates— digital measurement is acceptable also)
- Sample depth
- Physical description of sample (color, texture)
- Weather and physical and environmental conditions during field activity
- Names of sampling personnel and any visitors
- Photograph log
- Sampling equipment and method
- Information concerning sampling decisions
- Field observations
- A summary of daily tasks and information concerning sampling changes and scheduling modifications
- Signature and date at bottom of each page by personnel responsible for observations

6.2 SAMPLE CHAIN OF CUSTODY

During field sampling activities, traceability of the sample must be maintained from the time the samples are collected until laboratory data are reported. Traceability of samples and associated identification data is crucial for resolving future problems if analytical results are called into question and for minimizing the possibility of sample mix-up. Initial information concerning collection of the samples will be recorded in the field logbook as described above. Information on the custody, transfer, handling, and shipping of samples will be recorded on a CoC form.

The sampler is responsible for initiating and filling out the CoC form. The CoC form will be signed by the sampler when samples are relinquished to anyone else. A CoC form will be completed for each set of samples collected and will contain the following information:

- Sampler's signature and affiliation
- Project number
- Date and time of collection
- Sample identification number
- Sample type
- Analyses requested (can provide laboratory project quote number)
- Number of containers
- Signature of persons relinquishing custody, dates, and times
- Signature of persons accepting custody, dates, and times
- Any additional instructions to the laboratory

The person responsible for delivering the samples to the laboratory will sign the CoC form, retain a copy of the form, document the method of shipment, and send the original form with the samples. Tetra Tech will maintain a copy of the CoC. When the samples arrive at the laboratory, the person receiving the samples will sign the CoC form and return a copy to the Project Manager. Copies of all CoC documentation will be compiled and maintained in the central files. The original CoC forms will remain with the samples until the time of final disposition. When samples are returned for disposal, the laboratory will send the original CoC to Tetra Tech. This CoC will then be incorporated into the central files. CoC forms will be provided by either the analytical laboratory or Tetra Tech.

6.3 FIELD OBSERVATIONS

The field logbook will contain sufficient information so that the sampling activity can be reconstructed without relying on the memory of field personnel. The logbook will be kept in the field technician's possession or in a secure place during sampling activities. After sampling, the completed logbook shall be maintained and filed as part of the permanent project record. A scanned copy of the field logbook will be included as an appendix to the final report.

7.0 REFERENCES

U. S. Nuclear Regulatory Commission (NRC). 2003. Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978. Final Report. NUREG-1620, Rev. 1. June.

ATTACHMENT B

CALIBRATION DOCUMENTATION FOR RADIATION INSTRUMENTATION USED IN BBC GAMMA SURVEY

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

MFG-1

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER TETRA TECH MFG, INC. ORDER NO. 20272834/424330

Mfg. Ludlum Measurements, Inc. Model 2350-1 Serial No. 98616

Cal. Date 5-Aug-15 Cal Due Date 5-Aug-16 Cal. Interval 1 Year Meterface N/A

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 36 % Alt 700.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical check ☐ Input Sens. Linearity
☑ F/S Resp. check ☑ Reset check ☐ Window Operation
☑ Audio check ☑ Alarm Setting check ☑ Battery check (Min. Volt) 4.4 VDC
☑ Ratemeter Linearity check ☑ Integrated Dose check ☑ Recycle Mode check
☑ Data Log check ☑ Overload check ☑ Scaler Readout check Threshold Dial Ratio 100 = 10 mV

☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 05/15/2015.

☑ HV Readout (2 points) Ref./Inst. 500 / 499 V Ref./Inst. 2000 / 1999 V

COMMENTS: *Firmware: 37122N26*

I/O Firmware: 37123N05 Resolution for Cs137≈10.72% Calibrated with 39" cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

	Probe Model	Serial #	High Voltage	Threshold	Units/ Time Base	Dead Time Correction Factor	Calibration Constant	Linearity ±10%*
Detector # 1	44-10	PR102508	1050	100	4 / 2	1.508518E-05	5.527553E+10	✓
Detector # 2	44-10	PR102508	1050	100	7 / 1	1.508517E-05	1.000000E+00	
Detector # 3	CS137PK	662KEV	712	642	7 / 1	0.000000E+00	1.000000E+00	
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
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Detector #								
Detector #								
Detector #								
Detector #								

Units: 0 -- rad, 1 -- Gray, 2 -- rem, 3 -- Sv, 4 -- R, 5 -- C/Kg, 6 -- Disintegrations, 7 -- Counts, 8 -- Ci/cm sq., 9 -- Bq/cm sq.
Time Base: 0 -- Seconds, 1 -- Minutes, 2 -- Hours

* See attached detector documentation, if applica

Digital Readout	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	400kcpm	400000 (0)	400 00 (0)	400cpm	40 (0)	40 (0)
	40kcpm	4000	4000	40cpm	4 (	4 (
	4kcpm	420	412			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 5105 ☐ 5717CO
☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be S/N: ☐ T-304 Ra-226 S/N: ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 289158 ☐ Ra-226 S/N Y982 ☑ Multimeter S/N 93870637

Calibrated By: Date 5.Aug.15
Reviewed By: Date 6 Aug 15

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Model 2350 Bench Test Data

Customer TETRA TECH MFG, INC. Date 5-Aug-15 Order #. 20272834/424330

Model 2350-1 Serial No. 98616 Detector 44-10 Serial No. PR102508

Source Cs137-1.9uCi

High Voltage 1050 V As Found 1050 V. Input 10.00 mV As Found 10 mV.

Cal. Constant 5.527553E+10 as found 5.96065 E+10

Dead Time 1.508518E-05 as found 1.676146 E-05

Alarm Setting: Ratemeter 1000000000.000000 as found 1.0 E+09

Scaler 1000000.000000 as found 1.0 E+06

Integrated dose 1000000000.0000 as found 1.0 E+09

Overload ☐ On ☑ Off as found ☐ On ☑ Off Window 1000 as found 1000

Detector Received: ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

Reference Point	"As Found" Readings: Meter Reading	After Adjustment Readings: Meter Reading
2000 mR/hr	1.91 mR/hr	1.95 mR/hr
1500	1.48	1.50
1000	0.99	1.01
500	467 mR/hr	503 mR/hr
200	184	195
150	137	148
100	95.21	97.5

Other

Signature Jeremy Thompson Date 5-Aug-15

• *Serving The Nuclear Industry Since 1962* •

Designer and Manufacturer
of
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Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. PR102508

Customer TETRA TECH MFG, INC. Order #. 20272834/424330

Counter 2350-1 Serial No. 98616 Counter Input Sensitivity 10.00 mV

Count Time 6 Seconds Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 1.508517E-05

High Voltage	Background	Isotope Am241 Size ~0.1 µCi	Isotope Size	Isotope Size	Isotope Size
950	480	11116			
1000	459	11486			
~~1050~~	464	11305			
1100	501	11590			
1150	494	11437			
1200	491	11430			
1250	521	11503			
1300	542	11781			
1350	670	11724			
1400	660	12044			
1450	701	12211			
1500	848	12114			
1550	1265	13521			

Signature Jeremy Thompson Date 5-Aug-15

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Detector Setup Barcodes GENERATED: 8/5/2015 10:38:18 AM
Model 2350-1 Serial Number: 98616
Detector Setup Number: 1


H1050$J
Set High Voltage: 1050


W1000$WOFF$P
Set Window: 1000,OFF


F6$H
Set Scaler Count Time: 6


SB2$.
Set Readout Time Base: hours


SL1.508518E-05$-
Set Dead Time: 1.508518E-05


SC5.527553E+10$W
Set Calibration Constant: 5.527553E+10


M44-10$K
Set High Detector Model: 44-10


NPR102508$1
Set High Detector Serial #: PR102508


J1.000000E+09$V
Set High Ratemeter Alarm: 1.000000E+09


K1000000$H
Set High Scaler Alarm: 1000000


P1.000000E+09$.
Set High Dose Alarm: 1.000000E+09


SP1$7

Save Parameters as: D1

T100$Q

Set Threshold: 100

O40.0$OOFF$6

Set Overload: 40.0,OFF

SU4$F

Set Readout Units: R

SM0$3

Set Readout Range Multiplier: Auto

SVD0$P

Set Display Mode: Normal

SVD1$Q

Set Display Mode: Parameters

SVD2$R

Set Display Mode: Detector

D1$A

Set Active Detector Setup: 1

Detector Setup Barcodes GENERATED: 8/5/2015 10:38:18 AM
Model 2350-1 Serial Number: 98616
Detector Setup Number: 2


H1050$J
Set High Voltage: 1050


W1000$WOFF$P
Set Window: 1000,OFF


F6$H
Set Scaler Count Time: 6


SB1$-
Set Readout Time Base: minutes


SL1.508517E-05$Z
Set Dead Time: 1.508517E-05


SC1.000000E+00$0
Set Calibration Constant: 1.000000E+00


M44-10$K
Set High Detector Model: 44-10


NPR102508$1
Set High Detector Serial #: PR102508


J1.000000E+09$V
Set High Ratemeter Alarm: 1.000000E+09


K1000000$H
Set High Scaler Alarm: 1000000


P1.000000E+09$.
Set High Dose Alarm: 1.000000E+09


SP2$8

Save Parameters as: D2

T100$Q

Set Threshold: 100

O40.0$OOFF$6

Set Overload: 40.0,OFF

SU7$I

Set Readout Units: c

SM0$3

Set Readout Range Multiplier: Auto

SVD0$P

Set Display Mode: Normal

SVD1$Q

Set Display Mode: Parameters

SVD2$R

Set Display Mode: Detector

D2$B

Set Active Detector Setup: 2

Detector Setup Barcodes GENERATED: 8/5/2015 10:38:19 AM
Model 2350-1 Serial Number: 98616
Detector Setup Number: 3


H712$N
Set High Voltage: 712


W40WONL
Set Window: 40,ON


F6$H
Set Scaler Count Time: 6


SB1$-
Set Readout Time Base: minutes


SL0.000000E+00$8
Set Dead Time: 0.000000E+00


SC1.000000E+00$0
Set Calibration Constant: 1.000000E+00


MCS137PK$S
Set High Detector Model: CS137PK


N662KEV$C
Set High Detector Serial #: 662KEV


J1.000000E+09$V
Set High Ratemeter Alarm: 1.000000E+09


K1000000$H
Set High Scaler Alarm: 1000000


P1.000000E+09$.
Set High Dose Alarm: 1.000000E+09


SP3$9

Save Parameters as: D3

T642$.

Set Threshold: 642

O40.0$OOFF$6

Set Overload: 40.0,OFF

SU7$I

Set Readout Units: c

SM0$3

Set Readout Range Multiplier: Auto

SVD0$P

Set Display Mode: Normal

SVD1$Q

Set Display Mode: Parameters

SVD2$R

Set Display Mode: Detector

D3$C

Set Active Detector Setup: 3

Detector Setup Checklist GENERATED: 8/5/2015 10:38:24 AM
Model 2350-1 Serial Number: 98616
Detector Setup Number: 1

The following list is stored as detector setup D1 in the Model 2350.

I have verified the list below has no discrepancies with the detector settings table: JT

Comments:

User ID	=
High Voltage	= 1050 volts
Threshold	= 100
Window	= 1000,OFF
Overload Current	= 40.0 micro amperes
Scaler Count Time	= 6 seconds
Readout Units	= R
Readout Time Base	= hours
Readout Range Multiplier	= Auto
Detector Dead Time	= 1.508518E-05
Detector Calibration Constant	= 5.527553E+10
Detector Model Number	= 44-10
Detector Serial Number	= PR102508
Ratemeter Alarm Setting	= 1.000000E+09
Scaler Alarm Setting	= 1000000
Integrated Dose Alarm Setting	= 1.000000E+09
Low Count Alarm Setting	= 0.000000E+00
Operating Batter Voltage	= 5.4 volts

Detector Setup Checklist GENERATED: 8/5/2015 10:38:24 AM
Model 2350-1 Serial Number: 98616
Detector Setup Number: 2

The following list is stored as detector setup D2 in the Model 2350.

I have verified the list below has no discrepancies with the detector settings table: JT

Comments:

User ID	=
High Voltage	= 1050 volts
Threshold	= 100
Window	= 1000,OFF
Overload Current	= 40.0 micro amperes
Scaler Count Time	= 6 seconds
Readout Units	= c
Readout Time Base	= minutes
Readout Range Multiplier	= Auto
Detector Dead Time	= 1.508517E-05
Detector Calibration Constant	= 1.000000E+00
Detector Model Number	= 44-10
Detector Serial Number	= PR102508
Ratemeter Alarm Setting	= 1.000000E+09
Scaler Alarm Setting	= 1000000
Integrated Dose Alarm Setting	= 1.000000E+09
Low Count Alarm Setting	= 0.000000E+00
Operating Batter Voltage	= 5.4 volts

Detector Setup Checklist GENERATED: 8/5/2015 10:38:25 AM
Model 2350-1 Serial Number: 98616
Detector Setup Number: 3

The following list is stored as detector setup D3 in the Model 2350.

I have verified the list below has no discrepancies with the detector settings table: JC

Comments:

User ID	=
High Voltage	= 712 volts
Threshold	= 642
Window	= 40,ON
Overload Current	= 40.0 micro amperes
Scaler Count Time	= 6 seconds
Readout Units	= c
Readout Time Base	= minutes
Readout Range Multiplier	= Auto
Detector Dead Time	= 0.000000E+00
Detector Calibration Constant	= 1.000000E+00
Detector Model Number	= CS137PK
Detector Serial Number	= 662KEV
Ratemeter Alarm Setting	= 1.000000E+09
Scaler Alarm Setting	= 1000000
Integrated Dose Alarm Setting	= 1.000000E+09
Low Count Alarm Setting	= 0.000000E+00
Operating Batter Voltage	= 5.4 volts

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MFG-11

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CUSTOMER TETRA TECH MFG, INC. ORDER NO. 20272834/424330

Mfg. Ludlum Measurements, Inc. Model 2350-1 Serial No. 120635

Cal. Date 5-Aug-15 Cal Due Date 5-Aug-16 Cal. Interval 1 Year Meterface N/A

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 36 % Alt 700.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical check
☑ F/S Resp. check
☑ Audio check
☑ Ratemeter Linearity check
☑ Data Log check
☑ Reset check
☑ Alarm Setting check
☑ Integrated Dose check
☑ Overload check
☐ Window Operation
☑ Battery check (Min. Volt) 4.4 VDC
☑ Recycle Mode check
☑ Scaler Readout check
☐ Input Sens. Linearity
Threshold Dial Ratio 100 = 10 mV

☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89.
☑ Calibrated in accordance with LMI SOP 14.9 rev 05/15/2015.

☑ HV Readout (2 points) Ref./Inst. 500 / 500 V Ref./Inst. 2000 / 2005 V

COMMENTS: *Firmware: 37122N26*

I/O Firmware: 37123N05 Resolution for Cs137≈9.96% Calibrated with 39" cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

	Probe Model	Serial #	High Voltage	Threshold	Units/ Time Base	Dead Time Correction Factor	Calibration Constant	Linearity ±10%*
Detector # 1	LMI44-10	PR102507	1100	100	4 / 2	1.742716E-05	5.376195E+10	✓
Detector # 2	LMI44-10	PR102507	1100	100	7 / 1	1.742715E-05	1.000000E+00	
Detector # 3	CS137/PK	662KEV	794	642	7 / 1	0.000000E+00	1.000000E+00	
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								

Units: 0 -- rad, 1 -- Gray, 2 -- rem, 3 -- Sv, 4 -- R, 5 -- C/Kg, 6 -- Disintegrations, 7 -- Counts, 8 -- Ci/cm sq., 9 -- Bq/cm sq.
Time Base: 0 -- Seconds, 1 -- Minutes, 2 -- Hours

* See attached detector documentation, if applica

Digital Readout	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	400kcpm	39991 (0)	39991 (0)	400cpm	40 (0)	40 (0)
	40kcpm	4000	4000	40cpm	4	4
	4kcpm	400	400			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 5105 ☐ 5717CO
☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be S/N: ☐ T-304 Ra-226 S/N: ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 289158 ☐ Ra-226 S/N Y982 ☑ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 5-Aug-15
Reviewed By: Date 6 Aug 15

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Knoxville, TN 37932, U.S.A.

Model 2350 Bench Test Data

Customer TETRA TECH MFG, INC. Date 5-Aug-15 Order #. 20272834/424330

Model 2350-1 Serial No. 120635 Detector 44-10 Serial No. PR102507

Source Cs137: 1.9mCi

High Voltage 1100 V As Found 1100 V. Input 10.00 mV As Found 10 mV.

Cal. Constant 5.376195E+10 as found 5.376195 E+10

Dead Time 1.742716E-05 as found 1.742716 E-05

Alarm Setting: Ratemeter 1000000000.000000 as found 1.0 E+09

Scaler 1000000.000000 as found 1.0 E+06

Integrated dose 1000000000.0000 as found 1.0 E+09

Overload ☐ On ☑ Off as found ☐ On ☑ Off Window 1000 as found 1000

Detector Received: ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

Reference Point	"As Found" Readings: Meter Reading	After Adjustment Readings: Meter Reading
2000 µR/hr	2.02 mR/hr	2.02 mR/hr
1500	1.56	1.56
1000	1.03	1.03
500	505 µR/hr	505 µR/hr
200	198	198
150	149	149
100	100	100

Other

Signature Jeremy Thompson Date 5.Aug.15

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Bench Test Data For Detector

Detector 44-10 Serial No. PR102507

Customer TETRA TECH MFG, INC. Order #. 20272834/424330

Counter 2350-1 Serial No. 120635 Counter Input Sensitivity 10.00 mV

Count Time 6 Seconds Distance Source to Detector surface

Other Cal Constant = 1.000000E+00 Dead Time = 1.742715E-05

High Voltage	Background	Isotope Am241 Size ≈0.77μCi	Isotope Size	Isotope Size	Isotope Size
1000	551	10615			
1050	554	10445			
*1100	574	10497			
1150	541	10860			
1200	566	11111			
1250	572	10984			
1300	550	10842			
1350	565	10446			
1400	580	10153			
1450	812	11240			
1500	1126	11795			

Signature [signature] Date 5. Aug. 15

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Detector Setup Barcodes GENERATED: 8/5/2015 12:58:40 PM
Model 2350-1 Serial Number: 120635
Detector Setup Number: 1

H1100$F
Set High Voltage: 1100

W1000$WOFF$P
Set Window: 1000,OFF

F12$E
Set Scaler Count Time: 12

SB2$.
Set Readout Time Base: hours

SL1.742716E-05$-
Set Dead Time: 1.742716E-05

SC5.376195E+10$-
Set Calibration Constant: 5.376195E+10

*MLMI44-10$ *
Set High Detector Model: LMI44-10

NPR102507$0
Set High Detector Serial #: PR102507

J1.000000E+09$V
Set High Ratemeter Alarm: 1.000000E+09

K1000000$H
Set High Scaler Alarm: 1000000

P1.000000E+09$.
Set High Dose Alarm: 1.000000E+09

SP1$7

Save Parameters as: D1

T100$Q
Set Threshold: 100

O4.0$OOFF$6
Set Overload: 4.0,OFF

SU4$F
Set Readout Units: R

SM0$3
Set Readout Range Multiplier: Auto

SVD0$P
Set Display Mode: Normal

SVD1$Q
Set Display Mode: Parameters

SVD2$R
Set Display Mode: Detector

D1$A
Set Active Detector Setup: 1

Detector Setup Barcodes GENERATED: 8/5/2015 12:58:41 PM
Model 2350-1 Serial Number: 120635
Detector Setup Number: 2

H1100$F
Set High Voltage: 1100

W1000$WOFF$P
Set Window: 1000,OFF

F6$H
Set Scaler Count Time: 6

SB1$-
Set Readout Time Base: minutes

SL1.742715E-05$Z
Set Dead Time: 1.742715E-05

SC1.000000E+00$0
Set Calibration Constant: 1.000000E+00

*MLMI44-10$ *
Set High Detector Model: LMI44-10

NPR102507$0
Set High Detector Serial #: PR102507

J1.000000E+09$V
Set High Ratemeter Alarm: 1.000000E+09

K1000000$H
Set High Scaler Alarm: 1000000

P1.000000E+09$.
Set High Dose Alarm: 1.000000E+09

SP2$8

Save Parameters as: D2

T100$Q
Set Threshold: 100

O4.0$OOFF$6
Set Overload: 4.0,OFF

SU7$I
Set Readout Units: c

SM0$3
Set Readout Range Multiplier: Auto

SVD0$P
Set Display Mode: Normal

SVD1$Q
Set Display Mode: Parameters

SVD2$R
Set Display Mode: Detector

D2$B
Set Active Detector Setup: 2

Detector Setup Barcodes GENERATED: 8/5/2015 12:58:41 PM
Model 2350-1 Serial Number: 120635
Detector Setup Number: 3


H794$X
Set High Voltage: 794


W40WONL
Set Window: 40,ON


F6$H
Set Scaler Count Time: 6


SB1$-
Set Readout Time Base: minutes


SL0.000000E+00$8
Set Dead Time: 0.000000E+00


SC1.000000E+00$0
Set Calibration Constant: 1.000000E+00


MCS137/PK$P
Set High Detector Model: CS137/PK


N662KEV$C
Set High Detector Serial #: 662KEV


J1.000000E+09$V
Set High Ratemeter Alarm: 1.000000E+09


K1000000$H
Set High Scaler Alarm: 1000000


P1.000000E+09$.
Set High Dose Alarm: 1.000000E+09


SP3$9

Save Parameters as: D3

T642$.
Set Threshold: 642

O4.0$OOFF$6
Set Overload: 4.0,OFF

SU7$I
Set Readout Units: c

SM0$3
Set Readout Range Multiplier: Auto

SVD0$P
Set Display Mode: Normal

SVD1$Q
Set Display Mode: Parameters

SVD2$R
Set Display Mode: Detector

D3$C
Set Active Detector Setup: 3

Detector Setup Checklist GENERATED: 8/5/2015 12:58:48 PM
Model 2350-1 Serial Number: 120635
Detector Setup Number: 1

The following list is stored as detector setup D1 in the Model 2350.

I have verified the list below has no discrepancies with the detector settings table: JS

Comments:

User ID	=
High Voltage	= 1100 volts
Threshold	= 100
Window	= 1000,OFF
Overload Current	= 4.0 micro amperes
Scaler Count Time	= 12 seconds
Readout Units	= R
Readout Time Base	= hours
Readout Range Multiplier	= Auto
Detector Dead Time	= 1.742716E-05
Detector Calibration Constant	= 5.376195E+10
Detector Model Number	= LMI44-10
Detector Serial Number	= PR102507
Ratemeter Alarm Setting	= 1.000000E+09
Scaler Alarm Setting	= 1000000
Integrated Dose Alarm Setting	= 1.000000E+09
Low Count Alarm Setting	= 0.000000E+00
Operating Batter Voltage	= 5.2 volts

Detector Setup Checklist GENERATED: 8/5/2015 12:58:49 PM
Model 2350-1 Serial Number: 120635
Detector Setup Number: 2

The following list is stored as detector setup D2 in the Model 2350.

I have verified the list below has no discrepancies with the detector settings table: JT

Comments:

User ID	=
High Voltage	= 1100 volts
Threshold	= 100
Window	= 1000,OFF
Overload Current	= 4.0 micro amperes
Scaler Count Time	= 6 seconds
Readout Units	= c
Readout Time Base	= minutes
Readout Range Multiplier	= Auto
Detector Dead Time	= 1.742715E-05
Detector Calibration Constant	= 1.000000E+00
Detector Model Number	= LMI44-10
Detector Serial Number	= PR102507
Ratemeter Alarm Setting	= 1.000000E+09
Scaler Alarm Setting	= 1000000
Integrated Dose Alarm Setting	= 1.000000E+09
Low Count Alarm Setting	= 0.000000E+00
Operating Batter Voltage	= 5.2 volts

Detector Setup Checklist GENERATED: 8/5/2015 12:58:49 PM
Model 2350-1 Serial Number: 120635
Detector Setup Number: 3

The following list is stored as detector setup D3 in the Model 2350.

I have verified the list below has no discrepancies with the detector settings table: JJ

Comments:

User ID	=
High Voltage	= 794 volts
Threshold	= 642
Window	= 40,ON
Overload Current	= 4.0 micro amperes
Scaler Count Time	= 6 seconds
Readout Units	= c
Readout Time Base	= minutes
Readout Range Multiplier	= Auto
Detector Dead Time	= 0.000000E+00
Detector Calibration Constant	= 1.000000E+00
Detector Model Number	= CS137/PK
Detector Serial Number	= 662KEV
Ratemeter Alarm Setting	= 1.000000E+09
Scaler Alarm Setting	= 1000000
Integrated Dose Alarm Setting	= 1.000000E+09
Low Count Alarm Setting	= 0.000000E+00
Operating Batter Voltage	= 5.2 volts

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CUSTOMER TETRA TECH MGF, INC. ORDER NO. 20278106/427848

Mfg. Bicron Model MICRO REM Serial No. B9904

Mfg. _____ Model _____ Serial No. _____

Cal. Date 28-Oct-15 Cal Due Date 28-Oct-16 Cal. Interval 1 Year Meterface 0-200µrem/

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 35 % Alt 704.0 mm Hg

☐ New Instrument Instrument Received ☐ Within Toler. +-10% ☑ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☐ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☐ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☐ Batt. ck. (Min. Volt) _____ VDC
☐ Calibrated in accordance with LMI SOP 14.8 ☑ Calibrated in accordance with LMI SOP 14.9

Instrument Volt Set _____ V Input Sens. _____ mV Det. Oper. _____ V at _____ mV Threshold Dial Ratio _____ = _____ mV

☐ HV Readout (2 points) Ref./Inst. _____ / _____ V Ref./Inst. _____ / _____ V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x 1000	150 mR/hr	140	150
x 1000	50 mR/hr	40	48
x 100	15 mR/hr	145	150
x 100	5 mR/hr	42	45
x 10	1500 µR/hr	150	150
x 10	500 µR/hr	48	45
x 1	150 µR/hr	140	150
x 1	100 µR/hr	90	100
x0.1	15 µR/hr	150	150
x0.1			

*Uncertainty within ± 10% C.F. within ± 20%

Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

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The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E552 ☑ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be S/N: ☐ T-304 Ra-226 S/N: ☐ Y982

☐ Alpha S/N _____ ☐ Beta S/N _____ ☑ Other Cs-137 201uCi

☐ m 500 S/N _____ ☐ Oscilloscope S/N _____ ☐ Multimeter S/N _____

Calibrated By: Duane Jackson Date 28-Oct-15

Reviewed By: Dennie Mieras Date 28-Oct-15

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AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed: _____

ATTACHMENT C

DATA VALIDATION AND QUALITY CONTROL REVIEW SUMMARY

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 OVERVIEW

The data validation process for the Brandeis-Bardin Campus (BBC) radiological and soil investigation involved a review of quality assurance (QA) and quality control (QC) data and review of the laboratory data packages. The data validation and QA/QC review process is intended to assess the technical reliability and the degree of confidence in the reported analytical data. The primary goal of the methods presented in this attachment is to ensure that the information and decisions made from the Brandeis-Bardin radiological and soil investigation are supported by data of the type and quality needed and expected for their intended use. The Data Validation and QC Review Program was conducted by Tetra Tech and includes a sample-specific process that extends the evaluation of data beyond method, procedural, or contractual compliance to determine the analytical quality of a specific data set (EPA 2002). This attachment summarizes the methods and results of the BBC radiological and soil investigation Data Validation and QC Review Program.

2.0 DATA VALIDATION METHODS

2.1 DATA VALIDATION TESTING

An evaluation of the precision data validation testing between primary and duplicate samples was performed where applicable on the data collected. The primary testing methods involved calculating relative percent difference (RPD) and the duplicate error ratio (DER). The DER was used for radiochemistry analytes where an individual precision was reported for the analytes. The applicable environmental media evaluated for this project included soil samples and ambient gamma exposure rate measurements. A minimum of one field duplicate was collected for every 20 primary soil samples collected in the field. Similarly, the evaluation of precision by calculation of RPD by comparing parameters from the pre-survey and post-survey mean gamma exposure rate was performed on the radiation instrumentation calibration check data.

2.1.1 RPD Evaluation

The data validation analysis performed by Tetra Tech included the quantitative evaluation of precision between primary and field duplicate soil samples. Precision can be defined by the amount of scatter or variance that occurs in repeated measurements of a particular analyte. Two types of duplicate equations are used to evaluate the precision between the primary soil sample and the field duplicate soil sample. The first equation for precision acceptance and rejection for this project was based on the RPD of the field duplicates. The RPD equation is given by:

$$RPD(\%) = \frac{|S - D|}{\frac{(S + D)}{2}} \times 100$$

where:

RPD = relative percent difference, non-detects are excluded
S = concentration of primary sample
D = concentration of duplicate sample

2.1.2 DER Evaluation

The second equation used was the DER, which factors the uncertainties from both the unknown and duplicate sample into the equation. The DER is calculated between duplicates for all samples which precision estimates were provided and the equation for DER is given by:

$$DER = \frac{|S - D|}{\sqrt{{\sigma_s}^2 + {\sigma_d}^2}}$$

where:

S = primary sample result
D = duplicate sample result measured field sample concentration;
σ_s = primary sample uncertainty
σ_s = primary sample uncertainty
σ_d = duplicate sample uncertainty

2.2 QC Acceptance Limits

The QC acceptance limits are based on the type of media being analyzed. This subsection summarizes the QC acceptance criteria for soil sampling data and gamma radiation survey calibration checks.

2.2.1 QC Acceptance for Sampling Data

The QC acceptance limits are based on the RPD and DER testing results for all applicable samples. Tetra Tech evaluated the analyte results for the field duplicate soil samples by calculating the RPD and DER between the two samples *when both values* of the field/ duplicate pair were greater than five times the reporting limit (RL) for a given analyte. The QC acceptance limits are an RPD of less than 30% and a DER of less than 1.96. Data validation flags or data qualifiers are given to the analytical data which exceed the acceptance limits. The data qualifiers are applied to the data that do not meet the performance acceptance criteria discussed above. A total QC acceptance goal is 85% of the samples for all analytes shall meet the QC acceptance criteria.

Table C-1 Summary of Data QC Qualifiers

Data Qualifier	Description of Data QC Qualifier
K	RPD > 30% and the average concentration is greater than five times the RL or MDL
J	RPD > 30% and the average concentration is less than five times the RL or MDL.
G	DER > or = 1.96 and the average concentration is greater than five times the RL or MDL.
H	DER > or = 1.96 and the average concentration is less than five times the RL or MDL.

2.2.2 QC Acceptance for Gamma Radiation Calibration Check QC Data

The two primary QC methods for the gamma radiation survey outlined in the report include daily field calibration checks and pre-survey and post-survey calibration checks.

2.2.2.1 Daily Field Check Instrument Calibration QC Acceptance Limits

As discussed in Section 3.1.3 of the Technical Memorandum, for normally distributed data, 99% of all measurements are expected to fall within ±3 standard deviations from the mean. Background, field strip, and check source standard deviation values were recalculated three times daily throughout the project duration. Any instrument with a QC measurement result falling outside ±3 standard deviations from the mean of all QC measurements on the field check control chart required investigation. A detector exceeding control limits on any QC check (background or field strip) would be replaced with a pre-qualified spare detector and sent back to the manufacturer for evaluation, repair, and recalibration. All data collected from that instrument would be removed from the project database and new data would be collected using the spare detection instruments.

2.2.2.2 Pre-survey and Post-Survey Instrument Calibration Check QC Acceptance Limits

The RPD was calculated between the mean pre-survey and mean post-survey background and cesium-137 (Cs-137) response gamma exposure rate for each instrument used in the survey. The QC acceptance limit is an RPD of less than 10% for all radiation survey instruments. Additionally, a parametric analysis was performed on the pre-survey and post-survey data sets for both background and Cs-137 response gamma exposure rates. The Anderson-Darling (AD) statistic was used to assess how well the data follow a particular distribution. For the gamma radiation instrumentation, the data should follow a normal distribution at all times under controlled conditions. The corresponding p-value must be greater than 0.05 in order to accept the null hypothesis that the data follow a specified distribution. For the purposes of the QC data validation testing, the data were plotted on a normal distribution probability plot and the AD statistic and corresponding p-value calculated using the statistical software Minitab 16 ®. All of the pre-survey and post-survey data was required to have a p-value exceeding 0.02-0.05 or follow a normal (i.e. Gaussian) distribution plotted on a normal probability plot for the instrument data to be considered reliable.

3.0 SOIL SAMPLING FIELD QC SUMMARY

A total of 19 soil samples were collected as discussed in the main text of the Technical Memorandum. Therefore, to maintain the QC frequency discussed in Section 2.0, only one field duplicate sample was collected by Tetra Tech as part of the radiological and soil investigation monitoring program. The quality control samples consist of a primary field sample and a field duplicate sample. The duplicate sample was sent blindly to the laboratory to be tested using the same methods as the primary sample. The precision was analyzed for each data pair using the data validation methods outlined in Section 2.1. A summary of the soil sampling field QC results are provided in Section 3.3.

3.1 SOIL SAMPLING QC RESULTS (RADIONUCLIDES)

3.1.1 Cesium-137 Soil Sampling QC Results

Table C-2 provides the field and duplicate laboratory results for Cs-137. Both of these samples reported Cs-137 concentrations below the minimum detectable concentration (MDC) which is equivalent to the RL for this procedure. Therefore, no data validation was performed. No data QC qualifiers are provided for the Cs-137 data validation and QC review. These samples met the data validation and QC requirements for the project.

Table C-2 Summary of Cs-137 Laboratory Results for Primary and Duplicate Soil Sample

Sample ID	Cs-137 (pCi/g)	Precision +/-	MDC	Lab Qualifier[1]
TT-GF-01	< 0.089	-	0.089	U
TT-GF-02	< 0.097	-	0.097	U

[1]Lab qualifier = "U" less than MDC

3.1.2 Strontium-90 Soil Sampling QC Results

Table C-3 provides the field and duplicate laboratory results for Sr-90. Both of these samples reported Sr-90 concentrations below the MDC which is equivalent to the RL for this procedure. Therefore, no data validation was performed. No data QC qualifiers are provided for the Sr-90 data validation and QC review. These samples met the data validation and QC requirements for the project.

Table C-3 Summary of Sr-90 Laboratory Results for Primary and Duplicate Soil Sample

Sample ID	Sr-90 (pCi/g)	Precision +/-	MDC	Lab Qualifier[1]
TT-GF-01	< 0.104	-	0.104	U
TT-GF-02	< 0.102	-	0.102	U

[1]Lab qualifier = "U" less than MDC

3.2 SOIL SAMPLING QC RESULTS (NON-RADIONUCLIDES)

3.2.1 Metals Soil Sampling Field QC Results

Table C-4 provides the field and duplicate laboratory results for metals. The RPD was calculated between the primary and field duplicate soil samples TT-GF-01 and TT-GF-02. The QC samples met the RPD limits for all constituents; therefore these samples met the data validation and QC requirements for the project.

Table C-4 Summary of Sr-90 Laboratory Results for Primary and Duplicate Soil Sample

Analyte	TT-GF-01		TT-GF-02		Relative Percent Difference	Data QC Qualifier
	Value (mg/kg)	MDL (mg/kg)	Value (mg/kg)	MDL (mg/kg)		
Aluminum	9,600	1.8	9,300	1.9	3.2%	-
Antimony	0.18	0.02	0.14	0.02	25.0%	-
Arsenic	3.7	0.038	4.5	0.04	19.5%	-
Barium	75	0.068	75	0.07	0.0%	-
Beryllium	0.5	0.016	0.51	0.016	2.0%	-
Cadmium	0.23	0.019	0.17	0.02	30.0%	-
Calcium	4,100	11	4,300	11	4.8%	-
Chromium	15	0.083	15	0.087	0.0%	-
Cobalt	6.4	0.061	6.3	0.063	1.6%	-
Copper	11	0.29	11	0.3	0.0%	-
Iron	20,000	3.9	19,000	4.1	5.1%	-
Lead	11	0.022	11	0.023	0.0%	-
Magnesium	5,000	4.3	4,900	4.4	2.0%	-
Manganese	320	0.072	310	0.074	3.2%	-
Nickel	11	0.3	11	0.31	0.0%	-
Potassium	4,400	21	4,200	21	4.7%	-
Selenium	0.97	0.043	0.94	0.044	3.1%	-
Silver	0.047	0.0059	0.03	0.0062	-	-
Sodium	370	19	340	20	8.5%	-
Thallium	0.26	0.0047	0.26	0.0049	0.0%	-
Vanadium	34	0.052	34	0.053	0.0%	-
Zinc	71	0.49	76	0.51	6.8%	-
Mercury	0.017[J]	0.0042	0.016[J]	0.004	-	-

3.2.2 Perchlorate Soil Sampling Field QC Results

Perchlorate was analyzed in all samples collected at the background, BBC, and sediment locations. All of the perchlorate results were below the MDL. Therefore, no data validation was performed. No data QC qualifiers are provided for the perchlorate data validation and QC review. These samples met the data validation and QC requirements for the project. A copy of the laboratory analytical results for the perchlorate analysis is provided in Attachment F of the Technical Memorandum.

3.3 SOIL SAMPLING DATA VALIDATION AND QC REVIEW

The results of the QC data review are provided in Section 3.1 and Section 3.2. The overall goal is that 85% of the data shall not exceed the RPD or DER acceptance criteria; this goal has been achieved for the soil sampling data. One hundred percent of soil sample sets that met the RPD acceptance criteria. No DER data validation was performed on the radionuclide analyses (Cs-137 and Sr-90) because all of the samples reported concentrations below the MDL. All of the soil samples for this project met the project QC acceptance criteria.

4.0 RADIATION INSTRUMENTATION QC SUMMARY

As described in the Section 3.1.4 of the Technical Memorandum, Tetra Tech adheres to strict QA/QC protocol when conducting gamma radiation surveys. QA includes qualitative factors that provide confidence in the results, while QC involves quantitative, field evidence that supports the validity of results. Tetra Tech uses data quality indicators as recommended in MARSSIM (NRC, 2000) and MARLAP (NRC, 2006) to ensure the data being collected are reliable. This section summarizes the methods and results of the QC analyses performed for those detectors that were actually used during the survey. The QC protocol involved pre-survey and post-survey calibration checks and instrument calibration field checks. Before and after performing the gamma radiation survey at BBC, Tetra Tech performed QC analyses for the radiation instruments that were used during the 2016 BBC radiological investigation and soil investigation program. The purpose of the QC analyses is to quantify the consistency of gamma exposure readings between detectors.

Two detectors, identified as MFG-1 and MFG-11 were utilized during the gamma radiation surveys. The QC analysis involved calibration checks of these instruments under a controlled indoor environment for pre-survey and post-survey. The pre-survey check was performed on February 5, 2016 for MFG-1 and February 12, 2016 for MFG-11 and the post-survey check for both of these instruments was performed on February 22, 2016. The pre-survey and post-survey calibration checks involved the collection of 1,000 background measurements and 1,000 Cs-137 source checks under a controlled environment.

Additionally, field engineers performed daily QC checks during the field work at a designated background area located on the BBC. The daily checks included background and field strip calibration checks. Under these circumstances, all data from any given set of properly calibrated and correctly functioning radiation instruments should follow a normal distribution.

4.1 GAMMA RADIATION SURVEY QA/QC METHODS

4.1.1 Gamma Radiation Survey Data Quality Assurance Procedures

An important QA protocol includes instrument calibration. All of the radiation detection equipment employed during the field work must have been factory calibrated within the previous 12 months. Data developed using any of the field-qualified instruments are then interchangeable, allowing instrument substitution as needed. Copies of factory calibration documentation for the two detectors used during the survey are provided in Attachment B.

4.1.2 Gamma Radiation Survey Data Quality Control Procedures

Under the QC program, factory-calibrated instruments must also meet on-site field test criteria. Calibration checks are measurements performed to verify instrument performance each time an instrument is used (NRC, 2000). Tetra Tech field personnel collected quantitative measurements as part of the QC program including:

1.) *daily field instrument calibration checks; and*
2.) *pre-survey and post-survey instrument calibration checks.*

A control chart is a graphical plot of measurement results with respect to time and helps monitor performance of the radiation detection instrumentation (NRC, 2000).

Daily Field Instrument Calibration Field Check:

The instrument calibration field checks consist of collecting measurements using the scan systems from a static background area, field strip area approximately 10 meters in length, and static Cs-137 source checks at the pre-determined background area. For this particular project, the field checks were performed in an area within the cabins near the administration building at the BBC. The following criteria were used to assess the daily field calibration checks:

- For normally distributed data, 99 percent of all measurements are expected to fall within ±3 standard deviations from the mean. Background, field strip, and check source standard deviation values were recalculated three times daily throughout the project. Any instrument with a QC measurement result falling outside ±3 standard deviations from the mean of all QC measurements on the field check control chart would require investigation. A detector exceeding control limits on any QC check (background, field strip, or Cs-137 source check) would be replaced with a pre-qualified spare detector and sent back to the manufacturer for evaluation, repair, and recalibration.

- QC measurements, including a background check, field strip check, and Cs-137 source check were performed three times daily during the work for each scanning system in use. These checks were performed outdoors at the same time and location each day. The daily field strip check provides an indication of total measurement uncertainty from turbulent movement for each mobile system being used in the field.

Pre-Survey and Post-Survey Instrument Calibration Check:

In addition to daily QC checks, pre-survey and post-survey QC instrument measurements were collected at an indoor location for each NaI(Tl) detector that would be potentially used during the gamma radiation survey. The purpose of these measurements was to quantify the consistency of readings among the detectors, under controlled conditions before (pre-survey) and after (post-survey) the field survey. A minimum of 1,000 background and Cs-137 source measurements were collected both pre-survey and post-survey for each detector under the same counting conditions. The pre-survey and post-survey QC checks were performed at the Tetra Tech office in Fort Collins, Colorado, prior to and after the field work. The data validation criterion and results for the pre-survey and post-survey analysis are discussed in the following section.

4.2 PRE-SURVEY AND POST-SURVEY CALIBRATION CHECK QC RESULTS

This section summarizes the QC results for the background and Cs-137 source response measurements for the pre-survey and post-survey. The QC acceptance criteria are discussed in Section 2.2 of this attachment. The QC acceptance criteria for the pre-survey and post-survey mean background and Cs-137 source response gamma exposure rate are less than 10% RPD. Additionally, the p-value must be greater than 0.05 for all gamma exposure rate distributions. Tables C-5 and C-6 show the pre- and post-survey background QC results for detectors MFG-1 and MFG-11. Figures C-1 and C-2 present the frequency histograms and probability plots for the pre- and post-survey background QC results, respectively. Tables C-7 and C-8 show the pre- and post-survey Cs-137 source check QC results for detectors MFG-1 and MFG-11. Figures C-3 and C-4 present the frequency histograms and probability plots for the pre- and post-survey Cs-137 source check QC results, respectively. A summary of the gamma radiation instrumentation data validation and QC review is provided in Section 4.4.

Table C-5 Instrument MFG-1 Pre-Survey and Post-Survey Background QC Results

Survey:	**Pre-Survey**	**Post-Survey**	**Relative Percent Difference**
Date:	**02/12/16**	**02/22/16**	
Detector ID:	**MFG-1**		
# of Readings	1,000	1,000	-
Average	16.7	16.8	0.95%
Median	16.7	16.9	1.12%
Standard Deviation	0.88	0.86	1.41%
95th Percentile	18.2	18.3	0.64%
99th Percentile	18.7	18.8	0.60%

Table C-6 Instrument MFG-11 Pre-Survey and Post-Survey Background QC Results

Survey:	**Pre-Survey**	**Post-Survey**	**Relative Percent Difference**
Date:	**02/05/16**	**02/22/16**	
Detector ID:	**MFG-11**		
# of Readings	1,000	1,000	-
Mean	16.5	16.9	2.24%
Median	16.5	16.9	2.16%
Standard Deviation	0.81	0.88	8.55%
95th Percentile	17.8	18.4	3.25%
99th Percentile	18.6	18.9	1.74%

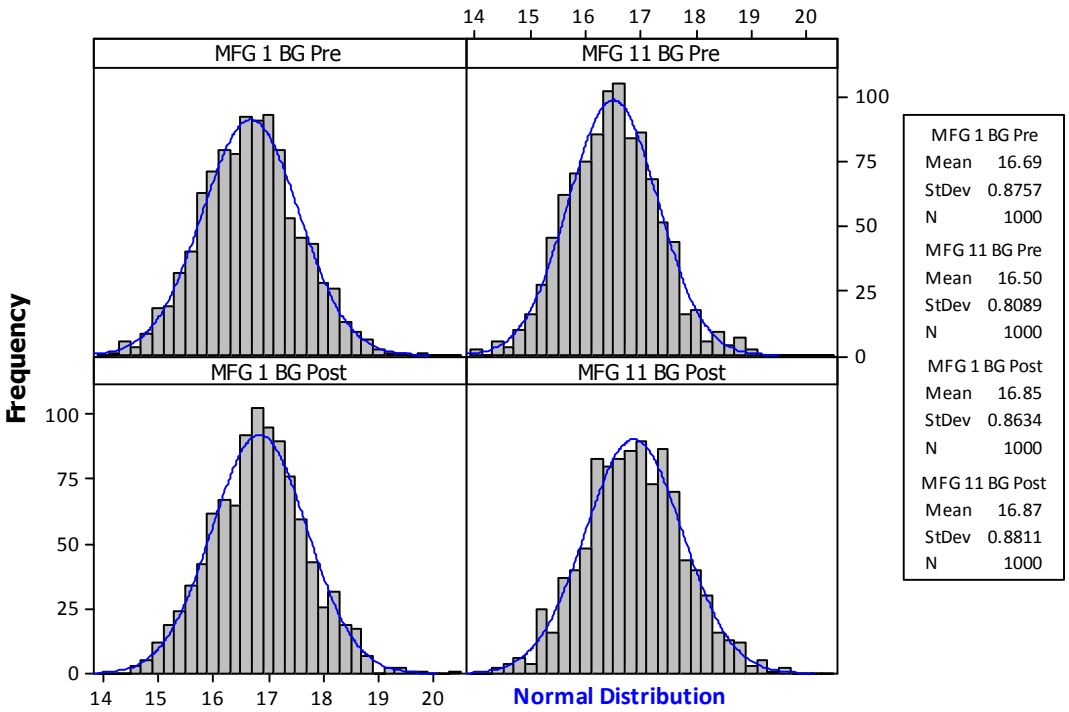

Figure C-1 Frequency Histograms for Pre-Survey and Post-Survey Background Measurements

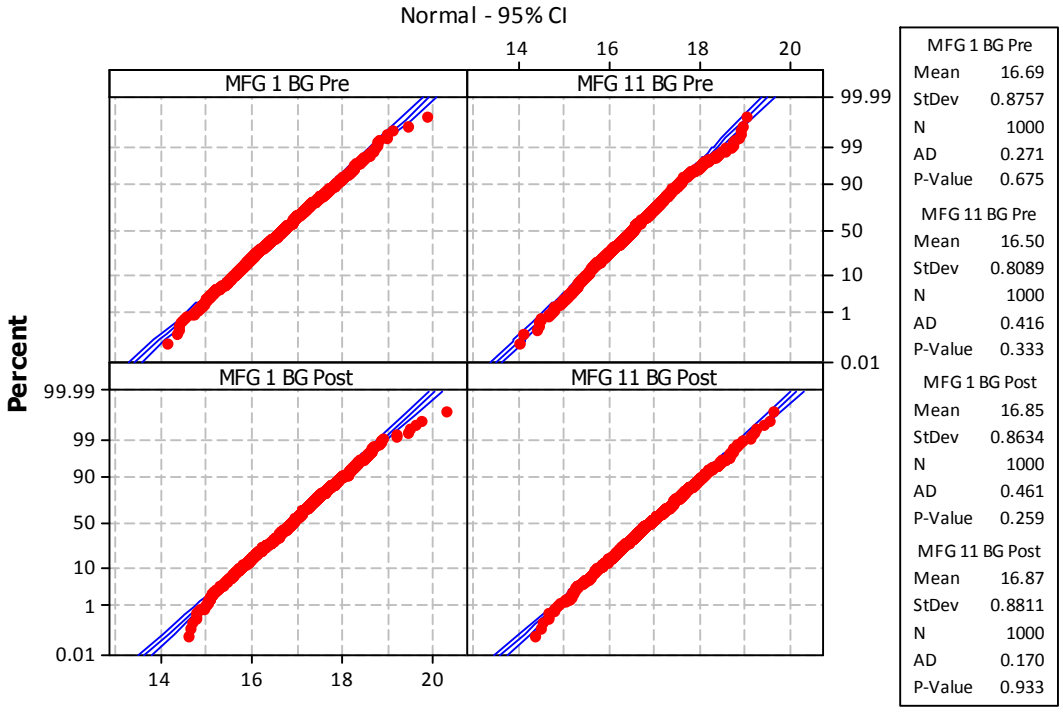

Figure C-2 Normal Probability Plots for Pre-Survey and Post-Survey Instruments Background Measurements

Table C-7 Instrument MFG-1 Pre-Survey and Post-Survey Cs-137 Source Check QC Results

Survey:	Pre-Survey	Post-Survey	Relative Percent Difference
Date:	02/12/16	02/22/16	
Detector ID:	MFG-1		
# of Readings	1,000	1,000	-
Average	186	182	2.05%
Median	186	182	2.05%
Standard Deviation	2.84	2.88	1.24%
95th Percentile	191	187	2.05%
99th Percentile	193	189	2.07%

Table C-8 Instrument MFG-11 Pre-Survey and Post-Survey Cs-137 Source Check QC Results

Survey:	Pre-Survey	Post-Survey	Relative Percent Difference
Date:	02/05/16	02/22/16	
Detector ID:	MFG-11		
# of Readings	1,000	1,000	n/a
Average	180	178	1.00%
Median	180	178	0.87%
Standard Deviation	2.85	2.77	3.01%
95th Percentile	184	183	0.97%
99th Percentile	186	184	1.38%

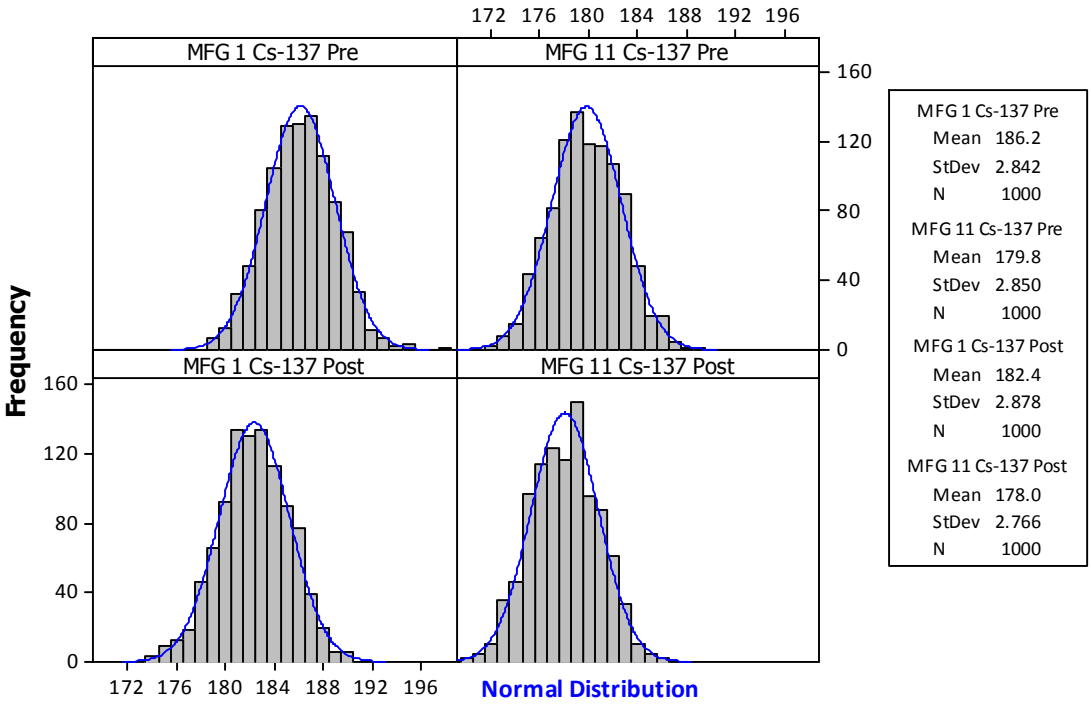

Figure C-3 Frequency Histograms for Pre-Survey and Post-Survey Cs-137 Source Response Measurements

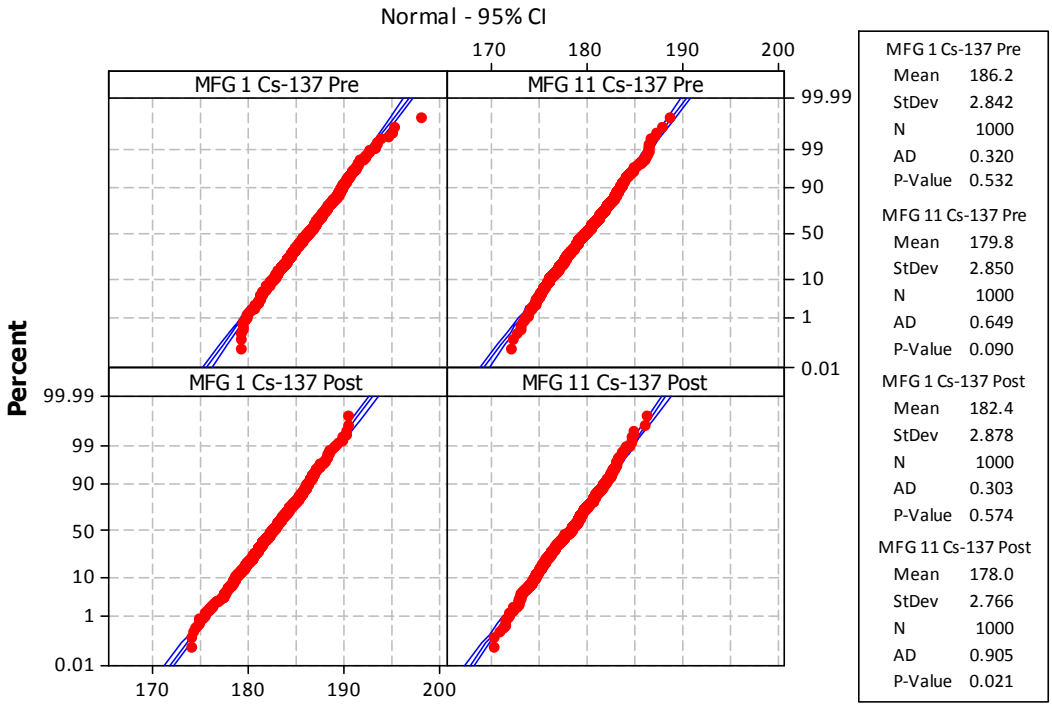

Figure C-4 Normal Probability Plots for Pre-Survey and Post-Survey Cs-137 Source Response Measurements

4.3 DAILY FIELD CALIBRATION CHECK QC RESULTS

The QC charts showing the results of the daily field calibration checks for background, field strip, and Cs-137 source checks are shown on Figures C-5 through C-7, respectively. A summary of the gamma radiation instrumentation data validation and QC review is provided in Section 4.4.

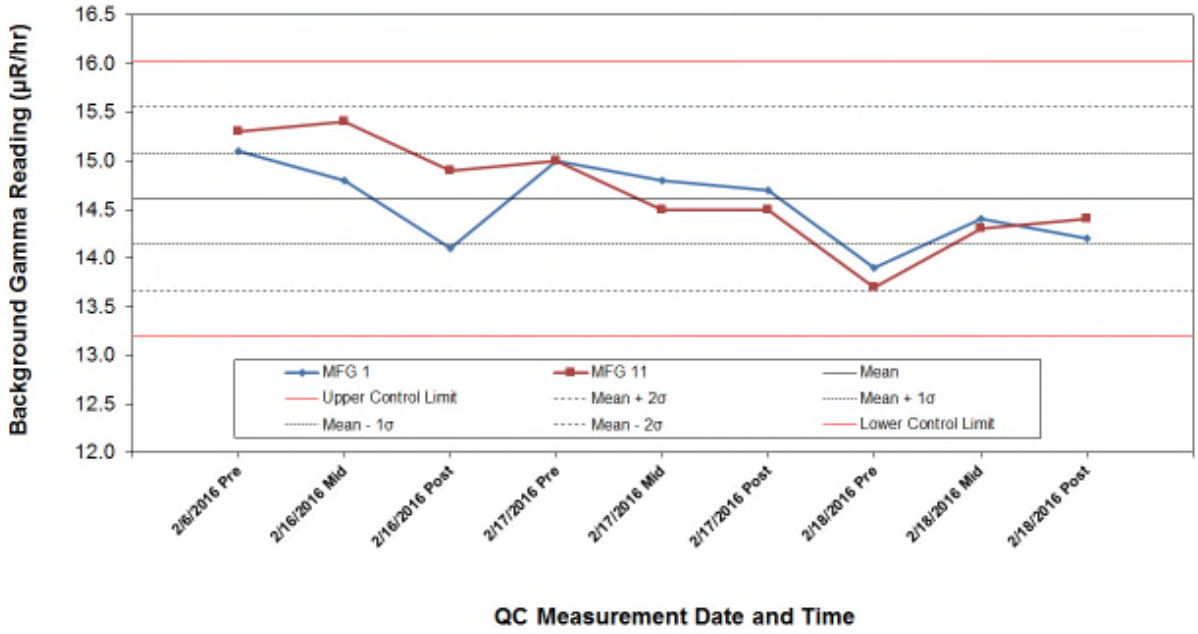

Figure C-5 Daily Field Calibration Check Results (Background)

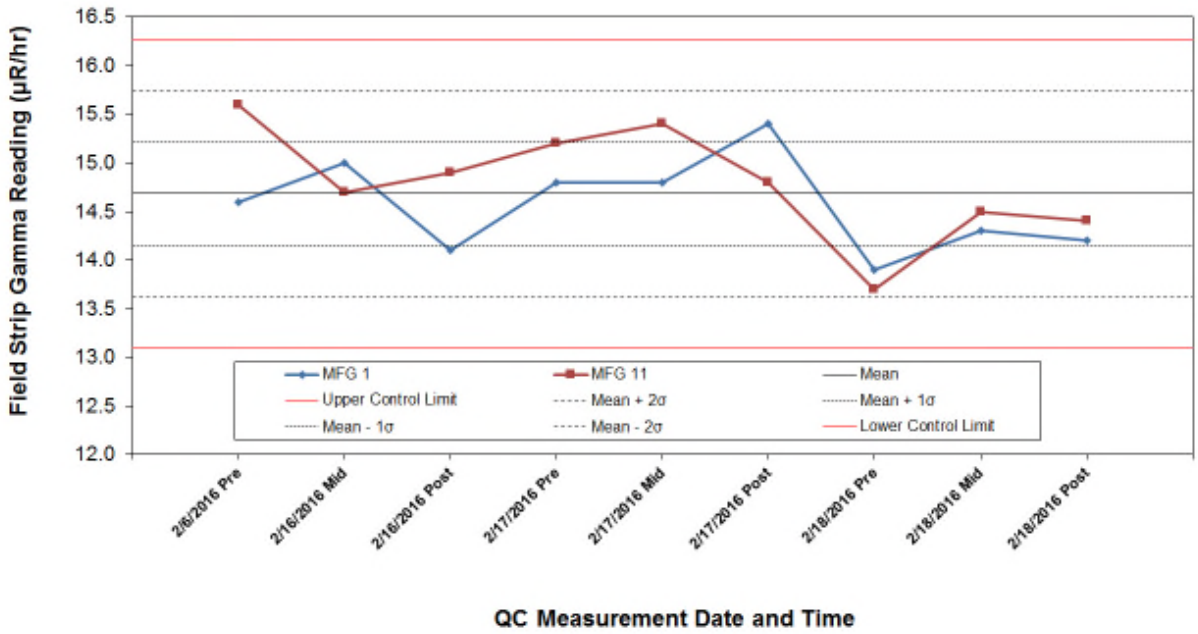

Figure C-6 Daily Field Calibration Check Results (Field Strip)

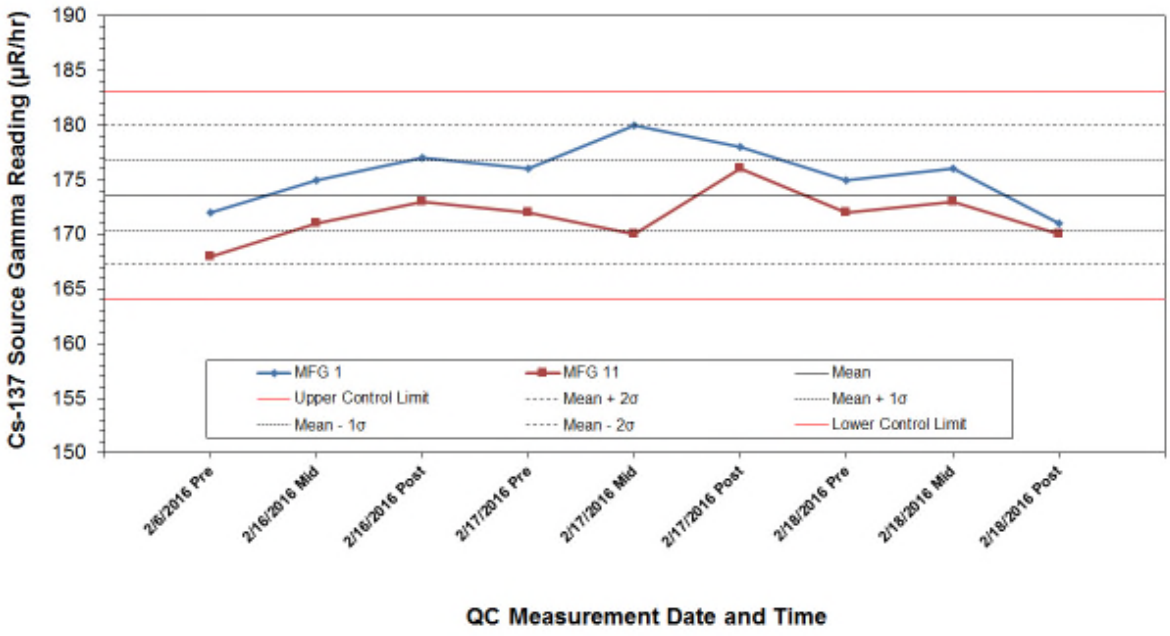

Figure C-7 Daily Field Calibration Check Results (Cs-137 Source Check)

4.4 GAMMA RADIATION SURVEY DATA VALIDATION AND QC REVIEW

All of the pre-survey and post-survey gamma radiation survey calibration checks met the established acceptance criteria. All of the daily field calibration checks were within the control limits and, therefore, met the QC acceptance criteria. The gamma radiation survey data is of the highest quality and can be considered reliable.

5.0 REFERENCES

[EPA] 2002. United States Environmental Protection Agency. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. Washington, DC. November.

ATTACHMENT D

SCANNED COPY OF FIELD LOGBOOK

Radiological and Soil Investigation
Field Sampling Logbook

February 2016

JOB BOOK

PROJECT NAME RBI Campus

PROJECT NUMBER 103P4383

CREW _____

DATE _____ BOOK # ____ OF ____

WEATHER _____

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CURVE FORMULAS

$T = R \tan \frac{1}{2} I$

$T = \frac{50 \tan \frac{1}{2} I}{\text{Sin. } \frac{1}{2} D}$

$\text{Sin. } \frac{1}{2} D = \frac{50}{R}$

$\text{Sin. } \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$

$R = T \cot. \frac{1}{2} I$

$R = \frac{50}{\text{Sin. } \frac{1}{2} D}$

$E = R \text{ ex. sec } \frac{1}{2} I$

$E = T \tan \frac{1}{4} I$

$\text{Chord def.} = \frac{\text{chord}^2}{R}$

$\text{No. chords} = \frac{I}{D}$

$\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve. very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

GENERAL DATA

RIGHT ANGLE TRIANGLES. Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. $10.10^2 \div 200 = .5$. $100 + .5 = 100.5$ hyp.

Given Hyp. 100, Alt. $25.25^2 \div 200 = 3.125$: $100 - 3.125 = 96.875 =$ Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

LEVELING. The correction for curvature and refraction, in feet and decimals of feet is equal to $0.574\,d^2$, where d is the distance in miles. The correction for curvature alone is closely, $\frac{2}{3}d^2$. The combined correction is negative.

PROBABLE ERROR. If d_1, d_2, d_3, etc. are the discrepancies of various results from the mean, and if Σd^2 = the sum of the squares of these differences and n = the number of observations, then the probable error of the mean = $\pm 0.6745 \sqrt{\frac{\Sigma d^2}{n(n-1)}}$

MINUTES IN DECIMALS OF A DEGREE

1′	.0167	11′	.1833	21′	.3500	31′	.5167	41′	.6833	51′	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

INCHES IN DECIMALS OF A FOOT

1-16	3-32	⅛	3-16	¼	5-16	⅜	7/16	½	9/16	⅝	11/16
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729	
1	2	3	4	5	6	7	8	9	10	11	
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	

FEBRUARY 12, 2016

Ft. Collins, CO

MOBILIZING GAMMA SURVEY EQUIP

UNIT-ID	Pre-Survey Chk date	Cal. date
MFG-9	02/03/16	Mar. 15
MFG-4	02/03/16	Mar. 15
MFG-11	02/05/16	Aug. 15
MFG-1	02/12/16	Aug. 15

Feb. 15 2016

0600 Arrive Ft. collins office
finish mobilizing gear

1330 PST - Arrive LAX
1630 Arrive BBI camping
meet w/ Jay Shear
1830 END OF DAY

END OF FIELD ENTRIES
FOR DAY

Feb. 16, 2016

Sunny - 70°F

0600 QC

	BG	FS	Cs-137
MFG-I	15.1	14.6	172
MFG-II	15.3	15.6	168

0830 Begin scan of Cramp Area
MFG I (AD)
MFG II (DW)

1045 Water break, battery swap
system backup
1100 Continue scanning
QC

	BG	FS	Cs-137
MFG-I	14.8	15.0	175
MFG-II	15.4	14.7	171

1130 - 1330 Continue Scan

END OF ENTRIES
FOR PAGE

FEB 16, 2016

LUNCH 1330 - 1430

MET JAY @ AJU @ 1430

DANIEL WORKMAN CONTINUED SCANNING

AARON/JAY DROVE TO LANG RANCH RBRA

ARRIVE LANG RANCH @ 1520

SCAN LR-RBRA

SOIL SAMPLE:

TT-LR-RBRA-01

0"-6" SURFACE SAMPLE

TIME: 1535

GPS Marked on TRIMBLE

LEFT LANG RANCH 1540

RETURN TO BBC

AARON/DANIEL SCAN 1700-1800

FINAL DAILY QC @ 1815

	BG	FS	Cs-137
MFG1	14.1	14.1	177
MFG11	14.9	14.9	173

DATA ANALYSIS 2000-2200 (AK)

END OF FIELD ENTRIES FOR 2/16/16

Feb 17, 2016 WEDNESDAY

SUNNY 65°-70° F

QC @ 0830

	BG	FS	Cs-137
MFG1	15.0	14.8	176
MFG11	15.0	15.2	172

CONTINUE GAMMA SURVEY AT BBC 0830

AD PHONE CALL @ 1100-1145 PT

BREAK FOR LUNCH 1200-1300 PT

MID-DAY QC CHECKS

	BG	FS	Cs-137
MFG1	14.8	14.8	180
MFG11	14.5	15.4	170

SCAN "EAST BBC" DRAINAGE @ 1300

SLIGHT RAIN - PERFORMED RADON PROGENY CHECK AND CONTINUED SCAN UP TO HIDDEN VALLEY

END OF ENTRIES FOR PAGE

FEB 17, 2016 WEDNESDAY

COMPLETED DRAINAGE SCAN @ 1500
STOPPED SCANNING DUE TO RAIN DELAY

PERFORM FINAL QC OF DAY @ 1530

	BG	FS	Cs-137
MFG I	14.7	15.4	178
MFG II	14.5	14.8	176

MEETING W/ JAY 1600-1800 (A.)

END OF FIELD
ENTRIES FOR
2/17/16

FEB 18, 2016 THURSDAY

PARTLY CLOUDY, 65°

PERFORM MORNING QC @ 0800 PT

	BG	FS	Cs-137
MFG I	13.9	13.9	175
MFG II	13.7	13.7	172

0830 INITIATED SCAN ON DRAINAGE @ PERFORM COMPARATIVE ANALYSIS ON EAST DRAINAGE
@ CONDUCT SCAN ON EAST BG DRAIN

1000 COMPLETED SCAN ON EAST BG DRAIN
VALUES ~ 18-24 MR/HR
CAPTURED AERIAL PHOTOGRAPH OF JUNCTION OF BG DRAIN & INTERFAN 4
WEATHER: SUNNY and WARMING

1030 INITIATE SCAN OF SOUTHERN DRAIN
1130 COMPLETED SCAN OF SOUTH DRAIN

- COLLECT SEDIMENT SAMPLE -
TT-SD1-01 @ 1130
0-6"
Located in primary channel of Southern Drain downstream of 3 main contributary.

FEB. 18, 2016

1130 SEDIMENT SAMPLE IN BBC SOUTH DRAINAGE

BICRON MEASUREMENT @ SD1 (mrem/hr)

10.5	11.0	12.0
8.5	14.0	12.0
11.0	13.5	13.0
14.0	15.0	11.0
12.0	14.0	11.0

LOCATION LOGGED IN DATA FILE "BBI-SAMPLES" AS "SD1

10-second Avg. Gamma Exposure @ 1m high

mean	17.6	μR/hr
SD	0.9	μR/hr
min	16.3	μR/hr
max	19.6	μR/hr

ARRIVE BRIDLE PATH RBRA FROM EPA/HGL STUDY @ 1400; NOTE dense vegetation, high soil moisture content.

> Collect individual soil sample

ID: TT-BP-RBRA-01

TIME 1430 PHOTO & GPS COLLECTED

DATE 2/18/16

END OF FIELD ENTRIES FOR PAGE 4

FEB 18, 2016

CONDUCTED SCANS/SOIL SAMPLING IN SEDIMENT DRAIN AND SOIL PLOT NEAR BP-RBRA.

SOIL SAMPLES

TT-BP-DRAIN-01 0"-6"

2/18/16 1530

LEFT THOUSAND OAKS, CA @ 1545

MID-DAY QC @ 1615

	BG	FS	CS 137
MFG I	14.4	14.3	176
MFG II	14.3	14.5	173

LEFT TO DO SAMPLING @ 1630

ARRIVE @ "OLD WELL" [SOIL SAMPLE]

2/18/16 1645 BICRON: 9, 9, 9, 9.5, 9, 8.5

$\bar{\gamma}_{10}$ = 15.5 [SD = 0.96] 7.5, 8, 9.5, 8.5, 8, 9, 8, 7, 8.5

TT-SEDIMENT-01

ARRIVE "BACKGROUND SEDIMENT LOCATION" [SEDIMENT]

2/18/16 1655 BICRON: 15, 15, 10.5, 12, 16.5, 11.5

$\bar{\gamma}_{10}$ = 26.7 γ_{SD} = 1.2 10.5, 10.5, 10.5, 10, 10, 11, 11, 13, 13

ARRIVE "HIDDEN VALLEY" [SOIL SAMPLE]

2/18/16 1745 BICRON: 10, 10, 10, 9.5, 11, 8.5, 10

$\bar{\gamma}_{10}$ = 17.6 γ_{SD} = 0.70 8.5, 9.0, 9.0, 9.0, 7.5, 10.5, 10.5, 6.5

TT-HV-01

END OF ENTRIES FOR PAGE

FEB 18, 2016

TT-ED1-01 (Sediment) Bicron 9, 10, 10.5, 9, 13
2/18/16 1730 14, 11, 9.5, 10, 10.5, 12, 13, 10
γ_{10} = 22.8 μR/hr (1.10 SD) 11, 12.5

TT-ED2-01 (Sediment) Bicron 8, 9.5, 11, 10.5, 8.5
2/18/16 1740 9, 9.5, 10.5, 10.5, 9, 2.5, 8.5, 8.5
γ_{10} = 20.8 (SD = 0.90) 9, 8.5

"Playground" TT-PPG-01 (soil) Pritzker Playground
2/18/16 1750 Bicron: 6.5, 7.0, 7, 6, 6, 6, 5.5
γ_{10} = 13.7 (SD = 0.55) 6, 5.5, 6, 6.5, 6, 4.5

"Baseball field" TT-BBF-01 Bicron: 5, 8, 7, 6, 5.5
2/18/16 1805 5, 5.5, 6, 5, 5.5, 6, 6.5, 7
γ_{10} = 13.8 (SD = 0.84) 5.5, 6

"Ga Ga Pit" TT-GGP-01 (soil)
2/18/16 1810 Bicron: 6, 4, 4.5, 4.5, 5, 5
γ_{10} = 12.7 (SD = 0.51) 4.5, 4.5, 5.5, 5.5, 6, 4, 7, 6.5, 7

"Horse Corral" TT-HC-01 (soil) Bicron:
2/18/16 1815 N/A

END OF FIELD ENTRIES FOR PAGE

FEB 18, 2016

TT-ED3-01 (sediment)
2/18/16 1815 NO BICRON
γ_{10} = 12.7 (SD = 0.58)

"Gan Field" TT-GF-01 2/18/16 1835
TT-GF-02 (DUPLICATE) **
BICRON: 6.5, 7, 7.5, 9, 9.5, 7.5, 8, 6, 7, 7
7.5, 6, 6.5, 7, 7.5 / γ_{10} = 15.0 (SD = 0.50)

TT-SD2-01 (sediment) Bicron: 7, 7, 7.5,
γ_{10} = 16.0 (SD = 0.72) 8, 9, 10, 9.5, 10, 8, 8.5,
2/18/16 ST: ____ 10, 11, 7, 7, 7

TT-BBCSED-01 Bicron: N/A
2/18/16 1850
γ_{10} = 18.4 (SD = 0.59)

TT-OSF-01 "Old Sports field"
2/18/16 1900
γ_{10} = 13.6 γ_{SD} = 0.53

END OF FIELD ENTRIES FOR PAGE

FEB 18, 2016

TT-CAB-01 (soil) "Cabins"

2/18/16 1920

$\gamma_{10} = 15.3$ $\gamma_{SD} = 0.65$

COMPLETED SAMPLING @ 1920

PERFORMED END OF DAY QC @ 1930

	BG	ES	G137
MFG I	14.2	14.2	171
MFG II	14.4	14.4	170

PACK FOR RETURN TRIP

1930 - 2030

END OF FIELD ENTRIES FOR 2/18/16

FEB 19, 2016

LEFT BBC @ 0500 PT

FLY LAX TO DIA 0850 PT

END OF FIELD ENTRIES FOR SAMPLING TRIP

2/16 - 2/19/16

ATTACHMENT E

PHOTOGRAPHIC LOG

Brandeis-Bardin Radiological Investigation
Attachment E – Photographic Log

Photo 1: TT-SD-01 Sampling Location (2/18/16)

Photo 2: Bridle Path RBRA (2/17/16)

Photo 3: Bridle Path RBRA Gamma Radiation Survey (2/17/16)

Photo 4: TT-BP-RBRA-01 Soil Sampling Location (2/17/16)

Photo 5: TT-BP-DRAINAGE-01 Sediment Sampling Location (2/17/16)

Photo 6: Bridle Path Drainage Gamma Radiation Survey (2/17/16)

Photo 7: TT-SEDBG1-01 Sediment Sample Location (Eastern Drainage Background) [2/18/16]

Photo 8: TT-ED1-01 Sediment Sampling Location (2/18/16)

Photo 9: TT-ED2-01 Sediment Sampling Location (2/18/16)

Photo 10: TT-PPG-01 Soil Sampling Location (2/18/16)

Photo 11: TT-BB1-01 Soil Sampling Location (2/18/16)

Photo 12: TT-BBF-01 Soil Sampling Location (2/18/16)

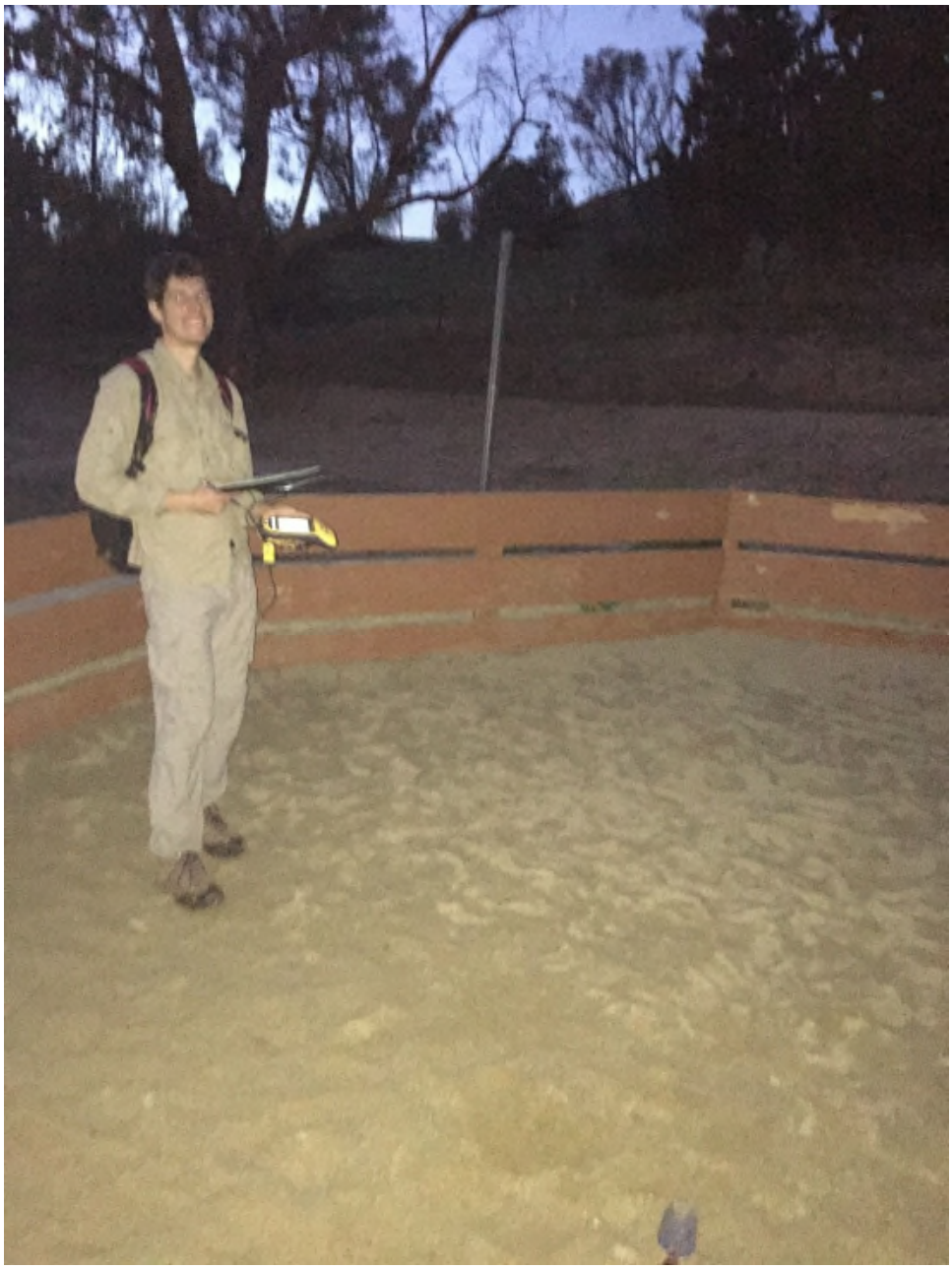
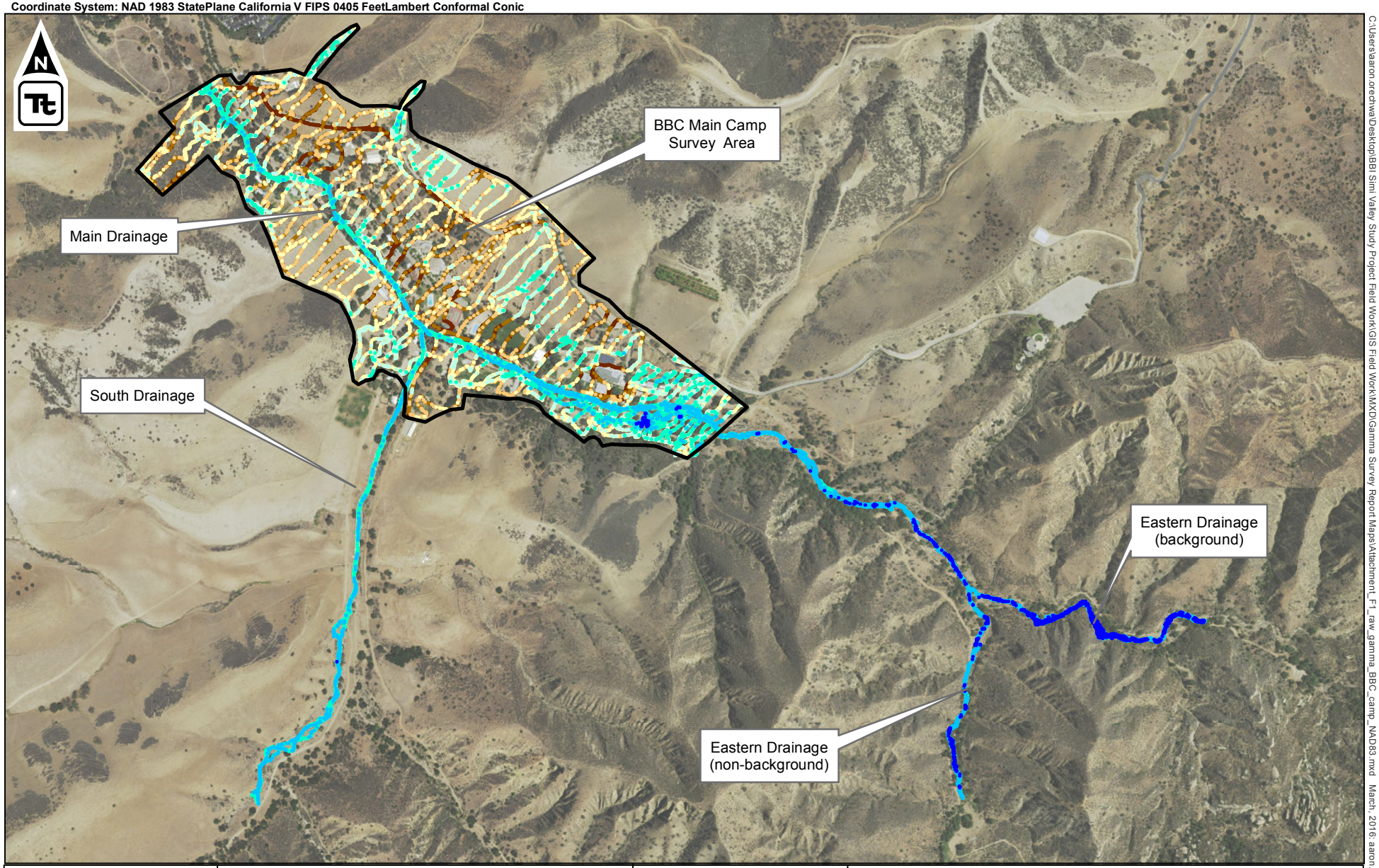


Photo 13: TT-GF-01 Soil Sampling Location

ATTACHMENT F

RAW GAMMA RADIATION DATA MAPS

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Attachment_F1_raw_gamma_BBC_camp_NAD83.mxd March 2016 aaron.orechwa

FEET
0 500 1,000

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

Prepared for:
American Jewish University

Prepared By:
TETRA TECH
3801 Automation Way Suite 100
Fort Collins, Colorado 80525
(970) 223-9600 (970) 223-7171 fax

GAMMA EXPOSURE RATE MAP OF BBC MAIN CAMP AND DRAINAGES

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure F1

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic

FEET
0 25 50

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

Prepared for:
American Jewish University

Prepared By:
TETRA TECH
3801 Automation Way Suite 100
Fort Collins, Colorado 80525
(970) 223-9600 (970) 223-7171 fax

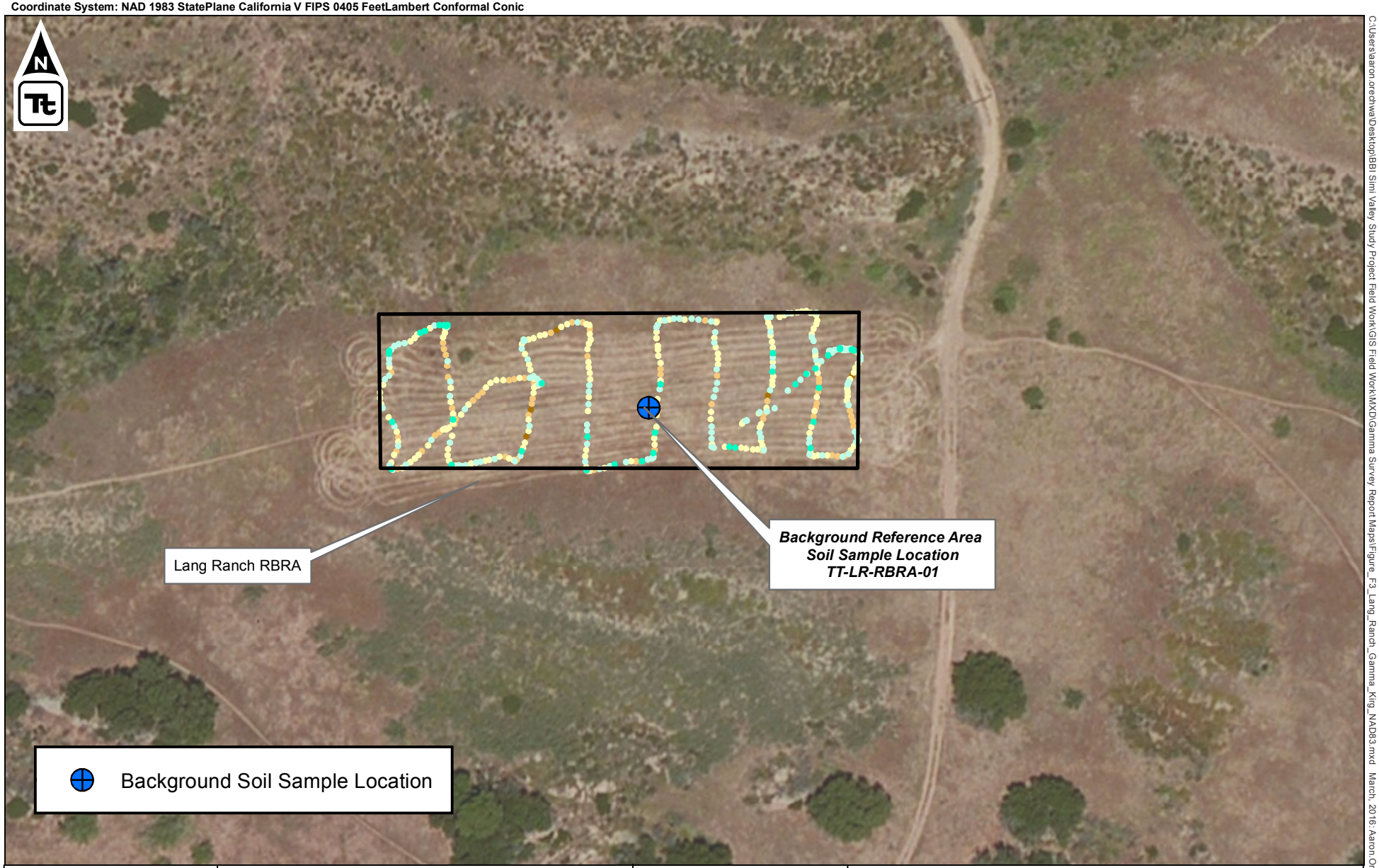
GAMMA EXPOSURE RATE MAP OF OLD WELL & HIDDEN VALLEY

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure F2

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Attachment_F2_raw_gamma_HV_OW_NAD83.mxd March, 2016 aaron.orechwa

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 50 100

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

Prepared for:
American Jewish University

Prepared By:
TETRA TECH
3801 Automation Way Suite 100
Fort Collins, Colorado 80525
(970) 223-9600 (970) 223-7171 fax

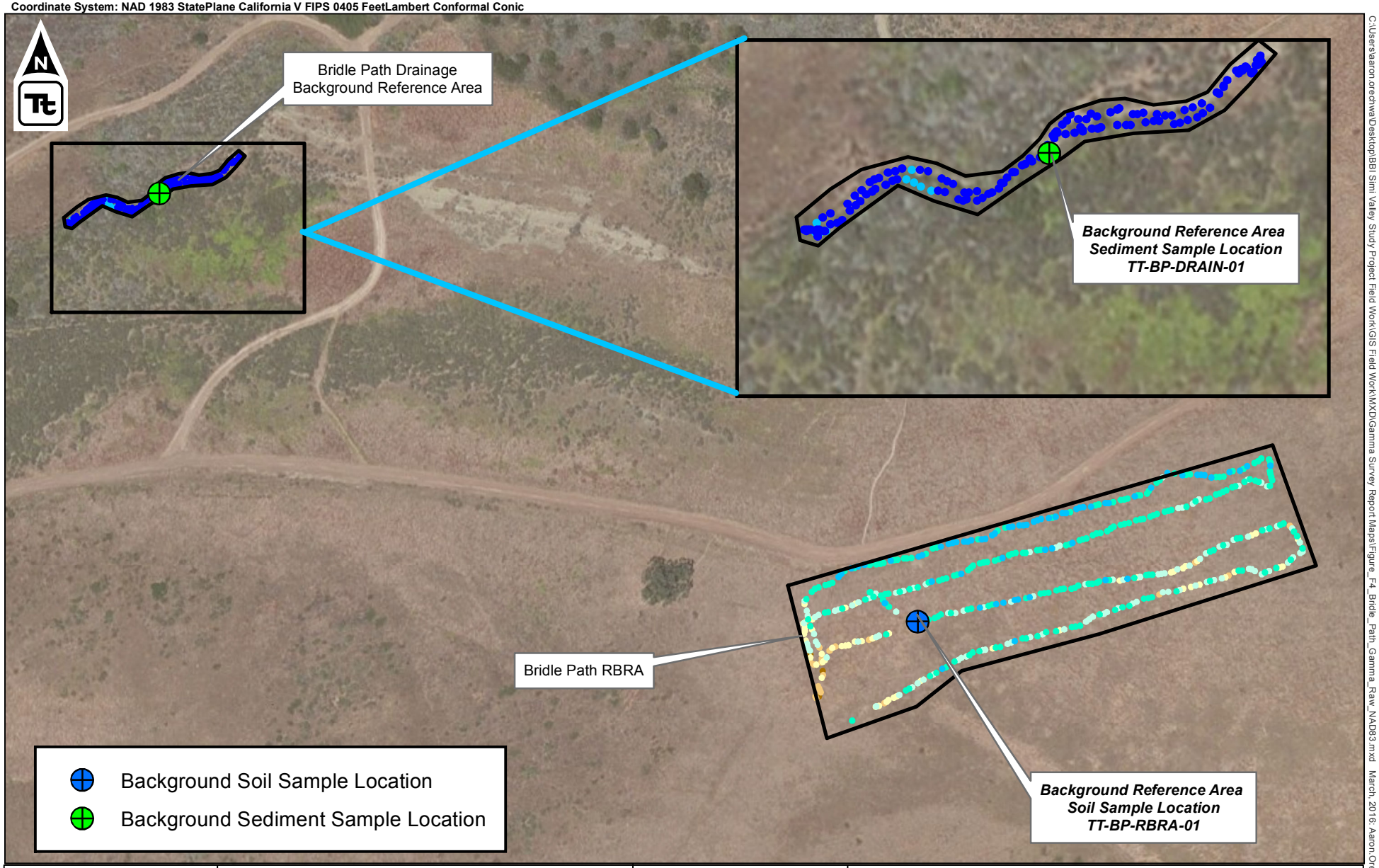
LANG RANCH BACKGROUND REFERENCE AREA GAMMA EXPOSURE RATE MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure F3

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_F3_Lang_Ranch_Gamma_Krig_NAD83.mxd March, 2016 Aaron.Orechwa

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 FeetLambert Conformal Conic



FEET
0 50 100

Gamma Exposure Rate (µR/hr)

< 13	15 - 16	19 - 22
13 - 14	16 - 17	≥ 22
14 - 15	17 - 19	

Prepared for:
American Jewish University

Prepared By:
TETRA TECH
3801 Automation Way Suite 100
Fort Collins, Colorado 80525
(970) 223-9600 (970) 223-7171 fax

BRIDLE PATH BACKGROUND REFERENCE AREA GAMMA EXPOSURE RATE MAP

Project: BRANDEIS-BARDIN CAMPUS
Project no.: 103P4384
Location: VENTURA COUNTY, CA
Date: MARCH 2016

Figure F4

C:\Users\aaron.orechwa\Desktop\BBI Simi Valley Study Project Field Work\GIS Field Work\MXD\Gamma Survey Report Maps\Figure_F4_Bridle_Path_Gamma_Raw_NAD83.mxd March, 2016: Aaron.Orechwa

ATTACHMENT G

LABORATORY REPORTS

Gamma Spectroscopy

Case Narrative

Tetra Tech MM, Inc.

103P4384 -- Brandeis-Bardin Campus

Work Order Number: 1602335

1. This report consists of analytical results and supporting documentation for 19 soil samples received by ALS on 2/25/2016.

2. These samples were prepared according to the current revision of SOP739.

3. The samples were analyzed for the presence of gamma emitting radionuclides according to the current revision of SOP713. The analyses were completed on 3/2/2016.

4. The analysis results for these samples are reported on a “Dry Weight” basis in units of pCi/gram.

5. There are cases where the sample density is less than the associated calibration standard density. Cases that exceed the limit of +/- 15% of the density of the calibration standard are flagged with a ‘G’, denoting a significant density difference between the sample and calibration standard. Consequently, the results may be biased high for the flagged results in this workorder. If requested, ALS can perform a transmission spike in order to estimate a magnitude of this bias. The results are reported without further qualification.

6. No further problems were encountered with either the client samples or the associated quality control samples. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Hannah Alt — 3/3/16

Hannah Alt
Radiochemistry Primary Data Reviewer
Date

3/4/16

Radiochemistry Final Data Reviewer
Date

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1602355
Client Name: Tetra Tech MM, Inc.
Client Project Name: 103P4384
Client Project Number: Brandeis-Bardin Campus
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
TT-LR-RBRA-01	1602355-1		SOIL	16-Feb-16	15:35
TT-BP-RBRA-01	1602355-2		SOIL	18-Feb-16	14:30
TT-BP-DRAIN-01	1602355-3		SOIL	18-Feb-16	15:30
TT-SEDBG1-01	1602355-4		SOIL	18-Feb-16	16:55
TT-SD1-01	1602355-5		SOIL	18-Feb-16	11:30
TT-SD2-01	1602355-6		SOIL	18-Feb-16	18:40
TT-ED1-01	1602355-7		SOIL	18-Feb-16	17:30
TT-ED2-01	1602355-8		SOIL	18-Feb-16	17:40
TT-ED3-01	1602355-9		SOIL	18-Feb-16	18:25
TT-BBCSED-01	1602355-10		SOIL	18-Feb-16	18:50
TT-PPG-01	1602355-11		SOIL	18-Feb-16	17:50
TT-CAB-01	1602355-12		SOIL	18-Feb-16	19:30
TT-GF-01	1602355-13		SOIL	16-Feb-16	18:35
TT-GF-02	1602355-14		SOIL	18-Feb-16	18:35
TT-OSF-01	1602355-15		SOIL	18-Feb-16	19:00
TT-BBF-01	1602355-16		SOIL	18-Feb-16	18:05
TT-BB1-01	1602355-17		SOIL	18-Feb-16	17:55
TT-HC-01	1602355-18		SOIL	18-Feb-16	18:10
TT-GGP-01	1602355-19		SOIL	18-Feb-16	18:10

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #	1602355
PAGE	1 of 2
DISPOSAL	BY LAB or RETURN

TURNAROUND TIME	RUSH (8 days)	SAMPLER	Aaron Orechwa/Daniel Workman

PROJECT NAME	Brandeis-Bardin Campus	SITE ID	AJU-BBC
PROJECT No.	103P4384	EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	Tetra Tech	BILL TO COMPANY	Tetra Tech
SEND REPORT TO	Aaron Orechwa	INVOICE ATTN TO	Aaron Orechwa
ADDRESS	3801 Automation Way Suite #100	ADDRESS	3801 Automation Way Suite #100
CITY / STATE / ZIP	Fort Collins, CO 80521	CITY / STATE / ZIP	Fort Collins, CO 80521
PHONE	(970)420-9395	PHONE	(970)420-9395
FAX		FAX	
E-MAIL	aaron.orechwa@tetratech.com	E-MAIL	aaron.orechwa@tetratech.com

PARAMETER/METHOD REQUEST FOR ANALYSIS

A	Cs-137 (Rush 8 days) MDC = 0.1 pCi/g [Method 901.1 M]
B	Sr-90 (Rush 8 days) MDC = 0.25 pCi/g [Method ASTM D5811]
C	Mercury [Method 7471 A]
D	Metals - TAL [Method 6020A]
E	Perchlorate (Rush 8 days) [Method 314]
F	Dioxins/Furans (Rush 8 days) [Method 1613B]
G	
H	
I	
J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
1	TT-LG-RBRA-01 AW 2/25/16	SOIL	2/16/16	1535	1	n/a		X	X	X	X	X	X					
2	TT-BP-RBRA-01	SOIL	2/18/16	1430	1	n/a		X	X	X	X	X	X					
3	TT-BP-DRAIN-01	SOIL	2/18/16	1530	1	n/a		X	X	X	X	X	X					
4	TT-SEDBG1-01	SOIL	2/18/16	1655	1	n/a		X	X	X	X	X	X					
5	TT-SD1-01	SOIL	2/18/16	1130	1	n/a		X	X	X	X	X						
6	TT-SD2-01	SOIL	2/18/16	1840	1	n/a		X	X	X	X	X						
7	TT-ED1-01	SOIL	2/18/16	1730	1	n/a		X	X	X	X	X						
8	TT-ED2-01	SOIL	2/18/16	1740	1	n/a		X	X	X	X	X						
9	TT-ED3-01	SOIL	2/18/16	1825	1	n/a		X	X	X	X	X						
10	TT-BBCSED-01	SOIL	2/18/16	1850	1	n/a		X	X	X	X	X						
11	TT-PPG-01	SOIL	2/18/16	1750	1	n/a		X	X	X	X	X						
12	TT-CAB-01	SOIL	2/18/16	1930	1	n/a		X	X	X	X	X						

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES	REPORT LEVEL / QC REQUIRED	
Please hold and store ALL samples until further notice.		Summary (Standard QC)
Please provide all results for < detectable concentrations (MDC).		LEVEL II (Standard QC)
Please do MDC of 0.25 pCi/g (or lower) for Sr-90 if possible.		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

PRESERVATION KEY	1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Aaron Orechwa	2/25/2016	12:25
RECEIVED BY		Scott Malloy	2-25-16	1225
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #	
1602355	

TURNAROUND TIME	RUSH (8 days)	SAMPLER	Aaron Orechwa/Daniel Workman	PAGE	2 of 2
				DISPOSAL	BY LAB or RETURN

PROJECT NAME	Brandeis-Bardin Campus	SITE ID	AJU-BBC	PARAMETER/METHOD REQUEST FOR ANALYSIS	
PROJECT No.	103P4384	EDD FORMAT			
		PURCHASE ORDER		A	Cs-137 (Rush 8 days) MDC = 0.1 pCi/g [Method 901.1 M]
COMPANY NAME	Tetra Tech	BILL TO COMPANY	Tetra Tech	B	Sr-90 (Rush 8 days) MDC = 0.25 pCi/g [Method ASTM D5811]
SEND REPORT TO	Aaron Orechwa	INVOICE ATTN TO	Aaron Orechwa	C	Mercury [Method 7471 A]
ADDRESS	3801 Automation Way Suite #100	ADDRESS	3801 Automation Way Suite #100	D	Metals - TAL [Method 6020A]
CITY / STATE / ZIP	Fort Collins, CO 80521	CITY / STATE / ZIP	Fort Collins, CO 80521	E	Perchlorate (Rush 8 days) [Method 314]
PHONE	(970)420-9395	PHONE	(970)420-9395	F	Dioxins/Furans (Rush 8 days) [Method 1613B]
FAX		FAX		G	
E-MAIL	aaron.orechwa@tetratech.com	E-MAIL	aaron.orechwa@tetratech.com	H	
				I	
				J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
13	TT-GF-01	SOIL	2/16/16	1835	1	n/a		X	X	X	X	X						
14	TT-GF-02	SOIL	2/18/16	1835	1	n/a		X	X	X	X	X						
15	TT-OSF-01	SOIL	2/18/16	1900	1	n/a		X	X	X	X	X						
16	TT-BBF-01	SOIL	2/18/16	1805	1	n/a		X	X	X	X	X						
17	TT-BB1-01	SOIL	2/18/16	1755	1	n/a		X	X	X	X	X						
18	TT-HC-01	SOIL	2/18/16	1810	1	n/a		X	X	X	X	X						
19	TT-GGP-01	SOIL	2/18/16	1810	1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES	REPORT LEVEL / QC REQUIRED	
Please hold and store ALL samples until further notice.		Summary (Standard QC)
Please provide all results for < detectable concentrations (MDC).		LEVEL II (Standard QC)
Please do MDC of 0.25 pCi/g (or lower) for Sr-90 if possible.		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)
PRESERVATION KEY	1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other	

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Aaron Orechwa	2/25/2016	12:25
RECEIVED BY		Scott Malloy	2-28-16	1225
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Tetra tech - FC Workorder No: 1602355

Project Manager: ARW Initials: SDM Date: 2-25-16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	(N/A)	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	(N/A)	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	(N/A)	YES	NO
16. Were the samples shipped on ice?		YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	YES	(NO)

Cooler #:	1							
Temperature (°C):	Amb							
No. of custody seals on cooler:	0							
DOT Survey/ Acceptance Information — External µR/hr reading:	N/A							
Background µR/hr reading:	8							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

* Sample 1 COC says TT-LG-RBRA-01 → bags says TT-LR-RBRA-01
↳ log per baggie ID TT-LR-RBRA-01.
AW 2/25/16

If applicable, was the client contacted? (YES) / NO / NA Contact: Aaron Orechwa Date/Time: 2/25/16 14:23

Project Manager Signature / Date: 2/25/16

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

Gamma Spectroscopy Results

PAI 713 Rev 13

Method Blank Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: GS160226-1MB
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 28-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 270 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 160215d01

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	-0.001 +/- 0.022	0.040	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP
U
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

DL - Decision Level

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: GS160226-1LCS

Library: ANALYTICAL

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 28-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 160216d02

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
14596-10-2	Am-241	433 +/- 54	19	460.2	94.2	85 - 115	P
10198-40-0	Co-60	167 +/- 20	1	173.1	96.3	85 - 115	P
10045-97-3	Cs-137	166 +/- 19	1	173.0	95.8	85 - 115	P,M3

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
SQ - Spectral quality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty
MDC - Minimum Detectable Concentration

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Duplicate Sample Results (DER)

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18DUP

Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 135 minutes
Report Basis: Dry Weight

Final Aliquot: 155 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160222d03

CASNO	Analyte	Sample			Duplicate			DER	DER Lim
		Result +/- 2 s TPU	MDC	Flags	Result +/- 2 s TPU	MDC	Flags		
10045-97-3	Cs-137	0.013 +/- 0.053	0.092	U,G	0.026 +/- 0.059	0.099	U,G	0.154	2.13

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
SQ - Spectral quality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:
TPU - Total Propagated Uncertainty
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
Lab ID: 1602355-1
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 16-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 157 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160219d03

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.079 +/- 0.063	0.098	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BP-RBRA-01
Lab ID: 1602355-2
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 240 minutes
Report Basis: Dry Weight

Final Aliquot: 123 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160214d01

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.082 +/- 0.058	0.090	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BP-DRAIN-01
Lab ID: 1602355-3
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 180 minutes
Report Basis: Dry Weight

Final Aliquot: 115 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160214d02

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.140 +/- 0.065	0.094	0.1	NA	G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SEDBG1-01
Lab ID: 1602355-4
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 180 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160323d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.054 +/- 0.061	0.099	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SD1-01
Lab ID: 1602355-5
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 130 minutes
Report Basis: Dry Weight

Final Aliquot: 159 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160190d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	-0.007 +/- 0.053	0.095	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SD2-01
Lab ID: 1602355-6
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 150 minutes
Report Basis: Dry Weight

Final Aliquot: 157 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160189d09

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.026 +/- 0.056	0.095	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED1-01
Lab ID: 1602355-7
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 130 minutes
Report Basis: Dry Weight

Final Aliquot: 194 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160198d06

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.015 +/- 0.057	0.097	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED2-01
Lab ID: 1602355-8
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 02-Mar-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 160 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160237d05

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.066 +/- 0.057	0.090	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED3-01
Lab ID: 1602355-9
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 150 minutes
Report Basis: Dry Weight

Final Aliquot: 129 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160225d05

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	-0.025 +/- 0.050	0.091	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BBCSED-01
Lab ID: 1602355-10
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 214 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160199d06

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.027 +/- 0.052	0.087	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-PPG-01
Lab ID: 1602355-11
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160220d03

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	-0.014 +/- 0.053	0.095	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-CAB-01
Lab ID: 1602355-12
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 121 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160191d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.079 +/- 0.055	0.081	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GF-01
Lab ID: 1602355-13
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 16-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 270 minutes
Report Basis: Dry Weight

Final Aliquot: 123 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160194d09

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	-0.005 +/- 0.056	0.098	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GF-02
Lab ID: 1602355-14
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 160 minutes
Report Basis: Dry Weight

Final Aliquot: 112 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160227d05

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.034 +/- 0.058	0.097	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-OSF-01
Lab ID: 1602355-15
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 205 minutes
Report Basis: Dry Weight

Final Aliquot: 110 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160195d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.101 +/- 0.065	0.099	0.1	NA	G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BBF-01
Lab ID: 1602355-16
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 180 minutes
Report Basis: Dry Weight

Final Aliquot: 192 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160325d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	-0.027 +/- 0.055	0.098	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BB1-01
Lab ID: 1602355-17
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 02-Mar-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 150 minutes
Report Basis: Dry Weight

Final Aliquot: 161 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160202d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.033 +/- 0.058	0.097	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 155 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160215d02

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.013 +/- 0.053	0.092	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GGP-01
Lab ID: 1602355-19
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 120 minutes
Report Basis: Dry Weight

Final Aliquot: 188 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160200d06

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.002 +/- 0.055	0.097	0.1	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TP

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *GSS1602355-1*

Gamma Spectroscopy Results

PAI 713 Rev 13

Sample Duplicate Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18DUP
Library: USGS.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 12
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: GS160226-1
QCBatchID: GS160226-1-1
Run ID: GS160226-1A
Count Time: 135 minutes
Report Basis: Dry Weight

Final Aliquot: 155 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 160222d03

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10045-97-3	Cs-137	0.026 +/- 0.059	0.099	0.1	NA	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13

SQ - Spectral quality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:
TPU - Total Propagated Uncertainty
MDC - Minimum Detectable Concentration
BDL - Below Detection Limit
DL - Decision Level

Data Package ID: *GSS1602355-1*

Strontium-90

Resubmission

Case Narrative

Tetra Tech MM, Inc.

103P4384 -- Brandeis-Bardin Campus

Work Order Number: 1602355

1. This report consists of the analytical results for 19 soil samples received by ALS on 2/25/2016.

2. These samples were prepared according to the current revisions of SOP 707 and SOP 736.

3. These samples were analyzed for the presence of ^{90}Sr according to the current revision of SOP 724. The analyses were completed on 3/4/2016.

4. Total radio-strontium is reported as ^{90}Sr. The presence of other radioisotopes of strontium may cause positive bias in the measured strontium concentration.

5. The analysis results for these samples are reported on a 'Dry Weight' basis in units of pCi/gram.

6. No anomalous situations were encountered during the preparation and analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Hannah Alt — 3/10/16
Hannah Alt
Radiochemistry Primary Data Reviewer
Date

3/11/16
Radiochemistry Final Data Reviewer
Date

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1602355
Client Name: Tetra Tech MM, Inc.
Client Project Name: 103P4384
Client Project Number: Brandeis-Bardin Campus
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
TT-LR-RBRA-01	1602355-1		SOIL	16-Feb-16	15:35
TT-BP-RBRA-01	1602355-2		SOIL	18-Feb-16	14:30
TT-BP-DRAIN-01	1602355-3		SOIL	18-Feb-16	15:30
TT-SEDBG1-01	1602355-4		SOIL	18-Feb-16	16:55
TT-SD1-01	1602355-5		SOIL	18-Feb-16	11:30
TT-SD2-01	1602355-6		SOIL	18-Feb-16	18:40
TT-ED1-01	1602355-7		SOIL	18-Feb-16	17:30
TT-ED2-01	1602355-8		SOIL	18-Feb-16	17:40
TT-ED3-01	1602355-9		SOIL	18-Feb-16	18:25
TT-BBCSED-01	1602355-10		SOIL	18-Feb-16	18:50
TT-PPG-01	1602355-11		SOIL	18-Feb-16	17:50
TT-CAB-01	1602355-12		SOIL	18-Feb-16	19:30
TT-GF-01	1602355-13		SOIL	16-Feb-16	18:35
TT-GF-02	1602355-14		SOIL	18-Feb-16	18:35
TT-OSF-01	1602355-15		SOIL	18-Feb-16	19:00
TT-BBF-01	1602355-16		SOIL	18-Feb-16	18:05
TT-BB1-01	1602355-17		SOIL	18-Feb-16	17:55
TT-HC-01	1602355-18		SOIL	18-Feb-16	18:10
TT-GGP-01	1602355-19		SOIL	18-Feb-16	18:10

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #	1602355
PAGE	1 of 2
DISPOSAL	BY LAB or RETURN

TURNAROUND TIME	RUSH (8 days)	SAMPLER	Aaron Orechwa/Daniel Workman

PROJECT NAME	Brandeis-Bardin Campus	SITE ID	AJU-BBC
PROJECT No.	103P4384	EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	Tetra Tech	BILL TO COMPANY	Tetra Tech
SEND REPORT TO	Aaron Orechwa	INVOICE ATTN TO	Aaron Orechwa
ADDRESS	3801 Automation Way Suite #100	ADDRESS	3801 Automation Way Suite #100
CITY / STATE / ZIP	Fort Collins, CO 80521	CITY / STATE / ZIP	Fort Collins, CO 80521
PHONE	(970)420-9395	PHONE	(970)420-9395
FAX		FAX	
E-MAIL	aaron.orechwa@tetratech.com	E-MAIL	aaron.orechwa@tetratech.com

PARAMETER/METHOD REQUEST FOR ANALYSIS

A	Cs-137 (Rush 8 days) MDC = 0.1 pCi/g [Method 901.1 M]
B	Sr-90 (Rush 8 days) MDC = 0.25 pCi/g [Method ASTM D5811]
C	Mercury [Method 7471 A]
D	Metals - TAL [Method 6020A]
E	Perchlorate (Rush 8 days) [Method 314]
F	Dioxins/Furans (Rush 8 days) [Method 1613B]
G	
H	
I	
J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
1	TT-LG-RBRA-01 AW 2/25/16	SOIL	2/16/16	1535	1	n/a		X	X	X	X	X	X					
2	TT-BP-RBRA-01	SOIL	2/18/16	1430	1	n/a		X	X	X	X	X	X					
3	TT-BP-DRAIN-01	SOIL	2/18/16	1530	1	n/a		X	X	X	X	X	X					
4	TT-SEDBG1-01	SOIL	2/18/16	1655	1	n/a		X	X	X	X	X	X					
5	TT-SD1-01	SOIL	2/18/16	1130	1	n/a		X	X	X	X	X						
6	TT-SD2-01	SOIL	2/18/16	1840	1	n/a		X	X	X	X	X						
7	TT-ED1-01	SOIL	2/18/16	1730	1	n/a		X	X	X	X	X						
8	TT-ED2-01	SOIL	2/18/16	1740	1	n/a		X	X	X	X	X						
9	TT-ED3-01	SOIL	2/18/16	1825	1	n/a		X	X	X	X	X						
10	TT-BBCSED-01	SOIL	2/18/16	1850	1	n/a		X	X	X	X	X						
11	TT-PPG-01	SOIL	2/18/16	1750	1	n/a		X	X	X	X	X						
12	TT-CAB-01	SOIL	2/18/16	1930	1	n/a		X	X	X	X	X						

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES

Please hold and store ALL samples until further notice.

Please provide all results for < detectable concentrations (MDC).

Please do MDC of 0.25 pCi/g (or lower) for Sr-90 if possible.

REPORT LEVEL / QC REQUIRED	
	Summary (Standard QC)
	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

PRESERVATION KEY	1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Aaron Orechwa	2/25/2016	12:25
RECEIVED BY		Scott Malloy	2-25-16	1225
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

3 of 28

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #
1602355

TURNAROUND TIME	RUSH (8 days)	SAMPLER	Aaron Orechwa/Daniel Workman	PAGE	2 of 2
				DISPOSAL	BY LAB or RETURN

PROJECT NAME	Brandeis-Bardin Campus	SITE ID	AJU-BBC	PARAMETER/METHOD REQUEST FOR ANALYSIS	
PROJECT No.	103P4384	EDD FORMAT			
		PURCHASE ORDER		A	Cs-137 (Rush 8 days) MDC = 0.1 pCi/g [Method 901.1 M]
COMPANY NAME	Tetra Tech	BILL TO COMPANY	Tetra Tech	B	Sr-90 (Rush 8 days) MDC = 0.25 pCi/g [Method ASTM D5811]
SEND REPORT TO	Aaron Orechwa	INVOICE ATTN TO	Aaron Orechwa	C	Mercury [Method 7471 A]
ADDRESS	3801 Automation Way Suite #100	ADDRESS	3801 Automation Way Suite #100	D	Metals - TAL [Method 6020A]
CITY / STATE / ZIP	Fort Collins, CO 80521	CITY / STATE / ZIP	Fort Collins, CO 80521	E	Perchlorate (Rush 8 days) [Method 314]
PHONE	(970)420-9395	PHONE	(970)420-9395	F	Dioxins/Furans (Rush 8 days) [Method 1613B]
FAX		FAX		G	
E-MAIL	aaron.orechwa@tetratech.com	E-MAIL	aaron.orechwa@tetratech.com	H	
				I	
				J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
13	TT-GF-01	SOIL	2/16/16	1835	1	n/a		X	X	X	X	X						
14	TT-GF-02	SOIL	2/18/16	1835	1	n/a		X	X	X	X	X						
15	TT-OSF-01	SOIL	2/18/16	1900	1	n/a		X	X	X	X	X						
16	TT-BBF-01	SOIL	2/18/16	1805	1	n/a		X	X	X	X	X						
17	TT-BB1-01	SOIL	2/18/16	1755	1	n/a		X	X	X	X	X						
18	TT-HC-01	SOIL	2/18/16	1810	1	n/a		X	X	X	X	X						
19	TT-GGP-01	SOIL	2/18/16	1810	1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES	REPORT LEVEL / QC REQUIRED	
Please hold and store ALL samples until further notice.		Summary (Standard QC)
Please provide all results for < detectable concentrations (MDC).		LEVEL II (Standard QC)
Please do MDC of 0.25 pCi/g (or lower) for Sr-90 if possible.		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)
PRESERVATION KEY	1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other	

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Aaron Orechwa	2/25/2016	12:25
RECEIVED BY		Scott Malloy	2-28-16	1225
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Tetra tech - FC Workorder No: 1602355

Project Manager: ARW Initials: SDM Date: 2-25-16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	(N/A)	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	(N/A)	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	(N/A)	YES	NO
16. Were the samples shipped on ice?		YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	YES	(NO)

Cooler #:	1							
Temperature (°C):	Amb							
No. of custody seals on cooler:	0							
DOT Survey/ Acceptance Information — External µR/hr reading:	N/A							
Background µR/hr reading:	8							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

* Sample 1 COC says TT-LG-RBRA-01 → bags says TT-LR-RBRA-01
↳ log per baggie ID TT-LR-RBRA-01.
AW 2/25/16

If applicable, was the client contacted? (YES) / NO / NA Contact: Aaron Orechwa Date/Time: 2/25/16 14:23

Project Manager Signature / Date: 2/25/16

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

Form 201r24.xls (06/04/2012)

Strontium-90 by GFPC

PAI 724 Rev 11

Method Blank Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: SR160228-1MB

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 28-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 03-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1A
Count Time: 600 minutes

Final Aliquot: 1.99 g
Result Units: pCi/g
File Name: SRC0303A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.033 +/- 0.059	0.108	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1017	966.2	ug	95.0	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: SR160228-1LCS

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 28-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 03-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1A
Count Time: 30 minutes

Final Aliquot: 1.99 g
Result Units: pCi/g
File Name: SRC0303

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10098-97-2	Sr-90	4.8 +/- 1.3	0.5	5.065	94.4	75 - 125	P,M3

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1020	1018	ug	99.8	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Duplicate Sample Results (DER)

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18DUP

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 08-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.08 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0308D

CASNO	Analyte	Sample			Duplicate			DER	DER Lim
		Result +/- 2 s TPU	MDC	Flags	Result +/- 2 s TPU	MDC	Flags		
10098-97-2	Sr-90	0.050 +/- 0.047	0.082	U	0.053 +/- 0.045	0.078	U	0.0451	2.13

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:
TPU - Total Propagated Uncertainty
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
Lab ID: 1602355-1

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 16-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 04-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1B
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.25 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0304

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.051 +/- 0.050	0.089	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1072	990.2	ug	92.4	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BP-RBRA-01
Lab ID: 1602355-2

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 04-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1B
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.11 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0304

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.019 +/- 0.052	0.096	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1017	953.9	ug	93.8	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BP-DRAIN-01
Lab ID: 1602355-3

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.02 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0307B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.078 +/- 0.050	0.083	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1191	1157	ug	97.2	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SEDBG1-01
Lab ID: 1602355-4

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.26 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0307B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.052 +/- 0.043	0.075	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1090	1038	ug	95.2	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SD1-01
Lab ID: 1602355-5

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.24 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0307B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.055 +/- 0.043	0.075	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1104	1069	ug	96.8	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SD2-01
Lab ID: 1602355-6

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.03 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0307B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.182 +/- 0.064	0.081	0.25	NA	LT

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1044	1033	ug	99.0	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED1-01
Lab ID: 1602355-7

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.00 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0307B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.041 +/- 0.049	0.088	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1082	991.0	ug	91.6	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED2-01
Lab ID: 1602355-8

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.05 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.022 +/- 0.052	0.097	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1045	967.2	ug	92.6	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED3-01
Lab ID: 1602355-9

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.18 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.049 +/- 0.050	0.089	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1132	1017	ug	89.9	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BBCSED-01
Lab ID: 1602355-10

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.01 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.077 +/- 0.060	0.104	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1150	1008	ug	87.6	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-PPG-01
Lab ID: 1602355-11

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.03 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.056 +/- 0.055	0.097	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1089	1004	ug	92.1	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-CAB-01
Lab ID: 1602355-12

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.14 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.062 +/- 0.052	0.092	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1089	954.7	ug	87.7	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GF-01
Lab ID: 1602355-13

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 16-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 04-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1B
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.00 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0304

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.058 +/- 0.058	0.104	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1099	959.5	ug	87.3	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GF-02
Lab ID: 1602355-14

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 04-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1B
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.00 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0304

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.081 +/- 0.059	0.102	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1136	1002	ug	88.2	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-OSF-01
Lab ID: 1602355-15

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.03 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.042 +/- 0.053	0.096	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1017	855.5	ug	84.1	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BBF-01
Lab ID: 1602355-16

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 07-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.13 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRA0307

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.055 +/- 0.046	0.081	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1076	1020	ug	94.8	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BB1-01
Lab ID: 1602355-17

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 08-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.15 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0308D

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.056 +/- 0.046	0.081	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1096	984.5	ug	89.8	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 08-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.12 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0308D

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.050 +/- 0.047	0.082	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1148	1054	ug	91.7	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Duplicate Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18DUP

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 08-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.08 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0308D

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.053 +/- 0.045	0.078	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1113	1048	ug	94.2	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

W - DER is greater than Warning Limit of 1.42

D - DER is greater than Control Limit of 2.13

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Strontium-90 by GFPC

PAI 724 Rev 11

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GGP-01
Lab ID: 1602355-19

Sample Matrix: SOIL
Prep SOP: PAI 707 Rev 14
Date Collected: 18-Feb-16
Date Prepared: 28-Feb-16
Date Analyzed: 08-Mar-16

Prep Batch: SR160228-1
QCBatchID: SR160228-1-1
Run ID: SR160228-1C
Count Time: 600 minutes
Report Basis: Dry Weight

Final Aliquot: 2.15 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: SRC0308D

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	0.062 +/- 0.044	0.074	0.25	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1080	1021	ug	94.5	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: *SR1602355-1*

Metals
Case Narrative

Tetra Tech MM, Inc.

103P4384 – Brandeis-Bardin Campus

Work Order Number: 1602355

1. This report consists of 19 soil samples.

2. The samples were received intact at ambient temperature by ALS on 02/25/16.

3. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

   For analysis by ICP-MS, the samples were digested following method 3050B and the current revision of SOP 806.

   For analysis by Cold Vapor AA (CVAA), the samples were digested following method 7471A and the current revision of SOP 812.

4. Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.

   Analysis by CVAA followed method 7471A and the current revision of SOP 812.

5. All standards and solutions are NIST traceable and were used within their recommended shelf life.

6. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

7. General quality control procedures.
   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
   - The preparation (method) blank associated with each digestion batch was below the reporting limit for the requested analytes.
   - All laboratory control sample criteria were met.

- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples associated with Method 6020A were analyzed.

8. Matrix specific quality control procedures.

   Sample 1602355-1 was designated as the quality control sample for each analysis.

   Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

   - A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met with the following exceptions:

Analyte	Sample ID
Antimony	1602355-1MS/MSD
Arsenic	1602355-1MS/MSD
Cadmium	1602355-1MS/MSD
Calcium	1602355-1MS
Lead	1602355-1MS/MSD
Thallium	1602355-1MS

     The native sample results are flagged for matrix spike failure and an analytical post spike was performed. The result of the spike for calcium was unacceptable indicating that the matrix may be affecting quantitation of this analyte. The results of the spike for the remaining analytes were acceptable indicating that the matrix was not significantly affecting quantitation of these analytes.

   - Matrix spike recoveries could not be evaluated for the following analytes:

Analyte	Sample ID
Aluminum	1602355-1
Barium	1602355-1
Iron	1602355-1
Magnesium	1602355-1
Manganese	1602355-1
Potassium	1602355-1
Vanadium	1602355-1

     The concentrations of these analytes in the native sample were greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

- A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met with the following exceptions:

Analyte	Sample ID
Antimony	1602355-1D
Cadmium	1602355-1D
Selenium	1602355-1D, -1MSD

The native sample results are flagged for duplicate failure. Where spike duplicate precision was outside control limits only the duplicate page shows the flag.

- A serial dilution was analyzed with the ICP batch. All acceptance criteria were met with the following exceptions:

Analyte	Sample ID
Arsenic	1602355-1L
Calcium	1602355-1L
Chromium	1602355-1L
Thallium	1602355-1L
Vanadium	1602355-1L

The native sample results are flagged for serial dilution failure.

9. It is a standard practice that samples for ICP-MS are analyzed at a dilution.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Jill Latelle — 3/4/16
Inorganics Primary Data Reviewer — Date

Inorganics Final Data Reviewer — 3/4/16
Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A "J" is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL). If the analyte was analyzed for but not detected a "U" is entered. For samples, negative values are reported as non-detects ("U" flagged). For blanks, if the absolute value of the negative value is above the MDL and below the reporting limit, then the result is "J" flagged.

- QC qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

  M - Duplicate injection precision was not met.

  N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

  Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

  * - Duplicate analysis (relative percent difference) not within control limits.

  S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1602355
Client Name: Tetra Tech MM, Inc.
Client Project Name: 103P4384
Client Project Number: Brandeis-Bardin Campus
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
TT-LR-RBRA-01	1602355-1		SOIL	16-Feb-16	15:35
TT-BP-RBRA-01	1602355-2		SOIL	18-Feb-16	14:30
TT-BP-DRAIN-01	1602355-3		SOIL	18-Feb-16	15:30
TT-SEDBG1-01	1602355-4		SOIL	18-Feb-16	16:55
TT-SD1-01	1602355-5		SOIL	18-Feb-16	11:30
TT-SD2-01	1602355-6		SOIL	18-Feb-16	18:40
TT-ED1-01	1602355-7		SOIL	18-Feb-16	17:30
TT-ED2-01	1602355-8		SOIL	18-Feb-16	17:40
TT-ED3-01	1602355-9		SOIL	18-Feb-16	18:25
TT-BBCSED-01	1602355-10		SOIL	18-Feb-16	18:50
TT-PPG-01	1602355-11		SOIL	18-Feb-16	17:50
TT-CAB-01	1602355-12		SOIL	18-Feb-16	19:30
TT-GF-01	1602355-13		SOIL	16-Feb-16	18:35
TT-GF-02	1602355-14		SOIL	18-Feb-16	18:35
TT-OSF-01	1602355-15		SOIL	18-Feb-16	19:00
TT-BBF-01	1602355-16		SOIL	18-Feb-16	18:05
TT-BB1-01	1602355-17		SOIL	18-Feb-16	17:55
TT-HC-01	1602355-18		SOIL	18-Feb-16	18:10
TT-GGP-01	1602355-19		SOIL	18-Feb-16	18:10

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #	1602355
PAGE	1 of 2
DISPOSAL	BY LAB or RETURN

TURNAROUND TIME	RUSH (8 days)	SAMPLER	Aaron Orechwa/Daniel Workman

PROJECT NAME	Brandeis-Bardin Campus	SITE ID	AJU-BBC
PROJECT No.	103P4384	EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	Tetra Tech	BILL TO COMPANY	Tetra Tech
SEND REPORT TO	Aaron Orechwa	INVOICE ATTN TO	Aaron Orechwa
ADDRESS	3801 Automation Way Suite #100	ADDRESS	3801 Automation Way Suite #100
CITY / STATE / ZIP	Fort Collins, CO 80521	CITY / STATE / ZIP	Fort Collins, CO 80521
PHONE	(970)420-9395	PHONE	(970)420-9395
FAX		FAX	
E-MAIL	aaron.orechwa@tetratech.com	E-MAIL	aaron.orechwa@tetratech.com

PARAMETER/METHOD REQUEST FOR ANALYSIS

A	Cs-137 (Rush 8 days) MDC = 0.1 pCi/g [Method 901.1 M]
B	Sr-90 (Rush 8 days) MDC = 0.25 pCi/g [Method ASTM D5811]
C	Mercury [Method 7471 A]
D	Metals - TAL [Method 6020A]
E	Perchlorate (Rush 8 days) [Method 314]
F	Dioxins/Furans (Rush 8 days) [Method 1613B]
G	
H	
I	
J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
1	TT-LG-RBRA-01 AW 2/25/16	SOIL	2/16/16	1535	1	n/a		X	X	X	X	X	X					
2	TT-BP-RBRA-01	SOIL	2/18/16	1430	1	n/a		X	X	X	X	X	X					
3	TT-BP-DRAIN-01	SOIL	2/18/16	1530	1	n/a		X	X	X	X	X	X					
4	TT-SEDBG1-01	SOIL	2/18/16	1655	1	n/a		X	X	X	X	X	X					
5	TT-SD1-01	SOIL	2/18/16	1130	1	n/a		X	X	X	X	X						
6	TT-SD2-01	SOIL	2/18/16	1840	1	n/a		X	X	X	X	X						
7	TT-ED1-01	SOIL	2/18/16	1730	1	n/a		X	X	X	X	X						
8	TT-ED2-01	SOIL	2/18/16	1740	1	n/a		X	X	X	X	X						
9	TT-ED3-01	SOIL	2/18/16	1825	1	n/a		X	X	X	X	X						
10	TT-BBCSED-01	SOIL	2/18/16	1850	1	n/a		X	X	X	X	X						
11	TT-PPG-01	SOIL	2/18/16	1750	1	n/a		X	X	X	X	X						
12	TT-CAB-01	SOIL	2/18/16	1930	1	n/a		X	X	X	X	X						

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES	REPORT LEVEL / QC REQUIRED	
Please hold and store ALL samples until further notice.		Summary (Standard QC)
Please provide all results for < detectable concentrations (MDC).		LEVEL II (Standard QC)
Please do MDC of 0.25 pCi/g (or lower) for Sr-90 if possible.		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

PRESERVATION KEY	1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Aaron Orechwa	2/25/2016	12:25
RECEIVED BY		Scott Malloy	2-25-16	1225
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

6 of 40

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #	
1602355	

TURNAROUND TIME	RUSH (8 days)	SAMPLER	Aaron Orechwa/Daniel Workman	PAGE	2 of 2
				DISPOSAL	BY LAB or RETURN

PROJECT NAME	Brandeis-Bardin Campus	SITE ID	AJU-BBC	PARAMETER/METHOD REQUEST FOR ANALYSIS	
PROJECT No.	103P4384	EDD FORMAT			
		PURCHASE ORDER		A	Cs-137 (Rush 8 days) MDC = 0.1 pCi/g [Method 901.1 M]
COMPANY NAME	Tetra Tech	BILL TO COMPANY	Tetra Tech	B	Sr-90 (Rush 8 days) MDC = 0.25 pCi/g [Method ASTM D5811]
SEND REPORT TO	Aaron Orechwa	INVOICE ATTN TO	Aaron Orechwa	C	Mercury [Method 7471 A]
ADDRESS	3801 Automation Way Suite #100	ADDRESS	3801 Automation Way Suite #100	D	Metals - TAL [Method 6020A]
CITY / STATE / ZIP	Fort Collins, CO 80521	CITY / STATE / ZIP	Fort Collins, CO 80521	E	Perchlorate (Rush 8 days) [Method 314]
PHONE	(970)420-9395	PHONE	(970)420-9395	F	Dioxins/Furans (Rush 8 days) [Method 1613B]
FAX		FAX		G	
E-MAIL	aaron.orechwa@tetratech.com	E-MAIL	aaron.orechwa@tetratech.com	H	
				I	
				J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
13	TT-GF-01	SOIL	2/16/16	1835	1	n/a		X	X	X	X	X						
14	TT-GF-02	SOIL	2/18/16	1835	1	n/a		X	X	X	X	X						
15	TT-OSF-01	SOIL	2/18/16	1900	1	n/a		X	X	X	X	X						
16	TT-BBF-01	SOIL	2/18/16	1805	1	n/a		X	X	X	X	X						
17	TT-BB1-01	SOIL	2/18/16	1755	1	n/a		X	X	X	X	X						
18	TT-HC-01	SOIL	2/18/16	1810	1	n/a		X	X	X	X	X						
19	TT-GGP-01	SOIL	2/18/16	1810	1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						
		SOIL	2/18/16		1	n/a		X	X	X	X	X						

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

NOTES	REPORT LEVEL / QC REQUIRED	
Please hold and store ALL samples until further notice.		Summary (Standard QC)
Please provide all results for < detectable concentrations (MDC).		LEVEL II (Standard QC)
Please do MDC of 0.25 pCi/g (or lower) for Sr-90 if possible.		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)
PRESERVATION KEY: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other		

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Aaron Orechwa	2/25/2016	12:25
RECEIVED BY		Scott Malloy	2-28-16	1225
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Tetra tech - FC Workorder No: 1602355

Project Manager: ARW Initials: SDM Date: 2-25-16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	(N/A)	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	(N/A)	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	(N/A)	YES	NO
16. Were the samples shipped on ice?		YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	YES	(NO)

Cooler #:	1							
Temperature (°C):	Amb							
No. of custody seals on cooler:	0							
DOT Survey/ Acceptance Information — External µR/hr reading:	N/A							
Background µR/hr reading:	8							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

* Sample 1 COC says TT-LG-RBRA-01 → bags says TT-LR-RBRA-01
↳ log per baggie ID TT-LR-RBRA-01.
AW 2/25/16

If applicable, was the client contacted? (YES) / NO / NA Contact: Aaron Orechwa Date/Time: 2/25/16 14:23

Project Manager Signature / Date: 2/25/16

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
Lab ID: 1602355-1

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 16-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 045SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.027 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14000	5.5	1.7		
7440-36-0	ANTIMONY	10	0.34	0.033	0.018		N*
7440-38-2	ARSENIC	10	10	0.22	0.036		EN
7440-39-3	BARIUM	10	130	0.11	0.064		
7440-41-7	BERYLLIUM	10	0.81	0.055	0.015		
7440-43-9	CADMIUM	10	0.36	0.033	0.018		N*
7440-70-2	CALCIUM	10	3600	110	10		EN
7440-47-3	CHROMIUM	10	30	1.1	0.078		E
7440-48-4	COBALT	10	11	0.11	0.057		
7440-50-8	COPPER	10	19	1.1	0.27		
7439-89-6	IRON	10	28000	11	3.7		
7439-92-1	LEAD	10	16	0.055	0.021		N
7439-95-4	MAGNESIUM	10	6200	11	4		
7439-96-5	MANGANESE	10	510	0.22	0.067		
7440-02-0	NICKEL	10	31	0.55	0.28		
7440-09-7	POTASSIUM	10	5100	110	19		
7782-49-2	SELENIUM	10	1.5	0.11	0.04		*
7440-22-4	SILVER	10	0.053	0.011	0.0056		
7440-23-5	SODIUM	10	190	110	18		
7440-28-0	THALLIUM	10	0.39	0.022	0.0044		EN
7440-62-2	VANADIUM	10	47	0.11	0.048		E
7440-66-6	ZINC	10	80	2.2	0.46		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BP-RBRA-01
Lab ID: 1602355-2

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 17.9
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 051SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.04 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	13000	5.9	1.8		
7440-36-0	ANTIMONY	10	0.21	0.035	0.02		
7440-38-2	ARSENIC	10	5.9	0.23	0.038		
7440-39-3	BARIUM	10	100	0.12	0.068		
7440-41-7	BERYLLIUM	10	0.65	0.059	0.016		
7440-43-9	CADMIUM	10	0.27	0.035	0.02		
7440-70-2	CALCIUM	10	3700	120	11		
7440-47-3	CHROMIUM	10	24	1.2	0.084		
7440-48-4	COBALT	10	8.4	0.12	0.061		
7440-50-8	COPPER	10	12	1.2	0.29		
7439-89-6	IRON	10	24000	12	3.9		
7439-92-1	LEAD	10	12	0.059	0.022		
7439-95-4	MAGNESIUM	10	5000	12	4.3		
7439-96-5	MANGANESE	10	380	0.23	0.072		
7440-02-0	NICKEL	10	13	0.59	0.3		
7440-09-7	POTASSIUM	10	4000	120	21		
7782-49-2	SELENIUM	10	1.3	0.12	0.043		
7440-22-4	SILVER	10	0.021	0.012	0.006		
7440-23-5	SODIUM	10	190	120	19		
7440-28-0	THALLIUM	10	0.32	0.023	0.0047		
7440-62-2	VANADIUM	10	52	0.12	0.052		
7440-66-6	ZINC	10	62	2.3	0.49		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BP-DRAIN-01
Lab ID: 1602355-3

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 28.1
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 054SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.067 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14000	6.5	2		
7440-36-0	ANTIMONY	10	0.17	0.039	0.022		
7440-38-2	ARSENIC	10	6.1	0.26	0.043		
7440-39-3	BARIUM	10	87	0.13	0.076		
7440-41-7	BERYLLIUM	10	0.54	0.065	0.018		
7440-43-9	CADMIUM	10	0.21	0.039	0.022		
7440-70-2	CALCIUM	10	22000	130	12		
7440-47-3	CHROMIUM	10	34	1.3	0.093		
7440-48-4	COBALT	10	9.1	0.13	0.068		
7440-50-8	COPPER	10	13	1.3	0.32		
7439-89-6	IRON	10	29000	13	4.4		
7439-92-1	LEAD	10	10	0.065	0.025		
7439-95-4	MAGNESIUM	10	10000	13	4.8		
7439-96-5	MANGANESE	10	470	0.26	0.08		
7440-02-0	NICKEL	10	14	0.65	0.33		
7440-09-7	POTASSIUM	10	3300	130	23		
7782-49-2	SELENIUM	10	1	0.13	0.048		
7440-22-4	SILVER	10	0.03	0.013	0.0066		
7440-23-5	SODIUM	10	310	130	22		
7440-28-0	THALLIUM	10	0.24	0.026	0.0052		
7440-62-2	VANADIUM	10	74	0.13	0.058		
7440-66-6	ZINC	10	71	2.6	0.55		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SEDBG1-01
Lab ID: 1602355-4

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 6.9
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 055SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4800	5.3	1.6		
7440-36-0	ANTIMONY	10	0.081	0.032	0.018		
7440-38-2	ARSENIC	10	2	0.21	0.035		
7440-39-3	BARIUM	10	36	0.11	0.061		
7440-41-7	BERYLLIUM	10	0.21	0.053	0.014		
7440-43-9	CADMIUM	10	0.064	0.032	0.018		
7440-70-2	CALCIUM	10	2900	110	9.6		
7440-47-3	CHROMIUM	10	6.7	1.1	0.076		
7440-48-4	COBALT	10	2.9	0.11	0.055		
7440-50-8	COPPER	10	4	1.1	0.26		
7439-89-6	IRON	10	9700	11	3.6		
7439-92-1	LEAD	10	4.3	0.053	0.02		
7439-95-4	MAGNESIUM	10	2500	11	3.9		
7439-96-5	MANGANESE	10	160	0.21	0.065		
7440-02-0	NICKEL	10	5.4	0.53	0.27		
7440-09-7	POTASSIUM	10	1600	110	19		
7782-49-2	SELENIUM	10	0.55	0.11	0.039		
7440-22-4	SILVER	10	0.013	0.011	0.0054		
7440-23-5	SODIUM	10	120	110	18		
7440-28-0	THALLIUM	10	0.13	0.021	0.0042		
7440-62-2	VANADIUM	10	17	0.11	0.047		
7440-66-6	ZINC	10	31	2.1	0.44		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SD1-01
Lab ID: 1602355-5

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 11.0
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 056SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.069 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	8700	5.3	1.6		
7440-36-0	ANTIMONY	10	0.12	0.032	0.018		
7440-38-2	ARSENIC	10	4.7	0.21	0.034		
7440-39-3	BARIUM	10	61	0.11	0.061		
7440-41-7	BERYLLIUM	10	0.5	0.053	0.014		
7440-43-9	CADMIUM	10	0.058	0.032	0.018		
7440-70-2	CALCIUM	10	2800	110	9.6		
7440-47-3	CHROMIUM	10	13	1.1	0.075		
7440-48-4	COBALT	10	7.6	0.11	0.055		
7440-50-8	COPPER	10	10	1.1	0.26		
7439-89-6	IRON	10	20000	11	3.5		
7439-92-1	LEAD	10	8.4	0.053	0.02		
7439-95-4	MAGNESIUM	10	4600	11	3.8		
7439-96-5	MANGANESE	10	340	0.21	0.065		
7440-02-0	NICKEL	10	9.2	0.53	0.27		
7440-09-7	POTASSIUM	10	3000	110	18		
7782-49-2	SELENIUM	10	0.83	0.11	0.039		
7440-22-4	SILVER	10	0.028	0.011	0.0053		
7440-23-5	SODIUM	10	120	110	17		
7440-28-0	THALLIUM	10	0.24	0.021	0.0042		
7440-62-2	VANADIUM	10	34	0.11	0.046		
7440-66-6	ZINC	10	59	2.1	0.44		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-SD2-01
Lab ID: 1602355-6

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 9.3
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 057SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.031 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5100	5.3	1.7		
7440-36-0	ANTIMONY	10	0.086	0.032	0.018		
7440-38-2	ARSENIC	10	3.1	0.21	0.035		
7440-39-3	BARIUM	10	37	0.11	0.062		
7440-41-7	BERYLLIUM	10	0.27	0.053	0.014		
7440-43-9	CADMIUM	10	0.08	0.032	0.018		
7440-70-2	CALCIUM	10	1900	110	9.7		
7440-47-3	CHROMIUM	10	7.7	1.1	0.077		
7440-48-4	COBALT	10	4	0.11	0.056		
7440-50-8	COPPER	10	4.9	1.1	0.26		
7439-89-6	IRON	10	12000	11	3.6		
7439-92-1	LEAD	10	5	0.053	0.02		
7439-95-4	MAGNESIUM	10	2300	11	3.9		
7439-96-5	MANGANESE	10	160	0.21	0.066		
7440-02-0	NICKEL	10	5	0.53	0.27		
7440-09-7	POTASSIUM	10	1800	110	19		
7782-49-2	SELENIUM	10	0.43	0.11	0.039		
7440-22-4	SILVER	10	0.0054	0.011	0.0054	U	
7440-23-5	SODIUM	10	80	110	18	J	
7440-28-0	THALLIUM	10	0.14	0.021	0.0043		
7440-62-2	VANADIUM	10	20	0.11	0.047		
7440-66-6	ZINC	10	33	2.1	0.45		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED1-01
Lab ID: 1602355-7

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 15.8
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 058SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.05 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	3700	5.7	1.8		
7440-36-0	ANTIMONY	10	0.035	0.034	0.019		
7440-38-2	ARSENIC	10	2.2	0.23	0.037		
7440-39-3	BARIUM	10	29	0.11	0.066		
7440-41-7	BERYLLIUM	10	0.22	0.057	0.015		
7440-43-9	CADMIUM	10	0.036	0.034	0.019		
7440-70-2	CALCIUM	10	2500	110	10		
7440-47-3	CHROMIUM	10	4.9	1.1	0.081		
7440-48-4	COBALT	10	2.6	0.11	0.059		
7440-50-8	COPPER	10	3.2	1.1	0.28		
7439-89-6	IRON	10	8400	11	3.8		
7439-92-1	LEAD	10	3.4	0.057	0.021		
7439-95-4	MAGNESIUM	10	1800	11	4.1		
7439-96-5	MANGANESE	10	150	0.23	0.07		
7440-02-0	NICKEL	10	2.8	0.57	0.29		
7440-09-7	POTASSIUM	10	1300	110	20		
7782-49-2	SELENIUM	10	0.54	0.11	0.041		
7440-22-4	SILVER	10	0.061	0.011	0.0058		
7440-23-5	SODIUM	10	150	110	19		
7440-28-0	THALLIUM	10	0.11	0.023	0.0045		
7440-62-2	VANADIUM	10	13	0.11	0.05		
7440-66-6	ZINC	10	24	2.3	0.48		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED2-01
Lab ID: 1602355-8

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 9.3
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 059SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.056 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	6300	5.2	1.6		
7440-36-0	ANTIMONY	10	0.11	0.031	0.018		
7440-38-2	ARSENIC	10	2.7	0.21	0.034		
7440-39-3	BARIUM	10	57	0.1	0.061		
7440-41-7	BERYLLIUM	10	0.32	0.052	0.014		
7440-43-9	CADMIUM	10	0.13	0.031	0.017		
7440-70-2	CALCIUM	10	2300	100	9.5		
7440-47-3	CHROMIUM	10	8.9	1	0.075		
7440-48-4	COBALT	10	3.9	0.1	0.054		
7440-50-8	COPPER	10	6.3	1	0.26		
7439-89-6	IRON	10	12000	10	3.5		
7439-92-1	LEAD	10	8.9	0.052	0.02		
7439-95-4	MAGNESIUM	10	3100	10	3.8		
7439-96-5	MANGANESE	10	220	0.21	0.064		
7440-02-0	NICKEL	10	6.3	0.52	0.27		
7440-09-7	POTASSIUM	10	2300	100	18		
7782-49-2	SELENIUM	10	0.4	0.1	0.038		
7440-22-4	SILVER	10	0.058	0.01	0.0053		
7440-23-5	SODIUM	10	160	100	17		
7440-28-0	THALLIUM	10	0.18	0.021	0.0042		
7440-62-2	VANADIUM	10	21	0.1	0.046		
7440-66-6	ZINC	10	43	2.1	0.44		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-ED3-01
Lab ID: 1602355-9

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 20.2
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 060SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.036 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5600	6	1.9		
7440-36-0	ANTIMONY	10	0.15	0.036	0.02		
7440-38-2	ARSENIC	10	3	0.24	0.04		
7440-39-3	BARIUM	10	41	0.12	0.07		
7440-41-7	BERYLLIUM	10	0.28	0.06	0.016		
7440-43-9	CADMIUM	10	0.091	0.036	0.02		
7440-70-2	CALCIUM	10	4300	120	11		
7440-47-3	CHROMIUM	10	9.6	1.2	0.087		
7440-48-4	COBALT	10	4.3	0.12	0.063		
7440-50-8	COPPER	10	10	1.2	0.3		
7439-89-6	IRON	10	12000	12	4.1		
7439-92-1	LEAD	10	6.1	0.06	0.023		
7439-95-4	MAGNESIUM	10	3100	12	4.4		
7439-96-5	MANGANESE	10	200	0.24	0.074		
7440-02-0	NICKEL	10	7	0.6	0.31		
7440-09-7	POTASSIUM	10	2300	120	21		
7782-49-2	SELENIUM	10	0.35	0.12	0.044		
7440-22-4	SILVER	10	0.066	0.012	0.0062		
7440-23-5	SODIUM	10	120	120	20	J	
7440-28-0	THALLIUM	10	0.14	0.024	0.0049		
7440-62-2	VANADIUM	10	22	0.12	0.053		
7440-66-6	ZINC	10	40	2.4	0.51		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BBCSED-01
Lab ID: 1602355-10

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 3.6
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 061SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.007 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	2400	5.1	1.6		
7440-36-0	ANTIMONY	10	0.077	0.031	0.017		
7440-38-2	ARSENIC	10	1.3	0.21	0.034		
7440-39-3	BARIUM	10	16	0.1	0.06		
7440-41-7	BERYLLIUM	10	0.13	0.051	0.014		
7440-43-9	CADMIUM	10	0.017	0.031	0.017	U	
7440-70-2	CALCIUM	10	840	100	9.4		
7440-47-3	CHROMIUM	10	3.7	1	0.074		
7440-48-4	COBALT	10	1.7	0.1	0.054		
7440-50-8	COPPER	10	2.6	1	0.25		
7439-89-6	IRON	10	5700	10	3.5		
7439-92-1	LEAD	10	2.7	0.051	0.019		
7439-95-4	MAGNESIUM	10	1100	10	3.8		
7439-96-5	MANGANESE	10	65	0.21	0.063		
7440-02-0	NICKEL	10	2.3	0.51	0.26		
7440-09-7	POTASSIUM	10	960	100	18		
7782-49-2	SELENIUM	10	0.64	0.1	0.038		
7440-22-4	SILVER	10	0.022	0.01	0.0052		
7440-23-5	SODIUM	10	120	100	17		
7440-28-0	THALLIUM	10	0.077	0.021	0.0041		
7440-62-2	VANADIUM	10	8.6	0.1	0.046		
7440-66-6	ZINC	10	16	2.1	0.43		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-PPG-01
Lab ID: 1602355-11

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 5.5
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 062SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.028 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	2600	5.1	1.6		
7440-36-0	ANTIMONY	10	0.082	0.031	0.017		
7440-38-2	ARSENIC	10	1.4	0.21	0.034		
7440-39-3	BARIUM	10	29	0.1	0.06		
7440-41-7	BERYLLIUM	10	0.11	0.051	0.014		
7440-43-9	CADMIUM	10	0.031	0.031	0.017	J	
7440-70-2	CALCIUM	10	5400	100	9.4		
7440-47-3	CHROMIUM	10	6	1	0.074		
7440-48-4	COBALT	10	1.9	0.1	0.054		
7440-50-8	COPPER	10	3.7	1	0.25		
7439-89-6	IRON	10	5500	10	3.5		
7439-92-1	LEAD	10	2.3	0.051	0.019		
7439-95-4	MAGNESIUM	10	1300	10	3.8		
7439-96-5	MANGANESE	10	81	0.21	0.063		
7440-02-0	NICKEL	10	3.5	0.51	0.26		
7440-09-7	POTASSIUM	10	750	100	18		
7782-49-2	SELENIUM	10	0.38	0.1	0.038		
7440-22-4	SILVER	10	0.0052	0.01	0.0052	U	
7440-23-5	SODIUM	10	150	100	17		
7440-28-0	THALLIUM	10	0.053	0.021	0.0041		
7440-62-2	VANADIUM	10	13	0.1	0.046		
7440-66-6	ZINC	10	13	2.1	0.43		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-CAB-01
Lab ID: 1602355-12

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 12.8
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 063SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	13000	5.6	1.8		
7440-36-0	ANTIMONY	10	0.28	0.034	0.019		
7440-38-2	ARSENIC	10	5.1	0.23	0.037		
7440-39-3	BARIUM	10	120	0.11	0.065		
7440-41-7	BERYLLIUM	10	0.59	0.056	0.015		
7440-43-9	CADMIUM	10	0.48	0.034	0.019		
7440-70-2	CALCIUM	10	8400	110	10		
7440-47-3	CHROMIUM	10	22	1.1	0.081		
7440-48-4	COBALT	10	11	0.11	0.059		
7440-50-8	COPPER	10	34	1.1	0.28		
7439-89-6	IRON	10	24000	11	3.8		
7439-92-1	LEAD	10	31	0.056	0.021		
7439-95-4	MAGNESIUM	10	6500	11	4.1		
7439-96-5	MANGANESE	10	450	0.23	0.069		
7440-02-0	NICKEL	10	18	0.56	0.29		
7440-09-7	POTASSIUM	10	5100	110	20		
7782-49-2	SELENIUM	10	0.78	0.11	0.041		
7440-22-4	SILVER	10	0.095	0.011	0.0057		
7440-23-5	SODIUM	10	160	110	19		
7440-28-0	THALLIUM	10	0.28	0.023	0.0045		
7440-62-2	VANADIUM	10	50	0.11	0.05		
7440-66-6	ZINC	10	150	2.3	0.47		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GF-01
Lab ID: 1602355-13

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 18.4
Date Collected: 16-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 066SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.051 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	9600	5.8	1.8		
7440-36-0	ANTIMONY	10	0.18	0.035	0.02		
7440-38-2	ARSENIC	10	3.7	0.23	0.038		
7440-39-3	BARIUM	10	75	0.12	0.068		
7440-41-7	BERYLLIUM	10	0.5	0.058	0.016		
7440-43-9	CADMIUM	10	0.23	0.035	0.019		
7440-70-2	CALCIUM	10	4100	120	11		
7440-47-3	CHROMIUM	10	15	1.2	0.083		
7440-48-4	COBALT	10	6.4	0.12	0.061		
7440-50-8	COPPER	10	11	1.2	0.29		
7439-89-6	IRON	10	20000	12	3.9		
7439-92-1	LEAD	10	11	0.058	0.022		
7439-95-4	MAGNESIUM	10	5000	12	4.3		
7439-96-5	MANGANESE	10	320	0.23	0.072		
7440-02-0	NICKEL	10	11	0.58	0.3		
7440-09-7	POTASSIUM	10	4400	120	21		
7782-49-2	SELENIUM	10	0.97	0.12	0.043		
7440-22-4	SILVER	10	0.047	0.012	0.0059		
7440-23-5	SODIUM	10	370	120	19		
7440-28-0	THALLIUM	10	0.26	0.023	0.0047		
7440-62-2	VANADIUM	10	34	0.12	0.052		
7440-66-6	ZINC	10	71	2.3	0.49		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GF-02
Lab ID: 1602355-14

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 21.1
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 067SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.048 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	9300	6	1.9		
7440-36-0	ANTIMONY	10	0.14	0.036	0.02		
7440-38-2	ARSENIC	10	4.5	0.24	0.04		
7440-39-3	BARIUM	10	75	0.12	0.07		
7440-41-7	BERYLLIUM	10	0.51	0.06	0.016		
7440-43-9	CADMIUM	10	0.17	0.036	0.02		
7440-70-2	CALCIUM	10	4300	120	11		
7440-47-3	CHROMIUM	10	15	1.2	0.087		
7440-48-4	COBALT	10	6.3	0.12	0.063		
7440-50-8	COPPER	10	11	1.2	0.3		
7439-89-6	IRON	10	19000	12	4.1		
7439-92-1	LEAD	10	11	0.06	0.023		
7439-95-4	MAGNESIUM	10	4900	12	4.4		
7439-96-5	MANGANESE	10	310	0.24	0.074		
7440-02-0	NICKEL	10	11	0.6	0.31		
7440-09-7	POTASSIUM	10	4200	120	21		
7782-49-2	SELENIUM	10	0.94	0.12	0.044		
7440-22-4	SILVER	10	0.03	0.012	0.0062		
7440-23-5	SODIUM	10	340	120	20		
7440-28-0	THALLIUM	10	0.26	0.024	0.0049		
7440-62-2	VANADIUM	10	34	0.12	0.053		
7440-66-6	ZINC	10	76	2.4	0.51		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-OSF-01
Lab ID: 1602355-15

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 20.9
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 068SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.013 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	12000	6.2	1.9		
7440-36-0	ANTIMONY	10	0.21	0.037	0.021		
7440-38-2	ARSENIC	10	4.9	0.25	0.041		
7440-39-3	BARIUM	10	90	0.12	0.072		
7440-41-7	BERYLLIUM	10	0.49	0.062	0.017		
7440-43-9	CADMIUM	10	0.57	0.037	0.021		
7440-70-2	CALCIUM	10	5000	120	11		
7440-47-3	CHROMIUM	10	21	1.2	0.089		
7440-48-4	COBALT	10	10	0.12	0.065		
7440-50-8	COPPER	10	27	1.2	0.31		
7439-89-6	IRON	10	23000	12	4.2		
7439-92-1	LEAD	10	17	0.062	0.023		
7439-95-4	MAGNESIUM	10	6300	12	4.6		
7439-96-5	MANGANESE	10	480	0.25	0.077		
7440-02-0	NICKEL	10	16	0.62	0.32		
7440-09-7	POTASSIUM	10	4400	120	22		
7782-49-2	SELENIUM	10	1	0.12	0.046		
7440-22-4	SILVER	10	0.1	0.012	0.0064		
7440-23-5	SODIUM	10	520	120	21		
7440-28-0	THALLIUM	10	0.25	0.025	0.005		
7440-62-2	VANADIUM	10	46	0.12	0.055		
7440-66-6	ZINC	10	100	2.5	0.53		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BBF-01
Lab ID: 1602355-16

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 069SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.039 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	7500	5.2	1.6		
7440-36-0	ANTIMONY	10	0.15	0.031	0.017		
7440-38-2	ARSENIC	10	5.8	0.21	0.034		
7440-39-3	BARIUM	10	170	0.1	0.06		
7440-41-7	BERYLLIUM	10	0.24	0.052	0.014		
7440-43-9	CADMIUM	10	0.064	0.031	0.017		
7440-70-2	CALCIUM	10	4900	100	9.5		
7440-47-3	CHROMIUM	10	7.6	1	0.074		
7440-48-4	COBALT	10	3.2	0.1	0.054		
7440-50-8	COPPER	10	6.7	1	0.25		
7439-89-6	IRON	10	9700	10	3.5		
7439-92-1	LEAD	10	7.7	0.052	0.02		
7439-95-4	MAGNESIUM	10	2400	10	3.8		
7439-96-5	MANGANESE	10	250	0.21	0.064		
7440-02-0	NICKEL	10	3.2	0.52	0.26		
7440-09-7	POTASSIUM	10	1800	100	18		
7782-49-2	SELENIUM	10	0.32	0.1	0.038		
7440-22-4	SILVER	10	0.023	0.01	0.0053		
7440-23-5	SODIUM	10	410	100	17		
7440-28-0	THALLIUM	10	0.15	0.021	0.0042		
7440-62-2	VANADIUM	10	28	0.1	0.046		
7440-66-6	ZINC	10	23	2.1	0.44		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-BB1-01
Lab ID: 1602355-17

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 8.4
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 070SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.015 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	4600	5.4	1.7		
7440-36-0	ANTIMONY	10	0.18	0.032	0.018		
7440-38-2	ARSENIC	10	3.5	0.22	0.035		
7440-39-3	BARIUM	10	39	0.11	0.063		
7440-41-7	BERYLLIUM	10	0.3	0.054	0.015		
7440-43-9	CADMIUM	10	0.099	0.032	0.018		
7440-70-2	CALCIUM	10	2100	110	9.8		
7440-47-3	CHROMIUM	10	6.8	1.1	0.077		
7440-48-4	COBALT	10	3.2	0.11	0.056		
7440-50-8	COPPER	10	5.7	1.1	0.26		
7439-89-6	IRON	10	11000	11	3.6		
7439-92-1	LEAD	10	7.6	0.054	0.02		
7439-95-4	MAGNESIUM	10	1900	11	3.9		
7439-96-5	MANGANESE	10	170	0.22	0.066		
7440-02-0	NICKEL	10	5.1	0.54	0.27		
7440-09-7	POTASSIUM	10	1800	110	19		
7782-49-2	SELENIUM	10	1.9	0.11	0.039		
7440-22-4	SILVER	10	0.0065	0.011	0.0055	J	
7440-23-5	SODIUM	10	120	110	18		
7440-28-0	THALLIUM	10	0.11	0.022	0.0043		
7440-62-2	VANADIUM	10	19	0.11	0.048		
7440-66-6	ZINC	10	38	2.2	0.45		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-HC-01
Lab ID: 1602355-18

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 11.6
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 071SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.064 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	5700	5.3	1.7		
7440-36-0	ANTIMONY	10	0.18	0.032	0.018		
7440-38-2	ARSENIC	10	3.1	0.21	0.035		
7440-39-3	BARIUM	10	87	0.11	0.062		
7440-41-7	BERYLLIUM	10	0.23	0.053	0.014		
7440-43-9	CADMIUM	10	0.34	0.032	0.018		
7440-70-2	CALCIUM	10	14000	110	9.7		
7440-47-3	CHROMIUM	10	11	1.1	0.076		
7440-48-4	COBALT	10	4.4	0.11	0.055		
7440-50-8	COPPER	10	11	1.1	0.26		
7439-89-6	IRON	10	10000	11	3.6		
7439-92-1	LEAD	10	5.2	0.053	0.02		
7439-95-4	MAGNESIUM	10	3000	11	3.9		
7439-96-5	MANGANESE	10	180	0.21	0.065		
7440-02-0	NICKEL	10	11	0.53	0.27		
7440-09-7	POTASSIUM	10	4900	110	19		
7782-49-2	SELENIUM	10	0.76	0.11	0.039		
7440-22-4	SILVER	10	0.035	0.011	0.0054		
7440-23-5	SODIUM	10	990	110	18		
7440-28-0	THALLIUM	10	0.1	0.021	0.0043		
7440-62-2	VANADIUM	10	25	0.11	0.047		
7440-66-6	ZINC	10	35	2.1	0.45		

Data Package ID: *im1602355-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-GGP-01
Lab ID: 1602355-19

Analysis ReqCode: arsenic

Sample Matrix: SOIL
% Moisture: 5.3
Date Collected: 18-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 072SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.025 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	1200	5.2	1.6		
7440-36-0	ANTIMONY	10	0.038	0.031	0.017		
7440-38-2	ARSENIC	10	0.85	0.21	0.034		
7440-39-3	BARIUM	10	9.4	0.1	0.06		
7440-41-7	BERYLLIUM	10	0.026	0.052	0.014	J	
7440-43-9	CADMIUM	10	0.03	0.031	0.017	J	
7440-70-2	CALCIUM	10	5300	100	9.4		
7440-47-3	CHROMIUM	10	3.3	1	0.074		
7440-48-4	COBALT	10	0.93	0.1	0.054		
7440-50-8	COPPER	10	1.5	1	0.25		
7439-89-6	IRON	10	2800	10	3.5		
7439-92-1	LEAD	10	0.62	0.052	0.019		
7439-95-4	MAGNESIUM	10	510	10	3.8		
7439-96-5	MANGANESE	10	39	0.21	0.063		
7440-02-0	NICKEL	10	1.8	0.52	0.26		
7440-09-7	POTASSIUM	10	310	100	18		
7782-49-2	SELENIUM	10	0.44	0.1	0.038		
7440-22-4	SILVER	10	0.0052	0.01	0.0052	U	
7440-23-5	SODIUM	10	100	100	17		
7440-28-0	THALLIUM	10	0.024	0.021	0.0041		
7440-62-2	VANADIUM	10	6.1	0.1	0.046		
7440-66-6	ZINC	10	4.8	2.1	0.43		

Data Package ID: *im1602355-1*

Total MERCURY

Method SW7471A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Tetra Tech MM, Inc.
Client Project ID: 103P4384 Brandeis-Bardin Campus
Work Order Number: 1602355 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Nathan A. Quatier **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
TT-LR-RBRA-01	1602355-1	2/16/2016	2/29/2016	02/29/2016	11.09	1	0.027	0.037	0.004	J	0.607 g
TT-BP-RBRA-01	1602355-2	2/18/2016	2/29/2016	02/29/2016	17.88	1	0.023	0.037	0.004	J	0.658 g
TT-BP-DRAIN-01	1602355-3	2/18/2016	2/29/2016	02/29/2016	28.09	1	0.021	0.045	0.0049	J	0.615 g
TT-SEDBG1-01	1602355-4	2/18/2016	2/29/2016	02/29/2016	6.934	1	0.0055	0.033	0.0035	J	0.657 g
TT-SD1-01	1602355-5	2/18/2016	2/29/2016	02/29/2016	10.97	1	0.0081	0.036	0.0039	J	0.623 g
TT-SD2-01	1602355-6	2/18/2016	2/29/2016	02/29/2016	9.297	1	0.0071	0.036	0.0038	J	0.621 g
TT-ED1-01	1602355-7	2/18/2016	2/29/2016	02/29/2016	15.77	1	0.0057	0.036	0.0039	J	0.665 g
TT-ED2-01	1602355-8	2/18/2016	2/29/2016	02/29/2016	9.292	1	0.011	0.035	0.0038	J	0.625 g
TT-ED3-01	1602355-9	2/18/2016	2/29/2016	02/29/2016	20.16	1	0.011	0.039	0.0042	J	0.649 g
TT-BBCSED-01	1602355-10	2/18/2016	2/29/2016	02/29/2016	3.554	1	0.0034	0.032	0.0034	U	0.653 g
TT-PPG-01	1602355-11	2/18/2016	2/29/2016	02/29/2016	5.527	1	0.0081	0.034	0.0037	J	0.615 g
TT-CAB-01	1602355-12	2/18/2016	2/29/2016	02/29/2016	12.75	1	0.038	0.033	0.0036		0.693 g
TT-GF-01	1602355-13	2/16/2016	2/29/2016	02/29/2016	18.40	1	0.017	0.039	0.0042	J	0.631 g
TT-GF-02	1602355-14	2/18/2016	2/29/2016	02/29/2016	21.09	1	0.016	0.037	0.004	J	0.677 g
TT-OSF-01	1602355-15	2/18/2016	2/29/2016	02/29/2016	20.88	1	0.043	0.038	0.0041		0.658 g
TT-BBF-01	1602355-16	2/18/2016	2/29/2016	02/29/2016	7.381	1	0.011	0.036	0.0038	J	0.608 g
TT-BB1-01	1602355-17	2/18/2016	2/29/2016	02/29/2016	8.431	1	0.014	0.034	0.0036	J	0.65 g
TT-HC-01	1602355-18	2/18/2016	2/29/2016	02/29/2016	11.59	1	0.02	0.035	0.0038	J	0.647 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg1602355-1*

Total MERCURY

Method SW7471A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Tetra Tech MM, Inc.
Client Project ID: 103P4384 Brandeis-Bardin Campus
Work Order Number: 1602355 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Nathan A. Quatier **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
TT-GGP-01	1602355-19	2/18/2016	2/29/2016	02/29/2016	5.346	1	0.0084	0.033	0.0036	J	0.637 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg1602355-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: IP160229-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: N/A
File Name: 042SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	2.4	5	1.6	J	
7440-36-0	ANTIMONY	10	0.017	0.03	0.017	U	
7440-38-2	ARSENIC	10	0.033	0.2	0.033	U	
7440-39-3	BARIUM	10	0.058	0.1	0.058	U	
7440-41-7	BERYLLIUM	10	-0.017	0.05	0.014	J	
7440-43-9	CADMIUM	10	0.017	0.03	0.017	U	
7440-70-2	CALCIUM	10	9.1	100	9.1	U	
7440-47-3	CHROMIUM	10	0.12	1	0.072	J	
7440-48-4	COBALT	10	0.052	0.1	0.052	U	
7440-50-8	COPPER	10	0.24	1	0.24	U	
7439-89-6	IRON	10	3.4	10	3.4	U	
7439-92-1	LEAD	10	0.019	0.05	0.019	U	
7439-95-4	MAGNESIUM	10	3.7	10	3.7	U	
7439-96-5	MANGANESE	10	0.062	0.2	0.062	U	
7440-02-0	NICKEL	10	-0.33	0.5	0.25	J	
7440-09-7	POTASSIUM	10	18	100	18	U	
7782-49-2	SELENIUM	10	0.037	0.1	0.037	U	
7440-22-4	SILVER	10	-0.006	0.01	0.0051	J	
7440-23-5	SODIUM	10	43	100	17	J	
7440-28-0	THALLIUM	10	0.004	0.02	0.004	U	
7440-62-2	VANADIUM	10	0.044	0.1	0.044	U	
7440-66-6	ZINC	10	1.3	2	0.42	J	

Data Package ID: *im1602355-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: IP160229-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/29/2016
Date Analyzed: 03/02/2016
Prep Method: SW3050B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: N/A
File Name: 044SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	500	497	5		99	80 - 120%
7440-36-0	ANTIMONY	3	3.08	0.03		103	80 - 120%
7440-38-2	ARSENIC	10	10.5	0.2		105	80 - 120%
7440-39-3	BARIUM	10	10.8	0.1		108	80 - 120%
7440-41-7	BERYLLIUM	5	5.34	0.05		107	80 - 120%
7440-43-9	CADMIUM	3	3.35	0.03		112	80 - 120%
7440-70-2	CALCIUM	1000	1120	100		112	80 - 120%
7440-47-3	CHROMIUM	50	51.2	1		102	80 - 120%
7440-48-4	COBALT	10	10.5	0.1		105	80 - 120%
7440-50-8	COPPER	100	107	1		107	80 - 120%
7439-89-6	IRON	500	505	10		101	80 - 120%
7439-92-1	LEAD	5	5.43	0.05		109	80 - 120%
7439-95-4	MAGNESIUM	1000	1020	10		102	80 - 120%
7439-96-5	MANGANESE	10	10.5	0.2		105	80 - 120%
7440-02-0	NICKEL	50	52.4	0.5		105	80 - 120%
7440-09-7	POTASSIUM	500	515	100		103	80 - 120%
7782-49-2	SELENIUM	10	10.9	0.1		109	80 - 120%
7440-22-4	SILVER	1	1.1	0.01		110	80 - 120%
7440-23-5	SODIUM	1000	1110	100		111	80 - 120%
7440-28-0	THALLIUM	0.2	0.229	0.02		115	80 - 120%
7440-62-2	VANADIUM	10	10.7	0.1		107	80 - 120%
7440-66-6	ZINC	200	225	2		112	80 - 120%

Data Package ID: *im1602355-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
LabID: 1602355-1MS

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 16-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.022 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: 048SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	14000		18900		5.5	550	862	75 - 125%
7440-36-0	ANTIMONY	0.34		1.57	N	0.033	3.3	37	75 - 125%
7440-38-2	ARSENIC	10		24.5	N	0.22	11	130	75 - 125%
7440-39-3	BARIUM	130		168		0.11	11	338	75 - 125%
7440-41-7	BERYLLIUM	0.81		7.26		0.055	5.5	117	75 - 125%
7440-43-9	CADMIUM	0.36		4.68	N	0.033	3.3	131	75 - 125%
7440-70-2	CALCIUM	3600		5410	N	110	1100	161	75 - 125%
7440-47-3	CHROMIUM	30		96.1		1.1	55	120	75 - 125%
7440-48-4	COBALT	11		24.9		0.11	11	122	75 - 125%
7440-50-8	COPPER	19		148		1.1	110	118	75 - 125%
7439-89-6	IRON	28000		33100		11	550	959	75 - 125%
7439-92-1	LEAD	16		23.9	N	0.055	5.5	147	75 - 125%
7439-95-4	MAGNESIUM	6200		8610		11	1100	218	75 - 125%
7439-96-5	MANGANESE	510		574		0.22	11	546	75 - 125%
7440-02-0	NICKEL	31		96.3		0.55	55	119	75 - 125%
7440-09-7	POTASSIUM	5100		6340		110	550	233	75 - 125%
7782-49-2	SELENIUM	1.5		14.2		0.11	11	115	75 - 125%
7440-22-4	SILVER	0.053		1.35		0.011	1.1	118	75 - 125%
7440-23-5	SODIUM	190		1480		110	1100	116	75 - 125%
7440-28-0	THALLIUM	0.39		0.719	N	0.022	0.22	149	75 - 125%
7440-62-2	VANADIUM	47		77.9		0.11	11	280	75 - 125%
7440-66-6	ZINC	80		348		2.2	220	122	75 - 125%

Data Package ID: *im1602355-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
LabID: 1602355-1MSD

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 16-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 02-Mar-16
Prep Method: SW3050 Rev B

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.022 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: 049SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	18300		550	757	5.5	20	3
7440-36-0	ANTIMONY	1.48	N	3.3	34	0.033	20	6
7440-38-2	ARSENIC	24.2	N	11	127	0.22	20	1
7440-39-3	BARIUM	157		11	237	0.11	20	7
7440-41-7	BERYLLIUM	6.9		5.5	111	0.055	20	5
7440-43-9	CADMIUM	4.3		3.3	119	0.033	20	8
7440-70-2	CALCIUM	5330	N	1100	154	110	20	2
7440-47-3	CHROMIUM	93.2		55	114	1.1	20	3
7440-48-4	COBALT	24.5		11	119	0.11	20	2
7440-50-8	COPPER	144		110	114	1.1	20	3
7439-89-6	IRON	31400		550	637	11	20	5
7439-92-1	LEAD	23.1	N	5.5	133	0.055	20	3
7439-95-4	MAGNESIUM	8100		1100	172	11	20	6
7439-96-5	MANGANESE	607		11	847	0.22	20	6
7440-02-0	NICKEL	93.9		55	115	0.55	20	2
7440-09-7	POTASSIUM	6130		550	196	110	20	3
7782-49-2	SELENIUM	11.2	*	11	88	0.11	20	23
7440-22-4	SILVER	1.22		1.1	106	0.011	20	11
7440-23-5	SODIUM	1510		1100	119	110	20	2
7440-28-0	THALLIUM	0.659		0.22	122	0.022	20	9
7440-62-2	VANADIUM	69.1		11	201	0.11	20	12
7440-66-6	ZINC	342		220	119	2.2	20	2

Data Package ID: *im1602355-1*

ICPMS Metals

Method SW6020

Analytical Spike Sample Recovery

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01

LabID: 1602355-1A

Run ID: IM160302-10A4

Date Analyzed: 3/2/2016

Result Units: mg/l

Target Analyte	Sample Result	Samp Qual	PS Result	PS Qual	Spike Added	PS % Rec.	Control Limits
ANTIMONY	0.000312		0.00344		0.003	104	75 - 125%
ARSENIC	0.00929		0.0215		0.01	122	75 - 125%
CADMIUM	0.000329		0.00365		0.003	111	75 - 125%
CALCIUM	3.32		5.87	N	2	127	75 - 125%
LEAD	0.0144		0.0204		0.005	120	75 - 125%
THALLIUM	0.000356		0.000600		0.00020	122	75 - 125%

Data Package ID: *im1602355-1*

ICPMS Metals

Method SW6020

Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
Lab ID: 1602355-1D

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 02/16/2016
Date Extracted: 02/29/2016
Date Analyzed: 03/02/2016

Prep Batch: IP160229-1
QCBatchID: IP160229-1-1
Run ID: IM160302-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 047SMPL_

Sample Aliquot: 1.025 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7429-90-5	ALUMINUM	14000		14300		5.49	10	1	20
7440-36-0	ANTIMONY	0.34		0.476	*	0.0329	10	33	20
7440-38-2	ARSENIC	10		11.1		0.219	10	8	20
7440-39-3	BARIUM	130		134		0.11	10	2	20
7440-41-7	BERYLLIUM	0.81		0.815		0.0549	10	1	20
7440-43-9	CADMIUM	0.36		0.27	*	0.0329	10	29	20
7440-70-2	CALCIUM	3600		3710		110	10	2	20
7440-47-3	CHROMIUM	30		31		1.1	10	2	20
7440-48-4	COBALT	11		11.2		0.11	10	2	20
7440-50-8	COPPER	19		18.1		1.1	10	2	20
7439-89-6	IRON	28000		31200		11	10	11	20
7439-92-1	LEAD	16		16.5		0.0549	10	4	20
7439-95-4	MAGNESIUM	6200		6340		11	10	2	20
7439-96-5	MANGANESE	510		530		0.219	10	3	20
7440-02-0	NICKEL	31		30.7		0.549	10	0	20
7440-09-7	POTASSIUM	5100		5010		110	10	1	20
7782-49-2	SELENIUM	1.5		0.966	*	0.11	10	42	20
7440-22-4	SILVER	0.053		0.056		0.011	10		20
7440-23-5	SODIUM	190		156		110	10		20
7440-28-0	THALLIUM	0.39		0.38		0.0219	10	3	20
7440-62-2	VANADIUM	47		56.6		0.11	10	18	20
7440-66-6	ZINC	80		85.4		2.19	10	7	20

Data Package ID: *im1602355-1*

ICPMS Metals

Method SW6020

Serial Dilution

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01

Lab ID: 1602355-1L

Run ID: IM160302-10A4

Date Analyzed: 02-Mar-16

Result Units: mg/l

CASNO	Target Analyte	Sample Result	Samp Qual	SD Result	SD Qual	EPA Qualifier	%D
7429-90-5	ALUMINUM	12.9		13.8			7
7440-36-0	ANTIMONY	0.000312		0.000425	J		
7440-38-2	ARSENIC	0.00929		0.0106		E	14
7440-39-3	BARIUM	0.120		0.129			8
7440-41-7	BERYLLIUM	0.000737		0.000700	J		5
7440-43-9	CADMIUM	0.000329		0.000430	J		
7440-70-2	CALCIUM	3.32		3.75		E	13
7440-47-3	CHROMIUM	0.0276		0.0308		E	11
7440-48-4	COBALT	0.0104		0.0114			9
7440-50-8	COPPER	0.0169		0.0182	J		8
7439-89-6	IRON	25.4		27.3			7
7439-92-1	LEAD	0.0144		0.0158			10
7439-95-4	MAGNESIUM	5.67		6.08			7
7439-96-5	MANGANESE	0.469		0.501			7
7440-02-0	NICKEL	0.0280		0.0279			0
7440-09-7	POTASSIUM	4.62		4.98			8
7782-49-2	SELENIUM	0.00135		0.00100	J		
7440-22-4	SILVER	0.0000480		0.0000550	J		
7440-23-5	SODIUM	0.177		0.316	J		
7440-28-0	THALLIUM	0.000356		0.000400	J	E	12
7440-62-2	VANADIUM	0.0430		0.0493		E	15
7440-66-6	ZINC	0.0728		0.0782			7

Data Package ID: *im1602355-1*

Mercury

Method SW7471A

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: HG160229-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 29-Feb-16
Date Analyzed: 29-Feb-16

Prep Batch: HG160229-1
QCBatchID: HG160229-1-1
Run ID: HG160229-2A2
Cleanup: NONE
Basis: N/A
File Name: HG160229-2

Sample Aliquot: 0.6 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	0.0036	0.033	0.0036	U	

Data Package ID: *HG1602355-1*

Mercury

Method SW7471A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1602355

Client Name: Tetra Tech MM, Inc.

ClientProject ID: 103P4384 Brandeis-Bardin Campus

Lab ID: HG160229-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/29/2016
Date Analyzed: 02/29/2016
Prep Method: METHOD

Prep Batch: HG160229-1
QCBatchID: HG160229-1-1
Run ID: HG160229-2A2
Cleanup: NONE
Basis: N/A
File Name: HG160229-2

Sample Aliquot: 0.6 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	0.167	0.17	0.0333		102	80 - 120%

Data Package ID: *hg1602355-1*

Mercury

Method SW7471A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
LabID: 1602355-1MS

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 16-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 29-Feb-16
Prep Method: METHOD

Prep Batch: HG160229-1
QCBatchID: HG160229-1-1
Run ID: HG160229-2A2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.609 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: HG160229-2

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	0.027	J	0.406		0.0369	0.369	103	80 - 120%

Field ID: TT-LR-RBRA-01
LabID: 1602355-1MSD

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 16-Feb-16
Date Extracted: 29-Feb-16
Date Analyzed: 29-Feb-16
Prep Method: METHOD

Prep Batch: HG160229-1
QCBatchID: HG160229-1-1
Run ID: HG160229-2A2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.606 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: HG160229-2

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	0.405		0.371	102	0.0371	20	0

Data Package ID: *hg1602355-1*

Mercury

Method SW7471

Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1602355
Client Name: Tetra Tech MM, Inc.
ClientProject ID: 103P4384 Brandeis-Bardin Campus

Field ID: TT-LR-RBRA-01
Lab ID: 1602355-1D

Sample Matrix: SOIL
% Moisture: 11.1
Date Collected: 02/16/2016
Date Extracted: 02/29/2016
Date Analyzed: 02/29/2016

Prep Batch: HG160229-1
QCBatchID: HG160229-1-1
Run ID: HG160229-2A2
Cleanup: NONE
Basis: Dry Weight
File Name: HG160229-2

Sample Aliquot: 0.607 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7439-97-6	MERCURY	0.027	J	0.0275	J	0.0371	1		20

Data Package ID: *hg1602355-1*

ALS Environmental
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March 04, 2016

Analytical Report for Service Request No: K1601959

Amy Wolf
ALS Fort Collins
225 Commerce Drive
Fort Collins, CO 80524

RE: Brandeis-Bardin Campus / 103P4384

Dear Amy,

Enclosed are the results of the sample(s) submitted to our laboratory February 26, 2016
For your reference, these analyses have been assigned our service request number **K1601959.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at gregory.salata@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for

Gregory Salata, Ph.D.
Client Services
Manager

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Table of Contents

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

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Chain-of-Custody

LAB ID: 1160 1959
DATE: 2/25/2016
PAGE: 1 of 1

PROJECT NAME	Brandeis-Bardin Campus	E-MAIL	amy.wolf@alsglobal.com
PROJECT No.	103P4384	PHONE	970-490-1511
REPORT TO	Amy Wolf	FAX	970-490-1522
COMPANY	ALS Environmental		
ADDRESS	225 Commerce Drive, Fort Collins, Colorado 80524		

TURNAROUND: RUSH-One Week
DISPOSAL: By Lab or Return to Client

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Btls	QC	Perchlorate (Method 314)
	TT-LR-RBRA-01	SOIL	02/16/2016	15:35			X
	TT-BP-RBRA-01	SOIL	02/18/2016	14:30			X
	TT-BP-DRAIN-01	SOIL	02/18/2016	15:30			X
	TT-SEDBG1-01	SOIL	02/18/2016	16:55			X
	TT-SD1-01	SOIL	02/18/2016	11:30			X
	TT-SD2-01	SOIL	02/18/2016	18:40			X
	TT-ED1-01	SOIL	02/18/2016	17:30			X
	TT-ED2-01	SOIL	02/18/2016	17:40			X
	TT-ED3-01	SOIL	02/18/2016	18:25			X
	TT-BBCSED-01	SOIL	02/18/2016	18:50			X
	TT-PPG-01	SOIL	02/18/2016	17:50			X
	TT-CAB-01	SOIL	02/18/2016	19:30			X
	TT-GF-01	SOIL	02/16/2016	18:35			X
	TT-GF-02	SOIL	02/18/2016	18:35			X
	TT-OSF-01	SOIL	02/18/2016	19:00			X
	TT-BBF-01	SOIL	02/18/2016	18:05			X
	TT-BB1-01	SOIL	02/18/2016	17:55			X
	TT-HC-01	SOIL	02/18/2016	18:10			X
	TT-GGP-01	SOIL	02/18/2016	18:10			X

COMMENTS: ALS FC SDG 1602355
Standard level 2 report.
Excel spreadsheet EDD.

	SIGNATURE	PRINTED NAME	DATE	TIME	COMPANY
Relinquished By		Scott Malby	02-25-2016	1600	ALS FC
Received By		Les Kennedy	2/26/16	1000	ALS
Relinquished By					
Received By					

PC Greg

Cooler Receipt and Preservation Form

Client ALS Fort Collins Service Request K16 01959

Received: 2/26/16 Opened: 2/26/16 By: UU Unloaded: 2/26/16 By: UU

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
-0.8	-0.6	—	—	+0.2	363		6154 4213 8437	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

RUSH

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Report

Client:	ALS Environmental - Fort Collins	**Service Request:**	K1601959
Project:	Brandeis-Bardin Campus/103P4384	**Date Collected:**	02/16/16 - 02/18/16
Sample Matrix:	Soil	**Date Received:**	02/26/16
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
TT-LR-RBRA-01	K1601959-001	**90.0**	-	1	02/29/16 14:16	
TT-BP-RBRA-01	K1601959-002	**82.9**	-	1	02/29/16 14:16	
TT-BP-DRAIN-01	K1601959-003	**71.2**	-	1	02/29/16 14:16	
TT-SEDBG1-01	K1601959-004	**93.0**	-	1	02/29/16 14:16	
TT-SD1-01	K1601959-005	**87.7**	-	1	02/29/16 14:16	
TT-SD2-01	K1601959-006	**93.1**	-	1	02/29/16 14:16	
TT-ED1-01	K1601959-007	**81.0**	-	1	02/29/16 14:16	
TT-ED2-01	K1601959-008	**91.4**	-	1	02/29/16 14:16	
TT-ED3-01	K1601959-009	**82.9**	-	1	02/29/16 14:16	
TT-BBCSED-01	K1601959-010	**96.0**	-	1	02/29/16 14:16	
TT-PPG-01	K1601959-011	**94.6**	-	1	02/29/16 14:16	
TT-CAB-01	K1601959-012	**87.4**	-	1	02/29/16 14:16	
TT-GF-01	K1601959-013	**81.0**	-	1	02/29/16 14:16	
TT-GF-02	K1601959-014	**84.3**	-	1	02/29/16 14:16	
TT-OSF-01	K1601959-015	**77.9**	-	1	02/29/16 14:16	
TT-BBF-01	K1601959-016	**92.6**	-	1	02/29/16 14:16	
TT-BB1-01	K1601959-017	**92.5**	-	1	02/29/16 14:16	
TT-HC-01	K1601959-018	**88.0**	-	1	02/29/16 14:16	
TT-GGP-01	K1601959-019	**95.0**	-	1	02/29/16 14:16	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - Fort Collins	**Service Request:**	K1601959
Project	Brandeis-Bardin Campus/103P4384	**Date Collected:**	02/16/16 - 02/18/16
Sample Matrix:	Soil	**Date Received:**	02/26/16
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Replicate Sample Summary
Inorganic Parameters

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
TT-LR-RBRA-01	K1601959-001DUP	-	90.0	89.8	89.9	<1	20	02/29/16
TT-PPG-01	K1601959-011DUP	-	94.6	94.3	94.5	<1	20	02/29/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - Fort Collins	**Service Request:**	K1601959
Project:	Brandeis-Bardin Campus/103P4384	**Date Collected:**	02/16/16 - 02/18/16
Sample Matrix:	Soil	**Date Received:**	02/26/16
Analysis Method:	314.0	**Units:**	ug/Kg
Prep Method:	ALS SOP	**Basis:**	Dry

Perchlorate

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
TT-LR-RBRA-01	K1601959-001	ND U	22	1	03/01/16 12:46	3/1/16	
TT-BP-RBRA-01	K1601959-002	ND U	20	1	03/01/16 12:58	3/1/16	
TT-BP-DRAIN-01	K1601959-003	ND U	27	1	03/01/16 13:11	3/1/16	
TT-SEDBG1-01	K1601959-004	ND U	22	1	03/01/16 13:23	3/1/16	
TT-SD1-01	K1601959-005	ND U	23	1	03/01/16 13:36	3/1/16	
TT-SD2-01	K1601959-006	ND U	21	1	03/01/16 13:48	3/1/16	
TT-ED1-01	K1601959-007	ND U	24	1	03/01/16 14:01	3/1/16	
TT-ED2-01	K1601959-008	ND U	20	1	03/01/16 14:13	3/1/16	
TT-ED3-01	K1601959-009	ND U	22	1	03/01/16 14:25	3/1/16	
TT-BBCSED-01	K1601959-010	ND U	20	1	03/01/16 14:38	3/1/16	
TT-PPG-01	K1601959-011	ND U	20	1	03/01/16 15:15	3/1/16	
TT-CAB-01	K1601959-012	ND U	21	1	03/01/16 15:28	3/1/16	
TT-GF-01	K1601959-013	ND U	22	1	03/01/16 15:40	3/1/16	
TT-GF-02	K1601959-014	ND U	20	1	03/01/16 15:52	3/1/16	
TT-OSF-01	K1601959-015	ND U	22	1	03/01/16 16:05	3/1/16	
TT-BBF-01	K1601959-016	ND U	21	1	03/01/16 16:17	3/1/16	
TT-BB1-01	K1601959-017	ND U	20	1	03/01/16 16:30	3/1/16	
TT-HC-01	K1601959-018	ND U	21	1	03/01/16 16:42	3/1/16	
TT-GGP-01	K1601959-019	ND U	20	1	03/01/16 16:54	3/1/16	
Method Blank	K1601959-MB	ND U	20	1	03/01/16 10:25	3/1/16	

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dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - Fort Collins	**Service Request:**	K1601959
Project:	Brandeis-Bardin Campus/103P4384	**Date Analyzed:**	03/01/16
Sample Matrix:	Soil	**Date Extracted:**	03/01/16

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	314.0	**Units:**	ug/Kg
Prep Method:	ALS SOP	**Basis:**	Dry
		Analysis Lot:	486458

	Lab Control Sample K1601959-LCS			Duplicate Lab Control Sample K1601959-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	13.3	15	92	13.3	15	92	72-133	<1	20

ATTACHMENT H

PROUCL STATISTICAL ANALYSIS OUTPUT

ProUCL Output Results for Two-Sample Hypothesis Testing

BBC Main Camp Gamma Exposure Rate Measurements vs. Background Soil Gamma Exposure Rate Measurements

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 10:11:41 AM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: BBC

Sample 2 Data: LR RBRA BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	24624	422
Number of Distinct Observations	18491	410
Minimum	8.204	13.54
Maximum	22.37	18.36
Mean	14.33	15.79
Median	14.28	15.8
SD	1.559	0.877
SE of Mean	0.00993	0.0427

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	25044	-19.131	1.645	1.000
Welch-Satterthwaite (Unequal Varian	467.9	-33.227	1.648	1.000

Pooled SD 1.550

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	2.43
Variance of Sample 2	0.768

Numerator DF	Denominator DF	F-Test Value	P-Value
24623	421	3.163	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 10:14:39 AM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BBC

Sample 2 Data: LR RBRA BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	24624	422
Number of Distinct Observations	18491	410
Minimum	8.204	13.54
Maximum	22.37	18.36
Mean	14.33	15.79
Median	14.28	15.8
SD	1.559	0.877
SE of Mean	0.00993	0.0427

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	3.053E+8
Standardized WMW U-Stat	-21.04
Mean (U)	5195664
SD(U) - Adj ties	147273
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 10:18:13 AM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: BBC

Sample 2 Data: BP RBRA BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	24624	458
Number of Distinct Observations	18491	457
Minimum	8.204	13.07
Maximum	22.37	21.88
Mean	14.33	17.47
Median	14.28	17.46
SD	1.559	1.492
SE of Mean	0.00993	0.0697

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	25080	-42.669	1.645	1.000
Welch-Satterthwaite (Unequal Varian	475.8	-44.526	1.648	1.000

Pooled SD 1.558

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	2.43
Variance of Sample 2	2.225

Numerator DF	Denominator DF	F-Test Value	P-Value
24623	457	1.092	0.199

Conclusion with Alpha = 0.05

Two variances appear to be equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 11:55:46 AM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BBC

Sample 2 Data: BP RBRA BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	24624	458
Number of Distinct Observations	18491	457
Minimum	8.204	13.07
Maximum	22.37	21.88
Mean	14.33	17.47
Median	14.28	17.46
SD	1.559	1.492
SE of Mean	0.00993	0.0697

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	3.040E+8
Standardized WMW U-Stat	-31.34
Mean (U)	5638896
SD(U) - Adj ties	153536
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

ProUCL Output Results for Two-Sample Hypothesis Testing

Main Drainage Gamma Exposure Rate Measurements vs. Background Sediment Gamma Exposure Rate Measurements

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 2:55:49 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: Main Drainage

Sample 2 Data: EDBG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	1681	3030
Number of Distinct Observations	1641	2888
Minimum	12.18	15.98
Maximum	20.47	27.72
Mean	17.22	21.49
Median	17.3	21.45
SD	1.207	1.447
SE of Mean	0.0294	0.0263

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	4709	-102.840	1.645	1.000
Welch-Satterthwaite (Unequal Varian	4011.4	-108.258	1.645	1.000

Pooled SD 1.366

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	1.457
Variance of Sample 2	2.092

Numerator DF	Denominator DF	F-Test Value	P-Value
3029	1680	1.436	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:03:56 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Main Drainage

Sample 2 Data: EDBG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	1681	3030
Number of Distinct Observations	1641	2888
Minimum	12.18	15.98
Maximum	20.47	27.72
Mean	17.22	21.49
Median	17.3	21.45
SD	1.207	1.447
SE of Mean	0.0294	0.0263

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1462206
Standardized WMW U-Stat	-55.86
Mean (U)	2546715
SD(U) - Adj ties	44722
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:06:26 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: Main Drainage

Sample 2 Data: BP Drainage BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	1681	145
Number of Distinct Observations	1641	145
Minimum	12.18	20.07
Maximum	20.47	38.56
Mean	17.22	28.9
Median	17.3	28.75
SD	1.207	4.626
SE of Mean	0.0294	0.384

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	1824	-77.519	1.646	1.000
Welch-Satterthwaite (Unequal Varian	145.7	-30.319	1.655	1.000

Pooled SD 1.741

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	1.457
Variance of Sample 2	21.4

Numerator DF	Denominator DF	F-Test Value	P-Value
144	1680	14.688	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:08:22 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Main Drainage

Sample 2 Data: BP Drainage BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	1681	145
Number of Distinct Observations	1641	145
Minimum	12.18	20.07
Maximum	20.47	38.56
Mean	17.22	28.9
Median	17.3	28.75
SD	1.207	4.626
SE of Mean	0.0294	0.384

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	1413726
Standardized WMW U-Stat	-20.01
Mean (U)	121873
SD(U) - Adj ties	6092
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

ProUCL Output Results for Two-Sample Hypothesis Testing

South Drainage Gamma Exposure Rate Measurements vs. Background Sediment Gamma Exposure Rate Measurements

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:48:20 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: South Drainage

Sample 2 Data: EDBG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4330	3030
Number of Distinct Observations	4052	2888
Minimum	13.32	15.98
Maximum	22.01	27.72
Mean	17.64	21.49
Median	17.66	21.45
SD	1.213	1.447
SE of Mean	0.0184	0.0263

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	7358	-123.637	1.645	1.000
Welch-Satterthwaite (Unequal Varian	5765.8	-119.884	1.645	1.000

Pooled SD 1.314

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	1.471
Variance of Sample 2	2.092

Numerator DF	Denominator DF	F-Test Value	P-Value
3029	4329	1.423	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:51:40 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: South Drainage

Sample 2 Data: EDBG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4330	3030
Number of Distinct Observations	4052	2888
Minimum	13.32	15.98
Maximum	22.01	27.72
Mean	17.64	21.49
Median	17.66	21.45
SD	1.213	1.447
SE of Mean	0.0184	0.0263

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	9631639
Standardized WMW U-Stat	-70.28
Mean (U)	6559950
SD(U) - Adj ties	89710
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:52:54 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: South Drainage

Sample 2 Data: BP Drainage BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4330	145
Number of Distinct Observations	4052	145
Minimum	13.32	20.07
Maximum	22.01	38.56
Mean	17.64	28.9
Median	17.66	28.75
SD	1.213	4.626
SE of Mean	0.0184	0.384

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	4473	-91.742	1.645	1.000
Welch-Satterthwaite (Unequal Varian	144.7	-29.271	1.655	1.000

Pooled SD 1.453

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	1.471
Variance of Sample 2	21.4

Numerator DF	Denominator DF	F-Test Value	P-Value
144	4329	14.546	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:53:36 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: South Drainage

Sample 2 Data: BP Drainage BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4330	145
Number of Distinct Observations	4052	145
Minimum	13.32	20.07
Maximum	22.01	38.56
Mean	17.64	28.9
Median	17.66	28.75
SD	1.213	4.626
SE of Mean	0.0184	0.384

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	9376753
Standardized WMW U-Stat	-20.5
Mean (U)	313925
SD(U) - Adj ties	15303
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

ProUCL Output Results for Two-Sample Hypothesis Testing

Eastern Drainage Gamma Exposure Rate Measurements vs. Background Sediment Gamma Exposure Rate Measurements

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:56:35 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: East Drainage

Sample 2 Data: EDBG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	7684	3030
Number of Distinct Observations	7107	2888
Minimum	11.05	15.98
Maximum	25.47	27.72
Mean	19.17	21.49
Median	19.14	21.45
SD	1.739	1.447
SE of Mean	0.0198	0.0263

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	10712	-65.097	1.645	1.000
Welch-Satterthwaite (Unequal Varian	6619.5	-70.475	1.645	1.000

Pooled SD 1.662

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	3.026
Variance of Sample 2	2.092

Numerator DF	Denominator DF	F-Test Value	P-Value
7683	3029	1.446	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:57:49 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: East Drainage

Sample 2 Data: EDBG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	7684	3030
Number of Distinct Observations	7107	2888
Minimum	11.05	15.98
Maximum	25.47	27.72
Mean	19.17	21.49
Median	19.14	21.45
SD	1.739	1.447
SE of Mean	0.0198	0.0263

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	33025461
Standardized WMW U-Stat	-56.47
Mean (U)	11641260
SD(U) - Adj ties	144185
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:58:32 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: East Drainage

Sample 2 Data: BP Drainage BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	7684	145
Number of Distinct Observations	7107	145
Minimum	11.05	20.07
Maximum	25.47	38.56
Mean	19.17	28.9
Median	19.14	28.75
SD	1.739	4.626
SE of Mean	0.0198	0.384

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	7827	-63.288	1.645	1.000
Welch-Satterthwaite (Unequal Varian	144.8	-25.295	1.655	1.000

Pooled SD 1.834

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	3.026
Variance of Sample 2	21.4

Numerator DF	Denominator DF	F-Test Value	P-Value
144	7683	7.072	0.000

Conclusion with Alpha = 0.05

Two variances are not equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	3/7/2016 3:59:20 PM
From File	proucl.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: East Drainage

Sample 2 Data: BP Drainage BG

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	7684	145
Number of Distinct Observations	7107	145
Minimum	11.05	20.07
Maximum	25.47	38.56
Mean	19.17	28.9
Median	19.14	28.75
SD	1.739	4.626
SE of Mean	0.0198	0.384

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	29537363
Standardized WMW U-Stat	-20.23
Mean (U)	557090
SD(U) - Adj ties	26963
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	1

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

APPENDIX B

RISK-BASED SCREENING LEVELS

DTSC Risk-Based Screening Levels

Table A-1. DTSC-Recommended Screening Levels for Soil

Analyte	CAS #	Toxicity Factors for the DTSC-SLs: Oral Slope Factor SFo (mg/kg-d)$^{-1}$	Source	Inhalation Unit Risk IUR ($\mu g/m^3)^{-1}$	Source	Reference Dose - Oral RfDo (mg/kg-d)	Ref.	Reference Concentration RfC or REL ($\mu g/m^3$)	Source	Screening Levels for Residential Soil (mg/kg): Cancer Endpoint USEPA $RSL_{Combined}$	Cancer Endpoint $DTSC\text{-}SL_{Combined}$	Cancer Endpoint Final Value	Cancer Endpoint Source	Noncancer Endpoint USEPA $RSL_{Combined}$	Noncancer Endpoint $DTSC\text{-}SL_{Combined}$	Noncancer Endpoint Final Value	Noncancer Endpoint Source	Screening Levels for Commercial/Industrial Soil (mg/kg): Cancer Endpoint USEPA $RSL_{Combined}$	Cancer Endpoint $DTSC\text{-}SL_{Combined}$	Cancer Endpoint Final Value	Cancer Endpoint Source	Noncancer Endpoint USEPA $RSL_{Combined}$	Noncancer Endpoint $DTSC\text{-}SL_{Combined}$	Noncancer Endpoint Final Value	Noncancer Endpoint Source
USEPA RSL Analytes																									
Acrylamide	79-06-1	4.5E+00	OEHHA	1.3E-03	OEHHA	2.0E-03	IRIS	6.0E+00	IRIS	2.4E-01	2.6E-02	2.6E-02	DTSC	1.3E+02	1.2E+02	1.3E+02	USEPA	4.6E+00	3.3E-01	3.3E-01	DTSC	1.6E+03	1.1E+03	1.6E+03	USEPA
Acrylonitrile	107-13-1	1.0E+00	OEHHA	2.9E-04	OEHHA	4.0E-02	ATSDR	2.0E+00	IRIS	2.6E-01	6.8E-02	6.8E-02	DTSC	1.6E+01	4.0E+01	1.6E+01	USEPA	1.1E+00	3.0E-01	3.0E-01	DTSC	6.8E+01	1.7E+02	6.8E+01	USEPA
Arsenic, Inorganic	7440-38-2	9.5E+00	OEHHA PHG	3.3E-03	OEHHA	3.5E-06	OEHHA	1.5E-02	OEHHA	6.8E-01	6.7E-02	6.7E-02	DTSC	3.5E+01	2.5E-01	2.5E-01	DTSC	3.0E+00	2.5E-01	2.5E-01	DTSC	4.8E+02	3.0E+00	3.0E+00	DTSC
Benzaldehyde	100-52-7	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	7.8E+03	4.3E+03	7.8E+03	USEPA	--	--	--	--	1.2E+05	3.0E+04	3.0E+04	DTSC
Benzene	71-43-2	1.0E-01	OEHHA	2.9E-05	OEHHA	4.0E-03	IRIS	3.0E+00	OEHHA	1.2E+00	3.3E-01	3.3E-01	DTSC	8.3E+01	1.1E+01	1.1E+01	DTSC	5.1E+00	1.4E+00	1.4E+00	DTSC	4.3E+02	4.7E+01	4.7E+01	DTSC
Benzenethiol	108-98-5	--	--	--	--	1.0E-03	PPRTV	4.0E+00	Route	--	--	--	--	7.8E+01	4.0E+01	7.8E+01	USEPA	--	--	--	--	1.2E+03	2.7E+02	2.7E+02	DTSC
Benzidine	92-87-5	5.0E+02	OEHHA	1.4E-01	OEHHA	3.0E-03	IRIS	--	--	5.3E-04	2.3E-04	5.3E-04	USEPA	1.9E+02	1.8E+02	1.9E+02	USEPA	1.0E-02	3.0E-03	3.0E-03	DTSC	2.5E+03	1.6E+03	2.5E+03	USEPA
Beryllium and compounds	7440-41-7	--	--	2.4E-03	IRIS	2.0E-04	OEHHA PHG	7.0E-03	OEHHA	1.6E+03	1.6E+03	1.6E+03	USEPA	1.6E+02	1.5E+01	1.5E+01	DTSC	6.9E+03	6.9E+03	6.9E+03	USEPA	2.3E+03	2.1E+02	2.1E+02	DTSC
Bromodichloromethane	75-27-4	6.2E-02	IRIS	3.7E-05	OEHHA	2.0E-02	IRIS	8.0E+01	Route	3.0E-01	2.9E-01	3.0E-01	USEPA	1.6E+03	2.8E+02	2.8E+02	DTSC	1.3E+00	1.3E+00	1.3E+00	USEPA	2.3E+04	1.3E+03	1.3E+03	DTSC
Bromoform	75-25-2	7.9E-03	IRIS	1.1E-06	IRIS	2.0E-02	IRIS	8.0E+01	Route	2.0E+01	1.8E+01	2.0E+01	USEPA	1.6E+03	5.4E+02	1.6E+03	USEPA	8.7E+01	8.0E+01	8.7E+01	USEPA	2.3E+04	3.0E+03	3.0E+03	DTSC
Butadiene, 1,3-	106-99-0	6.0E-01	OEHHA	1.7E-04	OEHHA	--	--	2.0E+00	IRIS	5.8E-02	1.4E-02	1.4E-02	DTSC	1.8E+00	1.8E+00	1.8E+00	USEPA	2.6E-01	6.2E-02	6.2E-02	DTSC	7.7E+00	7.7E+00	7.7E+00	USEPA
Butanol, N-	71-36-3	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	7.8E+03	4.8E+03	7.8E+03	USEPA	--	--	--	--	1.2E+05	3.7E+04	3.7E+04	DTSC
Butylbenzene, n-	104-51-8	--	--	--	--	5.0E-02	PPRTV	2.0E+02	Route	--	--	--	--	3.9E+03	1.2E+03	1.2E+03	DTSC	--	--	--	--	5.8E+04	6.4E+03	6.4E+03	DTSC
Butylbenzene, sec-	135-98-8	--	--	--	--	1.0E-01	Screening PPRTV	4.0E+02	Route	--	--	--	--	7.8E+03	2.2E+03	2.2E+03	DTSC	--	--	--	--	1.2E+05	1.2E+04	1.2E+04	DTSC
Butylbenzene, tert-	98-06-6	--	--	--	--	1.0E-01	Screening PPRTV	4.0E+02	Route	--	--	--	--	7.8E+03	2.2E+03	2.2E+03	DTSC	--	--	--	--	1.2E+05	1.2E+04	1.2E+04	DTSC
Cadmium (Diet)	7440-43-9 (diet)	--	--	1.8E-03	IRIS	6.3E-06	OEHHA PHG	1.0E-02	ATSDR	2.1E+03	9.1E+02	2.1E+03	USEPA	7.1E+01	5.2E+00	5.2E+00	DTSC	9.3E+03	4.0E+03	9.3E+03	USEPA	9.8E+02	7.3E+00	7.3E+00	DTSC
Carbon Tetrachloride	56-23-5	1.5E-01	OEHHA	4.2E-05	OEHHA	4.0E-03	IRIS	1.0E+02	IRIS	6.6E-01	9.9E-02	9.9E-02	DTSC	1.0E+02	5.2E+01	1.0E+02	USEPA	2.9E+00	4.3E-01	4.3E-01	DTSC	5.8E+02	2.5E+02	5.8E+02	USEPA
Chlordane	12789-03-6	1.3E+00	OEHHA	3.4E-04	OEHHA	5.0E-04	IRIS	7.0E-01	IRIS	1.7E+00	4.3E-01	4.3E-01	DTSC	3.4E+01	3.2E+01	3.4E+01	USEPA	7.5E+00	1.5E+00	1.5E+00	DTSC	4.2E+02	3.2E+02	4.2E+02	USEPA
Chloro-2-methylaniline, 4-	95-69-2	2.7E-01	OEHHA	7.7E-05	OEHHA	3.0E-03	Screening PPRTV	--	--	5.4E+00	1.9E+00	5.4E+00	USEPA	1.9E+02	1.8E+02	1.9E+02	USEPA	2.3E+01	5.5E+00	5.5E+00	DTSC	2.5E+03	1.6E+03	2.5E+03	USEPA
Chloroacetaldehyde, 2-	107-20-0	2.7E-01	Screening PPRTV	6.8E-05	Route	--	--	--	--	2.6E+00	5.4E-01	5.4E-01	DTSC	--	--	--	--	1.2E+01	2.4E+00	2.4E+00	DTSC	--	--	--	--
Chlorobutane, 1-	109-69-3	--	--	--	--	4.0E-02	PPRTV	1.6E+02	Route	--	--	--	--	3.1E+03	2.7E+02	2.7E+02	DTSC	--	--	--	--	4.7E+04	1.2E+03	1.2E+03	DTSC
Chlorotoluene, o-	95-49-8	--	--	--	--	2.0E-02	IRIS	8.0E+01	Route	--	--	--	--	1.6E+03	4.8E+02	4.8E+02	DTSC	--	--	--	--	2.3E+04	2.6E+03	2.6E+03	DTSC
Chlorotoluene, p-	106-43-4	--	--	--	--	2.0E-02	Screening PPRTV	8.0E+01	Route	--	--	--	--	1.6E+03	4.4E+02	4.4E+02	DTSC	--	--	--	--	2.3E+04	2.3E+03	2.3E+03	DTSC
Chromium(III), Insoluble Salts	16065-83-1	--	--	--	--	1.5E+00	IRIS	--	--	--	--	--	--	1.2E+05	3.6E+04	3.6E+04	DTSC	--	--	--	--	1.8E+06	1.7E+05	1.7E+05	DTSC
Crotonaldehyde, trans-	123-73-9	1.9E+00	HEAST	4.8E-04	Route	1.0E-03	PPRTV	4.0E+00	Route	3.7E-01	8.7E-02	8.7E-02	DTSC	7.8E+01	4.0E+01	7.8E+01	USEPA	1.7E+00	3.8E-01	3.8E-01	DTSC	1.2E+03	2.6E+02	2.6E+02	DTSC
Cyanides																									
~Cyanogen	460-19-5	--	--	--	--	1.0E-03	IRIS	4.0E+00	Route	--	--	--	--	7.8E+01	4.5E+00	4.5E+00	DTSC	--	--	--	--	1.2E+03	2.0E+01	2.0E+01	DTSC
~Cyanogen Bromide	506-68-3	--	--	--	--	9.0E-02	IRIS	3.6E+02	Route	--	--	--	--	7.0E+03	3.1E+02	3.1E+02	DTSC	--	--	--	--	1.1E+05	1.3E+03	1.3E+03	DTSC
~Cyanogen Chloride	506-77-4	--	--	--	--	5.0E-02	IRIS	2.0E+02	Route	--	--	--	--	3.9E+03	3.3E+02	3.3E+02	DTSC	--	--	--	--	5.8E+04	1.5E+03	1.5E+03	DTSC
~Potassium Silver Cyanide	506-61-6	--	--	--	--	5.0E-03	IRIS	--	--	--	--	--	--	3.9E+02	2.3E+02	3.9E+02	USEPA	--	--	--	--	5.8E+03	1.5E+03	1.5E+03	DTSC
~Silver Cyanide	506-64-9	--	--	--	--	1.0E-01	IRIS	--	--	--	--	--	--	7.8E+03	4.5E+03	7.8E+03	USEPA	--	--	--	--	1.2E+05	2.9E+04	2.9E+04	DTSC
Dibromobenzene, 1,3-	108-36-1	--	--	--	--	4.0E-04	screening PPRTV	1.6E+00	Route	--	--	--	--	3.1E+01	1.6E+01	3.1E+01	USEPA	--	--	--	--	4.7E+02	1.1E+02	1.1E+02	DTSC
Dibromobenzene, 1,4-	106-37-6	--	--	--	--	1.0E-02	IRIS	4.0E+01	Route	--	--	--	--	7.8E+02	4.3E+02	7.8E+02	USEPA	--	--	--	--	1.2E+04	2.9E+03	2.9E+03	DTSC
Dibromochloromethane	124-48-1	8.4E-02	IRIS	2.1E-05	Route	2.0E-02	IRIS	8.0E+01	Route	8.3E+00	9.5E-01	9.5E-01	DTSC	1.6E+03	4.7E+02	4.7E+02	DTSC	3.9E+01	4.2E+00	4.2E+00	DTSC	2.3E+04	2.5E+03	2.5E+03	DTSC
Dibromoethane, 1,2-	106-93-4	2.0E+00	IRIS	6.0E-04	IRIS	9.0E-03	IRIS	8.0E-01	OEHHA	3.7E-02	1.2E-01	3.7E-02	USEPA	7.4E+01	7.2E+00	7.2E+00	DTSC	1.6E-01	5.7E-01	1.6E-01	USEPA	3.3E+02	3.1E+01	3.1E+01	DTSC
Dichlorobenzidine, 3,3'-	91-94-1	1.2E+00	OEHHA	3.4E-04	OEHHA	--	--	--	--	1.2E+00	4.4E-01	1.2E+00	USEPA	--	--	--	--	5.1E+00	1.2E+00	1.2E+00	DTSC	--	--	--	--
Dichloroethane, 1,1-	75-34-3	5.7E-03	OEHHA	1.6E-06	OEHHA	2.0E-01	PPRTV	8.0E+02	Route	3.6E+00	3.6E+00	3.6E+00	USEPA	1.6E+04	1.6E+03	1.6E+03	DTSC	1.6E+01	1.6E+01	1.6E+01	USEPA	2.3E+05	7.2E+03	7.2E+03	DTSC
Dichloroethylene, 1,2-cis-	156-59-2	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	1.6E+02	1.9E+01	1.9E+01	DTSC	--	--	--	--	2.3E+03	8.6E+01	8.6E+01	DTSC
Dichloroethylene, 1,2-trans-	156-60-5	--	--	--	--	2.0E-02	IRIS	8.0E+01	Route	--	--	--	--	1.6E+03	1.3E+02	1.3E+02	DTSC	--	--	--	--	2.3E+04	6.0E+02	6.0E+02	DTSC
Dichloropropane, 1,3-	142-28-9	--	--	--	--	2.0E-02	PPRTV	8.0E+01	Route	--	--	--	--	1.6E+03	4.2E+02	4.2E+02	DTSC	--	--	--	--	2.3E+04	2.2E+03	2.2E+03	DTSC
Dichloropropene, 1,3-	542-75-6	9.1E-02	OEHHA	1.6E-05	OEHHA	3.0E-02	IRIS	2.0E+01	IRIS	1.9E+00	5.8E-01	5.8E-01	DTSC	7.3E+01	7.3E+01	7.3E+01	USEPA	8.3E+00	2.6E+00	2.6E+00	DTSC	3.1E+02	3.1E+02	3.1E+02	USEPA
Dimethylaniline, N,N-	121-69-7	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	1.6E+02	9.8E+01	1.6E+02	USEPA	--	--	--	--	2.3E+03	7.5E+02	7.5E+02	DTSC
Epichlorohydrin	106-89-8	8.0E-02	OEHHA	2.3E-05	OEHHA	6.0E-03	PPRTV	1.0E+00	IRIS	2.7E+01	1.8E+00	1.8E+00	DTSC	1.9E+01	5.3E+01	1.9E+01	USEPA	1.2E+02	8.2E+00	8.2E+00	DTSC	8.3E+01	2.4E+02	8.3E+01	USEPA
Ethyl Chloride (Chloroethane)	75-00-3	4.7E-03	OEHHA NSRL	1.2E-06	Route	--	--	1.0E+04	IRIS	--	3.1E+00	3.1E+00	DTSC	1.4E+04	4.1E+04	1.4E+04	USEPA	--	1.3E+01	1.3E+01	DTSC	5.7E+04	1.7E+05	5.7E+04	USEPA
Ethyl Ether	60-29-7	--	--	--	--	2.0E-01	IRIS	8.0E+02	Route	--	--	--	--	1.6E+04	2.3E+03	2.3E+03	DTSC	--	--	--	--	2.3E+05	1.1E+04	1.1E+04	DTSC
Furans																									
~Furan	110-00-9	--	--	--	--	1.0E-03	IRIS	4.0E+00	Route	--	--	--	--	7.3E+01	9.6E+00	9.6E+00	DTSC	--	--	--	--	1.0E+03	4.4E+01	4.4E+01	DTSC
Hexachlorobutadiene	87-68-3	7.8E-02	IRIS	2.2E-05	IRIS	1.0E-03	PPRTV	4.0E+00	Route	1.2E+00	1.2E+00	1.2E+00	USEPA	7.8E+01	2.9E+01	7.8E+01	USEPA	5.3E+00	5.3E+00	5.3E+00	USEPA	1.2E+03	1.6E+02	1.6E+02	DTSC
Hexachlorocyclohexane, Technical	608-73-1	4.0E+00	OEHHA	1.1E-03	OEHHA	--	--	--	--	3.0E-01	1.3E-01	3.0E-01	USEPA	--	--	--	--	1.3E+00	3.7E-01	3.7E-01	DTSC	--	--	--	--
Isobutyl Alcohol	78-83-1	--	--	--	--	3.0E-01	IRIS	1.2E+03	Route	--	--	--	--	2.3E+04	1.4E+04	2.3E+04	USEPA	--	--	--	--	3.5E+05	1.1E+05	1.1E+05	DTSC
Lead Compounds																									
~Lead subacetate	1335-32-6	3.8E-02	OEHHA	1.1E-05	OEHHA	--	--	--	--	6.4E+01	1.4E+01	1.4E+01	DTSC	--	--	--	--	2.7E+02	3.9E+01	3.9E+01	DTSC	--	--	--	--
~Tetraethyl Lead	78-00-2	--	--	--	--	1.0E-07	IRIS	4.0E-04	Route	--	--	--	--	7.8E-03	7.3E-04	7.3E-04	DTSC	--	--	--	--	1.2E-01	3.3E-03	3.3E-03	DTSC
Lewisite	541-25-3	--	--	--	--	5.0E-06	PPRTV	2.0E-02	Route	--	--	--	--	3.9E-01	2.3E-01	3.9E-01	USEPA	--	--	--	--	5.8E+00	1.6E+00	1.6E+00	DTSC
Manganese (Non-diet)	7439-96-5 (non-diet)	--	--	--	--	2.4E-02	non-diet; IRIS	9.0E-02	OEHHA	--	--	--	--	1.8E+03	1.1E+03	1.8E+03	USEPA	--	--	--	--	2.6E+04	6.9E+03	6.9E+03	DTSC
Mercury Compounds																									
~Mercuric Chloride (and other Mercury salts)	7487-94-7	--	--	--	--	1.6E-04	OEHHA	3.0E-02	OEHHA	--	--	--	--	2.3E+01	8.8E+00	2.3E+01	USEPA	--	--	--	--	3.5E+02	6.9E+01	6.9E+01	DTSC
~Mercury (elemental)	7439-97-6	--	--	--	--	1.6E-04	OEHHA	3.0E-02	OEHHA	--	--	--	--	1.1E+01	1.0E+00	1.0E+00	DTSC	--	--	--	--	4.6E+01	4.5E+00	4.5E+00	DTSC
Methyl Acetate	79-20-9	--	--	--	--	1.0E+00	Screening PPRTV	4.0E+03	Route	--	--	--	--	7.8E+04	2.4E+04	2.4E+04	DTSC	--	--	--	--	1.2E+06	1.3E+05	1.3E+05	DTSC
Methylene Chloride	75-09-2	1.4E-02	OEHHA	1.0E-06	OEHHA	6.0E-03	IRIS	6.0E+02	IRIS	5.7E+01	1.9E+00	1.9E+00	DTSC	3.5E+02	3.1E+02	3.5E+02	USEPA	1.0E+03	2.4E+01	2.4E+01	DTSC	3.2E+03	2.5E+03	3.2E+03	USEPA
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	1.5E+00	OEHHA	4.3E-04	OEHHA	2.0E-03	PPRTV	--	--	1.2E+00	7.8E-02	7.8E-02	DTSC	1.3E+02	1.2E+02	1.3E+02	USEPA	2.3E+01	9.9E-01	9.9E-01	DTSC	1.6E+03	1.1E+03	1.6E+03	USEPA
Methylstyrene, Alpha-	98-83-9	--	--	--	--	7.0E-02	HEAST	2.8E+02	Route	--	--	--	--	5.5E+03	2.2E+03	5.5E+03	USEPA	--	--	--	--	8.2E+04	1.3E+04	1.3E+04	DTSC
Mineral oils	8012-95-1	--	--	--	--	3.0E+00	PPRTV	1.2E+04	Route	--	--	--	--	2.3E+05	1.6E+04	1.6E+04	DTSC	--	--	--	--	3.5E+06	7.2E+04	7.2E+04	DTSC
Nickel Hydroxide	12054-48-7	--	--	2.6E-04	OEHHA	1.1E-02	OEHHA	1.4E-02	OEHHA	1.5E+04	1.5E+04	1.5E+04	USEPA	8.2E+02	4.9E+02	8.2E+02	USEPA	6.4E+04	6.4E+04	6.4E+04	USEPA	1.1E+04	3.1E+03	3.1E+03	DTSC
Nickel Oxide	1313-99-1	--	--	2.6E-04	OEHHA	1.1E-02	OEHHA	2.0E-02	OEHHA	1.5E+04	1.5E+04	1.5E+04	USEPA	8.4E+02	4.9E+02	8.4E+02	USEPA	6.4E+04	6.4E+04	6.4E+04	USEPA	1.2E+04	3.1E+03	3.1E+03	DTSC
Nickel Refinery Dust	Nickel refinery dust	9.1E-01	OEHHA	2.6E-04	OEHHA	1.1E-02	OEHHA	1.4E-02	OEHHA	1.6E+04	4.2E-01	4.2E-01	DTSC	8.2E+02	4.9E+02	8.2E+02	USEPA	6.9E+04	8.9E-01	8.9E-01	DTSC	1.1E+04	3.1E+03	3.1E+03	DTSC
Nickel Soluble Salts	7440-02-0	--	--	2.6E-04	OEHHA	1.1E-02	OEHHA	1.4E-02	OEHHA	1.5E+04	1.5E+04	1.5E+04	USEPA	1.5E+03	4.9E+02	4.9E+02	DTSC	6.4E+04	6.4E+04	6.4E+04	USEPA	2.2E+04	3.1E+03	3.1E+03	DTSC
Nickel Subsulfide	12035-72-2	1.7E+00	OEHHA	4.9E-04	OEHHA	1.1E-02	OEHHA	1.4E-02	OEHHA	4.1E-01	2.3E-01	4.1E-01	USEPA	8.2E+02	4.9E+02	8.2E+02	USEPA	1.9E+00	4.8E-01	4.8E-01	DTSC	1.1E+04	3.1E+03	3.1E+03	DTSC
Pentachloroethane	76-01-7	9.0E-02	PPRTV	2.3E-05	Route	--	--	--	--	7.7E+00	1.1E+00	1.1E+00	DTSC	--	--	--	--	3.6E+01	4.6E+00	4.6E+00	DTSC	--	--	--	--
Phosphorus, White	7723-14-0	--	--	--	--	2.0E-05	IRIS	8.0E-02	Route	--	--	--	--	1.6E+00	4.3E-01	4.3E-01	DTSC	--	--	--	--	2.3E+01	2.2E+00	2.2E+00	DTSC
Phthalates																									
~Dimethylterephthalate	120-61-6	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	7.8E+03	4.2E+03	7.8E+03	USEPA	--	--	--	--	1.2E+05	2.9E+04	2.9E+04	DTSC
Silver	7440-22-4	--	--	--	--	5.0E-03	IRIS	--	--	--	--	--	--	3.9E+02	2.3E+02	3.9E+02	USEPA	--	--	--	--	5.8E+03	1.5E+03	1.5E+03	DTSC
Tetrachloroethane, 1,1,1,2-	630-20-6	2.6E-02	IRIS	7.4E-06	IRIS	3.0E-02	IRIS	1.2E+02	Route	2.0E+00	2.0E+00	2.0E+00	USEPA	2.3E+03	5.5E+02	5.5E+02	DTSC	8.9E+00	8.9E+00	8.9E+00	USEPA	3.5E+04	2.8E+03	2.8E+03	DTSC
Tetrachloroethane, 1,1,2,2-	79-34-5	2.0E-01	IRIS	5.8E-05	OEHHA	2.0E-02	IRIS	8.0E+01	Route	6.1E-01	5.8E-01	6.1E-01	USEPA	1.6E+03	7.0E+02	1.6E+03	USEPA	2.7E+00	2.6E+00	2.7E+00	USEPA	2.3E+04	4.4E+03	4.4E+03	DTSC
Tetrachloroethylene	127-18-4	5.4E-01	OEHHA PHG	5.9E-06	OEHHA	6.0E-03	IRIS	4.0E+01	IRIS	2.4E+01	6.0E-01	6.0E-01	DTSC	8.2E+01	7.3E+01	8.2E+01	USEPA	1.0E+02	2.7E+00	2.7E+00	DTSC	3.9E+02	3.5E+02	3.9E+02	USEPA
Toluene	108-88-3	--	--	--	--	8.0E-02	IRIS	3.0E+02	OEHHA	--	--	--	--	4.9E+03	1.1E+03	1.1E+03	DTSC	--	--	--	--	4.7E+04	5.4E+03	5.4E+03	DTSC
Tri-n-butyltin	688-73-3	--	--	--	--	3.0E-04	PPRTV	1.2E+00	Route	--	--	--	--	2.3E+01	3.6E+00	3.6E+00	DTSC	--	--	--	--	3.5E+02	1.7E+01	1.7E+01	DTSC
Trichlorobenzene, 1,2,3-	87-61-6	--	--	--	--	8.0E-04	Screening PPRTV	3.2E+00	Route	--	--	--	--	6.3E+01	4.0E+01	6.3E+01	USEPA	--	--	--	--	9.3E+02	3.1E+02	3.1E+02	DTSC
Trichloroethane, 1,1,1-	71-55-6	--	--	--	--	2.0E+00	IRIS	1.0E+03	OEHHA	--	--	--	--	8.2E+03	1.7E+03	1.7E+03	DTSC	--	--	--	--	3.6E+04	7.3E+03	7.3E+03	DTSC
Trichlorofluoromethane	75-69-4	--	--	--	--	3.0E-01	IRIS	1.2E+03	Route	--	--	--	--	2.3E+04	1.2E+03	1.2E+03	DTSC	--	--	--	--	3.5E+05	5.4E+03	5.4E+03	DTSC
Trichlorophenol, 2,4,6-	88-06-2	7.0E-02	OEHHA	2.0E-05	OEHHA	1.0E-03	PPRTV	--	--	4.9E+01	7.5E+00	7.5E+00	DTSC	6.3E+01	6.1E+01	6.3E+01	USEPA	2.1E+02	2.1E+01	2.1E+01	DTSC	8.2E+02	5.3E+02	8.2E+02	USEPA
Trichloropropane, 1,1,2-	598-77-6	--	--	--	--	5.0E-03	IRIS	2.0E+01	Route	--	--	--	--	3.9E+02	1.8E+02	3.9E+02	USEPA	--	--	--	--	5.8E+03	1.1E+03	1.1E+03	DTSC
Trichloropropane, 1,2,3-	96-18-4	3.0E+01	IRIS	7.5E-03	Route	4.0E-03	IRIS	3.0E-01	IRIS	5.1E-03	1.5E-03	1.5E-03	DTSC	4.9E+00	4.9E+00	4.9E+00	USEPA	1.1E-01	2.1E-02	2.1E-02	DTSC	2.1E+01	2.1E+01	2.1E+01	USEPA
Trimethylbenzene, 1,3,5-	108-67-8	--	--	--	--	1.0E-02	Screening PPRTV	4.0E+01	Route	--	--	--	--	7.8E+02	2.1E+02	2.1E+02	DTSC	--	--	--	--	1.2E+04	1.1E+03	1.1E+03	DTSC
Trimethylpentene, 2,4,4-	25167-70-8	--	--	--	--	1.0E-02	Screening PPRTV	4.0E+01	Route	--	--	--	--	7.8E+02	4.0E+01	4.0E+01	DTSC	--	--	--	--	1.2E+04	1.7E+02	1.7E+02	DTSC
Vanadium and Compounds	7440-62-2	--	--	--	--	5.0E-03	RSL	1.0E-01	ATSDR	--	--	--	--	3.9E+02	1.9E+02	3.9E+02	USEPA	--	--	--	--	5.8E+03	1.0E+03	1.0E+03	DTSC
Vinyl Chloride	75-01-4	2.7E-01	OEHHA	7.8E-05	OEHHA	3.0E-03	IRIS	1.0E+02	IRIS	5.9E-02	8.8E-03	8.8E-03	DTSC	7.0E+01	7.0E+01	7.0E+01	USEPA	1.7E+00	1.5E-01	1.5E-01	DTSC	3.8E+02	3.8E+02	3.8E+02	USEPA
Additional Analytes																									
Beryllium Sulfate	13510-49-1	--	--	8.6E-01	OEHHA	2.0E-04	OEHHA PHG	7.0E-03	OEHHA	1.6E+03	4.4E+00	4.4E+00	DTSC	1.6E+02	1.5E+01	1.5E+01	DTSC	6.9E+03	1.9E+01	1.9E+01	DTSC	2.3E+03	2.1E+02	2.1E+02	DTSC
Dichlorobenzene, 1,3-	541-73-1	--	--	--	--	3.0E-02	DTSC J&E	1.2E+02	Route	--	--	--	--	--	2.4E+02	2.4E+02	DTSC	--	--	--	--	--	1.1E+03	1.1E+03	DTSC
Methylcyclohexane	108-87-2	--	--	--	--	--	--	6.0E+03	Cyclohexane	--	--	--	--	--	5.5E+03	5.5E+03	DTSC	--	--	--	--	--	2.3E+04	2.3E+04	DTSC

"--" = no value

Table A-2a. Screening Levels for Residential Soil: Comparison of USEPA RSL and DTSC-SL Values

	USEPA RSL for Residential Soil (mg/kg)								DTSC-SL for Residential Soil (mg/kg)							
	Cancer Endpoint				Noncancer Endpoint				Cancer Endpoint				Noncancer Endpoint			
Analyte	USEPA RSL$_{ing}$	USEPA RSL$_{D}$	USEPA RSL$_{inh}$	USEPA RSL$_{Combined}$	USEPA RSL$_{ing}$	USEPA RSL$_{D}$	USEPA RSL$_{inh}$	USEPA RSL$_{Combined}$	DTSC-SL$_{ing}$	DTSC-SL$_{D}$	DTSC-SL$_{inh}$	DTSC-SL$_{Combined}$	DTSC-SL$_{ing}$	DTSC-SL$_{D}$	DTSC-SL$_{inh}$	DTSC-SL$_{Combined}$
USEPA RSL Analytes																
Acrylamide	3.06E-01	1.19E+00	1.38E+04	2.44E-01	1.56E+02	6.59E+02	8.51E+06	1.26E+02	3.40E-02	1.12E-01	1.06E+03	2.61E-02	1.56E+02	5.39E+02	8.51E+06	1.21E+02
Acrylonitrile	1.29E+00	--	3.22E-01	2.57E-01	3.13E+03	--	1.63E+01	1.62E+01	6.95E-01	--	7.55E-02	6.81E-02	3.13E+03	--	4.06E+01	4.01E+01
Arsenic, Inorganic	7.72E-01	5.49E+00	8.88E+02	6.77E-01	3.91E+01	3.30E+02	2.13E+04	3.49E+01	7.32E-02	7.59E-01	1.16E+03	6.67E-02	2.74E-01	3.15E+00	2.13E+04	2.52E-01
Benzaldehyde	--	--	--	--	7.82E+03	--	--	7.82E+03	--	--	--	--	7.82E+03	--	9.51E+03	4.29E+03
Benzene	1.26E+01	--	1.29E+00	1.17E+00	3.13E+02	--	1.12E+02	8.26E+01	6.95E+00	--	3.47E-01	3.31E-01	3.13E+02	--	1.12E+01	1.08E+01
Benzenethiol	--	--	--	--	7.82E+01	--	--	7.82E+01	--	--	--	--	7.82E+01	--	8.21E+01	4.00E+01
Benzidine	6.66E-04	2.59E-03	2.06E+01	5.30E-04	2.35E+02	9.89E+02	--	1.90E+02	3.06E-04	1.01E-03	9.85E+00	2.35E-04	2.35E+02	8.09E+02	--	1.82E+02
Beryllium and compounds	--	--	1.59E+03	1.59E+03	1.56E+02	--	2.84E+04	1.56E+02	--	--	1.59E+03	1.59E+03	1.56E+01	5.39E+02	9.93E+03	1.52E+01
Bromodichloromethane	1.12E+01	--	3.05E-01	2.97E-01	1.56E+03	--	--	1.56E+03	5.35E+00	--	3.05E-01	2.89E-01	1.56E+03	--	3.35E+02	2.76E+02
Bromoform	8.80E+01	--	2.51E+01	1.95E+01	1.56E+03	--	--	1.56E+03	6.32E+01	--	2.51E+01	1.80E+01	1.56E+03	--	8.21E+02	5.38E+02
Butadiene, 1,3-	2.04E-01	--	8.18E-02	5.85E-02	--	--	1.82E+00	1.82E+00	1.16E+00	--	1.44E-02	1.43E-02	--	--	1.82E+00	1.82E+00
Butanol, N-	--	--	--	--	7.82E+03	--	--	7.82E+03	--	--	--	--	7.82E+03	--	1.27E+04	4.83E+03
Butylbenzene, n-	--	--	--	--	3.91E+03	--	--	3.91E+03	--	--	--	--	3.91E+03	--	1.72E+03	1.20E+03
Butylbenzene, sec-	--	--	--	--	7.82E+03	--	--	7.82E+03	--	--	--	--	7.82E+03	--	3.11E+03	2.22E+03
Butylbenzene, tert-	--	--	--	--	7.82E+03	--	--	7.82E+03	--	--	--	--	7.82E+03	--	3.12E+03	2.23E+03
Cadmium (Diet)	--	--	2.12E+03	2.12E+03	7.82E+01	8.24E+02	1.42E+04	7.11E+01	--	--	9.09E+02	9.09E+02	5.26E+00	1.24E+03	1.42E+04	5.23E+00
Carbon Tetrachloride	9.93E+00	--	7.07E-01	6.60E-01	3.13E+02	--	1.58E+02	1.05E+02	4.63E+00	--	1.01E-01	9.89E-02	3.13E+02	--	6.31E+01	5.25E+01
Chlordane	1.99E+00	1.77E+01	2.57E+01	1.67E+00	3.91E+01	4.12E+02	6.68E+02	3.39E+01	5.35E-01	3.33E+00	7.55E+00	4.34E-01	3.91E+01	2.70E+02	6.68E+02	3.25E+01
Chloro-2-methylaniline, 4-	6.95E+00	2.47E+01	4.96E+04	5.43E+00	2.35E+02	9.89E+02	--	1.90E+02	2.57E+00	8.01E+00	4.96E+04	1.95E+00	2.35E+02	8.09E+02	--	1.82E+02
Chloroacetaldehyde, 2-	2.57E+00	--	--	2.57E+00	--	--	--	--	2.57E+00	--	6.84E-01	5.41E-01	--	--	--	--
Chlorobutane, 1-	--	--	--	--	3.13E+03	--	--	3.13E+03	--	--	--	--	3.13E+03	--	2.97E+02	2.71E+02
Chlorotoluene, o-	--	--	--	--	1.56E+03	--	--	1.56E+03	--	--	--	--	1.56E+03	--	6.87E+02	4.77E+02
Chlorotoluene, p-	--	--	--	--	1.56E+03	--	--	1.56E+03	--	--	--	--	1.56E+03	--	6.17E+02	4.42E+02
Chromium(III), Insoluble Salts	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	5.26E+04	--	3.63E+04
Crotonaldehyde, trans-	3.66E-01	--	--	3.66E-01	7.82E+01	--	--	7.82E+01	3.66E-01	--	1.13E-01	8.65E-02	7.82E+01	--	8.00E+01	3.95E+01
Cyanides																
~Cyanogen	--	--	--	--	7.82E+01	--	--	7.82E+01	--	--	--	--	7.82E+01	--	4.81E+00	4.53E+00
~Cyanogen Bromide	--	--	--	--	7.04E+03	--	--	7.04E+03	--	--	--	--	7.04E+03	--	3.25E+02	3.10E+02
~Cyanogen Chloride	--	--	--	--	3.91E+03	--	--	3.91E+03	--	--	--	--	3.91E+03	--	3.66E+02	3.35E+02
~Potassium Silver Cyanide	--	--	--	--	3.91E+02	--	--	3.91E+02	--	--	--	--	3.91E+02	5.39E+02	--	2.27E+02
~Silver Cyanide	--	--	--	--	7.82E+03	--	--	7.82E+03	--	--	--	--	7.82E+03	1.08E+04	--	4.53E+03
Dibromobenzene, 1,3-	--	--	--	--	3.13E+01	--	--	3.13E+01	--	--	--	--	3.13E+01	--	3.27E+01	1.60E+01
Dibromobenzene, 1,4-	--	--	--	--	7.82E+02	--	--	7.82E+02	--	--	--	--	7.82E+02	--	9.31E+02	4.25E+02
Dibromochloromethane	8.28E+00	--	--	8.28E+00	1.56E+03	--	--	1.56E+03	8.28E+00	--	1.08E+00	9.53E-01	1.56E+03	--	6.72E+02	4.70E+02
Dibromoethane, 1,2-	3.48E-01	--	4.10E-02	3.67E-02	7.04E+02	--	8.23E+01	7.37E+01	1.93E-01	--	3.47E-01	1.24E-01	7.04E+02	--	7.31E+00	7.24E+00
Dichlorobenzidine, 3,3'-	1.54E+00	5.49E+00	1.12E+04	1.21E+00	--	--	--	--	5.79E-01	1.80E+00	1.12E+04	4.38E-01	--	--	--	--
Dichloroethane, 1,1-	1.22E+02	--	3.71E+00	3.60E+00	1.56E+04	--	--	1.56E+04	1.22E+02	--	3.71E+00	3.60E+00	1.56E+04	--	1.76E+03	1.58E+03
Dichloroethylene, 1,2-cis-	--	--	--	--	1.56E+02	--	--	1.56E+02	--	--	--	--	1.56E+02	--	2.11E+01	1.86E+01
Dichloroethylene, 1,2-trans-	--	--	--	--	1.56E+03	--	--	1.56E+03	--	--	--	--	1.56E+03	--	1.48E+02	1.35E+02
Dichloropropane, 1,3-	--	--	--	--	1.56E+03	--	--	1.56E+03	--	--	--	--	1.56E+03	--	5.72E+02	4.19E+02
Dichloropropene, 1,3-	6.95E+00	--	2.53E+00	1.85E+00	2.35E+03	--	7.52E+01	7.28E+01	7.64E+00	--	6.32E-01	5.84E-01	2.35E+03	--	7.52E+01	7.28E+01
Dimethylaniline, N,N-	--	--	--	--	1.56E+02	--	--	1.56E+02	--	--	--	--	1.56E+02	--	2.64E+02	9.83E+01
Epichlorohydrin	7.02E+01	--	4.48E+01	2.74E+01	4.69E+02	--	2.00E+01	1.92E+01	8.69E+00	--	2.34E+00	1.84E+00	4.69E+02	--	5.99E+01	5.31E+01
Ethyl Chloride (Chloroethane)	--	--	--	--	--	--	1.37E+04	1.37E+04	1.48E+02	--	3.13E+00	3.07E+00	--	--	4.10E+04	4.10E+04
Ethyl Ether	--	--	--	--	1.56E+04	--	--	1.56E+04	--	--	--	--	1.56E+04	--	2.64E+03	2.26E+03
Furans																
~Furan	--	--	--	--	7.82E+01	1.10E+03	--	7.30E+01	--	--	--	--	7.82E+01	8.99E+02	1.11E+01	9.59E+00
Hexachlorobutadiene	8.91E+00	--	1.40E+00	1.21E+00	7.82E+01	--	--	7.82E+01	8.91E+00	--	1.40E+00	1.21E+00	7.82E+01	--	4.56E+01	2.88E+01
Hexachlorocyclohexane, Technical	3.86E-01	1.37E+00	7.48E+03	3.01E-01	--	--	--	--	1.74E-01	5.41E-01	3.47E+03	1.32E-01	--	--	--	--
Isobutyl Alcohol	--	--	--	--	2.35E+04	--	--	2.35E+04	--	--	--	--	2.35E+04	--	3.57E+04	1.42E+04
Lead Compounds																
~Lead subacetate	8.18E+01	2.91E+02	3.18E+05	6.38E+01	--	--	--	--	1.83E+01	5.69E+01	3.47E+05	1.38E+01	--	--	--	--
~Tetraethyl Lead	--	--	--	--	7.82E-03	--	--	7.82E-03	--	--	--	--	7.82E-03	--	8.06E-04	7.31E-04
Lewisite	--	--	--	--	3.91E-01	--	--	3.91E-01	--	--	--	--	3.91E-01	--	5.40E-01	2.27E-01
Manganese (Non-diet)	--	--	--	--	1.88E+03	--	7.09E+04	1.83E+03	--	--	--	--	1.88E+03	2.59E+03	1.28E+05	1.08E+03
Mercury Compounds																
~Mercuric Chloride (and other Mercury salts)	--	--	--	--	2.35E+01	--	4.25E+05	2.35E+01	--	--	--	--	1.25E+01	3.02E+01	4.25E+04	8.85E+00
~Mercury (elemental)	--	--	--	--	--	--	1.10E+01	1.10E+01	--	--	--	--	1.25E+01	4.32E+02	1.10E+00	1.01E+00
Methyl Acetate	--	--	--	--	7.82E+04	--	--	7.82E+04	--	--	--	--	7.82E+04	--	3.43E+04	2.39E+04
Methylene Chloride	7.66E+01	--	2.25E+02	5.71E+01	4.69E+02	--	1.39E+03	3.51E+02	1.09E+01	--	2.25E+00	1.87E+00	4.69E+02	--	9.27E+02	3.12E+02
Methylene-bis(2-chloroaniline), 4,4'-	1.53E+00	5.97E+00	3.21E+03	1.22E+00	1.56E+02	6.59E+02	--	1.26E+02	1.02E-01	3.36E-01	3.21E+03	7.83E-02	1.56E+02	5.39E+02	--	1.21E+02
Methylstyrene, Alpha-	--	--	--	--	5.48E+03	--	--	5.48E+03	--	--	--	--	5.48E+03	--	3.79E+03	2.24E+03
Mineral oils	--	--	--	--	2.35E+05	--	--	2.35E+05	--	--	--	--	2.35E+05	--	1.74E+04	1.62E+04
Nickel Hydroxide	--	--	1.47E+04	1.47E+04	8.60E+02	--	1.98E+04	8.25E+02	--	--	1.47E+04	1.47E+04	8.60E+02	1.19E+03	1.99E+04	4.87E+02
Nickel Oxide	--	--	1.47E+04	1.47E+04	8.60E+02	--	2.84E+04	8.35E+02	--	--	1.47E+04	1.47E+04	8.60E+02	1.19E+03	2.84E+04	4.90E+02
Nickel Refinery Dust	--	--	1.59E+04	1.59E+04	8.60E+02	--	1.98E+04	8.25E+02	7.64E-01	9.51E-01	1.47E+04	4.24E-01	8.60E+02	1.19E+03	1.99E+04	4.87E+02
Nickel Soluble Salts	--	--	1.47E+04	1.47E+04	1.56E+03	--	1.28E+05	1.55E+03	--	--	1.47E+04	1.47E+04	8.60E+02	1.19E+03	1.99E+04	4.87E+02
Nickel Subsulfide	4.09E-01	--	7.95E+03	4.09E-01	8.60E+02	--	1.98E+04	8.25E+02	4.09E-01	5.09E-01	7.79E+03	2.27E-01	8.60E+02	1.19E+03	1.99E+04	4.87E+02
Pentachloroethane	7.72E+00	--	--	7.72E+00	--	--	--	--	7.72E+00	--	1.22E+00	1.05E+00	--	--	--	--
Phosphorus, White	--	--	--	--	1.56E+00	--	--	1.56E+00	--	--	--	--	1.56E+00	--	5.84E-01	4.25E-01
Phthalates																
~Dimethylterephthalate	--	--	--	--	7.82E+03	--	--	7.82E+03	--	--	--	--	7.82E+03	--	9.03E+03	4.19E+03
Silver	--	--	--	--	3.91E+02	--	--	3.91E+02	--	--	--	--	3.91E+02	5.39E+02	--	2.27E+02
Tetrachloroethane, 1,1,1,2-	2.67E+01	--	2.18E+00	2.02E+00	2.35E+03	--	--	2.35E+03	2.67E+01	--	2.18E+00	2.02E+00	2.35E+03	--	7.20E+02	5.51E+02
Tetrachloroethane, 1,1,2,2-	3.48E+00	--	7.42E-01	6.11E-01	1.56E+03	--	--	1.56E+03	2.57E+00	--	7.42E-01	5.76E-01	1.56E+03	--	1.28E+03	7.04E+02
Tetrachloroethylene	3.31E+02	--	2.57E+01	2.38E+01	4.69E+02	--	9.92E+01	8.19E+01	1.29E+00	--	1.13E+00	6.02E-01	4.69E+02	--	8.68E+01	7.33E+01
Toluene	--	--	--	--	6.26E+03	--	2.27E+04	4.90E+03	--	--	--	--	6.26E+03	--	1.36E+03	1.12E+03
Tri-n-butyltin	--	--	--	--	2.35E+01	--	--	2.35E+01	--	--	--	--	2.35E+01	--	4.26E+00	3.61E+00
Trichlorobenzene, 1,2,3-	--	--	--	--	6.26E+01	--	--	6.26E+01	--	--	--	--	6.26E+01	--	1.09E+02	3.98E+01
Trichloroethane, 1,1,1-	--	--	--	--	1.56E+05	--	8.70E+03	8.24E+03	--	--	--	--	1.56E+05	--	1.74E+03	1.72E+03
Trichlorofluoromethane	--	--	--	--	2.35E+04	--	--	2.35E+04	--	--	--	--	2.35E+04	--	1.31E+03	1.24E+03
Trichlorophenol, 2,4,6-	6.32E+01	2.25E+02	1.23E+06	4.93E+01	7.82E+01	3.30E+02	--	6.32E+01	9.93E+00	3.09E+01	1.91E+05	7.52E+00	7.82E+01	2.70E+02	--	6.06E+01
Trichloropropane, 1,1,2-	--	--	--	--	3.91E+02	--	--	3.91E+02	--	--	--	--	3.91E+02	--	3.18E+02	1.75E+02
Trichloropropane, 1,2,3-	5.10E-03	--	--	5.10E-03	3.13E+02	--	4.98E+00	4.91E+00	5.10E-03	--	2.15E-03	1.51E-03	3.13E+02	--	4.98E+00	4.91E+00
Trimethylbenzene, 1,3,5-	--	--	--	--	7.82E+02	--	--	7.82E+02	--	--	--	--	7.82E+02	--	2.80E+02	2.06E+02
Trimethylpentene, 2,4,4-	--	--	--	--	7.82E+02	--	--	7.82E+02	--	--	--	--	7.82E+02	--	4.22E+01	4.00E+01
Vanadium and Compounds	--	--	--	--	3.94E+02	--	1.42E+05	3.93E+02	--	--	--	--	3.94E+02	3.53E+02	1.42E+05	1.86E+02
Vinyl Chloride	9.40E-02	--	1.62E-01	5.95E-02	2.35E+02	--	1.01E+02	7.05E+01	2.51E-01	--	9.13E-03	8.81E-03	2.35E+02	--	1.01E+02	7.05E+01
Additional Analytes																
Beryllium Sulfate	--	--	1.59E+03	1.59E+03	1.56E+02	--	2.84E+04	1.56E+02	--	--	4.44E+00	4.44E+00	1.56E+01	5.39E+02	9.93E+03	1.52E+01
Dichlorobenzene, 1,3-	--	--	--	--	--	--	--	--	--	--	--	--	2.35E+03	--	2.73E+02	2.44E+02
Methylcyclohexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.54E+03	5.54E+03

"--" = no value

Table A-2b. Screening Levels for Commercial/Industrial Soil: Comparison of USEPA RSL and DTSC-SL Values

	USEPA RSL for Commercial/Industrial Soil (mg/kg)								DTSC-SL for Commercial/Industrial Soil (mg/kg)							
	Cancer Endpoint				Noncancer Endpoint				Cancer Endpoint				Noncancer Endpoint			
Analyte	**USEPA RSL$_{ing}$**	**USEPA RSL$_{D}$**	**USEPA RSL$_{inh}$**	**USEPA RSL$_{Combined}$**	**USEPA RSL$_{ing}$**	**USEPA RSL$_{D}$**	**USEPA RSL$_{inh}$**	**USEPA RSL$_{Combined}$**	**DTSC-SL$_{ing}$**	**DTSC-SL$_{D}$**	**DTSC-SL$_{inh}$**	**DTSC-SL$_{Combined}$**	**DTSC-SLi$_{ng}$**	**DTSC-SL$_{D}$**	**DTSC-SL$_{inh}$**	**DTSC-SL$_{Combined}$**
USEPA RSL Analytes																
Acrylamide	6.54E+00	1.55E+01	1.67E+05	4.60E+00	2.34E+03	5.52E+03	3.57E+07	1.64E+03	7.27E-01	6.02E-01	1.28E+04	3.29E-01	2.34E+03	1.94E+03	3.57E+07	1.06E+03
Acrylonitrile	6.06E+00	--	1.41E+00	1.14E+00	4.67E+04	--	6.83E+01	6.82E+01	3.27E+00	--	3.30E-01	2.99E-01	4.67E+04	--	1.71E+02	1.70E+02
Arsenic, Inorganic	3.63E+00	1.72E+01	3.88E+03	3.00E+00	5.84E+02	2.76E+03	8.93E+04	4.79E+02	3.44E-01	9.51E-01	5.05E+03	2.53E-01	4.09E+00	1.13E+01	8.94E+04	3.00E+00
Benzaldehyde	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	--	3.99E+04	2.98E+04
Benzene	5.95E+01	--	5.64E+00	5.15E+00	4.67E+03	--	4.71E+02	4.28E+02	3.27E+01	--	1.52E+00	1.45E+00	4.67E+03	--	4.71E+01	4.66E+01
Benzenethiol	--	--	--	--	1.17E+03	--	--	1.17E+03	--	--	--	--	1.17E+03	--	3.45E+02	2.66E+02
Benzidine	1.42E-02	3.36E-02	2.49E+02	9.99E-03	3.50E+03	8.28E+03	--	2.46E+03	6.54E-03	5.42E-03	1.19E+02	2.96E-03	3.50E+03	2.90E+03	--	1.59E+03
Beryllium and compounds	--	--	6.95E+03	6.95E+03	2.34E+03	--	1.19E+05	2.29E+03	--	--	6.95E+03	6.95E+03	2.34E+02	1.94E+03	4.17E+04	2.07E+02
Bromodichloromethane	5.27E+01	--	1.33E+00	1.30E+00	2.34E+04	--	--	2.34E+04	2.52E+01	--	1.33E+00	1.27E+00	2.34E+04	--	1.41E+03	1.33E+03
Bromoform	4.14E+02	--	1.10E+02	8.67E+01	2.34E+04	--	--	2.34E+04	2.97E+02	--	1.10E+02	8.01E+01	2.34E+04	--	3.45E+03	3.00E+03
Butadiene, 1,3-	9.62E-01	--	3.58E-01	2.61E-01	--	--	7.66E+00	7.66E+00	5.45E+00	--	6.31E-02	6.24E-02	--	--	7.66E+00	7.66E+00
Butanol, N-	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	--	5.32E+04	3.65E+04
Butylbenzene, n-	--	--	--	--	5.84E+04	--	--	5.84E+04	--	--	--	--	5.84E+04	--	7.23E+03	6.44E+03
Butylbenzene, sec-	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	--	1.31E+04	1.17E+04
Butylbenzene, tert-	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	--	1.31E+04	1.18E+04
Cadmium (Diet)	--	--	9.26E+03	9.26E+03	1.17E+03	6.90E+03	5.95E+04	9.82E+02	--	--	3.97E+03	3.97E+03	7.36E+00	6.10E+02	5.96E+04	7.27E+00
Carbon Tetrachloride	4.67E+01	--	3.09E+00	2.90E+00	4.67E+03	--	6.62E+02	5.80E+02	2.18E+01	--	4.41E-01	4.33E-01	4.67E+03	--	2.65E+02	2.51E+02
Chlordane	9.34E+00	5.52E+01	1.12E+02	7.46E+00	5.84E+02	3.45E+03	2.80E+03	4.24E+02	2.52E+00	4.17E+00	3.30E+01	1.50E+00	5.84E+02	9.68E+02	2.80E+03	3.22E+02
Chloro-2-methylaniline, 4-	3.27E+01	7.73E+01	2.17E+05	2.30E+01	3.50E+03	8.28E+03	--	2.46E+03	1.21E+01	1.00E+01	2.17E+05	5.49E+00	3.50E+03	2.90E+03	--	1.59E+03
Chloroacetaldehyde, 2-	1.21E+01	--	--	1.21E+01	--	--	--	--	1.21E+01	--	2.99E+00	2.40E+00	--	--	--	--
Chlorobutane, 1-	--	--	--	--	4.67E+04	--	--	4.67E+04	--	--	--	--	4.67E+04	--	1.25E+03	1.21E+03
Chlorotoluene, o-	--	--	--	--	2.34E+04	--	--	2.34E+04	--	--	--	--	2.34E+04	--	2.89E+03	2.57E+03
Chlorotoluene, p-	--	--	--	--	2.34E+04	--	--	2.34E+04	--	--	--	--	2.34E+04	--	2.59E+03	2.33E+03
Chromium(III), Insoluble Salts	--	--	--	--	1.75E+06	--	--	1.75E+06	--	--	--	--	1.75E+06	1.89E+05	--	1.70E+05
Crotonaldehyde, trans-	1.72E+00	--	--	1.72E+00	1.17E+03	--	--	1.17E+03	1.72E+00	--	4.95E-01	3.85E-01	1.17E+03	--	3.36E+02	2.61E+02
Cyanides																
~Cyanogen	--	--	--	--	1.17E+03	--	--	1.17E+03	--	--	--	--	1.17E+03	--	2.02E+01	1.98E+01
~Cyanogen Bromide	--	--	--	--	1.05E+05	--	--	1.05E+05	--	--	--	--	1.05E+05	--	1.36E+03	1.35E+03
~Cyanogen Chloride	--	--	--	--	5.84E+04	--	--	5.84E+04	--	--	--	--	5.84E+04	--	1.54E+03	1.50E+03
~Potassium Silver Cyanide	--	--	--	--	5.84E+03	--	--	5.84E+03	--	--	--	--	5.84E+03	1.94E+03	--	1.45E+03
~Silver Cyanide	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	3.87E+04	--	2.91E+04
Dibromobenzene, 1,3-	--	--	--	--	4.67E+02	--	--	4.67E+02	--	--	--	--	4.67E+02	--	1.37E+02	1.06E+02
Dibromobenzene, 1,4-	--	--	--	--	1.17E+04	--	--	1.17E+04	--	--	--	--	1.17E+04	--	3.91E+03	2.93E+03
Dibromochloromethane	3.89E+01	--	--	3.89E+01	2.34E+04	--	--	2.34E+04	3.89E+01	--	4.71E+00	4.20E+00	2.34E+04	--	2.82E+03	2.52E+03
Dibromoethane, 1,2-	1.64E+00	--	1.79E-01	1.61E-01	1.05E+04	--	3.46E+02	3.35E+02	9.08E-01	--	1.51E+00	5.68E-01	1.05E+04	--	3.07E+01	3.06E+01
Dichlorobenzidine, 3,3'-	7.27E+00	1.72E+01	4.90E+04	5.11E+00	--	--	--	--	2.73E+00	2.26E+00	4.91E+04	1.24E+00	--	--	--	--
Dichloroethane, 1,1-	5.74E+02	--	1.62E+01	1.57E+01	2.34E+05	--	--	2.34E+05	5.74E+02	--	1.62E+01	1.57E+01	2.34E+05	--	7.40E+03	7.17E+03
Dichloroethylene, 1,2-cis-	--	--	--	--	2.34E+03	--	--	2.34E+03	--	--	--	--	2.34E+03	--	8.88E+01	8.55E+01
Dichloroethylene, 1,2-trans-	--	--	--	--	2.34E+04	--	--	2.34E+04	--	--	--	--	2.34E+04	--	6.20E+02	6.04E+02
Dichloropropane, 1,3-	--	--	--	--	2.34E+04	--	--	2.34E+04	--	--	--	--	2.34E+04	--	2.40E+03	2.18E+03
Dichloropropene, 1,3-	3.27E+01	--	1.11E+01	8.26E+00	3.50E+04	--	3.16E+02	3.13E+02	3.59E+01	--	2.76E+00	2.57E+00	3.50E+04	--	3.16E+02	3.13E+02
Dimethylaniline, N,N-	--	--	--	--	2.34E+03	--	--	2.34E+03	--	--	--	--	2.34E+03	--	1.11E+03	7.53E+02
Epichlorohydrin	3.30E+02	--	1.96E+02	1.23E+02	7.01E+03	--	8.39E+01	8.29E+01	4.09E+01	--	1.02E+01	8.17E+00	7.01E+03	--	2.52E+02	2.43E+02
Ethyl Chloride (Chloroethane)	--	--	--	--	--	--	5.74E+04	5.74E+04	6.96E+02	--	1.37E+01	1.34E+01	--	--	1.72E+05	1.72E+05
Ethyl Ether	--	--	--	--	2.34E+05	--	--	2.34E+05	--	--	--	--	2.34E+05	--	1.11E+04	1.06E+04
Furans																
~Furan	--	--	--	--	1.17E+03	9.20E+03	--	1.04E+03	--	--	--	--	1.17E+03	3.23E+03	4.65E+01	4.41E+01
Hexachlorobutadiene	4.19E+01	--	6.10E+00	5.32E+00	1.17E+03	--	--	1.17E+03	4.19E+01	--	6.10E+00	5.32E+00	1.17E+03	--	1.92E+02	1.65E+02
Hexachlorocyclohexane, Technical	1.82E+00	4.29E+00	3.27E+04	1.28E+00	--	--	--	--	8.18E-01	6.78E-01	1.52E+04	3.71E-01	--	--	--	--
Isobutyl Alcohol	--	--	--	--	3.50E+05	--	--	3.50E+05	--	--	--	--	3.50E+05	--	1.50E+05	1.05E+05
Lead Compounds																
~Lead subacetate	3.85E+02	9.09E+02	1.39E+06	2.70E+02	--	--	--	--	8.61E+01	7.13E+01	1.52E+06	3.90E+01	--	--	--	--
~Tetraethyl Lead	--	--	--	--	1.17E-01	--	--	1.17E-01	--	--	--	--	1.17E-01	--	3.39E-03	3.29E-03
Lewisite	--	--	--	--	5.84E+00	--	--	5.84E+00	--	--	--	--	5.84E+00	--	2.27E+00	1.63E+00
Manganese (Non-diet)	--	--	--	--	2.80E+04	--	2.98E+05	2.56E+04	--	--	--	--	2.80E+04	9.29E+03	5.36E+05	6.89E+03
Mercury Compounds																
~Mercuric Chloride (and other Mercury salts)	--	--	--	--	3.50E+02	--	1.79E+06	3.50E+02	--	--	--	--	1.87E+02	1.08E+02	1.79E+05	6.86E+01
~Mercury (elemental)	--	--	--	--	--	--	4.62E+01	4.62E+01	--	--	--	--	1.87E+02	1.55E+03	4.62E+00	4.50E+00
Methyl Acetate	--	--	--	--	1.17E+06	--	--	1.17E+06	--	--	--	--	1.17E+06	--	1.44E+05	1.28E+05
Methylene Chloride	1.64E+03	--	2.72E+03	1.02E+03	7.01E+03	--	5.84E+03	3.18E+03	2.34E+02	--	2.72E+01	2.44E+01	7.01E+03	--	3.89E+03	2.50E+03
Methylene-bis(2-chloroaniline), 4,4'-	3.27E+01	7.73E+01	3.88E+04	2.30E+01	2.34E+03	5.52E+03	--	1.64E+03	2.18E+00	1.81E+00	3.88E+04	9.88E-01	2.34E+03	1.94E+03	--	1.06E+03
Methylstyrene, Alpha-	--	--	--	--	8.18E+04	--	--	8.18E+04	--	--	--	--	8.18E+04	--	1.59E+04	1.33E+04
Mineral oils	--	--	--	--	3.50E+06	--	--	3.50E+06	--	--	--	--	3.50E+06	--	7.32E+04	7.17E+04
Nickel Hydroxide	--	--	6.41E+04	6.41E+04	1.28E+04	--	8.34E+04	1.11E+04	--	--	6.42E+04	6.42E+04	1.28E+04	4.26E+03	8.34E+04	3.08E+03
Nickel Oxide	--	--	6.41E+04	6.41E+04	1.28E+04	--	1.19E+05	1.16E+04	--	--	6.42E+04	6.42E+04	1.28E+04	4.26E+03	1.19E+05	3.12E+03
Nickel Refinery Dust	--	--	6.95E+04	6.95E+04	1.28E+04	--	8.34E+04	1.11E+04	3.59E+00	1.19E+00	6.42E+04	8.95E-01	1.28E+04	4.26E+03	8.34E+04	3.08E+03
Nickel Soluble Salts	--	--	6.41E+04	6.41E+04	2.34E+04	--	5.36E+05	2.24E+04	--	--	6.42E+04	6.42E+04	1.28E+04	4.26E+03	8.34E+04	3.08E+03
Nickel Subsulfide	1.92E+00	--	3.47E+04	1.92E+00	1.28E+04	--	8.34E+04	1.11E+04	1.92E+00	6.38E-01	3.40E+04	4.79E-01	1.28E+04	4.26E+03	8.34E+04	3.08E+03
Pentachloroethane	3.63E+01	--	--	3.63E+01	--	--	--	--	3.63E+01	--	5.33E+00	4.65E+00	--	--	--	--
Phosphorus, White	--	--	--	--	2.34E+01	--	--	2.34E+01	--	--	--	--	2.34E+01	--	2.45E+00	2.22E+00
Phthalates																
~Dimethylterephthalate	--	--	--	--	1.17E+05	--	--	1.17E+05	--	--	--	--	1.17E+05	--	3.79E+04	2.86E+04
Silver	--	--	--	--	5.84E+03	--	--	5.84E+03	--	--	--	--	5.84E+03	1.94E+03	--	1.45E+03
Tetrachloroethane, 1,1,1,2-	1.26E+02	--	9.54E+00	8.87E+00	3.50E+04	--	--	3.50E+04	1.26E+02	--	9.54E+00	8.87E+00	3.50E+04	--	3.02E+03	2.78E+03
Tetrachloroethane, 1,1,2,2-	1.64E+01	--	3.24E+00	2.70E+00	2.34E+04	--	--	2.34E+04	1.21E+01	--	3.24E+00	2.56E+00	2.34E+04	--	5.37E+03	4.37E+03
Tetrachloroethylene	1.56E+03	--	1.12E+02	1.05E+02	7.01E+03	--	4.17E+02	3.93E+02	6.06E+00	--	4.94E+00	2.72E+00	7.01E+03	--	3.65E+02	3.47E+02
Toluene	--	--	--	--	9.34E+04	--	9.52E+04	4.72E+04	--	--	--	--	9.34E+04	--	5.71E+03	5.38E+03
Tri-n-butyltin	--	--	--	--	3.50E+02	--	--	3.50E+02	--	--	--	--	3.50E+02	--	1.79E+01	1.70E+01
Trichlorobenzene, 1,2,3-	--	--	--	--	9.34E+02	--	--	9.34E+02	--	--	--	--	9.34E+02	--	4.58E+02	3.07E+02
Trichloroethane, 1,1,1-	--	--	--	--	2.34E+06	--	3.66E+04	3.60E+04	--	--	--	--	2.34E+06	--	7.31E+03	7.29E+03
Trichlorofluoromethane	--	--	--	--	3.50E+05	--	--	3.50E+05	--	--	--	--	3.50E+05	--	5.50E+03	5.41E+03
Trichlorophenol, 2,4,6-	2.97E+02	7.02E+02	5.38E+06	2.09E+02	1.17E+03	2.76E+03	--	8.21E+02	4.67E+01	3.87E+01	8.34E+05	2.12E+01	1.17E+03	9.68E+02	--	5.29E+02
Trichloropropane, 1,1,2-	--	--	--	--	5.84E+03	--	--	5.84E+03	--	--	--	--	5.84E+03	--	1.34E+03	1.09E+03
Trichloropropane, 1,2,3-	1.09E-01	--	--	1.09E-01	4.67E+03	--	2.09E+01	2.08E+01	1.09E-01	--	2.60E-02	2.10E-02	4.67E+03	--	2.09E+01	2.08E+01
Trimethylbenzene, 1,3,5-	--	--	--	--	1.17E+04	--	--	1.17E+04	--	--	--	--	1.17E+04	--	1.17E+03	1.07E+03
Trimethylpentene, 2,4,4-	--	--	--	--	1.17E+04	--	--	1.17E+04	--	--	--	--	1.17E+04	--	1.77E+02	1.75E+02
Vanadium and Compounds	--	--	--	--	5.89E+03	--	5.95E+05	5.83E+03	--	--	--	--	5.89E+03	1.27E+03	5.96E+05	1.04E+03
Vinyl Chloride	4.54E+00	--	2.69E+00	1.69E+00	3.50E+03	--	4.23E+02	3.78E+02	1.21E+01	--	1.52E-01	1.50E-01	3.50E+03	--	4.23E+02	3.78E+02
Additional Analytes																
Beryllium Sulfate	--	--	6.95E+03	6.95E+03	2.34E+03	--	1.19E+05	2.29E+03	--	--	1.94E+01	1.94E+01	2.34E+02	1.94E+03	4.17E+04	2.07E+02
Dichlorobenzene, 1,3-	--	--	--	--	--	--	--	--	--	--	--	--	3.50E+04	--	1.14E+03	1.11E+03
Methylcyclohexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.33E+04	2.33E+04

"--" = no value

Table A-3a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value	Units
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic adjustment factor, ingestion	CAF_O	0.804	0.804	dimensionless
Conversion Factor	CF_o	1E-06	1E-06	kg/mg
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Soil Ingestion Rate (adult)	IRS_a	100	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	200	mg/day
Mutagenic adjustment factor, ingestion	MAF_O	0.202	0.202	dimensionless
Relative Bioavailability	RBA	chemical-specific		dimensionless
Oral Reference Dose	RfD_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$
(Regional) Screening Level, ingestion	$(R)SL_{Ing}$	derived herein		mg/kg
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations

Carcinogens:

$$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ day/year)}{SF_o \times EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o \times RBA}$$

Mutagens:

$$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times \left(\begin{array}{c}\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\end{array}\right) \times CF_o \times RBA}$$

Trichloroethene:

$$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times CF_o \times RBA \times \left\{\left(CAF_o \times \frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) + \left[MAF_o \times \left(\begin{array}{c}\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_{ing} = \frac{TR}{SF_o \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{IRS_c \times CF_o}{BW_c}\right)\right] \times RBA}$$

Noncarcinogens:

$$(R)SL_{ing} = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRS_c \times CF_o \times RBA}$$

DTSC Cadmium - noncarcinogenic:

$$SL_{ing-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times IRS_a \times \frac{1}{RfD_o} \times CF_o \times RBA}$$

		Residential USEPA RSL_{ing}					Residential DTSC-SL_{ing}				
		RBA	**SF_o**	**Cancer**	**RfD_o**	**Noncancer**	**RBA**	**SF_o**	**Cancer**	**RfD_o**	**Noncancer**
Analyte	**Mutagen?**	(*dimensionless*)	$(mg/kg\text{-}day)^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)	(*dimensionless*)	$(mg/kg\text{-}day)^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)
USEPA RSL Analytes											
Acrylamide	M	1	5.00E-01	3.06E-01	2.00E-03	1.56E+02	1	4.50E+00	3.40E-02	2.00E-03	1.56E+02
Acrylonitrile		1	5.40E-01	1.29E+00	4.00E-02	3.13E+03	1	1.00E+00	6.95E-01	4.00E-02	3.13E+03
Arsenic, Inorganic		0.6	1.50E+00	7.72E-01	3.00E-04	3.91E+01	1	9.50E+00	7.32E-02	3.50E-06	2.74E-01
Benzaldehyde		1	No Toxicity Value	--	1.00E-01	7.82E+03	1	No Toxicity Value	--	1.00E-01	7.82E+03
Benzene		1	5.50E-02	1.26E+01	4.00E-03	3.13E+02	1	1.00E-01	6.95E+00	4.00E-03	3.13E+02
Benzenethiol		1	No Toxicity Value	--	1.00E-03	7.82E+01	1	No Toxicity Value	--	1.00E-03	7.82E+01
Benzidine	M	1	2.30E+02	6.66E-04	3.00E-03	2.35E+02	1	5.00E+02	3.06E-04	3.00E-03	2.35E+02
Beryllium and compounds		1	No Toxicity Value	--	2.00E-03	1.56E+02	1	No Toxicity Value	--	2.00E-04	1.56E+01
Bromodichloromethane		1	6.20E-02	1.12E+01	2.00E-02	1.56E+03	1	1.30E-01	5.35E+00	2.00E-02	1.56E+03
Bromoform		1	7.90E-03	8.80E+01	2.00E-02	1.56E+03	1	1.10E-02	6.32E+01	2.00E-02	1.56E+03
Butadiene, 1,3-		1	3.40E+00	2.04E-01	No Toxicity Value	--	1	6.00E-01	1.16E+00	No Toxicity Value	--
Butanol, N-		1	No Toxicity Value	--	1.00E-01	7.82E+03	1	No Toxicity Value	--	1.00E-01	7.82E+03
Butylbenzene, n-		1	No Toxicity Value	--	5.00E-02	3.91E+03	1	No Toxicity Value	--	5.00E-02	3.91E+03
Butylbenzene, sec-		1	No Toxicity Value	--	1.00E-01	7.82E+03	1	No Toxicity Value	--	1.00E-01	7.82E+03
Butylbenzene, tert-		1	No Toxicity Value	--	1.00E-01	7.82E+03	1	No Toxicity Value	--	1.00E-01	7.82E+03
Cadmium (Diet)		1	No Toxicity Value	--	1.00E-03	7.82E+01	1	No Toxicity Value	--	6.30E-06	5.26E+00
Carbon Tetrachloride		1	7.00E-02	9.93E+00	4.00E-03	3.13E+02	1	1.50E-01	4.63E+00	4.00E-03	3.13E+02
Chlordane		1	3.50E-01	1.99E+00	5.00E-04	3.91E+01	1	1.30E+00	5.35E-01	5.00E-04	3.91E+01
Chloro-2-methylaniline, 4-		1	1.00E-01	6.95E+00	3.00E-03	2.35E+02	1	2.70E-01	2.57E+00	3.00E-03	2.35E+02
Chloroacetaldehyde, 2-		1	2.70E-01	2.57E+00	No Toxicity Value	--	1	2.70E-01	2.57E+00	No Toxicity Value	--
Chlorobutane, 1-		1	No Toxicity Value	--	4.00E-02	3.13E+03	1	No Toxicity Value	--	4.00E-02	3.13E+03
Chlorotoluene, o-		1	No Toxicity Value	--	2.00E-02	1.56E+03	1	No Toxicity Value	--	2.00E-02	1.56E+03
Chlorotoluene, p-		1	No Toxicity Value	--	2.00E-02	1.56E+03	1	No Toxicity Value	--	2.00E-02	1.56E+03
Chromium(III), Insoluble Salts		1	No Toxicity Value	--	1.50E+00	1.17E+05	1	No Toxicity Value	--	1.50E+00	1.17E+05
Crotonaldehyde, trans-		1	1.90E+00	3.66E-01	1.00E-03	7.82E+01	1	1.90E+00	3.66E-01	1.00E-03	7.82E+01

Table A-3a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value	Units
Age-dependent Adjustment Factor, 0-2	$ADAF_{0\text{-}2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2\text{-}6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6\text{-}16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-26	$ADAF_{16\text{-}26}$	1	1	yrs
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic adjustment factor, ingestion	CAF_O	0.804	0.804	dimensionless
Conversion Factor	CF_o	1E-06	1E-06	kg/mg
Exposure Duration, child 0-2	$ED_{0\text{-}2}$	2	2	yrs
Exposure Duration, child 2-6	$ED_{2\text{-}6}$	4	4	yrs
Exposure Duration, child 6-16	$ED_{6\text{-}16}$	10	10	yrs
Exposure Duration, adult 16-26	$ED_{16\text{-}26}$	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Soil Ingestion Rate (adult)	IRS_a	100	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	200	mg/day
Mutagenic adjustment factor, ingestion	MAF_O	0.202	0.202	dimensionless
Relative Bioavailability	RBA	chemical-specific		dimensionless
Oral Reference Dose	RfD_O	chemical-specific		(mg/kg-day)$^{-1}$
(Regional) Screening Level, ingestion	$(R)SL_{Ing}$	derived herein		mg/kg
Oral Slope Factor	SF_O	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations

Carcinogens:

$$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ day/year)}{SF_o \times EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o \times RBA}$$

Mutagens:

$$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times \left(\begin{array}{l}\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\end{array}\right) \times CF_o \times RBA}$$

Trichloroethene:

$$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times CF_o \times RBA \times \left\{\left(CAF_o \times \frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) + \left[MAF_o \times \left(\begin{array}{l}\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_{ing} = \frac{TR}{SF_o \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{IRS_c \times CF_o}{BW_c}\right)\right] \times RBA}$$

Noncarcinogens:

$$(R)SL_{ing} = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRS_c \times CF_o \times RBA}$$

DTSC Cadmium - noncarcinogenic:

$$SL_{ing-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times IRS_a \times \frac{1}{RfD_o} \times CF_o \times RBA}$$

		Residential USEPA RSL_{ing}					Residential DTSC-SL_{ing}				
Analyte	**Mutagen?**	**RBA** (*dimensionless*)	**SF_o** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)	**RBA** (*dimensionless*)	**SF_o** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)
Cyanides											
~Cyanogen		1	No Toxicity Value	--	1.00E-03	7.82E+01	1	No Toxicity Value	--	1.00E-03	7.82E+01
~Cyanogen Bromide		1	No Toxicity Value	--	9.00E-02	7.04E+03	1	No Toxicity Value	--	9.00E-02	7.04E+03
~Cyanogen Chloride		1	No Toxicity Value	--	5.00E-02	3.91E+03	1	No Toxicity Value	--	5.00E-02	3.91E+03
~Potassium Silver Cyanide		1	No Toxicity Value	--	5.00E-03	3.91E+02	1	No Toxicity Value	--	5.00E-03	3.91E+02
~Silver Cyanide		1	No Toxicity Value	--	1.00E-01	7.82E+03	1	No Toxicity Value	--	1.00E-01	7.82E+03
Dibromobenzene, 1,3-		1	No Toxicity Value	--	4.00E-04	3.13E+01	1	No Toxicity Value	--	4.00E-04	3.13E+01
Dibromobenzene, 1,4-		1	No Toxicity Value	--	1.00E-02	7.82E+02	1	No Toxicity Value	--	1.00E-02	7.82E+02
Dibromochloromethane		1	8.40E-02	8.28E+00	2.00E-02	1.56E+03	1	8.40E-02	8.28E+00	2.00E-02	1.56E+03
Dibromoethane, 1,2-		1	2.00E+00	3.48E-01	9.00E-03	7.04E+02	1	3.60E+00	1.93E-01	9.00E-03	7.04E+02
Dichlorobenzidine, 3,3'-		1	4.50E-01	1.54E+00	No Toxicity Value	--	1	1.20E+00	5.79E-01	No Toxicity Value	--
Dichloroethane, 1,1-		1	5.70E-03	1.22E+02	2.00E-01	1.56E+04	1	5.70E-03	1.22E+02	2.00E-01	1.56E+04
Dichloroethylene, 1,2-cis-		1	No Toxicity Value	--	2.00E-03	1.56E+02	1	No Toxicity Value	--	2.00E-03	1.56E+02
Dichloroethylene, 1,2-trans-		1	No Toxicity Value	--	2.00E-02	1.56E+03	1	No Toxicity Value	--	2.00E-02	1.56E+03
Dichloropropane, 1,3-		1	No Toxicity Value	--	2.00E-02	1.56E+03	1	No Toxicity Value	--	2.00E-02	1.56E+03
Dichloropropene, 1,3-		1	1.00E-01	6.95E+00	3.00E-02	2.35E+03	1	9.10E-02	7.64E+00	3.00E-02	2.35E+03
Dimethylaniline, N,N-		1	No Toxicity Value	--	2.00E-03	1.56E+02	1	No Toxicity Value	--	2.00E-03	1.56E+02
Epichlorohydrin		1	9.90E-03	7.02E+01	6.00E-03	4.69E+02	1	8.00E-02	8.69E+00	6.00E-03	4.69E+02
Ethyl Chloride (Chloroethane)		1	No Toxicity Value	--	No Toxicity Value	--	1	4.70E-03	1.48E+02	No Toxicity Value	--
Ethyl Ether		1	No Toxicity Value	--	2.00E-01	1.56E+04	1	No Toxicity Value	--	2.00E-01	1.56E+04
Furans											
~Furan		1	No Toxicity Value	--	1.00E-03	7.82E+01	1	No Toxicity Value	--	1.00E-03	7.82E+01
Hexachlorobutadiene		1	7.80E-02	8.91E+00	1.00E-03	7.82E+01	1	7.80E-02	8.91E+00	1.00E-03	7.82E+01
Hexachlorocyclohexane, Technical		1	1.80E+00	3.86E-01	No Toxicity Value	--	1	4.00E+00	1.74E-01	No Toxicity Value	--
Isobutyl Alcohol		1	No Toxicity Value	--	3.00E-01	2.35E+04	1	No Toxicity Value	--	3.00E-01	2.35E+04
Lead Compounds											
~Lead subacetate		1	8.50E-03	8.18E+01	No Toxicity Value	--	1	3.80E-02	1.83E+01	No Toxicity Value	--
~Tetraethyl Lead		1	No Toxicity Value	--	1.00E-07	7.82E-03	1	No Toxicity Value	--	1.00E-07	7.82E-03
Lewisite		1	No Toxicity Value	--	5.00E-06	3.91E-01	1	No Toxicity Value	--	5.00E-06	3.91E-01

Table A-3a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value	Units	Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs	Carcinogens:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs	$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ day/year)}{SF_o \times EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o \times RBA}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs	
Averaging Time, carcinogens	AT_c	70	70	yrs	Mutagens:
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times \left(\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\right) \times CF_o \times RBA}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic adjustment factor, ingestion	CAF_O	0.804	0.804	dimensionless	
Conversion Factor	CF_o	1E-06	1E-06	kg/mg	Trichloroethene:
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times CF_o \times RBA \times \left\{\left(CAF_o \times \frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) + \left[MAF_o \times \left(\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\right)\right]\right\}}$
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{SF_o \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{IRS_c \times CF_o}{BW_c}\right)\right] \times RBA}$
Soil Ingestion Rate (adult)	IRS_a	100	100	mg/day	
Soil Ingestion Rate (child)	IRS_c	200	200	mg/day	
Mutagenic adjustment factor, ingestion	MAF_O	0.202	0.202	dimensionless	
Relative Bioavailability	RBA	chemical-specific		dimensionless	
Oral Reference Dose	RfD_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
(Regional) Screening Level, ingestion	$(R)SL_{Ing}$	derived herein		mg/kg	Noncarcinogens:
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	$(R)SL_{ing} = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRS_c \times CF_o \times RBA}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

DTSC Cadmium - noncarcinogenic:

$$SL_{ing-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times IRS_a \times \frac{1}{RfD_o} \times CF_o \times RBA}$$

		Residential USEPA RSL_{ing}					Residential DTSC-SL_{ing}				
Analyte	**Mutagen?**	**RBA** (*dimensionless*)	**SF_o** ($mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)	**RBA** (*dimensionless*)	**SF_o** ($mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)
Manganese (Non-diet)		1	No Toxicity Value	--	2.40E-02	1.88E+03	1	No Toxicity Value	--	2.40E-02	1.88E+03
Mercury Compounds											
~Mercuric Chloride (and other Mercury salt		1	No Toxicity Value	--	3.00E-04	2.35E+01	1	No Toxicity Value	--	1.60E-04	1.25E+01
~Mercury (elemental)		1	No Toxicity Value	--	not a soil COPC	--	1	No Toxicity Value	--	1.60E-04	1.25E+01
Methyl Acetate		1	No Toxicity Value	--	1.00E+00	7.82E+04	1	No Toxicity Value	--	1.00E+00	7.82E+04
Methylene Chloride	M	1	2.00E-03	7.66E+01	6.00E-03	4.69E+02	1	1.40E-02	1.09E+01	6.00E-03	4.69E+02
Methylene-bis(2-chloroaniline), 4,4'-	M	1	1.00E-01	1.53E+00	2.00E-03	1.56E+02	1	1.50E+00	1.02E-01	2.00E-03	1.56E+02
Methylstyrene, Alpha-		1	No Toxicity Value	--	7.00E-02	5.48E+03	1	No Toxicity Value	--	7.00E-02	5.48E+03
Mineral oils		1	No Toxicity Value	--	3.00E+00	2.35E+05	1	No Toxicity Value	--	3.00E+00	2.35E+05
Nickel Hydroxide		1	No Toxicity Value	--	1.10E-02	8.60E+02	1	No Toxicity Value	--	1.10E-02	8.60E+02
Nickel Oxide		1	No Toxicity Value	--	1.10E-02	8.60E+02	1	No Toxicity Value	--	1.10E-02	8.60E+02
Nickel Refinery Dust		1	No Toxicity Value	--	1.10E-02	8.60E+02	1	9.10E-01	7.64E-01	1.10E-02	8.60E+02
Nickel Soluble Salts		1	No Toxicity Value	--	2.00E-02	1.56E+03	1	No Toxicity Value	--	1.10E-02	8.60E+02
Nickel Subsulfide		1	1.70E+00	4.09E-01	1.10E-02	8.60E+02	1	1.70E+00	4.09E-01	1.10E-02	8.60E+02
Pentachloroethane		1	9.00E-02	7.72E+00	No Toxicity Value	--	1	9.00E-02	7.72E+00	No Toxicity Value	--
Phosphorus, White		1	No Toxicity Value	--	2.00E-05	1.56E+00	1	No Toxicity Value	--	2.00E-05	1.56E+00
Phthalates											
~Dimethylterephthalate		1	No Toxicity Value	--	1.00E-01	7.82E+03	1	No Toxicity Value	--	1.00E-01	7.82E+03
Silver		1	No Toxicity Value	--	5.00E-03	3.91E+02	1	No Toxicity Value	--	5.00E-03	3.91E+02
Tetrachloroethane, 1,1,1,2-		1	2.60E-02	2.67E+01	3.00E-02	2.35E+03	1	2.60E-02	2.67E+01	3.00E-02	2.35E+03
Tetrachloroethane, 1,1,2,2-		1	2.00E-01	3.48E+00	2.00E-02	1.56E+03	1	2.70E-01	2.57E+00	2.00E-02	1.56E+03
Tetrachloroethylene		1	2.10E-03	3.31E+02	6.00E-03	4.69E+02	1	5.40E-01	1.29E+00	6.00E-03	4.69E+02
Toluene		1	No Toxicity Value	--	8.00E-02	6.26E+03	1	No Toxicity Value	--	8.00E-02	6.26E+03
Tri-n-butyltin		1	No Toxicity Value	--	3.00E-04	2.35E+01	1	No Toxicity Value	--	3.00E-04	2.35E+01
Trichlorobenzene, 1,2,3-		1	No Toxicity Value	--	8.00E-04	6.26E+01	1	No Toxicity Value	--	8.00E-04	6.26E+01
Trichloroethane, 1,1,1-		1	No Toxicity Value	--	2.00E+00	1.56E+05	1	No Toxicity Value	--	2.00E+00	1.56E+05
Trichlorofluoromethane		1	No Toxicity Value	--	3.00E-01	2.35E+04	1	No Toxicity Value	--	3.00E-01	2.35E+04
Trichlorophenol, 2,4,6-		1	1.10E-02	6.32E+01	1.00E-03	7.82E+01	1	7.00E-02	9.93E+00	1.00E-03	7.82E+01
Trichloropropane, 1,1,2-		1	No Toxicity Value	--	5.00E-03	3.91E+02	1	No Toxicity Value	--	5.00E-03	3.91E+02

Table A-3a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value	Units	Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs	Carcinogens:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs	$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ day/year)}{SF_o \times EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o \times RBA}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs	
Averaging Time, carcinogens	AT_c	70	70	yrs	Mutagens:
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times \left(\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\right) \times CF_o \times RBA}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic adjustment factor, ingestion	CAF_O	0.804	0.804	dimensionless	
Conversion Factor	CF_o	1E-06	1E-06	kg/mg	Trichloroethene:
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	$(R)SL_{ing} = \frac{TR \times (AT_c \times 365\ days/year)}{SF_o \times EF_r \times CF_o \times RBA \times \left\{\left(CAF_o \times \frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) + \left[MAF_o \times \left(\frac{ED_{0-2} \times IRS_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IRS_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRS_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IRS_a \times ADAF_{16-26}}{BW_a}\right)\right]\right\}}$
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{SF_o \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}\right) \times CF_o}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{IRS_c \times CF_o}{BW_c}\right)\right] \times RBA}$
Soil Ingestion Rate (adult)	IRS_a	100	100	mg/day	
Soil Ingestion Rate (child)	IRS_c	200	200	mg/day	
Mutagenic adjustment factor, ingestion	MAF_O	0.202	0.202	dimensionless	
Relative Bioavailability	RBA	chemical-specific		dimensionless	
Oral Reference Dose	RfD_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
(Regional) Screening Level, ingestion	$(R)SL_{Ing}$	derived herein		mg/kg	Noncarcinogens:
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	$(R)SL_{ing} = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRS_c \times CF_o \times RBA}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

DTSC Cadmium - noncarcinogenic:

$$SL_{ing-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times IRS_a \times \frac{1}{RfD_o} \times CF_o \times RBA}$$

		Residential USEPA RSL_{ing}					Residential DTSC-SL_{ing}				
Analyte	**Mutagen?**	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)
Trichloropropane, 1,2,3-	M	1	3.00E+01	5.10E-03	4.00E-03	3.13E+02	1	3.00E+01	5.10E-03	4.00E-03	3.13E+02
Trimethylbenzene, 1,3,5-		1	No Toxicity Value	--	1.00E-02	7.82E+02	1	No Toxicity Value	--	1.00E-02	7.82E+02
Trimethylpentene, 2,4,4-		1	No Toxicity Value	--	1.00E-02	7.82E+02	1	No Toxicity Value	--	1.00E-02	7.82E+02
Vanadium and Compounds		1	No Toxicity Value	--	5.04E-03	3.94E+02	1	No Toxicity Value	--	5.04E-03	3.94E+02
Vinyl Chloride	M (VC)	1	7.20E-01	9.40E-02	3.00E-03	2.35E+02	1	2.70E-01	2.51E-01	3.00E-03	2.35E+02
Additional Analytes											
Beryllium Sulfate		1	No Toxicity Value	--	2.00E-03	1.56E+02	1	No Toxicity Value	--	2.00E-04	1.56E+01
Dichlorobenzene, 1,3-		1	No Toxicity Value	--	No Toxicity Value	--	1	No Toxicity Value	--	3.00E-02	2.35E+03
Methylcyclohexane		1	No Toxicity Value	--	No Toxicity Value	--	1	No Toxicity Value	--	No Toxicity Value	--

"--" = no value

Table A-3b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value		Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	Carcinogens:
Body Weight, adult	BW_a	80	80	kg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times SF_O \times IRS_w \times CF_o \times RBA}$
Conversion Factor	CF_o	1E-06	1E-06	kg/mg	
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Fraction Contaminated Soil Ingested, worker	FI_w	1.0	1.0	dimensionless	Noncarcinogens:
Soil Ingestion Rate, worker	IRS_w	100	100	mg/day	$(R)SL_{ing} = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times \frac{1}{RfD_O} \times IRS_w \times CF_o \times RBA}$
Relative Bioavailability	RBA	chemical-specific		dimensionless	
Oral Reference Dose	RfD_O	chemical-specific		mg/kg-day	
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	derived herein		mg/kg	
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	Commercial/Industrial USEPA RSL_{ing}					Commercial/Industrial DTSC-SL_{ing}				
Analyte	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)
USEPA RSL Analytes										
Acrylamide	1	5.00E-01	6.54E+00	2.00E-03	2.34E+03	1	4.50E+00	7.27E-01	2.00E-03	2.34E+03
Acrylonitrile	1	5.40E-01	6.06E+00	4.00E-02	4.67E+04	1	1.00E+00	3.27E+00	4.00E-02	4.67E+04
Arsenic, Inorganic	0.6	1.50E+00	3.63E+00	3.00E-04	5.84E+02	1	9.50E+00	3.44E-01	3.50E-06	4.09E+00
Benzaldehyde	1	No Toxicity Value	--	1.00E-01	1.17E+05	1	No Toxicity Value	--	1.00E-01	1.17E+05
Benzene	1	5.50E-02	5.95E+01	4.00E-03	4.67E+03	1	1.00E-01	3.27E+01	4.00E-03	4.67E+03
Benzenethiol	1	No Toxicity Value	--	1.00E-03	1.17E+03	1	No Toxicity Value	--	1.00E-03	1.17E+03
Benzidine	1	2.30E+02	1.42E-02	3.00E-03	3.50E+03	1	5.00E+02	6.54E-03	3.00E-03	3.50E+03
Beryllium and compounds	1	No Toxicity Value	--	2.00E-03	2.34E+03	1	No Toxicity Value	--	2.00E-04	2.34E+02
Bromodichloromethane	1	6.20E-02	5.27E+01	2.00E-02	2.34E+04	1	1.30E-01	2.52E+01	2.00E-02	2.34E+04
Bromoform	1	7.90E-03	4.14E+02	2.00E-02	2.34E+04	1	1.10E-02	2.97E+02	2.00E-02	2.34E+04
Butadiene, 1,3-	1	3.40E+00	9.62E-01	No Toxicity Value	--	1	6.00E-01	5.45E+00	No Toxicity Value	--
Butanol, N-	1	No Toxicity Value	--	1.00E-01	1.17E+05	1	No Toxicity Value	--	1.00E-01	1.17E+05
Butylbenzene, n-	1	No Toxicity Value	--	5.00E-02	5.84E+04	1	No Toxicity Value	--	5.00E-02	5.84E+04
Butylbenzene, sec-	1	No Toxicity Value	--	1.00E-01	1.17E+05	1	No Toxicity Value	--	1.00E-01	1.17E+05
Butylbenzene, tert-	1	No Toxicity Value	--	1.00E-01	1.17E+05	1	No Toxicity Value	--	1.00E-01	1.17E+05
Cadmium (Diet)	1	No Toxicity Value	--	1.00E-03	1.17E+03	1	No Toxicity Value	--	6.30E-06	7.36E+00
Carbon Tetrachloride	1	7.00E-02	4.67E+01	4.00E-03	4.67E+03	1	1.50E-01	2.18E+01	4.00E-03	4.67E+03
Chlordane	1	3.50E-01	9.34E+00	5.00E-04	5.84E+02	1	1.30E+00	2.52E+00	5.00E-04	5.84E+02
Chloro-2-methylaniline, 4-	1	1.00E-01	3.27E+01	3.00E-03	3.50E+03	1	2.70E-01	1.21E+01	3.00E-03	3.50E+03
Chloroacetaldehyde, 2-	1	2.70E-01	1.21E+01	No Toxicity Value	--	1	2.70E-01	1.21E+01	No Toxicity Value	--
Chlorobutane, 1-	1	No Toxicity Value	--	4.00E-02	4.67E+04	1	No Toxicity Value	--	4.00E-02	4.67E+04
Chlorotoluene, o-	1	No Toxicity Value	--	2.00E-02	2.34E+04	1	No Toxicity Value	--	2.00E-02	2.34E+04
Chlorotoluene, p-	1	No Toxicity Value	--	2.00E-02	2.34E+04	1	No Toxicity Value	--	2.00E-02	2.34E+04
Chromium(III), Insoluble Salts	1	No Toxicity Value	--	1.50E+00	1.75E+06	1	No Toxicity Value	--	1.50E+00	1.75E+06
Crotonaldehyde, trans-	1	1.90E+00	1.72E+00	1.00E-03	1.17E+03	1	1.90E+00	1.72E+00	1.00E-03	1.17E+03
Cyanides										
~Cyanogen	1	No Toxicity Value	--	1.00E-03	1.17E+03	1	No Toxicity Value	--	1.00E-03	1.17E+03
~Cyanogen Bromide	1	No Toxicity Value	--	9.00E-02	1.05E+05	1	No Toxicity Value	--	9.00E-02	1.05E+05
~Cyanogen Chloride	1	No Toxicity Value	--	5.00E-02	5.84E+04	1	No Toxicity Value	--	5.00E-02	5.84E+04
~Potassium Silver Cyanide	1	No Toxicity Value	--	5.00E-03	5.84E+03	1	No Toxicity Value	--	5.00E-03	5.84E+03
~Silver Cyanide	1	No Toxicity Value	--	1.00E-01	1.17E+05	1	No Toxicity Value	--	1.00E-01	1.17E+05

Table A-3b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value		Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	Carcinogens:
Body Weight, adult	BW_a	80	80	kg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times SF_O \times IRS_w \times CF_o \times RBA}$
Conversion Factor	CF_o	1E-06	1E-06	kg/mg	
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Fraction Contaminated Soil Ingested, worker	FI_w	1.0	1.0	dimensionless	Noncarcinogens:
Soil Ingestion Rate, worker	IRS_w	100	100	mg/day	$(R)SL_{ing} = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times \frac{1}{RfD_O} \times IRS_w \times CF_o \times RBA}$
Relative Bioavailability	RBA	chemical-specific		dimensionless	
Oral Reference Dose	RfD_O	chemical-specific		mg/kg-day	
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	derived herein		mg/kg	
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	Commercial/Industrial USEPA RSL_{ing}					Commercial/Industrial DTSC-SL_{ing}				
Analyte	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)
Dibromobenzene, 1,3-	1	No Toxicity Value	--	4.00E-04	4.67E+02	1	No Toxicity Value	--	4.00E-04	4.67E+02
Dibromobenzene, 1,4-	1	No Toxicity Value	--	1.00E-02	1.17E+04	1	No Toxicity Value	--	1.00E-02	1.17E+04
Dibromochloromethane	1	8.40E-02	3.89E+01	2.00E-02	2.34E+04	1	8.40E-02	3.89E+01	2.00E-02	2.34E+04
Dibromoethane, 1,2-	1	2.00E+00	1.64E+00	9.00E-03	1.05E+04	1	3.60E+00	9.08E-01	9.00E-03	1.05E+04
Dichlorobenzidine, 3,3'-	1	4.50E-01	7.27E+00	No Toxicity Value	--	1	1.20E+00	2.73E+00	No Toxicity Value	--
Dichloroethane, 1,1-	1	5.70E-03	5.74E+02	2.00E-01	2.34E+05	1	5.70E-03	5.74E+02	2.00E-01	2.34E+05
Dichloroethylene, 1,2-cis-	1	No Toxicity Value	--	2.00E-03	2.34E+03	1	No Toxicity Value	--	2.00E-03	2.34E+03
Dichloroethylene, 1,2-trans-	1	No Toxicity Value	--	2.00E-02	2.34E+04	1	No Toxicity Value	--	2.00E-02	2.34E+04
Dichloropropane, 1,3-	1	No Toxicity Value	--	2.00E-02	2.34E+04	1	No Toxicity Value	--	2.00E-02	2.34E+04
Dichloropropene, 1,3-	1	1.00E-01	3.27E+01	3.00E-02	3.50E+04	1	9.10E-02	3.59E+01	3.00E-02	3.50E+04
Dimethylaniline, N,N-	1	No Toxicity Value	--	2.00E-03	2.34E+03	1	No Toxicity Value	--	2.00E-03	2.34E+03
Epichlorohydrin	1	9.90E-03	3.30E+02	6.00E-03	7.01E+03	1	8.00E-02	4.09E+01	6.00E-03	7.01E+03
Ethyl Chloride (Chloroethane)	1	No Toxicity Value	--	No Toxicity Value	--	1	4.70E-03	6.96E+02	No Toxicity Value	--
Ethyl Ether	1	No Toxicity Value	--	2.00E-01	2.34E+05	1	No Toxicity Value	--	2.00E-01	2.34E+05
Furans										
~Furan	1	No Toxicity Value	--	1.00E-03	1.17E+03	1	No Toxicity Value	--	1.00E-03	1.17E+03
Hexachlorobutadiene	1	7.80E-02	4.19E+01	1.00E-03	1.17E+03	1	7.80E-02	4.19E+01	1.00E-03	1.17E+03
Hexachlorocyclohexane, Technical	1	1.80E+00	1.82E+00	No Toxicity Value	--	1	4.00E+00	8.18E-01	No Toxicity Value	--
Isobutyl Alcohol	1	No Toxicity Value	--	3.00E-01	3.50E+05	1	No Toxicity Value	--	3.00E-01	3.50E+05
Lead Compounds										
~Lead subacetate	1	8.50E-03	3.85E+02	No Toxicity Value	--	1	3.80E-02	8.61E+01	No Toxicity Value	--
~Tetraethyl Lead	1	No Toxicity Value	--	1.00E-07	1.17E-01	1	No Toxicity Value	--	1.00E-07	1.17E-01
Lewisite	1	No Toxicity Value	--	5.00E-06	5.84E+00	1	No Toxicity Value	--	5.00E-06	5.84E+00
Manganese (Non-diet)	1	No Toxicity Value	--	2.40E-02	2.80E+04	1	No Toxicity Value	--	2.40E-02	2.80E+04
Mercury Compounds										
~Mercuric Chloride (and other Mercury salts)	1	No Toxicity Value	--	3.00E-04	3.50E+02	1	No Toxicity Value	--	1.60E-04	1.87E+02
~Mercury (elemental)	1	No Toxicity Value	--	not a soil COPC	--	1	No Toxicity Value	--	1.60E-04	1.87E+02
Methyl Acetate	1	No Toxicity Value	--	1.00E+00	1.17E+06	1	No Toxicity Value	--	1.00E+00	1.17E+06
Methylene Chloride	1	2.00E-03	1.64E+03	6.00E-03	7.01E+03	1	1.40E-02	2.34E+02	6.00E-03	7.01E+03
Methylene-bis(2-chloroaniline), 4,4'-	1	1.00E-01	3.27E+01	2.00E-03	2.34E+03	1	1.50E+00	2.18E+00	2.00E-03	2.34E+03
Methylstyrene, Alpha-	1	No Toxicity Value	--	7.00E-02	8.18E+04	1	No Toxicity Value	--	7.00E-02	8.18E+04
Mineral oils	1	No Toxicity Value	--	3.00E+00	3.50E+06	1	No Toxicity Value	--	3.00E+00	3.50E+06

Table A-3b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Incidental Ingestion

Definition	Variable	USEPA Value	DTSC Value		Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	Carcinogens:
Body Weight, adult	BW_a	80	80	kg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times SF_O \times IRS_w \times CF_o \times RBA}$
Conversion Factor	CF_o	1E-06	1E-06	kg/mg	
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Fraction Contaminated Soil Ingested, worker	FI_w	1.0	1.0	dimensionless	Noncarcinogens:
Soil Ingestion Rate, worker	IRS_w	100	100	mg/day	$(R)SL_{ing} = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times \frac{1}{RfD_O} \times IRS_w \times CF_o \times RBA}$
Relative Bioavailability	RBA	chemical-specific		dimensionless	
Oral Reference Dose	RfD_O	chemical-specific		mg/kg-day	
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	derived herein		mg/kg	
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	Commercial/Industrial USEPA RSL_{ing}					**Commercial/Industrial DTSC-SL_{ing}**				
Analyte	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)	**RBA** (*dimensionless*)	**SF_o** $(mg/kg\text{-}day)^{-1}$	**Cancer** (mg/kg)	**RfD_o** (mg/kg-day)	**Noncancer** (mg/kg)
Nickel Hydroxide	1	No Toxicity Value	--	1.10E-02	1.28E+04	1	No Toxicity Value	--	1.10E-02	1.28E+04
Nickel Oxide	1	No Toxicity Value	--	1.10E-02	1.28E+04	1	No Toxicity Value	--	1.10E-02	1.28E+04
Nickel Refinery Dust	1	No Toxicity Value	--	1.10E-02	1.28E+04	1	9.10E-01	3.59E+00	1.10E-02	1.28E+04
Nickel Soluble Salts	1	No Toxicity Value	--	2.00E-02	2.34E+04	1	No Toxicity Value	--	1.10E-02	1.28E+04
Nickel Subsulfide	1	1.70E+00	1.92E+00	1.10E-02	1.28E+04	1	1.70E+00	1.92E+00	1.10E-02	1.28E+04
Pentachloroethane	1	9.00E-02	3.63E+01	No Toxicity Value	--	1	9.00E-02	3.63E+01	No Toxicity Value	--
Phosphorus, White	1	No Toxicity Value	--	2.00E-05	2.34E+01	1	No Toxicity Value	--	2.00E-05	2.34E+01
Phthalates										
~Dimethylterephthalate	1	No Toxicity Value	--	1.00E-01	1.17E+05	1	No Toxicity Value	--	1.00E-01	1.17E+05
Silver	1	No Toxicity Value	--	5.00E-03	5.84E+03	1	No Toxicity Value	--	5.00E-03	5.84E+03
Tetrachloroethane, 1,1,1,2-	1	2.60E-02	1.26E+02	3.00E-02	3.50E+04	1	2.60E-02	1.26E+02	3.00E-02	3.50E+04
Tetrachloroethane, 1,1,2,2-	1	2.00E-01	1.64E+01	2.00E-02	2.34E+04	1	2.70E-01	1.21E+01	2.00E-02	2.34E+04
Tetrachloroethylene	1	2.10E-03	1.56E+03	6.00E-03	7.01E+03	1	5.40E-01	6.06E+00	6.00E-03	7.01E+03
Toluene	1	No Toxicity Value	--	8.00E-02	9.34E+04	1	No Toxicity Value	--	8.00E-02	9.34E+04
Tri-n-butyltin	1	No Toxicity Value	--	3.00E-04	3.50E+02	1	No Toxicity Value	--	3.00E-04	3.50E+02
Trichlorobenzene, 1,2,3-	1	No Toxicity Value	--	8.00E-04	9.34E+02	1	No Toxicity Value	--	8.00E-04	9.34E+02
Trichloroethane, 1,1,1-	1	No Toxicity Value	--	2.00E+00	2.34E+06	1	No Toxicity Value	--	2.00E+00	2.34E+06
Trichlorofluoromethane	1	No Toxicity Value	--	3.00E-01	3.50E+05	1	No Toxicity Value	--	3.00E-01	3.50E+05
Trichlorophenol, 2,4,6-	1	1.10E-02	2.97E+02	1.00E-03	1.17E+03	1	7.00E-02	4.67E+01	1.00E-03	1.17E+03
Trichloropropane, 1,1,2-	1	No Toxicity Value	--	5.00E-03	5.84E+03	1	No Toxicity Value	--	5.00E-03	5.84E+03
Trichloropropane, 1,2,3-	1	3.00E+01	1.09E-01	4.00E-03	4.67E+03	1	3.00E+01	1.09E-01	4.00E-03	4.67E+03
Trimethylbenzene, 1,3,5-	1	No Toxicity Value	--	1.00E-02	1.17E+04	1	No Toxicity Value	--	1.00E-02	1.17E+04
Trimethylpentene, 2,4,4-	1	No Toxicity Value	--	1.00E-02	1.17E+04	1	No Toxicity Value	--	1.00E-02	1.17E+04
Vanadium and Compounds	1	No Toxicity Value	--	5.04E-03	5.89E+03	1	No Toxicity Value	--	5.04E-03	5.89E+03
Vinyl Chloride	1	7.20E-01	4.54E+00	3.00E-03	3.50E+03	1	2.70E-01	1.21E+01	3.00E-03	3.50E+03
Additional Analytes										
Beryllium Sulfate	1	No Toxicity Value	--	2.00E-03	2.34E+03	1	No Toxicity Value	--	2.00E-04	2.34E+02
Dichlorobenzene, 1,3-	1	No Toxicity Value	--	No Toxicity Value	--	1	No Toxicity Value	--	3.00E-02	3.50E+04
Methylcyclohexane	1	No Toxicity Value	--	No Toxicity Value	--	1	No Toxicity Value	--	No Toxicity Value	--

"--" = no value

Table A-4a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	Units	Equations:
Dermal Soil Absorption Factor[a]	ABS_d[a]	chemical-specific		unitless	Carcinogens:
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs	$(R)SL_D = \frac{TR \times (AT_c \times 365\ day/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}$
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs	
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs	
Soil-to-Skin Adherence Factor, adult	AF_a	0.07	0.07	mg/cm^2-day	Mutagens:
Soil-to-Skin Adherence Factor, child	AF_c	0.2	0.2	mg/cm^2-day	$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\frac{ED_{0-2} \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\right) \times ABS_d \times CF_d}$
Averaging Time, Carcinogens	AT_c	70	70	yrs	
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	Trichloroethene:
Carcinogenic adjustment factor	CAF_O	0.804	0.804	dimensionless	$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EV_r \times EC_r \times ABS_d \times CF_d \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times EF_r \times SA_a \times AF_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\frac{ED_{0-2} \times EF_r \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times EF_r \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\right)\right]\right\}}$
Conversion Factor	CF_d	1E-06	1E-06	kg/mg	
Fraction of EV in Contact with Soil, resident	EC_r	1	1	unitless	
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	
Exposure Frequency, resident	EF_r	350	350	days/yr	
Event Frequency, resident	EV_r	1	1	events/day	
Mutagenic adjustment factor	MAF_O	0.202	0.202	dimensionless	Vinyl Chloride:
Refererenc Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day	$(R)SL_D = \frac{TR}{SF_d \times EV_r \times EC_r \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{SA_c \times AF_c \times ABS_d \times CF_d}{BW_c}\right)\right]}$
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg	
Exposed Body Surface Area, adult	SA_a	6032	6032	cm^2	Noncarcinogens:
Exposed Body Surface Area, child	SA_c	2373	2900	cm^2	$(R)SL_D = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_c \times AF_c \times ABS_d \times CF_d}$
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$	DTSC Cadmium - noncarcinogenic:
Target Hazard Quotient	THQ	1	1	dimensionless	$SL_{D-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_a \times AF_a \times ABS_d \times CF_d}$
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

		Residential USEPA RSL$_D$						Residential DTSC-SL$_D$					
		ABS_d[a]	GI Absorption	SF_d	Cancer	RfD_d	Noncancer	ABS_d[a]	GI Absorption	SF_d	Cancer	RfD_d	Noncancer
Analyte	**Mutagen?**	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)
USEPA RSL Analytes													
Acrylamide	M	1.00E-01	1.00E+00	5.00E-01	1.19E+00	2.00E-03	6.59E+02	1.00E-01	1.00E+00	4.50E+00	1.12E-01	2.00E-03	5.39E+02
Acrylonitrile		--	1.00E+00	5.40E-01	--	4.00E-02	--	--	1.00E+00	1.00E+00	--	4.00E-02	--
Arsenic, Inorganic		3.00E-02	1.00E+00	1.50E+00	5.49E+00	3.00E-04	3.30E+02	3.00E-02	1.00E+00	9.50E+00	7.59E-01	3.50E-06	3.15E+00
Benzaldehyde		--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Benzene		--	1.00E+00	5.50E-02	--	4.00E-03	--	--	1.00E+00	1.00E-01	--	4.00E-03	--
Benzenethiol		--	1.00E+00	--	--	1.00E-03	--	--	1.00E+00	--	--	1.00E-03	--
Benzidine	M	1.00E-01	1.00E+00	2.30E+02	2.59E-03	3.00E-03	9.89E+02	1.00E-01	1.00E+00	5.00E+02	1.01E-03	3.00E-03	8.09E+02
Beryllium and compounds		--	7.00E-03	--	--	1.40E-05	--	1.00E-02	1.00E+00	--	--	2.00E-04	5.39E+02
Bromodichloromethane		--	1.00E+00	6.20E-02	--	2.00E-02	--	--	1.00E+00	1.30E-01	--	2.00E-02	--
Bromoform		--	1.00E+00	7.90E-03	--	2.00E-02	--	--	1.00E+00	1.10E-02	--	2.00E-02	--
Butadiene, 1,3-		--	1.00E+00	3.40E+00	--	--	--	--	1.00E+00	6.00E-01	--	--	--
Butanol, N-		--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Butylbenzene, n-		--	1.00E+00	--	--	5.00E-02	--	--	1.00E+00	--	--	5.00E-02	--
Butylbenzene, sec-		--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Butylbenzene, tert-		--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Cadmium (Diet)		1.00E-03	2.50E-02	--	--	2.50E-05	8.24E+02	1.00E-03	1.00E+00	--	--	6.30E-06	1.24E+03
Carbon Tetrachloride		--	1.00E+00	7.00E-02	--	4.00E-03	--	--	1.00E+00	1.50E-01	--	4.00E-03	--
Chlordane		4.00E-02	1.00E+00	3.50E-01	1.77E+01	5.00E-04	4.12E+02	5.00E-02	1.00E+00	1.30E+00	3.33E+00	5.00E-04	2.70E+02
Chloro-2-methylaniline, 4-		1.00E-01	1.00E+00	1.00E-01	2.47E+01	3.00E-03	9.89E+02	1.00E-01	1.00E+00	2.70E-01	8.01E+00	3.00E-03	8.09E+02
Chloroacetaldehyde, 2-		--	1.00E+00	2.70E-01	--	--	--	--	1.00E+00	2.70E-01	--	--	--
Chlorobutane, 1-		--	1.00E+00	--	--	4.00E-02	--	--	1.00E+00	--	--	4.00E-02	--
Chlorotoluene, o-		--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Chlorotoluene, p-		--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Chromium(III), Insoluble Salts		--	1.30E-02	--	--	1.95E-02	--	1.00E-02	1.30E-02	--	--	1.95E-02	5.26E+04
Crotonaldehyde, trans-		--	1.00E+00	1.90E+00	--	1.00E-03	--	--	1.00E+00	1.90E+00	--	1.00E-03	--

Table A-4a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	Units
Dermal Soil Absorption Factor[a]	ABS_d[a]	chemical-specific		unitless
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs
Soil-to-Skin Adherence Factor, adult	AF_a	0.07	0.07	mg/cm^2-day
Soil-to-Skin Adherence Factor, child	AF_c	0.2	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic adjustment factor	CAF_O	0.804	0.804	dimensionless
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
Fraction of EV in Contact with Soil, resident	EC_r	1	1	unitless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Event Frequency, resident	EV_r	1	1	events/day
Mutagenic adjustment factor	MAF_O	0.202	0.202	dimensionless
Refererenc Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, adult	SA_a	6032	6032	cm^2
Exposed Body Surface Area, child	SA_c	2373	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ day/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}$$

Mutagens:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\begin{array}{l}\frac{ED_{0-2} \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right) \times ABS_d \times CF_d}$$

Trichloroethene:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EV_r \times EC_r \times ABS_d \times CF_d \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times EF_r \times SA_a \times AF_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\begin{array}{l}\frac{ED_{0-2} \times EF_r \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times EF_r \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_D = \frac{TR}{SF_d \times EV_r \times EC_r \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{SA_c \times AF_c \times ABS_d \times CF_d}{BW_c}\right)\right]}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_c \times AF_c \times ABS_d \times CF_d}$$

DTSC Cadmium - noncarcinogenic:

$$SL_{D-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_a \times AF_a \times ABS_d \times CF_d}$$

		Residential USEPA RSL$_D$						Residential DTSC-SL$_D$					
Analyte	**Mutagen?**	**ABS_d**[a] (unitless)	**GI Absorption** (unitless)	**SF_d** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_d** (mg/kg-day)	**Noncancer** (mg/kg)	**ABS_d**[a] (unitless)	**GI Absorption** (unitless)	**SF_d** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_d** (mg/kg-day)	**Noncancer** (mg/kg)
Cyanides													
~Cyanogen		--	1.00E+00	--	--	1.00E-03	--	--	1.00E+00	--	--	1.00E-03	--
~Cyanogen Bromide		--	1.00E+00	--	--	9.00E-02	--	--	1.00E+00	--	--	9.00E-02	--
~Cyanogen Chloride		--	1.00E+00	--	--	5.00E-02	--	--	1.00E+00	--	--	5.00E-02	--
~Potassium Silver Cyanide		--	4.00E-02	--	--	2.00E-04	--	1.00E-02	4.00E-02	--	--	2.00E-04	5.39E+02
~Silver Cyanide		--	4.00E-02	--	--	4.00E-03	--	1.00E-02	4.00E-02	--	--	4.00E-03	1.08E+04
Dibromobenzene, 1,3-		--	1.00E+00	--	--	4.00E-04	--	--	1.00E+00	--	--	4.00E-04	--
Dibromobenzene, 1,4-		--	1.00E+00	--	--	1.00E-02	--	--	1.00E+00	--	--	1.00E-02	--
Dibromochloromethane		--	1.00E+00	8.40E-02	--	2.00E-02	--	--	1.00E+00	8.40E-02	--	2.00E-02	--
Dibromoethane, 1,2-		--	1.00E+00	2.00E+00	--	9.00E-03	--	--	1.00E+00	3.60E+00	--	9.00E-03	--
Dichlorobenzidine, 3,3'-		1.00E-01	1.00E+00	4.50E-01	5.49E+00	--	--	1.00E-01	1.00E+00	1.20E+00	1.80E+00	--	--
Dichloroethane, 1,1-		--	1.00E+00	5.70E-03	--	2.00E-01	--	--	1.00E+00	5.70E-03	--	2.00E-01	--
Dichloroethylene, 1,2-cis-		--	1.00E+00	--	--	2.00E-03	--	--	1.00E+00	--	--	2.00E-03	--
Dichloroethylene, 1,2-trans-		--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Dichloropropane, 1,3-		--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Dichloropropene, 1,3-		--	1.00E+00	1.00E-01	--	3.00E-02	--	--	1.00E+00	9.10E-02	--	3.00E-02	--
Dimethylaniline, N,N-		--	1.00E+00	--	--	2.00E-03	--	--	1.00E+00	--	--	2.00E-03	--
Epichlorohydrin		--	1.00E+00	9.90E-03	--	6.00E-03	--	--	1.00E+00	8.00E-02	--	6.00E-03	--
Ethyl Chloride (Chloroethane)		--	1.00E+00	--	--	--	--	--	1.00E+00	4.70E-03	--	--	--
Ethyl Ether		--	1.00E+00	--	--	2.00E-01	--	--	1.00E+00	--	--	2.00E-01	--
Furans													
~Furan		3.00E-02	1.00E+00	--	--	1.00E-03	1.10E+03	3.00E-02	1.00E+00	--	--	1.00E-03	8.99E+02
Hexachlorobutadiene		--	1.00E+00	7.80E-02	--	1.00E-03	--	--	1.00E+00	7.80E-02	--	1.00E-03	--
Hexachlorocyclohexane, Technical		1.00E-01	1.00E+00	1.80E+00	1.37E+00	--	--	1.00E-01	1.00E+00	4.00E+00	5.41E-01	--	--
Isobutyl Alcohol		--	1.00E+00	--	--	3.00E-01	--	--	1.00E+00	--	--	3.00E-01	--

Table A-4a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	Units
Dermal Soil Absorption Factor[a]	ABS_d[a]	chemical-specific		unitless
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs
Soil-to-Skin Adherence Factor, adult	AF_a	0.07	0.07	mg/cm^2-day
Soil-to-Skin Adherence Factor, child	AF_c	0.2	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic adjustment factor	CAF_O	0.804	0.804	dimensionless
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
Fraction of EV in Contact with Soil, resident	EC_r	1	1	unitless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Event Frequency, resident	EV_r	1	1	events/day
Mutagenic adjustment factor	MAF_O	0.202	0.202	dimensionless
Refererenc Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, adult	SA_a	6032	6032	cm^2
Exposed Body Surface Area, child	SA_c	2373	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ day/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}$$

Mutagens:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\begin{array}{l}\frac{ED_{0-2} \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right) \times ABS_d \times CF_d}$$

Trichloroethene:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EV_r \times EC_r \times ABS_d \times CF_d \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times EF_r \times SA_a \times AF_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\begin{array}{l}\frac{ED_{0-2} \times EF_r \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times EF_r \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_D = \frac{TR}{SF_d \times EV_r \times EC_r \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{SA_c \times AF_c \times ABS_d \times CF_d}{BW_c}\right)\right]}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_c \times AF_c \times ABS_d \times CF_d}$$

DTSC Cadmium - noncarcinogenic:

$$SL_{D-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_a \times AF_a \times ABS_d \times CF_d}$$

		Residential USEPA RSL$_D$						Residential DTSC-SL$_D$					
Analyte	**Mutagen?**	**ABS_d**[a] (unitless)	**GI Absorption** (unitless)	**SF_d** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_d** (mg/kg-day)	**Noncancer** (mg/kg)	**ABS_d**[a] (unitless)	**GI Absorption** (unitless)	**SF_d** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_d** (mg/kg-day)	**Noncancer** (mg/kg)
Lead Compounds													
~Lead subacetate		1.00E-01	1.00E+00	8.50E-03	2.91E+02	--	--	1.00E-01	1.00E+00	3.80E-02	5.69E+01	--	--
~Tetraethyl Lead		--	1.00E+00	--	--	1.00E-07	--	--	1.00E+00	--	--	1.00E-07	--
Lewisite		--	1.00E+00	--	--	5.00E-06	--	--	1.00E+00	--	--	5.00E-06	--
Manganese (Non-diet)		--	4.00E-02	--	--	9.60E-04	--	1.00E-02	4.00E-02	--	--	9.60E-04	2.59E+03
Mercury Compounds													
~Mercuric Chloride (and other Mercury salts)		--	7.00E-02	--	--	2.10E-05	--	1.00E-02	7.00E-02	--	--	1.12E-05	3.02E+01
~Mercury (elemental)		--	1.00E+00	--	--	--	--	1.00E-02	1.00E+00	--	--	1.60E-04	4.32E+02
Methyl Acetate		--	1.00E+00	--	--	1.00E+00	--	--	1.00E+00	--	--	1.00E+00	--
Methylene Chloride	M	--	1.00E+00	2.00E-03	--	6.00E-03	--	--	1.00E+00	1.40E-02	--	6.00E-03	--
Methylene-bis(2-chloroaniline), 4,4'-	M	1.00E-01	1.00E+00	1.00E-01	5.97E+00	2.00E-03	6.59E+02	1.00E-01	1.00E+00	1.50E+00	3.36E-01	2.00E-03	5.39E+02
Methylstyrene, Alpha-		--	1.00E+00	--	--	7.00E-02	--	--	1.00E+00	--	--	7.00E-02	--
Mineral oils		--	1.00E+00	--	--	3.00E+00	--	--	1.00E+00	--	--	3.00E+00	--
Nickel Hydroxide		--	4.00E-02	--	--	4.40E-04	--	1.00E-02	4.00E-02	--	--	4.40E-04	1.19E+03
Nickel Oxide		--	4.00E-02	--	--	4.40E-04	--	1.00E-02	4.00E-02	--	--	4.40E-04	1.19E+03
Nickel Refinery Dust		--	4.00E-02	--	--	4.40E-04	--	1.00E-02	4.00E-02	2.28E+01	9.51E-01	4.40E-04	1.19E+03
Nickel Soluble Salts		--	4.00E-02	--	--	8.00E-04	--	1.00E-02	4.00E-02	--	--	4.40E-04	1.19E+03
Nickel Subsulfide		--	4.00E-02	4.25E+01	--	4.40E-04	--	1.00E-02	4.00E-02	4.25E+01	5.09E-01	4.40E-04	1.19E+03
Pentachloroethane		--	1.00E+00	9.00E-02	--	--	--	--	1.00E+00	9.00E-02	--	--	--
Phosphorus, White		--	1.00E+00	--	--	2.00E-05	--	--	1.00E+00	--	--	2.00E-05	--
Phthalates													
~Dimethylterephthalate		--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Silver		--	4.00E-02	--	--	2.00E-04	--	1.00E-02	4.00E-02	--	--	2.00E-04	5.39E+02
Tetrachloroethane, 1,1,1,2-		--	1.00E+00	2.60E-02	--	3.00E-02	--	--	1.00E+00	2.60E-02	--	3.00E-02	--
Tetrachloroethane, 1,1,2,2-		--	1.00E+00	2.00E-01	--	2.00E-02	--	--	1.00E+00	2.70E-01	--	2.00E-02	--
Tetrachloroethylene		--	1.00E+00	2.10E-03	--	6.00E-03	--	--	1.00E+00	5.40E-01	--	6.00E-03	--

Table A-4a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	Units
Dermal Soil Absorption Factor[a]	ABS_d[a]	chemical-specific		unitless
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	yrs
Soil-to-Skin Adherence Factor, adult	AF_a	0.07	0.07	mg/cm^2-day
Soil-to-Skin Adherence Factor, child	AF_c	0.2	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic adjustment factor	CAF_O	0.804	0.804	dimensionless
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
Fraction of EV in Contact with Soil, resident	EC_r	1	1	unitless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Event Frequency, resident	EV_r	1	1	events/day
Mutagenic adjustment factor	MAF_O	0.202	0.202	dimensionless
Refererenc Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, adult	SA_a	6032	6032	cm^2
Exposed Body Surface Area, child	SA_c	2373	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ day/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}$$

Mutagens:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EF_r \times EV_r \times EC_r \times \left(\begin{array}{l}\frac{ED_{0-2} \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right) \times ABS_d \times CF_d}$$

Trichloroethene:

$$(R)SL_D = \frac{TR \times (AT_c \times 365\ days/year)}{SF_d \times EV_r \times EC_r \times ABS_d \times CF_d \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times EF_r \times SA_a \times AF_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\begin{array}{l}\frac{ED_{0-2} \times EF_r \times AF_c \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times AF_c \times SA_c \times ADAF_{2-6}}{BW_c} + \\ \frac{ED_{6-16} \times EF_r \times AF_a \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times AF_a \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_D = \frac{TR}{SF_d \times EV_r \times EC_r \times \left[\left(\frac{EF_r \times \left(\frac{ED_c \times SA_c \times AF_c}{BW_c} + \frac{ED_a \times SA_a \times AF_a}{BW_a}\right) \times ABS_d \times CF_d}{AT_c \times 365\frac{days}{year}}\right) + \left(\frac{SA_c \times AF_c \times ABS_d \times CF_d}{BW_c}\right)\right]}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times \left(AT_{nc,c} \times 365\frac{day}{year}\right) \times BW_c}{EF_r \times ED_c \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_c \times AF_c \times ABS_d \times CF_d}$$

DTSC Cadmium - noncarcinogenic:

$$SL_{D-adult,Cd} = \frac{THQ \times \left(AT_{nc,26-yr\ adult} \times 365\frac{day}{year}\right) \times BW_a}{EF_r \times ED_{26-yr\ adult} \times \frac{1}{RfD_d} \times EV_r \times EC_r \times SA_a \times AF_a \times ABS_d \times CF_d}$$

		Residential USEPA RSL$_D$						Residential DTSC-SL$_D$					
Analyte	**Mutagen?**	**ABS_d[a]** (unitless)	**GI Absorption** (unitless)	**SF_d** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_d** (mg/kg-day)	**Noncancer** (mg/kg)	**ABS_d[a]** (unitless)	**GI Absorption** (unitless)	**SF_d** (mg/kg-day)$^{-1}$	**Cancer** (mg/kg)	**RfD_d** (mg/kg-day)	**Noncancer** (mg/kg)
Toluene		--	1.00E+00	--	--	8.00E-02	--	--	1.00E+00	--	--	8.00E-02	--
Tri-n-butyltin		--	1.00E+00	--	--	3.00E-04	--	--	1.00E+00	--	--	3.00E-04	--
Trichlorobenzene, 1,2,3-		--	1.00E+00	--	--	8.00E-04	--	--	1.00E+00	--	--	8.00E-04	--
Trichloroethane, 1,1,1-		--	1.00E+00	--	--	2.00E+00	--	--	1.00E+00	--	--	2.00E+00	--
Trichlorofluoromethane		--	1.00E+00	--	--	3.00E-01	--	--	1.00E+00	--	--	3.00E-01	--
Trichlorophenol, 2,4,6-		1.00E-01	1.00E+00	1.10E-02	2.25E+02	1.00E-03	3.30E+02	1.00E-01	1.00E+00	7.00E-02	3.09E+01	1.00E-03	2.70E+02
Trichloropropane, 1,1,2-		--	1.00E+00	--	--	5.00E-03	--	--	1.00E+00	--	--	5.00E-03	--
Trichloropropane, 1,2,3-	M	--	1.00E+00	3.00E+01	--	4.00E-03	--	--	1.00E+00	3.00E+01	--	4.00E-03	--
Trimethylbenzene, 1,3,5-		--	1.00E+00	--	--	1.00E-02	--	--	1.00E+00	--	--	1.00E-02	--
Trimethylpentene, 2,4,4-		--	1.00E+00	--	--	1.00E-02	--	--	1.00E+00	--	--	1.00E-02	--
Vanadium and Compounds		--	2.60E-02	--	--	1.31E-04	--	1.00E-02	2.60E-02	--	--	1.31E-04	3.53E+02
Vinyl Chloride	M (VC)	--	1.00E+00	7.20E-01	--	3.00E-03	--	--	1.00E+00	2.70E-01	--	3.00E-03	--
Additional Analytes													
Beryllium Sulfate		--	7.00E-03	--	--	1.40E-05	--	1.00E-02	1.00E+00	--	--	2.00E-04	5.39E+02
Dichlorobenzene, 1,3-		--	1.00E+00	--	--	--	--	--	1.00E+00	--	--	3.00E-02	--
Methylcyclohexane		--	1.00E+00	--	--	--	--	--	1.00E+00	--	--	--	--

[a] Dermal Absorption Factor (ABS_d) values for the USEPA RSLs are from the USEPA RSL tables; values for the DTSC-SLs are from the RSL tables and from the DTSC Preliminary Endangerment Assessment (PEA) Manual, October 2015.

"--" = no value

Table A-4b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	
Dermal Soil Absorption Factor[\a]	ABS_d [\a]	chemical-specific		unitless
Soil-to-Skin Adherence Factor, worker	AF_w	0.12	0.2	mg/cm^2-day
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,w}$	25	25	yrs
Body Weight, adult	BW_a	80	80	kg
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg
Fraction of EV in Contact with Soil, worker	EC_w	1	1	unitless
Exposure Duration, worker	ED_w	25	25	yrs
Exposure Frequency, worker	EF_w	250	250	days/yr
Event Frequency, worker	EV_w	1	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, worker	SA_w	3527	6032	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times SF_D \times SA_w \times AF_w \times ABS_d \times CF_d}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times \frac{1}{RfD_D} \times SA_w \times AF_w \times ABS_d \times CF_d}$$

	Commercial/Industrial USEPA RSL_D						Commercial/Industrial DTSC-SL_D					
	ABS_d [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**	**ABS_d** [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**
Analyte	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)
USEPA RSL Analytes												
Acrylamide	1.00E-01	1.00E+00	5.00E-01	1.55E+01	2.00E-03	5.52E+03	1.00E-01	1.00E+00	4.50E+00	6.02E-01	2.00E-03	1.94E+03
Acrylonitrile	--	1.00E+00	5.40E-01	--	4.00E-02	--	--	1.00E+00	1.00E+00	--	4.00E-02	--
Arsenic, Inorganic	3.00E-02	1.00E+00	1.50E+00	1.72E+01	3.00E-04	2.76E+03	3.00E-02	1.00E+00	9.50E+00	9.51E-01	3.50E-06	1.13E+01
Benzaldehyde	--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Benzene	--	1.00E+00	5.50E-02	--	4.00E-03	--	--	1.00E+00	1.00E-01	--	4.00E-03	--
Benzenethiol	--	1.00E+00	--	--	1.00E-03	--	--	1.00E+00	--	--	1.00E-03	--
Benzidine	1.00E-01	1.00E+00	2.30E+02	3.36E-02	3.00E-03	8.28E+03	1.00E-01	1.00E+00	5.00E+02	5.42E-03	3.00E-03	2.90E+03
Beryllium and compounds	--	7.00E-03	--	--	1.40E-05	--	1.00E-02	1.00E+00	--	--	2.00E-04	1.94E+03
Bromodichloromethane	--	1.00E+00	6.20E-02	--	2.00E-02	--	--	1.00E+00	1.30E-01	--	2.00E-02	--
Bromoform	--	1.00E+00	7.90E-03	--	2.00E-02	--	--	1.00E+00	1.10E-02	--	2.00E-02	--
Butadiene, 1,3-	--	1.00E+00	3.40E+00	--	--	--	--	1.00E+00	6.00E-01	--	--	--
Butanol, N-	--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Butylbenzene, n-	--	1.00E+00	--	--	5.00E-02	--	--	1.00E+00	--	--	5.00E-02	--
Butylbenzene, sec-	--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Butylbenzene, tert-	--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Cadmium (Diet)	1.00E-03	2.50E-02	--	--	2.50E-05	6.90E+03	1.00E-03	1.00E+00	--	--	6.30E-06	6.10E+02
Carbon Tetrachloride	--	1.00E+00	7.00E-02	--	4.00E-03	--	--	1.00E+00	1.50E-01	--	4.00E-03	--
Chlordane	4.00E-02	1.00E+00	3.50E-01	5.52E+01	5.00E-04	3.45E+03	5.00E-02	1.00E+00	1.30E+00	4.17E+00	5.00E-04	9.68E+02
Chloro-2-methylaniline, 4-	1.00E-01	1.00E+00	1.00E-01	7.73E+01	3.00E-03	8.28E+03	1.00E-01	1.00E+00	2.70E-01	1.00E+01	3.00E-03	2.90E+03
Chloroacetaldehyde, 2-	--	1.00E+00	2.70E-01	--	--	--	--	1.00E+00	2.70E-01	--	--	--
Chlorobutane, 1-	--	1.00E+00	--	--	4.00E-02	--	--	1.00E+00	--	--	4.00E-02	--
Chlorotoluene, o-	--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Chlorotoluene, p-	--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Chromium(III), Insoluble Salts	--	1.30E-02	--	--	1.95E-02	--	1.00E-02	1.30E-02	--	--	1.95E-02	1.89E+05
Crotonaldehyde, trans-	--	1.00E+00	1.90E+00	--	1.00E-03	--	--	1.00E+00	1.90E+00	--	1.00E-03	--

Table A-4b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	
Dermal Soil Absorption Factor[\a]	ABS_d [\a]	chemical-specific		unitless
Soil-to-Skin Adherence Factor, worker	AF_w	0.12	0.2	mg/cm^2-day
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,w}$	25	25	yrs
Body Weight, adult	BW_a	80	80	kg
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg
Fraction of EV in Contact with Soil, worker	EC_w	1	1	unitless
Exposure Duration, worker	ED_w	25	25	yrs
Exposure Frequency, worker	EF_w	250	250	days/yr
Event Frequency, worker	EV_w	1	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, worker	SA_w	3527	6032	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times SF_D \times SA_w \times AF_w \times ABS_d \times CF_d}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times \frac{1}{RfD_D} \times SA_w \times AF_w \times ABS_d \times CF_d}$$

	Commercial/Industrial USEPA RSL_D						Commercial/Industrial DTSC-SL_D					
	ABS_d [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**	**ABS_d** [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**
Analyte	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)
Cyanides												
~Cyanogen	--	1.00E+00	--	--	1.00E-03	--	--	1.00E+00	--	--	1.00E-03	--
~Cyanogen Bromide	--	1.00E+00	--	--	9.00E-02	--	--	1.00E+00	--	--	9.00E-02	--
~Cyanogen Chloride	--	1.00E+00	--	--	5.00E-02	--	--	1.00E+00	--	--	5.00E-02	--
~Potassium Silver Cyanide	--	4.00E-02	--	--	2.00E-04	--	1.00E-02	4.00E-02	--	--	2.00E-04	1.94E+03
~Silver Cyanide	--	4.00E-02	--	--	4.00E-03	--	1.00E-02	4.00E-02	--	--	4.00E-03	3.87E+04
Dibromobenzene, 1,3-	--	1.00E+00	--	--	4.00E-04	--	--	1.00E+00	--	--	4.00E-04	--
Dibromobenzene, 1,4-	--	1.00E+00	--	--	1.00E-02	--	--	1.00E+00	--	--	1.00E-02	--
Dibromochloromethane	--	1.00E+00	8.40E-02	--	2.00E-02	--	--	1.00E+00	8.40E-02	--	2.00E-02	--
Dibromoethane, 1,2-	--	1.00E+00	2.00E+00	--	9.00E-03	--	--	1.00E+00	3.60E+00	--	9.00E-03	--
Dichlorobenzidine, 3,3'-	1.00E-01	1.00E+00	4.50E-01	1.72E+01	--	--	1.00E-01	1.00E+00	1.20E+00	2.26E+00	--	--
Dichloroethane, 1,1-	--	1.00E+00	5.70E-03	--	2.00E-01	--	--	1.00E+00	5.70E-03	--	2.00E-01	--
Dichloroethylene, 1,2-cis-	--	1.00E+00	--	--	2.00E-03	--	--	1.00E+00	--	--	2.00E-03	--
Dichloroethylene, 1,2-trans-	--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Dichloropropane, 1,3-	--	1.00E+00	--	--	2.00E-02	--	--	1.00E+00	--	--	2.00E-02	--
Dichloropropene, 1,3-	--	1.00E+00	1.00E-01	--	3.00E-02	--	--	1.00E+00	9.10E-02	--	3.00E-02	--
Dimethylaniline, N,N-	--	1.00E+00	--	--	2.00E-03	--	--	1.00E+00	--	--	2.00E-03	--
Epichlorohydrin	--	1.00E+00	9.90E-03	--	6.00E-03	--	--	1.00E+00	8.00E-02	--	6.00E-03	--
Ethyl Chloride (Chloroethane)	--	1.00E+00	--	--	--	--	--	1.00E+00	4.70E-03	--	--	--
Ethyl Ether	--	1.00E+00	--	--	2.00E-01	--	--	1.00E+00	--	--	2.00E-01	--
Furans												
~Furan	3.00E-02	1.00E+00	--	--	1.00E-03	9.20E+03	3.00E-02	1.00E+00	--	--	1.00E-03	3.23E+03
Hexachlorobutadiene	--	1.00E+00	7.80E-02	--	1.00E-03	--	--	1.00E+00	7.80E-02	--	1.00E-03	--
Hexachlorocyclohexane, Technical	1.00E-01	1.00E+00	1.80E+00	4.29E+00	--	--	1.00E-01	1.00E+00	4.00E+00	6.78E-01	--	--
Isobutyl Alcohol	--	1.00E+00	--	--	3.00E-01	--	--	1.00E+00	--	--	3.00E-01	--
Lead Compounds												
~Lead subacetate	1.00E-01	1.00E+00	8.50E-03	9.09E+02	--	--	1.00E-01	1.00E+00	3.80E-02	7.13E+01	--	--
~Tetraethyl Lead	--	1.00E+00	--	--	1.00E-07	--	--	1.00E+00	--	--	1.00E-07	--

Table A-4b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	
Dermal Soil Absorption Factor[\a]	ABS_d [\a]	chemical-specific		unitless
Soil-to-Skin Adherence Factor, worker	AF_w	0.12	0.2	mg/cm^2-day
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,w}$	25	25	yrs
Body Weight, adult	BW_a	80	80	kg
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg
Fraction of EV in Contact with Soil, worker	EC_w	1	1	unitless
Exposure Duration, worker	ED_w	25	25	yrs
Exposure Frequency, worker	EF_w	250	250	days/yr
Event Frequency, worker	EV_w	1	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, worker	SA_w	3527	6032	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times SF_D \times SA_w \times AF_w \times ABS_d \times CF_d}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times \frac{1}{RfD_D} \times SA_w \times AF_w \times ABS_d \times CF_d}$$

	Commercial/Industrial USEPA RSL_D						Commercial/Industrial DTSC-SL_D					
	ABS_d [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**	**ABS_d** [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**
Analyte	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)
Lewisite	--	1.00E+00	--	--	5.00E-06	--	--	1.00E+00	--	--	5.00E-06	--
Manganese (Non-diet)	--	4.00E-02	--	--	9.60E-04	--	1.00E-02	4.00E-02	--	--	9.60E-04	9.29E+03
Mercury Compounds												
~Mercuric Chloride (and other Mercury salts)	--	7.00E-02	--	--	2.10E-05	--	1.00E-02	7.00E-02	--	--	1.12E-05	1.08E+02
~Mercury (elemental)	--	1.00E+00	--	--	--	--	1.00E-02	1.00E+00	--	--	1.60E-04	1.55E+03
Methyl Acetate	--	1.00E+00	--	--	1.00E+00	--	--	1.00E+00	--	--	1.00E+00	--
Methylene Chloride	--	1.00E+00	2.00E-03	--	6.00E-03	--	--	1.00E+00	1.40E-02	--	6.00E-03	--
Methylene-bis(2-chloroaniline), 4,4'-	1.00E-01	1.00E+00	1.00E-01	7.73E+01	2.00E-03	5.52E+03	1.00E-01	1.00E+00	1.50E+00	1.81E+00	2.00E-03	1.94E+03
Methylstyrene, Alpha-	--	1.00E+00	--	--	7.00E-02	--	--	1.00E+00	--	--	7.00E-02	--
Mineral oils	--	1.00E+00	--	--	3.00E+00	--	--	1.00E+00	--	--	3.00E+00	--
Nickel Hydroxide	--	4.00E-02	--	--	4.40E-04	--	1.00E-02	4.00E-02	--	--	4.40E-04	4.26E+03
Nickel Oxide	--	4.00E-02	--	--	4.40E-04	--	1.00E-02	4.00E-02	--	--	4.40E-04	4.26E+03
Nickel Refinery Dust	--	4.00E-02	--	--	4.40E-04	--	1.00E-02	4.00E-02	2.28E+01	1.19E+00	4.40E-04	4.26E+03
Nickel Soluble Salts	--	4.00E-02	--	--	8.00E-04	--	1.00E-02	4.00E-02	--	--	4.40E-04	4.26E+03
Nickel Subsulfide	--	4.00E-02	4.25E+01	--	4.40E-04	--	1.00E-02	4.00E-02	4.25E+01	6.38E-01	4.40E-04	4.26E+03
Pentachloroethane	--	1.00E+00	9.00E-02	--	--	--	--	1.00E+00	9.00E-02	--	--	--
Phosphorus, White	--	1.00E+00	--	--	2.00E-05	--	--	1.00E+00	--	--	2.00E-05	--
Phthalates												
~Dimethylterephthalate	--	1.00E+00	--	--	1.00E-01	--	--	1.00E+00	--	--	1.00E-01	--
Silver	--	4.00E-02	--	--	2.00E-04	--	1.00E-02	4.00E-02	--	--	2.00E-04	1.94E+03
Tetrachloroethane, 1,1,1,2-	--	1.00E+00	2.60E-02	--	3.00E-02	--	--	1.00E+00	2.60E-02	--	3.00E-02	--
Tetrachloroethane, 1,1,2,2-	--	1.00E+00	2.00E-01	--	2.00E-02	--	--	1.00E+00	2.70E-01	--	2.00E-02	--
Tetrachloroethylene	--	1.00E+00	2.10E-03	--	6.00E-03	--	--	1.00E+00	5.40E-01	--	6.00E-03	--
Toluene	--	1.00E+00	--	--	8.00E-02	--	--	1.00E+00	--	--	8.00E-02	--
Tri-n-butyltin	--	1.00E+00	--	--	3.00E-04	--	--	1.00E+00	--	--	3.00E-04	--
Trichlorobenzene, 1,2,3-	--	1.00E+00	--	--	8.00E-04	--	--	1.00E+00	--	--	8.00E-04	--
Trichloroethane, 1,1,1-	--	1.00E+00	--	--	2.00E+00	--	--	1.00E+00	--	--	2.00E+00	--
Trichlorofluoromethane	--	1.00E+00	--	--	3.00E-01	--	--	1.00E+00	--	--	3.00E-01	--

Table A-4b. USEPA RSLs and DTSC-SLs for a Commercial/Industrial Receptor Exposed to Soil via Dermal Contact

Description	Variable	USEPA Value	DTSC Value	
Dermal Soil Absorption Factor[\a]	ABS_d [\a]	chemical-specific		unitless
Soil-to-Skin Adherence Factor, worker	AF_w	0.12	0.2	mg/cm^2-day
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,w}$	25	25	yrs
Body Weight, adult	BW_a	80	80	kg
Conversion Factor	CF_d	1E-06	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific		mg/kg
Fraction of EV in Contact with Soil, worker	EC_w	1	1	unitless
Exposure Duration, worker	ED_w	25	25	yrs
Exposure Frequency, worker	EF_w	250	250	days/yr
Event Frequency, worker	EV_w	1	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		mg/kg-day
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		mg/kg
Exposed Body Surface Area, worker	SA_w	3527	6032	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations:

Carcinogens:

$$(R)SL_D = \frac{TR \times AT_c \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times SF_D \times SA_w \times AF_w \times ABS_d \times CF_d}$$

Noncarcinogens:

$$(R)SL_D = \frac{THQ \times AT_{nc,w} \times 365\frac{days}{year} \times BW_a}{EF_w \times ED_w \times EV_r \times EC_r \times \frac{1}{RfD_D} \times SA_w \times AF_w \times ABS_d \times CF_d}$$

	Commercial/Industrial USEPA RSL_D						Commercial/Industrial DTSC-SL_D					
	ABS_d [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**	**ABS_d** [\a]	**GI Absorption**	**SF_d**	**Cancer**	**RfD_d**	**Noncancer**
Analyte	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)	(unitless)	(unitless)	(mg/kg-day)$^{-1}$	(mg/kg)	(mg/kg-day)	(mg/kg)
Trichlorophenol, 2,4,6-	1.00E-01	1.00E+00	1.10E-02	7.02E+02	1.00E-03	2.76E+03	1.00E-01	1.00E+00	7.00E-02	3.87E+01	1.00E-03	9.68E+02
Trichloropropane, 1,1,2-	--	1.00E+00	--	--	5.00E-03	--	--	1.00E+00	--	--	5.00E-03	--
Trichloropropane, 1,2,3-	--	1.00E+00	3.00E+01	--	4.00E-03	--	--	1.00E+00	3.00E+01	--	4.00E-03	--
Trimethylbenzene, 1,3,5-	--	1.00E+00	--	--	1.00E-02	--	--	1.00E+00	--	--	1.00E-02	--
Trimethylpentene, 2,4,4-	--	1.00E+00	--	--	1.00E-02	--	--	1.00E+00	--	--	1.00E-02	--
Vanadium and Compounds	--	2.60E-02	--	--	1.31E-04	--	1.00E-02	2.60E-02	--	--	1.31E-04	1.27E+03
Vinyl Chloride	--	1.00E+00	7.20E-01	--	3.00E-03	--	--	1.00E+00	2.70E-01	--	3.00E-03	--
Additional Analytes												
Beryllium Sulfate	--	7.00E-03	--	--	1.40E-05	--	1.00E-02	1.00E+00	--	--	2.00E-04	1.94E+03
Dichlorobenzene, 1,3-	--	1.00E+00	--	--	--	--	--	1.00E+00	--	--	3.00E-02	--
Methylcyclohexane	--	1.00E+00	--	--	--	--	--	1.00E+00	--	--	--	--

"--" = no value

Table A-5. Derivation of Inhalation Factors for Inhalation Exposures to Volatile Organic Compounds

Description:	Variable	USEPA Value	DTSC Value	Units
Unit conversion factor	CF_v	1.00E+03	1.00E+03	m^2/cm^2
Apparent Diffusivity	D_A	derived		cm^2/s
Diffusivity in air	D_i	chemical-specific		cm^2/s
Diffusivity in water	D_w	chemical-specific		cm^2/s
Default organic-carbon content	F_{OC}	0.006	0.006	g/g
Henry's law constant	H'	chemical-specific		dimensionless
Soil-water partition coefficient for organics: $Kd=K_{OC}\times F_{OC}$	K_d	chemical-specific		cm^3/g
Soil-organic carbon partition coefficient	K_{OC}	chemical-specific		cm^3/g
Total soil porosity	n	0.43	0.43	$L_{porespace}/L_{soil}$
Inverse of the mean concentration at the center of a 0.5-acre square source in Los Angeles	Q/C_{vol}	68.18	68.18	g/m^2-s per kg/m^3
Dry soil bulk density	ρ_b	1.5	1.5	g/cm^3
Air-filled soil porosity	θ_a	0.28	0.28	L_{air}/L_{soil}
Water-filled soil porosity	θ_w	0.15	0.15	L_{water}/L_{soil}
Inhalation exposure interval, resident	$T_{resident}$	8.20E+08	8.20E+08	seconds
Inhalation exposure interval, worker	T_{worker}	8.20E+08	8.20E+08	seconds
Volatilization Factor for soil	VFs	derived		m^3/kg

VF Derivation

$$VFs = Q/C_{vol} \times \frac{(3.14 \times D_A \times T)^{1/2}}{(2 \times \rho_b \times D_A)} \times CF_v$$

based on:

$$D_A = \frac{\left[\left(\theta_a{}^{10/3} D_i H' + \theta_w{}^{10/3} D_w\right)/n^2\right]}{\rho_B K_d + \theta_w + \theta_a H'}$$

Analyte	D_i (cm^2/s)	Reference	D_w (cm^2/s)	Reference	H' (dimensionless)	Reference	K_{OC} (cm^3/g)	Reference	USEPA Factors: K_d (cm^3/g)	USEPA Factors: D_A (cm^2/s)	USEPA Factors: $VF_{resident}$ m^3/kg	USEPA Factors: VF_{worker} m^3/kg	DTSC-Modified Factors: K_d (cm^3/g)	DTSC-Modified Factors: D_A (cm^2/s)	DTSC-Modified Factors: $VF_{resident}$ m^3/kg	DTSC-Modified Factors: VF_{worker} m^3/kg
USEPA RSL Analytes																
Acrylonitrile	1.14E-01	RSLs	1.23E-05	RSLs	5.64E-03	RSLs	8.51E+00	RSLs	5.11E-02	2.19E-04	7.79E+03	7.79E+03	5.11E-02	2.19E-04	7.79E+03	7.79E+03
Benzaldehyde	7.44E-02	RSLs	9.46E-06	RSLs	1.09E-03	RSLs	1.11E+01	RSLs	6.65E-02	2.56E-05	2.28E+04	2.28E+04	6.65E-02	2.56E-05	2.28E+04	2.28E+04
Benzene	8.95E-02	RSLs	1.03E-05	RSLs	2.27E-01	RSLs	1.46E+02	RSLs	8.75E-01	1.03E-03	3.59E+03	3.59E+03	8.75E-01	1.03E-03	3.59E+03	3.59E+03
Benzenethiol	7.29E-02	RSLs	9.45E-06	RSLs	1.37E-02	RSLs	2.34E+02	RSLs	1.40E+00	3.44E-05	1.97E+04	1.97E+04	1.40E+00	3.44E-05	1.97E+04	1.97E+04
Bromodichloromethane	5.63E-02	RSLs	1.07E-05	RSLs	8.67E-02	RSLs	3.18E+01	RSLs	1.91E-01	8.23E-04	4.02E+03	4.02E+03	1.91E-01	8.23E-04	4.02E+03	4.02E+03
Bromoform	3.57E-02	RSLs	1.04E-05	RSLs	2.19E-02	RSLs	3.18E+01	RSLs	1.91E-01	1.37E-04	9.84E+03	9.84E+03	1.91E-01	1.37E-04	9.84E+03	9.84E+03
Butadiene, 1,3-	1.00E-01	RSLs	1.03E-05	RSLs	3.01E+00	RSLs	3.96E+01	RSLs	2.38E-01	1.74E-02	8.75E+02	8.75E+02	2.38E-01	1.74E-02	8.75E+02	8.75E+02
Butanol, N-	9.00E-02	RSLs	1.01E-05	RSLs	3.60E-04	RSLs	3.47E+00	RSLs	2.08E-02	1.44E-05	3.04E+04	3.04E+04	2.08E-02	1.44E-05	3.04E+04	3.04E+04
Butylbenzene, n-	5.28E-02	RSLs	7.33E-06	RSLs	6.50E-01	RSLs	1.48E+03	RSLs	8.89E+00	1.95E-04	8.26E+03	8.26E+03	8.89E+00	1.95E-04	8.26E+03	8.26E+03
Butylbenzene, sec-	5.28E-02	RSLs	7.34E-06	RSLs	7.20E-01	RSLs	1.33E+03	RSLs	7.99E+00	2.39E-04	7.45E+03	7.45E+03	7.99E+00	2.39E-04	7.45E+03	7.45E+03
Butylbenzene, tert-	5.30E-02	RSLs	7.37E-06	RSLs	5.40E-01	RSLs	1.00E+03	RSLs	6.01E+00	2.38E-04	7.47E+03	7.47E+03	6.01E+00	2.38E-04	7.47E+03	7.47E+03
Carbon Tetrachloride	5.71E-02	RSLs	9.78E-06	RSLs	1.13E+00	RSLs	4.39E+01	RSLs	2.63E-01	5.82E-03	1.51E+03	1.51E+03	2.63E-01	5.82E-03	1.51E+03	1.51E+03
Chlordane	2.14E-02	RSLs	5.43E-06	RSLs	2.87E-03	RSLs	3.38E+04	RSLs	2.03E+02	1.59E-08	9.14E+05	9.14E+05	2.03E+02	1.59E-08	9.14E+05	9.14E+05
Chloroacetaldehyde, 2-	1.02E-01	RSLs	1.23E-05	RSLs	9.77E-04	RSLs	1.00E+00	RSLs	6.00E-03	4.91E-05	1.65E+04	1.65E+04	6.00E-03	4.91E-05	1.65E+04	1.65E+04
Chlorobutane, 1-	7.84E-02	RSLs	9.33E-06	RSLs	6.83E-01	RSLs	7.22E+01	RSLs	4.33E-01	4.20E-03	1.78E+03	1.78E+03	4.33E-01	4.20E-03	1.78E+03	1.78E+03
Chlorotoluene, o-	6.29E-02	RSLs	8.72E-06	RSLs	1.46E-01	RSLs	3.83E+02	RSLs	2.30E+00	1.96E-04	8.23E+03	8.23E+03	2.30E+00	1.96E-04	8.23E+03	8.23E+03
Chlorotoluene, p-	6.26E-02	RSLs	8.66E-06	RSLs	1.79E-01	RSLs	3.75E+02	RSLs	2.25E+00	2.43E-04	7.39E+03	7.39E+03	2.25E+00	2.43E-04	7.39E+03	7.39E+03
Crotonaldehyde, trans-	9.59E-02	RSLs	1.08E-05	RSLs	7.93E-04	RSLs	1.79E+00	RSLs	1.08E-02	3.62E-05	1.92E+04	1.92E+04	1.08E-02	3.62E-05	1.92E+04	1.92E+04
Cyanides																
~Cyanogen	1.24E-01	RSLs	1.38E-05	RSLs	2.21E-01	RSLs	0.00E+00	RSLs	0.00E+00	1.00E-02	1.15E+03	1.15E+03	0.00E+00	1.00E-02	1.15E+03	1.15E+03
~Cyanogen Bromide	9.84E-02	RSLs	1.41E-05	RSLs	1.00E+00	RSLs	0.00E+00	RSLs	0.00E+00	1.78E-02	8.65E+02	8.65E+02	0.00E+00	1.78E-02	8.65E+02	8.65E+02
~Cyanogen Chloride	1.21E-01	RSLs	1.42E-05	RSLs	7.94E-02	RSLs	0.00E+00	RSLs	0.00E+00	4.32E-03	1.75E+03	1.75E+03	0.00E+00	4.32E-03	1.75E+03	1.75E+03
Dibromobenzene, 1,3-	3.12E-02	RSLs	8.55E-06	RSLs	5.07E-02	RSLs	3.75E+02	RSLs	2.25E+00	3.47E-05	1.96E+04	1.96E+04	2.25E+00	3.47E-05	1.96E+04	1.96E+04
Dibromobenzene, 1,4-	3.33E-02	RSLs	9.34E-06	RSLs	3.65E-02	RSLs	3.75E+02	RSLs	2.25E+00	2.67E-05	2.23E+04	2.23E+04	2.25E+00	2.67E-05	2.23E+04	2.23E+04
Dibromochloromethane	3.66E-02	RSLs	1.06E-05	RSLs	3.20E-02	RSLs	3.18E+01	RSLs	1.91E-01	2.05E-04	8.06E+03	8.06E+03	1.91E-01	2.05E-04	8.06E+03	8.06E+03
Dibromoethane, 1,2-	4.30E-02	RSLs	1.04E-05	RSLs	2.66E-02	RSLs	3.96E+01	RSLs	2.38E-01	1.73E-04	8.76E+03	8.76E+03	2.38E-01	1.73E-04	8.76E+03	8.76E+03
Dichloroethane, 1,1-	8.36E-02	RSLs	1.06E-05	RSLs	2.30E-01	RSLs	3.18E+01	RSLs	1.91E-01	2.98E-03	2.11E+03	2.11E+03	1.91E-01	2.98E-03	2.11E+03	2.11E+03
Dichloroethylene, 1,2-cis-	8.84E-02	RSLs	1.13E-05	RSLs	1.67E-01	RSLs	3.96E+01	RSLs	2.38E-01	2.07E-03	2.53E+03	2.53E+03	2.38E-01	2.07E-03	2.53E+03	2.53E+03
Dichloroethylene, 1,2-trans-	8.76E-02	RSLs	1.12E-05	RSLs	3.84E-01	RSLs	3.96E+01	RSLs	2.38E-01	4.25E-03	1.77E+03	1.77E+03	2.38E-01	4.25E-03	1.77E+03	1.77E+03
Dichloropropane, 1,3-	7.39E-02	RSLs	9.82E-06	RSLs	3.99E-02	RSLs	7.22E+01	RSLs	4.33E-01	2.83E-04	6.86E+03	6.86E+03	4.33E-01	2.83E-04	6.86E+03	6.86E+03
Dichloropropene, 1,3-	7.63E-02	RSLs	1.01E-05	RSLs	1.45E-01	RSLs	7.22E+01	RSLs	4.33E-01	1.02E-03	3.60E+03	3.60E+03	4.33E-01	1.02E-03	3.60E+03	3.60E+03
Dimethylaniline, N,N-	6.25E-02	RSLs	8.31E-06	RSLs	2.32E-03	RSLs	7.87E+01	RSLs	4.72E-01	1.32E-05	3.17E+04	3.17E+04	4.72E-01	1.32E-05	3.17E+04	3.17E+04
Epichlorohydrin	8.89E-02	RSLs	1.11E-05	RSLs	1.24E-03	RSLs	9.91E+00	RSLs	5.94E-02	3.63E-05	1.91E+04	1.91E+04	5.94E-02	3.63E-05	1.91E+04	1.91E+04
Ethyl Chloride (Chloroethane)	1.04E-01	RSLs	1.16E-05	RSLs	4.54E-01	RSLs	2.17E+01	RSLs	1.30E-01	7.74E-03	1.31E+03	1.31E+03	1.30E-01	7.74E-03	1.31E+03	1.31E+03
Ethyl Ether	8.52E-02	RSLs	9.36E-06	RSLs	5.03E-02	RSLs	9.70E+00	RSLs	5.82E-02	1.33E-03	3.17E+03	3.17E+03	5.82E-02	1.33E-03	3.17E+03	3.17E+03

Table A-5. Derivation of Inhalation Factors for Inhalation Exposures to Volatile Organic Compounds

Description:	Variable	USEPA Value	DTSC Value	Units	VF Derivation
Unit conversion factor	CF_v	1.00E+03	1.00E+03	m^2/cm^2	$VFs = Q/C_{vol} \times \frac{(3.14 \times D_A \times T)^{1/2}}{(2 \times \rho_b \times D_A)} \times CF_v$
Apparent Diffusivity	D_A	derived		cm^2/s	
Diffusivity in air	D_i	chemical-specific		cm^2/s	
Diffusivity in water	D_w	chemical-specific		cm^2/s	
Default organic-carbon content	F_{OC}	0.006	0.006	g/g	
Henry's law constant	H'	chemical-specific		dimensionless	
Soil-water partition coefficient for organics: $Kd=K_{OC}\times F_{OC}$	K_d	chemical-specific		cm^3/g	based on: $D_A = \frac{\left[\left(\theta_a{}^{10/3} D_i H' + \theta_w{}^{10/3} D_w\right)/n^2\right]}{\rho_B K_d + \theta_w + \theta_a H'}$
Soil-organic carbon partition coefficient	K_{OC}	chemical-specific		cm^3/g	
Total soil porosity	n	0.43	0.43	$L_{porespace}/L_{soil}$	
Inverse of the mean concentration at the center of a 0.5-acre square source in Los Angeles	Q/C_{vol}	68.18	68.18	g/m^2-s per kg/m^3	
Dry soil bulk density	ρ_b	1.5	1.5	g/cm^3	
Air-filled soil porosity	θ_a	0.28	0.28	L_{air}/L_{soil}	
Water-filled soil porosity	θ_w	0.15	0.15	L_{water}/L_{soil}	
Inhalation exposure interval, resident	$T_{resident}$	8.20E+08	8.20E+08	seconds	
Inhalation exposure interval, worker	T_{worker}	8.20E+08	8.20E+08	seconds	
Volatilization Factor for soil	VFs	derived		m^3/kg	

									USEPA Factors				DTSC-Modified Factors			
	D_i		D_w		H'		K_{OC}		K_d	D_A	$VF_{resident}$	VF_{worker}	K_d	D_A	$VF_{resident}$	VF_{worker}
Analyte	(cm^2/s)	Reference	(cm^2/s)	Reference	(dimensionless)	Reference	(cm^3/g)	Reference	(cm^3/g)	(cm^2/s)	m^3/kg	m^3/kg	(cm^3/g)	(cm^2/s)	m^3/kg	m^3/kg
Furans																
~Furan	1.03E-01	RSLs	1.17E-05	RSLs	2.21E-01	RSLs	8.00E+01	RSLs	4.80E-01	1.89E-03	2.65E+03	2.65E+03	4.80E-01	1.89E-03	2.65E+03	2.65E+03
Hexachlorobutadiene	2.67E-02	RSLs	7.03E-06	RSLs	4.21E-01	RSLs	8.45E+02	RSLs	5.07E+00	1.11E-04	1.09E+04	1.09E+04	5.07E+00	1.11E-04	1.09E+04	1.09E+04
Isobutyl Alcohol	8.97E-02	RSLs	1.00E-05	RSLs	4.00E-04	RSLs	2.92E+00	RSLs	1.75E-02	1.63E-05	2.85E+04	2.85E+04	1.75E-02	1.63E-05	2.85E+04	2.85E+04
Lead Compounds																
~Tetraethyl Lead	2.46E-02	RSLs	6.40E-06	RSLs	2.32E+01	RSLs	6.48E+02	RSLs	3.89E+00	3.56E-03	1.93E+03	1.93E+03	3.89E+00	3.56E-03	1.93E+03	1.93E+03
Lewisite	3.28E-02	RSLs	9.06E-06	RSLs	8.91E-03	RSLs	1.11E+02	RSLs	6.64E-01	1.99E-05	2.59E+04	2.59E+04	6.64E-01	1.99E-05	2.59E+04	2.59E+04
Mercury Compounds																
~Mercury (elemental)	3.07E-02	RSLs	6.30E-06	RSLs	3.53E-01	RSLs	0.00E+00	RSLs	5.20E+01	1.07E-05	3.52E+04	3.52E+04	5.20E+01	1.07E-05	3.52E+04	3.52E+04
Methyl Acetate	9.58E-02	RSLs	1.10E-05	RSLs	4.70E-03	RSLs	3.06E+00	RSLs	1.84E-02	1.96E-04	8.23E+03	8.23E+03	1.84E-02	1.96E-04	8.23E+03	8.23E+03
Methylene Chloride	9.99E-02	RSLs	1.25E-05	RSLs	1.33E-01	RSLs	2.17E+01	RSLs	1.30E-01	2.70E-03	2.22E+03	2.22E+03	1.30E-01	2.70E-03	2.22E+03	2.22E+03
Methylstyrene, Alpha-	6.29E-02	RSLs	8.19E-06	RSLs	1.04E-01	RSLs	6.98E+02	RSLs	4.19E+00	7.89E-05	1.30E+04	1.30E+04	4.19E+00	7.89E-05	1.30E+04	1.30E+04
Mineral oils	3.62E-02	RSLs	6.43E-06	RSLs	3.35E+02	RSLs	4.82E+03	RSLs	2.89E+01	6.86E-03	1.39E+03	1.39E+03	2.89E+01	6.86E-03	1.39E+03	1.39E+03
Pentachloroethane	3.15E-02	RSLs	8.57E-06	RSLs	7.93E-02	RSLs	1.36E+02	RSLs	8.17E-01	1.39E-04	9.78E+03	9.78E+03	8.17E-01	1.39E-04	9.78E+03	9.78E+03
Phosphorus, White	2.19E-01	RSLs	2.77E-05	RSLs	8.63E-02	RSLs	0.00E+00	RSLs	3.50E+00	2.71E-04	7.00E+03	7.00E+03	3.50E+00	2.71E-04	7.00E+03	7.00E+03
Phthalates																
~Dimethylterephthalate	2.85E-02	RSLs	6.72E-06	RSLs	5.48E-03	RSLs	3.10E+01	RSLs	1.86E-01	2.84E-05	2.16E+04	2.16E+04	1.86E-01	2.84E-05	2.16E+04	2.16E+04
Tetrachloroethane, 1,1,1,2-	4.82E-02	RSLs	9.10E-06	RSLs	1.02E-01	RSLs	8.60E+01	RSLs	5.16E-01	4.02E-04	5.75E+03	5.75E+03	5.16E-01	4.02E-04	5.75E+03	5.75E+03
Tetrachloroethane, 1,1,2,2-	4.89E-02	RSLs	9.29E-06	RSLs	1.50E-02	RSLs	9.49E+01	RSLs	5.70E-01	5.66E-05	1.53E+04	1.53E+04	5.70E-01	5.66E-05	1.53E+04	1.53E+04
Tetrachloroethylene	5.05E-02	RSLs	9.46E-06	RSLs	7.24E-01	RSLs	9.49E+01	RSLs	5.70E-01	2.35E-03	2.38E+03	2.38E+03	5.70E-01	2.35E-03	2.38E+03	2.38E+03
Toluene	7.78E-02	RSLs	9.20E-06	RSLs	2.72E-01	RSLs	2.34E+02	RSLs	1.40E+00	7.04E-04	4.35E+03	4.35E+03	1.40E+00	7.04E-04	4.35E+03	4.35E+03
Tri-n-butyltin	2.15E-02	RSLs	5.35E-06	RSLs	6.22E+01	RSLs	8.09E+03	RSLs	4.85E+01	1.15E-03	3.40E+03	3.40E+03	4.85E+01	1.15E-03	3.40E+03	3.40E+03
Trichlorobenzene, 1,2,3-	3.95E-02	RSLs	8.38E-06	RSLs	5.11E-02	RSLs	1.38E+03	RSLs	8.30E+00	1.25E-05	3.27E+04	3.27E+04	8.30E+00	1.25E-05	3.27E+04	3.27E+04
Trichloroethane, 1,1,1-	6.48E-02	RSLs	9.60E-06	RSLs	7.03E-01	RSLs	4.39E+01	RSLs	2.63E-01	4.77E-03	1.67E+03	1.67E+03	2.63E-01	4.77E-03	1.67E+03	1.67E+03
Trichlorofluoromethane	6.54E-02	RSLs	1.00E-05	RSLs	3.97E+00	RSLs	4.39E+01	RSLs	2.63E-01	1.22E-02	1.05E+03	1.05E+03	2.63E-01	1.22E-02	1.05E+03	1.05E+03
Trichloropropane, 1,1,2-	5.72E-02	RSLs	9.17E-06	RSLs	1.30E-02	RSLs	9.49E+01	RSLs	5.70E-01	5.72E-05	1.53E+04	1.53E+04	5.70E-01	5.72E-05	1.53E+04	1.53E+04
Trichloropropane, 1,2,3-	5.75E-02	RSLs	9.24E-06	RSLs	1.40E-02	RSLs	1.16E+02	RSLs	6.95E-01	5.24E-05	1.59E+04	1.59E+04	6.95E-01	5.24E-05	1.59E+04	1.59E+04
Trimethylbenzene, 1,3,5-	6.02E-02	RSLs	7.84E-06	RSLs	3.59E-01	RSLs	6.02E+02	RSLs	3.61E+00	2.96E-04	6.70E+03	6.70E+03	3.61E+00	2.96E-04	6.70E+03	6.70E+03
Trimethylpentene, 2,4,4-	5.95E-02	RSLs	7.31E-06	RSLs	3.05E+01	RSLs	2.40E+02	RSLs	1.44E+00	1.30E-02	1.01E+03	1.01E+03	1.44E+00	1.30E-02	1.01E+03	1.01E+03
Vinyl Chloride	1.07E-01	RSLs	1.20E-05	RSLs	1.14E+00	RSLs	2.17E+01	RSLs	1.30E-01	1.42E-02	9.66E+02	9.66E+02	1.30E-01	1.42E-02	9.66E+02	9.66E+02
Additional Analytes																
Dichlorobenzene, 1,3-	6.82E-02	estimated	7.97E-06	estimated	1.08E-01	EPISuite v4.11	2.58E+00	EPISuite v4.11	1.55E-02	2.80E-03	2.18E+03	2.18E+03	1.55E-02	2.80E-03	2.18E+03	2.18E+03
Methylcyclohexane	8.93E-02	estimated	1.04E-05	estimated	1.76E+01	EPISuite v4.11	2.34E+02	EPISuite v4.11	1.40E+00	1.70E-02	8.85E+02	8.85E+02	1.40E+00	1.70E-02	8.85E+02	8.85E+02

"--" = no value

Table A-6a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	yrs
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	26	26	yrs
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency	EF_r	350	350	days/yr
Exposure Time	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific		$\mu g/m^3$
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		mg/kg
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless
Volatilization Factor for VOCs (Table A-5)	$VF_{resident}$	chemical-specific		m^3/kg

Equations

Cancer Risk:

Carcinogens:

$$(R)SL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times CF_I \times EF_r \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times ED_r \times ET_r}$$

Mutagens:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{EF_r \times ET_r \times CF_I \times \left(\begin{array}{l} ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26} \end{array}\right) \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right)}$$

Trichloroethene:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{IUR \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_I \times \left\{[CAF_I \times ED_r \times EF_r \times ET_r] + \left[MAF_I \times \left(\begin{array}{l} ED_{0-2} \times EF_r \times ET_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ET_r \times ADAF_{2-6} + \\ ED_{6-16} \times EF_r \times ET_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ET_r \times ADAF_{16-26} \end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times CF_I}{AT_c \times 365\frac{day}{year} \times VF_{resident}} + \left[\frac{IUR}{VF_{resident}} \times CF_I\right]\right)}$$

Noncancer Hazard:

$$(R)SL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_i}$$

DTSC, Cadmium - noncarcinogenic hazard:

$$SL_{inh-Cd} = \frac{THQ \times AT_{nc,26-yr\ adult} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_{26-yr\ adult} \times ET_r \times \frac{1}{RfC} \times \frac{1}{PEF} \times CF_i}$$

		Residential USEPA RSL_{inh}					Residential DTSC-SL_{inh}				
Analyte	**Mutagen?**	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(\mu g/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(\mu g/m^3)$	**Noncancer** (mg/kg)	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(\mu g/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(\mu g/m^3)$	**Noncancer** (mg/kg)
USEPA RSL Analytes											
Acrylamide	M	1.36E+09	1.00E-04	1.38E+04	6.00E+00	8.51E+06	1.36E+09	1.30E-03	1.06E+03	6.00E+00	8.51E+06
Acrylonitrile		7.79E+03	6.80E-05	3.22E-01	2.00E+00	1.63E+01	7.79E+03	2.90E-04	7.55E-02	5.00E+00	4.06E+01
Arsenic, Inorganic		1.36E+09	4.30E-03	8.88E+02	1.50E-02	2.13E+04	1.36E+09	3.30E-03	1.16E+03	1.50E-02	2.13E+04
Benzaldehyde		2.28E+04	No Toxicity Value	--	No Toxicity Value	--	2.28E+04	No Toxicity Value	--	4.00E+02	9.51E+03
Benzene		3.59E+03	7.80E-06	1.29E+00	3.00E+01	1.12E+02	3.59E+03	2.90E-05	3.47E-01	3.00E+00	1.12E+01
Benzenethiol		1.97E+04	No Toxicity Value	--	No Toxicity Value	--	1.97E+04	No Toxicity Value	--	4.00E+00	8.21E+01
Benzidine	M	1.36E+09	6.70E-02	2.06E+01	No Toxicity Value	--	1.36E+09	1.40E-01	9.85E+00	No Toxicity Value	--
Beryllium and compounds		1.36E+09	2.40E-03	1.59E+03	2.00E-02	2.84E+04	1.36E+09	2.40E-03	1.59E+03	7.00E-03	9.93E+03
Bromodichloromethane		4.02E+03	3.70E-05	3.05E-01	No Toxicity Value	--	4.02E+03	3.70E-05	3.05E-01	8.00E+01	3.35E+02
Bromoform		9.84E+03	1.10E-06	2.51E+01	No Toxicity Value	--	9.84E+03	1.10E-06	2.51E+01	8.00E+01	8.21E+02
Butadiene, 1,3-		8.75E+02	3.00E-05	8.18E-02	2.00E+00	1.82E+00	8.75E+02	1.70E-04	1.44E-02	2.00E+00	1.82E+00
Butanol, N-		3.04E+04	No Toxicity Value	--	No Toxicity Value	--	3.04E+04	No Toxicity Value	--	4.00E+02	1.27E+04
Butylbenzene, n-		8.26E+03	No Toxicity Value	--	No Toxicity Value	--	8.26E+03	No Toxicity Value	--	2.00E+02	1.72E+03
Butylbenzene, sec-		7.45E+03	No Toxicity Value	--	No Toxicity Value	--	7.45E+03	No Toxicity Value	--	4.00E+02	3.11E+03
Butylbenzene, tert-		7.47E+03	No Toxicity Value	--	No Toxicity Value	--	7.47E+03	No Toxicity Value	--	4.00E+02	3.12E+03
Cadmium (Diet)		1.36E+09	1.80E-03	2.12E+03	1.00E-02	1.42E+04	1.36E+09	4.20E-03	9.09E+02	1.00E-02	1.42E+04
Carbon Tetrachloride		1.51E+03	6.00E-06	7.07E-01	1.00E+02	1.58E+02	1.51E+03	4.20E-05	1.01E-01	4.00E+01	6.31E+01
Chlordane		9.14E+05	1.00E-04	2.57E+01	7.00E-01	6.68E+02	9.14E+05	3.40E-04	7.55E+00	7.00E-01	6.68E+02
Chloro-2-methylaniline, 4-		1.36E+09	7.70E-05	4.96E+04	No Toxicity Value	--	1.36E+09	7.70E-05	4.96E+04	No Toxicity Value	--
Chloroacetaldehyde, 2-		1.65E+04	No Toxicity Value	--	No Toxicity Value	--	1.65E+04	6.75E-05	6.84E-01	No Toxicity Value	--
Chlorobutane, 1-		1.78E+03	No Toxicity Value	--	No Toxicity Value	--	1.78E+03	No Toxicity Value	--	1.60E+02	2.97E+02
Chlorotoluene, o-		8.23E+03	No Toxicity Value	--	No Toxicity Value	--	8.23E+03	No Toxicity Value	--	8.00E+01	6.87E+02
Chlorotoluene, p-		7.39E+03	No Toxicity Value	--	No Toxicity Value	--	7.39E+03	No Toxicity Value	--	8.00E+01	6.17E+02

Table A-6a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	yrs
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	26	26	yrs
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency	EF_r	350	350	days/yr
Exposure Time	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(µg/m^3)^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific		$µg/m^3$
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		mg/kg
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless
Volatilization Factor for VOCs (Table A-5)	$VF_{resident}$	chemical-specific		m^3/kg

Cancer Risk:

Carcinogens:

$$(R)SL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times CF_I \times EF_r \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times ED_r \times ET_r}$$

Mutagens:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{EF_r \times ET_r \times CF_I \times \left(\begin{array}{l} ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26} \end{array}\right) \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right)}$$

Trichloroethene:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{IUR \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_I \times \left\{[CAF_I \times ED_r \times EF_r \times ET_r] + \left[MAF_I \times \left(\begin{array}{l} ED_{0-2} \times EF_r \times ET_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ET_r \times ADAF_{2-6} + \\ ED_{6-16} \times EF_r \times ET_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ET_r \times ADAF_{16-26} \end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times CF_I}{AT_c \times 365\frac{day}{year} \times VF_{resident}} + \left[\frac{IUR}{VF_{resident}} \times CF_I\right]\right)}$$

Noncancer Hazard:

$$(R)SL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_i}$$

DTSC, Cadmium - noncarcinogenic hazard:

$$SL_{inh-Cd} = \frac{THQ \times AT_{nc,26-yr\ adult} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_{26-yr\ adult} \times ET_r \times \frac{1}{RfC} \times \frac{1}{PEF} \times CF_i}$$

		Residential USEPA RSL_{inh}					Residential DTSC-SL_{inh}				
Analyte	**Mutagen?**	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(µg/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(µg/m^3)$	**Noncancer** (mg/kg)	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(µg/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(µg/m^3)$	**Noncancer** (mg/kg)
Chromium(III), Insoluble Salts		1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
Crotonaldehyde, trans-		1.92E+04	No Toxicity Value	--	No Toxicity Value	--	1.92E+04	4.75E-04	1.13E-01	4.00E+00	8.00E+01
Cyanides											
~Cyanogen		1.15E+03	No Toxicity Value	--	No Toxicity Value	--	1.15E+03	No Toxicity Value	--	4.00E+00	4.81E+00
~Cyanogen Bromide		8.65E+02	No Toxicity Value	--	No Toxicity Value	--	8.65E+02	No Toxicity Value	--	3.60E+02	3.25E+02
~Cyanogen Chloride		1.75E+03	No Toxicity Value	--	No Toxicity Value	--	1.75E+03	No Toxicity Value	--	2.00E+02	3.66E+02
~Potassium Silver Cyanide		1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
~Silver Cyanide		1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
Dibromobenzene, 1,3-		1.96E+04	No Toxicity Value	--	No Toxicity Value	--	1.96E+04	No Toxicity Value	--	1.60E+00	3.27E+01
Dibromobenzene, 1,4-		2.23E+04	No Toxicity Value	--	No Toxicity Value	--	2.23E+04	No Toxicity Value	--	4.00E+01	9.31E+02
Dibromochloromethane		8.06E+03	No Toxicity Value	--	No Toxicity Value	--	8.06E+03	2.10E-05	1.08E+00	8.00E+01	6.72E+02
Dibromoethane, 1,2-		8.76E+03	6.00E-04	4.10E-02	9.00E+00	8.23E+01	8.76E+03	7.10E-05	3.47E-01	8.00E-01	7.31E+00
Dichlorobenzidine, 3,3'-		1.36E+09	3.40E-04	1.12E+04	No Toxicity Value	--	1.36E+09	3.40E-04	1.12E+04	No Toxicity Value	--
Dichloroethane, 1,1-		2.11E+03	1.60E-06	3.71E+00	No Toxicity Value	--	2.11E+03	1.60E-06	3.71E+00	8.00E+02	1.76E+03
Dichloroethylene, 1,2-cis-		2.53E+03	No Toxicity Value	--	No Toxicity Value	--	2.53E+03	No Toxicity Value	--	8.00E+00	2.11E+01
Dichloroethylene, 1,2-trans-		1.77E+03	No Toxicity Value	--	No Toxicity Value	--	1.77E+03	No Toxicity Value	--	8.00E+01	1.48E+02
Dichloropropane, 1,3-		6.86E+03	No Toxicity Value	--	No Toxicity Value	--	6.86E+03	No Toxicity Value	--	8.00E+01	5.72E+02
Dichloropropene, 1,3-		3.60E+03	4.00E-06	2.53E+00	2.00E+01	7.52E+01	3.60E+03	1.60E-05	6.32E-01	2.00E+01	7.52E+01
Dimethylaniline, N,N-		3.17E+04	No Toxicity Value	--	No Toxicity Value	--	3.17E+04	No Toxicity Value	--	8.00E+00	2.64E+02
Epichlorohydrin		1.91E+04	1.20E-06	4.48E+01	1.00E+00	2.00E+01	1.91E+04	2.30E-05	2.34E+00	3.00E+00	5.99E+01
Ethyl Chloride (Chloroethane)		1.31E+03	No Toxicity Value	--	1.00E+04	1.37E+04	1.31E+03	1.18E-06	3.13E+00	3.00E+04	4.10E+04
Ethyl Ether		3.17E+03	No Toxicity Value	--	No Toxicity Value	--	3.17E+03	No Toxicity Value	--	8.00E+02	2.64E+03
Furans											
~Furan		2.65E+03	No Toxicity Value	--	No Toxicity Value	--	2.65E+03	No Toxicity Value	--	4.00E+00	1.11E+01

Table A-6a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	yrs
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	26	26	yrs
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency	EF_r	350	350	days/yr
Exposure Time	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific		$\mu g/m^3$
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		mg/kg
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless
Volatilization Factor for VOCs (Table A-5)	$VF_{resident}$	chemical-specific		m^3/kg

Equations

Cancer Risk:

Carcinogens:

$$(R)SL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times CF_I \times EF_r \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times ED_r \times ET_r}$$

Mutagens:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{EF_r \times ET_r \times CF_I \times \left(\begin{array}{l} ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26} \end{array}\right) \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right)}$$

Trichloroethene:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{IUR \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_I \times \left\{[CAF_I \times ED_r \times EF_r \times ET_r] + \left[MAF_I \times \left(\begin{array}{l} ED_{0-2} \times EF_r \times ET_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ET_r \times ADAF_{2-6} + \\ ED_{6-16} \times EF_r \times ET_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ET_r \times ADAF_{16-26} \end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times CF_I}{AT_c \times 365\frac{day}{year} \times VF_{resident}} + \left[\frac{IUR}{VF_{resident}} \times CF_I\right]\right)}$$

Noncancer Hazard:

$$(R)SL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_i}$$

DTSC, Cadmium - noncarcinogenic hazard:

$$SL_{inh-Cd} = \frac{THQ \times AT_{nc,26-yr\ adult} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_{26-yr\ adult} \times ET_r \times \frac{1}{RfC} \times \frac{1}{PEF} \times CF_i}$$

		Residential USEPA RSL_{inh}					Residential DTSC-SL_{inh}				
Analyte	**Mutagen?**	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(\mu g/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(\mu g/m^3)$	**Noncancer** (mg/kg)	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(\mu g/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(\mu g/m^3)$	**Noncancer** (mg/kg)
Hexachlorobutadiene		1.09E+04	2.20E-05	1.40E+00	No Toxicity Value	--	1.09E+04	2.20E-05	1.40E+00	4.00E+00	4.56E+01
Hexachlorocyclohexane, Technical		1.36E+09	5.10E-04	7.48E+03	No Toxicity Value	--	1.36E+09	1.10E-03	3.47E+03	No Toxicity Value	--
Isobutyl Alcohol		2.85E+04	No Toxicity Value	--	No Toxicity Value	--	2.85E+04	No Toxicity Value	--	1.20E+03	3.57E+04
Lead Compounds											
~Lead subacetate		1.36E+09	1.20E-05	3.18E+05	No Toxicity Value	--	1.36E+09	1.10E-05	3.47E+05	No Toxicity Value	--
~Tetraethyl Lead		1.93E+03	No Toxicity Value	--	No Toxicity Value	--	1.93E+03	No Toxicity Value	--	4.00E-04	8.06E-04
Lewisite		2.59E+04	No Toxicity Value	--	No Toxicity Value	--	2.59E+04	No Toxicity Value	--	2.00E-02	5.40E-01
Manganese (Non-diet)		1.36E+09	No Toxicity Value	--	5.00E-02	7.09E+04	1.36E+09	No Toxicity Value	--	9.00E-02	1.28E+05
Mercury Compounds											
~Mercuric Chloride (and other Mercury salts)		1.36E+09	No Toxicity Value	--	3.00E-01	4.25E+05	1.36E+09	No Toxicity Value	--	3.00E-02	4.25E+04
~Mercury (elemental)		3.52E+04	No Toxicity Value	--	3.00E-01	1.10E+01	3.52E+04	No Toxicity Value	--	3.00E-02	1.10E+00
Methyl Acetate		8.23E+03	No Toxicity Value	--	No Toxicity Value	--	8.23E+03	No Toxicity Value	--	4.00E+03	3.43E+04
Methylene Chloride	M	2.22E+03	1.00E-08	2.25E+02	6.00E+02	1.39E+03	2.22E+03	1.00E-06	2.25E+00	4.00E+02	9.27E+02
Methylene-bis(2-chloroaniline), 4,4'-	M	1.36E+09	4.30E-04	3.21E+03	No Toxicity Value	--	1.36E+09	4.30E-04	3.21E+03	No Toxicity Value	--
Methylstyrene, Alpha-		1.30E+04	No Toxicity Value	--	No Toxicity Value	--	1.30E+04	No Toxicity Value	--	2.80E+02	3.79E+03
Mineral oils		1.39E+03	No Toxicity Value	--	No Toxicity Value	--	1.39E+03	No Toxicity Value	--	1.20E+04	1.74E+04
Nickel Hydroxide		1.36E+09	2.60E-04	1.47E+04	1.40E-02	1.98E+04	1.36E+09	2.60E-04	1.47E+04	1.40E-02	1.99E+04
Nickel Oxide		1.36E+09	2.60E-04	1.47E+04	2.00E-02	2.84E+04	1.36E+09	2.60E-04	1.47E+04	2.00E-02	2.84E+04
Nickel Refinery Dust		1.36E+09	2.40E-04	1.59E+04	1.40E-02	1.98E+04	1.36E+09	2.60E-04	1.47E+04	1.40E-02	1.99E+04
Nickel Soluble Salts		1.36E+09	2.60E-04	1.47E+04	9.00E-02	1.28E+05	1.36E+09	2.60E-04	1.47E+04	1.40E-02	1.99E+04
Nickel Subsulfide		1.36E+09	4.80E-04	7.95E+03	1.40E-02	1.98E+04	1.36E+09	4.90E-04	7.79E+03	1.40E-02	1.99E+04
Pentachloroethane		9.78E+03	No Toxicity Value	--	No Toxicity Value	--	9.78E+03	2.25E-05	1.22E+00	No Toxicity Value	--
Phosphorus, White		7.00E+03	No Toxicity Value	--	No Toxicity Value	--	7.00E+03	No Toxicity Value	--	8.00E-02	5.84E-01

Table A-6a. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	yrs
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	yrs
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	yrs
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	yrs
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	26	26	yrs
Carcinogenic adjustment factor, inhalation	CAF_i	0.756	0.756	dimensionless
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency	EF_r	350	350	days/yr
Exposure Time	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(µg/m^3)^{-1}$
Mutagenic adjustment factor, inhalation	MAF_i	0.244	0.244	dimensionless
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific		$µg/m^3$
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		mg/kg
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless
Volatilization Factor for VOCs (Table A-5)	$VF_{resident}$	chemical-specific		m^3/kg

Equations

Cancer Risk:

Carcinogens:

$$(R)SL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times CF_I \times EF_r \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times ED_r \times ET_r}$$

Mutagens:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{EF_r \times ET_r \times CF_I \times \left(\begin{array}{l} ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26} \end{array}\right) \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right)}$$

Trichloroethene:

$$(R)SL_{inh} = \frac{TR \times \left(AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}\right)}{IUR \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_I \times \left\{[CAF_I \times ED_r \times EF_r \times ET_r] + \left[MAF_I \times \left(\begin{array}{l} ED_{0-2} \times EF_r \times ET_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ET_r \times ADAF_{2-6} + \\ ED_{6-16} \times EF_r \times ET_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ET_r \times ADAF_{16-26} \end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$(R)SL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times CF_I}{AT_c \times 365\frac{day}{year} \times VF_{resident}} + \left[\frac{IUR}{VF_{resident}} \times CF_I\right]\right)}$$

Noncancer Hazard:

$$(R)SL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times \left(\frac{1}{VF_{resident} \text{ or } PEF}\right) \times CF_i}$$

DTSC, Cadmium - noncarcinogenic hazard:

$$SL_{inh-Cd} = \frac{THQ \times AT_{nc,26-yr\ adult} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_{26-yr\ adult} \times ET_r \times \frac{1}{RfC} \times \frac{1}{PEF} \times CF_i}$$

		Residential USEPA RSL_{inh}					Residential DTSC-SL_{inh}				
Analyte	**Mutagen?**	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(µg/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(µg/m^3)$	**Noncancer** (mg/kg)	**$VF_{resident}$ or PEF** m^3/kg	**IUR** $(µg/m^3)^{-1}$	**Cancer** (mg/kg)	**RfC** $(µg/m^3)$	**Noncancer** (mg/kg)
Phthalates											
~Dimethylterephthalate		2.16E+04	No Toxicity Value	--	No Toxicity Value	--	2.16E+04	No Toxicity Value	--	4.00E+02	9.03E+03
Silver		1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
Tetrachloroethane, 1,1,1,2-		5.75E+03	7.40E-06	2.18E+00	No Toxicity Value	--	5.75E+03	7.40E-06	2.18E+00	1.20E+02	7.20E+02
Tetrachloroethane, 1,1,2,2-		1.53E+04	5.80E-05	7.42E-01	No Toxicity Value	--	1.53E+04	5.80E-05	7.42E-01	8.00E+01	1.28E+03
Tetrachloroethylene		2.38E+03	2.60E-07	2.57E+01	4.00E+01	9.92E+01	2.38E+03	5.90E-06	1.13E+00	3.50E+01	8.68E+01
Toluene		4.35E+03	No Toxicity Value	--	5.00E+03	2.27E+04	4.35E+03	No Toxicity Value	--	3.00E+02	1.36E+03
Tri-n-butyltin		3.40E+03	No Toxicity Value	--	No Toxicity Value	--	3.40E+03	No Toxicity Value	--	1.20E+00	4.26E+00
Trichlorobenzene, 1,2,3-		3.27E+04	No Toxicity Value	--	No Toxicity Value	--	3.27E+04	No Toxicity Value	--	3.20E+00	1.09E+02
Trichloroethane, 1,1,1-		1.67E+03	No Toxicity Value	--	5.00E+03	8.70E+03	1.67E+03	No Toxicity Value	--	1.00E+03	1.74E+03
Trichlorofluoromethane		1.05E+03	No Toxicity Value	--	No Toxicity Value	--	1.05E+03	No Toxicity Value	--	1.20E+03	1.31E+03
Trichlorophenol, 2,4,6-		1.36E+09	3.10E-06	1.23E+06	No Toxicity Value	--	1.36E+09	2.00E-05	1.91E+05	No Toxicity Value	--
Trichloropropane, 1,1,2-		1.53E+04	No Toxicity Value	--	No Toxicity Value	--	1.53E+04	No Toxicity Value	--	2.00E+01	3.18E+02
Trichloropropane, 1,2,3-	M	1.59E+04	No Toxicity Value	--	3.00E-01	4.98E+00	1.59E+04	7.50E-03	2.15E-03	3.00E-01	4.98E+00
Trimethylbenzene, 1,3,5-		6.70E+03	No Toxicity Value	--	No Toxicity Value	--	6.70E+03	No Toxicity Value	--	4.00E+01	2.80E+02
Trimethylpentene, 2,4,4-		1.01E+03	No Toxicity Value	--	No Toxicity Value	--	1.01E+03	No Toxicity Value	--	4.00E+01	4.22E+01
Vanadium and Compounds		1.36E+09	No Toxicity Value	--	1.00E-01	1.42E+05	1.36E+09	No Toxicity Value	--	1.00E-01	1.42E+05
Vinyl Chloride	M (VC)	9.66E+02	4.40E-06	1.62E-01	1.00E+02	1.01E+02	9.66E+02	7.80E-05	9.13E-03	1.00E+02	1.01E+02
Additional Analytes											
Beryllium Sulfate		1.36E+09	2.40E-03	1.59E+03	2.00E-02	2.84E+04	1.36E+09	8.60E-01	4.44E+00	7.00E-03	9.93E+03
Dichlorobenzene, 1,3-		2.18E+03	No Toxicity Value	--	No Toxicity Value	--	2.18E+03	No Toxicity Value	--	1.20E+02	2.73E+02
Methylcyclohexane		8.85E+02	No Toxicity Value	--	No Toxicity Value	--	8.85E+02	No Toxicity Value	--	6.00E+03	5.54E+03

"--" = no value

Table A-6b. USEPA RSLs and DTSC-SLs for a Commercial Industrial Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units	Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Carcinogen:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times IUR \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
COPC Concentration in air	C_{air}	chemical-specific		µg/m^3	
COPC Concentration in soil	C_{soil}	chemical-specific		mg/kg	
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	Noncarcinogen:
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg	$RSL_{inh} = \frac{THQ \times AT_w \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times \frac{1}{RfC} \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
Regional screening level, inhalation	RSL_{inh}	chemical-specific		µg/m^3	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	
Volatilization Factor for VOCs (Table A-4)	VF_{worker}	chemical-specific		m^3/kg	

	USEPA Commercial RSL_{inh}					DTSC-Modified Residential RSLinh				
	VF_{worker} or PEF	**IUR**	**Cancer**	**RfC**	**Noncancer**	**VF_{worker} or PEF**	**IUR**	**Cancer**	**RfC**	**Noncancer**
Analyte	m^3/kg	(µg/m^3)$^{-1}$	(mg/kg)	(µg/m^3)	(mg/kg)	m^3/kg	(µg/m^3)$^{-1}$	(mg/kg)	(µg/m^3)	(mg/kg)
USEPA RSL Analytes										
Acrylamide	1.36E+09	1.00E-04	1.67E+05	6.00E+00	3.57E+07	1.36E+09	1.30E-03	1.28E+04	6.00E+00	3.57E+07
Acrylonitrile	7.79E+03	6.80E-05	1.41E+00	2.00E+00	6.83E+01	7.79E+03	2.90E-04	3.30E-01	5.00E+00	1.71E+02
Arsenic, Inorganic	1.36E+09	4.30E-03	3.88E+03	1.50E-02	8.93E+04	1.36E+09	3.30E-03	5.05E+03	1.50E-02	8.94E+04
Benzaldehyde	2.28E+04	No Toxicity Value	--	No Toxicity Value	--	2.28E+04	No Toxicity Value	--	4.00E+02	3.99E+04
Benzene	3.59E+03	7.80E-06	5.64E+00	3.00E+01	4.71E+02	3.59E+03	2.90E-05	1.52E+00	3.00E+00	4.71E+01
Benzenethiol	1.97E+04	No Toxicity Value	--	No Toxicity Value	--	1.97E+04	No Toxicity Value	--	4.00E+00	3.45E+02
Benzidine	1.36E+09	6.70E-02	2.49E+02	No Toxicity Value	--	1.36E+09	1.40E-01	1.19E+02	No Toxicity Value	--
Beryllium and compounds	1.36E+09	2.40E-03	6.95E+03	2.00E-02	1.19E+05	1.36E+09	2.40E-03	6.95E+03	7.00E-03	4.17E+04
Bromodichloromethane	4.02E+03	3.70E-05	1.33E+00	No Toxicity Value	--	4.02E+03	3.70E-05	1.33E+00	8.00E+01	1.41E+03
Bromoform	9.84E+03	1.10E-06	1.10E+02	No Toxicity Value	--	9.84E+03	1.10E-06	1.10E+02	8.00E+01	3.45E+03
Butadiene, 1,3-	8.75E+02	3.00E-05	3.58E-01	2.00E+00	7.66E+00	8.75E+02	1.70E-04	6.31E-02	2.00E+00	7.66E+00
Butanol, N-	3.04E+04	No Toxicity Value	--	No Toxicity Value	--	3.04E+04	No Toxicity Value	--	4.00E+02	5.32E+04
Butylbenzene, n-	8.26E+03	No Toxicity Value	--	No Toxicity Value	--	8.26E+03	No Toxicity Value	--	2.00E+02	7.23E+03
Butylbenzene, sec-	7.45E+03	No Toxicity Value	--	No Toxicity Value	--	7.45E+03	No Toxicity Value	--	4.00E+02	1.31E+04
Butylbenzene, tert-	7.47E+03	No Toxicity Value	--	No Toxicity Value	--	7.47E+03	No Toxicity Value	--	4.00E+02	1.31E+04
Cadmium (Diet)	1.36E+09	1.80E-03	9.26E+03	1.00E-02	5.95E+04	1.36E+09	4.20E-03	3.97E+03	1.00E-02	5.96E+04
Carbon Tetrachloride	1.51E+03	6.00E-06	3.09E+00	1.00E+02	6.62E+02	1.51E+03	4.20E-05	4.41E-01	4.00E+01	2.65E+02
Chlordane	9.14E+05	1.00E-04	1.12E+02	7.00E-01	2.80E+03	9.14E+05	3.40E-04	3.30E+01	7.00E-01	2.80E+03
Chloro-2-methylaniline, 4-	1.36E+09	7.70E-05	2.17E+05	No Toxicity Value	--	1.36E+09	7.70E-05	2.17E+05	No Toxicity Value	--
Chloroacetaldehyde, 2-	1.65E+04	No Toxicity Value	--	No Toxicity Value	--	1.65E+04	6.75E-05	2.99E+00	No Toxicity Value	--
Chlorobutane, 1-	1.78E+03	No Toxicity Value	--	No Toxicity Value	--	1.78E+03	No Toxicity Value	--	1.60E+02	1.25E+03
Chlorotoluene, o-	8.23E+03	No Toxicity Value	--	No Toxicity Value	--	8.23E+03	No Toxicity Value	--	8.00E+01	2.89E+03
Chlorotoluene, p-	7.39E+03	No Toxicity Value	--	No Toxicity Value	--	7.39E+03	No Toxicity Value	--	8.00E+01	2.59E+03

Table A-6b. USEPA RSLs and DTSC-SLs for a Commercial Industrial Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units	Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Carcinogen:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times IUR \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
COPC Concentration in air	C_{air}	chemical-specific		µg/m^3	
COPC Concentration in soil	C_{soil}	chemical-specific		mg/kg	
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	Noncarcinogen:
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg	$RSL_{inh} = \frac{THQ \times AT_w \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times \frac{1}{RfC} \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
Regional screening level, inhalation	RSL_{inh}	chemical-specific		µg/m^3	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	
Volatilization Factor for VOCs (Table A-4)	VF_{worker}	chemical-specific		m^3/kg	

	USEPA Commercial RSL_{inh}					DTSC-Modified Residential RSLinh				
Analyte	**VF_{worker} or PEF** m^3/kg	**IUR** (µg/m^3)$^{-1}$	**Cancer** (mg/kg)	**RfC** (µg/m^3)	**Noncancer** (mg/kg)	**VF_{worker} or PEF** m^3/kg	**IUR** (µg/m^3)$^{-1}$	**Cancer** (mg/kg)	**RfC** (µg/m^3)	**Noncancer** (mg/kg)
Chromium(III), Insoluble Salts	1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
Crotonaldehyde, trans-	1.92E+04	No Toxicity Value	--	No Toxicity Value	--	1.92E+04	4.75E-04	4.95E-01	4.00E+00	3.36E+02
Cyanides										
~Cyanogen	1.15E+03	No Toxicity Value	--	No Toxicity Value	--	1.15E+03	No Toxicity Value	--	4.00E+00	2.02E+01
~Cyanogen Bromide	8.65E+02	No Toxicity Value	--	No Toxicity Value	--	8.65E+02	No Toxicity Value	--	3.60E+02	1.36E+03
~Cyanogen Chloride	1.75E+03	No Toxicity Value	--	No Toxicity Value	--	1.75E+03	No Toxicity Value	--	2.00E+02	1.54E+03
~Potassium Silver Cyanide	1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
~Silver Cyanide	1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
Dibromobenzene, 1,3-	1.96E+04	No Toxicity Value	--	No Toxicity Value	--	1.96E+04	No Toxicity Value	--	1.60E+00	1.37E+02
Dibromobenzene, 1,4-	2.23E+04	No Toxicity Value	--	No Toxicity Value	--	2.23E+04	No Toxicity Value	--	4.00E+01	3.91E+03
Dibromochloromethane	8.06E+03	No Toxicity Value	--	No Toxicity Value	--	8.06E+03	2.10E-05	4.71E+00	8.00E+01	2.82E+03
Dibromoethane, 1,2-	8.76E+03	6.00E-04	1.79E-01	9.00E+00	3.46E+02	8.76E+03	7.10E-05	1.51E+00	8.00E-01	3.07E+01
Dichlorobenzidine, 3,3'-	1.36E+09	3.40E-04	4.90E+04	No Toxicity Value	--	1.36E+09	3.40E-04	4.91E+04	No Toxicity Value	--
Dichloroethane, 1,1-	2.11E+03	1.60E-06	1.62E+01	No Toxicity Value	--	2.11E+03	1.60E-06	1.62E+01	8.00E+02	7.40E+03
Dichloroethylene, 1,2-cis-	2.53E+03	No Toxicity Value	--	No Toxicity Value	--	2.53E+03	No Toxicity Value	--	8.00E+00	8.88E+01
Dichloroethylene, 1,2-trans-	1.77E+03	No Toxicity Value	--	No Toxicity Value	--	1.77E+03	No Toxicity Value	--	8.00E+01	6.20E+02
Dichloropropane, 1,3-	6.86E+03	No Toxicity Value	--	No Toxicity Value	--	6.86E+03	No Toxicity Value	--	8.00E+01	2.40E+03
Dichloropropene, 1,3-	3.60E+03	4.00E-06	1.11E+01	2.00E+01	3.16E+02	3.60E+03	1.60E-05	2.76E+00	2.00E+01	3.16E+02
Dimethylaniline, N,N-	3.17E+04	No Toxicity Value	--	No Toxicity Value	--	3.17E+04	No Toxicity Value	--	8.00E+00	1.11E+03
Epichlorohydrin	1.91E+04	1.20E-06	1.96E+02	1.00E+00	8.39E+01	1.91E+04	2.30E-05	1.02E+01	3.00E+00	2.52E+02
Ethyl Chloride (Chloroethane)	1.31E+03	No Toxicity Value	--	1.00E+04	5.74E+04	1.31E+03	1.18E-06	1.37E+01	3.00E+04	1.72E+05
Ethyl Ether	3.17E+03	No Toxicity Value	--	No Toxicity Value	--	3.17E+03	No Toxicity Value	--	8.00E+02	1.11E+04
Furans										
~Furan	2.65E+03	No Toxicity Value	--	No Toxicity Value	--	2.65E+03	No Toxicity Value	--	4.00E+00	4.65E+01

Table A-6b. USEPA RSLs and DTSC-SLs for a Commercial Industrial Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units	Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Carcinogen: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times IUR \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in air	C_{air}	chemical-specific		µg/m^3	
COPC Concentration in soil	C_{soil}	chemical-specific		mg/kg	
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	Noncarcinogen: $RSL_{inh} = \frac{THQ \times AT_w \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times \frac{1}{RfC} \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
Regional screening level, inhalation	RSL_{inh}	chemical-specific		µg/m^3	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	
Volatilization Factor for VOCs (Table A-4)	VF_{worker}	chemical-specific		m^3/kg	

	USEPA Commercial RSL_{inh}					DTSC-Modified Residential RSLinh				
Analyte	**VF_{worker} or PEF** m^3/kg	**IUR** (µg/m^3)$^{-1}$	**Cancer** (mg/kg)	**RfC** (µg/m^3)	**Noncancer** (mg/kg)	**VF_{worker} or PEF** m^3/kg	**IUR** (µg/m^3)$^{-1}$	**Cancer** (mg/kg)	**RfC** (µg/m^3)	**Noncancer** (mg/kg)
Hexachlorobutadiene	1.09E+04	2.20E-05	6.10E+00	No Toxicity Value	--	1.09E+04	2.20E-05	6.10E+00	4.00E+00	1.92E+02
Hexachlorocyclohexane, Technical	1.36E+09	5.10E-04	3.27E+04	No Toxicity Value	--	1.36E+09	1.10E-03	1.52E+04	No Toxicity Value	--
Isobutyl Alcohol	2.85E+04	No Toxicity Value	--	No Toxicity Value	--	2.85E+04	No Toxicity Value	--	1.20E+03	1.50E+05
Lead Compounds										
~Lead subacetate	1.36E+09	1.20E-05	1.39E+06	No Toxicity Value	--	1.36E+09	1.10E-05	1.52E+06	No Toxicity Value	--
~Tetraethyl Lead	1.93E+03	No Toxicity Value	--	No Toxicity Value	--	1.93E+03	No Toxicity Value	--	4.00E-04	3.39E-03
Lewisite	2.59E+04	No Toxicity Value	--	No Toxicity Value	--	2.59E+04	No Toxicity Value	--	2.00E-02	2.27E+00
Manganese (Non-diet)	1.36E+09	No Toxicity Value	--	5.00E-02	2.98E+05	1.36E+09	No Toxicity Value	--	9.00E-02	5.36E+05
Mercury Compounds										
~Mercuric Chloride (and other Mercury salts)	1.36E+09	No Toxicity Value	--	3.00E-01	1.79E+06	1.36E+09	No Toxicity Value	--	3.00E-02	1.79E+05
~Mercury (elemental)	3.52E+04	No Toxicity Value	--	3.00E-01	4.62E+01	3.52E+04	No Toxicity Value	--	3.00E-02	4.62E+00
Methyl Acetate	8.23E+03	No Toxicity Value	--	No Toxicity Value	--	8.23E+03	No Toxicity Value	--	4.00E+03	1.44E+05
Methylene Chloride	2.22E+03	1.00E-08	2.72E+03	6.00E+02	5.84E+03	2.22E+03	1.00E-06	2.72E+01	4.00E+02	3.89E+03
Methylene-bis(2-chloroaniline), 4,4'-	1.36E+09	4.30E-04	3.88E+04	No Toxicity Value	--	1.36E+09	4.30E-04	3.88E+04	No Toxicity Value	--
Methylstyrene, Alpha-	1.30E+04	No Toxicity Value	--	No Toxicity Value	--	1.30E+04	No Toxicity Value	--	2.80E+02	1.59E+04
Mineral oils	1.39E+03	No Toxicity Value	--	No Toxicity Value	--	1.39E+03	No Toxicity Value	--	1.20E+04	7.32E+04
Nickel Hydroxide	1.36E+09	2.60E-04	6.41E+04	1.40E-02	8.34E+04	1.36E+09	2.60E-04	6.42E+04	1.40E-02	8.34E+04
Nickel Oxide	1.36E+09	2.60E-04	6.41E+04	2.00E-02	1.19E+05	1.36E+09	2.60E-04	6.42E+04	2.00E-02	1.19E+05
Nickel Refinery Dust	1.36E+09	2.40E-04	6.95E+04	1.40E-02	8.34E+04	1.36E+09	2.60E-04	6.42E+04	1.40E-02	8.34E+04
Nickel Soluble Salts	1.36E+09	2.60E-04	6.41E+04	9.00E-02	5.36E+05	1.36E+09	2.60E-04	6.42E+04	1.40E-02	8.34E+04
Nickel Subsulfide	1.36E+09	4.80E-04	3.47E+04	1.40E-02	8.34E+04	1.36E+09	4.90E-04	3.40E+04	1.40E-02	8.34E+04
Pentachloroethane	9.78E+03	No Toxicity Value	--	No Toxicity Value	--	9.78E+03	2.25E-05	5.33E+00	No Toxicity Value	--
Phosphorus, White	7.00E+03	No Toxicity Value	--	No Toxicity Value	--	7.00E+03	No Toxicity Value	--	8.00E-02	2.45E+00

Table A-6b. USEPA RSLs and DTSC-SLs for a Commercial Industrial Receptor Exposed to Compounds from Soil via Inhalation

Description	Variable	USEPA Value	DTSC Value	Units	Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Carcinogen: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times IUR \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in air	C_{air}	chemical-specific		µg/m^3	
COPC Concentration in soil	C_{soil}	chemical-specific		mg/kg	
Conversion Factor	CF_i	1.0E+03	1.0E+03	µg/mg	
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	Noncarcinogen: $RSL_{inh} = \frac{THQ \times AT_w \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_w \times ED_w \times ET_w \times \frac{1}{RfC} \times CF_I \times \left(\frac{1}{VF_{worker} \text{ or } PEF}\right)}$
Particulate emission factor (non-VOCs)	PEF	1.359E+09	1.360E+09	m^3/kg	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
Regional screening level, inhalation	RSL_{inh}	chemical-specific		µg/m^3	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	
Volatilization Factor for VOCs (Table A-4)	VF_{worker}	chemical-specific		m^3/kg	

	USEPA Commercial RSL_{inh}					DTSC-Modified Residential RSLinh				
Analyte	**VF_{worker} or PEF** m^3/kg	**IUR** (µg/m^3)$^{-1}$	**Cancer** (mg/kg)	**RfC** (µg/m^3)	**Noncancer** (mg/kg)	**VF_{worker} or PEF** m^3/kg	**IUR** (µg/m^3)$^{-1}$	**Cancer** (mg/kg)	**RfC** (µg/m^3)	**Noncancer** (mg/kg)
Phthalates										
~Dimethylterephthalate	2.16E+04	No Toxicity Value	--	No Toxicity Value	--	2.16E+04	No Toxicity Value	--	4.00E+02	3.79E+04
Silver	1.36E+09	No Toxicity Value	--	No Toxicity Value	--	1.36E+09	No Toxicity Value	--	No Toxicity Value	--
Tetrachloroethane, 1,1,1,2-	5.75E+03	7.40E-06	9.54E+00	No Toxicity Value	--	5.75E+03	7.40E-06	9.54E+00	1.20E+02	3.02E+03
Tetrachloroethane, 1,1,2,2-	1.53E+04	5.80E-05	3.24E+00	No Toxicity Value	--	1.53E+04	5.80E-05	3.24E+00	8.00E+01	5.37E+03
Tetrachloroethylene	2.38E+03	2.60E-07	1.12E+02	4.00E+01	4.17E+02	2.38E+03	5.90E-06	4.94E+00	3.50E+01	3.65E+02
Toluene	4.35E+03	No Toxicity Value	--	5.00E+03	9.52E+04	4.35E+03	No Toxicity Value	--	3.00E+02	5.71E+03
Tri-n-butyltin	3.40E+03	No Toxicity Value	--	No Toxicity Value	--	3.40E+03	No Toxicity Value	--	1.20E+00	1.79E+01
Trichlorobenzene, 1,2,3-	3.27E+04	No Toxicity Value	--	No Toxicity Value	--	3.27E+04	No Toxicity Value	--	3.20E+00	4.58E+02
Trichloroethane, 1,1,1-	1.67E+03	No Toxicity Value	--	5.00E+03	3.66E+04	1.67E+03	No Toxicity Value	--	1.00E+03	7.31E+03
Trichlorofluoromethane	1.05E+03	No Toxicity Value	--	No Toxicity Value	--	1.05E+03	No Toxicity Value	--	1.20E+03	5.50E+03
Trichlorophenol, 2,4,6-	1.36E+09	3.10E-06	5.38E+06	No Toxicity Value	--	1.36E+09	2.00E-05	8.34E+05	No Toxicity Value	--
Trichloropropane, 1,1,2-	1.53E+04	No Toxicity Value	--	No Toxicity Value	--	1.53E+04	No Toxicity Value	--	2.00E+01	1.34E+03
Trichloropropane, 1,2,3-	1.59E+04	No Toxicity Value	--	3.00E-01	2.09E+01	1.59E+04	7.50E-03	2.60E-02	3.00E-01	2.09E+01
Trimethylbenzene, 1,3,5-	6.70E+03	No Toxicity Value	--	No Toxicity Value	--	6.70E+03	No Toxicity Value	--	4.00E+01	1.17E+03
Trimethylpentene, 2,4,4-	1.01E+03	No Toxicity Value	--	No Toxicity Value	--	1.01E+03	No Toxicity Value	--	4.00E+01	1.77E+02
Vanadium and Compounds	1.36E+09	No Toxicity Value	--	1.00E-01	5.95E+05	1.36E+09	No Toxicity Value	--	1.00E-01	5.96E+05
Vinyl Chloride	9.66E+02	4.40E-06	2.69E+00	1.00E+02	4.23E+02	9.66E+02	7.80E-05	1.52E-01	1.00E+02	4.23E+02
Additional Analytes										
Beryllium Sulfate	1.36E+09	2.40E-03	6.95E+03	2.00E-02	1.19E+05	1.36E+09	8.60E-01	1.94E+01	7.00E-03	4.17E+04
Dichlorobenzene, 1,3-	2.18E+03	No Toxicity Value	--	No Toxicity Value	--	2.18E+03	No Toxicity Value	--	1.20E+02	1.14E+03
Methylcyclohexane	8.85E+02	No Toxicity Value	--	No Toxicity Value	--	8.85E+02	No Toxicity Value	--	6.00E+03	2.33E+04

"--" = no value

Table B-1. DTSC-Recommended Screening Levels for Tap Water

		Toxicity Factors for DTSC-SLs								Screening Levels for Tap Water (µg/L)							
		Oral Slope Factor		Inhalation Unit Risk		Reference Dose - Oral		Reference Concentration		Cancer Endpoint		Cancer Endpoint		Noncancer Endpoint		Noncancer Endpoint	
Analyte	CAS #	SFo (mg/kg-d)$^{-1}$	Source	IUR (µg/m^3)$^{-1}$	Source	RfDo (mg/kg-d)	Ref.	RfC or REL (µg/m^3)	Source	USEPA RSL$_{Combined}$	DTSC-SL$_{Combined}$	Final Value	Source	USEPA RSL$_{Combined}$	DTSC-SL$_{Combined}$	Final Value	Source
USEPA RSL Analytes																	
Acetophenone	98-86-2	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	1.9E+03	5.8E+02	5.8E+02	DTSC
Acrylamide	79-06-1	4.5E+00	OEHHA	1.3E-03	OEHHA	2.0E-03	IRIS	6.0E+00	IRIS	5.0E-02	5.6E-03	5.6E-03	DTSC	4.0E+01	4.0E+01	4.0E+01	USEPA
Acrylonitrile	107-13-1	1.0E+00	OEHHA	2.9E-04	OEHHA	4.0E-02	ATSDR	2.0E+00	IRIS	5.2E-02	1.5E-02	1.5E-02	DTSC	4.1E+00	1.0E+01	4.1E+00	USEPA
Aldrin	309-00-2	1.7E+01	IRIS	4.9E-03	IRIS	3.0E-05	IRIS	1.2E-01	Route	9.2E-04	9.2E-04	9.2E-04	USEPA	6.0E-01	1.8E-01	1.8E-01	DTSC
Arsenic, Inorganic	7440-38-2	9.5E+00	OEHHA PHG	3.3E-03	OEHHA	3.5E-06	OEHHA	1.5E-02	OEHHA	5.2E-02	8.2E-03	8.2E-03	DTSC	6.0E+00	7.0E-02	7.0E-02	DTSC
Benzaldehyde	100-52-7	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	1.9E+03	5.8E+02	5.8E+02	DTSC
Benzene	71-43-2	1.0E-01	OEHHA	2.9E-05	OEHHA	4.0E-03	IRIS	3.0E+00	OEHHA	4.5E-01	1.5E-01	1.5E-01	DTSC	3.3E+01	5.7E+00	5.7E+00	DTSC
Benzenethiol	108-98-5	--	--	--	--	1.0E-03	PPRTV	4.0E+00	Route	--	--	--	--	1.7E+01	5.6E+00	5.6E+00	DTSC
Beryllium and compounds	7440-41-7	--	--	--	--	2.0E-04	OEHHA PHG	7.0E-03	OEHHA	--	--	--	--	2.5E+01	2.5E+00	2.5E+00	DTSC
Bis(2-chloro-1-methylethyl) ether	108-60-1	--	--	--	--	4.0E-02	IRIS	1.6E+02	Route	--	--	--	--	7.1E+02	2.3E+02	2.3E+02	DTSC
Bromodichloromethane	75-27-4	1.3E-01	OEHHA	3.7E-05	OEHHA	2.0E-02	IRIS	8.0E+01	Route	1.3E-01	1.2E-01	1.2E-01	DTSC	3.8E+02	1.2E+02	1.2E+02	DTSC
Bromoform	75-25-2	1.1E-02	OEHHA	1.1E-06	IRIS	2.0E-02	IRIS	8.0E+01	Route	3.3E+00	2.9E+00	2.9E+00	DTSC	3.8E+02	1.2E+02	1.2E+02	DTSC
Butanol, N-	71-36-3	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	2.0E+03	5.9E+02	5.9E+02	DTSC
Butylbenzene, n-	104-51-8	--	--	--	--	5.0E-02	PPRTV	2.0E+02	Route	--	--	--	--	1.0E+03	2.9E+02	2.9E+02	DTSC
Butylbenzene, sec-	135-98-8	--	--	--	--	1.0E-01	Screening PPRTV	4.0E+02	Route	--	--	--	--	2.0E+03	5.9E+02	5.9E+02	DTSC
Carbon Tetrachloride	56-23-5	1.5E-01	OEHHA	4.2E-05	OEHHA	4.0E-03	IRIS	4.0E+01	OEHHA	4.5E-01	1.0E-01	1.0E-01	DTSC	4.9E+01	3.6E+01	3.6E+01	DTSC
Chloral Hydrate	302-17-0	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	2.0E+03	5.9E+02	5.9E+02	DTSC
Chlordane	12789-03-6	1.3E+00	OEHHA	3.4E-04	OEHHA	5.0E-04	IRIS	7.0E-01	IRIS	4.5E-02	1.3E-02	1.3E-02	DTSC	1.3E+00	1.3E+00	1.3E+00	USEPA
Chloroacetaldehyde, 2-	107-20-0	2.7E-01	Screening PPRTV	6.8E-05	Route	--	--	--	--	2.9E-01	6.4E-02	6.4E-02	DTSC	--	--	--	--
Chloroethanol, 2-	107-07-3	--	--	--	--	2.0E-02	PPRTV	8.0E+01	Route	--	--	--	--	4.0E+02	1.2E+02	1.2E+02	DTSC
Chlorophenol, 2-	95-57-8	--	--	--	--	5.0E-03	IRIS	2.0E+01	Route	--	--	--	--	9.1E+01	2.9E+01	2.9E+01	DTSC
Crotonaldehyde, trans-	123-73-9	1.9E+00	HEAST	4.8E-04	Route	1.0E-03	PPRTV	4.0E+00	Route	4.0E-02	9.1E-03	9.1E-03	DTSC	2.0E+01	5.9E+00	5.9E+00	DTSC
Cyanides																	
~Cyanogen	460-19-5	--	--	--	--	1.0E-03	IRIS	4.0E+00	Route	--	--	--	--	2.0E+01	5.9E+00	5.9E+00	DTSC
~Cyanogen Bromide	506-68-3	--	--	--	--	9.0E-02	IRIS	3.6E+02	Route	--	--	--	--	1.8E+03	5.3E+02	5.3E+02	DTSC
~Cyanogen Chloride	506-77-4	--	--	--	--	5.0E-02	IRIS	2.0E+02	Route	--	--	--	--	1.0E+03	2.9E+02	2.9E+02	DTSC
~Thiocyanic Acid	463-56-9	--	--	--	--	2.0E-04	PPRTV	8.0E-01	Route	--	--	--	--	4.0E+00	1.2E+00	1.2E+00	DTSC
Cyclohexylamine	108-91-8	--	--	--	--	2.0E-01	IRIS	8.0E+02	Route	--	--	--	--	3.8E+03	1.2E+03	1.2E+03	DTSC
Dibromochloromethane	124-48-1	8.4E-02	IRIS	2.1E-05	Route	2.0E-02	IRIS	8.0E+01	Route	8.7E-01	2.0E-01	2.0E-01	DTSC	3.8E+02	1.2E+02	1.2E+02	DTSC
Dibromoethane, 1,2-	106-93-4	2.0E+00	IRIS	6.0E-04	IRIS	9.0E-03	IRIS	8.0E-01	OEHHA	7.5E-03	1.6E-02	7.5E-03	USEPA	1.7E+01	1.7E+00	1.7E+00	DTSC
Dichloroethane, 1,1-	75-34-3	5.7E-03	OEHHA	1.6E-06	OEHHA	2.0E-01	PPRTV	8.0E+02	Route	2.7E+00	2.7E+00	2.7E+00	USEPA	3.8E+03	1.2E+03	1.2E+03	DTSC
Dichloroethylene, 1,2-cis-	156-59-2	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	3.7E+01	1.2E+01	1.2E+01	DTSC
Dichloroethylene, 1,2-trans-	156-60-5	--	--	--	--	2.0E-02	IRIS	8.0E+01	Route	--	--	--	--	3.6E+02	1.1E+02	1.1E+02	DTSC
Dichloropropane, 1,3-	142-28-9	--	--	--	--	2.0E-02	PPRTV	8.0E+01	Route	--	--	--	--	3.7E+02	1.1E+02	1.1E+02	DTSC
Diethylformamide	617-84-5	--	--	--	--	1.0E-03	PPRTV	4.0E+00	Route	--	--	--	--	2.0E+01	5.9E+00	5.9E+00	DTSC
Diisopropyl Methylphosphonate	1445-75-6	--	--	--	--	8.0E-02	IRIS	3.2E+02	Route	--	--	--	--	1.6E+03	4.7E+02	4.7E+02	DTSC
Dimethylaniline, N,N-	121-69-7	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	3.5E+01	1.1E+01	1.1E+01	DTSC
Dithiane, 1,4-	505-29-3	--	--	--	--	1.0E-02	IRIS	4.0E+01	Route	--	--	--	--	2.0E+02	5.9E+01	5.9E+01	DTSC
Endosulfan	115-29-7	--	--	--	--	6.0E-03	IRIS	2.4E+01	Route	--	--	--	--	1.0E+02	3.3E+01	3.3E+01	DTSC
Epichlorohydrin	106-89-8	8.0E-02	OEHHA	2.3E-05	OEHHA	6.0E-03	PPRTV	1.0E+00	IRIS	2.9E+00	1.9E-01	1.9E-01	DTSC	2.0E+00	5.9E+00	2.0E+00	USEPA
Ethyl Ether	60-29-7	--	--	--	--	2.0E-01	IRIS	8.0E+02	Route	--	--	--	--	3.9E+03	1.2E+03	1.2E+03	DTSC
Ethylene Diamine	107-15-3	--	--	--	--	9.0E-02	PPRTV	3.6E+02	Route	--	--	--	--	1.8E+03	5.3E+02	5.3E+02	DTSC
Furans																	
~Furan	110-00-9	--	--	--	--	1.0E-03	IRIS	4.0E+00	Route	--	--	--	--	1.9E+01	5.8E+00	5.8E+00	DTSC
Guanidine	113-00-8	--	--	--	--	1.0E-02	Screening PPRTV	4.0E+01	Route	--	--	--	--	2.0E+02	5.9E+01	5.9E+01	DTSC
Hexabromobenzene	87-82-1	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	4.0E+01	1.2E+01	1.2E+01	DTSC
Hexachlorobenzene	118-74-1	1.8E+00	OEHHA	5.1E-04	OEHHA	8.0E-04	IRIS	3.2E+00	Route	9.8E-03	8.8E-03	8.8E-03	DTSC	1.6E+01	4.7E+00	4.7E+00	DTSC
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	1.1E+00	OEHHA	3.1E-04	OEHHA	3.0E-04	IRIS	1.2E+00	Route	5.1E-02	1.3E-02	1.3E-02	DTSC	4.5E+00	1.6E+00	1.6E+00	DTSC
Isobutyl Alcohol	78-83-1	--	--	--	--	3.0E-01	IRIS	1.2E+03	Route	--	--	--	--	5.9E+03	1.8E+03	1.8E+03	DTSC
Lead Compounds																	
~Lead subacetate	1335-32-6	3.8E-02	OEHHA	1.1E-05	OEHHA	--	--	--	--	9.2E+00	2.1E+00	2.1E+00	DTSC	--	--	--	--
Lewisite	541-25-3	--	--	--	--	5.0E-06	PPRTV	2.0E-02	Route	--	--	--	--	9.0E-02	2.9E-02	2.9E-02	DTSC
Mercury Compounds																	
~Mercury (elemental)	7439-97-6	--	--	--	--	1.6E-04	OEHHA	3.0E-02	OEHHA	--	--	--	--	6.3E-01	6.1E-02	6.1E-02	DTSC
Merphos	150-50-5	--	--	--	--	3.0E-05	IRIS	1.2E-01	Route	--	--	--	--	6.0E-01	1.8E-01	1.8E-01	DTSC
Methyl Acetate	79-20-9	--	--	--	--	1.0E+00	Screening PPRTV	4.0E+03	Route	--	--	--	--	2.0E+04	5.9E+03	5.9E+03	DTSC
Methylene Chloride	75-09-2	1.4E-02	OEHHA	1.0E-06	OEHHA	6.0E-03	IRIS	4.0E+02	OEHHA	1.1E+01	9.3E-01	9.3E-01	DTSC	1.1E+02	1.0E+02	1.0E+02	DTSC
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	1.5E+00	OEHHA	4.3E-04	OEHHA	2.0E-03	PPRTV	No Toxicity Value	--	1.6E-01	1.0E-02	1.0E-02	DTSC	2.6E+01	2.6E+01	2.6E+01	USEPA
Mineral oils	8012-95-1	--	--	--	--	3.0E+00	PPRTV	1.2E+04	Route	--	--	--	--	6.0E+04	1.8E+04	1.8E+04	DTSC
Mirex	2385-85-5	1.8E+01	OEHHA	5.1E-03	OEHHA	2.0E-04	IRIS	8.0E-01	Route	8.8E-04	8.8E-04	8.8E-04	USEPA	4.0E+00	1.2E+00	1.2E+00	DTSC
Naled	300-76-5	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	4.0E+01	1.2E+01	1.2E+01	DTSC
Nitrotoluene, o-	88-72-2	2.2E-01	PPRTV	5.5E-05	Route	9.0E-04	PPRTV	3.6E+00	Route	3.1E-01	7.7E-02	7.7E-02	DTSC	1.6E+01	5.1E+00	5.1E+00	DTSC
Pentabromodiphenyl Ether	32534-81-9	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	4.0E+01	1.2E+01	1.2E+01	DTSC
Pentachloroethane	76-01-7	9.0E-02	PPRTV	2.3E-05	Route	--	--	--	--	6.4E-01	1.8E-01	1.8E-01	DTSC	--	--	--	--
Perfluorobutane Sulfonate	375-73-5	--	--	--	--	2.0E-02	PPRTV	8.0E+01	Route	--	--	--	--	3.8E+02	1.2E+02	1.2E+02	DTSC
Phosphorus, White	7723-14-0	--	--	--	--	2.0E-05	IRIS	8.0E-02	Route	--	--	--	--	4.0E-01	1.2E-01	1.2E-01	DTSC
Phthalates																	
~Dimethylterephthalate	120-61-6	--	--	--	--	1.0E-01	IRIS	4.0E+02	Route	--	--	--	--	1.9E+03	5.8E+02	5.8E+02	DTSC
Polychlorinated Biphenyls (PCBs)																	
~Aroclor 1016	12674-11-2	7.0E-02	IRIS (lowest risk)	2.0E-05	IRIS (lowest risk)	7.0E-05	IRIS	2.8E-01	Route	2.2E-01	2.2E-01	2.2E-01	USEPA	1.4E+00	4.1E-01	4.1E-01	DTSC
~Aroclor 1254	11097-69-1	2.0E+00	IRIS (high risk)	5.7E-04	IRIS (high risk)	2.0E-05	IRIS	8.0E-02	Route	7.9E-03	7.9E-03	7.9E-03	USEPA	4.0E-01	1.2E-01	1.2E-01	DTSC
~Aroclor 5460	11126-42-4	--	--	--	--	6.0E-04	Screening PPRTV	2.4E+00	Route	--	--	--	--	1.2E+01	3.5E+00	3.5E+00	DTSC
Propargyl Alcohol	107-19-7	--	--	--	--	2.0E-03	IRIS	8.0E+00	Route	--	--	--	--	4.0E+01	1.2E+01	1.2E+01	DTSC

Table B-1. DTSC-Recommended Screening Levels for Tap Water

		Toxicity Factors for DTSC-SLs								Screening Levels for Tap Water (µg/L)							
		Oral Slope Factor		Inhalation Unit Risk		Reference Dose - Oral		Reference Concentration		Cancer Endpoint		Cancer Endpoint		Noncancer Endpoint		Noncancer Endpoint	
Analyte	**CAS #**	**SFo** (mg/kg-d)$^{-1}$	**Source**	**IUR** (µg/m^3)$^{-1}$	**Source**	**RfDo** (mg/kg-d)	**Ref.**	**RfC or REL** (µg/m^3)	**Source**	**USEPA RSL$_{Combined}$**	**DTSC-SL$_{Combined}$**	**Final Value**	**Source**	**USEPA RSL$_{Combined}$**	**DTSC-SL$_{Combined}$**	**Final Value**	**Source**
Pyridine	110-86-1	--	--	--	--	1.0E-03	IRIS	4.0E+00	Route	--	--	--	--	2.0E+01	5.9E+00	5.9E+00	DTSC
Tetrachloroethane, 1,1,2,2-	79-34-5	2.7E-01	OEHHA	5.8E-05	OEHHA	2.0E-02	IRIS	8.0E+01	Route	7.6E-02	7.0E-02	7.0E-02	DTSC	3.6E+02	1.1E+02	1.1E+02	DTSC
Tetrachloroethylene	127-18-4	5.4E-01	OEHHA PHG	5.9E-06	OEHHA	6.0E-03	IRIS	3.5E+01	OEHHA	1.1E+01	8.3E-02	8.3E-02	DTSC	4.1E+01	3.8E+01	3.8E+01	DTSC
Trichloroethane, 1,1,1-	71-55-6	--	--	--	--	2.0E+00	IRIS	1.0E+03	OEHHA	--	--	--	--	8.0E+03	2.0E+03	2.0E+03	DTSC
Trichlorofluoromethane	75-69-4	--	--	--	--	3.0E-01	IRIS	1.2E+03	Route	--	--	--	--	5.2E+03	1.7E+03	1.7E+03	DTSC
Trichlorophenol, 2,4,6-	88-06-2	7.0E-02	OEHHA	2.0E-05	OEHHA	1.0E-03	PPRTV	No Toxicity Value	--	4.0E+00	6.3E-01	6.3E-01	DTSC	1.2E+01	1.2E+01	1.2E+01	USEPA
Trichloropropane, 1,1,2-	598-77-6	--	--	--	--	5.0E-03	IRIS	2.0E+01	Route	--	--	--	--	8.8E+01	2.8E+01	2.8E+01	DTSC
Trichloropropane, 1,2,3-	96-18-4	3.0E+01	IRIS	7.5E-03	Route	4.0E-03	IRIS	3.0E-01	IRIS	7.5E-04	2.0E-04	2.0E-04	DTSC	6.2E-01	6.2E-01	6.2E-01	USEPA
Additional Analytes																	
Beryllium Sulfate	13510-49-1	--	--	--	--	2.0E-04	OEHHA PHG	7.0E-03	OEHHA	--	--	--	--	2.5E+01	2.5E+00	2.5E+00	DTSC
Dichlorobenzene, 1,3-	541-73-1	--	--	--	--	3.0E-02	DTSC J&E	1.2E+02	Route	--	--	--	--	--	1.5E+02	1.5E+02	DTSC
Methylcyclohexane	108-87-2	--	--	--	--	No Toxicity Value	--	6.0E+03	Cyclohexane	--	--	--	--	--	1.3E+04	1.3E+04	DTSC

"--" = no value

Table B-2. Screening Levels for Tap Water: Comparison of USEPA RSLs and DTSC-SLs

Analyte	USEPA RSL for Tap Water (µg/L)								DTSC-SL for Tapwater RSL (µg/L)							
	Cancer Endpoint				Noncancer Endpoint				Cancer Endpoint				Noncancer Endpoint			
	RSL_{Ing}	RSL_{D}	RSL_{Inh}	$RSL_{Combined}$	RSL_{Ing}	RSL_{D}	RSL_{Inh}	$RSL_{Combined}$	$DTSC\text{-}SL_{Ing}$	$DTSC\text{-}SL_{D}$	$DTSC\text{-}SL_{Inh}$	$DTSC\text{-}SL_{Combined}$	$DTSC\text{-}SL_{Ing}$	$DTSC\text{-}SL_{D}$	$DTSC\text{-}SL_{Inh}$	$DTSC\text{-}SL_{Combined}$
USEPA RSL Analytes																
Acetophenone	--	--	--	--	2.01E+03	4.61E+04	--	1.92E+03	--	--	--	--	2.01E+03	4.61E+04	8.34E+02	5.82E+02
Acrylamide	5.01E-02	2.26E+01	--	5.00E-02	4.01E+01	2.10E+04	--	4.00E+01	5.57E-03	2.51E+00	--	5.55E-03	4.01E+01	2.10E+04	--	4.00E+01
Acrylonitrile	1.44E-01	1.38E+01	8.26E-02	5.23E-02	8.02E+02	8.87E+04	4.17E+00	4.15E+00	7.79E-02	7.47E+00	1.94E-02	1.55E-02	8.02E+02	8.87E+04	1.04E+01	1.03E+01
Aldrin	4.58E-03	--	1.15E-03	9.17E-04	6.02E-01	--	--	6.02E-01	4.58E-03	--	1.15E-03	9.17E-04	6.02E-01	--	2.50E-01	1.77E-01
Arsenic, Inorganic	5.19E-02	9.33E+00	--	5.17E-02	6.02E+00	1.36E+03	--	5.99E+00	8.20E-03	1.47E+00	--	8.16E-03	7.02E-02	1.59E+01	--	6.99E-02
Benzaldehyde	--	--	--	--	2.01E+03	4.91E+04	--	1.93E+03	--	--	--	--	2.01E+03	4.91E+04	8.34E+02	5.82E+02
Benzene	1.42E+00	9.45E+00	7.20E-01	4.54E-01	8.02E+01	6.06E+02	6.26E+01	3.32E+01	7.79E-01	5.20E+00	1.94E-01	1.51E-01	8.02E+01	6.06E+02	6.26E+00	5.75E+00
Benzenethiol	--	--	--	--	2.01E+01	1.03E+02	--	1.68E+01	--	--	--	--	2.01E+01	1.03E+02	8.34E+00	5.57E+00
Beryllium and compounds	--	--	--	--	4.01E+01	6.36E+01	--	2.46E+01	--	--	--	--	4.01E+00	6.36E+00	--	2.46E+00
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	8.02E+02	6.47E+03	--	7.14E+02	--	--	--	--	8.02E+02	6.47E+03	3.34E+02	2.27E+02
Bromodichloromethane	1.26E+00	1.78E+01	1.52E-01	1.34E-01	4.01E+02	6.44E+03	--	3.78E+02	5.99E-01	8.50E+00	1.52E-01	1.19E-01	4.01E+02	6.44E+03	1.67E+02	1.16E+02
Bromoform	9.86E+00	1.35E+02	5.10E+00	3.28E+00	4.01E+02	6.20E+03	--	3.77E+02	7.08E+00	9.69E+01	5.10E+00	2.88E+00	4.01E+02	6.20E+03	1.67E+02	1.16E+02
Butanol, N-	--	--	--	--	2.01E+03	9.99E+04	--	1.97E+03	--	--	--	--	2.01E+03	9.99E+04	8.34E+02	5.86E+02
Butylbenzene, n-	--	--	--	--	1.00E+03	--	--	1.00E+03	--	--	--	--	1.00E+03	--	4.17E+02	2.95E+02
Butylbenzene, sec-	--	--	--	--	2.01E+03	--	--	2.01E+03	--	--	--	--	2.01E+03	--	8.34E+02	5.89E+02
Carbon Tetrachloride	1.11E+00	4.15E+00	9.36E-01	4.53E-01	8.02E+01	3.39E+02	2.09E+02	4.95E+01	5.19E-01	1.94E+00	1.34E-01	1.01E-01	8.02E+01	3.39E+02	8.34E+01	3.65E+01
Chloral Hydrate	--	--	--	--	2.01E+03	1.52E+05	--	1.98E+03	--	--	--	--	2.01E+03	1.52E+05	8.34E+02	5.87E+02
Chlordane	2.23E-01	--	5.62E-02	4.48E-02	1.00E+01	--	1.46E+00	1.27E+00	5.99E-02	--	1.65E-02	1.29E-02	1.00E+01	--	1.46E+00	1.27E+00
Chloroacetaldehyde, 2-	2.89E-01	4.38E+01	--	2.87E-01	--	--	--	--	2.89E-01	4.38E+01	8.32E-02	6.45E-02	--	--	--	--
Chloroethanol, 2-	--	--	--	--	4.01E+02	7.65E+04	--	3.99E+02	--	--	--	--	4.01E+02	7.65E+04	1.67E+02	1.18E+02
Chlorophenol, 2-	--	--	--	--	1.00E+02	1.02E+03	--	9.13E+01	--	--	--	--	1.00E+02	1.02E+03	4.17E+01	2.86E+01
Crotonaldehyde, trans-	4.10E-02	2.62E+00	--	4.04E-02	2.01E+01	1.49E+03	--	1.98E+01	4.10E-02	2.62E+00	1.18E-02	9.14E-03	2.01E+01	1.49E+03	8.34E+00	5.87E+00
Cyanides																
~Cyanogen	--	--	--	--	2.01E+01	5.10E+03	--	2.00E+01	--	--	--	--	2.01E+01	5.10E+03	8.34E+00	5.89E+00
~Cyanogen Bromide	--	--	--	--	1.80E+03	1.60E+06	--	1.80E+03	--	--	--	--	1.80E+03	1.60E+06	7.51E+02	5.30E+02
~Cyanogen Chloride	--	--	--	--	1.00E+03	5.76E+05	--	1.00E+03	--	--	--	--	1.00E+03	5.76E+05	4.17E+02	2.94E+02
~Thiocyanic Acid	--	--	--	--	4.01E+00	9.08E+02	--	3.99E+00	--	--	--	--	4.01E+00	9.08E+02	1.67E+00	1.18E+00
Cyclohexylamine	--	--	--	--	4.01E+03	9.24E+04	--	3.84E+03	--	--	--	--	4.01E+03	9.24E+04	1.67E+03	1.16E+03
Dibromochloromethane	9.27E-01	1.37E+01	--	8.69E-01	4.01E+02	6.72E+03	--	3.78E+02	9.27E-01	1.37E+01	2.67E-01	2.04E-01	4.01E+02	6.72E+03	1.67E+02	1.16E+02
Dibromoethane, 1,2-	3.90E-02	6.86E-01	9.36E-03	7.46E-03	1.80E+02	3.60E+03	1.88E+01	1.69E+01	2.16E-02	3.81E-01	7.91E-02	1.63E-02	1.80E+02	3.60E+03	1.67E+00	1.65E+00
Dichloroethane, 1,1-	1.37E+01	1.76E+02	3.51E+00	2.75E+00	4.01E+03	5.83E+04	--	3.75E+03	1.37E+01	1.76E+02	3.51E+00	2.75E+00	4.01E+03	5.83E+04	1.67E+03	1.16E+03
Dichloroethylene, 1,2-cis-	--	--	--	--	4.01E+01	5.17E+02	--	3.72E+01	--	--	--	--	4.01E+01	5.17E+02	1.67E+01	1.15E+01
Dichloroethylene, 1,2-trans-	--	--	--	--	4.01E+02	3.64E+03	--	3.61E+02	--	--	--	--	4.01E+02	3.64E+03	1.67E+02	1.14E+02
Dichloropropane, 1,3-	--	--	--	--	4.01E+02	4.63E+03	--	3.69E+02	--	--	--	--	4.01E+02	4.63E+03	1.67E+02	1.15E+02
Diethylformamide	--	--	--	--	2.01E+01	4.24E+03	--	2.00E+01	--	--	--	--	2.01E+01	4.24E+03	8.34E+00	5.88E+00
Diisopropyl Methylphosphonate	--	--	--	--	1.60E+03	1.26E+05	--	1.58E+03	--	--	--	--	1.60E+03	1.26E+05	6.67E+02	4.70E+02
Dimethylaniline, N,N-	--	--	--	--	4.01E+01	3.04E+02	--	3.54E+01	--	--	--	--	4.01E+01	3.04E+02	1.67E+01	1.13E+01
Dithiane, 1,4-	--	--	--	--	2.01E+02	1.59E+04	--	1.98E+02	--	--	--	--	2.01E+02	1.59E+04	8.34E+01	5.87E+01
Endosulfan	--	--	--	--	1.20E+02	6.29E+02	--	1.01E+02	--	--	--	--	1.20E+02	6.29E+02	5.01E+01	3.35E+01
Epichlorohydrin	7.87E+00	7.54E+02	4.68E+00	2.92E+00	1.20E+02	1.30E+04	2.09E+00	2.05E+00	9.74E-01	9.33E+01	2.44E-01	1.95E-01	1.20E+02	1.30E+04	6.26E+00	5.95E+00
Ethyl Ether	--	--	--	--	4.01E+03	1.97E+05	--	3.93E+03	--	--	--	--	4.01E+03	1.97E+05	1.67E+03	1.17E+03
Ethylene Diamine	--	--	--	--	1.80E+03	--	--	1.80E+03	--	--	--	--	1.80E+03	--	7.51E+02	5.30E+02
Furans																
~Furan	--	--	--	--	2.01E+01	4.75E+02	--	1.92E+01	--	--	--	--	2.01E+01	4.75E+02	8.34E+00	5.82E+00
Guanidine	--	--	--	--	2.01E+02	4.22E+05	--	2.00E+02	--	--	--	--	2.01E+02	4.22E+05	8.34E+01	5.89E+01
Hexabromobenzene	--	--	--	--	4.01E+01	--	--	4.01E+01	--	--	--	--	4.01E+01	--	1.67E+01	1.18E+01
Hexachlorobenzene	4.87E-02	--	1.22E-02	9.76E-03	1.60E+01	--	--	1.60E+01	4.33E-02	--	1.10E-02	8.78E-03	1.60E+01	--	6.67E+00	4.71E+00
Hexachlorocyclohexane, Gamma- (Lindane)	7.08E-02	1.83E-01	not as a volatile	5.10E-02	6.02E+00	1.76E+01	--	4.48E+00	7.08E-02	1.83E-01	1.81E-02	1.34E-02	6.02E+00	1.76E+01	2.50E+00	1.61E+00
Isobutyl Alcohol	--	--	--	--	6.02E+03	3.60E+05	--	5.92E+03	--	--	--	--	6.02E+03	3.60E+05	2.50E+03	1.76E+03
Lead Compounds																
~Lead subacetate	9.17E+00	--	--	9.17E+00	--	--	--	--	2.05E+00	--	--	2.05E+00	--	--	--	--
Lewisite	--	--	--	--	1.00E-01	9.05E-01	--	9.03E-02	--	--	--	--	1.00E-01	9.05E-01	4.17E-02	2.85E-02
Mercury Compounds																
~Mercury (elemental)	--	--	--	--	--	--	6.26E-01	6.26E-01	--	--	--	--	3.21E+00	1.63E+02	6.26E-02	6.14E-02
Merphos	--	--	--	--	6.02E-01	--	--	6.02E-01	--	--	--	--	6.02E-01	--	2.50E-01	1.77E-01
Methyl Acetate	--	--	--	--	2.01E+04	2.92E+06	--	1.99E+04	--	--	--	--	2.01E+04	2.92E+06	8.34E+03	5.88E+03
Methylene Chloride	1.25E+01	3.38E+02	2.03E+02	1.14E+01	1.20E+02	3.65E+03	1.25E+03	1.07E+02	1.79E+00	4.82E+01	2.03E+00	9.32E-01	1.20E+02	3.65E+03	8.34E+02	1.02E+02
Methylene-bis(2-chloroaniline), 4,4'-	2.51E-01	4.17E-01	--	1.56E-01	4.01E+01	7.51E+01	--	2.61E+01	1.67E-02	2.78E-02	--	1.04E-02	4.01E+01	7.51E+01	--	2.61E+01
Mineral oils	--	--	--	--	6.02E+04	--	--	6.02E+04	--	--	--	--	6.02E+04	--	2.50E+04	1.77E+04
Mirex	4.33E-03	--	1.10E-03	8.78E-04	4.01E+00	--	--	4.01E+00	4.33E-03	--	1.10E-03	8.78E-04	4.01E+00	--	1.67E+00	1.18E+00
Naled	--	--	--	--	4.01E+01	6.77E+03	--	3.99E+01	--	--	--	--	4.01E+01	6.77E+03	1.67E+01	1.18E+01
Nitrotoluene, o-	3.54E-01	2.67E+00	--	3.13E-01	1.80E+01	1.54E+02	--	1.62E+01	3.54E-01	2.67E+00	1.02E-01	7.70E-02	1.80E+01	1.54E+02	7.51E+00	5.13E+00
Pentabromodiphenyl Ether	--	--	--	--	4.01E+01	--	--	4.01E+01	--	--	--	--	4.01E+01	--	1.67E+01	1.18E+01
Pentachloroethane	8.66E-01	2.43E+00	--	6.39E-01	--	--	--	--	8.66E-01	2.43E+00	2.50E-01	1.79E-01	--	--	--	--
Perfluorobutane Sulfonate	--	--	--	--	4.01E+02	8.30E+03	--	3.83E+02	--	--	--	--	4.01E+02	8.30E+03	1.67E+02	1.16E+02
Phosphorus, White	--	--	--	--	4.01E-01	9.08E+01	--	3.99E-01	--	--	--	--	4.01E-01	9.08E+01	1.67E-01	1.18E-01

Table B-2. Screening Levels for Tap Water: Comparison of USEPA RSLs and DTSC-SLs

	USEPA RSL for Tap Water (µg/L)								DTSC-SL for Tapwater RSL (µg/L)							
	Cancer Endpoint				Noncancer Endpoint				Cancer Endpoint				Noncancer Endpoint			
Analyte	**RSL_{Ing}**	**RSL_{D}**	**RSL_{Inh}**	**$RSL_{Combined}$**	**RSL_{Ing}**	**RSL_{D}**	**RSL_{Inh}**	**$RSL_{Combined}$**	**DTSC-SL_{Ing}**	**DTSC-SL_{D}**	**DTSC-SL_{Inh}**	**DTSC-$SL_{Combined}$**	**DTSC-SL_{Ing}**	**DTSC-SL_{D}**	**DTSC-SL_{Inh}**	**DTSC-$SL_{Combined}$**
Phthalates																
~Dimethylterephthalate	--	--	--	--	2.01E+03	2.67E+04	--	1.87E+03	--	--	--	--	2.01E+03	2.67E+04	8.34E+02	5.76E+02
Polychlorinated Biphenyls (PCBs)																
~Aroclor 1016	1.11E+00	--	2.81E-01	2.24E-01	1.40E+00	--	--	1.40E+00	1.11E+00	--	2.81E-01	2.24E-01	1.40E+00	--	5.84E-01	4.12E-01
~Aroclor 1254	3.90E-02	--	9.83E-03	7.85E-03	4.01E-01	--	--	4.01E-01	3.90E-02	--	9.85E-03	7.86E-03	4.01E-01	--	1.67E-01	1.18E-01
~Aroclor 5460	--	--	--	--	1.20E+01	--	--	1.20E+01	--	--	--	--	1.20E+01	--	5.01E+00	3.54E+00
Propargyl Alcohol	--	--	--	--	4.01E+01	1.19E+04	--	4.00E+01	--	--	--	--	4.01E+01	1.19E+04	1.67E+01	1.18E+01
Pyridine	--	--	--	--	2.01E+01	1.47E+03	--	1.98E+01	--	--	--	--	2.01E+01	1.47E+03	8.34E+00	5.87E+00
Tetrachloroethane, 1,1,2,2-	3.90E-01	3.12E+00	9.68E-02	7.57E-02	4.01E+02	3.64E+03	--	3.61E+02	2.89E-01	2.31E+00	9.68E-02	7.03E-02	4.01E+02	3.64E+03	1.67E+02	1.14E+02
Tetrachloroethylene	3.71E+01	6.26E+01	2.16E+01	1.12E+01	1.20E+02	2.30E+02	8.34E+01	4.06E+01	1.44E-01	2.43E-01	9.52E-01	8.27E-02	1.20E+02	2.30E+02	7.30E+01	3.79E+01
Trichloroethane, 1,1,1-	--	--	--	--	4.01E+04	2.50E+05	1.04E+04	8.01E+03	--	--	--	--	4.01E+04	2.50E+05	2.09E+03	1.97E+03
Trichlorofluoromethane	--	--	--	--	6.02E+03	3.61E+04	--	5.16E+03	--	--	--	--	6.02E+03	3.61E+04	2.50E+03	1.69E+03
Trichlorophenol, 2,4,6-	7.08E+00	9.40E+00	--	4.04E+00	2.01E+01	3.01E+01	--	1.20E+01	1.11E+00	1.48E+00	--	6.35E-01	2.01E+01	3.01E+01	--	1.20E+01
Trichloropropane, 1,1,2-	--	--	--	--	1.00E+02	7.49E+02	--	8.84E+01	--	--	--	--	1.00E+02	7.49E+02	4.17E+01	2.83E+01
Trichloropropane, 1,2,3-	8.35E-04	7.08E-03	--	7.47E-04	8.02E+01	7.66E+02	6.26E-01	6.20E-01	8.35E-04	7.08E-03	2.70E-04	1.99E-04	8.02E+01	7.66E+02	6.26E-01	6.20E-01
Additional Analytes																
Beryllium Sulfate	--	--	--	--	4.01E+01	6.36E+01	--	2.46E+01	--	--	--	--	4.01E+00	6.36E+00	--	2.46E+00
Dichlorobenzene, 1,3-	--	--	--	--	--	--	--	--	--	--	--	--	6.02E+02	8.33E+02	2.50E+02	1.46E+02
Methylcyclohexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.25E+04	1.25E+04

"--" = no value

Table B-3. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Tap Water via Ingestion

Definitions	Variable	USEPA Value	DTSC Value		Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $(R)SL_{ing} = \frac{TR \times AT_{nc,c} \times 365\ day/year \times CF_O}{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times FI_r}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless	
Averaging Time, Carcinogens	AT_c	70	70	yrs	Mutagens: $(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times EF_r \times \left(\frac{ED_{0-2} \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IR_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IR_a \times ADAF_{16-26}}{BW_a}\right)}$
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless	Trichloroethene:
Conversion Factor, ingestion exposure	CF_o	1.0E+03	1.0E+03	mg/µg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times IRW_c}{BW_c} + \frac{ED_a \times EF_r \times IRW_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\frac{ED_{0-2} \times EF_r \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times IR_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times EF_r \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times IR_a \times ADAF_{16-26}}{BW_a}\right)\right]\right\}}$
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{\left(\frac{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times \frac{1}{CF_o}}{AT_c \times 365\frac{day}{year}} + \frac{SF_o \times IRW_c \times \frac{1}{CF_o}}{BW_c}\right)}$
Fraction Contaminated Water Ingested, resident	FI_r	1.0	1.0	unitless	
Water Ingestion Rate, adult	IRW_a	2.5	2.5	L/day	
Water Ingestion Rate, child	IRW_c	0.78	0.78	L/day	
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless	
Oral Reference Dose	RfD_O	derived herein		mg/kg-day	Noncancer Hazard:
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	chemical-specific		µg/L	$(R)SL_{ing} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\ day/year \times CF_O}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRW_c \times FI_r}$
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

		USEPA Regional Screening Level for Ingestion Exposure to Residential Tap Water ($USEPA\ RSL_{ing}$)				DTSC Screening Level for Ingestion Exposure to Residential Tap Water ($DTSC\text{-}SL_{ing}$)			
		SF_O	$USEPA\ RSL_{ing}$: Cancer	RfD_O	$USEPA\ RSL_{ing}$: Noncancer	SF_O	$DTSC\text{-}SL_{ing}$: Cancer	RfD_O	$DTSC\text{-}SL_{ing}$: Noncancer
Analyte	**Mutagen?**	$(mg/kg\text{-}day)^{-1}$	(µg/L)	(mg/kg-day)	(µg/L)	$(mg/kg\text{-}day)^{-1}$	(µg/L)	(mg/kg-day)	(µg/L)
USEPA RSL Analytes									
Acetophenone		--	--	1.00E-01	2.01E+03	--	--	1.00E-01	2.01E+03
Acrylamide	M	5.00E-01	5.01E-02	2.00E-03	4.01E+01	4.50E+00	5.57E-03	2.00E-03	4.01E+01
Acrylonitrile		5.40E-01	1.44E-01	4.00E-02	8.02E+02	1.00E+00	7.79E-02	4.00E-02	8.02E+02
Aldrin		1.70E+01	4.58E-03	3.00E-05	6.02E-01	1.70E+01	4.58E-03	3.00E-05	6.02E-01
Arsenic, Inorganic		1.50E+00	5.19E-02	3.00E-04	6.02E+00	9.50E+00	8.20E-03	3.50E-06	7.02E-02
Benzaldehyde		--	--	1.00E-01	2.01E+03	--	--	1.00E-01	2.01E+03
Benzene		5.50E-02	1.42E+00	4.00E-03	8.02E+01	1.00E-01	7.79E-01	4.00E-03	8.02E+01
Benzenethiol		--	--	1.00E-03	2.01E+01	--	--	1.00E-03	2.01E+01
Beryllium and compounds		--	--	2.00E-03	4.01E+01	--	--	2.00E-04	4.01E+00
Bis(2-chloro-1-methylethyl) ether		--	--	4.00E-02	8.02E+02	--	--	4.00E-02	8.02E+02
Bromodichloromethane		6.20E-02	1.26E+00	2.00E-02	4.01E+02	1.30E-01	5.99E-01	2.00E-02	4.01E+02
Bromoform		7.90E-03	9.86E+00	2.00E-02	4.01E+02	1.10E-02	7.08E+00	2.00E-02	4.01E+02
Butanol, N-		--	--	1.00E-01	2.01E+03	--	--	1.00E-01	2.01E+03
Butylbenzene, n-		--	--	5.00E-02	1.00E+03	--	--	5.00E-02	1.00E+03
Butylbenzene, sec-		--	--	1.00E-01	2.01E+03	--	--	1.00E-01	2.01E+03
Carbon Tetrachloride		7.00E-02	1.11E+00	4.00E-03	8.02E+01	1.50E-01	5.19E-01	4.00E-03	8.02E+01
Chloral Hydrate		--	--	1.00E-01	2.01E+03	--	--	1.00E-01	2.01E+03
Chlordane		3.50E-01	2.23E-01	5.00E-04	1.00E+01	1.30E+00	5.99E-02	5.00E-04	1.00E+01

Table B-3. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Tap Water via Ingestion

Definitions	Variable	USEPA Value	DTSC Value		Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $(R)SL_{ing} = \frac{TR \times AT_{nc,c} \times 365\ day/year \times CF_O}{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times FI_r}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless	
Averaging Time, Carcinogens	AT_c	70	70	yrs	Mutagens:
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times EF_r \times \left(\frac{ED_{0-2} \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IR_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IR_a \times ADAF_{16-26}}{BW_a}\right)}$
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless	Trichloroethene:
Conversion Factor, ingestion exposure	CF_o	1.0E+03	1.0E+03	mg/µg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times IRW_c}{BW_c} + \frac{ED_a \times EF_r \times IRW_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\frac{ED_{0-2} \times EF_r \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times IR_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times EF_r \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times IR_a \times ADAF_{16-26}}{BW_a}\right)\right]\right\}}$
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{\left(\frac{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times \frac{1}{CF_o}}{AT_c \times 365\frac{day}{year}} + \frac{SF_o \times IRW_c \times \frac{1}{CF_o}}{BW_c}\right)}$
Fraction Contaminated Water Ingested, resident	FI_r	1.0	1.0	unitless	
Water Ingestion Rate, adult	IRW_a	2.5	2.5	L/day	
Water Ingestion Rate, child	IRW_c	0.78	0.78	L/day	
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless	
Oral Reference Dose	RfD_O	derived herein		mg/kg-day	Noncancer Hazard:
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	chemical-specific		µg/L	$(R)SL_{ing} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\ day/year \times CF_O}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRW_c \times FI_r}$
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

		USEPA Regional Screening Level for Ingestion Exposure to Residential Tap Water (USEPA RSL_{ing})				DTSC Screening Level for Ingestion Exposure to Residential Tap Water (DTSC-SL_{ing})			
		SF_O	USEPA RSL_{ing}: Cancer	RfD_O	USEPA RSL_{ing}: Noncancer	SF_O	DTSC-SL_{ing}: Cancer	RfD_O	DTSC-SL_{ing}: Noncancer
Analyte	**Mutagen?**	$(mg/kg\text{-}day)^{-1}$	(µg/L)	(mg/kg-day)	(µg/L)	$(mg/kg\text{-}day)^{-1}$	(µg/L)	(mg/kg-day)	(µg/L)
Chloroacetaldehyde, 2-		2.70E-01	2.89E-01	--	--	2.70E-01	2.89E-01	--	--
Chloroethanol, 2-		--	--	2.00E-02	4.01E+02	--	--	2.00E-02	4.01E+02
Chlorophenol, 2-		--	--	5.00E-03	1.00E+02	--	--	5.00E-03	1.00E+02
Crotonaldehyde, trans-		1.90E+00	4.10E-02	1.00E-03	2.01E+01	1.90E+00	4.10E-02	1.00E-03	2.01E+01
Cyanides									
~Cyanogen		--	--	1.00E-03	2.01E+01	--	--	1.00E-03	2.01E+01
~Cyanogen Bromide		--	--	9.00E-02	1.80E+03	--	--	9.00E-02	1.80E+03
~Cyanogen Chloride		--	--	5.00E-02	1.00E+03	--	--	5.00E-02	1.00E+03
~Thiocyanic Acid		--	--	2.00E-04	4.01E+00	--	--	2.00E-04	4.01E+00
Cyclohexylamine		--	--	2.00E-01	4.01E+03	--	--	2.00E-01	4.01E+03
Dibromochloromethane		8.40E-02	9.27E-01	2.00E-02	4.01E+02	8.40E-02	9.27E-01	2.00E-02	4.01E+02
Dibromoethane, 1,2-		2.00E+00	3.90E-02	9.00E-03	1.80E+02	3.60E+00	2.16E-02	9.00E-03	1.80E+02
Dichloroethane, 1,1-		5.70E-03	1.37E+01	2.00E-01	4.01E+03	5.70E-03	1.37E+01	2.00E-01	4.01E+03
Dichloroethylene, 1,2-cis-		--	--	2.00E-03	4.01E+01	--	--	2.00E-03	4.01E+01
Dichloroethylene, 1,2-trans-		--	--	2.00E-02	4.01E+02	--	--	2.00E-02	4.01E+02
Dichloropropane, 1,3-		--	--	2.00E-02	4.01E+02	--	--	2.00E-02	4.01E+02
Diethylformamide		--	--	1.00E-03	2.01E+01	--	--	1.00E-03	2.01E+01
Diisopropyl Methylphosphonate		--	--	8.00E-02	1.60E+03	--	--	8.00E-02	1.60E+03
Dimethylaniline, N,N-		--	--	2.00E-03	4.01E+01	--	--	2.00E-03	4.01E+01

Table B-3. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Tap Water via Ingestion

Definitions	Variable	USEPA Value	DTSC Value		Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $(R)SL_{ing} = \frac{TR \times AT_{nc,c} \times 365\ day/year \times CF_O}{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times FI_r}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless	
Averaging Time, Carcinogens	AT_c	70	70	yrs	Mutagens:
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times EF_r \times \left(\begin{array}{c}\frac{ED_{0-2} \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IR_c \times ADAF_{2-6}}{BW_c} \\ + \frac{ED_{6-16} \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IR_a \times ADAF_{16-26}}{BW_a}\end{array}\right)}$
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless	Trichloroethene:
Conversion Factor, ingestion exposure	CF_o	1.0E+03	1.0E+03	mg/µg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times IRW_c}{BW_c} + \frac{ED_a \times EF_r \times IRW_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\begin{array}{c}\frac{ED_{0-2} \times EF_r \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times IR_c \times ADAF_{2-6}}{BW_c} \\ + \frac{ED_{6-16} \times EF_r \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times IR_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{\left(\frac{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times \frac{1}{CF_o}}{AT_c \times 365\frac{day}{year}} + \frac{SF_o \times IRW_c \times \frac{1}{CF_o}}{BW_c}\right)}$
Fraction Contaminated Water Ingested, resident	FI_r	1.0	1.0	unitless	
Water Ingestion Rate, adult	IRW_a	2.5	2.5	L/day	
Water Ingestion Rate, child	IRW_c	0.78	0.78	L/day	
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless	
Oral Reference Dose	RfD_O	derived herein		mg/kg-day	Noncancer Hazard:
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	chemical-specific		µg/L	$(R)SL_{ing} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\ day/year \times CF_O}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRW_c \times FI_r}$
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

		USEPA Regional Screening Level for Ingestion Exposure to Residential Tap Water ($USEPA\ RSL_{ing}$)				DTSC Screening Level for Ingestion Exposure to Residential Tap Water ($DTSC\text{-}SL_{ing}$)			
Analyte	**Mutagen?**	**SF_O** ($(mg/kg\text{-}day)^{-1}$)	**$USEPA\ RSL_{ing}$: Cancer** (µg/L)	**RfD_O** (mg/kg-day)	**$USEPA\ RSL_{ing}$: Noncancer** (µg/L)	**SF_O** ($(mg/kg\text{-}day)^{-1}$)	**$DTSC\text{-}SL_{ing}$: Cancer** (µg/L)	**RfD_O** (mg/kg-day)	**$DTSC\text{-}SL_{ing}$: Noncancer** (µg/L)
Dithiane, 1,4-		--	--	1.00E-02	2.01E+02	--	--	1.00E-02	2.01E+02
Endosulfan		--	--	6.00E-03	1.20E+02	--	--	6.00E-03	1.20E+02
Epichlorohydrin		9.90E-03	7.87E+00	6.00E-03	1.20E+02	8.00E-02	9.74E-01	6.00E-03	1.20E+02
Ethyl Ether		--	--	2.00E-01	4.01E+03	--	--	2.00E-01	4.01E+03
Ethylene Diamine		--	--	9.00E-02	1.80E+03	--	--	9.00E-02	1.80E+03
Furans									
~Furan		--	--	1.00E-03	2.01E+01	--	--	1.00E-03	2.01E+01
Guanidine		--	--	1.00E-02	2.01E+02	--	--	1.00E-02	2.01E+02
Hexabromobenzene		--	--	2.00E-03	4.01E+01	--	--	2.00E-03	4.01E+01
Hexachlorobenzene		1.60E+00	4.87E-02	8.00E-04	1.60E+01	1.80E+00	4.33E-02	8.00E-04	1.60E+01
Hexachlorocyclohexane, Gamma- (Lindane)		1.10E+00	7.08E-02	3.00E-04	6.02E+00	1.10E+00	7.08E-02	3.00E-04	6.02E+00
Isobutyl Alcohol		--	--	3.00E-01	6.02E+03	--	--	3.00E-01	6.02E+03
Lead Compounds									
~Lead subacetate		8.50E-03	9.17E+00	--	--	3.80E-02	2.05E+00	--	--
Lewisite		--	--	5.00E-06	1.00E-01	--	--	5.00E-06	1.00E-01
Mercury Compounds									
~Mercury (elemental)		--	--	--	--	--	--	1.60E-04	3.21E+00
Merphos		--	--	3.00E-05	6.02E-01	--	--	3.00E-05	6.02E-01
Methyl Acetate		--	--	1.00E+00	2.01E+04	--	--	1.00E+00	2.01E+04

Table B-3. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Tap Water via Ingestion

Definitions	Variable	USEPA Value	DTSC Value		Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $(R)SL_{ing} = \frac{TR \times AT_{nc,c} \times 365\ day/year \times CF_O}{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times FI_r}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless	
Averaging Time, Carcinogens	AT_c	70	70	yrs	Mutagens:
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times EF_r \times \left(\begin{array}{c}\frac{ED_{0-2} \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IR_c \times ADAF_{2-6}}{BW_c} \\ + \frac{ED_{6-16} \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IR_a \times ADAF_{16-26}}{BW_a}\end{array}\right)}$
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless	Trichloroethene:
Conversion Factor, ingestion exposure	CF_o	1.0E+03	1.0E+03	mg/µg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times IRW_c}{BW_c} + \frac{ED_a \times EF_r \times IRW_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\begin{array}{c}\frac{ED_{0-2} \times EF_r \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times IR_c \times ADAF_{2-6}}{BW_c} \\ + \frac{ED_{6-16} \times EF_r \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times IR_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{\left(\frac{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times \frac{1}{CF_o}}{AT_c \times 365\frac{day}{year}} + \frac{SF_o \times IRW_c \times \frac{1}{CF_o}}{BW_c}\right)}$
Fraction Contaminated Water Ingested, resident	FI_r	1.0	1.0	unitless	
Water Ingestion Rate, adult	IRW_a	2.5	2.5	L/day	
Water Ingestion Rate, child	IRW_c	0.78	0.78	L/day	
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless	
Oral Reference Dose	RfD_O	derived herein		mg/kg-day	Noncancer Hazard:
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	chemical-specific		µg/L	$(R)SL_{ing} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\ day/year \times CF_O}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRW_c \times FI_r}$
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

		USEPA Regional Screening Level for Ingestion Exposure to Residential Tap Water (USEPA RSL_{ing})				DTSC Screening Level for Ingestion Exposure to Residential Tap Water (DTSC-SL_{ing})			
Analyte	**Mutagen?**	**SF_O** $(mg/kg\text{-}day)^{-1}$	**USEPA RSL_{ing}: Cancer** (µg/L)	**RfD_O** (mg/kg-day)	**USEPA RSL_{ing}: Noncancer** (µg/L)	**SF_O** $(mg/kg\text{-}day)^{-1}$	**DTSC-SL_{ing}: Cancer** (µg/L)	**RfD_O** (mg/kg-day)	**DTSC-SL_{ing}: Noncancer** (µg/L)
Methylene Chloride	M	2.00E-03	1.25E+01	6.00E-03	1.20E+02	1.40E-02	1.79E+00	6.00E-03	1.20E+02
Methylene-bis(2-chloroaniline), 4,4'-	M	1.00E-01	2.51E-01	2.00E-03	4.01E+01	1.50E+00	1.67E-02	2.00E-03	4.01E+01
Mineral oils		--	--	3.00E+00	6.02E+04	--	--	3.00E+00	6.02E+04
Mirex		1.80E+01	4.33E-03	2.00E-04	4.01E+00	1.80E+01	4.33E-03	2.00E-04	4.01E+00
Naled		--	--	2.00E-03	4.01E+01	--	--	2.00E-03	4.01E+01
Nitrotoluene, o-		2.20E-01	3.54E-01	9.00E-04	1.80E+01	2.20E-01	3.54E-01	9.00E-04	1.80E+01
Pentabromodiphenyl Ether		--	--	2.00E-03	4.01E+01	--	--	2.00E-03	4.01E+01
Pentachloroethane		9.00E-02	8.66E-01	--	--	9.00E-02	8.66E-01	--	--
Perfluorobutane Sulfonate		--	--	2.00E-02	4.01E+02	--	--	2.00E-02	4.01E+02
Phosphorus, White		--	--	2.00E-05	4.01E-01	--	--	2.00E-05	4.01E-01
Phthalates									
~Dimethylterephthalate		--	--	1.00E-01	2.01E+03	--	--	1.00E-01	2.01E+03
Polychlorinated Biphenyls (PCBs)									
~Aroclor 1016		7.00E-02	1.11E+00	7.00E-05	1.40E+00	7.00E-02	1.11E+00	7.00E-05	1.40E+00
~Aroclor 1254		2.00E+00	3.90E-02	2.00E-05	4.01E-01	2.00E+00	3.90E-02	2.00E-05	4.01E-01
~Aroclor 5460		--	--	6.00E-04	1.20E+01	--	--	6.00E-04	1.20E+01
Propargyl Alcohol		--	--	2.00E-03	4.01E+01	--	--	2.00E-03	4.01E+01
Pyridine		--	--	1.00E-03	2.01E+01	--	--	1.00E-03	2.01E+01
Tetrachloroethane, 1,1,2,2-		2.00E-01	3.90E-01	2.00E-02	4.01E+02	2.70E-01	2.89E-01	2.00E-02	4.01E+02

Table B-3. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed to Tap Water via Ingestion

Definitions	Variable	USEPA Value	DTSC Value		Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $(R)SL_{ing} = \frac{TR \times AT_{nc,c} \times 365\ day/year \times CF_O}{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times FI_r}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless	
Averaging Time, Carcinogens	AT_c	70	70	yrs	Mutagens:
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times EF_r \times \left(\frac{ED_{0-2} \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times IR_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times IR_a \times ADAF_{16-26}}{BW_a}\right)}$
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs	
Body Weight, adult	BW_a	80	80	kg	
Body Weight, child	BW_c	15	15	kg	
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless	Trichloroethene:
Conversion Factor, ingestion exposure	CF_o	1.0E+03	1.0E+03	mg/µg	$(R)SL_{ing} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_o}{SF_o \times \left\{\left[CAF_O \times \left(\frac{ED_c \times EF_r \times IRW_c}{BW_c} + \frac{ED_a \times EF_r \times IRW_a}{BW_a}\right)\right] + \left[MAF_O \times \left(\frac{ED_{0-2} \times EF_r \times IRW_c \times ADAF_{0-2}}{BW_c} + \frac{ED_{2-6} \times EF_r \times IR_c \times ADAF_{2-6}}{BW_c} + \frac{ED_{6-16} \times EF_r \times IRW_a \times ADAF_{6-16}}{BW_a} + \frac{ED_{16-26} \times EF_r \times IR_a \times ADAF_{16-26}}{BW_a}\right)\right]\right\}}$
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs	
Exposure Duration, adult	ED_a	20	20	yrs	
Exposure Duration, child	ED_c	6	6	yrs	Vinyl Chloride:
Exposure Frequency, resident	EF_r	350	350	days/yr	$(R)SL_{ing} = \frac{TR}{\left(\frac{SF_o \times EF_r \times \left(\frac{ED_c \times IRW_c}{BW_c} + \frac{ED_a \times IRW_a}{BW_a}\right) \times \frac{1}{CF_o}}{AT_c \times 365\frac{day}{year}} + \frac{SF_o \times IRW_c \times \frac{1}{CF_o}}{BW_c}\right)}$
Fraction Contaminated Water Ingested, resident	FI_r	1.0	1.0	unitless	
Water Ingestion Rate, adult	IRW_a	2.5	2.5	L/day	
Water Ingestion Rate, child	IRW_c	0.78	0.78	L/day	
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless	
Oral Reference Dose	RfD_O	derived herein		mg/kg-day	Noncancer Hazard:
(Regional) Screening Level, ingestion	$(R)SL_{ing}$	chemical-specific		µg/L	$(R)SL_{ing} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\ day/year \times CF_O}{EF_r \times ED_c \times \frac{1}{RfD_o} \times IRW_c \times FI_r}$
Oral Slope Factor	SF_O	chemical-specific		$(mg/kg\text{-}day)^{-1}$	
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

		USEPA Regional Screening Level for Ingestion Exposure to Residential Tap Water ($USEPA\ RSL_{ing}$)				DTSC Screening Level for Ingestion Exposure to Residential Tap Water ($DTSC\text{-}SL_{ing}$)			
		SF_O	$USEPA\ RSL_{ing}$: Cancer	RfD_O	$USEPA\ RSL_{ing}$: Noncancer	SF_O	$DTSC\text{-}SL_{ing}$: Cancer	RfD_O	$DTSC\text{-}SL_{ing}$: Noncancer
Analyte	**Mutagen?**	$(mg/kg\text{-}day)^{-1}$	(µg/L)	(mg/kg-day)	(µg/L)	$(mg/kg\text{-}day)^{-1}$	(µg/L)	(mg/kg-day)	(µg/L)
Tetrachloroethylene		2.10E-03	3.71E+01	6.00E-03	1.20E+02	5.40E-01	1.44E-01	6.00E-03	1.20E+02
Trichloroethane, 1,1,1-		--	--	2.00E+00	4.01E+04	--	--	2.00E+00	4.01E+04
Trichlorofluoromethane		--	--	3.00E-01	6.02E+03	--	--	3.00E-01	6.02E+03
Trichlorophenol, 2,4,6-		1.10E-02	7.08E+00	1.00E-03	2.01E+01	7.00E-02	1.11E+00	1.00E-03	2.01E+01
Trichloropropane, 1,1,2-		--	--	5.00E-03	1.00E+02	--	--	5.00E-03	1.00E+02
Trichloropropane, 1,2,3-	M	3.00E+01	8.35E-04	4.00E-03	8.02E+01	3.00E+01	8.35E-04	4.00E-03	8.02E+01
Additional Analytes									
Beryllium Sulfate		--	--	2.00E-03	4.01E+01	--	--	2.00E-04	4.01E+00
Dichlorobenzene, 1,3-		--	--	--	--	--	--	3.00E-02	6.02E+02
Methylcyclohexane		--	--	--	--	--	--	--	--

"--" = no value

Table B-4. Derivation of Dermally-Absorbed Dose per Event: Domestic Use of Water -- Residential Scenario

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless
Averaging Time, Carcinogens	AT_c	70	70	yrs
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless
Conversion factor, dermal	CF_{d1}	1000	1000	µg/mg
COPC Absorbed Dose per Event	DA_{event}	chemical and receptor-specific		µg/cm^2-event
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Event Frequency, resident	EV_r	1	1	events/day
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		(mg/kg-day)
Exposed Body Surface Area, adult	SA_a	20900	20900	cm^2
Exposed Body Surface Area, child	SA_c	6378	6378	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_D	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations

Cancer Risk:

Carcinogens:

$$DA_{event,(carcinogen)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_D \times EF_r \times \left(\frac{EV_r \times ED_c \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times SA_a}{BW_a}\right)}$$

Mutagens:

$$DA_{event,(mutagen)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_d \times EF_r \times \left(\begin{array}{l}\frac{EV_r \times ED_{0-2} \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{EV_r \times ED_{2-6} \times SA_c \times ADAF_{2-6}}{BW_c} \\ + \frac{EV_r \times ED_{6-16} \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{EV_r \times ED_{16-26} \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)}$$

Trichloroethene:

$$DA_{event,(trichloroethene)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_d \times \left\{\left[CAF_O \times \left(\frac{EV_r \times ED_c \times EF_r \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times EF_r \times SA_a}{BW_z}\right)\right] + \left[MAF_O \times \left(\begin{array}{l}\frac{EV_r \times ED_{0-2} \times EF_r \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{EV_r \times ED_{2-6} \times EF_r \times SA_c \times ADAF_{2-6}}{BW_c} \\ + \frac{EV_r \times ED_{6-16} \times EF_r \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{EV_r \times ED_{16-26} \times EF_r \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$DA_{event,(vinyl\ chloride)} = \frac{TR}{\left(\frac{SF_D \times EF_r \times \left(\frac{EV_r \times ED_c \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times SA_a}{BW_a}\right)}{AT_c \times 365\frac{day}{year} \times CF_{d1}} + \frac{SF_D \times EV_r \times SA_c}{BW_c \times CF_{d1}}\right)}$$

Noncancer:

$$DA_{event,(child,noncarcinogen)} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\frac{day}{year} \times CF_{d1}}{\frac{1}{RfD_D} \times EV_r \times ED_c \times EF_r \times SA_c}$$

		USEPA								DTSC-Modified							
Analyte	**Mutagen?**	**GI Absorption** (*dimensionless*)	**SF_D** (*mg/kg-day*)$^{-1}$	**RfD_d** (*mg/kg-day*)	**$DA_{event(child,\ noncarcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ carcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ mutagen)}$** (µg/cm^2-*event*)	**$DA_{vent,(adult,\ trichloroethene)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ vinyl\ chloride)}$** (µg/cm^2-*event*)	**GI Absorption** (*dimensionless*)	**SF_D** (*mg/kg-day*)$^{-1}$	**RfD_d** (*mg/kg-day*)	**$DA_{event(child,\ noncarcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ carcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ mutagen)}$** (µg/cm^2-*event*)	**$DA_{vent,(adult,\ trichloroethene)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ vinyl\ chloride)}$** (µg/cm^2-*event*)
USEPA RSL Analytes																	
Acetophenone		1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--	1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--
Acrylamide	M	1.00E+00	5.00E-01	2.00E-03	4.91E-03	--	6.07E-06	--	--	1.00E+00	4.50E+00	2.00E-03	4.91E-03	--	6.74E-07	--	--
Acrylonitrile		1.00E+00	5.40E-01	4.00E-02	9.81E-02	1.74E-05	--	--	--	1.00E+00	1.00E+00	4.00E-02	9.81E-02	9.39E-06	--	--	--
Aldrin		1.00E+00	1.70E+01	3.00E-05	7.36E-05	5.52E-07	--	--	--	1.00E+00	1.70E+01	3.00E-05	7.36E-05	5.52E-07	--	--	--
Arsenic, Inorganic		1.00E+00	1.50E+00	3.00E-04	7.36E-04	6.26E-06	--	--	--	1.00E+00	9.50E+00	3.50E-06	8.58E-06	9.88E-07	--	--	--
Benzaldehyde		1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--	1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--
Benzene		1.00E+00	5.50E-02	4.00E-03	9.81E-03	1.71E-04	--	--	--	1.00E+00	1.00E-01	4.00E-03	9.81E-03	9.39E-05	--	--	--
Benzenethiol		1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--	1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--
Beryllium and compounds		7.00E-03	--	1.40E-05	3.43E-05	--	--	--	--	7.00E-03	--	1.40E-06	3.43E-06	--	--	--	--
Bis(2-chloro-1-methylethyl) ether		1.00E+00	--	4.00E-02	9.81E-02	--	--	--	--	1.00E+00	--	4.00E-02	9.81E-02	--	--	--	--
Bromodichloromethane		1.00E+00	6.20E-02	2.00E-02	4.91E-02	1.51E-04	--	--	--	1.00E+00	1.30E-01	2.00E-02	4.91E-02	7.22E-05	--	--	--
Bromoform		1.00E+00	7.90E-03	2.00E-02	4.91E-02	1.19E-03	--	--	--	1.00E+00	1.10E-02	2.00E-02	4.91E-02	8.53E-04	--	--	--
Butanol, N-		1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--	1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--
Butylbenzene, n-		1.00E+00	--	5.00E-02	1.23E-01	--	--	--	--	1.00E+00	--	5.00E-02	1.23E-01	--	--	--	--
Butylbenzene, sec-		1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--	1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--
Carbon Tetrachloride		1.00E+00	7.00E-02	4.00E-03	9.81E-03	1.34E-04	--	--	--	1.00E+00	1.50E-01	4.00E-03	9.81E-03	6.26E-05	--	--	--
Chloral Hydrate		1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--	1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--
Chlordane		1.00E+00	3.50E-01	5.00E-04	1.23E-03	2.68E-05	--	--	--	1.00E+00	1.30E+00	5.00E-04	1.23E-03	7.22E-06	--	--	--
Chloroacetaldehyde, 2-		1.00E+00	2.70E-01	--	--	3.48E-05	--	--	--	1.00E+00	2.70E-01	--	--	3.48E-05	--	--	--
Chloroethanol, 2-		1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--	1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--
Chlorophenol, 2-		1.00E+00	--	5.00E-03	1.23E-02	--	--	--	--	1.00E+00	--	5.00E-03	1.23E-02	--	--	--	--
Crotonaldehyde, trans-		1.00E+00	1.90E+00	1.00E-03	2.45E-03	4.94E-06	--	--	--	1.00E+00	1.90E+00	1.00E-03	2.45E-03	4.94E-06	--	--	--
Cyanides																	
~Cyanogen		1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--	1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--
~Cyanogen Bromide		1.00E+00	--	9.00E-02	2.21E-01	--	--	--	--	1.00E+00	--	9.00E-02	2.21E-01	--	--	--	--
~Cyanogen Chloride		1.00E+00	--	5.00E-02	1.23E-01	--	--	--	--	1.00E+00	--	5.00E-02	1.23E-01	--	--	--	--
~Thiocyanic Acid		1.00E+00	--	2.00E-04	4.91E-04	--	--	--	--	1.00E+00	--	2.00E-04	4.91E-04	--	--	--	--
Cyclohexylamine		1.00E+00	--	2.00E-01	4.91E-01	--	--	--	--	1.00E+00	--	2.00E-01	4.91E-01	--	--	--	--
Dibromochloromethane		1.00E+00	8.40E-02	2.00E-02	4.91E-02	1.12E-04	--	--	--	1.00E+00	8.40E-02	2.00E-02	4.91E-02	1.12E-04	--	--	--
Dibromoethane, 1,2-		1.00E+00	2.00E+00	9.00E-03	2.21E-02	4.69E-06	--	--	--	1.00E+00	3.60E+00	9.00E-03	2.21E-02	2.61E-06	--	--	--
Dichloroethane, 1,1-		1.00E+00	5.70E-03	2.00E-01	4.91E-01	1.65E-03	--	--	--	1.00E+00	5.70E-03	2.00E-01	4.91E-01	1.65E-03	--	--	--
Dichloroethylene, 1,2-cis-		1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--	1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--
Dichloroethylene, 1,2-trans-		1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--	1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--
Dichloropropane, 1,3-		1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--	1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--
Diethylformamide		1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--	1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--
Diisopropyl Methylphosphonate		1.00E+00	--	8.00E-02	1.96E-01	--	--	--	--	1.00E+00	--	8.00E-02	1.96E-01	--	--	--	--
Dimethylaniline, N,N-		1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--	1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--
Dithiane, 1,4-		1.00E+00	--	1.00E-02	2.45E-02	--	--	--	--	1.00E+00	--	1.00E-02	2.45E-02	--	--	--	--
Endosulfan		1.00E+00	--	6.00E-03	1.47E-02	--	--	--	--	1.00E+00	--	6.00E-03	1.47E-02	--	--	--	--
Epichlorohydrin		1.00E+00	9.90E-03	6.00E-03	1.47E-02	9.48E-04	--	--	--	1.00E+00	8.00E-02	6.00E-03	1.47E-02	1.17E-04	--	--	--

Table B-4. Derivation of Dermally-Absorbed Dose per Event: Domestic Use of Water -- Residential Scenario

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless
Averaging Time, Carcinogens	AT_c	70	70	yrs
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless
Conversion factor, dermal	CF_{d1}	1000	1000	µg/mg
COPC Absorbed Dose per Event	DA_{event}	chemical and receptor-specific		µg/cm^2-event
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Event Frequency, resident	EV_r	1	1	events/day
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		(mg/kg-day)
Exposed Body Surface Area, adult	SA_a	20900	20900	cm^2
Exposed Body Surface Area, child	SA_c	6378	6378	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_D	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations

Cancer Risk:

Carcinogens:

$$DA_{event,(carcinogen)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_D \times EF_r \times \left(\frac{EV_r \times ED_c \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times SA_a}{BW_a}\right)}$$

Mutagens:

$$DA_{event,(mutagen)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_d \times EF_r \times \left(\begin{array}{l}\frac{EV_r \times ED_{0-2} \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{EV_r \times ED_{2-6} \times SA_c \times ADAF_{2-6}}{BW_c} \\ + \frac{EV_r \times ED_{6-16} \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{EV_r \times ED_{16-26} \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)}$$

Trichloroethene:

$$DA_{event,(trichloroethene)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_d \times \left\{\left[CAF_O \times \left(\frac{EV_r \times ED_c \times EF_r \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times EF_r \times SA_a}{BW_z}\right)\right] + \left[MAF_O \times \left(\begin{array}{l}\frac{EV_r \times ED_{0-2} \times EF_r \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{EV_r \times ED_{2-6} \times EF_r \times SA_c \times ADAF_{2-6}}{BW_c} \\ + \frac{EV_r \times ED_{6-16} \times EF_r \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{EV_r \times ED_{16-26} \times EF_r \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$DA_{event,(vinyl\ chloride)} = \frac{TR}{\left(\frac{SF_D \times EF_r \times \left(\frac{EV_r \times ED_c \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times SA_a}{BW_a}\right)}{AT_c \times 365\frac{day}{year} \times CF_{d1}} + \frac{SF_D \times EV_r \times SA_c}{BW_c \times CF_{d1}}\right)}$$

Noncancer:

$$DA_{event,(child,noncarcinogen)} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\frac{day}{year} \times CF_{d1}}{\frac{1}{RfD_D} \times EV_r \times ED_c \times EF_r \times SA_c}$$

		USEPA								DTSC-Modified							
Analyte	**Mutagen?**	**GI Absorption** (*dimensionless*)	**SF_D** (*mg/kg-day*)$^{-1}$	**RfD_d** (*mg/kg-day*)	**$DA_{event(child,\ noncarcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ carcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ mutagen)}$** (µg/cm^2-*event*)	**$DA_{vent,(adult,\ trichloroethene)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ vinyl\ chloride)}$** (µg/cm^2-*event*)	**GI Absorption** (*dimensionless*)	**SF_D** (*mg/kg-day*)$^{-1}$	**RfD_d** (*mg/kg-day*)	**$DA_{event(child,\ noncarcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ carcinogen)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ mutagen)}$** (µg/cm^2-*event*)	**$DA_{vent,(adult,\ trichloroethene)}$** (µg/cm^2-*event*)	**$DA_{event(adult,\ vinyl\ chloride)}$** (µg/cm^2-*event*)
Ethyl Ether		1.00E+00	--	2.00E-01	4.91E-01	--	--	--	--	1.00E+00	--	2.00E-01	4.91E-01	--	--	--	--
Ethylene Diamine		1.00E+00	--	9.00E-02	2.21E-01	--	--	--	--	1.00E+00	--	9.00E-02	2.21E-01	--	--	--	--
Furans																	
~Furan		1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--	1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--
Guanidine		1.00E+00	--	1.00E-02	2.45E-02	--	--	--	--	1.00E+00	--	1.00E-02	2.45E-02	--	--	--	--
Hexabromobenzene		1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--	1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--
Hexachlorobenzene		1.00E+00	1.60E+00	8.00E-04	1.96E-03	5.87E-06	--	--	--	1.00E+00	1.80E+00	8.00E-04	1.96E-03	5.22E-06	--	--	--
Hexachlorocyclohexane, Gamma- (Lindane)		1.00E+00	1.10E+00	3.00E-04	7.36E-04	8.53E-06	--	--	--	1.00E+00	1.10E+00	3.00E-04	7.36E-04	8.53E-06	--	--	--
Isobutyl Alcohol		1.00E+00	--	3.00E-01	7.36E-01	--	--	--	--	1.00E+00	--	3.00E-01	7.36E-01	--	--	--	--
Lead Compounds																	
~Lead subacetate		1.00E+00	8.50E-03	--	--	1.10E-03	--	--	--	1.00E+00	3.80E-02	--	--	2.47E-04	--	--	--
Lewisite		1.00E+00	--	5.00E-06	1.23E-05	--	--	--	--	1.00E+00	--	5.00E-06	1.23E-05	--	--	--	--
Mercury Compounds																	
~Mercury (elemental)		1.00E+00	--	--	--	--	--	--	--	1.00E+00	--	1.60E-04	3.92E-04	--	--	--	--
Merphos		1.00E+00	--	3.00E-05	7.36E-05	--	--	--	--	1.00E+00	--	3.00E-05	7.36E-05	--	--	--	--
Methyl Acetate		1.00E+00	--	1.00E+00	2.45E+00	--	--	--	--	1.00E+00	--	1.00E+00	2.45E+00	--	--	--	--
Methylene Chloride	M	1.00E+00	2.00E-03	6.00E-03	1.47E-02	--	1.52E-03	--	--	1.00E+00	1.40E-02	6.00E-03	1.47E-02	--	2.17E-04	--	--
Methylene-bis(2-chloroaniline), 4,4'-	M	1.00E+00	1.00E-01	2.00E-03	4.91E-03	--	3.03E-05	--	--	1.00E+00	1.50E+00	2.00E-03	4.91E-03	--	2.02E-06	--	--
Mineral oils		1.00E+00	--	3.00E+00	7.36E+00	--	--	--	--	1.00E+00	--	3.00E+00	7.36E+00	--	--	--	--
Mirex		1.00E+00	1.80E+01	2.00E-04	4.91E-04	5.22E-07	--	--	--	1.00E+00	1.80E+01	2.00E-04	4.91E-04	5.22E-07	--	--	--
Naled		1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--	1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--
Nitrotoluene, o-		1.00E+00	2.20E-01	9.00E-04	2.21E-03	4.27E-05	--	--	--	1.00E+00	2.20E-01	9.00E-04	2.21E-03	4.27E-05	--	--	--
Pentabromodiphenyl Ether		1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--	1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--
Pentachloroethane		1.00E+00	9.00E-02	--	--	1.04E-04	--	--	--	1.00E+00	9.00E-02	--	--	1.04E-04	--	--	--
Perfluorobutane Sulfonate		1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--	1.00E+00	--	2.00E-02	4.91E-02	--	--	--	--
Phosphorus, White		1.00E+00	--	2.00E-05	4.91E-05	--	--	--	--	1.00E+00	--	2.00E-05	4.91E-05	--	--	--	--
Phthalates																	
~Dimethylterephthalate		1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--	1.00E+00	--	1.00E-01	2.45E-01	--	--	--	--
Polychlorinated Biphenyls (PCBs)																	
~Aroclor 1016		1.00E+00	7.00E-02	7.00E-05	1.72E-04	1.34E-04	--	--	--	1.00E+00	7.00E-02	7.00E-05	1.72E-04	1.34E-04	--	--	--
~Aroclor 1254		1.00E+00	2.00E+00	2.00E-05	4.91E-05	4.69E-06	--	--	--	1.00E+00	2.00E+00	2.00E-05	4.91E-05	4.69E-06	--	--	--
~Aroclor 5460		1.00E+00	--	6.00E-04	1.47E-03	--	--	--	--	1.00E+00	--	6.00E-04	1.47E-03	--	--	--	--
Propargyl Alcohol		1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--	1.00E+00	--	2.00E-03	4.91E-03	--	--	--	--
Pyridine		1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--	1.00E+00	--	1.00E-03	2.45E-03	--	--	--	--
Tetrachloroethane, 1,1,2,2-		1.00E+00	2.00E-01	2.00E-02	4.91E-02	4.69E-05	--	--	--	1.00E+00	2.70E-01	2.00E-02	4.91E-02	3.48E-05	--	--	--
Tetrachloroethylene		1.00E+00	2.10E-03	6.00E-03	1.47E-02	4.47E-03	--	--	--	1.00E+00	5.40E-01	6.00E-03	1.47E-02	1.74E-05	--	--	--
Trichloroethane, 1,1,1-		1.00E+00	--	2.00E+00	4.91E+00	--	--	--	--	1.00E+00	--	2.00E+00	4.91E+00	--	--	--	--
Trichlorofluoromethane		1.00E+00	--	3.00E-01	7.36E-01	--	--	--	--	1.00E+00	--	3.00E-01	7.36E-01	--	--	--	--
Trichlorophenol, 2,4,6-		1.00E+00	1.10E-02	1.00E-03	2.45E-03	8.53E-04	--	--	--	1.00E+00	7.00E-02	1.00E-03	2.45E-03	1.34E-04	--	--	--
Trichloropropane, 1,1,2-		1.00E+00	--	5.00E-03	1.23E-02	--	--	--	--	1.00E+00	--	5.00E-03	1.23E-02	--	--	--	--
Trichloropropane, 1,2,3-	M	1.00E+00	3.00E+01	4.00E-03	9.81E-03	--	1.01E-07	--	--	1.00E+00	3.00E+01	4.00E-03	9.81E-03	--	1.01E-07	--	--

Table B-4. Derivation of Dermally-Absorbed Dose per Event: Domestic Use of Water -- Residential Scenario

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless
Averaging Time, Carcinogens	AT_c	70	70	yrs
Averaging Time, Noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Averaging Time, Noncarcinogens, adult	$AT_{nc,a}$	20	20	yrs
Body Weight, adult	BW_a	80	80	kg
Body Weight, child	BW_c	15	15	kg
Carcinogenic Adjustment Factor, oral exposure	CAF_O	0.804	0.804	dimensionless
Conversion factor, dermal	CF_{d1}	1000	1000	µg/mg
COPC Absorbed Dose per Event	DA_{event}	chemical and receptor-specific		µg/cm^2-event
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Event Frequency, resident	EV_r	1	1	events/day
Mutagenic Adjustment Factor, oral exposure	MAF_O	0.202	0.202	dimensionless
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific		(mg/kg-day)
Exposed Body Surface Area, adult	SA_a	20900	20900	cm^2
Exposed Body Surface Area, child	SA_c	6378	6378	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_D	chemical-specific		(mg/kg-day)$^{-1}$
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless

Equations

Cancer Risk:

Carcinogens:

$$DA_{event,(carcinogen)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_D \times EF_r \times \left(\frac{EV_r \times ED_c \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times SA_a}{BW_a}\right)}$$

Mutagens:

$$DA_{event,(mutagen)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_d \times EF_r \times \left(\begin{array}{l}\frac{EV_r \times ED_{0-2} \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{EV_r \times ED_{2-6} \times SA_c \times ADAF_{2-6}}{BW_c} \\ + \frac{EV_r \times ED_{6-16} \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{EV_r \times ED_{16-26} \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)}$$

Trichloroethene:

$$DA_{event,(trichloroethene)} = \frac{TR \times AT_c \times 365\frac{day}{year} \times CF_{d1}}{SF_d \times \left\{\left[CAF_O \times \left(\frac{EV_r \times ED_c \times EF_r \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times EF_r \times SA_a}{BW_z}\right)\right] + \left[MAF_O \times \left(\begin{array}{l}\frac{EV_r \times ED_{0-2} \times EF_r \times SA_c \times ADAF_{0-2}}{BW_c} + \frac{EV_r \times ED_{2-6} \times EF_r \times SA_c \times ADAF_{2-6}}{BW_c} \\ + \frac{EV_r \times ED_{6-16} \times EF_r \times SA_a \times ADAF_{6-16}}{BW_a} + \frac{EV_r \times ED_{16-26} \times EF_r \times SA_a \times ADAF_{16-26}}{BW_a}\end{array}\right)\right]\right\}}$$

Vinyl Chloride:

$$DA_{event,(vinyl\ chloride)} = \frac{TR}{\left(\frac{SF_D \times EF_r \times \left(\frac{EV_r \times ED_c \times SA_c}{BW_c} + \frac{EV_r \times ED_a \times SA_a}{BW_a}\right)}{AT_c \times 365\frac{day}{year} \times CF_{d1}} + \frac{SF_D \times EV_r \times SA_c}{BW_c \times CF_{d1}}\right)}$$

Noncancer:

$$DA_{event,(child,noncarcinogen)} = \frac{THQ \times BW_c \times AT_{nc,c} \times 365\frac{day}{year} \times CF_{d1}}{\frac{1}{RfD_D} \times EV_r \times ED_c \times EF_r \times SA_c}$$

		USEPA								DTSC-Modified							
Analyte	**Mutagen?**	**GI Absorption** (*dimensionless*)	**SF_D** (*mg/kg-day*)$^{-1}$	**RfD_d** (*mg/kg-day*)	**$DA_{event(child,\ noncarcinogen)}$** (µg/cm^2*-event*)	**$DA_{event(adult,\ carcinogen)}$** (µg/cm^2*-event*)	**$DA_{event(adult,\ mutagen)}$** (µg/cm^2*-event*)	**$DA_{vent,(adult,\ trichloroethene)}$** (µg/cm^2*-event*)	**$DA_{event(adult,\ vinyl\ chloride)}$** (µg/cm^2*-event*)	**GI Absorption** (*dimensionless*)	**SF_D** (*mg/kg-day*)$^{-1}$	**RfD_d** (*mg/kg-day*)	**$DA_{event(child,\ noncarcinogen)}$** (µg/cm^2*-event*)	**$DA_{event(adult,\ carcinogen)}$** (µg/cm^2*-event*)	**$DA_{event(adult,\ mutagen)}$** (µg/cm^2*-event*)	**$DA_{vent,(adult,\ trichloroethene)}$** (µg/cm^2*-event*)	**$DA_{event(adult,\ vinyl\ chloride)}$** (µg/cm^2*-event*)
Additional Analytes																	
Beryllium Sulfate		7.00E-03	--	1.40E-05	3.43E-05	--	--	--	--	7.00E-03	--	1.40E-06	3.43E-06	--	--	--	--
Dichlorobenzene, 1,3-		1.00E+00	--	--	--	--	--	--	--	1.00E+00	--	3.00E-02	7.36E-02	--	--	--	--
Methylcyclohexane		1.00E+00	--	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--	--

"--" = no value

Table B-5. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed Dermally during Domestic Use of Tap Water

Definition	Variable	USEPA Value	DTSC Value	Units
Relative contribution of permeability coefficients in stratum corneum and viable epidermis	B	Calculated (Equation 3)		dimensionless
Correlation coefficient	b	Calculated (Equation 4)		dimensionless
Correlation coefficient	c	Calculated (Equation 4)		dimensionless
Conversion factor, dermal	CF_{d2}	1000	1000	cm^3/L
Effective diffusion coefficient, through the stratum corneum	D_{sc}	Calculated (Equation 2)		cm^2/hr
Dose absorbed per unit area per event	DA_{event}	Calculated		$\mu g/cm^2$-event
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Fraction Absorbed, resident	FA_r	Chemical-specific		dimensionless
Permeability coefficient from water (organics only)	K_p	Calculated (Equation 1)		cm/hr
Octanol:water partition coefficient	K_{ow}	Chemical-specific		dimensionless
Thickness of the strateum corneum	l_{sc}	0.001	0.001	cm
Molecular weight	MW	Chemical-specific		g/mole
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		µg/L
Lag time per event	τ_{event}	Calculated (Equation 2)		hr/event
Time it takes to reach steady state	t*	Calculated (Equation 4)		hr
Duration of event, child	$t_{event,child}$	0.54	0.54	hr/event
Duration of event, adult	$t_{event,adult}$	0.71	0.71	hr/event
Duration of event, adjusted lifetime	$t_{event,lifetime}$	Calculated (Equation 4)		hr/event

Intermediate Equations

1) $K_p = 10^{(-2.805063+0.6645865 Log K_{OW} - 0.0056118 MW)}$

2) $\tau_{event} = \frac{(l_{sc})^2}{6 D_{sc}}$

where: $D_{sc} = l_{sc} \times 10^{(-2.8-0.0056 MW)}$

3) $B = K_p \frac{\sqrt{MW}}{2.6}$ (as an approximation)

4) If $B \leq 0.6$: $t^* = 2.4\tau_{event}$

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

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

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

5) $t_{event,lifetime} = \frac{t_{event,child} \times ED_c + t_{event,adult} \times ED_a}{ED_c + ED_a}$

RSL_D Derivation

Carcinogens, Mutagens, Trichloroethene, Vinyl Chloride

Inorganic: $RSL_D = \frac{DA_{event} \times CF_{d2}}{K_p \times t_{event,lifetime}}$

Organic (if $t_{event,lifetime} \leq t^*$): $RSL_D = \frac{DA_{event} \times CF_{d2}}{2FA_r \times K_p \times \left(\sqrt{\frac{6\tau_{event} \times t_{event,lifetime}}{\pi}}\right)}$

Organic (if $t_{event,lifetime} > t^*$): $RSL_D = \frac{DA_{event} \times CF_{d2}}{FA_r \times K_p \times \left(\frac{t_{event,lifetime}}{1+B} + (2 \times \tau_{event}) \times \frac{1+3B+3B^2}{(1+B)^2}\right)}$

Noncarcinogen:

Inorganic: $RSL_D = \frac{DA_{event,(child,noncarcinogen)} \times CF_{d2}}{K_p \times t_{event,child}}$

Organic (if $t_{event,child} \leq t^*$): $RSL_D = \frac{DA_{event,(child,noncarcinogen)} \times CF_{d2}}{2FA_r \times K_p \times \left(\sqrt{\frac{6\tau_{event} \times t_{event,child}}{\pi}}\right)}$

Organic (if $t_{event,child} > t^*$): $RSL_D = \frac{DA_{event,(child,noncarcinogen)} \times CF_{d2}}{FA_r \times K_p \times \left(\frac{t_{event,child}}{1+B} + (2 \times \tau_{event}) \times \frac{1+3B+3B^2}{(1+B)^2}\right)}$

Analyte	Mutagen?	MW (*g/mole*)	$LogK_{OW}$ (*dimensionless*)	Kp^a (*cm/hr*)	USEPA τ_{event} (*hr/event*)	DTSC-Modified τ_{event} (*hr/event*)	B (*dimensionless*)	c (*dimensionless*)	b (*dimensionless*)	USEPA t* (*hr*)	DTSC-Modified t* (*hr*)	FA_r (***dimensionless***)	Residential USEPA RSL_D (µg/L)		Residential DTSC-SL_D (µg/L)	
													Carcinogen	Noncarcinogen	Carcinogen	Noncarcinogen
USEPA RSL Analytes																
Acetophenone		120.15	1.58E+00	3.72E-03	4.95E-01	4.95E-01	1.57E-02	3.44E-01	3.13E-01	1.19E+00	1.19E+00	1	--	4.61E+04	--	4.61E+04
Acrylamide	M	71.079	-6.70E-01	2.24E-04	2.63E-01	2.63E-01	7.27E-04	3.34E-01	3.04E-01	6.31E-01	6.31E-01	1	2.26E+01	2.10E+04	2.51E+00	2.10E+04
Acrylonitrile		53.064	2.50E-01	1.16E-03	2.08E-01	2.08E-01	3.24E-03	3.35E-01	3.05E-01	5.00E-01	5.00E-01	1	1.38E+01	8.87E+04	7.47E+00	8.87E+04
Aldrin		364.92	6.50E+00	NRP	1.16E+01	1.16E+01	--	--	--	--	--	1	--	--	--	--
Arsenic, Inorganic		77.946	--	1.00E-03	--	--	--	--	--	--	--	1	9.33E+00	1.36E+03	1.47E+00	1.59E+01
Benzaldehyde		106.13	1.48E+00	3.83E-03	4.13E-01	4.13E-01	1.52E-02	3.44E-01	3.13E-01	9.92E-01	9.92E-01	1	--	4.91E+04	--	4.91E+04
Benzene		78.115	2.13E+00	1.49E-02	2.88E-01	2.88E-01	5.05E-02	3.68E-01	3.35E-01	6.91E-01	6.91E-01	1	9.45E+00	6.06E+02	5.20E+00	6.06E+02
Benzenethiol		110.18	2.52E+00	1.78E-02	4.35E-01	4.35E-01	7.20E-02	3.83E-01	3.49E-01	1.04E+00	1.04E+00	1	--	1.03E+02	--	1.03E+02
Beryllium and compounds		11.028	--	1.00E-03	--	--	--	--	--	--	--	1	--	6.36E+01	--	6.36E+00
Bis(2-chloro-1-methylethyl) ether		171.07	2.48E+00	7.64E-03	9.55E-01	9.55E-01	3.84E-02	3.59E-01	3.27E-01	2.29E+00	2.29E+00	1	--	6.47E+03	--	6.47E+03
Bromodichloromethane		163.83	2.00E+00	4.02E-03	8.70E-01	8.70E-01	1.98E-02	3.47E-01	3.15E-01	2.09E+00	2.09E+00	1	1.78E+01	6.44E+03	8.50E+00	6.44E+03
Bromoform		252.73	2.40E+00	2.35E-03	2.74E+00	2.74E+00	1.44E-02	3.43E-01	3.12E-01	6.57E+00	6.57E+00	1	1.35E+02	6.20E+03	9.69E+01	6.20E+03
Butanol, N-		74.124	8.80E-01	2.31E-03	2.73E-01	2.73E-01	7.65E-03	3.38E-01	3.08E-01	6.56E-01	6.56E-01	1	--	9.99E+04	--	9.99E+04
Butylbenzene, n-		134.22	4.38E+00	NRP	5.94E-01	5.94E-01	--	--	--	--	--	1	--	--	--	--
Butylbenzene, sec-		134.22	4.57E+00	NRP	5.94E-01	5.94E-01	--	--	--	--	--	1	--	--	--	--
Carbon Tetrachloride		153.82	2.83E+00	1.63E-02	7.64E-01	7.64E-01	7.78E-02	3.87E-01	3.52E-01	1.83E+00	1.83E+00	1	4.15E+00	3.39E+02	1.94E+00	3.39E+02
Chloral Hydrate		165.4	9.90E-01	8.41E-04	8.87E-01	8.87E-01	4.16E-03	3.36E-01	3.06E-01	2.13E+00	2.13E+00	1	--	1.52E+05	--	1.52E+05
Chlordane		409.78	6.26E+00	NRP	2.07E+01	2.07E+01	--	--	--	--	--	0.7	--	--	--	--
Chloroacetaldehyde, 2-		78.499	9.00E-02	6.52E-04	2.89E-01	2.89E-01	2.22E-03	3.35E-01	3.05E-01	6.94E-01	6.94E-01	1	4.38E+01	--	4.38E+01	--
Chloroethanol, 2-		80.515	3.00E-02	5.79E-04	2.97E-01	2.97E-01	2.00E-03	3.35E-01	3.05E-01	7.13E-01	7.13E-01	1	--	7.65E+04	--	7.65E+04
Chlorophenol, 2-		128.56	2.15E+00	7.99E-03	5.52E-01	5.52E-01	3.48E-02	3.57E-01	3.25E-01	1.32E+00	1.32E+00	1	--	1.02E+03	--	1.02E+03
Crotonaldehyde, trans-		70.092	6.00E-01	1.59E-03	2.60E-01	2.60E-01	5.11E-03	3.37E-01	3.06E-01	6.23E-01	6.23E-01	1	2.62E+00	1.49E+03	2.62E+00	1.49E+03
Cyanides																
~Cyanogen		52.036	7.00E-02	8.90E-04	2.06E-01	2.06E-01	2.47E-03	3.35E-01	3.05E-01	4.94E-01	4.94E-01	1	--	5.10E+03	--	5.10E+03
~Cyanogen Bromide		105.93	--	2.55E-04	--	--	--	--	--	--	--	1	--	1.60E+06	--	1.60E+06
~Cyanogen Chloride		61.471	--	3.94E-04	--	--	--	--	--	--	--	1	--	5.76E+05	--	5.76E+05
~Thiocyanic Acid		59.09	5.80E-01	1.00E-03	2.25E-01	2.25E-01	2.96E-03	3.35E-01	3.05E-01	5.41E-01	5.41E-01	1	--	9.08E+02	--	9.08E+02
Cyclohexylamine		99.177	1.49E+00	4.25E-03	3.78E-01	3.78E-01	1.63E-02	3.44E-01	3.13E-01	9.07E-01	9.07E-01	1	--	9.24E+04	--	9.24E+04
Dibromochloromethane		208.28	2.16E+00	2.89E-03	1.54E+00	1.54E+00	1.61E-02	3.44E-01	3.13E-01	3.70E+00	3.70E+00	1	1.37E+01	6.72E+03	1.37E+01	6.72E+03
Dibromoethane, 1,2-		187.86	1.96E+00	2.78E-03	1.19E+00	1.19E+00	1.46E-02	3.43E-01	3.12E-01	2.84E+00	2.84E+00	1	6.86E-01	3.60E+03	3.81E-01	3.60E+03
Dichloroethane, 1,1-		98.96	1.79E+00	6.75E-03	3.77E-01	3.77E-01	2.58E-02	3.51E-01	3.19E-01	9.04E-01	9.04E-01	1	1.76E+02	5.83E+04	1.76E+02	5.83E+04
Dichloroethylene, 1,2-cis-		96.944	1.86E+00	7.71E-03	3.67E-01	3.67E-01	2.92E-02	3.53E-01	3.21E-01	8.81E-01	8.81E-01	1	--	5.17E+02	--	5.17E+02
Dichloroethylene, 1,2-trans-		96.944	2.09E+00	1.10E-02	3.67E-01	3.67E-01	4.15E-02	3.62E-01	3.29E-01	8.81E-01	8.81E-01	1	--	3.64E+03	--	3.64E+03
Dichloropropane, 1,3-		112.99	2.00E+00	7.76E-03	4.51E-01	4.51E-01	3.17E-02	3.55E-01	3.23E-01	1.08E+00	1.08E+00	1	--	4.63E+03	--	4.63E+03
Diethylformamide		101.15	5.00E-02	4.58E-04	3.88E-01	3.88E-01	1.77E-03	3.35E-01	3.04E-01	9.30E-01	9.30E-01	1	--	4.24E+03	--	4.24E+03
Diisopropyl Methylphosphonate		180.19	1.03E+00	7.38E-04	1.07E+00	1.07E+00	3.81E-03	3.36E-01	3.06E-01	2.58E+00	2.58E+00	1	--	1.26E+05	--	1.26E+05
Dimethylaniline, N,N-		121.18	2.31E+00	1.12E-02	5.02E-01	5.02E-01	4.75E-02	3.66E-01	3.33E-01	1.20E+00	1.20E+00	1	--	3.04E+02	--	3.04E+02
Dithiane, 1,4-		120.24	7.70E-01	1.08E-03	4.96E-01	4.96E-01	4.54E-03	3.36E-01	3.06E-01	1.19E+00	1.19E+00	1	--	1.59E+04	--	1.59E+04
Endosulfan		406.93	3.83E+00	2.86E-03	2.00E+01	2.00E+01	2.22E-02	3.48E-01	3.17E-01	4.80E+01	4.80E+01	0.9	--	6.29E+02	--	6.29E+02
Epichlorohydrin		92.526	4.50E-01	9.44E-04	3.47E-01	3.47E-01	3.49E-03	3.36E-01	3.05E-01	8.32E-01	8.32E-01	1	7.54E+02	1.30E+04	9.33E+01	1.30E+04
Ethyl Ether		74.124	8.90E-01	2.35E-03	2.73E-01	2.73E-01	7.77E-03	3.39E-01	3.08E-01	6.56E-01	6.56E-01	1	--	1.97E+05	--	1.97E+05
Ethylene Diamine		60.099	-2.04E+00	NRP	2.28E-01	2.28E-01	--	--	--	--	--	1	--	--	--	--
Furans																

Table B-5. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed Dermally during Domestic Use of Tap Water

Definition	Variable	USEPA Value	DTSC Value	Units
Relative contribution of permeability coefficients in stratum corneum and viable epidermis	B	Calculated (Equation 3)		dimensionless
Correlation coefficient	b	Calculated (Equation 4)		dimensionless
Correlation coefficient	c	Calculated (Equation 4)		dimensionless
Conversion factor, dermal	CF_{d2}	1000	1000	cm^3/L
Effective diffusion coefficient, through the stratum corneum	D_{sc}	Calculated (Equation 2)		cm^2/hr
Dose absorbed per unit area per event	DA_{event}	Calculated		$\mu g/cm^2$-event
Exposure Duration, adult	ED_a	20	20	yrs
Exposure Duration, child	ED_c	6	6	yrs
Fraction Absorbed, resident	FA_r	Chemical-specific		dimensionless
Permeability coefficient from water (organics only)	K_p	Calculated (Equation 1)		cm/hr
Octanol:water partition coefficient	K_{ow}	Chemical-specific		dimensionless
Thickness of the strateum corneum	l_{sc}	0.001	0.001	cm
Molecular weight	MW	Chemical-specific		g/mole
(Regional) Screening Level, dermal	$(R)SL_D$	derived herein		µg/L
Lag time per event	τ_{event}	Calculated (Equation 2)		hr/event
Time it takes to reach steady state	t*	Calculated (Equation 4)		hr
Duration of event, child	$t_{event,child}$	0.54	0.54	hr/event
Duration of event, adult	$t_{event,adult}$	0.71	0.71	hr/event
Duration of event, adjusted lifetime	$t_{event,lifetime}$	Calculated (Equation 4)		hr/event

1) $K_p = 10^{(-2.805063+0.6645865 Log K_{OW} - 0.0056118 MW)}$

2) $\tau_{event} = \frac{(l_{sc})^2}{6 D_{sc}}$

where: $D_{sc} = l_{sc} \times 10^{(-2.8-0.0056 MW)}$

3) $B = K_p \frac{\sqrt{MW}}{2.6}$ (as an approximation)

4) If $B \leq 0.6$: $t^* = 2.4\tau_{event}$

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

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

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

5) $t_{event,lifetime} = \frac{t_{event,child} \times ED_c + t_{event,adult} \times ED_a}{ED_c + ED_a}$

RSL_D Derivation

Carcinogens, Mutagens, Trichloroethene, Vinyl Chloride

Inorganic: $RSL_D = \frac{DA_{event} \times CF_{d2}}{K_p \times t_{event,lifetime}}$

Organic (if $t_{event,lifetime} \leq t^*$): $RSL_D = \frac{DA_{event} \times CF_{d2}}{2FA_r \times K_p \times \left(\sqrt{\frac{6\tau_{event} \times t_{event,lifetime}}{\pi}}\right)}$

Organic (if $t_{event,lifetime} > t^*$): $RSL_D = \frac{DA_{event} \times CF_{d2}}{FA_r \times K_p \times \left(\frac{t_{event,lifetime}}{1+B} + (2 \times \tau_{event}) \times \frac{1 + 3B + 3B^2}{(1+B)^2}\right)}$

Noncarcinogen:

Inorganic: $RSL_D = \frac{DA_{event,(child,noncarcinogen)} \times CF_{d2}}{K_p \times t_{event,child}}$

Organic (if $t_{event,child} \leq t^*$): $RSL_D = \frac{DA_{event,(child,noncarcinogen)} \times CF_{d2}}{2FA_r \times K_p \times \left(\sqrt{\frac{6\tau_{event} \times t_{event,child}}{\pi}}\right)}$

Organic (if $t_{event,child} > t^*$): $RSL_D = \frac{DA_{event,(child,noncarcinogen)} \times CF_{d2}}{FA_r \times K_p \times \left(\frac{t_{event,child}}{1+B} + (2 \times \tau_{event}) \times \frac{1 + 3B + 3B^2}{(1+B)^2}\right)}$

Analyte	Mutagen?	MW (*g/mole*)	$LogK_{OW}$ (*dimensionless*)	Kp^a (*cm/hr*)	USEPA τ_{event} (*hr/event*)	DTSC-Modified τ_{event} (*hr/event*)	B (*dimensionless*)	c (*dimensionless*)	b (*dimensionless*)	USEPA t* (*hr*)	DTSC-Modified t* (*hr*)	FA_r (***dimensionless***)	Residential USEPA RSL_D (µg/L)		Residential DTSC-SL_D (µg/L)	
													Carcinogen	Noncarcinogen	Carcinogen	Noncarcinogen
~Furan		68.076	1.34E+00	5.05E-03	2.53E-01	2.53E-01	1.60E-02	3.44E-01	3.13E-01	6.07E-01	6.07E-01	1	--	4.75E+02	--	4.75E+02
Guanidine		59.071	-1.63E+00	6.03E-05	2.25E-01	2.25E-01	1.78E-04	3.33E-01	3.03E-01	5.41E-01	5.41E-01	1	--	4.22E+05	--	4.22E+05
Hexabromobenzene		551.49	6.07E+00	NRP	1.29E+02	1.29E+02	--	--	--	--	--	0.7	--	--	--	--
Hexachlorobenzene		284.78	5.73E+00	NRP	4.14E+00	4.14E+00	--	--	--	--	--	0.9	--	--	--	--
Hexachlorocyclohexane, Gamma- (Lindane)		290.83	3.72E+00	1.08E-02	4.47E+00	4.47E+00	7.11E-02	3.82E-01	3.48E-01	1.07E+01	1.07E+01	0.9	1.83E-01	1.76E+01	1.83E-01	1.76E+01
Isobutyl Alcohol		74.124	7.60E-01	1.92E-03	2.73E-01	2.73E-01	6.37E-03	3.38E-01	3.07E-01	6.56E-01	6.56E-01	1	--	3.60E+05	--	3.60E+05
Lead Compounds																
~Lead subacetate		805.67	-4.00E+00	NRP	3.42E+03	3.42E+03	--	--	--	--	--	1	--	--	--	--
Lewisite		207.32	2.56E+00	5.41E-03	1.52E+00	1.52E+00	2.99E-02	3.54E-01	3.22E-01	3.66E+00	3.66E+00	1	--	9.05E-01	--	9.05E-01
Mercury Compounds																
~Mercury (elemental)		200.59	6.20E-01	1.00E-03	1.40E+00	1.40E+00	5.45E-03	3.37E-01	3.07E-01	3.35E+00	3.35E+00	1	--	--	--	1.63E+02
Merphos		298.51	7.67E+00	NRP	4.94E+00	4.94E+00	--	--	--	--	--	0.3	--	--	--	--
Methyl Acetate		74.08	1.80E-01	7.92E-04	2.73E-01	2.73E-01	2.62E-03	3.35E-01	3.05E-01	6.56E-01	6.56E-01	1	--	2.92E+06	--	2.92E+06
Methylene Chloride	M	84.933	1.25E+00	3.54E-03	3.14E-01	3.14E-01	1.25E-02	3.42E-01	3.11E-01	7.55E-01	7.55E-01	1	3.38E+02	3.65E+03	4.82E+01	3.65E+03
Methylene-bis(2-chloroaniline), 4,4'-	M	267.16	3.91E+00	1.97E-02	3.30E+00	3.30E+00	1.24E-01	4.20E-01	3.84E-01	7.91E+00	7.91E+00	0.9	4.17E-01	7.51E+01	2.78E-02	7.51E+01
Mineral oils		170.34	6.10E+00	NRP	9.46E-01	9.46E-01	--	--	--	--	--	1	--	--	--	--
Mirex		545.55	6.89E+00	NRP	1.19E+02	1.19E+02	--	--	--	--	--	0.5	--	--	--	--
Naled		380.79	1.38E+00	9.44E-05	1.43E+01	1.43E+01	7.09E-04	3.34E-01	3.04E-01	3.42E+01	3.42E+01	1	--	6.77E+03	--	6.77E+03
Nitrotoluene, o-		137.14	2.30E+00	8.99E-03	6.16E-01	6.16E-01	4.05E-02	3.61E-01	3.28E-01	1.48E+00	1.48E+00	1	2.67E+00	1.54E+02	2.67E+00	1.54E+02
Pentabromodiphenyl Ether		564.69	6.84E+00	NRP	1.53E+02	1.53E+02	--	--	--	--	--	0.6	--	--	--	--
Pentachloroethane		202.3	3.22E+00	1.58E-02	1.43E+00	1.43E+00	8.66E-02	3.93E-01	3.58E-01	3.43E+00	3.43E+00	1	2.43E+00	--	2.43E+00	--
Perfluorobutane Sulfonate		300.1	2.41E+00	1.30E-03	5.04E+00	5.04E+00	8.63E-03	3.39E-01	3.09E-01	1.21E+01	1.21E+01	1	--	8.30E+03	--	8.30E+03
Phosphorus, White		33.998	3.08E+00	1.00E-03	1.63E-01	1.63E-01	2.24E-03	3.35E-01	3.05E-01	3.91E-01	3.91E-01	1	--	9.08E+01	--	9.08E+01
Phthalates																
~Dimethylterephthalate		194.19	2.25E+00	3.99E-03	1.29E+00	1.29E+00	2.14E-02	3.48E-01	3.16E-01	3.09E+00	3.09E+00	1	--	2.67E+04	--	2.67E+04
Polychlorinated Biphenyls (PCBs)																
~Aroclor 1016		549.54	5.69E+00	NRP	1.26E+02	1.26E+02	--	--	--	--	--	0	--	--	--	--
~Aroclor 1254		326.44	6.50E+00	NRP	7.08E+00	7.08E+00	--	--	--	--	--	0.5	--	--	--	--
~Aroclor 5460		291.99	6.34E+00	NRP	4.54E+00	4.54E+00	--	--	--	--	--	0.7	--	--	--	--
Propargyl Alcohol		56.065	-3.80E-01	4.24E-04	2.17E-01	2.17E-01	1.22E-03	3.34E-01	3.04E-01	5.20E-01	5.20E-01	1	--	1.19E+04	--	1.19E+04
Pyridine		79.102	6.50E-01	1.52E-03	2.92E-01	2.92E-01	5.21E-03	3.37E-01	3.06E-01	7.00E-01	7.00E-01	1	--	1.47E+03	--	1.47E+03
Tetrachloroethane, 1,1,2,2-		167.85	2.39E+00	6.94E-03	9.16E-01	9.16E-01	3.46E-02	3.57E-01	3.25E-01	2.20E+00	2.20E+00	1	3.12E+00	3.64E+03	2.31E+00	3.64E+03
Tetrachloroethylene		165.83	3.40E+00	3.34E-02	8.92E-01	8.92E-01	1.65E-01	4.51E-01	4.13E-01	2.14E+00	2.14E+00	1	6.26E+01	2.30E+02	2.43E-01	2.30E+02
Trichloroethane, 1,1,1-		133.41	2.49E+00	1.26E-02	5.87E-01	5.87E-01	5.61E-02	3.72E-01	3.38E-01	1.41E+00	1.41E+00	1	--	2.50E+05	--	2.50E+05
Trichlorofluoromethane		137.37	2.53E+00	1.27E-02	6.18E-01	6.18E-01	5.75E-02	3.73E-01	3.39E-01	1.48E+00	1.48E+00	1	--	3.61E+04	--	3.61E+04
Trichlorophenol, 2,4,6-		197.45	3.69E+00	3.46E-02	1.34E+00	1.34E+00	1.87E-01	4.68E-01	4.29E-01	3.22E+00	3.22E+00	1	9.40E+00	3.01E+01	1.48E+00	3.01E+01
Trichloropropane, 1,1,2-		147.43	2.43E+00	9.61E-03	7.04E-01	7.04E-01	4.49E-02	3.64E-01	3.31E-01	1.69E+00	1.69E+00	1	--	7.49E+02	--	7.49E+02
Trichloropropane, 1,2,3-	M	147.43	2.27E+00	7.52E-03	7.04E-01	7.04E-01	3.51E-02	3.57E-01	3.25E-01	1.69E+00	1.69E+00	1	7.08E-03	7.66E+02	7.08E-03	7.66E+02
Additional Analytes																
Beryllium Sulfate		105.07	--	1.00E-03	--	--	--	--	--	--	--	1	--	6.36E+01	--	6.36E+00
Dichlorobenzene, 1,3-		147	3.53E+00	5.20E-02	7.00E-01	7.00E-01	2.42E-01	5.11E-01	4.72E-01	1.68E+00	1.68E+00	1	--	--	--	8.33E+02
Methylcyclohexane		98.19	3.61E+00	1.10E-01	3.73E-01	3.73E-01	4.21E-01	6.55E-01	6.30E-01	8.95E-01	8.95E-01	1	--	--	--	--

[a] NRP = Not reliably predicted; the compound's chemical properties fall outside the Effective Prediction Domain for Kp (Equations 3.9 and 3.10; USEPA, 2004a).

"--" = no value

Table B-6. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed via Inhalation to Volatile Compounds during Domestic Use of Water

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
Carcinogenic Adjustment Factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Mutagenic Adjustment Factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		µg/L
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	dimensionless
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Volatilization Factor	VF	0.5	0.5	L/m^3

Risk and Hazard Equations

Cancer Risk:

Carcinogens:

$$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ED_r \times ET_r \times VF}$$

Mutagens:

$$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left(\begin{matrix} ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26} \end{matrix}\right) \times VF}$$

Trichloroethene:

$$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ET_r \times VF \times \left\{[CAF_I \times ED_r \times EF_r] + \left[MAF_I \times \left(\begin{matrix} ED_{0-2} \times EF_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ADAF_{2-6} \\ +ED_{6-16} \times EF_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ADAF_{16-26} \end{matrix}\right)\right]\right\}}$$

Vinyl Chloride:

$$RSL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times VF}{AT_c \times 365\frac{days}{year}}\right) + (IUR \times VF)}$$

Noncancer Hazard:

$$RSL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times VF}$$

		USEPA Regional Screening Level for Inhalation Exposure to Residential Tap Water (USEPA RSL_{inh})				DTSC Screening Level for Inhalation Exposure to Residential Tap Water (DTSC-SL_{inh})			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**USEPA RSL_{inh}: Noncancer** (µg/L)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**DTSC-SL_{inh}: Noncancer** (µg/L)
USEPA RSL Analytes									
Acetophenone		--	--	--	--	--	--	4.00E+02	8.34E+02
Acrylonitrile		6.80E-05	8.26E-02	2.00E+00	4.17E+00	2.90E-04	1.94E-02	5.00E+00	1.04E+01
Aldrin		4.90E-03	1.15E-03	--	--	4.90E-03	1.15E-03	1.20E-01	2.50E-01
Benzaldehyde		--	--	--	--	--	--	4.00E+02	8.34E+02
Benzene		7.80E-06	7.20E-01	3.00E+01	6.26E+01	2.90E-05	1.94E-01	3.00E+00	6.26E+00
Benzenethiol		--	--	--	--	--	--	4.00E+00	8.34E+00
Bis(2-chloro-1-methylethyl) ether		--	--	--	--	--	--	1.60E+02	3.34E+02
Bromodichloromethane		3.70E-05	1.52E-01	--	--	3.70E-05	1.52E-01	8.00E+01	1.67E+02
Bromoform		1.10E-06	5.10E+00	--	--	1.10E-06	5.10E+00	8.00E+01	1.67E+02
Butanol, N-		--	--	--	--	--	--	4.00E+02	8.34E+02
Butylbenzene, n-		--	--	--	--	--	--	2.00E+02	4.17E+02
Butylbenzene, sec-		--	--	--	--	--	--	4.00E+02	8.34E+02
Carbon Tetrachloride		6.00E-06	9.36E-01	1.00E+02	2.09E+02	4.20E-05	1.34E-01	4.00E+01	8.34E+01
Chloral Hydrate		--	--	--	--	--	--	4.00E+02	8.34E+02
Chlordane		1.00E-04	5.62E-02	7.00E-01	1.46E+00	3.40E-04	1.65E-02	7.00E-01	1.46E+00
Chloroacetaldehyde, 2-		--	--	--	--	6.75E-05	8.32E-02	--	--

Table B-6. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed via Inhalation to Volatile Compounds during Domestic Use of Water

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ED_r \times ET_r \times VF}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless	
Averaging Time, carcinogens	AT_c	70	70	yrs	Mutagens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left(\begin{matrix}ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26}\end{matrix}\right) \times VF}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Carcinogenic Adjustment Factor, inhalation	CAF_I	0.756	0.756	dimensionless	
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	Trichloroethene:
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ET_r \times VF \times \left\{[CAF_I \times ED_r \times EF_r] + \left[MAF_I \times \left(\begin{matrix}ED_{0-2} \times EF_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ADAF_{2-6} \\ +ED_{6-16} \times EF_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ADAF_{16-26}\end{matrix}\right)\right]\right\}}$
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, child	ED_c	6	6	yrs	
Exposure Duration, resident	ED_r	26	26	yrs	
Exposure Frequency, resident	EF_r	350	350	days/yr	Vinyl Chloride:
Exposure Time, resident	ET_r	24	24	hours/day	$RSL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times VF}{AT_c \times 365\frac{days}{year}}\right) + (IUR \times VF)}$
Mutagenic Adjustment Factor, inhalation	MAF_I	0.244	0.244	dimensionless	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		µg/L	
Target Hazard Quotient	THQ	1	1	dimensionless	Noncancer Hazard:
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	$RSL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times VF}$
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Volatilization Factor	VF	0.5	0.5	L/m^3	

		USEPA Regional Screening Level for Inhalation Exposure to Residential Tap Water (USEPA RSL_{inh})				DTSC Screening Level for Inhalation Exposure to Residential Tap Water (DTSC-SL_{inh})			
		IUR	USEPA RSL_{inh}: Cancer	RfC	USEPA RSL_{inh}: Noncancer	IUR	DTSC-SL_{inh}: Cancer	RfC	DTSC-SL_{inh}: Noncancer
Analyte	**Mutagen?**	$(\mu g/m^3)^{-1}$	(µg/L)	(µg/m^3)	(µg/L)	$(\mu g/m^3)^{-1}$	(µg/L)	(µg/m^3)	(µg/L)
Chloroethanol, 2-		--	--	--	--	--	--	8.00E+01	1.67E+02
Chlorophenol, 2-		--	--	--	--	--	--	2.00E+01	4.17E+01
Crotonaldehyde, trans-		--	--	--	--	4.75E-04	1.18E-02	4.00E+00	8.34E+00
~Cyanogen		--	--	--	--	--	--	4.00E+00	8.34E+00
~Cyanogen Bromide		--	--	--	--	--	--	3.60E+02	7.51E+02
~Cyanogen Chloride		--	--	--	--	--	--	2.00E+02	4.17E+02
~Thiocyanic Acid		--	--	--	--	--	--	8.00E-01	1.67E+00
Cyclohexylamine		--	--	--	--	--	--	8.00E+02	1.67E+03
Dibromochloromethane		--	--	--	--	2.10E-05	2.67E-01	8.00E+01	1.67E+02
Dibromoethane, 1,2-		6.00E-04	9.36E-03	9.00E+00	1.88E+01	7.10E-05	7.91E-02	8.00E-01	1.67E+00
Dichloroethane, 1,1-		1.60E-06	3.51E+00	--	--	1.60E-06	3.51E+00	8.00E+02	1.67E+03
Dichloroethylene, 1,2-cis-		--	--	--	--	--	--	8.00E+00	1.67E+01
Dichloroethylene, 1,2-trans-		--	--	--	--	--	--	8.00E+01	1.67E+02
Dichloropropane, 1,3-		--	--	--	--	--	--	8.00E+01	1.67E+02
Diethylformamide		--	--	--	--	--	--	4.00E+00	8.34E+00
Diisopropyl Methylphosphonate		--	--	--	--	--	--	3.20E+02	6.67E+02
Dimethylaniline, N,N-		--	--	--	--	--	--	8.00E+00	1.67E+01

Table B-6. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed via Inhalation to Volatile Compounds during Domestic Use of Water

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ED_r \times ET_r \times VF}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless	
Averaging Time, carcinogens	AT_c	70	70	yrs	Mutagens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left(\begin{matrix}ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26}\end{matrix}\right) \times VF}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Carcinogenic Adjustment Factor, inhalation	CAF_I	0.756	0.756	dimensionless	
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	Trichloroethene:
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ET_r \times VF \times \left\{[CAF_I \times ED_r \times EF_r] + \left[MAF_I \times \left(\begin{matrix}ED_{0-2} \times EF_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ADAF_{2-6} \\ +ED_{6-16} \times EF_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ADAF_{16-26}\end{matrix}\right)\right]\right\}}$
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, child	ED_c	6	6	yrs	
Exposure Duration, resident	ED_r	26	26	yrs	
Exposure Frequency, resident	EF_r	350	350	days/yr	Vinyl Chloride: $RSL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times VF}{AT_c \times 365\frac{days}{year}}\right) + (IUR \times VF)}$
Exposure Time, resident	ET_r	24	24	hours/day	
Mutagenic Adjustment Factor, inhalation	MAF_I	0.244	0.244	dimensionless	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		µg/L	
Target Hazard Quotient	THQ	1	1	dimensionless	Noncancer Hazard: $RSL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times VF}$
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Volatilization Factor	VF	0.5	0.5	L/m^3	

		USEPA Regional Screening Level for Inhalation Exposure to Residential Tap Water (USEPA RSL_{inh})				DTSC Screening Level for Inhalation Exposure to Residential Tap Water (DTSC-SL_{inh})			
Analyte	**Mutagen?**	**IUR** ($\mu g/m^3)^{-1}$	**USEPA RSL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**USEPA RSL_{inh}: Noncancer** (µg/L)	**IUR** ($\mu g/m^3)^{-1}$	**DTSC-SL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**DTSC-SL_{inh}: Noncancer** (µg/L)
Dithiane, 1,4-		--	--	--	--	--	--	4.00E+01	8.34E+01
Endosulfan		--	--	--	--	--	--	2.40E+01	5.01E+01
Epichlorohydrin		1.20E-06	4.68E+00	1.00E+00	2.09E+00	2.30E-05	2.44E-01	3.00E+00	6.26E+00
Ethyl Ether		--	--	--	--	--	--	8.00E+02	1.67E+03
Ethylene Diamine		--	--	--	--	--	--	3.60E+02	7.51E+02
~Furan		--	--	--	--	--	--	4.00E+00	8.34E+00
Guanidine		--	--	--	--	--	--	4.00E+01	8.34E+01
Hexabromobenzene		--	--	--	--	--	--	8.00E+00	1.67E+01
Hexachlorobenzene		4.60E-04	1.22E-02	--	--	5.10E-04	1.10E-02	3.20E+00	6.67E+00
Hexachlorocyclohexane, Gamma- (Lindane		3.10E-04	not as a volatile	--	--	3.10E-04	1.81E-02	1.20E+00	2.50E+00
Isobutyl Alcohol		--	--	--	--	--	--	1.20E+03	2.50E+03
Lewisite		--	--	--	--	--	--	2.00E-02	4.17E-02
~Mercury (elemental)		--	--	3.00E-01	6.26E-01	--	--	3.00E-02	6.26E-02
Merphos		--	--	--	--	--	--	1.20E-01	2.50E-01
Methyl Acetate		--	--	--	--	--	--	4.00E+03	8.34E+03
Methylene Chloride	M	1.00E-08	2.03E+02	6.00E+02	1.25E+03	1.00E-06	2.03E+00	4.00E+02	8.34E+02
Mineral oils		--	--	--	--	--	--	1.20E+04	2.50E+04

Table B-6. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed via Inhalation to Volatile Compounds during Domestic Use of Water

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ED_r \times ET_r \times VF}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless	
Averaging Time, carcinogens	AT_c	70	70	yrs	Mutagens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left(\begin{matrix}ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26}\end{matrix}\right) \times VF}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Carcinogenic Adjustment Factor, inhalation	CAF_I	0.756	0.756	dimensionless	
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	Trichloroethene:
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ET_r \times VF \times \left\{[CAF_I \times ED_r \times EF_r] + \left[MAF_I \times \left(\begin{matrix}ED_{0-2} \times EF_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ADAF_{2-6} \\ +ED_{6-16} \times EF_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ADAF_{16-26}\end{matrix}\right)\right]\right\}}$
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, child	ED_c	6	6	yrs	
Exposure Duration, resident	ED_r	26	26	yrs	
Exposure Frequency, resident	EF_r	350	350	days/yr	Vinyl Chloride:
Exposure Time, resident	ET_r	24	24	hours/day	$RSL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times VF}{AT_c \times 365\frac{days}{year}}\right) + (IUR \times VF)}$
Mutagenic Adjustment Factor, inhalation	MAF_I	0.244	0.244	dimensionless	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		µg/L	
Target Hazard Quotient	THQ	1	1	dimensionless	Noncancer Hazard:
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	$RSL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times VF}$
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(µg/m^3)^{-1}$	
Volatilization Factor	VF	0.5	0.5	L/m^3	

		USEPA Regional Screening Level for Inhalation Exposure to Residential Tap Water (USEPA RSL_{inh})				DTSC Screening Level for Inhalation Exposure to Residential Tap Water (DTSC-SL_{inh})			
Analyte	**Mutagen?**	**IUR** $(µg/m^3)^{-1}$	**USEPA RSL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**USEPA RSL_{inh}: Noncancer** (µg/L)	**IUR** $(µg/m^3)^{-1}$	**DTSC-SL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**DTSC-SL_{inh}: Noncancer** (µg/L)
Mirex		5.10E-03	1.10E-03	--	--	5.10E-03	1.10E-03	8.00E-01	1.67E+00
Naled		--	--	--	--	--	--	8.00E+00	1.67E+01
Nitrotoluene, o-		--	--	--	--	5.50E-05	1.02E-01	3.60E+00	7.51E+00
Pentabromodiphenyl Ether		--	--	--	--	--	--	8.00E+00	1.67E+01
Pentachloroethane		--	--	--	--	2.25E-05	2.50E-01	--	--
Perfluorobutane Sulfonate		--	--	--	--	--	--	8.00E+01	1.67E+02
Phosphorus, White		--	--	--	--	--	--	8.00E-02	1.67E-01
~Dimethylterephthalate		--	--	--	--	--	--	4.00E+02	8.34E+02
~Aroclor 1016		2.00E-05	2.81E-01	--	--	2.00E-05	2.81E-01	2.80E-01	5.84E-01
~Aroclor 1254		5.71E-04	9.83E-03	--	--	5.70E-04	9.85E-03	8.00E-02	1.67E-01
~Aroclor 5460		--	--	--	--	--	--	2.40E+00	5.01E+00
Propargyl Alcohol		--	--	--	--	--	--	8.00E+00	1.67E+01
Pyridine		--	--	--	--	--	--	4.00E+00	8.34E+00
Tetrachloroethane, 1,1,2,2-		5.80E-05	9.68E-02	--	--	5.80E-05	9.68E-02	8.00E+01	1.67E+02
Tetrachloroethylene		2.60E-07	2.16E+01	4.00E+01	8.34E+01	5.90E-06	9.52E-01	3.50E+01	7.30E+01
Trichloroethane, 1,1,1-		--	--	5.00E+03	1.04E+04	--	--	1.00E+03	2.09E+03
Trichlorofluoromethane		--	--	--	--	--	--	1.20E+03	2.50E+03

Table B-6. USEPA RSLs and DTSC-SLs for a Residential Receptor Exposed via Inhalation to Volatile Compounds during Domestic Use of Water

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless	Cancer Risk:
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless	Carcinogens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ED_r \times ET_r \times VF}$
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless	
Age-dependent Adjustment Factor, 16-26	$ADAF_{16-26}$	1	1	dimensionless	
Averaging Time, carcinogens	AT_c	70	70	yrs	Mutagens: $RSL_{inh} = \frac{TR \times AT_c \times 365\frac{days}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left(\begin{matrix}ED_{0-2} \times IUR \times ADAF_{0-2} + ED_{2-6} \times IUR \times ADAF_{2-6} + \\ ED_{6-16} \times IUR \times ADAF_{6-16} + ED_{16-26} \times IUR \times ADAF_{16-26}\end{matrix}\right) \times VF}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs	
Carcinogenic Adjustment Factor, inhalation	CAF_I	0.756	0.756	dimensionless	
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs	Trichloroethene:
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs	
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs	$RSL_{inh} = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ET_r \times VF \times \left\{[CAF_I \times ED_r \times EF_r] + \left[MAF_I \times \left(\begin{matrix}ED_{0-2} \times EF_r \times ADAF_{0-2} + ED_{2-6} \times EF_r \times ADAF_{2-6} \\ +ED_{6-16} \times EF_r \times ADAF_{6-16} + ED_{16-26} \times EF_r \times ADAF_{16-26}\end{matrix}\right)\right]\right\}}$
Exposure Duration, adult 16-26	ED_{16-26}	10	10	yrs	
Exposure Duration, child	ED_c	6	6	yrs	
Exposure Duration, resident	ED_r	26	26	yrs	
Exposure Frequency, resident	EF_r	350	350	days/yr	Vinyl Chloride:
Exposure Time, resident	ET_r	24	24	hours/day	$RSL_{inh} = \frac{TR}{\left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour} \times VF}{AT_c \times 365\frac{days}{year}}\right) + (IUR \times VF)}$
Mutagenic Adjustment Factor, inhalation	MAF_I	0.244	0.244	dimensionless	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	
(Regional) Screening Level, inhalation	$(R)SL_{inh}$	derived herein		µg/L	
Target Hazard Quotient	THQ	1	1	dimensionless	Noncancer Hazard:
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	$RSL_{inh} = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ED_c \times ET_r \times \frac{1}{RfC} \times VF}$
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Volatilization Factor	VF	0.5	0.5	L/m^3	

		USEPA Regional Screening Level for Inhalation Exposure to Residential Tap Water (USEPA RSL_{inh})				DTSC Screening Level for Inhalation Exposure to Residential Tap Water (DTSC-SL_{inh})			
Analyte	**Mutagen?**	**IUR** ($\mu g/m^3)^{-1}$	**USEPA RSL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**USEPA RSL_{inh}: Noncancer** (µg/L)	**IUR** ($\mu g/m^3)^{-1}$	**DTSC-SL_{inh}: Cancer** (µg/L)	**RfC** (µg/m^3)	**DTSC-SL_{inh}: Noncancer** (µg/L)
Trichloropropane, 1,1,2-		--	--	--	--	--	--	2.00E+01	4.17E+01
Trichloropropane, 1,2,3-	M	--	--	3.00E-01	6.26E-01	7.50E-03	2.70E-04	3.00E-01	6.26E-01
Additional Analytes									
Dichlorobenzene, 1,3-		--	--	--	--	--	--	1.20E+02	2.50E+02
Methylcyclohexane		--	--	--	--	--	--	6.00E+03	1.25E+04

"--" = no value

Table C-1. Air Screening Levels for Analytes with at least one DTSC-SL

Analyte	CAS #	Toxicity Factor for Final Screening Value: Inhalation Unit Risk, IUR ($\mu g/m^3)^{-1}$	Source	Reference Concentration, RfC or REL ($\mu g/m^3$)	Source	Screening Levels for Residential Air ($\mu g/m^3$): Cancer Endpoint: USEPA RSL	DTSC-SL	Final Value	Source	Noncancer Endpoint: USEPA RSL	DTSC-SL	Final Value	Source	Screening Levels for Commercial/Industrial Air ($\mu g/m^3$): Cancer Endpoint: USEPA RSL	DTSC-SL	Final Value	Source	Noncancer Endpoint: USEPA RSL	DTSC-SL	Final Value	Source
USEPA RSL Analytes																					
Acetaldehyde	75-07-0	2.7E-06	OEHHA	9.0E+00	IRIS	1.28E+00	1.04E+00	1.0E+00	DTSC	9.39E+00	9.39E+00	9.4E+00	USEPA	5.57E+00	4.54E+00	4.5E+00	DTSC	3.94E+01	3.94E+01	3.9E+01	USEPA
Acetophenone	98-86-2	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Acrylamide	79-06-1	1.3E-03	OEHHA	6.0E+00	IRIS	1.01E-02	7.80E-04	7.8E-04	DTSC	6.26E+00	6.26E+00	6.3E+00	USEPA	1.23E-01	9.43E-03	9.4E-03	DTSC	2.63E+01	2.63E+01	2.6E+01	USEPA
Acrylonitrile	107-13-1	2.9E-04	OEHHA	2.0E+00	IRIS	4.13E-02	9.68E-03	9.7E-03	DTSC	2.09E+00	2.09E+00	2.1E+00	USEPA	1.80E-01	4.23E-02	4.2E-02	DTSC	8.76E+00	8.76E+00	8.8E+00	USEPA
Aldrin	309-00-2	4.9E-03	IRIS	1.2E-01	Route	5.73E-04	5.73E-04	5.7E-04	USEPA	--	1.25E-01	1.3E-01	DTSC	2.50E-03	2.50E-03	2.5E-03	USEPA	--	5.26E-01	5.3E-01	DTSC
Arsine	7784-42-1	--	--	1.5E-02	OEHHA	--	--	--	--	5.21E-02	1.56E-02	1.6E-02	DTSC	--	--	--	--	2.19E-01	6.57E-02	6.6E-02	DTSC
Benfluralin	1861-40-1	--	--	1.2E+03	Route	--	--	--	--	--	1.25E+03	1.3E+03	DTSC	--	--	--	--	--	5.26E+03	5.3E+03	DTSC
Benzaldehyde	100-52-7	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Benzene	71-43-2	2.9E-05	OEHHA	3.0E+00	OEHHA	3.60E-01	9.68E-02	9.7E-02	DTSC	3.13E+01	3.13E+00	3.1E+00	DTSC	1.57E+00	4.23E-01	4.2E-01	DTSC	1.31E+02	1.31E+01	1.3E+01	DTSC
Benzenethiol	108-98-5	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
Benzidine	92-87-5	1.4E-01	OEHHA	--	--	1.51E-05	7.24E-06	7.2E-06	DTSC	--	--	--	--	1.83E-04	8.76E-05	8.8E-05	DTSC	--	--	--	--
Benzotrichloride	98-07-7	3.3E-03	Route	--	--	--	8.64E-04	8.6E-04	DTSC	--	--	--	--	--	3.77E-03	3.8E-03	DTSC	--	--	--	--
Beryllium and compounds	7440-41-7	2.4E-03	IRIS	7.0E-03	OEHHA	1.17E-03	1.17E-03	1.2E-03	USEPA	2.09E-02	7.30E-03	7.3E-03	DTSC	5.11E-03	5.11E-03	5.1E-03	USEPA	8.76E-02	3.07E-02	3.1E-02	DTSC
Biphenyl, 1,1'-	92-52-4	2.0E-06	Route	4.0E-01	Screening PPRTV	--	1.40E+00	1.4E+00	DTSC	4.17E-01	4.17E-01	4.2E-01	USEPA	--	6.13E+00	6.1E+00	DTSC	1.75E+00	1.75E+00	1.8E+00	USEPA
Bis(2-chloro-1-methylethyl) ether	108-60-1	--	--	1.6E+02	Route	--	--	--	--	--	1.67E+02	1.7E+02	DTSC	--	--	--	--	--	7.01E+02	7.0E+02	DTSC
Bis(2-chloroethyl)ether	111-44-4	7.1E-04	OEHHA	--	--	8.51E-03	3.95E-03	4.0E-03	DTSC	--	--	--	--	3.72E-02	1.73E-02	1.7E-02	DTSC	--	--	--	--
Boron Trifluoride	7637-07-2	--	--	7.0E-01	HEAST	--	--	--	--	1.36E+01	7.30E-01	7.3E-01	DTSC	--	--	--	--	5.69E+01	3.07E+00	3.1E+00	DTSC
Bromodichloromethane	75-27-4	3.7E-05	OEHHA	8.0E+01	Route	7.59E-02	7.59E-02	7.6E-02	USEPA	--	8.34E+01	8.3E+01	DTSC	3.31E-01	3.31E-01	3.3E-01	USEPA	--	3.50E+02	3.5E+02	DTSC
Bromoform	75-25-2	1.1E-06	IRIS	8.0E+01	Route	2.55E+00	2.55E+00	2.6E+00	USEPA	--	8.34E+01	8.3E+01	DTSC	1.11E+01	1.11E+01	1.1E+01	USEPA	--	3.50E+02	3.5E+02	DTSC
Bromophos	2104-96-3	--	--	2.0E+01	Route	--	--	--	--	--	2.09E+01	2.1E+01	DTSC	--	--	--	--	--	8.76E+01	8.8E+01	DTSC
Bromoxynil Octanoate	1689-99-2	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Butadiene, 1,3-	106-99-0	1.7E-04	OEHHA	2.0E+00	IRIS	9.36E-02	1.65E-02	1.7E-02	DTSC	2.09E+00	2.09E+00	2.1E+00	USEPA	4.09E-01	7.21E-02	7.2E-02	DTSC	8.76E+00	8.76E+00	8.8E+00	USEPA
Butanol, N-	71-36-3	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Butylate	2008-41-5	--	--	2.0E+02	Route	--	--	--	--	--	2.09E+02	2.1E+02	DTSC	--	--	--	--	--	8.76E+02	8.8E+02	DTSC
Butylbenzene, n-	104-51-8	--	--	2.0E+02	Route	--	--	--	--	--	2.09E+02	2.1E+02	DTSC	--	--	--	--	--	8.76E+02	8.8E+02	DTSC
Butylbenzene, sec-	135-98-8	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Butylbenzene, tert-	98-06-6	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Cadmium (Water)	7440-43-9 (water)	4.2E-03	OEHHA	1.0E-02	ATSDR	1.56E-03	6.68E-04	6.7E-04	DTSC	1.04E-02	1.04E-02	1.0E-02	USEPA	6.81E-03	2.92E-03	2.9E-03	DTSC	4.38E-02	4.38E-02	4.4E-02	USEPA
Carbon Tetrachloride	56-23-5	4.2E-05	OEHHA	4.0E+01	OEHHA	4.68E-01	6.68E-02	6.7E-02	DTSC	1.04E+02	4.17E+01	4.2E+01	DTSC	2.04E+00	2.92E-01	2.9E-01	DTSC	4.38E+02	1.75E+02	1.8E+02	DTSC
Chloral Hydrate	302-17-0	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Chlordane	12789-03-6	3.4E-04	OEHHA	7.0E-01	IRIS	2.81E-02	8.26E-03	8.3E-03	DTSC	7.30E-01	7.30E-01	7.3E-01	USEPA	1.23E-01	3.61E-02	3.6E-02	DTSC	3.07E+00	3.07E+00	3.1E+00	USEPA
Chloroacetaldehyde, 2-	107-20-0	6.8E-05	Route	--	--	--	4.16E-02	4.2E-02	DTSC	--	--	--	--	--	1.82E-01	1.8E-01	DTSC	--	--	--	--
Chlorobenzilate	510-15-6	7.8E-05	HEAST	--	--	9.06E-02	3.60E-02	3.6E-02	DTSC	--	--	--	--	3.96E-01	1.57E-01	1.6E-01	DTSC	--	--	--	--
Chlorobutane, 1-	109-69-3	--	--	1.6E+02	Route	--	--	--	--	--	1.67E+02	1.7E+02	DTSC	--	--	--	--	--	7.01E+02	7.0E+02	DTSC
Chloroethanol, 2-	107-07-3	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Chlorophenol, 2-	95-57-8	--	--	2.0E+01	Route	--	--	--	--	--	2.09E+01	2.1E+01	DTSC	--	--	--	--	--	8.76E+01	8.8E+01	DTSC
Chlorotoluene, o-	95-49-8	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Chlorotoluene, p-	106-43-4	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Crotonaldehyde, trans-	123-73-9	4.8E-04	Route	4.0E+00	Route	--	5.91E-03	5.9E-03	DTSC	--	4.17E+00	4.2E+00	DTSC	--	2.58E-02	2.6E-02	DTSC	--	1.75E+01	1.8E+01	DTSC
Cyanides																					
~Cyanogen	460-19-5	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
~Cyanogen Bromide	506-68-3	--	--	3.6E+02	Route	--	--	--	--	--	3.75E+02	3.8E+02	DTSC	--	--	--	--	--	1.58E+03	1.6E+03	DTSC
~Cyanogen Chloride	506-77-4	--	--	2.0E+02	Route	--	--	--	--	--	2.09E+02	2.1E+02	DTSC	--	--	--	--	--	8.76E+02	8.8E+02	DTSC
~Thiocyanic Acid	463-56-9	--	--	8.0E-01	Route	--	--	--	--	--	8.34E-01	8.3E-01	DTSC	--	--	--	--	--	3.50E+00	3.5E+00	DTSC
Cyclohexylamine	108-91-8	--	--	8.0E+02	Route	--	--	--	--	--	8.34E+02	8.3E+02	DTSC	--	--	--	--	--	3.50E+03	3.5E+03	DTSC
Dibenzothiophene	132-65-0	--	--	4.0E+01	Route	--	--	--	--	--	4.17E+01	4.2E+01	DTSC	--	--	--	--	--	1.75E+02	1.8E+02	DTSC
Dibromobenzene, 1,3-	108-36-1	--	--	1.6E+00	Route	--	--	--	--	--	1.67E+00	1.7E+00	DTSC	--	--	--	--	--	7.01E+00	7.0E+00	DTSC
Dibromobenzene, 1,4-	106-37-6	--	--	4.0E+01	Route	--	--	--	--	--	4.17E+01	4.2E+01	DTSC	--	--	--	--	--	1.75E+02	1.8E+02	DTSC
Dibromochloromethane	124-48-1	2.1E-05	Route	8.0E+01	Route	--	1.34E-01	1.3E-01	DTSC	--	8.34E+01	8.3E+01	DTSC	--	5.84E-01	5.8E-01	DTSC	--	3.50E+02	3.5E+02	DTSC
Dibromoethane, 1,2-	106-93-4	6.0E-04	IRIS	8.0E-01	OEHHA	4.68E-03	4.68E-03	4.7E-03	USEPA	9.39E+00	8.34E-01	8.3E-01	DTSC	2.04E-02	2.04E-02	2.0E-02	USEPA	3.94E+01	3.50E+00	3.5E+00	DTSC
Dichloroethane, 1,1-	75-34-3	1.6E-06	OEHHA	8.0E+02	Route	1.75E+00	1.75E+00	1.8E+00	USEPA	--	8.34E+02	8.3E+02	DTSC	7.67E+00	7.67E+00	7.7E+00	USEPA	--	3.50E+03	3.5E+03	DTSC
Dichloroethylene, 1,1-	75-35-4	--	--	7.0E+01	OEHHA	--	--	--	--	2.09E+02	7.30E+01	7.3E+01	DTSC	--	--	--	--	8.76E+02	3.07E+02	3.1E+02	DTSC
Dichloroethylene, 1,2-cis-	156-59-2	--	--	8.0E+00	Route	--	--	--	--	--	8.34E+00	8.3E+00	DTSC	--	--	--	--	--	3.50E+01	3.5E+01	DTSC
Dichloroethylene, 1,2-trans-	156-60-5	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Dichloropropane, 1,3-	142-28-9	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Dichloropropene, 1,3-	542-75-6	1.6E-05	OEHHA	2.0E+01	IRIS	7.02E-01	1.75E-01	1.8E-01	DTSC	2.09E+01	2.09E+01	2.1E+01	USEPA	3.07E+00	7.67E-01	7.7E-01	DTSC	8.76E+01	8.76E+01	8.8E+01	USEPA
Dieldrin	60-57-1	4.6E-03	IRIS	2.0E-01	Route	6.10E-04	6.10E-04	6.1E-04	USEPA	--	2.09E-01	2.1E-01	DTSC	2.67E-03	2.67E-03	2.7E-03	USEPA	--	8.76E-01	8.8E-01	DTSC
Diethylformamide	617-84-5	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
Diisopropyl Methylphosphonate	1445-75-6	--	--	3.2E+02	Route	--	--	--	--	--	3.34E+02	3.3E+02	DTSC	--	--	--	--	--	1.40E+03	1.4E+03	DTSC
Dimethylaniline, N,N-	121-69-7	--	--	8.0E+00	Route	--	--	--	--	--	8.34E+00	8.3E+00	DTSC	--	--	--	--	--	3.50E+01	3.5E+01	DTSC
Dioxane, 1,4-	123-91-1	7.7E-06	OEHHA	3.0E+01	IRIS	5.62E-01	3.65E-01	3.6E-01	DTSC	3.13E+01	3.13E+01	3.1E+01	USEPA	2.45E+00	1.59E+00	1.6E+00	DTSC	1.31E+02	1.31E+02	1.3E+02	USEPA
Dioxins																					
~Hexachlorodibenzo-p-dioxin, Mixture	Hexachlorodibenzo-p-dioxin Mixture	3.8E+00	OEHHA	--	--	2.16E-06	7.39E-07	7.4E-07	DTSC	--	--	--	--	9.43E-06	3.23E-06	3.2E-06	DTSC	--	--	--	--

Table C-1. Air Screening Levels for Analytes with at least one DTSC-SL

		Toxicity Factor for Final Screening Value				Screening Levels for Residential Air (µg/m^3)								Screening Levels for Commercial/Industrial Air (µg/m^3)							
						Cancer Endpoint				Noncancer Endpoint				Cancer Endpoint				Noncancer Endpoint			
Analyte	**CAS #**	Inhalation Unit Risk, IUR (µg/m^3)$^{-1}$	Source	Reference Concentration, RfC or REL (µg/m^3)	Source	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**
Diphenylhydrazine, 1,2-	122-66-7	2.5E-04	OEHHA	--	--	1.28E-02	1.12E-02	1.1E-02	DTSC	--	--	--	--	5.57E-02	4.91E-02	4.9E-02	DTSC	--	--	--	--
Dithiane, 1,4-	505-29-3	--	--	4.0E+01	Route	--	--	--	--	--	4.17E+01	4.2E+01	DTSC	--	--	--	--	--	1.75E+02	1.8E+02	DTSC
EPTC	759-94-4	--	--	1.0E+02	Route	--	--	--	--	--	1.04E+02	1.0E+02	DTSC	--	--	--	--	--	4.38E+02	4.4E+02	DTSC
Endosulfan	115-29-7	--	--	2.4E+01	Route	--	--	--	--	--	2.50E+01	2.5E+01	DTSC	--	--	--	--	--	1.05E+02	1.1E+02	DTSC
Epichlorohydrin	106-89-8	2.3E-05	OEHHA	1.0E+00	IRIS	2.34E+00	1.22E-01	1.2E-01	DTSC	1.04E+00	1.04E+00	1.0E+00	USEPA	1.02E+01	5.33E-01	5.3E-01	DTSC	4.38E+00	4.38E+00	4.4E+00	USEPA
Ethoxyethanol, 2-	110-80-5	--	--	7.0E+01	OEHHA	--	--	--	--	2.09E+02	7.30E+01	7.3E+01	DTSC	--	--	--	--	8.76E+02	3.07E+02	3.1E+02	DTSC
Ethyl Chloride (Chloroethane)	75-00-3	1.2E-06	Route	1.0E+04	IRIS	--	2.39E+00	2.4E+00	DTSC	1.04E+04	1.04E+04	1.0E+04	USEPA	--	1.04E+01	1.0E+01	DTSC	4.38E+04	4.38E+04	4.4E+04	USEPA
Ethyl Ether	60-29-7	--	--	8.0E+02	Route	--	--	--	--	--	8.34E+02	8.3E+02	DTSC	--	--	--	--	--	3.50E+03	3.5E+03	DTSC
Ethylene Diamine	107-15-3	--	--	3.6E+02	Route	--	--	--	--	--	3.75E+02	3.8E+02	DTSC	--	--	--	--	--	1.58E+03	1.6E+03	DTSC
Formaldehyde	50-00-0	1.3E-05	IRIS	9.0E+00	OEHHA	2.16E-01	2.16E-01	2.2E-01	USEPA	1.02E+01	9.39E+00	9.4E+00	DTSC	9.43E-01	9.43E-01	9.4E-01	USEPA	4.29E+01	3.94E+01	3.9E+01	DTSC
Furans																					
~Dibenzofuran	132-64-9	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
~Furan	110-00-9	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
Guanidine	113-00-8	--	--	4.0E+01	Route	--	--	--	--	--	4.17E+01	4.2E+01	DTSC	--	--	--	--	--	1.75E+02	1.8E+02	DTSC
Heptachlor	76-44-8	1.3E-03	IRIS	2.0E+00	Route	2.16E-03	2.16E-03	2.2E-03	USEPA	--	2.09E+00	2.1E+00	DTSC	9.43E-03	9.43E-03	9.4E-03	USEPA	--	8.76E+00	8.8E+00	DTSC
Heptachlor Epoxide	1024-57-3	2.6E-03	IRIS	5.2E-02	Route	1.08E-03	1.08E-03	1.1E-03	USEPA	--	5.42E-02	5.4E-02	DTSC	4.72E-03	4.72E-03	4.7E-03	USEPA	--	2.28E-01	2.3E-01	DTSC
Hexabromobenzene	87-82-1	--	--	8.0E+00	Route	--	--	--	--	--	8.34E+00	8.3E+00	DTSC	--	--	--	--	--	3.50E+01	3.5E+01	DTSC
Hexachlorobenzene	118-74-1	5.1E-04	OEHHA	3.2E+00	Route	6.10E-03	5.51E-03	5.5E-03	DTSC	--	3.34E+00	3.3E+00	DTSC	2.67E-02	2.40E-02	2.4E-02	DTSC	--	1.40E+01	1.4E+01	DTSC
Hexachlorobutadiene	87-68-3	2.2E-05	IRIS	4.0E+00	Route	1.28E-01	1.28E-01	1.3E-01	USEPA	--	4.17E+00	4.2E+00	DTSC	5.57E-01	5.57E-01	5.6E-01	USEPA	--	1.75E+01	1.8E+01	DTSC
Hexachlorocyclohexane, Alpha-	319-84-6	1.8E-03	IRIS	3.2E+01	Route	1.56E-03	1.56E-03	1.6E-03	USEPA	--	3.34E+01	3.3E+01	DTSC	6.81E-03	6.81E-03	6.8E-03	USEPA	--	1.40E+02	1.4E+02	DTSC
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	3.1E-04	OEHHA	1.2E+00	Route	9.06E-03	9.06E-03	9.1E-03	USEPA	--	1.25E+00	1.3E+00	DTSC	3.96E-02	3.96E-02	4.0E-02	USEPA	--	5.26E+00	5.3E+00	DTSC
Hexachlorocyclohexane, Technical	608-73-1	1.1E-03	OEHHA	--	--	5.51E-03	2.55E-03	2.6E-03	DTSC	--	--	--	--	2.40E-02	1.11E-02	1.1E-02	DTSC	--	--	--	--
Hydrogen Chloride	7647-01-0	--	--	9.0E+00	OEHHA	--	--	--	--	2.09E+01	9.39E+00	9.4E+00	DTSC	--	--	--	--	8.76E+01	3.94E+01	3.9E+01	DTSC
Isobutyl Alcohol	78-83-1	--	--	1.2E+03	Route	--	--	--	--	--	1.25E+03	1.3E+03	DTSC	--	--	--	--	--	5.26E+03	5.3E+03	DTSC
Isopropalin	33820-53-0	--	--	6.0E+01	Route	--	--	--	--	--	6.26E+01	6.3E+01	DTSC	--	--	--	--	--	2.63E+02	2.6E+02	DTSC
Lead Compounds																					
~Tetraethyl Lead	78-00-2	--	--	4.0E-04	Route	--	--	--	--	--	4.17E-04	4.2E-04	DTSC	--	--	--	--	--	1.75E-03	1.8E-03	DTSC
Lewisite	541-25-3	--	--	2.0E-02	Route	--	--	--	--	--	2.09E-02	2.1E-02	DTSC	--	--	--	--	--	8.76E-02	8.8E-02	DTSC
Mercury Compounds																					
~Mercuric Chloride (and other Mercury salts)	7487-94-7	--	--	3.0E-02	OEHHA	--	--	--	--	3.13E-01	3.13E-02	3.1E-02	DTSC	--	--	--	--	1.31E+00	1.31E-01	1.3E-01	DTSC
~Mercury (elemental)	7439-97-6	--	--	3.0E-02	OEHHA	--	--	--	--	3.13E-01	3.13E-02	3.1E-02	DTSC	--	--	--	--	1.31E+00	1.31E-01	1.3E-01	DTSC
Merphos	150-50-5	--	--	1.2E-01	Route	--	--	--	--	--	1.25E-01	1.3E-01	DTSC	--	--	--	--	--	5.26E-01	5.3E-01	DTSC
Methanol	67-56-1	--	--	4.0E+03	OEHHA	--	--	--	--	2.09E+04	4.17E+03	4.2E+03	DTSC	--	--	--	--	8.76E+04	1.75E+04	1.8E+04	DTSC
Methoxychlor	72-43-5	--	--	2.0E+01	Route	--	--	--	--	--	2.09E+01	2.1E+01	DTSC	--	--	--	--	--	8.76E+01	8.8E+01	DTSC
Methyl Acetate	79-20-9	--	--	4.0E+03	Route	--	--	--	--	--	4.17E+03	4.2E+03	DTSC	--	--	--	--	--	1.75E+04	1.8E+04	DTSC
Methylene Chloride	75-09-2	1.0E-06	OEHHA	4.0E+02	OEHHA	1.01E+02	1.01E+00	1.0E+00	DTSC	6.26E+02	4.17E+02	4.2E+02	DTSC	1.23E+03	1.23E+01	1.2E+01	DTSC	2.63E+03	1.75E+03	1.8E+03	DTSC
Methylstyrene, Alpha-	98-83-9	--	--	2.8E+02	Route	--	--	--	--	--	2.92E+02	2.9E+02	DTSC	--	--	--	--	--	1.23E+03	1.2E+03	DTSC
Mineral oils	8012-95-1	--	--	1.2E+04	Route	--	--	--	--	--	1.25E+04	1.3E+04	DTSC	--	--	--	--	--	5.26E+04	5.3E+04	DTSC
Mirex	2385-85-5	5.1E-03	OEHHA	8.0E-01	Route	5.51E-04	5.51E-04	5.5E-04	USEPA	--	8.34E-01	8.3E-01	DTSC	2.40E-03	2.40E-03	2.4E-03	USEPA	--	3.50E+00	3.5E+00	DTSC
Naled	300-76-5	--	--	8.0E+00	Route	--	--	--	--	--	8.34E+00	8.3E+00	DTSC	--	--	--	--	--	3.50E+01	3.5E+01	DTSC
Naphthylamine, 2-	91-59-8	5.1E-04	OEHHA	--	--	--	5.51E-03	5.5E-03	DTSC	--	--	--	--	--	2.40E-02	2.4E-02	DTSC	--	--	--	--
Nickel Refinery Dust	Nickel refinery dust	2.6E-04	OEHHA	1.4E-02	OEHHA	1.17E-02	1.08E-02	1.1E-02	DTSC	1.46E-02	1.46E-02	1.5E-02	USEPA	5.11E-02	4.72E-02	4.7E-02	DTSC	6.13E-02	6.13E-02	6.1E-02	USEPA
Nickel Soluble Salts	7440-02-0	2.6E-04	OEHHA	1.4E-02	OEHHA	1.08E-02	1.08E-02	1.1E-02	USEPA	9.39E-02	1.46E-02	1.5E-02	DTSC	4.72E-02	4.72E-02	4.7E-02	USEPA	3.94E-01	6.13E-02	6.1E-02	DTSC
Nickel Subsulfide	12035-72-2	4.9E-04	OEHHA	1.4E-02	OEHHA	5.85E-03	5.73E-03	5.7E-03	DTSC	1.46E-02	1.46E-02	1.5E-02	USEPA	2.56E-02	2.50E-02	2.5E-02	DTSC	6.13E-02	6.13E-02	6.1E-02	USEPA
Nitroso-di-N-butylamine, N-	924-16-3	3.1E-03	OEHHA	--	--	1.75E-03	9.06E-04	9.1E-04	DTSC	--	--	--	--	7.67E-03	3.96E-03	4.0E-03	DTSC	--	--	--	--
Nitrotoluene, o-	88-72-2	5.5E-05	Route	3.6E+00	Route	--	5.10E-02	5.1E-02	DTSC	--	3.75E+00	3.8E+00	DTSC	--	2.23E-01	2.2E-01	DTSC	--	1.58E+01	1.6E+01	DTSC
Pebulate	1114-71-2	--	--	2.0E+02	Route	--	--	--	--	--	2.09E+02	2.1E+02	DTSC	--	--	--	--	--	8.76E+02	8.8E+02	DTSC
Pentabromodiphenyl Ether	32534-81-9	--	--	8.0E+00	Route	--	--	--	--	--	8.34E+00	8.3E+00	DTSC	--	--	--	--	--	3.50E+01	3.5E+01	DTSC
Pentachlorobenzene	608-93-5	--	--	3.2E+00	Route	--	--	--	--	--	3.34E+00	3.3E+00	DTSC	--	--	--	--	--	1.40E+01	1.4E+01	DTSC
Pentachloroethane	76-01-7	2.3E-05	Route	--	--	--	1.25E-01	1.2E-01	DTSC	--	--	--	--	--	5.45E-01	5.5E-01	DTSC	--	--	--	--
Pentachloronitrobenzene	82-68-8	6.5E-05	Route	1.2E+01	Route	--	4.32E-02	4.3E-02	DTSC	--	1.25E+01	1.3E+01	DTSC	--	1.89E-01	1.9E-01	DTSC	--	5.26E+01	5.3E+01	DTSC
Perfluorobutane Sulfonate	375-73-5	--	--	8.0E+01	Route	--	--	--	--	--	8.34E+01	8.3E+01	DTSC	--	--	--	--	--	3.50E+02	3.5E+02	DTSC
Phosphoric Acid	7664-38-2	--	--	7.0E+00	OEHHA	--	--	--	--	1.04E+01	7.30E+00	7.3E+00	DTSC	--	--	--	--	4.38E+01	3.07E+01	3.1E+01	DTSC
Phosphorus, White	7723-14-0	--	--	8.0E-02	Route	--	--	--	--	--	8.34E-02	8.3E-02	DTSC	--	--	--	--	--	3.50E-01	3.5E-01	DTSC
Phthalates																					
~Dimethylterephthalate	120-61-6	--	--	4.0E+02	Route	--	--	--	--	--	4.17E+02	4.2E+02	DTSC	--	--	--	--	--	1.75E+03	1.8E+03	DTSC
Polychlorinated Biphenyls (PCBs)																					
~Aroclor 1016	12674-11-2	2.0E-05	IRIS (lowest risk)	2.8E-01	Route	1.40E-01	1.40E-01	1.4E-01	USEPA	--	2.92E-01	2.9E-01	DTSC	6.13E-01	6.13E-01	6.1E-01	USEPA	--	1.23E+00	1.2E+00	DTSC
~Aroclor 1254	11097-69-1	5.7E-04	IRIS (highest risk)	8.0E-02	Route	4.92E-03	4.92E-03	4.9E-03	USEPA	--	8.34E-02	8.3E-02	DTSC	2.15E-02	2.15E-02	2.1E-02	USEPA	--	3.50E-01	3.5E-01	DTSC
~Aroclor 5460	11126-42-4	--	--	2.4E+00	Route	--	--	--	--	--	2.50E+00	2.5E+00	DTSC	--	--	--	--	--	1.05E+01	1.1E+01	DTSC

Table C-1. Air Screening Levels for Analytes with at least one DTSC-SL

		Toxicity Factor for Final Screening Value				Screening Levels for Residential Air (µg/m^3)								Screening Levels for Commercial/Industrial Air (µg/m^3)							
						Cancer Endpoint				Noncancer Endpoint				Cancer Endpoint				Noncancer Endpoint			
Analyte	**CAS #**	Inhalation Unit Risk, IUR (µg/m^3)$^{-1}$	Source	Reference Concentration, RfC or REL (µg/m^3)	Source	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**	**USEPA RSL**	**DTSC-SL**	**Final Value**	**Source**
Polynuclear Aromatic Hydrocarbons (PAHs)																					
~Acenaphthene	83-32-9	--	--	2.4E+02	Route	--	--	--	--	--	2.50E+02	2.5E+02	DTSC	--	--	--	--	--	1.05E+03	1.1E+03	DTSC
~Anthracene	120-12-7	--	--	1.2E+03	Route	--	--	--	--	--	1.25E+03	1.3E+03	DTSC	--	--	--	--	--	5.26E+03	5.3E+03	DTSC
~Chloronaphthalene, Beta-	91-58-7	--	--	3.2E+02	Route	--	--	--	--	--	3.34E+02	3.3E+02	DTSC	--	--	--	--	--	1.40E+03	1.4E+03	DTSC
~Fluorene	86-73-7	--	--	1.6E+02	Route	--	--	--	--	--	1.67E+02	1.7E+02	DTSC	--	--	--	--	--	7.01E+02	7.0E+02	DTSC
~Methylnaphthalene, 1-	90-12-0	7.3E-06	Route	2.8E+02	Route	--	3.87E-01	3.9E-01	DTSC	--	2.92E+02	2.9E+02	DTSC	--	1.69E+00	1.7E+00	DTSC	--	1.23E+03	1.2E+03	DTSC
~Methylnaphthalene, 2-	91-57-6	--	--	1.6E+01	Route	--	--	--	--	--	1.67E+01	1.7E+01	DTSC	--	--	--	--	--	7.01E+01	7.0E+01	DTSC
~Pyrene	129-00-0	--	--	1.2E+02	Route	--	--	--	--	--	1.25E+02	1.3E+02	DTSC	--	--	--	--	--	5.26E+02	5.3E+02	DTSC
Profluralin	26399-36-0	--	--	2.4E+01	Route	--	--	--	--	--	2.50E+01	2.5E+01	DTSC	--	--	--	--	--	1.05E+02	1.1E+02	DTSC
Propargyl Alcohol	107-19-7	--	--	8.0E+00	Route	--	--	--	--	--	8.34E+00	8.3E+00	DTSC	--	--	--	--	--	3.50E+01	3.5E+01	DTSC
Pyridine	110-86-1	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
Ronnel	299-84-3	--	--	2.0E+02	Route	--	--	--	--	--	2.09E+02	2.1E+02	DTSC	--	--	--	--	--	8.76E+02	8.8E+02	DTSC
Styrene	100-42-5	--	--	9.0E+02	OEHHA	--	--	--	--	1.04E+03	9.39E+02	9.4E+02	DTSC	--	--	--	--	4.38E+03	3.94E+03	3.9E+03	DTSC
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethyletl	140-57-8	8.6E-06	OEHHA	--	--	3.95E-01	3.26E-01	3.3E-01	DTSC	--	--	--	--	1.73E+00	1.43E+00	1.4E+00	DTSC	--	--	--	--
Terbufos	13071-79-9	--	--	1.0E-01	Route	--	--	--	--	--	1.04E-01	1.0E-01	DTSC	--	--	--	--	--	4.38E-01	4.4E-01	DTSC
Tetrachlorobenzene, 1,2,4,5-	95-94-3	--	--	1.2E+00	Route	--	--	--	--	--	1.25E+00	1.3E+00	DTSC	--	--	--	--	--	5.26E+00	5.3E+00	DTSC
Tetrachloroethane, 1,1,1,2-	630-20-6	7.4E-06	IRIS	1.2E+02	Route	3.79E-01	3.79E-01	3.8E-01	USEPA	--	1.25E+02	1.3E+02	DTSC	1.66E+00	1.66E+00	1.7E+00	USEPA	--	5.26E+02	5.3E+02	DTSC
Tetrachloroethane, 1,1,2,2-	79-34-5	5.8E-05	OEHHA	8.0E+01	Route	4.84E-02	4.84E-02	4.8E-02	USEPA	--	8.34E+01	8.3E+01	DTSC	2.11E-01	2.11E-01	2.1E-01	USEPA	--	3.50E+02	3.5E+02	DTSC
Tetrachloroethylene	127-18-4	5.9E-06	OEHHA	3.5E+01	OEHHA	1.08E+01	4.76E-01	4.8E-01	DTSC	4.17E+01	3.65E+01	3.7E+01	DTSC	4.72E+01	2.08E+00	2.1E+00	DTSC	1.75E+02	1.53E+02	1.5E+02	DTSC
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	5.0E-03	Route	--	--	--	5.62E-04	5.6E-04	DTSC	--	--	--	--	--	2.45E-03	2.5E-03	DTSC	--	--	--	--
Thallium Acetate	563-68-8	--	--	2.4E-02	Route	--	--	--	--	--	2.50E-02	2.5E-02	DTSC	--	--	--	--	--	1.05E-01	1.1E-01	DTSC
Thallium Carbonate	6533-73-9	--	--	8.0E-02	Route	--	--	--	--	--	8.34E-02	8.3E-02	DTSC	--	--	--	--	--	3.50E-01	3.5E-01	DTSC
Toluene	108-88-3	--	--	3.0E+02	OEHHA	--	--	--	--	5.21E+03	3.13E+02	3.1E+02	DTSC	--	--	--	--	2.19E+04	1.31E+03	1.3E+03	DTSC
Toxaphene	8001-35-2	3.4E-04	OEHHA	--	--	8.77E-03	8.26E-03	8.3E-03	DTSC	--	--	--	--	3.83E-02	3.61E-02	3.6E-02	DTSC	--	--	--	--
Tri-n-butyltin	688-73-3	--	--	1.2E+00	Route	--	--	--	--	--	1.25E+00	1.3E+00	DTSC	--	--	--	--	--	5.26E+00	5.3E+00	DTSC
Triallate	2303-17-5	--	--	5.2E+01	Route	--	--	--	--	--	5.42E+01	5.4E+01	DTSC	--	--	--	--	--	2.28E+02	2.3E+02	DTSC
Tribromobenzene, 1,2,4-	615-54-3	--	--	2.0E+01	Route	--	--	--	--	--	2.09E+01	2.1E+01	DTSC	--	--	--	--	--	8.76E+01	8.8E+01	DTSC
Trichlorobenzene, 1,2,3-	87-61-6	--	--	3.2E+00	Route	--	--	--	--	--	3.34E+00	3.3E+00	DTSC	--	--	--	--	--	1.40E+01	1.4E+01	DTSC
Trichlorobenzene, 1,2,4-	120-82-1	7.3E-06	Route	2.0E+00	PPRTV	--	3.87E-01	3.9E-01	DTSC	2.09E+00	2.09E+00	2.1E+00	USEPA	--	1.69E+00	1.7E+00	DTSC	8.76E+00	8.76E+00	8.8E+00	USEPA
Trichloroethane, 1,1,1-	71-55-6	--	--	1.0E+03	OEHHA	--	--	--	--	5.21E+03	1.04E+03	1.0E+03	DTSC	--	--	--	--	2.19E+04	4.38E+03	4.4E+03	DTSC
Trichlorofluoromethane	75-69-4	--	--	1.2E+03	Route	--	--	--	--	--	1.25E+03	1.3E+03	DTSC	--	--	--	--	--	5.26E+03	5.3E+03	DTSC
Trichlorophenol, 2,4,6-	88-06-2	2.0E-05	OEHHA	--	--	9.06E-01	1.40E-01	1.4E-01	DTSC	--	--	--	--	3.96E+00	6.13E-01	6.1E-01	DTSC	--	--	--	--
Trichloropropane, 1,1,2-	598-77-6	--	--	2.0E+01	Route	--	--	--	--	--	2.09E+01	2.1E+01	DTSC	--	--	--	--	--	8.76E+01	8.8E+01	DTSC
Trichloropropane, 1,2,3-	96-18-4	7.5E-03	Route	3.0E-01	IRIS	--	1.35E-04	1.4E-04	DTSC	3.13E-01	3.13E-01	3.1E-01	USEPA	--	1.64E-03	1.6E-03	DTSC	1.31E+00	1.31E+00	1.3E+00	USEPA
Trifluralin	1582-09-8	1.9E-06	Route	3.0E+01	Route	--	1.46E+00	1.5E+00	DTSC	--	3.13E+01	3.1E+01	DTSC	--	6.37E+00	6.4E+00	DTSC	--	1.31E+02	1.3E+02	DTSC
Trimethylbenzene, 1,3,5-	108-67-8	--	--	4.0E+01	Route	--	--	--	--	--	4.17E+01	4.2E+01	DTSC	--	--	--	--	--	1.75E+02	1.8E+02	DTSC
Trimethylpentene, 2,4,4-	25167-70-8	--	--	4.0E+01	Route	--	--	--	--	--	4.17E+01	4.2E+01	DTSC	--	--	--	--	--	1.75E+02	1.8E+02	DTSC
Vernolate	1929-77-7	--	--	4.0E+00	Route	--	--	--	--	--	4.17E+00	4.2E+00	DTSC	--	--	--	--	--	1.75E+01	1.8E+01	DTSC
Vinyl Chloride	75-01-4	7.8E-05	OEHHA	1.0E+02	IRIS	1.68E-01	9.45E-03	9.5E-03	DTSC	1.04E+02	1.04E+02	1.0E+02	USEPA	2.79E+00	1.57E-01	1.6E-01	DTSC	4.38E+02	4.38E+02	4.4E+02	USEPA
Additional Analytes																					
Beryllium Sulfate	13510-49-1	8.6E-01	OEHHA	7.0E-03	OEHHA	1.17E-03	3.26E-06	3.3E-06	DTSC	2.09E-02	7.30E-03	7.3E-03	DTSC	5.11E-03	1.43E-05	1.4E-05	DTSC	8.76E-02	3.07E-02	3.1E-02	DTSC
Dichlorobenzene, 1,3-	541-73-1	--	--	1.2E+02	Route	--	--	--	--	--	1.25E+02	1.3E+02	DTSC	--	--	--	--	--	5.26E+02	5.3E+02	DTSC
Methylcyclohexane	108-87-2	--	--	6.0E+03	Cyclohexane	--	--	--	--	--	6.26E+03	6.3E+03	DTSC	--	--	--	--	--	2.63E+04	2.6E+04	DTSC

"--" = no value

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
USEPA RSL Analytes									
Acetaldehyde		2.20E-06	1.28E+00	9.00E+00	9.39E+00	2.70E-06	1.04E+00	9.00E+00	9.39E+00
Acetophenone		--	--	--	--	--	--	4.00E+02	4.17E+02
Acrylamide	M	1.00E-04	1.01E-02	6.00E+00	6.26E+00	1.30E-03	7.80E-04	6.00E+00	6.26E+00
Acrylonitrile		6.80E-05	4.13E-02	2.00E+00	2.09E+00	2.90E-04	9.68E-03	2.00E+00	2.09E+00
Aldrin		4.90E-03	5.73E-04	--	--	4.90E-03	5.73E-04	1.20E-01	1.25E-01
Arsine		--	--	5.00E-02	5.21E-02	--	--	1.50E-02	1.56E-02
Benfluralin		--	--	--	--	--	--	1.20E+03	1.25E+03
Benzaldehyde		--	--	--	--	--	--	4.00E+02	4.17E+02
Benzene		7.80E-06	3.60E-01	3.00E+01	3.13E+01	2.90E-05	9.68E-02	3.00E+00	3.13E+00
Benzenethiol		--	--	--	--	--	--	4.00E+00	4.17E+00
Benzidine	M	6.70E-02	1.51E-05	--	--	1.40E-01	7.24E-06	--	--
Benzotrichloride		--	--	--	--	3.25E-03	8.64E-04	--	--
Beryllium and compounds		2.40E-03	1.17E-03	2.00E-02	2.09E-02	2.40E-03	1.17E-03	7.00E-03	7.30E-03
Biphenyl, 1,1'-		--	--	4.00E-01	4.17E-01	2.00E-06	1.40E+00	4.00E-01	4.17E-01
Bis(2-chloro-1-methylethyl) ether		--	--	--	--	--	--	1.60E+02	1.67E+02
Bis(2-chloroethyl)ether		3.30E-04	8.51E-03	--	--	7.10E-04	3.95E-03	--	--
Boron Trifluoride		--	--	1.30E+01	1.36E+01	--	--	7.00E-01	7.30E-01

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Bromodichloromethane		3.70E-05	7.59E-02	--	--	3.70E-05	7.59E-02	8.00E+01	8.34E+01
Bromoform		1.10E-06	2.55E+00	--	--	1.10E-06	2.55E+00	8.00E+01	8.34E+01
Bromophos		--	--	--	--	--	--	2.00E+01	2.09E+01
Bromoxynil Octanoate		--	--	--	--	--	--	8.00E+01	8.34E+01
Butadiene, 1,3-		3.00E-05	9.36E-02	2.00E+00	2.09E+00	1.70E-04	1.65E-02	2.00E+00	2.09E+00
Butanol, N-		--	--	--	--	--	--	4.00E+02	4.17E+02
Butylate		--	--	--	--	--	--	2.00E+02	2.09E+02
Butylbenzene, n-		--	--	--	--	--	--	2.00E+02	2.09E+02
Butylbenzene, sec-		--	--	--	--	--	--	4.00E+02	4.17E+02
Butylbenzene, tert-		--	--	--	--	--	--	4.00E+02	4.17E+02
Cadmium (Water)		1.80E-03	1.56E-03	1.00E-02	1.04E-02	4.20E-03	6.68E-04	1.00E-02	1.04E-02
Carbon Tetrachloride		6.00E-06	4.68E-01	1.00E+02	1.04E+02	4.20E-05	6.68E-02	4.00E+01	4.17E+01
Chloral Hydrate		--	--	--	--	--	--	4.00E+02	4.17E+02
Chlordane		1.00E-04	2.81E-02	7.00E-01	7.30E-01	3.40E-04	8.26E-03	7.00E-01	7.30E-01
Chloroacetaldehyde, 2-		--	--	--	--	6.75E-05	4.16E-02	--	--
Chlorobenzilate		3.10E-05	9.06E-02	--	--	7.80E-05	3.60E-02	--	--
Chlorobutane, 1-		--	--	--	--	--	--	1.60E+02	1.67E+02
Chloroethanol, 2-		--	--	--	--	--	--	8.00E+01	8.34E+01

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Chlorophenol, 2-		--	--	--	--	--	--	2.00E+01	2.09E+01
Chlorotoluene, o-		--	--	--	--	--	--	8.00E+01	8.34E+01
Chlorotoluene, p-		--	--	--	--	--	--	8.00E+01	8.34E+01
Crotonaldehyde, trans-		--	--	--	--	4.75E-04	5.91E-03	4.00E+00	4.17E+00
Cyanides									
~Cyanogen		--	--	--	--	--	--	4.00E+00	4.17E+00
~Cyanogen Bromide		--	--	--	--	--	--	3.60E+02	3.75E+02
~Cyanogen Chloride		--	--	--	--	--	--	2.00E+02	2.09E+02
~Thiocyanic Acid		--	--	--	--	--	--	8.00E-01	8.34E-01
Cyclohexylamine		--	--	--	--	--	--	8.00E+02	8.34E+02
Dibenzothiophene		--	--	--	--	--	--	4.00E+01	4.17E+01
Dibromobenzene, 1,3-		--	--	--	--	--	--	1.60E+00	1.67E+00
Dibromobenzene, 1,4-		--	--	--	--	--	--	4.00E+01	4.17E+01
Dibromochloromethane		--	--	--	--	2.10E-05	1.34E-01	8.00E+01	8.34E+01
Dibromoethane, 1,2-		6.00E-04	4.68E-03	9.00E+00	9.39E+00	6.00E-04	4.68E-03	8.00E-01	8.34E-01
Dichloroethane, 1,1-		1.60E-06	1.75E+00	--	--	1.60E-06	1.75E+00	8.00E+02	8.34E+02
Dichloroethylene, 1,1-		--	--	2.00E+02	2.09E+02	--	--	7.00E+01	7.30E+01

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Dichloroethylene, 1,2-cis-		--	--	--	--	--	--	8.00E+00	8.34E+00
Dichloroethylene, 1,2-trans-		--	--	--	--	--	--	8.00E+01	8.34E+01
Dichloropropane, 1,3-		--	--	--	--	--	--	8.00E+01	8.34E+01
Dichloropropene, 1,3-		4.00E-06	7.02E-01	2.00E+01	2.09E+01	1.60E-05	1.75E-01	2.00E+01	2.09E+01
Dieldrin		4.60E-03	6.10E-04	--	--	4.60E-03	6.10E-04	2.00E-01	2.09E-01
Diethylformamide		--	--	--	--	--	--	4.00E+00	4.17E+00
Diisopropyl Methylphosphonate		--	--	--	--	--	--	3.20E+02	3.34E+02
Dimethylaniline, N,N-		--	--	--	--	--	--	8.00E+00	8.34E+00
Dioxane, 1,4-		5.00E-06	5.62E-01	3.00E+01	3.13E+01	7.70E-06	3.65E-01	3.00E+01	3.13E+01
Dioxins									
~Hexachlorodibenzo-p-dioxin, Mixture		1.30E+00	2.16E-06	--	--	3.80E+00	7.39E-07	--	--
Diphenylhydrazine, 1,2-		2.20E-04	1.28E-02	--	--	2.50E-04	1.12E-02	--	--
Dithiane, 1,4-		--	--	--	--	--	--	4.00E+01	4.17E+01
EPTC		--	--	--	--	--	--	1.00E+02	1.04E+02
Endosulfan		--	--	--	--	--	--	2.40E+01	2.50E+01
Epichlorohydrin		1.20E-06	2.34E+00	1.00E+00	1.04E+00	2.30E-05	1.22E-01	1.00E+00	1.04E+00
Ethoxyethanol, 2-		--	--	2.00E+02	2.09E+02	--	--	7.00E+01	7.30E+01
Ethyl Chloride (Chloroethane)		--	--	1.00E+04	1.04E+04	1.18E-06	2.39E+00	1.00E+04	1.04E+04

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Ethyl Ether		--	--	--	--	--	--	8.00E+02	8.34E+02
Ethylene Diamine		--	--	--	--	--	--	3.60E+02	3.75E+02
Formaldehyde		1.30E-05	2.16E-01	9.80E+00	1.02E+01	1.30E-05	2.16E-01	9.00E+00	9.39E+00
Furans									
~Dibenzofuran		--	--	--	--	--	--	4.00E+00	4.17E+00
~Furan		--	--	--	--	--	--	4.00E+00	4.17E+00
Guanidine		--	--	--	--	--	--	4.00E+01	4.17E+01
Heptachlor		1.30E-03	2.16E-03	--	--	1.30E-03	2.16E-03	2.00E+00	2.09E+00
Heptachlor Epoxide		2.60E-03	1.08E-03	--	--	2.60E-03	1.08E-03	5.20E-02	5.42E-02
Hexabromobenzene		--	--	--	--	--	--	8.00E+00	8.34E+00
Hexachlorobenzene		4.60E-04	6.10E-03	--	--	5.10E-04	5.51E-03	3.20E+00	3.34E+00
Hexachlorobutadiene		2.20E-05	1.28E-01	--	--	2.20E-05	1.28E-01	4.00E+00	4.17E+00
Hexachlorocyclohexane, Alpha-		1.80E-03	1.56E-03	--	--	1.80E-03	1.56E-03	3.20E+01	3.34E+01
Hexachlorocyclohexane, Gamma- (Lindane)		3.10E-04	9.06E-03	--	--	3.10E-04	9.06E-03	1.20E+00	1.25E+00
Hexachlorocyclohexane, Technical		5.10E-04	5.51E-03	--	--	1.10E-03	2.55E-03	--	--
Hydrogen Chloride		--	--	2.00E+01	2.09E+01	--	--	9.00E+00	9.39E+00
Isobutyl Alcohol		--	--	--	--	--	--	1.20E+03	1.25E+03
Isopropalin		--	--	--	--	--	--	6.00E+01	6.26E+01

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0\text{-}2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2\text{-}6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6\text{-}16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16\text{-}30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	$ED_{0\text{-}2}$	2	2	yrs
Exposure Duration, child 2-6	$ED_{2\text{-}6}$	4	4	yrs
Exposure Duration, child 6-16	$ED_{6\text{-}16}$	10	10	yrs
Exposure Duration, adult 16-30	$ED_{16\text{-}30}$	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Lead Compounds									
~Tetraethyl Lead		--	--	--	--	--	--	4.00E-04	4.17E-04
Lewisite		--	--	--	--	--	--	2.00E-02	2.09E-02
Mercury Compounds									
~Mercuric Chloride (and other Mercury salts)		--	--	3.00E-01	3.13E-01	--	--	3.00E-02	3.13E-02
~Mercury (elemental)		--	--	3.00E-01	3.13E-01	--	--	3.00E-02	3.13E-02
Merphos		--	--	--	--	--	--	1.20E-01	1.25E-01
Methanol		--	--	2.00E+04	2.09E+04	--	--	4.00E+03	4.17E+03
Methoxychlor		--	--	--	--	--	--	2.00E+01	2.09E+01
Methyl Acetate		--	--	--	--	--	--	4.00E+03	4.17E+03
Methylene Chloride	M	1.00E-08	1.01E+02	6.00E+02	6.26E+02	1.00E-06	1.01E+00	4.00E+02	4.17E+02
Methylstyrene, Alpha-		--	--	--	--	--	--	2.80E+02	2.92E+02
Mineral oils		--	--	--	--	--	--	1.20E+04	1.25E+04
Mirex		5.10E-03	5.51E-04	--	--	5.10E-03	5.51E-04	8.00E-01	8.34E-01
Naled		--	--	--	--	--	--	8.00E+00	8.34E+00
Naphthylamine, 2-		--	--	--	--	5.10E-04	5.51E-03	--	--

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Nickel Refinery Dust		2.40E-04	1.17E-02	1.40E-02	1.46E-02	2.60E-04	1.08E-02	1.40E-02	1.46E-02
Nickel Soluble Salts		2.60E-04	1.08E-02	9.00E-02	9.39E-02	2.60E-04	1.08E-02	1.40E-02	1.46E-02
Nickel Subsulfide		4.80E-04	5.85E-03	1.40E-02	1.46E-02	4.90E-04	5.73E-03	1.40E-02	1.46E-02
Nitroso-di-N-butylamine, N-		1.60E-03	1.75E-03	--	--	3.10E-03	9.06E-04	--	--
Nitrotoluene, o-		--	--	--	--	5.50E-05	5.10E-02	3.60E+00	3.75E+00
Pebulate		--	--	--	--	--	--	2.00E+02	2.09E+02
Pentabromodiphenyl Ether		--	--	--	--	--	--	8.00E+00	8.34E+00
Pentachlorobenzene		--	--	--	--	--	--	3.20E+00	3.34E+00
Pentachloroethane		--	--	--	--	2.25E-05	1.25E-01	--	--
Pentachloronitrobenzene		--	--	--	--	6.50E-05	4.32E-02	1.20E+01	1.25E+01
Perfluorobutane Sulfonate		--	--	--	--	--	--	8.00E+01	8.34E+01
Phosphoric Acid		--	--	1.00E+01	1.04E+01	--	--	7.00E+00	7.30E+00
Phosphorus, White		--	--	--	--	--	--	8.00E-02	8.34E-02
Phthalates									
~Dimethylterephthalate		--	--	--	--	--	--	4.00E+02	4.17E+02

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Polychlorinated Biphenyls (PCBs)									
~Aroclor 1016		2.00E-05	1.40E-01	--	--	2.00E-05	1.40E-01	2.80E-01	2.92E-01
~Aroclor 1254		5.71E-04	4.92E-03	--	--	5.71E-04	4.92E-03	8.00E-02	8.34E-02
~Aroclor 5460		--	--	--	--	--	--	2.40E+00	2.50E+00
Polynuclear Aromatic Hydrocarbons (PAHs)									
~Acenaphthene		--	--	--	--	--	--	2.40E+02	2.50E+02
~Anthracene		--	--	--	--	--	--	1.20E+03	1.25E+03
~Chloronaphthalene, Beta-		--	--	--	--	--	--	3.20E+02	3.34E+02
~Fluorene		--	--	--	--	--	--	1.60E+02	1.67E+02
~Methylnaphthalene, 1-		--	--	--	--	7.25E-06	3.87E-01	2.80E+02	2.92E+02
~Methylnaphthalene, 2-		--	--	--	--	--	--	1.60E+01	1.67E+01
~Pyrene		--	--	--	--	--	--	1.20E+02	1.25E+02
Profluralin		--	--	--	--	--	--	2.40E+01	2.50E+01
Propargyl Alcohol		--	--	--	--	--	--	8.00E+00	8.34E+00
Pyridine		--	--	--	--	--	--	4.00E+00	4.17E+00
Ronnel		--	--	--	--	--	--	2.00E+02	2.09E+02
Styrene		--	--	1.00E+03	1.04E+03	--	--	9.00E+02	9.39E+02
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimeth		7.10E-06	3.95E-01	--	--	8.60E-06	3.26E-01	--	--

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Terbufos		--	--	--	--	--	--	1.00E-01	1.04E-01
Tetrachlorobenzene, 1,2,4,5-		--	--	--	--	--	--	1.20E+00	1.25E+00
Tetrachloroethane, 1,1,1,2-		7.40E-06	3.79E-01	--	--	7.40E-06	3.79E-01	1.20E+02	1.25E+02
Tetrachloroethane, 1,1,2,2-		5.80E-05	4.84E-02	--	--	5.80E-05	4.84E-02	8.00E+01	8.34E+01
Tetrachloroethylene		2.60E-07	1.08E+01	4.00E+01	4.17E+01	5.90E-06	4.76E-01	3.50E+01	3.65E+01
Tetrachlorotoluene, p- alpha, alpha, alpha-		--	--	--	--	5.00E-03	5.62E-04	--	--
Thallium Acetate		--	--	--	--	--	--	2.40E-02	2.50E-02
Thallium Carbonate		--	--	--	--	--	--	8.00E-02	8.34E-02
Toluene		--	--	5.00E+03	5.21E+03	--	--	3.00E+02	3.13E+02
Toxaphene		3.20E-04	8.77E-03	--	--	3.40E-04	8.26E-03	--	--
Tri-n-butyltin		--	--	--	--	--	--	1.20E+00	1.25E+00
Triallate		--	--	--	--	--	--	5.20E+01	5.42E+01
Tribromobenzene, 1,2,4-		--	--	--	--	--	--	2.00E+01	2.09E+01
Trichlorobenzene, 1,2,3-		--	--	--	--	--	--	3.20E+00	3.34E+00
Trichlorobenzene, 1,2,4-		--	--	2.00E+00	2.09E+00	7.25E-06	3.87E-01	2.00E+00	2.09E+00
Trichloroethane, 1,1,1-		--	--	5.00E+03	5.21E+03	--	--	1.00E+03	1.04E+03
Trichlorofluoromethane		--	--	--	--	--	--	1.20E+03	1.25E+03
Trichlorophenol, 2,4,6-		3.10E-06	9.06E-01	--	--	2.00E-05	1.40E-01	--	--

Table C-2. USEPA RSLs and DTSC-SLs for Inhalation of Residential Air

Definition	Variable	USEPA Value	DTSC Value	
Age-dependent Adjustment Factor, 0-2	$ADAF_{0-2}$	10	10	dimensionless
Age-dependent Adjustment Factor, 2-6	$ADAF_{2-6}$	3	3	dimensionless
Age-dependent Adjustment Factor, 6-16	$ADAF_{6-16}$	3	3	dimensionless
Age-dependent Adjustment Factor, 16-30	$ADAF_{16-30}$	1	1	dimensionless
Averaging Time, carcinogens	AT_c	70	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	6	yrs
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3
Carcinogenic adjustment factor, inhalation	CAF_I	0.756	0.756	dimensionless
Exposure Duration, child 0-2	ED_{0-2}	2	2	yrs
Exposure Duration, child 2-6	ED_{2-6}	4	4	yrs
Exposure Duration, child 6-16	ED_{6-16}	10	10	yrs
Exposure Duration, adult 16-30	ED_{16-30}	10	10	yrs
Exposure Duration, child	ED_c	6	6	yrs
Exposure Duration, resident	ED_r	26	26	yrs
Exposure Frequency, resident	EF_r	350	350	days/yr
Exposure Time, resident	ET_r	24	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$
Mutagenic adjustment factor, inhalation	MAF_I	0.244	0.244	dimensionless
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3
(Regional) Screening Level	(R)SL	derived herein		
Target Hazard Quotient	THQ	1	1	dimensionless
Target Risk	TR	1.0E-06	1.0E-06	

RSL Derivation:

Carcinogens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_r \times EF_r \times ET_r}$$

Mutagens:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{EF_r \times ET_r \times \left[\begin{matrix}(ED_{0-2} \times IUR \times ADAF_{0-2}) + (ED_{2-6} \times IUR \times ADAF_{2-6}) \\ +(ED_{6-16} \times IUR \times ADAF_{6-16}) + (ED_{16-26} \times IUR \times ADAF_{16-26})\end{matrix}\right]}$$

Trichloroethene:

$$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times EF_r \times ET_r \times \left[(CAF_I \times ED_r) + \left(\begin{matrix}(MAF_I \times ED_{0-2} \times ADAF_{0-2}) + (MAF_I \times ED_{2-6} \times ADAF_{2-6}) \\ +(MAF_I \times ED_{6-16} \times ADAF_{6-16}) + (MAF_I \times ED_{16-26} \times ADAF_{16-26})\end{matrix}\right)\right]}$$

Vinyl Chloride:

$$(R)SL = \frac{TR}{IUR + \left(\frac{IUR \times EF_r \times ED_r \times ET_r \times \frac{1\ day}{24\ hour}}{AT_c \times 365\frac{days}{year}}\right)}$$

Noncancer Hazard:

$$(R)SL = \frac{THQ \times AT_{nc,c} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_c \times EF_r \times ET_r}$$

		USEPA Regional Screening Levels for Residential Air				DTSC Screening Levels for Residential Air			
Analyte	**Mutagen?**	**IUR** (µg/m^3)$^{-1}$	**USEPA RSL:Cancer** (µg/m^3)	**RfC** (µg/m^3)	**USEPA RSL: Noncancer** (µg/m^3)	**IUR** (µg/m^3)$^{-1}$	**DTSC-SL: Cancer** (µg/m^3)	**RfC** (µg/m^3)	**DTSC-SL: Noncancer** (µg/m^3)
Trichloropropane, 1,1,2-		--	--	--	--	--	--	2.00E+01	2.09E+01
Trichloropropane, 1,2,3-	M	--	--	3.00E-01	3.13E-01	7.50E-03	1.35E-04	3.00E-01	3.13E-01
Trifluralin		--	--	--	--	1.93E-06	1.46E+00	3.00E+01	3.13E+01
Trimethylbenzene, 1,3,5-		--	--	--	--	--	--	4.00E+01	4.17E+01
Trimethylpentene, 2,4,4-		--	--	--	--	--	--	4.00E+01	4.17E+01
Vernolate		--	--	--	--	--	--	4.00E+00	4.17E+00
Vinyl Chloride	M (VC)	4.40E-06	1.68E-01	1.00E+02	1.04E+02	7.80E-05	9.45E-03	1.00E+02	1.04E+02
Additional Analytes									
Beryllium Sulfate		2.40E-03	1.17E-03	2.00E-02	2.09E-02	8.60E-01	3.26E-06	7.00E-03	7.30E-03
Dichlorobenzene, 1,3-		--	--	--	--	--	--	1.20E+02	1.25E+02
Methylcyclohexane		--	--	--	--	--	--	6.00E+03	6.26E+03

"--" = no value

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		$\mu g/m^3$	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		$\mu g/m^3$	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		$\mu g/m^3$	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
	IUR	**USEPA RSL: Cancer**	**RfC**	**USEPA RSL: Noncancer**	**IUR**	**DTSC-SL: Cancer**	**RfC**	**DTSC-SL: Noncancer**
Analyte	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)
USEPA RSL Analytes								
Acetaldehyde	2.20E-06	5.57E+00	9.00E+00	3.94E+01	2.70E-06	4.54E+00	9.00E+00	3.94E+01
Acetophenone	--	--	--	--	--	--	4.00E+02	1.75E+03
Acrylamide	1.00E-04	1.23E-01	6.00E+00	2.63E+01	1.30E-03	9.43E-03	6.00E+00	2.63E+01
Acrylonitrile	6.80E-05	1.80E-01	2.00E+00	8.76E+00	2.90E-04	4.23E-02	2.00E+00	8.76E+00
Aldrin	4.90E-03	2.50E-03	--	--	4.90E-03	2.50E-03	1.20E-01	5.26E-01
Arsine	--	--	5.00E-02	2.19E-01	--	--	1.50E-02	6.57E-02
Benfluralin	--	--	--	--	--	--	1.20E+03	5.26E+03
Benzaldehyde	--	--	--	--	--	--	4.00E+02	1.75E+03
Benzene	7.80E-06	1.57E+00	3.00E+01	1.31E+02	2.90E-05	4.23E-01	3.00E+00	1.31E+01
Benzenethiol	--	--	--	--	--	--	4.00E+00	1.75E+01
Benzidine	6.70E-02	1.83E-04	--	--	1.40E-01	8.76E-05	--	--
Benzotrichloride	--	--	--	--	3.25E-03	3.77E-03	--	--
Beryllium and compounds	2.40E-03	5.11E-03	2.00E-02	8.76E-02	2.40E-03	5.11E-03	7.00E-03	3.07E-02
Biphenyl, 1,1'-	--	--	4.00E-01	1.75E+00	2.00E-06	6.13E+00	4.00E-01	1.75E+00
Bis(2-chloro-1-methylethyl) ether	--	--	--	--	--	--	1.60E+02	7.01E+02
Bis(2-chloroethyl)ether	3.30E-04	3.72E-02	--	--	7.10E-04	1.73E-02	--	--
Boron Trifluoride	--	--	1.30E+01	5.69E+01	--	--	7.00E-01	3.07E+00
Bromodichloromethane	3.70E-05	3.31E-01	--	--	3.70E-05	3.31E-01	8.00E+01	3.50E+02
Bromoform	1.10E-06	1.11E+01	--	--	1.10E-06	1.11E+01	8.00E+01	3.50E+02
Bromophos	--	--	--	--	--	--	2.00E+01	8.76E+01
Bromoxynil Octanoate	--	--	--	--	--	--	8.00E+01	3.50E+02
Butadiene, 1,3-	3.00E-05	4.09E-01	2.00E+00	8.76E+00	1.70E-04	7.21E-02	2.00E+00	8.76E+00
Butanol, N-	--	--	--	--	--	--	4.00E+02	1.75E+03
Butylate	--	--	--	--	--	--	2.00E+02	8.76E+02
Butylbenzene, n-	--	--	--	--	--	--	2.00E+02	8.76E+02
Butylbenzene, sec-	--	--	--	--	--	--	4.00E+02	1.75E+03
Butylbenzene, tert-	--	--	--	--	--	--	4.00E+02	1.75E+03

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		$\mu g/m^3$	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		$\mu g/m^3$	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		$\mu g/m^3$	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
	IUR	USEPA RSL: Cancer	RfC	USEPA RSL: Noncancer	IUR	DTSC-SL: Cancer	RfC	DTSC-SL: Noncancer
Analyte	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)
Cadmium (Water)	1.80E-03	6.81E-03	1.00E-02	4.38E-02	4.20E-03	2.92E-03	1.00E-02	4.38E-02
Carbon Tetrachloride	6.00E-06	2.04E+00	1.00E+02	4.38E+02	4.20E-05	2.92E-01	4.00E+01	1.75E+02
Chloral Hydrate	--	--	--	--	--	--	4.00E+02	1.75E+03
Chlordane	1.00E-04	1.23E-01	7.00E-01	3.07E+00	3.40E-04	3.61E-02	7.00E-01	3.07E+00
Chloroacetaldehyde, 2-	--	--	--	--	6.75E-05	1.82E-01	--	--
Chlorobenzilate	3.10E-05	3.96E-01	--	--	7.80E-05	1.57E-01	--	--
Chlorobutane, 1-	--	--	--	--	--	--	1.60E+02	7.01E+02
Chloroethanol, 2-	--	--	--	--	--	--	8.00E+01	3.50E+02
Chlorophenol, 2-	--	--	--	--	--	--	2.00E+01	8.76E+01
Chlorotoluene, o-	--	--	--	--	--	--	8.00E+01	3.50E+02
Chlorotoluene, p-	--	--	--	--	--	--	8.00E+01	3.50E+02
Crotonaldehyde, trans-	--	--	--	--	4.75E-04	2.58E-02	4.00E+00	1.75E+01
Cyanides								
~Cyanogen	--	--	--	--	--	--	4.00E+00	1.75E+01
~Cyanogen Bromide	--	--	--	--	--	--	3.60E+02	1.58E+03
~Cyanogen Chloride	--	--	--	--	--	--	2.00E+02	8.76E+02
~Thiocyanic Acid	--	--	--	--	--	--	8.00E-01	3.50E+00
Cyclohexylamine	--	--	--	--	--	--	8.00E+02	3.50E+03
Dibenzothiophene	--	--	--	--	--	--	4.00E+01	1.75E+02
Dibromobenzene, 1,3-	--	--	--	--	--	--	1.60E+00	7.01E+00
Dibromobenzene, 1,4-	--	--	--	--	--	--	4.00E+01	1.75E+02
Dibromochloromethane	--	--	--	--	2.10E-05	5.84E-01	8.00E+01	3.50E+02
Dibromoethane, 1,2-	6.00E-04	2.04E-02	9.00E+00	3.94E+01	6.00E-04	2.04E-02	8.00E-01	3.50E+00
Dichloroethane, 1,1-	1.60E-06	7.67E+00	--	--	1.60E-06	7.67E+00	8.00E+02	3.50E+03
Dichloroethylene, 1,1-	--	--	2.00E+02	8.76E+02	--	--	7.00E+01	3.07E+02
Dichloroethylene, 1,2-cis-	--	--	--	--	--	--	8.00E+00	3.50E+01
Dichloroethylene, 1,2-trans-	--	--	--	--	--	--	8.00E+01	3.50E+02

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		µg/m^3	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
Analyte	**IUR** (µg/m3)-1	**USEPA RSL: Cancer** (µg/m3)	**RfC** (µg/m3)	**USEPA RSL: Noncancer** (µg/m3)	**IUR** (µg/m3)-1	**DTSC-SL: Cancer** (µg/m3)	**RfC** (µg/m3)	**DTSC-SL: Noncancer** (µg/m3)
Dichloropropane, 1,3-	--	--	--	--	--	--	8.00E+01	3.50E+02
Dichloropropene, 1,3-	4.00E-06	3.07E+00	2.00E+01	8.76E+01	1.60E-05	7.67E-01	2.00E+01	8.76E+01
Dieldrin	4.60E-03	2.67E-03	--	--	4.60E-03	2.67E-03	2.00E-01	8.76E-01
Diethylformamide	--	--	--	--	--	--	4.00E+00	1.75E+01
Diisopropyl Methylphosphonate	--	--	--	--	--	--	3.20E+02	1.40E+03
Dimethylaniline, N,N-	--	--	--	--	--	--	8.00E+00	3.50E+01
Dioxane, 1,4-	5.00E-06	2.45E+00	3.00E+01	1.31E+02	7.70E-06	1.59E+00	3.00E+01	1.31E+02
Dioxins								
~Hexachlorodibenzo-p-dioxin, Mixture	1.30E+00	9.43E-06	--	--	3.80E+00	3.23E-06	--	--
Diphenylhydrazine, 1,2-	2.20E-04	5.57E-02	--	--	2.50E-04	4.91E-02	--	--
Dithiane, 1,4-	--	--	--	--	--	--	4.00E+01	1.75E+02
EPTC	--	--	--	--	--	--	1.00E+02	4.38E+02
Endosulfan	--	--	--	--	--	--	2.40E+01	1.05E+02
Epichlorohydrin	1.20E-06	1.02E+01	1.00E+00	4.38E+00	2.30E-05	5.33E-01	1.00E+00	4.38E+00
Ethoxyethanol, 2-	--	--	2.00E+02	8.76E+02	--	--	7.00E+01	3.07E+02
Ethyl Chloride (Chloroethane)	--	--	1.00E+04	4.38E+04	1.18E-06	1.04E+01	1.00E+04	4.38E+04
Ethyl Ether	--	--	--	--	--	--	8.00E+02	3.50E+03
Ethylene Diamine	--	--	--	--	--	--	3.60E+02	1.58E+03
Formaldehyde	1.30E-05	9.43E-01	9.80E+00	4.29E+01	1.30E-05	9.43E-01	9.00E+00	3.94E+01
Furans								
~Dibenzofuran	--	--	--	--	--	--	4.00E+00	1.75E+01
~Furan	--	--	--	--	--	--	4.00E+00	1.75E+01
Guanidine	--	--	--	--	--	--	4.00E+01	1.75E+02
Heptachlor	1.30E-03	9.43E-03	--	--	1.30E-03	9.43E-03	2.00E+00	8.76E+00
Heptachlor Epoxide	2.60E-03	4.72E-03	--	--	2.60E-03	4.72E-03	5.20E-02	2.28E-01
Hexabromobenzene	--	--	--	--	--	--	8.00E+00	3.50E+01
Hexachlorobenzene	4.60E-04	2.67E-02	--	--	5.10E-04	2.40E-02	3.20E+00	1.40E+01
Hexachlorobutadiene	2.20E-05	5.57E-01	--	--	2.20E-05	5.57E-01	4.00E+00	1.75E+01

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		$\mu g/m^3$	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		$\mu g/m^3$	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		$\mu g/m^3$	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
	IUR	USEPA RSL: Cancer	RfC	USEPA RSL: Noncancer	IUR	DTSC-SL: Cancer	RfC	DTSC-SL: Noncancer
Analyte	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)
Hexachlorocyclohexane, Alpha-	1.80E-03	6.81E-03	--	--	1.80E-03	6.81E-03	3.20E+01	1.40E+02
Hexachlorocyclohexane, Gamma- (Lindane)	3.10E-04	3.96E-02	--	--	3.10E-04	3.96E-02	1.20E+00	5.26E+00
Hexachlorocyclohexane, Technical	5.10E-04	2.40E-02	--	--	1.10E-03	1.11E-02	--	--
Hydrogen Chloride	--	--	2.00E+01	8.76E+01	--	--	9.00E+00	3.94E+01
Isobutyl Alcohol	--	--	--	--	--	--	1.20E+03	5.26E+03
Isopropalin	--	--	--	--	--	--	6.00E+01	2.63E+02
Lead Compounds								
~Tetraethyl Lead	--	--	--	--	--	--	4.00E-04	1.75E-03
Lewisite	--	--	--	--	--	--	2.00E-02	8.76E-02
Mercury Compounds								
~Mercuric Chloride (and other Mercury salts)	--	--	3.00E-01	1.31E+00	--	--	3.00E-02	1.31E-01
~Mercury (elemental)	--	--	3.00E-01	1.31E+00	--	--	3.00E-02	1.31E-01
Merphos	--	--	--	--	--	--	1.20E-01	5.26E-01
Methanol	--	--	2.00E+04	8.76E+04	--	--	4.00E+03	1.75E+04
Methoxychlor	--	--	--	--	--	--	2.00E+01	8.76E+01
Methyl Acetate	--	--	--	--	--	--	4.00E+03	1.75E+04
Methylene Chloride	1.00E-08	1.23E+03	6.00E+02	2.63E+03	1.00E-06	1.23E+01	4.00E+02	1.75E+03
Methylstyrene, Alpha-	--	--	--	--	--	--	2.80E+02	1.23E+03
Mineral oils	--	--	--	--	--	--	1.20E+04	5.26E+04
Mirex	5.10E-03	2.40E-03	--	--	5.10E-03	2.40E-03	8.00E-01	3.50E+00
Naled	--	--	--	--	--	--	8.00E+00	3.50E+01
Naphthylamine, 2-	--	--	--	--	5.10E-04	2.40E-02	--	--
Nickel Refinery Dust	2.40E-04	5.11E-02	1.40E-02	6.13E-02	2.60E-04	4.72E-02	1.40E-02	6.13E-02
Nickel Soluble Salts	2.60E-04	4.72E-02	9.00E-02	3.94E-01	2.60E-04	4.72E-02	1.40E-02	6.13E-02
Nickel Subsulfide	4.80E-04	2.56E-02	1.40E-02	6.13E-02	4.90E-04	2.50E-02	1.40E-02	6.13E-02
Nitroso-di-N-butylamine, N-	1.60E-03	7.67E-03	--	--	3.10E-03	3.96E-03	--	--
Nitrotoluene, o-	--	--	--	--	5.50E-05	2.23E-01	3.60E+00	1.58E+01
Pebulate	--	--	--	--	--	--	2.00E+02	8.76E+02

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		$\mu g/m^3$	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		$(\mu g/m^3)^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		$\mu g/m^3$	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		$\mu g/m^3$	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
	IUR	USEPA RSL: Cancer	RfC	USEPA RSL: Noncancer	IUR	DTSC-SL: Cancer	RfC	DTSC-SL: Noncancer
Analyte	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)	(µg/m3)-1	(µg/m3)	(µg/m3)	(µg/m3)
Pentabromodiphenyl Ether	--	--	--	--	--	--	8.00E+00	3.50E+01
Pentachlorobenzene	--	--	--	--	--	--	3.20E+00	1.40E+01
Pentachloroethane	--	--	--	--	2.25E-05	5.45E-01	--	--
Pentachloronitrobenzene	--	--	--	--	6.50E-05	1.89E-01	1.20E+01	5.26E+01
Perfluorobutane Sulfonate	--	--	--	--	--	--	8.00E+01	3.50E+02
Phosphoric Acid	--	--	1.00E+01	4.38E+01	--	--	7.00E+00	3.07E+01
Phosphorus, White	--	--	--	--	--	--	8.00E-02	3.50E-01
Phthalates								
~Dimethylterephthalate	--	--	--	--	--	--	4.00E+02	1.75E+03
Polychlorinated Biphenyls (PCBs)								
~Aroclor 1016	2.00E-05	6.13E-01	--	--	2.00E-05	6.13E-01	2.80E-01	1.23E+00
~Aroclor 1254	5.71E-04	2.15E-02	--	--	5.71E-04	2.15E-02	8.00E-02	3.50E-01
~Aroclor 5460	--	--	--	--	--	--	2.40E+00	1.05E+01
Polynuclear Aromatic Hydrocarbons (PAHs)								
~Acenaphthene	--	--	--	--	--	--	2.40E+02	1.05E+03
~Anthracene	--	--	--	--	--	--	1.20E+03	5.26E+03
~Chloronaphthalene, Beta-	--	--	--	--	--	--	3.20E+02	1.40E+03
~Fluorene	--	--	--	--	--	--	1.60E+02	7.01E+02
~Methylnaphthalene, 1-	--	--	--	--	7.25E-06	1.69E+00	2.80E+02	1.23E+03
~Methylnaphthalene, 2-	--	--	--	--	--	--	1.60E+01	7.01E+01
~Pyrene	--	--	--	--	--	--	1.20E+02	5.26E+02
Profluralin	--	--	--	--	--	--	2.40E+01	1.05E+02
Propargyl Alcohol	--	--	--	--	--	--	8.00E+00	3.50E+01
Pyridine	--	--	--	--	--	--	4.00E+00	1.75E+01
Ronnel	--	--	--	--	--	--	2.00E+02	8.76E+02
Styrene	--	--	1.00E+03	4.38E+03	--	--	9.00E+02	3.94E+03
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl es	7.10E-06	1.73E+00	--	--	8.60E-06	1.43E+00	--	--
Terbufos	--	--	--	--	--	--	1.00E-01	4.38E-01

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		µg/m^3	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
Analyte	**IUR** (µg/m3)-1	**USEPA RSL: Cancer** (µg/m3)	**RfC** (µg/m3)	**USEPA RSL: Noncancer** (µg/m3)	**IUR** (µg/m3)-1	**DTSC-SL: Cancer** (µg/m3)	**RfC** (µg/m3)	**DTSC-SL: Noncancer** (µg/m3)
Tetrachlorobenzene, 1,2,4,5-	--	--	--	--	--	--	1.20E+00	5.26E+00
Tetrachloroethane, 1,1,1,2-	7.40E-06	1.66E+00	--	--	7.40E-06	1.66E+00	1.20E+02	5.26E+02
Tetrachloroethane, 1,1,2,2-	5.80E-05	2.11E-01	--	--	5.80E-05	2.11E-01	8.00E+01	3.50E+02
Tetrachloroethylene	2.60E-07	4.72E+01	4.00E+01	1.75E+02	5.90E-06	2.08E+00	3.50E+01	1.53E+02
Tetrachlorotoluene, p- alpha, alpha, alpha-	--	--	--	--	5.00E-03	2.45E-03	--	--
Thallium Acetate	--	--	--	--	--	--	2.40E-02	1.05E-01
Thallium Carbonate	--	--	--	--	--	--	8.00E-02	3.50E-01
Toluene	--	--	5.00E+03	2.19E+04	--	--	3.00E+02	1.31E+03
Toxaphene	3.20E-04	3.83E-02	--	--	3.40E-04	3.61E-02	--	--
Tri-n-butyltin	--	--	--	--	--	--	1.20E+00	5.26E+00
Triallate	--	--	--	--	--	--	5.20E+01	2.28E+02
Tribromobenzene, 1,2,4-	--	--	--	--	--	--	2.00E+01	8.76E+01
Trichlorobenzene, 1,2,3-	--	--	--	--	--	--	3.20E+00	1.40E+01
Trichlorobenzene, 1,2,4-	--	--	2.00E+00	8.76E+00	7.25E-06	1.69E+00	2.00E+00	8.76E+00
Trichloroethane, 1,1,1-	--	--	5.00E+03	2.19E+04	--	--	1.00E+03	4.38E+03
Trichlorofluoromethane	--	--	--	--	--	--	1.20E+03	5.26E+03
Trichlorophenol, 2,4,6-	3.10E-06	3.96E+00	--	--	2.00E-05	6.13E-01	--	--
Trichloropropane, 1,1,2-	--	--	--	--	--	--	2.00E+01	8.76E+01
Trichloropropane, 1,2,3-	--	--	3.00E-01	1.31E+00	7.50E-03	1.64E-03	3.00E-01	1.31E+00
Trifluralin	--	--	--	--	1.93E-06	6.37E+00	3.00E+01	1.31E+02
Trimethylbenzene, 1,3,5-	--	--	--	--	--	--	4.00E+01	1.75E+02
Trimethylpentene, 2,4,4-	--	--	--	--	--	--	4.00E+01	1.75E+02
Vernolate	--	--	--	--	--	--	4.00E+00	1.75E+01
Vinyl Chloride	4.40E-06	2.79E+00	1.00E+02	4.38E+02	7.80E-05	1.57E-01	1.00E+02	4.38E+02

Table C-3. USEPA RSLs and DTSC-SLs for Inhalation of Commercial/Industrial Air

Definition	Variable	USEPA Value	DTSC Value		Risk and Hazard Equations
Averaging Time, carcinogens	AT_c	70	70	yrs	Cancer Risk:
Averaging Time, noncarcinogens, worker	$AT_{nc,w}$	25	25	yrs	
COPC Concentration in indoor air	$C_{indoor\ air}$	chemical-specific		µg/m^3	$(R)SL = \frac{TR \times AT_c \times 365\frac{day}{year} \times 24\frac{hour}{day}}{IUR \times ED_w \times EF_w \times ET_w}$
Exposure Duration, worker	ED_w	25	25	yrs	
Exposure Frequency, worker	EF_w	250	250	days/yr	
Exposure Time, worker	ET_w	8	8	hours/day	
Inhalation Unit-Risk Factor	IUR	chemical-specific		(µg/m^3)$^{-1}$	
Inhalation Reference Concentration	RfC	chemical-specific		µg/m^3	Noncancer Hazard:
(Regional) Screening Level	(R)SL	derived herein		µg/m^3	$(R)SL = \frac{THQ \times AT_{nc,w} \times 365\frac{day}{year} \times 24\frac{hour}{day}}{\frac{1}{RfC} \times ED_w \times EF_w \times ET_w}$
Target Hazard Quotient	THQ	1	1	dimensionless	
Target Risk	TR	1.0E-06	1.0E-06	dimensionless	

	USEPA Regional Screening Level for Commercial/Industrial Air				DTSC Screening Level for Commercial/Industrial Air			
Analyte	**IUR** (µg/m3)-1	**USEPA RSL: Cancer** (µg/m3)	**RfC** (µg/m3)	**USEPA RSL: Noncancer** (µg/m3)	**IUR** (µg/m3)-1	**DTSC-SL: Cancer** (µg/m3)	**RfC** (µg/m3)	**DTSC-SL: Noncancer** (µg/m3)
Additional Analytes								
Beryllium Sulfate	2.40E-03	5.11E-03	2.00E-02	8.76E-02	8.60E-01	1.43E-05	7.00E-03	3.07E-02
Dichlorobenzene, 1,3-	--	--	--	--	--	--	1.20E+02	5.26E+02
Methylcyclohexane	--	--	--	--	--	--	6.00E+03	2.63E+04

"--" = no value

U.S. EPA Risk Based Screening Levels

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information													Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
8.7E-03	I			4.0E-03	I					1	0.1		Acephate	30560-19-1	6.2E+01	c**	2.6E+02	c*					8.9E+00	c**		2.0E-03	c**	
		2.2E-06	I			9.0E-03	I	V		1		1.1E+05	Acetaldehyde	75-07-0	1.1E+01	c**	4.9E+01	c**	1.3E+00	c**	5.6E+00	c**	2.6E+00	c**		5.2E-04	c**	
				2.0E-02	I					1	0.1		Acetochlor	34256-82-1	1.3E+03	n	1.6E+04	n					3.5E+02	n		2.8E-01	n	
				9.0E-01	I	3.1E+01	A	V		1		1.1E+05	Acetone	67-64-1	6.1E+04	n	6.7E+05	nms	3.2E+04	n	1.4E+05	n	1.4E+04	n		2.9E+00	n	
						2.0E-03	X			1	0.1		Acetone Cyanohydrin	75-86-5	2.8E+06	nm	1.2E+07	nm	2.1E+00	n	8.8E+00	n						
						6.0E-02	I	V		1		1.3E+05	Acetonitrile	75-05-8	8.1E+02	n	3.4E+03	n	6.3E+01	n	2.6E+02	n	1.3E+02	n		2.6E-02	n	
				1.0E-01	I			V		1		2.5E+03	Acetophenone	98-86-2	7.8E+03	ns	1.2E+05	nms					1.9E+03	n		5.8E-01	n	
3.8E+00	C	1.3E-03	C							1	0.1		Acetylaminofluorene, 2-	53-96-3	1.4E-01	c	6.0E-01	c	2.2E-03	c	9.4E-03	c	1.6E-02	c		7.2E-05	c	
				5.0E-04	I	2.0E-05	I	V		1		2.3E+04	Acrolein	107-02-8	1.4E-01	n	6.0E-01	n	2.1E-02	n	8.8E-02	n	4.2E-02	n		8.4E-06	n	
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I		M	1	0.1		Acrylamide	79-06-1	2.4E-01	c	4.6E+00	c	1.0E-02	c	1.2E-01	c	5.0E-02	c		1.1E-05	c	
				5.0E-01	I	1.0E-03	I	V		1		1.1E+05	Acrylic Acid	79-10-7	9.9E+01	n	4.2E+02	n	1.0E+00	n	4.4E+00	n	2.1E+00	n		4.2E-04	n	
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V		1		1.1E+04	Acrylonitrile	107-13-1	2.5E-01	c*	1.1E+00	c*	4.1E-02	c*	1.8E-01	c*	5.2E-02	c*		1.1E-05	c*	
						6.0E-03	P			1	0.1		Adiponitrile	111-69-3	8.5E+06	nm	3.6E+07	nm	6.3E+00	n	2.6E+01	n						
5.6E-02	C			1.0E-02	I					1	0.1		Alachlor	15972-60-8	9.7E+00	c*	4.1E+01	c					1.1E+00	c	2.0E+00	8.7E-04	c	1.6E-03
				1.0E-03	I					1	0.1		Aldicarb	116-06-3	6.3E+01	n	8.2E+02	n					2.0E+01	n	3.0E+00	4.9E-03	n	7.5E-04
				1.0E-03	I					1	0.1		Aldicarb Sulfone	1646-88-4	6.3E+01	n	8.2E+02	n					2.0E+01	n	2.0E+00	4.4E-03	n	4.4E-04
										1	0.1		Aldicarb sulfoxide	1646-87-3											4.0E+00			8.8E-04
1.7E+01	I	4.9E-03	I	3.0E-05	I			V		1			Aldrin	309-00-2	3.9E-02	c*	1.8E-01	c	5.7E-04	c	2.5E-03	c	9.2E-04	c		1.5E-04	c	
				5.0E-03	I	1.0E-04	X	V		1		1.1E+05	Allyl Alcohol	107-18-6	3.5E+00	n	1.5E+01	n	1.0E-01	n	4.4E-01	n	2.1E-01	n		4.2E-05	n	
2.1E-02	C	6.0E-06	C			1.0E-03	I	V		1		1.4E+03	Allyl Chloride	107-05-1	7.2E-01	c**	3.2E+00	c**	4.7E-01	c**	2.0E+00	c**	7.3E-01	c**		2.3E-04	c**	
				1.0E+00	P	5.0E-03	P			1			Aluminum	7429-90-5	7.7E+04	n	1.1E+06	nm	5.2E+00	n	2.2E+01	n	2.0E+04	n		3.0E+04	n	
				4.0E-04	I					1			Aluminum Phosphide	20859-73-8	3.1E+01	n	4.7E+02	n					8.0E+00	n			n	
				9.0E-03	I					1	0.1		Ametryn	834-12-8	5.7E+02	n	7.4E+03	n					1.5E+02	n		1.6E-01	n	
2.1E+01	C	6.0E-03	C							1	0.1		Aminobiphenyl, 4-	92-67-1	2.6E-02	c	1.1E-01	c	4.7E-04	c	2.0E-03	c	3.0E-03	c		1.5E-05	c	
				8.0E-02	P					1	0.1		Aminophenol, m-	591-27-5	5.1E+03	n	6.6E+04	n					1.6E+03	n		6.1E-01	n	
				2.0E-02	P					1	0.1		Aminophenol, p-	123-30-8	1.3E+03	n	1.6E+04	n					4.0E+02	n		1.5E-01	n	
				2.5E-03	I					1	0.1		Amitraz	33089-61-1	1.6E+02	n	2.1E+03	n					8.2E+00	n		4.2E+00	n	
						1.0E-01	I	V		1			Ammonia	7664-41-7					1.0E+02	n	4.4E+02	n						
				2.0E-01	I					1			Ammonium Sulfamate	7773-06-0	1.6E+04	n	2.3E+05	nm					4.0E+03	n			n	
						3.0E-03	X	V		1		1.4E+04	Amyl Alcohol, tert-	75-85-4	8.2E+01	n	3.4E+02	n	3.1E+00	n	1.3E+01	n	6.3E+00	n		1.3E-03	n	
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I			1	0.1		Aniline	62-53-3	9.5E+01	c**	4.0E+02	c*	1.0E+00	n	4.4E+00	n	1.3E+01	c*		4.6E-03	c*	
4.0E-02	P			2.0E-03	X					1	0.1		Anthraquinone, 9,10-	84-65-1	1.4E+01	c**	5.7E+01	c*					1.4E+00	c*		1.4E-02	c*	
				4.0E-04	I					0.15			Antimony (metallic)	7440-36-0	3.1E+01	n	4.7E+02	n					7.8E+00	n	6.0E+00	3.5E-01	n	2.7E-01
				5.0E-04	H					0.15			Antimony Pentoxide	1314-60-9	3.9E+01	n	5.8E+02	n					9.7E+00	n			n	
				4.0E-04	H					0.15			Antimony Tetroxide	1332-81-6	3.1E+01	n	4.7E+02	n					7.8E+00	n			n	
						2.0E-04	I			0.15			Antimony Trioxide	1309-64-4	2.8E+05	nm	1.2E+06	nm	2.1E-01	n	8.8E-01	n						
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C			1	0.03		Arsenic, Inorganic	7440-38-2	6.8E-01	c*R	3.0E+00	cR	6.5E-04	c*	2.9E-03	c*	5.2E-02	c	1.0E+01	1.5E-03	c	2.9E-01
				3.5E-06	C	5.0E-05	I			1			Arsine	7784-42-1	2.7E-01	n	4.1E+00	n	5.2E-02	n	2.2E-01	n	7.0E-02	n			n	
				5.0E-02	I					1	0.1		Asulam	3337-71-1	3.2E+03	n	4.1E+04	n					1.0E+03	n		2.6E-01	n	
2.3E-01	C			3.5E-02	I					1	0.1		Atrazine	1912-24-9	2.4E+00	c	1.0E+01	c					3.0E-01	c	3.0E+00	2.0E-04	c	1.9E-03
8.8E-01	C	2.5E-04	C							1	0.1		Auramine	492-80-8	6.2E-01	c	2.6E+00	c	1.1E-02	c	4.9E-02	c	6.7E-02	c		6.1E-04	c	
				4.0E-04	I					1	0.1		Avermectin B1	65195-55-3	2.5E+01	n	3.3E+02	n					8.0E+00	n		1.4E+01	n	
				3.0E-03	A	1.0E-02	A			1	0.1		Azinphos-methyl	86-50-0	1.9E+02	n	2.5E+03	n	1.0E+01	n	4.4E+01	n	5.6E+01	n		1.7E-02	n	
1.1E-01	I	3.1E-05	I					V		1			Azobenzene	103-33-3	5.6E+00	c	2.6E+01	c	9.1E-02	c	4.0E-01	c	1.2E-01	c		9.3E-04	c	
				1.0E+00	P	7.0E-06	P			1	0.1		Azodicarbonamide	123-77-3	8.6E+03	n	4.0E+04	n	7.3E-03	n	3.1E-02	n	2.0E+04	n		6.8E+00	n	
				2.0E-01	I	5.0E-04	H			0.07			Barium	7440-39-3	1.5E+04	n	2.2E+05	nm	5.2E-01	n	2.2E+00	n	3.8E+03	n	2.0E+03	1.6E+02	n	8.2E+01
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			Barium Chromate	10294-40-3	3.0E-01	c	6.2E+00	c	6.8E-06	c	8.2E-05	c	4.1E-02	c			c	
				3.0E-01	I			V		1			Benfluralin	1861-40-1	2.3E+04	n	3.5E+05	nm					1.7E+03	n		5.6E+01	n	
				5.0E-02	I					1	0.1		Benomyl	17804-35-2	3.2E+03	n	4.1E+04	n					9.7E+02	n		8.5E-01	n	
				2.0E-01	I					1	0.1		Bensulfuron-methyl	83055-99-6	1.3E+04	n	1.6E+05	nm					3.9E+03	n		1.0E+00	n	
				3.0E-02	I					1	0.1		Bentazon	25057-89-0	1.9E+03	n	2.5E+04	n					5.7E+02	n		1.2E-01	n	
				1.0E-01	I			V		1		1.2E+03	Benzaldehyde	100-52-7	7.8E+03	ns	1.2E+05	nms					1.9E+03	n		4.3E-01	n	
5.5E-02	I	7.8E-06	I	4.0E-03	I	3.0E-02	I	V		1		1.8E+03	Benzene	71-43-2	1.2E+00	c*	5.1E+00	c*	3.6E-01	c*	1.6E+00	c*	4.6E-01	c*	5.0E+00	2.3E-04	c*	2.6E-03
1.0E-01	X			3.0E-04	X					1	0.1		Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	5.4E+00	c**	2.3E+01	c*					7.8E-01	c**		2.2E-04	c**	
				1.0E-03	P			V		1		1.3E+03	Benzenethiol	108-98-5	7.8E+01	n	1.2E+03	n					1.7E+01	n		1.1E-02	n	
2.3E+02	I	6.7E-02	I	3.0E-03	I				M	1	0.1		Benzidine	92-87-5	5.3E-04	c	1.0E-02	c	1.5E-05	c	1.8E-04	c	1.1E-04	c		2.8E-07	c	
				4.0E+00	I					1	0.1		Benzoic Acid	65-85-0	2.5E+05	nm	3.3E+06	nm					7.5E+04	n		1.8E+01	n	
1.3E+01	I							V		1		3.2E+02	Benzotrichloride	98-07-7	5.3E-02	c	2.5E-01	c					3.0E-03	c		6.6E-06	c	
				1.0E-01	P					1	0.1		Benzyl Alcohol	100-51-6	6.3E+03	n	8.2E+04	n					2.0E+03	n		4.8E-01	n	
1.7E-01	I	4.9E-05	C	2.0E-03	P	1.0E-03	P	V		1		1.5E+03	Benzyl Chloride	100-44-7	1.1E+00	c*	4.8E+00	c*	5.7E-02	c*	2.5E-01	c*	8.9E-02	c*		9.8E-05	c*	
		2.4E-03	I	2.0E-03	I	2.0E-05	I			0.007			Beryllium and compounds	7440-41-7	1.6E+02	n	2.3E+03	n	1.2E-03	c*	5.1E-03	c*	2.5E+01	n	4.0E+00	1.9E+01	n	3.2E+00
				9.0E-03	P					1	0.1		Bifenox	42576-02-3	5.7E+02	n	7.4E+03	n					1.0E+02	n		7.6E-01	n	
				1.5E-02	I					1	0.1		Biphenthrin	82657-04-3	9.5E+02	n	1.2E+04	n					3.0E+02	n		1.4E+03	n	
8.0E-03	I			5.0E-01	I	4.0E-04	X	V		1			Biphenyl, 1,1'-	92-52-4	4.7E+01	n	2.0E+02	n	4.2E-01	n	1.8E+00	n	8.3E-01	n		8.7E-03	n	
				4.0E-02	I			V		1		1.0E+03	Bis(2-chloro-1-methylethyl) ether	108-60-1	3.1E+03	ns	4.7E+04	ns					7.1E+02	n		2.6E-01	n	

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific Information															Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				3.0E-03	P					1	0.1		Bis(2-chloroethoxy)methane	111-91-1	1.9E+02	n	2.5E+03	n					5.9E+01	n		1.3E-02	n		
1.1E+00	I	3.3E-04	I					V		1		5.1E+03	Bis(2-chloroethyl)ether	111-44-4	2.3E-01	c	1.0E+00	c	8.5E-03	c	3.7E-02	c	1.4E-02	c		3.6E-06	c		
2.2E+02	I	6.2E-02	I					V		1		4.2E+03	Bis(chloromethyl)ether	542-88-1	8.3E-05	c	3.6E-04	c	4.5E-05	c	2.0E-04	c	7.2E-05	c		1.7E-08	c		
				5.0E-02	I					1	0.1		Bisphenol A	80-05-7	3.2E+03	n	4.1E+04	n					7.7E+02	n		5.8E+01	n		
				2.0E-01	I	2.0E-02	H			1			Boron And Borates Only	7440-42-8	1.6E+04	n	2.3E+05	nm	2.1E+01	n	8.8E+01	n	4.0E+03	n		1.3E+01	n		
				2.0E+00	P	2.0E-02	P	V		1			Boron Trichloride	10294-34-5	1.6E+05	nm	2.3E+06	nm	2.1E+01	n	8.8E+01	n	4.2E+01	n			n		
				4.0E-02	C	1.3E-02	C	V		1			Boron Trifluoride	7637-07-2	3.1E+03	n	4.7E+04	n	1.4E+01	n	5.7E+01	n	2.6E+01	n			n		
7.0E-01	I			4.0E-03	I					1			Bromate	15541-45-4	9.9E-01	c	4.7E+00	c					1.1E-01	c	1.0E+01	8.5E-04	c	7.7E-02	
2.0E+00	X	6.0E-04	X					V		1		2.4E+03	Bromo-2-chloroethane, 1-	107-04-0	2.6E-02	c	1.1E-01	c	4.7E-03	c	2.0E-02	c	7.4E-03	c		2.1E-06	c		
				8.0E-03	I	6.0E-02	I	V		1		6.8E+02	Bromobenzene	108-86-1	2.9E+02	n	1.8E+03	ns	6.3E+01	n	2.6E+02	n	6.2E+01	n		4.2E-02	n		
						4.0E-02	X	V		1		4.0E+03	Bromochloromethane	74-97-5	1.5E+02	n	6.3E+02	n	4.2E+01	n	1.8E+02	n	8.3E+01	n		2.1E-02	n		
6.2E-02	I	3.7E-05	C	2.0E-02	I			V		1		9.3E+02	Bromodichloromethane	75-27-4	2.9E-01	c	1.3E+00	c	7.6E-02	c	3.3E-01	c	1.3E-01	c	8.0E+01(F)	3.6E-05	c	2.2E-02	
7.9E-03	I	1.1E-06	I	2.0E-02	I			V		1		9.2E+02	Bromoform	75-25-2	1.9E+01	c*	8.6E+01	c	2.6E+00	c	1.1E+01	c	3.3E+00	c	8.0E+01(F)	8.7E-04	c	2.1E-02	
				1.4E-03	I	5.0E-03	I	V		1		3.6E+03	Bromomethane	74-83-9	6.8E+00	n	3.0E+01	n	5.2E+00	n	2.2E+01	n	7.5E+00	n		1.9E-03	n		
				5.0E-03	H			V		1			Bromophos	2104-96-3	3.9E+02	n	5.8E+03	n					3.5E+01	n		1.5E-01	n		
				2.0E-02	I					1	0.1		Bromoxynil	1689-84-5	1.3E+03	n	1.6E+04	n					3.3E+02	n		2.8E-01	n		
				2.0E-02	I			V		1			Bromoxynil Octanoate	1689-99-2	1.6E+03	n	2.3E+04	n					1.4E+02	n		1.2E+00	n		
3.4E+00	C	3.0E-05	I			2.0E-03	I	V		1		6.7E+02	Butadiene, 1,3-	106-99-0	5.8E-02	c*	2.6E-01	c*	9.4E-02	c*	4.1E-01	c*	1.8E-02	c		9.9E-06	c		
				1.0E-01	I			V		1		7.6E+03	Butanol, N-	71-36-3	7.8E+03	ns	1.2E+05	nms					2.0E+03	n		4.1E-01	n		
1.9E-03	P			2.0E-01	I					1	0.1		Butyl Benzyl Phthalate	85-68-7	2.9E+02	c*	1.2E+03	c					1.6E+01	c		2.4E-01	c		
				2.0E+00	P	3.0E+01	P	V		1		2.1E+04	Butyl alcohol, sec-	78-92-2	1.3E+05	nms	1.5E+06	nms	3.1E+04	n	1.3E+05	n	2.4E+04	n		5.0E+00	n		
				5.0E-02	I			V		1			Butylate	2008-41-5	3.9E+03	n	5.8E+04	n					4.6E+02	n		4.5E-01	n		
2.0E-04	C	5.7E-08	C							1	0.1		Butylated hydroxyanisole	25013-16-5	2.7E+03	c	1.1E+04	c	4.9E+01	c	2.2E+02	c	1.5E+02	c		2.9E-01	c		
3.6E-03	P			3.0E-01	P					1	0.1		Butylated hydroxytoluene	128-37-0	1.5E+02	c	6.4E+02	c					3.4E+00	c		1.0E-01	c		
				5.0E-02	P			V		1		1.1E+02	Butylbenzene, n-	104-51-8	3.9E+03	ns	5.8E+04	ns					1.0E+03	n		3.2E+00	n		
				1.0E-01	X			V		1		1.5E+02	Butylbenzene, sec-	135-98-8	7.8E+03	ns	1.2E+05	nms					2.0E+03	n		5.9E+00	n		
				1.0E-01	X			V		1		1.8E+02	Butylbenzene, tert-	98-06-6	7.8E+03	ns	1.2E+05	nms					6.9E+02	n		1.6E+00	n		
				2.0E-02	A					1	0.1		Cacodylic Acid	75-60-5	1.3E+03	n	1.6E+04	n					4.0E+02	n		1.1E-01	n		
		1.8E-03	I	1.0E-03	I	1.0E-05	A			0.025	0.001		Cadmium (Diet)	7440-43-9	7.1E+01	n	9.8E+02	n											
		1.8E-03	I	5.0E-04	I	1.0E-05	A			0.05	0.001		Cadmium (Water)	7440-43-9					1.6E-03	c**	6.8E-03	c**	9.2E+00	n	5.0E+00	6.9E-01	n	3.8E-01	
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			Calcium Chromate	13765-19-0	3.0E-01	c	6.2E+00	c	6.8E-06	c	8.2E-05	c	4.1E-02	c			c		
				5.0E-01	I	2.2E-03	C			1	0.1		Caprolactam	105-60-2	3.1E+04	n	4.0E+05	nm	2.3E+00	n	9.6E+00	n	9.9E+03	n		2.5E+00	n		
1.5E-01	C	4.3E-05	C	2.0E-03	I					1	0.1		Captafol	2425-06-1	3.6E+00	c*	1.5E+01	c	6.5E-02	c	2.9E-01	c	4.0E-01	c*		7.1E-04	c*		
2.3E-03	C	6.6E-07	C	1.3E-01	I					1	0.1		Captan	133-06-2	2.4E+02	c*	1.0E+03	c	4.3E+00	c	1.9E+01	c	3.1E+01	c*		2.2E-02	c*		
				1.0E-01	I					1	0.1		Carbaryl	63-25-2	6.3E+03	n	8.2E+04	n					1.8E+03	n		1.7E+00	n		
				5.0E-03	I					1	0.1		Carbofuran	1563-66-2	3.2E+02	n	4.1E+03	n					9.4E+01	n	4.0E+01	3.7E-02	n	1.6E-02	
				1.0E-01	I	7.0E-01	I	V		1		7.4E+02	Carbon Disulfide	75-15-0	7.7E+02	ns	3.5E+03	ns	7.3E+02	n	3.1E+03	n	8.1E+02	n		2.4E-01	n		
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V		1		4.6E+02	Carbon Tetrachloride	56-23-5	6.5E-01	c	2.9E+00	c	4.7E-01	c	2.0E+00	c	4.6E-01	c	5.0E+00	1.8E-04	c	1.9E-03	
						1.0E-01	P	V		1		5.9E+03	Carbonyl Sulfide	463-58-1	6.7E+01	n	2.8E+02	n	1.0E+02	n	4.4E+02	n	2.1E+02	n		5.1E-01	n		
				1.0E-02	I					1	0.1		Carbosulfan	55285-14-8	6.3E+02	n	8.2E+03	n					5.1E+01	n		1.2E+00	n		
				1.0E-01	I					1	0.1		Carboxin	5234-68-4	6.3E+03	n	8.2E+04	n					1.9E+03	n		1.0E+00	n		
						9.0E-04	I			1			Ceric oxide	1306-38-3	1.3E+06	nm	5.4E+06	nm	9.4E-01	n	3.9E+00	n							
				1.0E-01	I			V		1			Chloral Hydrate	302-17-0	7.8E+03	n	1.2E+05	nm					2.0E+03	n		4.0E-01	n		
				1.5E-02	I					1	0.1		Chloramben	133-90-4	9.5E+02	n	1.2E+04	n					2.9E+02	n		7.0E-02	n		
4.0E-01	H									1	0.1		Chloranil	118-75-2	1.3E+00	c	5.7E+00	c					1.8E-01	c		1.5E-04	c		
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I	V		1	0.04		Chlordane	12789-03-6	1.7E+00	c*	7.5E+00	c*	2.8E-02	c*	1.2E-01	c*	4.5E-02	c*	2.0E+00	3.0E-03	c*	1.4E-01	
1.0E+01	I	4.6E-03	C	3.0E-04	I					1	0.1		Chlordecone (Kepone)	143-50-0	5.4E-02	c	2.3E-01	c	6.1E-04	c	2.7E-03	c	3.5E-03	c		1.2E-04	c		
				7.0E-04	A					1	0.1		Chlorfenvinphos	470-90-6	4.4E+01	n	5.7E+02	n					1.1E+01	n		3.1E-02	n		
				2.0E-02	I					1	0.1		Chlorimuron, Ethyl-	90982-32-4	1.3E+03	n	1.6E+04	n					3.9E+02	n		1.3E-01	n		
				1.0E-01	I	1.5E-04	A	V		1		2.8E+03	Chlorine	7782-50-5	1.8E-01	n	7.8E-01	n	1.5E-01	n	6.4E-01	n	3.0E-01	n		1.4E-04	n		
				3.0E-02	I	2.0E-04	I	V		1			Chlorine Dioxide	10049-04-4	2.3E+03	n	3.4E+04	n	2.1E-01	n	8.8E-01	n	4.2E-01	n			n		
				3.0E-02	I					1			Chlorite (Sodium Salt)	7758-19-2	2.3E+03	n	3.5E+04	n					6.0E+02	n	1.0E+03		n		
						5.0E+01	I	V		1		1.2E+03	Chloro-1,1-difluoroethane, 1-	75-68-3	5.4E+04	ns	2.3E+05	nms	5.2E+04	n	2.2E+05	n	1.0E+05	n		5.2E+01	n		
		3.0E-04	I	2.0E-02	H	2.0E-02	I	V		1		7.9E+02	Chloro-1,3-butadiene, 2-	126-99-8	1.0E-02	c	4.4E-02	c	9.4E-03	c	4.1E-02	c	1.9E-02	c		9.8E-06	c		
4.6E-01	H									1	0.1		Chloro-2-methylaniline HCl, 4-	3165-93-3	1.2E+00	c	5.0E+00	c					1.7E-01	c		1.5E-04	c		
1.0E-01	P	7.7E-05	C	3.0E-03	X					1	0.1		Chloro-2-methylaniline, 4-	95-69-2	5.4E+00	c*	2.3E+01	c	3.6E-02	c	1.6E-01	c	7.0E-01	c*		4.0E-04	c*		
2.7E-01	X							V		1		1.2E+04	Chloroacetaldehyde, 2-	107-20-0	2.6E+00	c	1.2E+01	c					2.9E-01	c		5.8E-05	c		
										1	0.1		Chloroacetic Acid	79-11-8											6.0E+01			1.2E-02	
						3.0E-05	I			1	0.1		Chloroacetophenone, 2-	532-27-4	4.3E+04	n	1.8E+05	nm	3.1E-02	n	1.3E-01	n							
2.0E-01	P			4.0E-03	I					1	0.1		Chloroaniline, p-	106-47-8	2.7E+00	c*	1.1E+01	c					3.7E-01	c		1.6E-04	c		
				2.0E-02	I	5.0E-02	P	V		1		7.6E+02	Chlorobenzene	108-90-7	2.8E+02	n	1.3E+03	ns	5.2E+01	n	2.2E+02	n	7.8E+01	n	1.0E+02	5.3E-02	n	6.8E-02	
1.1E-01	C	3.1E-05	C	2.0E-02	I					1	0.1		Chlorobenzilate	510-15-6	4.9E+00	c	2.1E+01	c	9.1E-02	c	4.0E-01	c	3.1E-01	c		1.0E-03	c		
				3.0E-02	X					1	0.1		Chlorobenzoic Acid, p-	74-11-3	1.9E+03	n	2.5E+04	n					5.1E+02	n		1.3E-01	n		
				3.0E-03	P	3.0E-01	P	V		1		2.9E+02	Chlorobenzotrifluoride, 4-	98-56-6	2.1E+02	n	2.5E+03	ns	3.1E+02	n	1.3E+03	n	3.5E+01	n		1.2E-01	n		
				4.0E-02	P			V		1		7.3E+02	Chlorobutane, 1-	109-69-3	3.1E+03	ns	4.7E+04	ns					6.4E+02	n		2.6E-01	n		

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Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
						5.0E+01	I	V		1		1.7E+03	Chlorodifluoromethane	75-45-6	4.9E+04	ns	2.1E+05	nms	5.2E+04	n	2.2E+05	n	1.0E+05	n		4.3E+01	n		
				2.0E-02	P			V		1		1.1E+05	Chloroethanol, 2-	107-07-3	1.6E+03	n	2.3E+04	n					4.0E+02	n		8.1E-02	n		
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1		2.5E+03	Chloroform	67-66-3	3.2E-01	c	1.4E+00	c	1.2E-01	c	5.3E-01	c	2.2E-01	c	8.0E+01(F)	6.1E-05	c	2.2E-02	
						9.0E-02	I	V		1		1.3E+03	Chloromethane	74-87-3	1.1E+02	n	4.6E+02	n	9.4E+01	n	3.9E+02	n	1.9E+02	n		4.9E-02	n		
2.4E+00	C	6.9E-04	C					V		1		9.3E+03	Chloromethyl Methyl Ether	107-30-2	2.0E-02	c	8.9E-02	c	4.1E-03	c	1.8E-02	c	6.5E-03	c		1.4E-06	c		
3.0E-01	P			3.0E-03	P	1.0E-05	X			1	0.1		Chloronitrobenzene, o-	88-73-3	1.8E+00	c	7.7E+00	c	1.0E-02	n	4.4E-02	n	2.4E-01	c		2.2E-04	c		
6.3E-03	P			1.0E-03	P	6.0E-04	P			1	0.1		Chloronitrobenzene, p-	100-00-5	6.3E+01	n	3.6E+02	c**	6.3E-01	n	2.6E+00	n	1.1E+01	c**		1.0E-02	c**		
				5.0E-03	I			V		1		2.2E+04	Chlorophenol, 2-	95-57-8	3.9E+02	n	5.8E+03	n					9.1E+01	n		7.4E-02	n		
						4.0E-04	C	V		1		6.2E+02	Chloropicrin	76-06-2	2.0E+00	n	8.2E+00	n	4.2E-01	n	1.8E+00	n	8.3E-01	n		2.5E-04	n		
3.1E-03	C	8.9E-07	C	1.5E-02	I					1	0.1		Chlorothalonil	1897-45-6	1.8E+02	c**	7.4E+02	c*	3.2E+00	c	1.4E+01	c	2.2E+01	c*		5.0E-02	c*		
				2.0E-02	I			V		1		9.1E+02	Chlorotoluene, o-	95-49-8	1.6E+03	ns	2.3E+04	ns					2.4E+02	n		2.3E-01	n		
				2.0E-02	X			V		1		2.5E+02	Chlorotoluene, p-	106-43-4	1.6E+03	ns	2.3E+04	ns					2.5E+02	n		2.4E-01	n		
2.4E+02	C	6.9E-02	C							1	0.1		Chlorozotocin	54749-90-5	2.3E-03	c	9.6E-03	c	4.1E-05	c	1.8E-04	c	3.2E-04	c		7.1E-08	c		
				2.0E-01	I					1	0.1		Chlorpropham	101-21-3	1.3E+04	n	1.6E+05	nm					2.8E+03	n		2.6E+00	n		
				1.0E-03	A					1	0.1		Chlorpyrifos	2921-88-2	6.3E+01	n	8.2E+02	n					8.4E+00	n		1.2E-01	n		
				1.0E-02	H					1	0.1		Chlorpyrifos Methyl	5598-13-0	6.3E+02	n	8.2E+03	n					1.2E+02	n		5.4E-01	n		
				5.0E-02	I					1	0.1		Chlorsulfuron	64902-72-3	3.2E+03	n	4.1E+04	n					9.9E+02	n		8.3E-01	n		
				1.0E-02	I					1	0.1		Chlorthal-dimethyl	1861-32-1	6.3E+02	n	8.2E+03	n					1.2E+02	n		1.5E-01	n		
				8.0E-04	H					1	0.1		Chlorthiophos	60238-56-4	5.1E+01	n	6.6E+02	n					2.8E+00	n		7.3E-02	n		
				1.5E+00	I					0.013			Chromium(III), Insoluble Salts	16065-83-1	1.2E+05	nm	1.8E+06	nm					2.2E+04	n		4.0E+07	n		
5.0E-01	J	8.4E-02	S	3.0E-03	I	1.0E-04	I		M	0.025			Chromium(VI)	18540-29-9	3.0E-01	c	6.3E+00	c	1.2E-05	c	1.5E-04	c	3.5E-02	c		6.7E-04	c		
										0.013			Chromium, Total	7440-47-3											1.0E+02			1.8E+05	
				1.3E-02	I					1	0.1		Clofentezine	74115-24-5	8.2E+02	n	1.1E+04	n					2.3E+02	n		1.4E+01	n		
		9.0E-03	P	3.0E-04	P	6.0E-06	P			1			Cobalt	7440-48-4	2.3E+01	n	3.5E+02	n	3.1E-04	c*	1.4E-03	c*	6.0E+00	n		2.7E-01	n		
		6.2E-04	I					V	M	1			Coke Oven Emissions	8007-45-2					1.6E-03	c	2.0E-02	c							
				4.0E-02	H					1			Copper	7440-50-8	3.1E+03	n	4.7E+04	n					8.0E+02	n	1.3E+03	2.8E+01	n	4.6E+01	
				5.0E-02	I	6.0E-01	C			1	0.1		Cresol, m-	108-39-4	3.2E+03	n	4.1E+04	n	6.3E+02	n	2.6E+03	n	9.3E+02	n		7.4E-01	n		
		5.0E-02	I	6.0E-01	C					1	0.1		Cresol, o-	95-48-7	3.2E+03	n	4.1E+04	n	6.3E+02	n	2.6E+03	n	9.3E+02	n		7.5E-01	n		
		1.0E-01	A	6.0E-01	C					1	0.1		Cresol, p-	106-44-5	6.3E+03	n	8.2E+04	n	6.3E+02	n	2.6E+03	n	1.9E+03	n		1.5E+00	n		
		1.0E-01	A							1	0.1		Cresol, p-chloro-m-	59-50-7	6.3E+03	n	8.2E+04	n					1.4E+03	n		1.7E+00	n		
		1.0E-01	A	6.0E-01	C					1	0.1		Cresols	1319-77-3	6.3E+03	n	8.2E+04	n	6.3E+02	n	2.6E+03	n	1.5E+03	n		1.3E+00	n		
1.9E+00	H			1.0E-03	P			V		1		1.7E+04	Crotonaldehyde, trans-	123-73-9	3.7E-01	c	1.7E+00	c					4.0E-02	c		8.2E-06	c		
				1.0E-01	I	4.0E-01	I	V		1		2.7E+02	Cumene	98-82-8	1.9E+03	ns	9.9E+03	ns	4.2E+02	n	1.8E+03	n	4.5E+02	n		7.4E-01	n		
2.2E-01	C	6.3E-05	C							1	0.1		Cupferron	135-20-6	2.5E+00	c	1.0E+01	c	4.5E-02	c	1.9E-01	c	3.5E-01	c		6.1E-04	c		
8.4E-01	H			2.0E-03	H					1	0.1		Cyanazine	21725-46-2	6.5E-01	c	2.7E+00	c					8.8E-02	c		4.1E-05	c		
													Cyanides																	
				1.0E-03	I					1			~Calcium Cyanide	592-01-8	7.8E+01	n	1.2E+03	n					2.0E+01	n			n		
				5.0E-03	I					1			~Copper Cyanide	544-92-3	3.9E+02	n	5.8E+03	n					1.0E+02	n			n		
				6.0E-04	I	8.0E-04	S	V		1		9.7E+05	~Cyanide (CN-)	57-12-5	2.7E+00	n	1.2E+01	n	8.3E-01	n	3.5E+00	n	1.5E+00	n	2.0E+02	1.5E-02	n	2.0E+00	
				1.0E-03	I			V		1			~Cyanogen	460-19-5	7.8E+01	n	1.2E+03	n					2.0E+01	n			n		
				9.0E-02	I			V		1			~Cyanogen Bromide	506-68-3	7.0E+03	n	1.1E+05	nm					1.8E+03	n			n		
				5.0E-02	I			V		1			~Cyanogen Chloride	506-77-4	3.9E+03	n	5.8E+04	n					1.0E+03	n			n		
				6.0E-04	I	8.0E-04	I	V		1		1.0E+07	~Hydrogen Cyanide	74-90-8	2.3E+01	n	1.5E+02	n	8.3E-01	n	3.5E+00	n	1.5E+00	n		1.5E-02	n		
				2.0E-03	I					1			~Potassium Cyanide	151-50-8	1.6E+02	n	2.3E+03	n					4.0E+01	n			n		
				5.0E-03	I					0.04			~Potassium Silver Cyanide	506-61-6	3.9E+02	n	5.8E+03	n					8.2E+01	n			n		
				1.0E-01	I					0.04			~Silver Cyanide	506-64-9	7.8E+03	n	1.2E+05	nm					1.8E+03	n			n		
				1.0E-03	I					1			~Sodium Cyanide	143-33-9	7.8E+01	n	1.2E+03	n					2.0E+01	n	2.0E+02		n		
				2.0E-04	P					1			~Thiocyanates	NA	1.6E+01	n	2.3E+02	n					4.0E+00	n			n		
				2.0E-04	X			V		1			~Thiocyanic Acid	463-56-9	1.6E+01	n	2.3E+02	n					4.0E+00	n			n		
				5.0E-02	I					1			~Zinc Cyanide	557-21-1	3.9E+03	n	5.8E+04	n					1.0E+03	n			n		
						6.0E+00	I	V		1		1.2E+02	Cyclohexane	110-82-7	6.5E+03	ns	2.7E+04	ns	6.3E+03	n	2.6E+04	n	1.3E+04	n		1.3E+01	n		
2.3E-02	H									1	0.1		Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	2.4E+01	c	1.0E+02	c					2.4E+00	c		1.4E-02	c		
				5.0E+00	I	7.0E-01	P	V		1		5.1E+03	Cyclohexanone	108-94-1	2.8E+04	ns	1.3E+05	nms	7.3E+02	n	3.1E+03	n	1.4E+03	n		3.4E-01	n		
				5.0E-03	P	1.0E+00	X	V		1		2.8E+02	Cyclohexene	110-83-8	3.1E+02	ns	3.1E+03	ns	1.0E+03	n	4.4E+03	n	7.0E+01	n		4.6E-02	n		
		2.0E-01	I					V		1		2.9E+05	Cyclohexylamine	108-91-8	1.6E+04	n	2.3E+05	nm					3.8E+03	n		1.0E+00	n		
		2.5E-02	I							1	0.1		Cyfluthrin	68359-37-5	1.6E+03	n	2.1E+04	n					1.2E+02	n		3.1E+01	n		
				5.0E-03	I					1	0.1		Cyhalothrin	68085-85-8	3.2E+02	n	4.1E+03	n					1.0E+02	n		6.8E+01	n		
				1.0E-02	I					1	0.1		Cypermethrin	52315-07-8	6.3E+02	n	8.2E+03	n					2.0E+02	n		3.2E+01	n		
				7.5E-03	I					1	0.1		Cyromazine	66215-27-8	4.7E+02	n	6.2E+03	n					1.5E+02	n		3.8E-02	n		
2.4E-01	I	6.9E-05	C							1	0.1		DDD	72-54-8	2.3E+00	c	9.6E+00	c	4.1E-02	c	1.8E-01	c	3.2E-02	c		7.5E-03	c		
3.4E-01	I	9.7E-05	C					V		1			DDE, p,p'-	72-55-9	2.0E+00	c	9.3E+00	c	2.9E-02	c	1.3E-01	c	4.6E-02	c		1.1E-02	c		
3.4E-01	I	9.7E-05	I	5.0E-04	I					1	0.03		DDT	50-29-3	1.9E+00	c*	8.5E+00	c*	2.9E-02	c	1.3E-01	c	2.3E-01	c*		7.7E-02	c*		
				3.0E-02	I					1	0.1		Dalapon	75-99-0	1.9E+03	n	2.5E+04	n					6.0E+02	n	2.0E+02	1.2E-01	n	4.1E-02	
1.8E-02	C	5.1E-06	C	1.5E-01	I					1	0.1		Daminozide	1596-84-5	3.0E+01	c	1.3E+02	c	5.5E-01	c	2.4E+00	c	4.3E+00	c		9.5E-04	c		
7.0E-04	I			7.0E-03	I					1	0.1		Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	4.4E+02	n	3.3E+03	c**					1.1E+02	c**		6.2E+01	c**		

R=1E-06
HQ=1.0

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Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				4.0E-05	I					1	0.1		Demeton	8065-48-3	2.5E+00	n	3.3E+01	n					4.2E-01	n			n	
1.2E-03	I			6.0E-01	I					1	0.1		Di(2-ethylhexyl)adipate	103-23-1	4.5E+02	c*	1.9E+03	c					6.5E+01	c	4.0E+02	4.7E+00	c	2.9E+01
6.1E-02	H									1	0.1		Diallate	2303-16-4	8.9E+00	c	3.8E+01	c					5.4E-01	c		8.0E-04	c	
				7.0E-04	A					1	0.1		Diazinon	333-41-5	4.4E+01	n	5.7E+02	n					1.0E+01	n		6.5E-02	n	
				1.0E-02	X			V		1			Dibenzothiophene	132-65-0	7.8E+02	n	1.2E+04	n					6.5E+01	n		1.2E+00	n	
8.0E-01	P	6.0E-03	P	2.0E-04	P	2.0E-04	I	V	M	1		9.8E+02	Dibromo-3-chloropropane, 1,2-	96-12-8	5.3E-03	c	6.4E-02	c	1.7E-04	c	2.0E-03	c	3.3E-04	c	2.0E-01	1.4E-07	c	8.6E-05
				4.0E-04	X			V		1		1.6E+02	Dibromobenzene, 1,3-	108-36-1	3.1E+01	n	4.7E+02	ns					5.3E+00	n		5.1E-03	n	
				1.0E-02	I			V		1			Dibromobenzene, 1,4-	106-37-6	7.8E+02	n	1.2E+04	n					1.3E+02	n		1.2E-01	n	
8.4E-02	I			2.0E-02	I			V		1		8.0E+02	Dibromochloromethane	124-48-1	8.3E+00	c	3.9E+01	c					8.7E-01	c	8.0E+01(F)	2.3E-04	c	2.1E-02
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1		1.3E+03	Dibromoethane, 1,2-	106-93-4	3.6E-02	c	1.6E-01	c	4.7E-03	c	2.0E-02	c	7.5E-03	c	5.0E-02	2.1E-06	c	1.4E-05
						4.0E-03	X	V		1		2.8E+03	Dibromomethane (Methylene Bromide)	74-95-3	2.4E+01	n	9.9E+01	n	4.2E+00	n	1.8E+01	n	8.3E+00	n		2.1E-03	n	
				3.0E-04	P					1	0.1		Dibutyltin Compounds	NA	1.9E+01	n	2.5E+02	n					6.0E+00	n			n	
				3.0E-02	I					1	0.1		Dicamba	1918-00-9	1.9E+03	n	2.5E+04	n					5.7E+02	n		1.5E-01	n	
		4.2E-03	P					V		1		5.5E+02	Dichloro-2-butene, 1,4-	764-41-0	2.1E-03	c	9.4E-03	c	6.7E-04	c	2.9E-03	c	1.3E-03	c		6.6E-07	c	
		4.2E-03	P					V		1		5.2E+02	Dichloro-2-butene, cis-1,4-	1476-11-5	7.4E-03	c	3.2E-02	c	6.7E-04	c	2.9E-03	c	1.3E-03	c		6.2E-07	c	
		4.2E-03	P					V		1		7.6E+02	Dichloro-2-butene, trans-1,4-	110-57-6	7.4E-03	c	3.2E-02	c	6.7E-04	c	2.9E-03	c	1.3E-03	c		6.2E-07	c	
5.0E-02	I			4.0E-03	I					1	0.1		Dichloroacetic Acid	79-43-6	1.1E+01	c*	4.6E+01	c*					1.5E+00	c*	6.0E+01	3.1E-04	c*	1.2E-02
				9.0E-02	I	2.0E-01	H	V		1		3.8E+02	Dichlorobenzene, 1,2-	95-50-1	1.8E+03	ns	9.3E+03	ns	2.1E+02	n	8.8E+02	n	3.0E+02	n	6.0E+02	3.0E-01	n	5.8E-01
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		1			Dichlorobenzene, 1,4-	106-46-7	2.6E+00	c	1.1E+01	c	2.6E-01	c	1.1E+00	c	4.8E-01	c	7.5E+01	4.6E-04	c	7.2E-02
4.5E-01	I	3.4E-04	C							1	0.1		Dichlorobenzidine, 3,3'-	91-94-1	1.2E+00	c	5.1E+00	c	8.3E-03	c	3.6E-02	c	1.3E-01	c		8.2E-04	c	
				9.0E-03	X					1	0.1		Dichlorobenzophenone, 4,4'-	90-98-2	5.7E+02	n	7.4E+03	n					7.8E+01	n		4.7E-01	n	
				2.0E-01	I	1.0E-01	X	V		1		8.5E+02	Dichlorodifluoromethane	75-71-8	8.7E+01	n	3.7E+02	n	1.0E+02	n	4.4E+02	n	2.0E+02	n		3.0E-01	n	
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1		1.7E+03	Dichloroethane, 1,1-	75-34-3	3.6E+00	c	1.6E+01	c	1.8E+00	c	7.7E+00	c	2.8E+00	c		7.8E-04	c	
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1		3.0E+03	Dichloroethane, 1,2-	107-06-2	4.6E-01	c*	2.0E+00	c*	1.1E-01	c*	4.7E-01	c*	1.7E-01	c*	5.0E+00	4.8E-05	c*	1.4E-03
				5.0E-02	I	2.0E-01	I	V		1		1.2E+03	Dichloroethylene, 1,1-	75-35-4	2.3E+02	n	1.0E+03	n	2.1E+02	n	8.8E+02	n	2.8E+02	n	7.0E+00	1.0E-01	n	2.5E-03
				2.0E-03	I			V		1		2.4E+03	Dichloroethylene, 1,2-cis-	156-59-2	1.6E+02	n	2.3E+03	n					3.6E+01	n	7.0E+01	1.1E-02	n	2.1E-02
				2.0E-02	I			V		1		1.9E+03	Dichloroethylene, 1,2-trans-	156-60-5	1.6E+03	n	2.3E+04	ns					3.6E+02	n	1.0E+02	1.1E-01	n	3.1E-02
				3.0E-03	I					1	0.1		Dichlorophenol, 2,4-	120-83-2	1.9E+02	n	2.5E+03	n					4.6E+01	n		5.4E-02	n	
				1.0E-02	I					1	0.05		Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	7.0E+02	n	9.6E+03	n					1.7E+02	n	7.0E+01	4.5E-02	n	1.8E-02
				8.0E-03	I					1	0.1		Dichlorophenoxybutyric Acid, 4-(2,4-	94-82-6	5.1E+02	n	6.6E+03	n					1.2E+02	n		1.1E-01	n	
3.6E-02	C	1.0E-05	C	9.0E-02	A	4.0E-03	I	V		1		1.4E+03	Dichloropropane, 1,2-	78-87-5	1.0E+00	c*	4.4E+00	c*	2.8E-01	c*	1.2E+00	c*	4.4E-01	c*	5.0E+00	1.5E-04	c*	1.7E-03
				2.0E-02	P			V		1		1.5E+03	Dichloropropane, 1,3-	142-28-9	1.6E+03	ns	2.3E+04	ns					3.7E+02	n		1.3E-01	n	
				3.0E-03	I					1	0.1		Dichloropropanol, 2,3-	616-23-9	1.9E+02	n	2.5E+03	n					5.9E+01	n		1.3E-02	n	
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		1		1.6E+03	Dichloropropene, 1,3-	542-75-6	1.8E+00	c*	8.2E+00	c*	7.0E-01	c*	3.1E+00	c*	4.7E-01	c*		1.7E-04	c*	
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I			1	0.1		Dichlorvos	62-73-7	1.9E+00	c*	7.9E+00	c*	3.4E-02	c*	1.5E-01	c*	2.6E-01	c*		8.1E-05	c*	
				1.0E-04	I					1	0.1		Dicrotophos	141-66-2	6.3E+00	n	8.2E+01	n					2.0E+00	n		4.7E-04	n	
				8.0E-02	P	3.0E-04	X	V		1		2.6E+02	Dicyclopentadiene	77-73-6	1.3E+00	n	5.4E+00	n	3.1E-01	n	1.3E+00	n	6.3E-01	n		2.2E-03	n	
1.6E+01	I	4.6E-03	I	5.0E-05	I					1	0.1		Dieldrin	60-57-1	3.4E-02	c*	1.4E-01	c	6.1E-04	c	2.7E-03	c	1.8E-03	c		7.1E-05	c	
		3.0E-04	C			5.0E-03	I			1	0.1		Diesel Engine Exhaust	NA					9.4E-03	c	4.1E-02	c						
				2.0E-03	P	2.0E-04	P			1	0.1		Diethanolamine	111-42-2	1.3E+02	n	1.6E+03	n	2.1E-01	n	8.8E-01	n	4.0E+01	n		8.1E-03	n	
				3.0E-02	P	1.0E-04	P			1	0.1		Diethylene Glycol Monobutyl Ether	112-34-5	1.9E+03	n	2.4E+04	n	1.0E-01	n	4.4E-01	n	6.0E+02	n		1.3E-01	n	
				6.0E-02	P	3.0E-04	P			1	0.1		Diethylene Glycol Monoethyl Ether	111-90-0	3.8E+03	n	4.8E+04	n	3.1E-01	n	1.3E+00	n	1.2E+03	n		2.4E-01	n	
				1.0E-03	P			V		1		1.1E+05	Diethylformamide	617-84-5	7.8E+01	n	1.2E+03	n					2.0E+01	n		4.1E-03	n	
3.5E+02	C	1.0E-01	C							1	0.1		Diethylstilbestrol	56-53-1	1.6E-03	c	6.6E-03	c	2.8E-05	c	1.2E-04	c	5.1E-05	c		2.8E-05	c	
				8.0E-02	I					1	0.1		Difenzoquat	43222-48-6	5.1E+03	n	6.6E+04	n					1.6E+03	n			n	
				2.0E-02	I					1	0.1		Diflubenzuron	35367-38-5	1.3E+03	n	1.6E+04	n					2.9E+02	n		3.3E-01	n	
						4.0E+01	I	V		1		1.4E+03	Difluoroethane, 1,1-	75-37-6	4.8E+04	ns	2.0E+05	nms	4.2E+04	n	1.8E+05	n	8.3E+04	n		2.8E+01	n	
4.4E-02	C	1.3E-05	C					V		1			Dihydrosafrole	94-58-6	9.9E+00	c	4.5E+01	c	2.2E-01	c	9.4E-01	c	3.0E-01	c		1.9E-04	c	
						7.0E-01	P	V		1		2.3E+03	Diisopropyl Ether	108-20-3	2.2E+03	n	9.4E+03	ns	7.3E+02	n	3.1E+03	n	1.5E+03	n		3.7E-01	n	
				8.0E-02	I			V		1		5.3E+02	Diisopropyl Methylphosphonate	1445-75-6	6.3E+03	ns	9.3E+04	ns					1.6E+03	n		4.5E-01	n	
				2.0E-02	I					1	0.1		Dimethipin	55290-64-7	1.3E+03	n	1.6E+04	n					4.0E+02	n		8.8E-02	n	
				2.0E-04	I					1	0.1		Dimethoate	60-51-5	1.3E+01	n	1.6E+02	n					4.0E+00	n		9.0E-04	n	
1.6E+00	P									1	0.1		Dimethoxybenzidine, 3,3'-	119-90-4	3.4E-01	c	1.4E+00	c					4.7E-02	c		5.8E-05	c	
1.7E-03	P			6.0E-02	P					1	0.1		Dimethyl methylphosphonate	756-79-6	3.2E+02	c*	1.4E+03	c*					4.6E+01	c*		9.6E-03	c*	
4.6E+00	C	1.3E-03	C							1	0.1		Dimethylamino azobenzene [p-]	60-11-7	1.2E-01	c	5.0E-01	c	2.2E-03	c	9.4E-03	c	5.0E-03	c		2.1E-05	c	
5.8E-01	H									1	0.1		Dimethylaniline HCl, 2,4-	21436-96-4	9.4E-01	c	4.0E+00	c					1.3E-01	c		1.2E-04	c	
2.0E-01	P			2.0E-03	X					1	0.1		Dimethylaniline, 2,4-	95-68-1	2.7E+00	c*	1.1E+01	c					3.7E-01	c		2.1E-04	c	
				2.0E-03	I			V		1		8.3E+02	Dimethylaniline, N,N-	121-69-7	1.6E+02	n	2.3E+03	ns					3.5E+01	n		1.3E-02	n	
1.1E+01	P									1	0.1		Dimethylbenzidine, 3,3'-	119-93-7	4.9E-02	c	2.1E-01	c					6.5E-03	c		4.3E-05	c	
				1.0E-01	P	3.0E-02	I	V		1		1.1E+05	Dimethylformamide	68-12-2	2.6E+03	n	1.5E+04	n	3.1E+01	n	1.3E+02	n	6.1E+01	n		1.2E-02	n	
				1.0E-04	X	2.0E-06	X	V		1		1.7E+05	Dimethylhydrazine, 1,1-	57-14-7	5.7E-02	n	2.4E-01	n	2.1E-03	n	8.8E-03	n	4.2E-03	n		9.3E-07	n	
5.5E+02	C	1.6E-01	C					V		1		1.9E+05	Dimethylhydrazine, 1,2-	540-73-8	8.8E-04	c	4.1E-03	c	1.8E-05	c	7.7E-05	c	2.8E-05	c		6.5E-09	c	
				2.0E-02	I					1	0.1		Dimethylphenol, 2,4-	105-67-9	1.3E+03	n	1.6E+04	n					3.6E+02	n		4.2E-01	n	
				6.0E-04	I					1	0.1		Dimethylphenol, 2,6-	576-26-1	3.8E+01	n	4.9E+02	n					1.1E+01	n		1.3E-02	n	
				1.0E-03	I					1	0.1		Dimethylphenol, 3,4-	95-65-8	6.3E+01	n	8.2E+02	n					1.8E+01	n		2.1E-02	n	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
4.5E-02	C	1.3E-05	C					V		1		1.3E+03	Dimethylvinylchloride	513-37-1	2.0E-01	c	8.9E-01	c	2.2E-01	c	9.4E-01	c	3.3E-01	c		2.4E-04	c	
				8.0E-05	X					1	0.1		Dinitro-o-cresol, 4,6-	534-52-1	5.1E+00	n	6.6E+01	n					1.5E+00	n		2.6E-03	n	
				2.0E-03	I					1	0.1		Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	1.3E+02	n	1.6E+03	n					2.3E+01	n		7.7E-01	n	
				1.0E-04	P					1	0.1		Dinitrobenzene, 1,2-	528-29-0	6.3E+00	n	8.2E+01	n					1.9E+00	n		1.8E-03	n	
				1.0E-04	I					1	0.1		Dinitrobenzene, 1,3-	99-65-0	6.3E+00	n	8.2E+01	n					2.0E+00	n		1.8E-03	n	
				1.0E-04	P					1	0.1		Dinitrobenzene, 1,4-	100-25-4	6.3E+00	n	8.2E+01	n					2.0E+00	n		1.8E-03	n	
				2.0E-03	I					1	0.1		Dinitrophenol, 2,4-	51-28-5	1.3E+02	n	1.6E+03	n					3.9E+01	n		4.4E-02	n	
6.8E-01	I									1	0.1		Dinitrotoluene Mixture, 2,4/2,6-	NA	8.0E-01	c	3.4E+00	c					1.1E-01	c		1.5E-04	c	
3.1E-01	C	8.9E-05	C	2.0E-03	I					1	0.102		Dinitrotoluene, 2,4-	121-14-2	1.7E+00	c*	7.4E+00	c	3.2E-02	c	1.4E-01	c	2.4E-01	c		3.2E-04	c	
1.5E+00	P			3.0E-04	X					1	0.099		Dinitrotoluene, 2,6-	606-20-2	3.6E-01	c*	1.5E+00	c					4.9E-02	c		6.7E-05	c	
				2.0E-03	S					1	0.006		Dinitrotoluene, 2-Amino-4,6-	35572-78-2	1.5E+02	n	2.3E+03	n					3.9E+01	n		3.0E-02	n	
				2.0E-03	S					1	0.009		Dinitrotoluene, 4-Amino-2,6-	19406-51-0	1.5E+02	n	2.3E+03	n					3.9E+01	n		3.0E-02	n	
4.5E-01	X			9.0E-04	X					1	0.1		Dinitrotoluene, Technical grade	25321-14-6	1.2E+00	c*	5.1E+00	c					1.0E-01	c		1.4E-04	c	
				1.0E-03	I					1	0.1		Dinoseb	88-85-7	6.3E+01	n	8.2E+02	n					1.5E+01	n	7.0E+00	1.3E-01	n	6.2E-02
1.0E-01	I	5.0E-06	I	3.0E-02	I	3.0E-02	I	V		1		1.2E+05	Dioxane, 1,4-	123-91-1	5.3E+00	c	2.4E+01	c	5.6E-01	c*	2.5E+00	c*	4.6E-01	c		9.4E-05	c	
													Dioxins																
6.2E+03	I	1.3E+00	I							1	0.03		~Hexachlorodibenzo-p-dioxin, Mixture	NA	1.0E-04	c	4.7E-04	c	2.2E-06	c	9.4E-06	c	1.3E-05	c		1.7E-05	c	
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C	V		1	0.03		~TCDD, 2,3,7,8-	1746-01-6	4.8E-06	c*	2.2E-05	c*	7.4E-08	c	3.2E-07	c	1.2E-07	c	3.0E-05	5.9E-08	c	1.5E-05
				3.0E-02	I					1	0.1		Diphenamid	957-51-7	1.9E+03	n	2.5E+04	n					5.3E+02	n		5.2E+00	n	
				8.0E-04	X					1	0.1		Diphenyl Sulfone	127-63-9	5.1E+01	n	6.6E+02	n					1.5E+01	n		3.6E-02	n	
				2.5E-02	I					1	0.1		Diphenylamine	122-39-4	1.6E+03	n	2.1E+04	n					3.1E+02	n		5.8E-01	n	
8.0E-01	I	2.2E-04	I							1	0.1		Diphenylhydrazine, 1,2-	122-66-7	6.8E-01	c	2.9E+00	c	1.3E-02	c	5.6E-02	c	7.8E-02	c		2.5E-04	c	
				2.2E-03	I					1	0.1		Diquat	85-00-7	1.4E+02	n	1.8E+03	n					4.4E+01	n	2.0E+01	8.3E-01	n	3.7E-01
7.1E+00	C	1.4E-01	C							1	0.1		Direct Black 38	1937-37-7	7.6E-02	c	3.2E-01	c	2.0E-05	c	8.8E-05	c	1.1E-02	c		5.3E+00	c	
7.4E+00	C	1.4E-01	C							1	0.1		Direct Blue 6	2602-46-2	7.3E-02	c	3.1E-01	c	2.0E-05	c	8.8E-05	c	1.1E-02	c		1.7E+01	c	
6.7E+00	C	1.4E-01	C							1	0.1		Direct Brown 95	16071-86-6	8.1E-02	c	3.4E-01	c	2.0E-05	c	8.8E-05	c	1.2E-02	c			c	
				4.0E-05	I					1	0.1		Disulfoton	298-04-4	2.5E+00	n	3.3E+01	n					5.0E-01	n		9.4E-04	n	
				1.0E-02	I			V		1			Dithiane, 1,4-	505-29-3	7.8E+02	n	1.2E+04	n					2.0E+02	n		9.7E-02	n	
				2.0E-03	I					1	0.1		Diuron	330-54-1	1.3E+02	n	1.6E+03	n					3.6E+01	n		1.5E-02	n	
				4.0E-03	I					1	0.1		Dodine	2439-10-3	2.5E+02	n	3.3E+03	n					8.0E+01	n		4.1E-01	n	
				2.5E-02	I			V		1			EPTC	759-94-4	2.0E+03	n	2.9E+04	n					3.8E+02	n		2.0E-01	n	
				6.0E-03	I			V		1			Endosulfan	115-29-7	4.7E+02	n	7.0E+03	n					1.0E+02	n		1.4E+00	n	
				2.0E-02	I					1	0.1		Endothall	145-73-3	1.3E+03	n	1.6E+04	n					3.8E+02	n	1.0E+02	9.1E-02	n	2.4E-02
				3.0E-04	I					1	0.1		Endrin	72-20-8	1.9E+01	n	2.5E+02	n					2.3E+00	n	2.0E+00	9.2E-02	n	8.1E-02
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I	V		1		1.1E+04	Epichlorohydrin	106-89-8	1.9E+01	n	8.2E+01	n	1.0E+00	n	4.4E+00	n	2.0E+00	n		4.5E-04	n	
						2.0E-02	I	V		1		1.5E+04	Epoxybutane, 1,2-	106-88-7	1.6E+02	n	6.7E+02	n	2.1E+01	n	8.8E+01	n	4.2E+01	n		9.2E-03	n	
				4.0E-02	P					1	0.1		Ethanol, 2-(2-methoxyethoxy)-	111-77-3	2.5E+03	n	3.3E+04	n					8.0E+02	n		1.6E-01	n	
				5.0E-03	I					1	0.1		Ethephon	16672-87-0	3.2E+02	n	4.1E+03	n					1.0E+02	n		2.1E-02	n	
				5.0E-04	I					1	0.1		Ethion	563-12-2	3.2E+01	n	4.1E+02	n					4.3E+00	n		8.5E-03	n	
				1.0E-01	P	6.0E-02	P	V		1		2.4E+04	Ethoxyethanol Acetate, 2-	111-15-9	2.6E+03	n	1.4E+04	n	6.3E+01	n	2.6E+02	n	1.2E+02	n		2.5E-02	n	
				9.0E-02	P	2.0E-01	I	V		1		1.1E+05	Ethoxyethanol, 2-	110-80-5	5.2E+03	n	4.7E+04	n	2.1E+02	n	8.8E+02	n	3.4E+02	n		6.8E-02	n	
				9.0E-01	I	7.0E-02	P	V		1		1.1E+04	Ethyl Acetate	141-78-6	6.2E+02	n	2.6E+03	n	7.3E+01	n	3.1E+02	n	1.4E+02	n		3.1E-02	n	
				5.0E-03	P	8.0E-03	P	V		1		2.5E+03	Ethyl Acrylate	140-88-5	4.7E+01	n	2.1E+02	n	8.3E+00	n	3.5E+01	n	1.4E+01	n		3.2E-03	n	
						1.0E+01	I	V		1		2.1E+03	Ethyl Chloride (Chloroethane)	75-00-3	1.4E+04	ns	5.7E+04	ns	1.0E+04	n	4.4E+04	n	2.1E+04	n		5.9E+00	n	
				2.0E-01	I			V		1		1.0E+04	Ethyl Ether	60-29-7	1.6E+04	ns	2.3E+05	nms					3.9E+03	n		8.8E-01	n	
						3.0E-01	P	V		1		1.1E+03	Ethyl Methacrylate	97-63-2	1.8E+03	ns	7.6E+03	ns	3.1E+02	n	1.3E+03	n	6.3E+02	n		1.5E-01	n	
				1.0E-05	I					1	0.1		Ethyl-p-nitrophenyl Phosphonate	2104-64-5	6.3E-01	n	8.2E+00	n					8.9E-02	n		2.8E-03	n	
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I	V		1		4.8E+02	Ethylbenzene	100-41-4	5.8E+00	c	2.5E+01	c	1.1E+00	c	4.9E+00	c	1.5E+00	c	7.0E+02	1.7E-03	c	7.8E-01
				7.0E-02	P					1	0.1		Ethylene Cyanohydrin	109-78-4	4.4E+03	n	5.7E+04	n					1.4E+03	n		2.8E-01	n	
				9.0E-02	P			V		1		1.9E+05	Ethylene Diamine	107-15-3	7.0E+03	n	1.1E+05	nm					1.8E+03	n		4.1E-01	n	
				2.0E+00	I	4.0E-01	C			1	0.1		Ethylene Glycol	107-21-1	1.3E+05	nm	1.6E+06	nm	4.2E+02	n	1.8E+03	n	4.0E+04	n		8.1E+00	n	
				1.0E-01	I	1.6E+00	I			1	0.1		Ethylene Glycol Monobutyl Ether	111-76-2	6.3E+03	n	8.2E+04	n	1.7E+03	n	7.0E+03	n	2.0E+03	n		4.1E-01	n	
3.1E-01	C	8.8E-05	C			3.0E-02	C	V		1		1.2E+05	Ethylene Oxide	75-21-8	1.8E-01	c	7.9E-01	c	3.2E-02	c	1.4E-01	c	5.1E-02	c		1.1E-05	c	
4.5E-02	C	1.3E-05	C	8.0E-05	I					1	0.1		Ethylene Thiourea	96-45-7	5.1E+00	n	5.1E+01	c**	2.2E-01	c	9.4E-01	c	1.6E+00	n		3.6E-04	n	
6.5E+01	C	1.9E-02	C					V		1		1.5E+05	Ethyleneimine	151-56-4	2.7E-03	c	1.2E-02	c	1.5E-04	c	6.5E-04	c	2.4E-04	c		5.2E-08	c	
				3.0E+00	I					1	0.1		Ethylphthalyl Ethyl Glycolate	84-72-0	1.9E+05	nm	2.5E+06	nm					5.8E+04	n		1.3E+02	n	
				2.5E-04	I					1	0.1		Fenamiphos	22224-92-6	1.6E+01	n	2.1E+02	n					4.4E+00	n		4.3E-03	n	
				2.5E-02	I					1	0.1		Fenpropathrin	39515-41-8	1.6E+03	n	2.1E+04	n					6.4E+01	n		2.9E+00	n	
				2.5E-02	I					1	0.1		Fenvalerate	51630-58-1	1.6E+03	n	2.1E+04	n					5.0E+02	n		3.2E+02	n	
				1.3E-02	I					1	0.1		Fluometuron	2164-17-2	8.2E+02	n	1.1E+04	n					2.4E+02	n		1.9E-01	n	
				4.0E-02	C	1.3E-02	C			1			Fluoride	16984-48-8	3.1E+03	n	4.7E+04	n	1.4E+01	n	5.7E+01	n	8.0E+02	n		1.2E+02	n	
				6.0E-02	I	1.3E-02	C			1			Fluorine (Soluble Fluoride)	7782-41-4	4.7E+03	n	7.0E+04	n	1.4E+01	n	5.7E+01	n	1.2E+03	n	4.0E+03	1.8E+02	n	6.0E+02
				8.0E-02	I					1	0.1		Fluridone	59756-60-4	5.1E+03	n	6.6E+04	n					1.4E+03	n		1.6E+02	n	
				2.0E-02	I					1	0.1		Flurprimidol	56425-91-3	1.3E+03	n	1.6E+04	n					3.4E+02	n		1.6E+00	n	
				7.0E-04	I					1	0.1		Flusilazole	85509-19-9	4.4E+01	n	5.7E+02	n					1.1E+01	n		1.8E+00	n	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information													Contaminant		Screening Levels											Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	mutagen	GIABS	ABS	C$_{sat}$ (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				6.0E-02	I					1	0.1		Flutolanil	66332-96-5	3.8E+03	n	4.9E+04	n					9.5E+02	n		5.0E+00	n	
				1.0E-02	I					1	0.1		Fluvalinate	69409-94-5	6.3E+02	n	8.2E+03	n					2.0E+02	n		2.9E+02	n	
3.5E-03	I			1.0E-01	I					1	0.1		Folpet	133-07-3	1.6E+02	c*	6.6E+02	c					2.0E+01	c*		4.7E-03	c*	
1.9E-01	I									1	0.1		Fomesafen	72178-02-0	2.9E+00	c	1.2E+01	c					3.9E-01	c		1.3E-03	c	
				2.0E-03	I					1	0.1		Fonofos	944-22-9	1.3E+02	n	1.6E+03	n					2.4E+01	n		4.7E-02	n	
		1.3E-05	I	2.0E-01	I	9.8E-03	A	V		1		4.2E+04	Formaldehyde	50-00-0	1.7E+01	c*	7.3E+01	c*	2.2E-01	c*	9.4E-01	c*	4.3E-01	c*		8.7E-05	c*	
				9.0E-01	P	3.0E-04	X	V		1		1.1E+05	Formic Acid	64-18-6	2.9E+01	n	1.2E+02	n	3.1E-01	n	1.3E+00	n	6.3E-01	n		1.3E-04	n	
				3.0E+00	I					1	0.1		Fosetyl-AL	39148-24-8	1.9E+05	nm	2.5E+06	nm					6.0E+04	n		7.9E+02	n	
													Furans															
				1.0E-03	X			V		1	0.03		~Dibenzofuran	132-64-9	7.3E+01	n	1.0E+03	n					7.9E+00	n		1.5E-01	n	
				1.0E-03	I			V		1	0.03	6.2E+03	~Furan	110-00-9	7.3E+01	n	1.0E+03	n					1.9E+01	n		7.3E-03	n	
				9.0E-01	I	2.0E+00	I	V		1	0.03	1.7E+05	~Tetrahydrofuran	109-99-9	1.8E+04	n	9.6E+04	n	2.1E+03	n	8.8E+03	n	3.4E+03	n		7.5E-01	n	
3.8E+00	H									1	0.1		Furazolidone	67-45-8	1.4E-01	c	6.0E-01	c					2.0E-02	c		3.9E-05	c	
				3.0E-03	I	5.0E-02	H	V		1		1.0E+04	Furfural	98-01-1	2.1E+02	n	2.6E+03	n	5.2E+01	n	2.2E+02	n	3.8E+01	n		8.1E-03	n	
1.5E+00	C	4.3E-04	C							1	0.1		Furium	531-82-8	3.6E-01	c	1.5E+00	c	6.5E-03	c	2.9E-02	c	5.1E-02	c		6.8E-05	c	
3.0E-02	I	8.6E-06	C							1	0.1		Furmecyclox	60568-05-0	1.8E+01	c	7.7E+01	c	3.3E-01	c	1.4E+00	c	1.1E+00	c		1.2E-03	c	
				4.0E-04	I					1	0.1		Glufosinate, Ammonium	77182-82-2	2.5E+01	n	3.3E+02	n					8.0E+00	n		1.8E-03	n	
						8.0E-05	C			1	0.1		Glutaraldehyde	111-30-8	1.1E+05	nm	4.8E+05	nm	8.3E-02	n	3.5E-01	n						
				4.0E-04	I	1.0E-03	H	V		1		1.1E+05	Glycidyl	765-34-4	2.3E+01	n	2.1E+02	n	1.0E+00	n	4.4E+00	n	1.7E+00	n		3.3E-04	n	
				1.0E-01	I					1	0.1		Glyphosate	1071-83-6	6.3E+03	n	8.2E+04	n					2.0E+03	n	7.0E+02	8.8E+00	n	3.1E+00
				1.0E-02	X			V		1			Guanidine	113-00-8	7.8E+02	n	1.2E+04	n					2.0E+02	n		4.5E-02	n	
				2.0E-02	P					1	0.1		Guanidine Chloride	50-01-1	1.3E+03	n	1.6E+04	n					4.0E+02	n			n	
				5.0E-05	I					1	0.1		Haloxyfop, Methyl	69806-40-2	3.2E+00	n	4.1E+01	n					7.6E-01	n		8.4E-03	n	
4.5E+00	I	1.3E-03	I	5.0E-04	I			V		1			Heptachlor	76-44-8	1.3E-01	c	6.3E-01	c	2.2E-03	c	9.4E-03	c	1.4E-03	c	4.0E-01	1.2E-04	c	3.3E-02
9.1E+00	I	2.6E-03	I	1.3E-05	I			V		1			Heptachlor Epoxide	1024-57-3	7.0E-02	c*	3.3E-01	c*	1.1E-03	c	4.7E-03	c	1.4E-03	c*	2.0E-01	2.8E-05	c*	4.1E-03
				2.0E-03	I			V		1			Hexabromobenzene	87-82-1	1.6E+02	n	2.3E+03	n					4.0E+01	n		2.3E-01	n	
				2.0E-04	I					1	0.1		Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	1.3E+01	n	1.6E+02	n					4.0E+00	n			n	
1.6E+00	I	4.6E-04	I	8.0E-04	I			V		1			Hexachlorobenzene	118-74-1	2.1E-01	c	9.6E-01	c	6.1E-03	c	2.7E-02	c	9.8E-03	c	1.0E+00	1.2E-04	c	1.3E-02
7.8E-02	I	2.2E-05	I	1.0E-03	P			V		1		1.7E+01	Hexachlorobutadiene	87-68-3	1.2E+00	c*	5.3E+00	c	1.3E-01	c	5.6E-01	c	1.4E-01	c*		2.7E-04	c*	
6.3E+00	I	1.8E-03	I	8.0E-03	A					1	0.1		Hexachlorocyclohexane, Alpha-	319-84-6	8.6E-02	c	3.6E-01	c	1.6E-03	c	6.8E-03	c	7.2E-03	c		4.2E-05	c	
1.8E+00	I	5.3E-04	I							1	0.1		Hexachlorocyclohexane, Beta-	319-85-7	3.0E-01	c	1.3E+00	c	5.3E-03	c	2.3E-02	c	2.5E-02	c		1.5E-04	c	
1.1E+00	C	3.1E-04	C	3.0E-04	I					1	0.04		Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	5.7E-01	c*	2.5E+00	c	9.1E-03	c	4.0E-02	c	4.2E-02	c*	2.0E-01	2.4E-04	c*	1.2E-03
1.8E+00	I	5.1E-04	I							1	0.1		Hexachlorocyclohexane, Technical	608-73-1	3.0E-01	c	1.3E+00	c	5.5E-03	c	2.4E-02	c	2.5E-02	c		1.5E-04	c	
				6.0E-03	I	2.0E-04	I	V		1		1.6E+01	Hexachlorocyclopentadiene	77-47-4	1.8E+00	n	7.5E+00	n	2.1E-01	n	8.8E-01	n	4.1E-01	n	5.0E+01	1.3E-03	n	1.6E-01
4.0E-02	I	1.1E-05	C	7.0E-04	I	3.0E-02	I	V		1			Hexachloroethane	67-72-1	1.8E+00	c*	8.0E+00	c*	2.6E-01	c	1.1E+00	c	3.3E-01	c*		2.0E-04	c*	
				3.0E-04	I					1	0.1		Hexachlorophene	70-30-4	1.9E+01	n	2.5E+02	n					6.0E+00	n		8.0E+00	n	
1.1E-01	I			3.0E-03	I					1	0.015		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	6.1E+00	c*	2.8E+01	c					7.0E-01	c*		2.7E-04	c*	
						1.0E-05	I	V		1		3.4E+03	Hexamethylene Diisocyanate, 1,6-	822-06-0	3.1E+00	n	1.3E+01	n	1.0E-02	n	4.4E-02	n	2.1E-02	n		2.1E-04	n	
				4.0E-04	P					1	0.1		Hexamethylphosphoramide	680-31-9	2.5E+01	n	3.3E+02	n					8.0E+00	n		1.8E-03	n	
						7.0E-01	I	V		1		1.4E+02	Hexane, N-	110-54-3	6.1E+02	ns	2.5E+03	ns	7.3E+02	n	3.1E+03	n	1.5E+03	n		1.0E+01	n	
				2.0E+00	P					1	0.1		Hexanedioic Acid	124-04-9	1.3E+05	nm	1.6E+06	nm					4.0E+04	n		9.9E+00	n	
				5.0E-03	I	3.0E-02	I	V		1		3.3E+03	Hexanone, 2-	591-78-6	2.0E+02	n	1.3E+03	n	3.1E+01	n	1.3E+02	n	3.8E+01	n		8.8E-03	n	
				3.3E-02	I					1	0.1		Hexazinone	51235-04-2	2.1E+03	n	2.7E+04	n					6.4E+02	n		3.0E-01	n	
				2.5E-02	I					1	0.1		Hexythiazox	78587-05-0	1.6E+03	n	2.1E+04	n					1.1E+02	n		5.0E-01	n	
				3.0E-04	I					1	0.1		Hydramethylnon	67485-29-4	1.9E+01	n	2.5E+02	n					5.9E+00	n		2.1E+03	n	
3.0E+00	I	4.9E-03	I			3.0E-05	P	V		1			Hydrazine	302-01-2	2.3E-01	c	1.1E+00	c	5.7E-04	c*	2.5E-03	c*	1.1E-03	c*			c*	
3.0E+00	I	4.9E-03	I							1			Hydrazine Sulfate	10034-93-2	2.3E-01	c	1.1E+00	c	5.7E-04	c	2.5E-03	c	2.6E-02	c			c	
						2.0E-02	I	V		1			Hydrogen Chloride	7647-01-0	2.8E+07	nm	1.2E+08	nm	2.1E+01	n	8.8E+01	n	4.2E+01	n			n	
				4.0E-02	C	1.4E-02	C	V		1			Hydrogen Fluoride	7664-39-3	3.1E+03	n	4.7E+04	n	1.5E+01	n	6.1E+01	n	2.8E+01	n			n	
						2.0E-03	I	V		1			Hydrogen Sulfide	7783-06-4	2.8E+06	nm	1.2E+07	nm	2.1E+00	n	8.8E+00	n	4.2E+00	n			n	
6.0E-02	P			4.0E-02	P					1	0.1		Hydroquinone	123-31-9	9.0E+00	c	3.8E+01	c					1.3E+00	c		8.7E-04	c	
				1.3E-02	I					1	0.1		Imazalil	35554-44-0	8.2E+02	n	1.1E+04	n					1.9E+02	n		3.2E+00	n	
				2.5E-01	I					1	0.1		Imazaquin	81335-37-7	1.6E+04	n	2.1E+05	nm					4.9E+03	n		2.4E+01	n	
				2.5E-01	I					1	0.1		Imazethapyr	81335-77-5	1.6E+04	n	2.1E+05	nm					4.7E+03	n		4.1E+00	n	
				1.0E-02	A					1			Iodine	7553-56-2	7.8E+02	n	1.2E+04	n					2.0E+02	n		1.2E+01	n	
				4.0E-02	I					1	0.1		Iprodione	36734-19-7	2.5E+03	n	3.3E+04	n					7.4E+02	n		2.2E-01	n	
				7.0E-01	P					1			Iron	7439-89-6	5.5E+04	n	8.2E+05	nm					1.4E+04	n		3.5E+02	n	
				3.0E-01	I			V		1		1.0E+04	Isobutyl Alcohol	78-83-1	2.3E+04	ns	3.5E+05	nms					5.9E+03	n		1.2E+00	n	
9.5E-04	I			2.0E-01	I	2.0E+00	C			1	0.1		Isophorone	78-59-1	5.7E+02	c*	2.4E+03	c*	2.1E+03	n	8.8E+03	n	7.8E+01	c*		2.6E-02	c*	
				1.5E-02	I			V		1			Isopropalin	33820-53-0	1.2E+03	n	1.8E+04	n					4.0E+01	n		9.2E-01	n	
				2.0E+00	P	2.0E-01	P	V		1		1.1E+05	Isopropanol	67-63-0	5.6E+03	n	2.4E+04	n	2.1E+02	n	8.8E+02	n	4.1E+02	n		8.4E-02	n	
				1.0E-01	I					1	0.1		Isopropyl Methyl Phosphonic Acid	1832-54-8	6.3E+03	n	8.2E+04	n					2.0E+03	n		4.3E-01	n	
				5.0E-02	I					1	0.1		Isoxaben	82558-50-7	3.2E+03	n	4.1E+04	n					7.3E+02	n		2.0E+00	n	
						3.0E-01	A	V		1			JP-7	NA	4.3E+08	nm	1.8E+09	nm	3.1E+02	n	1.3E+03	n	6.3E+02	n			n	
				2.0E-03	I					1	0.1		Lactofen	77501-63-4	1.3E+02	n	1.6E+03	n					2.5E+01	n		1.2E+00	n	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information												Contaminant		Screening Levels													Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
													Lead Compounds															
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			~Lead Chromate	7758-97-6	3.0E-01	c	6.2E+00	c	6.8E-06	c	8.2E-05	c	4.1E-02	c			c	
8.5E-03	C	1.2E-05	C							1			~Lead Phosphate	7446-27-7	8.2E+01	c	3.8E+02	c	2.3E-01	c	1.0E+00	c	9.1E+00	c			c	
2.8E-01	C	8.0E-05	C							1	0.1		~Lead acetate	301-04-2	1.9E+00	c	8.2E+00	c	3.5E-02	c	1.5E-01	c	2.8E-01	c			c	
										1			~Lead and Compounds	7439-92-1	4.0E+02	L	8.0E+02	L	1.5E-01	L			1.5E+01	L	1.5E+01		L	1.4E+01
8.5E-03	C	1.2E-05	C							1	0.1		~Lead subacetate	1335-32-6	6.4E+01	c	2.7E+02	c	2.3E-01	c	1.0E+00	c	9.2E+00	c			c	
				1.0E-07	I			V		1		2.4E+00	~Tetraethyl Lead	78-00-2	7.8E-03	n	1.2E-01	n					1.3E-03	n		4.7E-06	n	
				5.0E-06	P			V		1		3.8E+02	Lewisite	541-25-3	3.9E-01	n	5.8E+00	n					9.0E-02	n		3.8E-05	n	
				2.0E-03	I					1	0.1		Linuron	330-55-2	1.3E+02	n	1.6E+03	n					3.3E+01	n		2.9E-02	n	
				2.0E-03	P					1			Lithium	7439-93-2	1.6E+02	n	2.3E+03	n					4.0E+01	n		1.2E+01	n	
				5.0E-04	I					1	0.1		MCPA	94-74-6	3.2E+01	n	4.1E+02	n					7.5E+00	n		2.0E-03	n	
				1.0E-02	I					1	0.1		MCPB	94-81-5	6.3E+02	n	8.2E+03	n					1.5E+02	n		5.8E-02	n	
				1.0E-03	I					1	0.1		MCPP	93-65-2	6.3E+01	n	8.2E+02	n					1.6E+01	n		4.7E-03	n	
				2.0E-02	I					1	0.1		Malathion	121-75-5	1.3E+03	n	1.6E+04	n					3.9E+02	n		1.0E-01	n	
				1.0E-01	I	7.0E-04	C			1	0.1		Maleic Anhydride	108-31-6	6.3E+03	n	8.0E+04	n	7.3E-01	n	3.1E+00	n	1.9E+03	n		3.8E-01	n	
				5.0E-01	I					1	0.1		Maleic Hydrazide	123-33-1	3.2E+04	n	4.1E+05	nm					1.0E+04	n		2.1E+00	n	
				1.0E-04	P					1	0.1		Malononitrile	109-77-3	6.3E+00	n	8.2E+01	n					2.0E+00	n		4.1E-04	n	
				3.0E-02	H					1	0.1		Mancozeb	8018-01-7	1.9E+03	n	2.5E+04	n					5.4E+02	n		7.6E-01	n	
				5.0E-03	I					1	0.1		Maneb	12427-38-2	3.2E+02	n	4.1E+03	n					9.8E+01	n		1.4E-01	n	
				1.4E-01	I	5.0E-05	I			1			Manganese (Diet)	7439-96-5														
				2.4E-02	S	5.0E-05	I			0.04			Manganese (Non-diet)	7439-96-5	1.8E+03	n	2.6E+04	n	5.2E-02	n	2.2E-01	n	4.3E+02	n		2.8E+01	n	
				9.0E-05	H					1	0.1		Mephosfolan	950-10-7	5.7E+00	n	7.4E+01	n					1.8E+00	n		2.6E-03	n	
				3.0E-02	I					1	0.1		Mepiquat Chloride	24307-26-4	1.9E+03	n	2.5E+04	n					6.0E+02	n		2.0E-01	n	
													Mercury Compounds															
				3.0E-04	I	3.0E-04	S			0.07			~Mercuric Chloride (and other Mercury salts)	7487-94-7	2.3E+01	n	3.5E+02	n	3.1E-01	n	1.3E+00	n	5.7E+00	n	2.0E+00		n	
						3.0E-04	I	V		1		3.1E+00	~Mercury (elemental)	7439-97-6	1.1E+01	ns	4.6E+01	ns	3.1E-01	n	1.3E+00	n	6.3E-01	n	2.0E+00	3.3E-02	n	1.0E-01
				1.0E-04	I					1			~Methyl Mercury -	22967-92-6	7.8E+00	n	1.2E+02	n					2.0E+00	n				
				8.0E-05	I					1	0.1		~Phenylmercuric Acetate	62-38-4	5.1E+00	n	6.6E+01	n					1.6E+00	n		5.0E-04	n	
				3.0E-05	I			V		1			Merphos	150-50-5	2.3E+00	n	3.5E+01	n					6.0E-01	n		5.9E-02	n	
				3.0E-05	I					1	0.1		Merphos Oxide	78-48-8	1.9E+00	n	2.5E+01	n					8.5E-02	n		4.2E-04	n	
				6.0E-02	I					1	0.1		Metalaxyl	57837-19-1	3.8E+03	n	4.9E+04	n					1.2E+03	n		3.3E-01	n	
				1.0E-04	I	3.0E-02	P	V		1		4.6E+03	Methacrylonitrile	126-98-7	7.5E+00	n	1.0E+02	n	3.1E+01	n	1.3E+02	n	1.9E+00	n		4.3E-04	n	
				5.0E-05	I					1	0.1		Methamidophos	10265-92-6	3.2E+00	n	4.1E+01	n					1.0E+00	n		2.1E-04	n	
				2.0E+00	I	2.0E+01	I	V		1		1.1E+05	Methanol	67-56-1	1.2E+05	nms	1.2E+06	nms	2.1E+04	n	8.8E+04	n	2.0E+04	n		4.1E+00	n	
				1.0E-03	I					1	0.1		Methidathion	950-37-8	6.3E+01	n	8.2E+02	n					1.9E+01	n		4.7E-03	n	
				2.5E-02	I					1	0.1		Methomyl	16752-77-5	1.6E+03	n	2.1E+04	n					5.0E+02	n		1.1E-01	n	
4.9E-02	C	1.4E-05	C							1	0.1		Methoxy-5-nitroaniline, 2-	99-59-2	1.1E+01	c	4.7E+01	c	2.0E-01	c	8.8E-01	c	1.5E+00	c		5.3E-04	c	
				5.0E-03	I					1	0.1		Methoxychlor	72-43-5	3.2E+02	n	4.1E+03	n					3.7E+01	n	4.0E+01	2.0E+00	n	2.2E+00
				8.0E-03	P	1.0E-03	P	V		1		1.2E+05	Methoxyethanol Acetate, 2-	110-49-6	1.1E+02	n	5.1E+02	n	1.0E+00	n	4.4E+00	n	2.1E+00	n		4.2E-04	n	
				5.0E-03	P	2.0E-02	I	V		1		1.1E+05	Methoxyethanol, 2-	109-86-4	3.3E+02	n	3.5E+03	n	2.1E+01	n	8.8E+01	n	2.9E+01	n		5.9E-03	n	
				1.0E+00	X			V		1		2.9E+04	Methyl Acetate	79-20-9	7.8E+04	ns	1.2E+06	nms					2.0E+04	n		4.1E+00	n	
						2.0E-02	P	V		1		6.8E+03	Methyl Acrylate	96-33-3	1.5E+02	n	6.1E+02	n	2.1E+01	n	8.8E+01	n	4.2E+01	n		8.9E-03	n	
				6.0E-01	I	5.0E+00	I	V		1		2.8E+04	Methyl Ethyl Ketone (2-Butanone)	78-93-3	2.7E+04	n	1.9E+05	nms	5.2E+03	n	2.2E+04	n	5.6E+03	n		1.2E+00	n	
		1.0E-03	X	1.0E-03	P	2.0E-05	X	V		1		1.8E+05	Methyl Hydrazine	60-34-4	1.4E-01	c**	6.2E-01	c**	2.8E-03	c**	1.2E-02	c**	5.6E-03	c**		1.3E-06	c**	
						3.0E+00	I	V		1		3.4E+03	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	3.3E+04	ns	1.4E+05	nms	3.1E+03	n	1.3E+04	n	6.3E+03	n		1.4E+00	n	
						1.0E-03	C	V		1		1.0E+04	Methyl Isocyanate	624-83-9	4.6E+00	n	1.9E+01	n	1.0E+00	n	4.4E+00	n	2.1E+00	n		5.9E-04	n	
				1.4E+00	I	7.0E-01	I	V		1		2.4E+03	Methyl Methacrylate	80-62-6	4.4E+03	ns	1.9E+04	ns	7.3E+02	n	3.1E+03	n	1.4E+03	n		3.0E-01	n	
				2.5E-04	I					1	0.1		Methyl Parathion	298-00-0	1.6E+01	n	2.1E+02	n					4.5E+00	n		7.4E-03	n	
				6.0E-02	X					1	0.1		Methyl Phosphonic Acid	993-13-5	3.8E+03	n	4.9E+04	n					1.2E+03	n		2.4E-01	n	
				6.0E-03	H	4.0E-02	H	V		1		3.9E+02	Methyl Styrene (Mixed Isomers)	25013-15-4	3.2E+02	n	2.6E+03	ns	4.2E+01	n	1.8E+02	n	2.3E+01	n		3.8E-02	n	
9.9E-02	C	2.8E-05	C							1	0.1		Methyl methanesulfonate	66-27-3	5.5E+00	c	2.3E+01	c	1.0E-01	c	4.4E-01	c	7.9E-01	c		1.6E-04	c	
1.8E-03	C	2.6E-07	C			3.0E+00	I	V		1		8.9E+03	Methyl tert-Butyl Ether (MTBE)	1634-04-4	4.7E+01	c	2.1E+02	c	1.1E+01	c	4.7E+01	c	1.4E+01	c		3.2E-03	c	
				3.0E-04	X					1	0.1		Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	1.9E+01	n	2.5E+02	n					6.0E+00	n		3.6E-03	n	
9.0E-03	P			2.0E-02	X					1	0.1		Methyl-5-Nitroaniline, 2-	99-55-8	6.0E+01	c*	2.6E+02	c*					8.2E+00	c*		4.6E-03	c*	
8.3E+00	C	2.4E-03	C							1	0.1		Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	6.5E-02	c	2.8E-01	c	1.2E-03	c	5.1E-03	c	9.4E-03	c		3.2E-06	c	
1.3E-01	C	3.7E-05	C							1	0.1		Methylaniline Hydrochloride, 2-	636-21-5	4.2E+00	c	1.8E+01	c	7.6E-02	c	3.3E-01	c	6.0E-01	c		2.6E-04	c	
				1.0E-02	A					1	0.1		Methylarsonic acid	124-58-3	6.3E+02	n	8.2E+03	n					2.0E+02	n			n	
				2.0E-04	X					1	0.1		Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	1.3E+01	n	1.6E+02	n					4.0E+00	n			n	
1.0E-01	X			3.0E-04	X					1	0.1		Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	5.4E+00	c**	2.3E+01	c*					7.8E-01	c**			c**	
2.2E+01	C	6.3E-03	C						M	1	0.1		Methylcholanthrene, 3-	56-49-5	5.5E-03	c	1.0E-01	c	1.6E-04	c	1.9E-03	c	1.1E-03	c		2.2E-03	c	
2.0E-03	I	1.0E-08	I	6.0E-03	I	6.0E-01	I	V	M	1		3.3E+03	Methylene Chloride	75-09-2	5.7E+01	c**	1.0E+03	c**	1.0E+02	c**	1.2E+03	c**	1.1E+01	c**	5.0E+00	2.9E-03	c**	1.3E-03
1.0E-01	P	4.3E-04	C	2.0E-03	P				M	1	0.1		Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	1.2E+00	c	2.3E+01	c*	2.4E-03	c	2.9E-02	c	1.6E-01	c		1.8E-03	c	
4.6E-02	I	1.3E-05	C							1	0.1		Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	1.2E+01	c	5.0E+01	c	2.2E-01	c	9.4E-01	c	4.8E-01	c		2.6E-03	c	
1.6E+00	C	4.6E-04	C			2.0E-02	C			1	0.1		Methylenebisbenzenamine, 4,4'-	101-77-9	3.4E-01	c	1.4E+00	c	6.1E-03	c	2.7E-02	c	4.7E-02	c		2.1E-04	c	
						6.0E-04	I			1	0.1		Methylenediphenyl Diisocyanate	101-68-8	8.5E+05	nm	3.6E+06	nm	6.3E-01	n	2.6E+00	n						

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Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				7.0E-02	H			V		1		5.0E+02	Methylstyrene, Alpha-	98-83-9	5.5E+03	ns	8.2E+04	ns					7.8E+02	n		1.2E+00	n		
				1.5E-01	I					1	0.1		Metolachlor	51218-45-2	9.5E+03	n	1.2E+05	nm					2.7E+03	n		3.2E+00	n		
				2.5E-02	I					1	0.1		Metribuzin	21087-64-9	1.6E+03	n	2.1E+04	n					4.9E+02	n		1.5E-01	n		
				2.5E-01	I					1	0.1		Metsulfuron-methyl	74223-64-6	1.6E+04	n	2.1E+05	nm					4.9E+03	n		1.9E+00	n		
				3.0E+00	P			V		1		3.4E-01	Mineral oils	8012-95-1	2.3E+05	nms	3.5E+06	nms					6.0E+04	n		2.4E+03	n		
1.8E+01	C	5.1E-03	C	2.0E-04	I			V		1			Mirex	2385-85-5	3.6E-02	c	1.7E-01	c	5.5E-04	c	2.4E-03	c	8.8E-04	c		6.3E-04	c		
				2.0E-03	I					1	0.1		Molinate	2212-67-1	1.3E+02	n	1.6E+03	n					3.0E+01	n		1.7E-02	n		
				5.0E-03	I					1			Molybdenum	7439-98-7	3.9E+02	n	5.8E+03	n					1.0E+02	n		2.0E+00	n		
				1.0E-01	I					1			Monochloramine	10599-90-3	7.8E+03	n	1.2E+05	nm					2.0E+03	n	4.0E+03		n		
				2.0E-03	P					1	0.1		Monomethylaniline	100-61-8	1.3E+02	n	1.6E+03	n					3.8E+01	n		1.4E-02	n		
				2.5E-02	I					1	0.1		Myclobutanil	88671-89-0	1.6E+03	n	2.1E+04	n					4.5E+02	n		5.6E+00	n		
				3.0E-04	X					1	0.1		N,N'-Diphenyl-1,4-benzenediamine	74-31-7	1.9E+01	n	2.5E+02	n					3.6E+00	n		3.7E-01	n		
				2.0E-03	I			V		1			Naled	300-76-5	1.6E+02	n	2.3E+03	n					4.0E+01	n		1.8E-02	n		
				3.0E-02	X	1.0E-01	P	V		1			Naphtha, High Flash Aromatic (HFAN)	64742-95-6	2.3E+03	n	3.5E+04	n	1.0E+02	n	4.4E+02	n	1.5E+02	n			n		
1.8E+00	C	0.0E+00	C							1	0.1		Naphthylamine, 2-	91-59-8	3.0E-01	c	1.3E+00	c					3.9E-02	c		2.0E-04	c		
				1.0E-01	I					1	0.1		Napropamide	15299-99-7	6.3E+03	n	8.2E+04	n					1.6E+03	n		1.1E+01	n		
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		Nickel Acetate	373-02-4	6.7E+02	n	8.1E+03	n	1.1E-02	c**	4.7E-02	c**	2.2E+02	n			n		
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		Nickel Carbonate	3333-67-3	6.7E+02	n	8.1E+03	n	1.1E-02	c**	4.7E-02	c**	2.2E+02	n			n		
		2.6E-04	C	1.1E-02	C	1.4E-05	C	V		1			Nickel Carbonyl	13463-39-3	8.2E+02	n	1.1E+04	n	1.1E-02	c**	4.7E-02	c**	2.2E-02	c**			c**		
		2.6E-04	C	1.1E-02	C	1.4E-05	C			0.04			Nickel Hydroxide	12054-48-7	8.2E+02	n	1.1E+04	n	1.1E-02	c**	4.7E-02	c**	2.0E+02	n			n		
		2.6E-04	C	1.1E-02	C	2.0E-05	C			0.04			Nickel Oxide	1313-99-1	8.4E+02	n	1.2E+04	n	1.1E-02	c**	4.7E-02	c**	2.0E+02	n			n		
		2.4E-04	I	1.1E-02	C	1.4E-05	C			0.04			Nickel Refinery Dust	NA	8.2E+02	n	1.1E+04	n	1.2E-02	c**	5.1E-02	c**	2.2E+02	n		3.2E+01	n		
		2.6E-04	C	2.0E-02	I	9.0E-05	A			0.04			Nickel Soluble Salts	7440-02-0	1.5E+03	n	2.2E+04	n	1.1E-02	c**	4.7E-02	c**	3.9E+02	n		2.6E+01	n		
1.7E+00	C	4.8E-04	I	1.1E-02	C	1.4E-05	C			0.04			Nickel Subsulfide	12035-72-2	4.1E-01	c	1.9E+00	c	5.8E-03	c**	2.6E-02	c**	4.5E-02	c			c		
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		Nickelocene	1271-28-9	6.7E+02	n	8.1E+03	n	1.1E-02	c**	4.7E-02	c**	2.2E+02	n			n		
				1.6E+00	I					1			Nitrate	14797-55-8	1.3E+05	nm	1.9E+06	nm					3.2E+04	n	1.0E+04		n		
										1			Nitrate + Nitrite (as N)	NA											1.0E+04				
				1.0E-01	I					1			Nitrite	14797-65-0	7.8E+03	n	1.2E+05	nm					2.0E+03	n	1.0E+03		n		
				1.0E-02	X	5.0E-05	X			1	0.1		Nitroaniline, 2-	88-74-4	6.3E+02	n	8.0E+03	n	5.2E-02	n	2.2E-01	n	1.9E+02	n		8.0E-02	n		
2.0E-02	P			4.0E-03	P	6.0E-03	P			1	0.1		Nitroaniline, 4-	100-01-6	2.7E+01	c**	1.1E+02	c*	6.3E+00	n	2.6E+01	n	3.8E+00	c*		1.6E-03	c*		
		4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1		3.1E+03	Nitrobenzene	98-95-3	5.1E+00	c*	2.2E+01	c*	7.0E-02	c	3.1E-01	c	1.4E-01	c*		9.2E-05	c*		
				3.0E+03	P					1	0.1		Nitrocellulose	9004-70-0	1.9E+08	nm	2.5E+09	nm					6.0E+07	n		1.3E+04	n		
				7.0E-02	H					1	0.1		Nitrofurantoin	67-20-9	4.4E+03	n	5.7E+04	n					1.4E+03	n		6.1E-01	n		
1.3E+00	C	3.7E-04	C							1	0.1		Nitrofurazone	59-87-0	4.2E-01	c	1.8E+00	c	7.6E-03	c	3.3E-02	c	6.0E-02	c		5.4E-05	c		
1.7E-02	P			1.0E-04	P					1	0.1		Nitroglycerin	55-63-0	6.3E+00	n	8.2E+01	n					2.0E+00	n		8.5E-04	n		
				1.0E-01	I					1	0.1		Nitroguanidine	556-88-7	6.3E+03	n	8.2E+04	n					2.0E+03	n		4.8E-01	n		
		8.8E-06	P			5.0E-03	P	V		1		1.8E+04	Nitromethane	75-52-5	5.4E+00	c*	2.4E+01	c*	3.2E-01	c*	1.4E+00	c*	6.4E-01	c*		1.4E-04	c*		
		2.7E-03	H			2.0E-02	I	V		1		4.9E+03	Nitropropane, 2-	79-46-9	1.4E-02	c	6.0E-02	c	1.0E-03	c	4.5E-03	c	2.1E-03	c		5.4E-07	c		
2.7E+01	C	7.7E-03	C						M	1	0.1		Nitroso-N-ethylurea, N-	759-73-9	4.5E-03	c	8.5E-02	c	1.3E-04	c	1.6E-03	c	9.2E-04	c		2.2E-07	c		
1.2E+02	C	3.4E-02	C						M	1	0.1		Nitroso-N-methylurea, N-	684-93-5	1.0E-03	c	1.9E-02	c	3.0E-05	c	3.6E-04	c	2.1E-04	c		4.6E-08	c		
5.4E+00	I	1.6E-03	I					V		1			Nitroso-di-N-butylamine, N-	924-16-3	9.9E-02	c	4.6E-01	c	1.8E-03	c	7.7E-03	c	2.7E-03	c		5.5E-06	c		
7.0E+00	I	2.0E-03	C							1	0.1		Nitroso-di-N-propylamine, N-	621-64-7	7.8E-02	c	3.3E-01	c	1.4E-03	c	6.1E-03	c	1.1E-02	c		8.1E-06	c		
2.8E+00	I	8.0E-04	C							1	0.1		Nitrosodiethanolamine, N-	1116-54-7	1.9E-01	c	8.2E-01	c	3.5E-03	c	1.5E-02	c	2.8E-02	c		5.6E-06	c		
1.5E+02	I	4.3E-02	I						M	1	0.1		Nitrosodiethylamine, N-	55-18-5	8.1E-04	c	1.5E-02	c	2.4E-05	c	2.9E-04	c	1.7E-04	c		6.1E-08	c		
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	V	M	1		2.4E+05	Nitrosodimethylamine, N-	62-75-9	2.0E-03	c	3.4E-02	c	7.2E-05	c	8.8E-04	c	1.1E-04	c		2.7E-08	c		
4.9E-03	I	2.6E-06	C							1	0.1		Nitrosodiphenylamine, N-	86-30-6	1.1E+02	c	4.7E+02	c	1.1E+00	c	4.7E+00	c	1.2E+01	c		6.7E-02	c		
2.2E+01	I	6.3E-03	C					V		1		1.1E+05	Nitrosomethylethylamine, N-	10595-95-6	2.0E-02	c	9.1E-02	c	4.5E-04	c	1.9E-03	c	7.1E-04	c		2.0E-07	c		
6.7E+00	C	1.9E-03	C							1	0.1		Nitrosomorpholine [N-]	59-89-2	8.1E-02	c	3.4E-01	c	1.5E-03	c	6.5E-03	c	1.2E-02	c		2.8E-06	c		
9.4E+00	C	2.7E-03	C							1	0.1		Nitrosopiperidine [N-]	100-75-4	5.8E-02	c	2.4E-01	c	1.0E-03	c	4.5E-03	c	8.2E-03	c		4.4E-06	c		
2.1E+00	I	6.1E-04	I							1	0.1		Nitrosopyrrolidine, N-	930-55-2	2.6E-01	c	1.1E+00	c	4.6E-03	c	2.0E-02	c	3.7E-02	c		1.4E-05	c		
				1.0E-04	X					1	0.1		Nitrotoluene, m-	99-08-1	6.3E+00	n	8.2E+01	n					1.7E+00	n		1.6E-03	n		
2.2E-01	P			9.0E-04	P			V		1		1.5E+03	Nitrotoluene, o-	88-72-2	3.2E+00	c*	1.5E+01	c*					3.1E-01	c*		3.0E-04	c*		
1.6E-02	P			4.0E-03	P					1	0.1		Nitrotoluene, p-	99-99-0	3.4E+01	c**	1.4E+02	c*					4.3E+00	c*		4.0E-03	c*		
				3.0E-04	X	2.0E-02	P	V		1		6.9E+00	Nonane, n-	111-84-2	1.1E+01	ns	7.2E+01	ns	2.1E+01	n	8.8E+01	n	5.3E+00	n		7.5E-02	n		
				4.0E-02	I					1	0.1		Norflurazon	27314-13-2	2.5E+03	n	3.3E+04	n					7.7E+02	n		5.0E+00	n		
				3.0E-03	I					1	0.1		Octabromodiphenyl Ether	32536-52-0	1.9E+02	n	2.5E+03	n					6.0E+01	n		1.2E+01	n		
				5.0E-02	I					1	0.006		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	3.9E+03	n	5.7E+04	n					1.0E+03	n		1.3E+00	n		
				2.0E-03	H					1	0.1		Octamethylpyrophosphoramide	152-16-9	1.3E+02	n	1.6E+03	n					4.0E+01	n		9.6E-03	n		
				5.0E-02	I					1	0.1		Oryzalin	19044-88-3	3.2E+03	n	4.1E+04	n					8.1E+02	n		1.5E+00	n		
				5.0E-03	I					1	0.1		Oxadiazon	19666-30-9	3.2E+02	n	4.1E+03	n					4.7E+01	n		4.8E-01	n		
				2.5E-02	I					1	0.1		Oxamyl	23135-22-0	1.6E+03	n	2.1E+04	n					5.0E+02	n	2.0E+02	1.1E-01	n	4.4E-02	
				3.0E-03	I					1	0.1		Oxyfluorfen	42874-03-3	1.9E+02	n	2.5E+03	n					3.2E+01	n		2.5E+00	n		
				1.3E-02	I					1	0.1		Paclobutrazol	76738-62-0	8.2E+02	n	1.1E+04	n					2.3E+02	n		4.6E-01	n		
				4.5E-03	I					1	0.1		Paraquat Dichloride	1910-42-5	2.8E+02	n	3.7E+03	n					9.0E+01	n		1.2E+00	n		
				6.0E-03	H					1	0.1		Parathion	56-38-2	3.8E+02	n	4.9E+03	n					8.6E+01	n		4.3E-01	n		

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				5.0E-02	H			V		1			Pebulate	1114-71-2	3.9E+03	n	5.8E+04	n					5.6E+02	n		4.5E-01	n		
				4.0E-02	I					1	0.1		Pendimethalin	40487-42-1	2.5E+03	n	3.3E+04	n					1.8E+02	n		2.1E+00	n		
				2.0E-03	I			V		1		3.1E-01	Pentabromodiphenyl Ether	32534-81-9	1.6E+02	ns	2.3E+03	ns					4.0E+01	n		1.7E+00	n		
				1.0E-04	I					1	0.1		Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	6.3E+00	n	8.2E+01	n					2.0E+00	n		8.7E-02	n		
				8.0E-04	I			V		1			Pentachlorobenzene	608-93-5	6.3E+01	n	9.3E+02	n					3.2E+00	n		2.4E-02	n		
9.0E-02	P							V		1		4.6E+02	Pentachloroethane	76-01-7	7.7E+00	c	3.6E+01	c					6.5E-01	c		3.1E-04	c		
2.6E-01	H			3.0E-03	I			V		1			Pentachloronitrobenzene	82-68-8	2.7E+00	c*	1.3E+01	c					1.2E-01	c		1.5E-03	c		
4.0E-01	I	5.1E-06	C	5.0E-03	I					1	0.25		Pentachlorophenol	87-86-5	1.0E+00	c	4.0E+00	c	5.5E-01	c	2.4E+00	c	4.1E-02	c	1.0E+00	4.2E-04	c	1.0E-02	
4.0E-03	X			2.0E-03	P					1	0.1		Pentaerythritol tetranitrate (PETN)	78-11-5	1.3E+02	n	5.7E+02	c**					1.9E+01	c**		2.8E-02	c**		
						1.0E+00	P	V		1		3.9E+02	Pentane, n-	109-66-0	8.1E+02	ns	3.4E+03	ns	1.0E+03	n	4.4E+03	n	2.1E+03	n		1.0E+01	n		
													Perchlorates																	
				7.0E-04	I					1			~Ammonium Perchlorate	7790-98-9	5.5E+01	n	8.2E+02	n					1.4E+01	n			n		
				7.0E-04	I					1			~Lithium Perchlorate	7791-03-9	5.5E+01	n	8.2E+02	n					1.4E+01	n			n		
				7.0E-04	I					1			~Perchlorate and Perchlorate Salts	14797-73-0	5.5E+01	n	8.2E+02	n					1.4E+01	n	1.5E+01(F)		n		
				7.0E-04	I					1			~Potassium Perchlorate	7778-74-7	5.5E+01	n	8.2E+02	n					1.4E+01	n			n		
				7.0E-04	I					1			~Sodium Perchlorate	7601-89-0	5.5E+01	n	8.2E+02	n					1.4E+01	n			n		
				2.0E-02	P			V		1			Perfluorobutane Sulfonate	375-73-5	1.6E+03	n	2.3E+04	n					3.8E+02	n		2.1E-01	n		
				5.0E-02	I					1	0.1		Permethrin	52645-53-1	3.2E+03	n	4.1E+04	n					1.0E+03	n		2.4E+02	n		
2.2E-03	C	6.3E-07	C							1	0.1		Phenacetin	62-44-2	2.5E+02	c	1.0E+03	c	4.5E+00	c	1.9E+01	c	3.4E+01	c		9.7E-03	c		
				2.5E-01	I					1	0.1		Phenmedipham	13684-63-4	1.6E+04	n	2.1E+05	nm					4.0E+03	n		2.1E+01	n		
				3.0E-01	I	2.0E-01	C			1	0.1		Phenol	108-95-2	1.9E+04	n	2.5E+05	nm	2.1E+02	n	8.8E+02	n	5.8E+03	n		3.3E+00	n		
				5.0E-04	X					1	0.1		Phenothiazine	92-84-2	3.2E+01	n	4.1E+02	n					4.3E+00	n		1.4E-02	n		
				6.0E-03	I					1	0.1		Phenylenediamine, m-	108-45-2	3.8E+02	n	4.9E+03	n					1.2E+02	n		3.2E-02	n		
4.7E-02	H									1	0.1		Phenylenediamine, o-	95-54-5	1.2E+01	c	4.9E+01	c					1.6E+00	c		4.4E-04	c		
				1.9E-01	H					1	0.1		Phenylenediamine, p-	106-50-3	1.2E+04	n	1.6E+05	nm					3.8E+03	n		1.0E+00	n		
1.9E-03	H									1	0.1		Phenylphenol, 2-	90-43-7	2.8E+02	c	1.2E+03	c					3.0E+01	c		4.1E-01	c		
				2.0E-04	H					1	0.1		Phorate	298-02-2	1.3E+01	n	1.6E+02	n					3.0E+00	n		3.4E-03	n		
						3.0E-04	I	V		1		1.6E+03	Phosgene	75-44-5	3.1E-01	n	1.3E+00	n	3.1E-01	n	1.3E+00	n							
				2.0E-02	I					1	0.1		Phosmet	732-11-6	1.3E+03	n	1.6E+04	n					3.7E+02	n		8.2E-02	n		
													Phosphates, Inorganic																	
				4.9E+01	P					1			~Aluminum metaphosphate	13776-88-0	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Ammonium polyphosphate	68333-79-9	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Calcium pyrophosphate	7790-76-3	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Diammonium phosphate	7783-28-0	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Dicalcium phosphate	7757-93-9	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Dimagnesium phosphate	7782-75-4	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Dipotassium phosphate	7758-11-4	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Disodium phosphate	7558-79-4	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Monoaluminum phosphate	13530-50-2	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Monoammonium phosphate	7722-76-1	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Monocalcium phosphate	7758-23-8	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Monomagnesium phosphate	7757-86-0	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Monopotassium phosphate	7778-77-0	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Monosodium phosphate	7558-80-7	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Polyphosphoric acid	8017-16-1	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Potassium tripolyphosphate	13845-36-8	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium acid pyrophosphate	7758-16-9	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium aluminum phosphate (acidic)	7785-88-8	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium aluminum phosphate (anhydrous)	10279-59-1	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium aluminum phosphate (tetrahydrate)	10305-76-7	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium hexametaphosphate	10124-56-8	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium polyphosphate	68915-31-1	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium trimetaphosphate	7785-84-4	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Sodium tripolyphosphate	7758-29-4	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Tetrapotassium phosphate	7320-34-5	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Tetrasodium pyrophosphate	7722-88-5	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Tricalcium phosphate	7758-87-4	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Trimagnesium phosphate	7757-87-1	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Tripotassium phosphate	7778-53-2	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				4.9E+01	P					1			~Trisodium phosphate	7601-54-9	3.8E+06	nm	5.7E+07	nm					9.7E+05	n			n		
				3.0E-04	I	3.0E-04	I	V		1			Phosphine	7803-51-2	2.3E+01	n	3.5E+02	n	3.1E-01	n	1.3E+00	n	5.7E-01	n			n		
				4.9E+01	P	1.0E-02	I			1			Phosphoric Acid	7664-38-2	3.0E+06	nm	2.9E+07	nm	1.0E+01	n	4.4E+01	n	9.7E+05	n			n		
				2.0E-05	I			V		1			Phosphorus, White	7723-14-0	1.6E+00	n	2.3E+01	n					4.0E-01	n		1.5E-03	n		
													Phthalates																	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
1.4E-02	I	2.4E-06	C	2.0E-02	I					1	0.1		~Bis(2-ethylhexyl)phthalate	117-81-7	3.9E+01	c*	1.6E+02	c	1.2E+00	c	5.1E+00	c	5.6E+00	c*	6.0E+00	1.3E+00	c*	1.4E+00
				1.0E+00	I					1	0.1		~Butylphthalyl Butylglycolate	85-70-1	6.3E+04	n	8.2E+05	nm					1.3E+04	n		3.1E+02	n		
				1.0E-01	I					1	0.1		~Dibutyl Phthalate	84-74-2	6.3E+03	n	8.2E+04	n					9.0E+02	n		2.3E+00	n		
				8.0E-01	I					1	0.1		~Diethyl Phthalate	84-66-2	5.1E+04	n	6.6E+05	nm					1.5E+04	n		6.1E+00	n		
				1.0E-01	I			V		1			~Dimethylterephthalate	120-61-6	7.8E+03	n	1.2E+05	nm					1.9E+03	n		4.9E-01	n		
				1.0E-02	P					1	0.1		~Octyl Phthalate, di-N-	117-84-0	6.3E+02	n	8.2E+03	n					2.0E+02	n		5.7E+01	n		
				1.0E+00	H					1	0.1		~Phthalic Acid, P-	100-21-0	6.3E+04	n	8.2E+05	nm					1.9E+04	n		6.8E+00	n		
				2.0E+00	I	2.0E-02	C			1	0.1		~Phthalic Anhydride	85-44-9	1.3E+05	nm	1.6E+06	nm	2.1E+01	n	8.8E+01	n	3.9E+04	n		8.5E+00	n		
				7.0E-02	I					1	0.1		Picloram	1918-02-1	4.4E+03	n	5.7E+04	n					1.4E+03	n	5.0E+02	3.8E-01	n	1.4E-01	
				1.0E-04	X					1	0.1		Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	6.3E+00	n	8.2E+01	n					2.0E+00	n		1.3E-03	n		
				9.0E-04	X					1	0.1		Picric Acid (2,4,6-Trinitrophenol)	88-89-1	5.7E+01	n	7.4E+02	n					1.8E+01	n		8.4E-02	n		
				1.0E-02	I					1	0.1		Pirimiphos, Methyl	29232-93-7	6.3E+02	n	8.2E+03	n					1.2E+02	n		1.2E-01	n		
3.0E+01	C	8.6E-03	C	7.0E-06	H					1	0.1		Polybrominated Biphenyls	59536-65-1	1.8E-02	c*	7.7E-02	c*	3.3E-04	c	1.4E-03	c	2.6E-03	c*			c*		
													Polychlorinated Biphenyls (PCBs)																	
7.0E-02	S	2.0E-05	S	7.0E-05	I			V		1	0.14		~Aroclor 1016	12674-11-2	4.1E+00	n	2.7E+01	c**	1.4E-01	c	6.1E-01	c	2.2E-01	c**		2.1E-02	c**		
2.0E+00	S	5.7E-04	S					V		1	0.14		~Aroclor 1221	11104-28-2	2.0E-01	c	8.3E-01	c	4.9E-03	c	2.1E-02	c	4.7E-03	c		8.0E-05	c		
2.0E+00	S	5.7E-04	S					V		1	0.14		~Aroclor 1232	11141-16-5	1.7E-01	c	7.2E-01	c	4.9E-03	c	2.1E-02	c	4.7E-03	c		8.0E-05	c		
2.0E+00	S	5.7E-04	S					V		1	0.14		~Aroclor 1242	53469-21-9	2.3E-01	c	9.5E-01	c	4.9E-03	c	2.1E-02	c	7.8E-03	c		1.2E-03	c		
2.0E+00	S	5.7E-04	S					V		1	0.14		~Aroclor 1248	12672-29-6	2.3E-01	c	9.5E-01	c	4.9E-03	c	2.1E-02	c	7.8E-03	c		1.2E-03	c		
2.0E+00	S	5.7E-04	S	2.0E-05	I			V		1	0.14		~Aroclor 1254	11097-69-1	2.4E-01	c**	9.7E-01	c*	4.9E-03	c	2.1E-02	c	7.8E-03	c*		2.0E-03	c*		
2.0E+00	S	5.7E-04	S					V		1	0.14		~Aroclor 1260	11096-82-5	2.4E-01	c	9.9E-01	c	4.9E-03	c	2.1E-02	c	7.8E-03	c		5.5E-03	c		
				6.0E-04	X			V		1	0.14		~Aroclor 5460	11126-42-4	3.5E+01	n	4.4E+02	n					1.2E+01	n		2.0E+00	n		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	1.3E-01	c*	5.2E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		2.8E-03	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	1.2E-01	c*	5.2E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.7E-03	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	1.2E-01	c*	5.1E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.7E-03	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	1.2E-01	c*	5.1E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.7E-03	c		
3.9E+03	E	1.1E+00	E	2.3E-08	E	1.3E-06	E	V		1	0.14		~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	1.2E-04	c*	5.2E-04	c*	2.5E-06	c	1.1E-05	c	4.0E-06	c		1.7E-06	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	1.2E-01	c*	5.0E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.0E-03	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	1.2E-01	c*	5.0E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.0E-03	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	1.2E-01	c*	5.0E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.0E-03	c		
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	1.2E-01	c*	5.1E-01	c*	2.5E-03	c	1.1E-02	c	4.0E-03	c		1.0E-03	c		
1.3E+04	E	3.8E+00	E	7.0E-09	E	4.0E-07	E	V		1	0.14		~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	3.7E-05	c*	1.5E-04	c*	7.4E-07	c	3.2E-06	c	1.2E-06	c		3.0E-07	c		
2.0E+00	I	5.7E-04	I					V		1	0.14		~Polychlorinated Biphenyls (high risk)	1336-36-3	2.3E-01	c	9.4E-01	c	4.9E-03	c	2.1E-02	c							
4.0E-01	I	1.0E-04	I					V		1	0.14		~Polychlorinated Biphenyls (low risk)	1336-36-3					2.8E-02	c	1.2E-01	c	4.4E-02	c	5.0E-01	6.8E-03	c	7.8E-02	
7.0E-02	I	2.0E-05	I					V		1	0.14		~Polychlorinated Biphenyls (lowest risk)	1336-36-3					1.4E-01	c	6.1E-01	c							
1.3E+01	E	3.8E-03	E	7.0E-06	E	4.0E-04	E			1	0.14		~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	3.8E-02	c*	1.6E-01	c*	7.4E-04	c	3.2E-03	c	6.0E-03	c*		9.4E-04	c*		
3.9E+01	E	1.1E-02	E	2.3E-06	E	1.3E-04	E	V		1	0.14		~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	1.2E-02	c*	4.9E-02	c*	2.5E-04	c	1.1E-03	c	4.0E-04	c		6.2E-05	c		
						6.0E-04	I			1	0.1		Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	8.5E+05	nm	3.6E+06	nm	6.3E-01	n	2.6E+00	n							
													Polynuclear Aromatic Hydrocarbons (PAHs)																	
				6.0E-02	I			V		1	0.13		~Acenaphthene	83-32-9	3.6E+03	n	4.5E+04	n					5.3E+02	n		5.5E+00	n		
				3.0E-01	I			V		1	0.13		~Anthracene	120-12-7	1.8E+04	n	2.3E+05	nm					1.8E+03	n		5.8E+01	n		
7.3E-01	E	1.1E-04	C					V	M	1	0.13		~Benz[a]anthracene	56-55-3	1.6E-01	c	2.9E+00	c	9.2E-03	c	1.1E-01	c	1.2E-02	c		4.2E-03	c		
1.2E+00	C	1.1E-04	C							1	0.13		~Benzo(j)fluoranthene	205-82-3	4.2E-01	c	1.8E+00	c	2.6E-02	c	1.1E-01	c	6.5E-02	c		7.8E-02	c		
7.3E+00	I	1.1E-03	C						M	1	0.13		~Benzo[a]pyrene	50-32-8	1.6E-02	c	2.9E-01	c	9.2E-04	c	1.1E-02	c	3.4E-03	c	2.0E-01	4.0E-03	c	2.4E-01	
7.3E-01	E	1.1E-04	C						M	1	0.13		~Benzo[b]fluoranthene	205-99-2	1.6E-01	c	2.9E+00	c	9.2E-03	c	1.1E-01	c	3.4E-02	c		4.1E-02	c		
7.3E-02	E	1.1E-04	C						M	1	0.13		~Benzo[k]fluoranthene	207-08-9	1.6E+00	c	2.9E+01	c	9.2E-03	c	1.1E-01	c	3.4E-01	c		4.0E-01	c		
				8.0E-02	I			V		1	0.13		~Chloronaphthalene, Beta-	91-58-7	4.8E+03	n	6.0E+04	n					7.5E+02	n		3.9E+00	n		
7.3E-03	E	1.1E-05	C						M	1	0.13		~Chrysene	218-01-9	1.6E+01	c	2.9E+02	c	9.2E-02	c	1.1E+00	c	3.4E+00	c		1.2E+00	c		
7.3E+00	E	1.2E-03	C						M	1	0.13		~Dibenz[a,h]anthracene	53-70-3	1.6E-02	c	2.9E-01	c	8.4E-04	c	1.0E-02	c	3.4E-03	c		1.3E-02	c		
1.2E+01	C	1.1E-03	C							1	0.13		~Dibenzo(a,e)pyrene	192-65-4	4.2E-02	c	1.8E-01	c	2.6E-03	c	1.1E-02	c	6.5E-03	c		8.4E-02	c		
2.5E+02	C	7.1E-02	C						M	1	0.13		~Dimethylbenz(a)anthracene, 7,12-	57-97-6	4.6E-04	c	8.4E-03	c	1.4E-05	c	1.7E-04	c	1.0E-04	c		9.9E-05	c		
				4.0E-02	I					1	0.13		~Fluoranthene	206-44-0	2.4E+03	n	3.0E+04	n					8.0E+02	n		8.9E+01	n		
				4.0E-02	I			V		1	0.13		~Fluorene	86-73-7	2.4E+03	n	3.0E+04	n					2.9E+02	n		5.4E+00	n		
7.3E-01	E	1.1E-04	C						M	1	0.13		~Indeno[1,2,3-cd]pyrene	193-39-5	1.6E-01	c	2.9E+00	c	9.2E-03	c	1.1E-01	c	3.4E-02	c		1.3E-01	c		
2.9E-02	P			7.0E-02	A			V		1	0.13	3.9E+02	~Methylnaphthalene, 1-	90-12-0	1.8E+01	c	7.3E+01	c					1.1E+00	c		6.0E-03	c		
				4.0E-03	I			V		1	0.13		~Methylnaphthalene, 2-	91-57-6	2.4E+02	n	3.0E+03	n					3.6E+01	n		1.9E-01	n		
		3.4E-05	C	2.0E-02	I	3.0E-03	I	V		1	0.13		~Naphthalene	91-20-3	3.8E+00	c*	1.7E+01	c*	8.3E-02	c*	3.6E-01	c*	1.7E-01	c*		5.4E-04	c*		
1.2E+00	C	1.1E-04	C							1	0.13		~Nitropyrene, 4-	57835-92-4	4.2E-01	c	1.8E+00	c	2.6E-02	c	1.1E-01	c	1.9E-02	c		3.3E-03	c		
				3.0E-02	I			V		1	0.13		~Pyrene	129-00-0	1.8E+03	n	2.3E+04	n					1.2E+02	n		1.3E+01	n		
				2.0E-02	P					1	0.1		Potassium Perfluorobutane Sulfonate	29420-49-3	1.3E+03	n	1.6E+04	n					4.0E+02	n			n		
1.5E-01	I			9.0E-03	I					1	0.1		Prochloraz	67747-09-5	3.6E+00	c	1.5E+01	c					3.8E-01	c		1.9E-03	c		
				6.0E-03	H			V		1			Profluralin	26399-36-0	4.7E+02	n	7.0E+03	n					2.6E+01	n		1.6E+00	n		
				1.5E-02	I					1	0.1		Prometon	1610-18-0	9.5E+02	n	1.2E+04	n					2.5E+02	n		1.2E-01	n		
				4.0E-03	I					1	0.1		Prometryn	7287-19-6	2.5E+02	n	3.3E+03	n					6.0E+01	n		9.0E-02	n		
				1.3E-02	I					1	0.1		Propachlor	1918-16-7	8.2E+02	n	1.1E+04	n					2.5E+02	n		1.5E-01	n		

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information																Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	muta-gen	GIABS	ABS	C_{sat} (mg/kg)		Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				4.0E-03	I					1	0.1			Propanediol, 1,2-	114-26-1	2.5E+02	n	3.3E+03	n					7.8E+01	n		2.5E-02	n	
				5.0E-03	I					1	0.1			Propanil	709-98-8	3.2E+02	n	4.1E+03	n					8.2E+01	n		4.5E-02	n	
				2.0E-02	I					1	0.1			Propargite	2312-35-8	1.3E+03	n	1.6E+04	n					1.6E+02	n		1.2E+01	n	
				2.0E-03	I			V		1		1.1E+05		Propargyl Alcohol	107-19-7	1.6E+02	n	2.3E+03	n					4.0E+01	n		8.1E-03	n	
				2.0E-02	I					1	0.1			Propazine	139-40-2	1.3E+03	n	1.6E+04	n					3.4E+02	n		3.0E-01	n	
				2.0E-02	I					1	0.1			Propham	122-42-9	1.3E+03	n	1.6E+04	n					3.5E+02	n		2.2E-01	n	
				1.3E-02	I					1	0.1			Propiconazole	60207-90-1	8.2E+02	n	1.1E+04	n					2.1E+02	n		6.9E-01	n	
						8.0E-03	I	V		1		3.3E+04		Propionaldehyde	123-38-6	7.5E+01	n	3.1E+02	n	8.3E+00	n	3.5E+01	n	1.7E+01	n		3.4E-03	n	
				1.0E-01	X	1.0E+00	X	V		1		2.6E+02		Propyl benzene	103-65-1	3.8E+03	ns	2.4E+04	ns	1.0E+03	n	4.4E+03	n	6.6E+02	n		1.2E+00	n	
						3.0E+00	C	V		1		3.5E+02		Propylene	115-07-1	2.2E+03	ns	9.3E+03	ns	3.1E+03	n	1.3E+04	n	6.3E+03	n		6.0E+00	n	
				2.0E+01	P					1	0.1			Propylene Glycol	57-55-6	1.3E+06	nm	1.6E+07	nm					4.0E+05	n		8.1E+01	n	
						2.7E-04	A			1	0.1			Propylene Glycol Dinitrate	6423-43-4	3.9E+05	nm	1.6E+06	nm	2.8E-01	n	1.2E+00	n						
				7.0E-01	H	2.0E+00	I	V		1		1.1E+05		Propylene Glycol Monomethyl Ether	107-98-2	4.1E+04	n	3.7E+05	nms	2.1E+03	n	8.8E+03	n	3.2E+03	n		6.5E-01	n	
2.4E-01	I	3.7E-06	I			3.0E-02	I	V		1		7.8E+04		Propylene Oxide	75-56-9	2.1E+00	c	9.7E+00	c	7.6E-01	c*	3.3E+00	c*	2.7E-01	c		5.6E-05	c	
				7.5E-02	I					1	0.1			Propyzamide	23950-58-5	4.7E+03	n	6.2E+04	n					1.2E+03	n		1.2E+00	n	
				1.0E-03	I			V		1		5.3E+05		Pyridine	110-86-1	7.8E+01	n	1.2E+03	n					2.0E+01	n		6.8E-03	n	
				5.0E-04	I					1	0.1			Quinalphos	13593-03-8	3.2E+01	n	4.1E+02	n					5.1E+00	n		4.3E-02	n	
3.0E+00	I									1	0.1			Quinoline	91-22-5	1.8E-01	c	7.7E-01	c					2.4E-02	c		7.8E-05	c	
				9.0E-03	I					1	0.1			Quizalofop-ethyl	76578-14-8	5.7E+02	n	7.4E+03	n					1.2E+02	n		1.9E+00	n	
						3.0E-02	A			1				Refractory Ceramic Fibers	NA	4.3E+07	nm	1.8E+08	nm	3.1E+01	n	1.3E+02	n						
				3.0E-02	I					1	0.1			Resmethrin	10453-86-8	1.9E+03	n	2.5E+04	n					6.7E+01	n		4.2E+01	n	
				5.0E-02	H			V		1				Ronnel	299-84-3	3.9E+03	n	5.8E+04	n					4.1E+02	n		3.7E+00	n	
				4.0E-03	I					1	0.1			Rotenone	83-79-4	2.5E+02	n	3.3E+03	n					6.1E+01	n		3.2E+01	n	
2.2E-01	C	6.3E-05	C						M	1	0.1			Safrole	94-59-7	5.5E-01	c	1.0E+01	c	1.6E-02	c	1.9E-01	c	9.6E-02	c		5.9E-05	c	
				5.0E-03	I					1				Selenious Acid	7783-00-8	3.9E+02	n	5.8E+03	n					1.0E+02	n			n	
				5.0E-03	I	2.0E-02	C			1				Selenium	7782-49-2	3.9E+02	n	5.8E+03	n	2.1E+01	n	8.8E+01	n	1.0E+02	n	5.0E+01	5.2E-01	n	2.6E-01
				5.0E-03	C	2.0E-02	C			1				Selenium Sulfide	7446-34-6	3.9E+02	n	5.8E+03	n	2.1E+01	n	8.8E+01	n	1.0E+02	n			n	
				9.0E-02	I					1	0.1			Sethoxydim	74051-80-2	5.7E+03	n	7.4E+04	n					1.0E+03	n		9.3E+00	n	
						3.0E-03	C			1				Silica (crystalline, respirable)	7631-86-9	4.3E+06	nm	1.8E+07	nm	3.1E+00	n	1.3E+01	n						
				5.0E-03	I					0.04				Silver	7440-22-4	3.9E+02	n	5.8E+03	n					9.4E+01	n		8.0E-01	n	
1.2E-01	H			5.0E-03	I					1	0.1			Simazine	122-34-9	4.5E+00	c*	1.9E+01	c					6.1E-01	c	4.0E+00	3.0E-04	c	2.0E-03
				1.3E-02	I					1	0.1			Sodium Acifluorfen	62476-59-9	8.2E+02	n	1.1E+04	n					2.6E+02	n		2.1E+00	n	
				4.0E-03	I					1				Sodium Azide	26628-22-8	3.1E+02	n	4.7E+03	n					8.0E+01	n			n	
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025				Sodium Dichromate	10588-01-9	3.0E-01	c	6.2E+00	c	6.8E-06	c	8.2E-05	c	4.1E-02	c			c	
2.7E-01	H			3.0E-02	I					1	0.1			Sodium Diethyldithiocarbamate	148-18-5	2.0E+00	c	8.5E+00	c					2.9E-01	c			c	
				5.0E-02	A	1.3E-02	C			1				Sodium Fluoride	7681-49-4	3.9E+03	n	5.8E+04	n	1.4E+01	n	5.7E+01	n	1.0E+03	n			n	
				2.0E-05	I					1	0.1			Sodium Fluoroacetate	62-74-8	1.3E+00	n	1.6E+01	n					4.0E-01	n		8.1E-05	n	
				1.0E-03	H					1				Sodium Metavanadate	13718-26-8	7.8E+01	n	1.2E+03	n					2.0E+01	n			n	
				8.0E-04	P					1				Sodium Tungstate	13472-45-2	6.3E+01	n	9.3E+02	n					1.6E+01	n			n	
				8.0E-04	P					1				Sodium Tungstate Dihydrate	10213-10-2	6.3E+01	n	9.3E+02	n					1.6E+01	n			n	
2.4E-02	H			3.0E-02	I					1	0.1			Strirofos (Tetrachlorovinphos)	961-11-5	2.3E+01	c*	9.6E+01	c					2.8E+00	c		8.2E-03	c	
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025				Strontium Chromate	7789-06-2	3.0E-01	c	6.2E+00	c	6.8E-06	c	8.2E-05	c	4.1E-02	c			c	
				6.0E-01	I					1				Strontium, Stable	7440-24-6	4.7E+04	n	7.0E+05	nm					1.2E+04	n		4.2E+02	n	
				3.0E-04	I					1	0.1			Strychnine	57-24-9	1.9E+01	n	2.5E+02	n					5.9E+00	n		6.5E-02	n	
				2.0E-01	I	1.0E+00	I	V		1		8.7E+02		Styrene	100-42-5	6.0E+03	ns	3.5E+04	ns	1.0E+03	n	4.4E+03	n	1.2E+03	n	1.0E+02	1.3E+00	n	1.1E-01
				3.0E-03	P					1	0.1			Styrene-Acrylonitrile (SAN) Trimer	NA	1.9E+02	n	2.5E+03	n					4.8E+01	n			n	
				1.0E-03	P	2.0E-03	X			1	0.1			Sulfolane	126-33-0	6.3E+01	n	8.2E+02	n	2.1E+00	n	8.8E+00	n	2.0E+01	n		4.4E-03	n	
				8.0E-04	P					1	0.1			Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	5.1E+01	n	6.6E+02	n					1.1E+01	n		6.5E-02	n	
						1.0E-03	C	V		1				Sulfur Trioxide	7446-11-9	1.4E+06	nm	6.0E+06	nm	1.0E+00	n	4.4E+00	n	2.1E+00	n			n	
						1.0E-03	C			1				Sulfuric Acid	7664-93-9	1.4E+06	nm	6.0E+06	nm	1.0E+00	n	4.4E+00	n						
2.5E-02	I	7.1E-06	I	5.0E-02	H					1	0.1			Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	2.2E+01	c	9.2E+01	c	4.0E-01	c	1.7E+00	c	1.3E+00	c		1.5E-02	c	
				3.0E-02	H					1	0.1			TCMTB	21564-17-0	1.9E+03	n	2.5E+04	n					4.8E+02	n		3.3E+00	n	
				7.0E-02	I					1	0.1			Tebuthiuron	34014-18-1	4.4E+03	n	5.7E+04	n					1.4E+03	n		3.9E-01	n	
				2.0E-02	H					1	0.1			Temephos	3383-96-8	1.3E+03	n	1.6E+04	n					4.0E+02	n		7.6E+01	n	
				1.3E-02	I					1	0.1			Terbacil	5902-51-2	8.2E+02	n	1.1E+04	n					2.5E+02	n		7.5E-02	n	
				2.5E-05	H			V		1		3.1E+01		Terbufos	13071-79-9	2.0E+00	n	2.9E+01	n					2.4E-01	n		5.2E-04	n	
				1.0E-03	I					1	0.1			Terbutryn	886-50-0	6.3E+01	n	8.2E+02	n					1.3E+01	n		1.9E-02	n	
				1.0E-04	I					1	0.1			Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1	6.3E+00	n	8.2E+01	n					2.0E+00	n		5.3E-02	n	
				3.0E-04	I			V		1				Tetrachlorobenzene, 1,2,4,5-	95-94-3	2.3E+01	n	3.5E+02	n					1.7E+00	n		7.9E-03	n	
2.6E-02	I	7.4E-06	I	3.0E-02	I			V		1		6.8E+02		Tetrachloroethane, 1,1,1,2-	630-20-6	2.0E+00	c	8.8E+00	c	3.8E-01	c	1.7E+00	c	5.7E-01	c		2.2E-04	c	
2.0E-01	I	5.8E-05	C	2.0E-02	I			V		1		1.9E+03		Tetrachloroethane, 1,1,2,2-	79-34-5	6.0E-01	c	2.7E+00	c	4.8E-02	c	2.1E-01	c	7.6E-02	c		3.0E-05	c	
2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		1		1.7E+02		Tetrachloroethylene	127-18-4	2.4E+01	c**	1.0E+02	c**	1.1E+01	c**	4.7E+01	c**	1.1E+01	c**	5.0E+00	5.1E-03	c**	2.3E-03
				3.0E-02	I					1	0.1			Tetrachlorophenol, 2,3,4,6-	58-90-2	1.9E+03	n	2.5E+04	n					2.4E+02	n		1.5E+00	n	
2.0E+01	H							V		1				Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	3.5E-02	c	1.6E-01	c					1.3E-03	c		4.5E-06	c	
				5.0E-04	I					1	0.1			Tetraethyl Dithiopyrophosphate	3689-24-5	3.2E+01	n	4.1E+02	n					7.1E+00	n		5.2E-03	n	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Screening Levels												Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
						8.0E+01	I	V		1		2.1E+03	Tetrafluoroethane, 1,1,1,2-	811-97-2	1.0E+05	nms	4.3E+05	nms	8.3E+04	n	3.5E+05	n	1.7E+05	n		9.3E+01	n	
				2.0E-03	P					1	0.0007		Tetryl (Trinitrophenylmethylnitramine)	479-45-8	1.6E+02	n	2.3E+03	n					3.9E+01	n		3.7E-01	n	
				7.0E-06	X					1			Thallium (I) Nitrate	10102-45-1	5.5E-01	n	8.2E+00	n					1.4E-01	n			n	
				1.0E-05	X					1			Thallium (Soluble Salts)	7440-28-0	7.8E-01	n	1.2E+01	n					2.0E-01	n	2.0E+00	1.4E-02	n	1.4E-01
				6.0E-06	X			V		1			Thallium Acetate	563-68-8	4.7E-01	n	7.0E+00	n					1.2E-01	n			n	
				2.0E-05	X			V		1			Thallium Carbonate	6533-73-9	1.6E+00	n	2.3E+01	n					4.0E-01	n			n	
				6.0E-06	X					1			Thallium Chloride	7791-12-0	4.7E-01	n	7.0E+00	n					1.2E-01	n			n	
				2.0E-05	X					1			Thallium Sulfate	7446-18-6	1.6E+00	n	2.3E+01	n					4.0E-01	n			n	
				1.3E-02	I					1	0.1		Thifensulfuron-methyl	79277-27-3	8.2E+02	n	1.1E+04	n					2.6E+02	n		7.8E-02	n	
				1.0E-02	I					1	0.1		Thiobencarb	28249-77-6	6.3E+02	n	8.2E+03	n					1.6E+02	n		5.5E-01	n	
				7.0E-02	X					1	0.0075		Thiodiglycol	111-48-8	5.4E+03	n	7.9E+04	n					1.4E+03	n		2.8E-01	n	
				3.0E-04	H					1	0.1		Thiofanox	39196-18-4	1.9E+01	n	2.5E+02	n					5.3E+00	n		1.8E-03	n	
				8.0E-02	I					1	0.1		Thiophanate, Methyl	23564-05-8	5.1E+03	n	6.6E+04	n					1.6E+03	n		1.4E+00	n	
				5.0E-03	I					1	0.1		Thiram	137-26-8	3.2E+02	n	4.1E+03	n					9.8E+01	n		1.4E-01	n	
				6.0E-01	H					1			Tin	7440-31-5	4.7E+04	n	7.0E+05	nm					1.2E+04	n		3.0E+03	n	
						1.0E-04	A	V		1			Titanium Tetrachloride	7550-45-0	1.4E+05	nm	6.0E+05	nm	1.0E-01	n	4.4E-01	n	2.1E-01	n			n	
				8.0E-02	I	5.0E+00	I	V		1		8.2E+02	Toluene	108-88-3	4.9E+03	ns	4.7E+04	ns	5.2E+03	n	2.2E+04	n	1.1E+03	n	1.0E+03	7.6E-01	n	6.9E-01
1.8E-01	X			2.0E-04	X					1	0.1		Toluene-2,5-diamine	95-70-5	3.0E+00	c**	1.3E+01	c*					4.3E-01	c**		1.3E-04	c**	
3.0E-02	P			4.0E-03	X					1	0.1		Toluidine, p-	106-49-0	1.8E+01	c*	7.7E+01	c*					2.5E+00	c*		1.1E-03	c*	
				3.0E+00	P			V		1		3.4E-01	Total Petroleum Hydrocarbons (Aliphatic High)	NA	2.3E+05	nms	3.5E+06	nms					6.0E+04	n		2.4E+03	n	
						6.0E-01	P	V		1		1.4E+02	Total Petroleum Hydrocarbons (Aliphatic Low)	NA	5.2E+02	ns	2.2E+03	ns	6.3E+02	n	2.6E+03	n	1.3E+03	n		8.8E+00	n	
				1.0E-02	X	1.0E-01	P	V		1		6.9E+00	Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	9.6E+01	ns	4.4E+02	ns	1.0E+02	n	4.4E+02	n	1.0E+02	n		1.5E+00	n	
				4.0E-02	P					1	0.1		Total Petroleum Hydrocarbons (Aromatic High)	NA	2.5E+03	n	3.3E+04	n					8.0E+02	n		8.9E+01	n	
				4.0E-03	P	3.0E-02	P	V		1		1.8E+03	Total Petroleum Hydrocarbons (Aromatic Low)	NA	8.2E+01	n	4.2E+02	n	3.1E+01	n	1.3E+02	n	3.3E+01	n		1.7E-02	n	
				4.0E-03	P	3.0E-03	P	V		1			Total Petroleum Hydrocarbons (Aromatic Medium)	NA	1.1E+02	n	6.0E+02	n	3.1E+00	n	1.3E+01	n	5.5E+00	n		2.3E-02	n	
1.1E+00	I	3.2E-04	I							1	0.1		Toxaphene	8001-35-2	4.9E-01	c	2.1E+00	c	8.8E-03	c	3.8E-02	c	7.1E-02	c	3.0E+00	1.1E-02	c	4.6E-01
				7.5E-03	I					1	0.1		Tralomethrin	66841-25-6	4.7E+02	n	6.2E+03	n					1.5E+02	n		5.8E+01	n	
				3.0E-04	A			V		1			Tri-n-butyltin	688-73-3	2.3E+01	n	3.5E+02	n					3.7E+00	n		8.2E-02	n	
				8.0E+01	X					1	0.1		Triacetin	102-76-1	5.1E+06	nm	6.6E+07	nm					1.6E+06	n		4.5E+02	n	
				3.0E-02	I					1	0.1		Triadimefon	43121-43-3	1.9E+03	n	2.5E+04	n					5.5E+02	n		4.4E-01	n	
				1.3E-02	I			V		1			Triallate	2303-17-5	1.0E+03	n	1.5E+04	n					1.2E+02	n		2.6E-01	n	
				1.0E-02	I					1	0.1		Triasulfuron	82097-50-5	6.3E+02	n	8.2E+03	n					2.0E+02	n		2.1E-01	n	
				8.0E-03	I					1	0.1		Tribenuron-methyl	101200-48-0	5.1E+02	n	6.6E+03	n					1.6E+02	n		6.1E-02	n	
				5.0E-03	I			V		1			Tribromobenzene, 1,2,4-	615-54-3	3.9E+02	n	5.8E+03	n					4.5E+01	n		6.4E-02	n	
9.0E-03	P			1.0E-02	P					1	0.1		Tributyl Phosphate	126-73-8	6.0E+01	c*	2.6E+02	c*					5.2E+00	c*		2.5E-02	c*	
				3.0E-04	P					1	0.1		Tributyltin Compounds	NA	1.9E+01	n	2.5E+02	n					6.0E+00	n			n	
				3.0E-04	I					1	0.1		Tributyltin Oxide	56-35-9	1.9E+01	n	2.5E+02	n					5.7E+00	n		2.9E+02	n	
				3.0E+01	I	3.0E+01	H	V		1		9.1E+02	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	4.0E+04	ns	1.7E+05	nms	3.1E+04	n	1.3E+05	n	5.5E+04	n		1.4E+02	n	
7.0E-02	I			2.0E-02	I					1	0.1		Trichloroacetic Acid	76-03-9	7.8E+00	c	3.3E+01	c					1.1E+00	c	6.0E+01	2.2E-04	c	1.2E-02
2.9E-02	H									1	0.1		Trichloroaniline HCl, 2,4,6-	33663-50-2	1.9E+01	c	7.9E+01	c					2.7E+00	c		7.4E-03	c	
7.0E-03	X			3.0E-05	X					1	0.1		Trichloroaniline, 2,4,6-	634-93-5	1.9E+00	n	2.5E+01	n					4.0E-01	n		3.6E-03	n	
				8.0E-04	X			V		1			Trichlorobenzene, 1,2,3-	87-61-6	6.3E+01	n	9.3E+02	n					7.0E+00	n		2.1E-02	n	
2.9E-02	P			1.0E-02	I	2.0E-03	P	V		1		4.0E+02	Trichlorobenzene, 1,2,4-	120-82-1	2.4E+01	c**	1.1E+02	c**	2.1E+00	n	8.8E+00	n	1.2E+00	c**	7.0E+01	3.4E-03	c**	2.0E-01
				2.0E+00	I	5.0E+00	I	V		1		6.4E+02	Trichloroethane, 1,1,1-	71-55-6	8.1E+03	ns	3.6E+04	ns	5.2E+03	n	2.2E+04	n	8.0E+03	n	2.0E+02	2.8E+00	n	7.0E-02
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V		1		2.2E+03	Trichloroethane, 1,1,2-	79-00-5	1.1E+00	c**	5.0E+00	c**	1.8E-01	c**	7.7E-01	c**	2.8E-01	c**	5.0E+00	8.9E-05	c**	1.6E-03
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M	1		6.9E+02	Trichloroethylene	79-01-6	9.4E-01	c**	6.0E+00	c**	4.8E-01	c**	3.0E+00	c**	4.9E-01	c**	5.0E+00	1.8E-04	c**	1.8E-03
				3.0E-01	I			V		1		1.2E+03	Trichlorofluoromethane	75-69-4	2.3E+04	ns	3.5E+05	nms					5.2E+03	n		3.3E+00	n	
				1.0E-01	I					1	0.1		Trichlorophenol, 2,4,5-	95-95-4	6.3E+03	n	8.2E+04	n					1.2E+03	n		4.4E+00	n	
1.1E-02	I	3.1E-06	I	1.0E-03	P					1	0.1		Trichlorophenol, 2,4,6-	88-06-2	4.9E+01	c**	2.1E+02	c**	9.1E-01	c	4.0E+00	c	4.1E+00	c**		1.5E-02	c**	
				1.0E-02	I					1	0.1		Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	6.3E+02	n	8.2E+03	n					1.6E+02	n		6.8E-02	n	
				8.0E-03	I					1	0.1		Trichlorophenoxypropionic acid, -2,4,5	93-72-1	5.1E+02	n	6.6E+03	n					1.1E+02	n	5.0E+01	6.1E-02	n	2.8E-02
				5.0E-03	I			V		1		1.3E+03	Trichloropropane, 1,1,2-	598-77-6	3.9E+02	n	5.8E+03	ns					8.8E+01	n		3.5E-02	n	
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M	1		1.4E+03	Trichloropropane, 1,2,3-	96-18-4	5.1E-03	c	1.1E-01	c	3.1E-01	n	1.3E+00	n	7.5E-04	c		3.2E-07	c	
				3.0E-03	X	3.0E-04	P	V		1		3.1E+02	Trichloropropene, 1,2,3-	96-19-5	7.3E-01	n	3.1E+00	n	3.1E-01	n	1.3E+00	n	6.2E-01	n		3.1E-04	n	
				2.0E-02	A					1	0.1		Tricresyl Phosphate (TCP)	1330-78-5	1.3E+03	n	1.6E+04	n					1.6E+02	n		1.5E+01	n	
				3.0E-03	I					1	0.1		Tridiphane	58138-08-2	1.9E+02	n	2.5E+03	n					1.8E+01	n		1.3E-01	n	
						7.0E-03	I	V		1		2.8E+04	Triethylamine	121-44-8	1.2E+02	n	4.8E+02	n	7.3E+00	n	3.1E+01	n	1.5E+01	n		4.4E-03	n	
				2.0E+00	P					1	0.1		Triethylene Glycol	112-27-6	1.3E+05	nm	1.6E+06	nm					4.0E+04	n		8.8E+00	n	
						2.0E+01	P	V		1		4.8E+03	Trifluoroethane, 1,1,1-	420-46-2	1.5E+04	ns	6.2E+04	ns	2.1E+04	n	8.8E+04	n	4.2E+04	n		1.3E+02	n	
7.7E-03	I			7.5E-03	I			V		1			Trifluralin	1582-09-8	9.0E+01	c**	4.2E+02	c*					2.6E+00	c*		8.4E-02	c*	
2.0E-02	P			1.0E-02	P					1	0.1		Trimethyl Phosphate	512-56-1	2.7E+01	c*	1.1E+02	c*					3.9E+00	c*		8.6E-04	c*	
						5.0E-03	P	V		1		2.9E+02	Trimethylbenzene, 1,2,3-	526-73-8	4.9E+01	n	2.1E+02	n	5.2E+00	n	2.2E+01	n	1.0E+01	n		1.5E-02	n	
						7.0E-03	P	V		1		2.2E+02	Trimethylbenzene, 1,2,4-	95-63-6	5.8E+01	n	2.4E+02	ns	7.3E+00	n	3.1E+01	n	1.5E+01	n		2.1E-02	n	
				1.0E-02	X			V		1		1.8E+02	Trimethylbenzene, 1,3,5-	108-67-8	7.8E+02	ns	1.2E+04	ns					1.2E+02	n		1.7E-01	n	
				1.0E-02	X			V		1		3.0E+01	Trimethylpentene, 2,4,4-	25167-70-8	7.8E+02	ns	1.2E+04	ns					6.5E+01	n		2.2E-01	n	

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific Information												Contaminant		Screening Levels													Protection of Ground Water SSLs		
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	GIABS	ABS	C_{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m^3)	key	Industrial Air (ug/m^3)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	key	MCL-based SSL (mg/kg)
				3.0E-02	I					1	0.019		Trinitrobenzene, 1,3,5-	99-35-4	2.2E+03	n	3.2E+04	n					5.9E+02	n		2.1E+00	n	
3.0E-02	I			5.0E-04	I					1	0.032		Trinitrotoluene, 2,4,6-	118-96-7	2.1E+01	c**	9.6E+01	c**					2.5E+00	c**		1.5E-02	c**	
				2.0E-02	P					1	0.1		Triphenylphosphine Oxide	791-28-6	1.3E+03	n	1.6E+04	n					3.6E+02	n		1.5E+00	n	
				2.0E-02	A					1	0.1		Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	1.3E+03	n	1.6E+04	n					3.6E+02	n		8.0E+00	n	
				1.0E-02	X					1	0.1		Tris(1-chloro-2-propyl)phosphate	13674-84-5	6.3E+02	n	8.2E+03	n					1.9E+02	n		6.5E-01	n	
2.3E+00	C	6.6E-04	C					V		1		4.7E+02	Tris(2,3-dibromopropyl)phosphate	126-72-7	2.8E-01	c	1.3E+00	c	4.3E-03	c	1.9E-02	c	6.8E-03	c		1.3E-04	c	
2.0E-02	P			7.0E-03	P					1	0.1		Tris(2-chloroethyl)phosphate	115-96-8	2.7E+01	c*	1.1E+02	c*					3.8E+00	c*		3.8E-03	c*	
3.2E-03	P			1.0E-01	P					1	0.1		Tris(2-ethylhexyl)phosphate	78-42-2	1.7E+02	c*	7.2E+02	c					2.4E+01	c*		1.2E+02	c*	
				8.0E-04	P					1			Tungsten	7440-33-7	6.3E+01	n	9.3E+02	n					1.6E+01	n		2.4E+00	n	
				3.0E-03	I	4.0E-05	A			1			Uranium (Soluble Salts)	NA	2.3E+02	n	3.5E+03	n	4.2E-02	n	1.8E-01	n	6.0E+01	n	3.0E+01	2.7E+01	n	1.4E+01
1.0E+00	C	2.9E-04	C						M	1	0.1		Urethane	51-79-6	1.2E-01	c	2.3E+00	c	3.5E-03	c	4.2E-02	c	2.5E-02	c		5.6E-06	c	
		8.3E-03	P	9.0E-03	I	7.0E-06	P			0.026			Vanadium Pentoxide	1314-62-1	4.6E+02	c**	2.0E+03	c**	3.4E-04	c*	1.5E-03	c*	1.5E+02	n			n	
				5.0E-03	S	1.0E-04	A			0.026			Vanadium and Compounds	7440-62-2	3.9E+02	n	5.8E+03	n	1.0E-01	n	4.4E-01	n	8.6E+01	n		8.6E+01	n	
				1.0E-03	I			V		1			Vernolate	1929-77-7	7.8E+01	n	1.2E+03	n					1.1E+01	n		8.9E-03	n	
				2.5E-02	I					1	0.1		Vinclozolin	50471-44-8	1.6E+03	n	2.1E+04	n					4.4E+02	n		3.4E-01	n	
				1.0E+00	H	2.0E-01	I	V		1		2.8E+03	Vinyl Acetate	108-05-4	9.1E+02	n	3.8E+03	ns	2.1E+02	n	8.8E+02	n	4.1E+02	n		8.7E-02	n	
		3.2E-05	H			3.0E-03	I	V		1		2.5E+03	Vinyl Bromide	593-60-2	1.2E-01	c*	5.2E-01	c*	8.8E-02	c*	3.8E-01	c*	1.8E-01	c*		5.1E-05	c*	
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M	1		3.9E+03	Vinyl Chloride	75-01-4	5.9E-02	c	1.7E+00	c	1.7E-01	c	2.8E+00	c	1.9E-02	c	2.0E+00	6.5E-06	c	6.9E-04
				3.0E-04	I					1	0.1		Warfarin	81-81-2	1.9E+01	n	2.5E+02	n					5.6E+00	n		5.9E-03	n	
				2.0E-01	S	1.0E-01	S	V		1		3.9E+02	Xylene, P-	106-42-3	5.6E+02	ns	2.4E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n		1.9E-01	n	
				2.0E-01	S	1.0E-01	S	V		1		3.9E+02	Xylene, m-	108-38-3	5.5E+02	ns	2.4E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n		1.9E-01	n	
				2.0E-01	S	1.0E-01	S	V		1		4.3E+02	Xylene, o-	95-47-6	6.5E+02	ns	2.8E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n		1.9E-01	n	
				2.0E-01	I	1.0E-01	I	V		1		2.6E+02	Xylenes	1330-20-7	5.8E+02	ns	2.5E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n	1.0E+04	1.9E-01	n	9.9E+00
				3.0E-04	I					1			Zinc Phosphide	1314-84-7	2.3E+01	n	3.5E+02	n					6.0E+00	n			n	
				3.0E-01	I					1			Zinc and Compounds	7440-66-6	2.3E+04	n	3.5E+05	nm					6.0E+03	n		3.7E+02	n	
				5.0E-02	I					1	0.1		Zineb	12122-67-7	3.2E+03	n	4.1E+04	n					9.9E+02	n		2.9E+00	n	
				8.0E-05	X					1			Zirconium	7440-67-7	6.3E+00	n	9.3E+01	n					1.6E+00	n		4.8E+00	n	

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Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
8.7E-03	I			4.0E-03	I					1	0.1		1.4E+09		Acephate	30560-19-1	8.0E+01	2.8E+02		6.2E+01	3.1E+02	1.3E+03		2.5E+02
		2.2E-06	I			9.0E-03	I	V		1		1.1E+05	1.4E+09	8.7E+03	Acetaldehyde	75-07-0			1.1E+01	1.1E+01			8.2E+01	8.2E+01
				2.0E-02	I					1	0.1		1.4E+09		Acetochlor	34256-82-1					1.6E+03	6.6E+03		1.3E+03
				9.0E-01	I	3.1E+01	A	V		1		1.1E+05	1.4E+09	1.4E+04	Acetone	67-64-1					7.0E+04		4.4E+05	6.1E+04
						2.0E-03	X			1	0.1		1.4E+09		Acetone Cyanohydrin	75-86-5							2.8E+06	2.8E+06
						6.0E-02	I	V		1		1.3E+05	1.4E+09	1.3E+04	Acetonitrile	75-05-8							8.1E+02	8.1E+02
				1.0E-01	I			V		1		2.5E+03	1.4E+09	6.0E+04	Acetophenone	98-86-2					7.8E+03			7.8E+03
3.8E+00	C	1.3E-03	C							1	0.1		1.4E+09		Acetylaminofluorene, 2-	53-96-3	1.8E-01	6.5E-01	2.9E+03	1.4E-01				
				5.0E-04	I	2.0E-05	I	V		1		2.3E+04	1.4E+09	6.9E+03	Acrolein	107-02-8					3.9E+01		1.4E-01	1.4E-01
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I		M	1	0.1		1.4E+09		Acrylamide	79-06-1	3.1E-01	1.2E+00	1.4E+04	2.4E-01	1.6E+02	6.6E+02	8.5E+06	1.3E+02
				5.0E-01	I	1.0E-03	I	V		1		1.1E+05	1.4E+09	9.5E+04	Acrylic Acid	79-10-7					3.9E+04		9.9E+01	9.9E+01
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V		1		1.1E+04	1.4E+09	7.7E+03	Acrylonitrile	107-13-1	1.3E+00		3.2E-01	2.5E-01	3.1E+03		1.6E+01	1.6E+01
						6.0E-03	P			1	0.1		1.4E+09		Adiponitrile	111-69-3							8.5E+06	8.5E+06
5.6E-02	C			1.0E-02	I					1	0.1		1.4E+09		Alachlor	15972-60-8	1.2E+01	4.4E+01		9.7E+00	7.8E+02	3.3E+03		6.3E+02
				1.0E-03	I					1	0.1		1.4E+09		Aldicarb	116-06-3					7.8E+01	3.3E+02		6.3E+01
				1.0E-03	I					1	0.1		1.4E+09		Aldicarb Sulfone	1646-88-4					7.8E+01	3.3E+02		6.3E+01
										1	0.1		1.4E+09		Aldicarb sulfoxide	1646-87-3								
1.7E+01	I	4.9E-03	I	3.0E-05	I			V		1			1.4E+09	1.7E+06	Aldrin	309-00-2	4.1E-02		9.8E-01	3.9E-02	2.3E+00			2.3E+00
				5.0E-03	I	1.0E-04	X	V		1		1.1E+05	1.4E+09	3.4E+04	Allyl Alcohol	107-18-6					3.9E+02		3.6E+00	3.5E+00
2.1E-02	C	6.0E-06	C			1.0E-03	I	V		1		1.4E+03	1.4E+09	1.6E+03	Allyl Chloride	107-05-1	3.3E+01		7.4E-01	7.2E-01			1.7E+00	1.7E+00
				1.0E+00	P	5.0E-03	P			1			1.4E+09		Aluminum	7429-90-5					7.8E+04		7.1E+06	7.7E+04
				4.0E-04	I					1			1.4E+09		Aluminum Phosphide	20859-73-8					3.1E+01			3.1E+01
				9.0E-03	I					1	0.1		1.4E+09		Ametryn	834-12-8					7.0E+02	3.0E+03		5.7E+02
2.1E+01	C	6.0E-03	C							1	0.1		1.4E+09		Aminobiphenyl, 4-	92-67-1	3.3E-02	1.2E-01	6.4E+02	2.6E-02				
				8.0E-02	P					1	0.1		1.4E+09		Aminophenol, m-	591-27-5					6.3E+03	2.6E+04		5.1E+03
				2.0E-02	P					1	0.1		1.4E+09		Aminophenol, p-	123-30-8					1.6E+03	6.6E+03		1.3E+03
				2.5E-03	I					1	0.1		1.4E+09		Amitraz	33089-61-1					2.0E+02	8.2E+02		1.6E+02
						1.0E-01	I	V		1					Ammonia	7664-41-7								
				2.0E-01	I					1			1.4E+09		Ammonium Sulfamate	7773-06-0					1.6E+04			1.6E+04
						3.0E-03	X	V		1		1.4E+04	1.4E+09	2.6E+04	Amyl Alcohol, tert-	75-85-4							8.2E+01	8.2E+01
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I			1	0.1		1.4E+09		Aniline	62-53-3	1.2E+02	4.3E+02	2.4E+06	9.5E+01	5.5E+02	2.3E+03	1.4E+06	4.4E+02
4.0E-02	P			2.0E-03	X					1	0.1		1.4E+09		Anthraquinone, 9,10-	84-65-1	1.7E+01	6.2E+01		1.4E+01	1.6E+02	6.6E+02		1.3E+02
				4.0E-04	I					0.15			1.4E+09		Antimony (metallic)	7440-36-0					3.1E+01			3.1E+01
				5.0E-04	H					0.15			1.4E+09		Antimony Pentoxide	1314-60-9					3.9E+01			3.9E+01
				4.0E-04	H					0.15			1.4E+09		Antimony Tetroxide	1332-81-6					3.1E+01			3.1E+01
						2.0E-04	I			0.15			1.4E+09		Antimony Trioxide	1309-64-4							2.8E+05	2.8E+05
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C			1	0.03		1.4E+09		Arsenic, Inorganic	7440-38-2	7.7E-01	5.5E+00	8.9E+02	6.8E-01	3.9E+01	3.3E+02	2.1E+04	3.5E+01
				3.5E-06	C	5.0E-05	I			1			1.4E+09		Arsine	7784-42-1					2.7E-01		7.1E+04	2.7E-01
				5.0E-02	I					1	0.1		1.4E+09		Asulam	3337-71-1					3.9E+03	1.6E+04		3.2E+03
2.3E-01	C			3.5E-02	I					1	0.1		1.4E+09		Atrazine	1912-24-9	3.0E+00	1.1E+01		2.4E+00	2.7E+03	1.2E+04		2.2E+03
8.8E-01	C	2.5E-04	C							1	0.1		1.4E+09		Auramine	492-80-8	7.9E-01	2.8E+00	1.5E+04	6.2E-01				
				4.0E-04	I					1	0.1		1.4E+09		Avermectin B1	65195-55-3					3.1E+01	1.3E+02		2.5E+01
				3.0E-03	A	1.0E-02	A			1	0.1		1.4E+09		Azinphos-methyl	86-50-0					2.3E+02	9.9E+02	1.4E+07	1.9E+02
1.1E-01	I	3.1E-05	I					V		1			1.4E+09	5.2E+05	Azobenzene	103-33-3	6.3E+00		4.7E+01	5.6E+00				
				1.0E+00	P	7.0E-06	P			1	0.1		1.4E+09		Azodicarbonamide	123-77-3					7.8E+04	3.3E+05	9.9E+03	8.6E+03
				2.0E-01	I	5.0E-04	H			0.07			1.4E+09		Barium	7440-39-3					1.6E+04		7.1E+05	1.5E+04
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Barium Chromate	10294-40-3	3.1E-01		9.2E+00	3.0E-01	1.6E+03		2.8E+05	1.6E+03
				3.0E-01	I			V		1			1.4E+09	3.1E+05	Benfluralin	1861-40-1					2.3E+04			2.3E+04
				5.0E-02	I					1	0.1		1.4E+09		Benomyl	17804-35-2					3.9E+03	1.6E+04		3.2E+03
				2.0E-01	I					1	0.1		1.4E+09		Bensulfuron-methyl	83055-99-6					1.6E+04	6.6E+04		1.3E+04
				3.0E-02	I					1	0.1		1.4E+09		Bentazon	25057-89-0					2.3E+03	9.9E+03		1.9E+03
				1.0E-01	I			V		1		1.2E+03	1.4E+09	2.3E+04	Benzaldehyde	100-52-7					7.8E+03			7.8E+03
5.5E-02	I	7.8E-06	I	4.0E-03	I	3.0E-02	I	V		1		1.8E+03	1.4E+09	3.5E+03	Benzene	71-43-2	1.3E+01		1.3E+00	1.2E+00	3.1E+02		1.1E+02	8.2E+01
1.0E-01	X			3.0E-04	X					1	0.1		1.4E+09		Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	7.0E+00	2.5E+01		5.4E+00	2.3E+01	9.9E+01		1.9E+01
				1.0E-03	P			V		1		1.3E+03	1.4E+09	1.9E+04	Benzenethiol	108-98-5					7.8E+01			7.8E+01
2.3E+02	I	6.7E-02	I	3.0E-03	I				M	1	0.1		1.4E+09		Benzidine	92-87-5	6.7E-04	2.6E-03	2.1E+01	5.3E-04	2.3E+02	9.9E+02		1.9E+02
				4.0E+00	I					1	0.1		1.4E+09		Benzoic Acid	65-85-0					3.1E+05	1.3E+06		2.5E+05
1.3E+01	I							V		1		3.2E+02	1.4E+09	6.8E+04	Benzotrichloride	98-07-7	5.3E-02			5.3E-02				
				1.0E-01	P					1	0.1		1.4E+09		Benzyl Alcohol	100-51-6					7.8E+03	3.3E+04		6.3E+03
1.7E-01	I	4.9E-05	C	2.0E-03	P	1.0E-03	P	V		1		1.5E+03	1.4E+09	2.6E+04	Benzyl Chloride	100-44-7	4.1E+00		1.5E+00	1.1E+00	1.6E+02		2.7E+01	2.3E+01
		2.4E-03	I	2.0E-03	I	2.0E-05	I			0.007			1.4E+09		Beryllium and compounds	7440-41-7			1.6E+03	1.6E+03	1.6E+02		2.8E+04	1.6E+02
				9.0E-03	P					1	0.1		1.4E+09		Bifenox	42576-02-3					7.0E+02	3.0E+03		5.7E+02
				1.5E-02	I					1	0.1		1.4E+09		Biphenthrin	82657-04-3					1.2E+03	4.9E+03		9.5E+02
8.0E-03	I			5.0E-01	I	4.0E-04	X	V		1			1.4E+09	1.1E+05	Biphenyl, 1,1'-	92-52-4	8.7E+01			8.7E+01	3.9E+04		4.8E+01	4.7E+01

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				4.0E-02	I			V		1		1.0E+03	1.4E+09	3.5E+04	Bis(2-chloro-1-methylethyl) ether	108-60-1					3.1E+03			3.1E+03
				3.0E-03	P					1	0.1		1.4E+09		Bis(2-chloroethoxy)methane	111-91-1					2.3E+02	9.9E+02		1.9E+02
1.1E+00	I	3.3E-04	I					V		1		5.1E+03	1.4E+09	4.3E+04	Bis(2-chloroethyl)ether	111-44-4	6.3E-01		3.6E-01	2.3E-01				
2.2E+02	I	6.2E-02	I					V		1		4.2E+03	1.4E+09	1.9E+03	Bis(chloromethyl)ether	542-88-1	3.2E-03		8.5E-05	8.3E-05				
				5.0E-02	I					1	0.1		1.4E+09		Bisphenol A	80-05-7					3.9E+03	1.6E+04		3.2E+03
				2.0E-01	I	2.0E-02	H			1			1.4E+09		Boron And Borates Only	7440-42-8					1.6E+04		2.8E+07	1.6E+04
				2.0E+00	P	2.0E-02	P	V		1			1.4E+09		Boron Trichloride	10294-34-5					1.6E+05		2.8E+07	1.6E+05
				4.0E-02	C	1.3E-02	C	V		1			1.4E+09		Boron Trifluoride	7637-07-2					3.1E+03		1.8E+07	3.1E+03
7.0E-01	I			4.0E-03	I					1			1.4E+09		Bromate	15541-45-4	9.9E-01			9.9E-01	3.1E+02			3.1E+02
2.0E+00	X	6.0E-04	X					V		1		2.4E+03	1.4E+09	5.9E+03	Bromo-2-chloroethane, 1-	107-04-0	3.5E-01		2.8E-02	2.6E-02				
				8.0E-03	I	6.0E-02	I	V		1		6.8E+02	1.4E+09	8.4E+03	Bromobenzene	108-86-1					6.3E+02		5.2E+02	2.9E+02
						4.0E-02	X	V		1		4.0E+03	1.4E+09	3.6E+03	Bromochloromethane	74-97-5							1.5E+02	1.5E+02
6.2E-02	I	3.7E-05	C	2.0E-02	I			V		1		9.3E+02	1.4E+09	4.0E+03	Bromodichloromethane	75-27-4	1.1E+01		3.0E-01	2.9E-01	1.6E+03			1.6E+03
7.9E-03	I	1.1E-06	I	2.0E-02	I			V		1		9.2E+02	1.4E+09	9.7E+03	Bromoform	75-25-2	8.8E+01		2.5E+01	1.9E+01	1.6E+03			1.6E+03
				1.4E-03	I	5.0E-03	I	V		1		3.6E+03	1.4E+09	1.4E+03	Bromomethane	74-83-9					1.1E+02		7.3E+00	6.8E+00
				5.0E-03	H			V		1			1.4E+09	1.2E+05	Bromophos	2104-96-3					3.9E+02			3.9E+02
				2.0E-02	I					1	0.1		1.4E+09		Bromoxynil	1689-84-5					1.6E+03	6.6E+03		1.3E+03
				2.0E-02	I			V		1			1.4E+09	4.7E+05	Bromoxynil Octanoate	1689-99-2					1.6E+03			1.6E+03
3.4E+00	C	3.0E-05	I			2.0E-03	I	V		1		6.7E+02	1.4E+09	8.7E+02	Butadiene, 1,3-	106-99-0	2.0E-01		8.1E-02	5.8E-02			1.8E+00	1.8E+00
				1.0E-01	I			V		1		7.6E+03	1.4E+09	3.0E+04	Butanol, N-	71-36-3					7.8E+03			7.8E+03
1.9E-03	P			2.0E-01	I					1	0.1		1.4E+09		Butyl Benzyl Phthalate	85-68-7	3.7E+02	1.3E+03		2.9E+02	1.6E+04	6.6E+04		1.3E+04
				2.0E+00	P	3.0E+01	P	V		1		2.1E+04	1.4E+09	2.9E+04	Butyl alcohol, sec-	78-92-2					1.6E+05		9.1E+05	1.3E+05
				5.0E-02	I			V		1			1.4E+09	8.6E+04	Butylate	2008-41-5					3.9E+03			3.9E+03
2.0E-04	C	5.7E-08	C							1	0.1		1.4E+09		Butylated hydroxyanisole	25013-16-5	3.5E+03	1.2E+04	6.7E+07	2.7E+03				
3.6E-03	P			3.0E-01	P					1	0.1		1.4E+09		Butylated hydroxytoluene	128-37-0	1.9E+02	6.9E+02		1.5E+02	2.3E+04	9.9E+04		1.9E+04
				5.0E-02	P			V		1		1.1E+02	1.4E+09	8.1E+03	Butylbenzene, n-	104-51-8					3.9E+03			3.9E+03
				1.0E-01	X			V		1		1.5E+02	1.4E+09	7.4E+03	Butylbenzene, sec-	135-98-8					7.8E+03			7.8E+03
				1.0E-01	X			V		1		1.8E+02	1.4E+09	7.4E+03	Butylbenzene, tert-	98-06-6					7.8E+03			7.8E+03
				2.0E-02	A					1	0.1		1.4E+09		Cacodylic Acid	75-60-5					1.6E+03	6.6E+03		1.3E+03
		1.8E-03	I	1.0E-03	I	1.0E-05	A			0.025	0.001		1.4E+09		Cadmium (Diet)	7440-43-9			2.1E+03	2.1E+03	7.8E+01	8.2E+02	1.4E+04	7.1E+01
		1.8E-03	I	5.0E-04	I	1.0E-05	A			0.05	0.001				Cadmium (Water)	7440-43-9								
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Calcium Chromate	13765-19-0	3.1E-01		9.2E+00	3.0E-01	1.6E+03		2.8E+05	1.6E+03
				5.0E-01	I	2.2E-03	C			1	0.1		1.4E+09		Caprolactam	105-60-2					3.9E+04	1.6E+05	3.1E+06	3.1E+04
1.5E-01	C	4.3E-05	C	2.0E-03	I					1	0.1		1.4E+09		Captafol	2425-06-1	4.6E+00	1.6E+01	8.9E+04	3.6E+00	1.6E+02	6.6E+02		1.3E+02
2.3E-03	C	6.6E-07	C	1.3E-01	I					1	0.1		1.4E+09		Captan	133-06-2	3.0E+02	1.1E+03	5.8E+06	2.4E+02	1.0E+04	4.3E+04		8.2E+03
				1.0E-01	I					1	0.1		1.4E+09		Carbaryl	63-25-2					7.8E+03	3.3E+04		6.3E+03
				5.0E-03	I					1	0.1		1.4E+09		Carbofuran	1563-66-2					3.9E+02	1.6E+03		3.2E+02
				1.0E-01	I	7.0E-01	I	V		1		7.4E+02	1.4E+09	1.2E+03	Carbon Disulfide	75-15-0					7.8E+03		8.5E+02	7.7E+02
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V		1		4.6E+02	1.4E+09	1.5E+03	Carbon Tetrachloride	56-23-5	9.9E+00		7.0E-01	6.5E-01	3.1E+02		1.6E+02	1.0E+02
						1.0E-01	P	V		1		5.9E+03	1.4E+09	6.5E+02	Carbonyl Sulfide	463-58-1							6.7E+01	6.7E+01
				1.0E-02	I					1	0.1		1.4E+09		Carbosulfan	55285-14-8					7.8E+02	3.3E+03		6.3E+02
				1.0E-01	I					1	0.1		1.4E+09		Carboxin	5234-68-4					7.8E+03	3.3E+04		6.3E+03
						9.0E-04	I			1			1.4E+09		Ceric oxide	1306-38-3							1.3E+06	1.3E+06
				1.0E-01	I			V		1			1.4E+09	1.5E+05	Chloral Hydrate	302-17-0					7.8E+03			7.8E+03
				1.5E-02	I					1	0.1		1.4E+09		Chloramben	133-90-4					1.2E+03	4.9E+03		9.5E+02
4.0E-01	H									1	0.1		1.4E+09		Chloranil	118-75-2	1.7E+00	6.1E+00		1.3E+00				
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I	V		1	0.04		1.4E+09	9.0E+05	Chlordane	12789-03-6	2.0E+00	1.8E+01	2.5E+01	1.7E+00	3.9E+01	4.1E+02	6.6E+02	3.4E+01
1.0E+01	I	4.6E-03	C	3.0E-04	I					1	0.1		1.4E+09		Chlordecone (Kepone)	143-50-0	7.0E-02	2.5E-01	8.3E+02	5.4E-02	2.3E+01	9.9E+01		1.9E+01
				7.0E-04	A					1	0.1		1.4E+09		Chlorfenvinphos	470-90-6					5.5E+01	2.3E+02		4.4E+01
				2.0E-02	I					1	0.1		1.4E+09		Chlorimuron, Ethyl-	90982-32-4					1.6E+03	6.6E+03		1.3E+03
				1.0E-01	I	1.5E-04	A	V		1		2.8E+03	1.4E+09	1.2E+03	Chlorine	7782-50-5					7.8E+03		1.8E-01	1.8E-01
				3.0E-02	I	2.0E-04	I	V		1			1.4E+09		Chlorine Dioxide	10049-04-4					2.3E+03		2.8E+05	2.3E+03
				3.0E-02	I					1			1.4E+09		Chlorite (Sodium Salt)	7758-19-2					2.3E+03			2.3E+03
						5.0E+01	I	V		1		1.2E+03	1.4E+09	1.0E+03	Chloro-1,1-difluoroethane, 1-	75-68-3							5.4E+04	5.4E+04
		3.0E-04	I	2.0E-02	H	2.0E-02	I	V		1		7.9E+02	1.4E+09	1.1E+03	Chloro-1,3-butadiene, 2-	126-99-8			1.0E-02	1.0E-02	1.6E+03		2.2E+01	2.2E+01
4.6E-01	H									1	0.1		1.4E+09		Chloro-2-methylaniline HCl, 4-	3165-93-3	1.5E+00	5.4E+00		1.2E+00				
1.0E-01	P	7.7E-05	C	3.0E-03	X					1	0.1		1.4E+09		Chloro-2-methylaniline, 4-	95-69-2	7.0E+00	2.5E+01	5.0E+04	5.4E+00	2.3E+02	9.9E+02		1.9E+02
2.7E-01	X							V		1		1.2E+04	1.4E+09	1.6E+04	Chloroacetaldehyde, 2-	107-20-0	2.6E+00			2.6E+00				
										1	0.1		1.4E+09		Chloroacetic Acid	79-11-8								
						3.0E-05	I			1	0.1		1.4E+09		Chloroacetophenone, 2-	532-27-4							4.3E+04	4.3E+04
2.0E-01	P			4.0E-03	I					1	0.1		1.4E+09		Chloroaniline, p-	106-47-8	3.5E+00	1.2E+01		2.7E+00	3.1E+02	1.3E+03		2.5E+02
				2.0E-02	I	5.0E-02	P	V		1		7.6E+02	1.4E+09	6.5E+03	Chlorobenzene	108-90-7					1.6E+03		3.4E+02	2.8E+02
1.1E-01	C	3.1E-05	C	2.0E-02	I					1	0.1		1.4E+09		Chlorobenzilate	510-15-6	6.3E+00	2.2E+01	1.2E+05	4.9E+00	1.6E+03	6.6E+03		1.3E+03
				3.0E-02	X					1	0.1		1.4E+09		Chlorobenzoic Acid, p-	74-11-3					2.3E+03	9.9E+03		1.9E+03

MR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				3.0E-03	P	3.0E-01	P	V		1		2.9E+02	1.4E+09	6.8E+03	Chlorobenzotrifluoride, 4-	98-56-6					2.3E+02		2.1E+03	2.1E+02
				4.0E-02	P			V		1		7.3E+02	1.4E+09	1.8E+03	Chlorobutane, 1-	109-69-3					3.1E+03			3.1E+03
						5.0E+01	I	V		1		1.7E+03	1.4E+09	9.4E+02	Chlorodifluoromethane	75-45-6							4.9E+04	4.9E+04
				2.0E-02	P			V		1		1.1E+05	1.4E+09	7.8E+04	Chloroethanol, 2-	107-07-3					1.6E+03			1.6E+03
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1		2.5E+03	1.4E+09	2.6E+03	Chloroform	67-66-3	2.2E+01		3.2E-01	3.2E-01	7.8E+02		2.7E+02	2.0E+02
						9.0E-02	I	V		1		1.3E+03	1.4E+09	1.2E+03	Chloromethane	74-87-3							1.1E+02	1.1E+02
2.4E+00	C	6.9E-04	C					V		1		9.3E+03	1.4E+09	5.3E+03	Chloromethyl Methyl Ether	107-30-2	2.9E-01		2.2E-02	2.0E-02				
3.0E-01	P			3.0E-03	P	1.0E-05	X			1	0.1		1.4E+09		Chloronitrobenzene, o-	88-73-3	2.3E+00	8.2E+00		1.8E+00	2.3E+02	9.9E+02	1.4E+04	1.9E+02
6.3E-03	P			1.0E-03	P	6.0E-04	P			1	0.1		1.4E+09		Chloronitrobenzene, p-	100-00-5	1.1E+02	3.9E+02		8.6E+01	7.8E+01	3.3E+02	8.5E+05	6.3E+01
				5.0E-03	I			V		1		2.2E+04	1.4E+09	1.2E+05	Chlorophenol, 2-	95-57-8					3.9E+02			3.9E+02
						4.0E-04	C	V		1		6.2E+02	1.4E+09	4.7E+03	Chloropicrin	76-06-2							2.0E+00	2.0E+00
3.1E-03	C	8.9E-07	C	1.5E-02	I					1	0.1		1.4E+09		Chlorothalonil	1897-45-6	2.2E+02	8.0E+02	4.3E+06	1.8E+02	1.2E+03	4.9E+03		9.5E+02
				2.0E-02	I			V		1		9.1E+02	1.4E+09	8.1E+03	Chlorotoluene, o-	95-49-8					1.6E+03			1.6E+03
				2.0E-02	X			V		1		2.5E+02	1.4E+09	7.3E+03	Chlorotoluene, p-	106-43-4					1.6E+03			1.6E+03
2.4E+02	C	6.9E-02	C							1	0.1		1.4E+09		Chlorozotocin	54749-90-5	2.9E-03	1.0E-02	5.5E+01	2.3E-03				
				2.0E-01	I					1	0.1		1.4E+09		Chlorpropham	101-21-3					1.6E+04	6.6E+04		1.3E+04
				1.0E-03	A					1	0.1		1.4E+09		Chlorpyrifos	2921-88-2					7.8E+01	3.3E+02		6.3E+01
				1.0E-02	H					1	0.1		1.4E+09		Chlorpyrifos Methyl	5598-13-0					7.8E+02	3.3E+03		6.3E+02
				5.0E-02	I					1	0.1		1.4E+09		Chlorsulfuron	64902-72-3					3.9E+03	1.6E+04		3.2E+03
				1.0E-02	I					1	0.1		1.4E+09		Chlorthal-dimethyl	1861-32-1					7.8E+02	3.3E+03		6.3E+02
				8.0E-04	H					1	0.1		1.4E+09		Chlorthiophos	60238-56-4					6.3E+01	2.6E+02		5.1E+01
				1.5E+00	I					0.013			1.4E+09		Chromium(III), Insoluble Salts	16065-83-1					1.2E+05			1.2E+05
5.0E-01	J	8.4E-02	S	3.0E-03	I	1.0E-04	I		M	0.025			1.4E+09		Chromium(VI)	18540-29-9	3.1E-01		1.6E+01	3.0E-01	2.3E+02		1.4E+05	2.3E+02
										0.013			1.4E+09		Chromium, Total	7440-47-3								
				1.3E-02	I					1	0.1		1.4E+09		Clofentezine	74115-24-5					1.0E+03	4.3E+03		8.2E+02
		9.0E-03	P	3.0E-04	P	6.0E-06	P			1			1.4E+09		Cobalt	7440-48-4			4.2E+02	4.2E+02	2.3E+01		8.5E+03	2.3E+01
		6.2E-04	I					V	M	1					Coke Oven Emissions	8007-45-2								
				4.0E-02	H					1			1.4E+09		Copper	7440-50-8					3.1E+03			3.1E+03
				5.0E-02	I	6.0E-01	C			1	0.1		1.4E+09		Cresol, m-	108-39-4					3.9E+03	1.6E+04	8.5E+08	3.2E+03
				5.0E-02	I	6.0E-01	C			1	0.1		1.4E+09		Cresol, o-	95-48-7					3.9E+03	1.6E+04	8.5E+08	3.2E+03
				1.0E-01	A	6.0E-01	C			1	0.1		1.4E+09		Cresol, p-	106-44-5					7.8E+03	3.3E+04	8.5E+08	6.3E+03
				1.0E-01	A					1	0.1		1.4E+09		Cresol, p-chloro-m-	59-50-7					7.8E+03	3.3E+04		6.3E+03
				1.0E-01	A	6.0E-01	C			1	0.1		1.4E+09		Cresols	1319-77-3					7.8E+03	3.3E+04	8.5E+08	6.3E+03
1.9E+00	H			1.0E-03	P			V		1		1.7E+04	1.4E+09	1.9E+04	Crotonaldehyde, trans-	123-73-9	3.7E-01			3.7E-01	7.8E+01			7.8E+01
				1.0E-01	I	4.0E-01	I	V		1		2.7E+02	1.4E+09	6.2E+03	Cumene	98-82-8					7.8E+03		2.6E+03	1.9E+03
2.2E-01	C	6.3E-05	C							1	0.1		1.4E+09		Cupferron	135-20-6	3.2E+00	1.1E+01	6.1E+04	2.5E+00				
8.4E-01	H			2.0E-03	H					1	0.1		1.4E+09		Cyanazine	21725-46-2	8.3E-01	2.9E+00		6.5E-01	1.6E+02	6.6E+02		1.3E+02
															Cyanides									
				1.0E-03	I					1			1.4E+09		~Calcium Cyanide	592-01-8					7.8E+01			7.8E+01
				5.0E-03	I					1			1.4E+09		~Copper Cyanide	544-92-3					3.9E+02			3.9E+02
				6.0E-04	I	8.0E-04	S	V		1		9.7E+05	1.4E+09	3.5E+03	~Cyanide (CN-)	57-12-5					4.7E+01		2.9E+00	2.7E+00
				1.0E-03	I			V		1			1.4E+09		~Cyanogen	460-19-5					7.8E+01			7.8E+01
				9.0E-02	I			V		1			1.4E+09		~Cyanogen Bromide	506-68-3					7.0E+03			7.0E+03
				5.0E-02	I			V		1			1.4E+09		~Cyanogen Chloride	506-77-4					3.9E+03			3.9E+03
				6.0E-04	I	8.0E-04	I	V		1		1.0E+07	1.4E+09	5.2E+04	~Hydrogen Cyanide	74-90-8					4.7E+01		4.4E+01	2.3E+01
				2.0E-03	I					1			1.4E+09		~Potassium Cyanide	151-50-8					1.6E+02			1.6E+02
				5.0E-03	I					0.04			1.4E+09		~Potassium Silver Cyanide	506-61-6					3.9E+02			3.9E+02
				1.0E-01	I					0.04			1.4E+09		~Silver Cyanide	506-64-9					7.8E+03			7.8E+03
				1.0E-03	I					1			1.4E+09		~Sodium Cyanide	143-33-9					7.8E+01			7.8E+01
				2.0E-04	P					1			1.4E+09		~Thiocyanates	NA					1.6E+01			1.6E+01
				2.0E-04	X			V		1			1.4E+09		~Thiocyanic Acid	463-56-9					1.6E+01			1.6E+01
				5.0E-02	I					1			1.4E+09		~Zinc Cyanide	557-21-1					3.9E+03			3.9E+03
						6.0E+00	I	V		1		1.2E+02	1.4E+09	1.0E+03	Cyclohexane	110-82-7							6.5E+03	6.5E+03
2.3E-02	H									1	0.1		1.4E+09		Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	3.0E+01	1.1E+02		2.4E+01				
				5.0E+00	I	7.0E-01	P	V		1		5.1E+03	1.4E+09	4.2E+04	Cyclohexanone	108-94-1					3.9E+05		3.0E+04	2.8E+04
				5.0E-03	P	1.0E+00	X	V		1		2.8E+02	1.4E+09	1.5E+03	Cyclohexene	110-83-8					3.9E+02		1.5E+03	3.1E+02
				2.0E-01	I			V		1		2.9E+05	1.4E+09	7.5E+04	Cyclohexylamine	108-91-8					1.6E+04			1.6E+04
				2.5E-02	I					1	0.1		1.4E+09		Cyfluthrin	68359-37-5					2.0E+03	8.2E+03		1.6E+03
				5.0E-03	I					1	0.1		1.4E+09		Cyhalothrin	68085-85-8					3.9E+02	1.6E+03		3.2E+02
				1.0E-02	I					1	0.1		1.4E+09		Cypermethrin	52315-07-8					7.8E+02	3.3E+03		6.3E+02
				7.5E-03	I					1	0.1		1.4E+09		Cyromazine	66215-27-8					5.9E+02	2.5E+03		4.7E+02
2.4E-01	I	6.9E-05	C							1	0.1		1.4E+09		DDD	72-54-8	2.9E+00	1.0E+01	5.5E+04	2.3E+00				
3.4E-01	I	9.7E-05	C					V		1			1.4E+09	2.1E+06	DDE, p,p'-	72-55-9	2.0E+00		6.1E+01	2.0E+00				
3.4E-01	I	9.7E-05	I	5.0E-04	I					1	0.03		1.4E+09		DDT	50-29-3	2.0E+00	2.4E+01	3.9E+04	1.9E+00	3.9E+01	5.5E+02		3.7E+01

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information																	Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				3.0E-02	I					1	0.1		1.4E+09		Dalapon	75-99-0					2.3E+03	9.9E+03		1.9E+03
1.8E-02	C	5.1E-06	C	1.5E-01	I					1	0.1		1.4E+09		Daminozide	1596-84-5	3.9E+01	1.4E+02	7.5E+05	3.0E+01	1.2E+04	4.9E+04		9.5E+03
7.0E-04	I			7.0E-03	I					1	0.1		1.4E+09		Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	9.9E+02	3.5E+03		7.8E+02	5.5E+02	2.3E+03		4.4E+02
				4.0E-05	I					1	0.1		1.4E+09		Demeton	8065-48-3					3.1E+00	1.3E+01		2.5E+00
1.2E-03	I			6.0E-01	I					1	0.1		1.4E+09		Di(2-ethylhexyl)adipate	103-23-1	5.8E+02	2.1E+03		4.5E+02	4.7E+04	2.0E+05		3.8E+04
6.1E-02	H									1	0.1		1.4E+09		Diallate	2303-16-4	1.1E+01	4.1E+01		8.9E+00				
				7.0E-04	A					1	0.1		1.4E+09		Diazinon	333-41-5					5.5E+01	2.3E+02		4.4E+01
				1.0E-02	X			V		1			1.4E+09	5.2E+05	Dibenzothiophene	132-65-0					7.8E+02			7.8E+02
8.0E-01	P	6.0E-03	P	2.0E-04	P	2.0E-04	I	V	M	1		9.8E+02	1.4E+09	3.2E+04	Dibromo-3-chloropropane, 1,2-	96-12-8	1.9E-01		5.4E-03	5.3E-03	1.6E+01		6.7E+00	4.7E+00
				4.0E-04	X			V		1		1.6E+02	1.4E+09	1.9E+04	Dibromobenzene, 1,3-	108-36-1					3.1E+01			3.1E+01
				1.0E-02	I			V		1			1.4E+09	2.2E+04	Dibromobenzene, 1,4-	106-37-6					7.8E+02			7.8E+02
8.4E-02	I			2.0E-02	I			V		1		8.0E+02	1.4E+09	8.0E+03	Dibromochloromethane	124-48-1	8.3E+00			8.3E+00	1.6E+03			1.6E+03
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1		1.3E+03	1.4E+09	8.6E+03	Dibromoethane, 1,2-	106-93-4	3.5E-01		4.0E-02	3.6E-02	7.0E+02		8.1E+01	7.3E+01
						4.0E-03	X	V		1		2.8E+03	1.4E+09	5.6E+03	Dibromomethane (Methylene Bromide)	74-95-3							2.4E+01	2.4E+01
				3.0E-04	P					1	0.1		1.4E+09		Dibutyltin Compounds	NA					2.3E+01	9.9E+01		1.9E+01
				3.0E-02	I					1	0.1		1.4E+09		Dicamba	1918-00-9					2.3E+03	9.9E+03		1.9E+03
		4.2E-03	P					V		1		5.5E+02	1.4E+09	3.2E+03	Dichloro-2-butene, 1,4-	764-41-0			2.1E-03	2.1E-03				
		4.2E-03	P					V		1		5.2E+02	1.4E+09	1.1E+04	Dichloro-2-butene, cis-1,4-	1476-11-5			7.4E-03	7.4E-03				
		4.2E-03	P					V		1		7.6E+02	1.4E+09	1.1E+04	Dichloro-2-butene, trans-1,4-	110-57-6			7.4E-03	7.4E-03				
5.0E-02	I			4.0E-03	I					1	0.1		1.4E+09		Dichloroacetic Acid	79-43-6	1.4E+01	4.9E+01		1.1E+01	3.1E+02	1.3E+03		2.5E+02
				9.0E-02	I	2.0E-01	H	V		1		3.8E+02	1.4E+09	1.2E+04	Dichlorobenzene, 1,2-	95-50-1					7.0E+03		2.4E+03	1.8E+03
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		1			1.4E+09	1.0E+04	Dichlorobenzene, 1,4-	106-46-7	1.3E+02		2.7E+00	2.6E+00	5.5E+03		8.7E+03	3.4E+03
4.5E-01	I	3.4E-04	C							1	0.1		1.4E+09		Dichlorobenzidine, 3,3'-	91-94-1	1.5E+00	5.5E+00	1.1E+04	1.2E+00				
				9.0E-03	X					1	0.1		1.4E+09		Dichlorobenzophenone, 4,4'-	90-98-2					7.0E+02	3.0E+03		5.7E+02
				2.0E-01	I	1.0E-01	X	V		1		8.5E+02	1.4E+09	8.4E+02	Dichlorodifluoromethane	75-71-8					1.6E+04		8.8E+01	8.7E+01
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1		1.7E+03	1.4E+09	2.1E+03	Dichloroethane, 1,1-	75-34-3	1.2E+02		3.7E+00	3.6E+00	1.6E+04			1.6E+04
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1		3.0E+03	1.4E+09	4.6E+03	Dichloroethane, 1,2-	107-06-2	7.6E+00		4.9E-01	4.6E-01	4.7E+02		3.3E+01	3.1E+01
				5.0E-02	I	2.0E-01	I	V		1		1.2E+03	1.4E+09	1.2E+03	Dichloroethylene, 1,1-	75-35-4					3.9E+03		2.4E+02	2.3E+02
				2.0E-03	I			V		1		2.4E+03	1.4E+09	2.5E+03	Dichloroethylene, 1,2-cis-	156-59-2					1.6E+02			1.6E+02
				2.0E-02	I			V		1		1.9E+03	1.4E+09	1.8E+03	Dichloroethylene, 1,2-trans-	156-60-5					1.6E+03			1.6E+03
				3.0E-03	I					1	0.1		1.4E+09		Dichlorophenol, 2,4-	120-83-2					2.3E+02	9.9E+02		1.9E+02
				1.0E-02	I					1	0.05		1.4E+09		Dichlorophenoxy Acetic Acid, 2,4-	94-75-7					7.8E+02	6.6E+03		7.0E+02
				8.0E-03	I					1	0.1		1.4E+09		Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6					6.3E+02	2.6E+03		5.1E+02
3.6E-02	C	1.0E-05	C	9.0E-02	A	4.0E-03	I	V		1		1.4E+03	1.4E+09	3.8E+03	Dichloropropane, 1,2-	78-87-5	1.9E+01		1.1E+00	1.0E+00	7.0E+03		1.6E+01	1.6E+01
				2.0E-02	P			V		1		1.5E+03	1.4E+09	6.8E+03	Dichloropropane, 1,3-	142-28-9					1.6E+03			1.6E+03
				3.0E-03	I					1	0.1		1.4E+09		Dichloropropanol, 2,3-	616-23-9					2.3E+02	9.9E+02		1.9E+02
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		1		1.6E+03	1.4E+09	3.6E+03	Dichloropropene, 1,3-	542-75-6	7.0E+00		2.5E+00	1.8E+00	2.3E+03		7.4E+01	7.2E+01
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I			1	0.1		1.4E+09		Dichlorvos	62-73-7	2.4E+00	8.5E+00	4.6E+04	1.9E+00	3.9E+01	1.6E+02	7.1E+05	3.2E+01
				1.0E-04	I					1	0.1		1.4E+09		Dicrotophos	141-66-2					7.8E+00	3.3E+01		6.3E+00
				8.0E-02	P	3.0E-04	X	V		1		2.6E+02	1.4E+09	4.1E+03	Dicyclopentadiene	77-73-6					6.3E+03		1.3E+00	1.3E+00
1.6E+01	I	4.6E-03	I	5.0E-05	I					1	0.1		1.4E+09		Dieldrin	60-57-1	4.3E-02	1.5E-01	8.3E+02	3.4E-02	3.9E+00	1.6E+01		3.2E+00
		3.0E-04	C			5.0E-03	I			1	0.1				Diesel Engine Exhaust	NA								
				2.0E-03	P	2.0E-04	P			1	0.1		1.4E+09		Diethanolamine	111-42-2					1.6E+02	6.6E+02	2.8E+05	1.3E+02
				3.0E-02	P	1.0E-04	P			1	0.1		1.4E+09		Diethylene Glycol Monobutyl Ether	112-34-5					2.3E+03	9.9E+03	1.4E+05	1.9E+03
				6.0E-02	P	3.0E-04	P			1	0.1		1.4E+09		Diethylene Glycol Monoethyl Ether	111-90-0					4.7E+03	2.0E+04	4.3E+05	3.8E+03
				1.0E-03	P			V		1		1.1E+05	1.4E+09	1.4E+05	Diethylformamide	617-84-5					7.8E+01			7.8E+01
3.5E+02	C	1.0E-01	C							1	0.1		1.4E+09		Diethylstilbestrol	56-53-1	2.0E-03	7.1E-03	3.8E+01	1.6E-03				
				8.0E-02	I					1	0.1		1.4E+09		Difenzoquat	43222-48-6					6.3E+03	2.6E+04		5.1E+03
				2.0E-02	I					1	0.1		1.4E+09		Diflubenzuron	35367-38-5					1.6E+03	6.6E+03		1.3E+03
						4.0E+01	I	V		1		1.4E+03	1.4E+09	1.2E+03	Difluoroethane, 1,1-	75-37-6							4.8E+04	4.8E+04
4.4E-02	C	1.3E-05	C					V		1			1.4E+09	1.2E+05	Dihydrosafrole	94-58-6	1.6E+01		2.7E+01	9.9E+00				
						7.0E-01	P	V		1		2.3E+03	1.4E+09	3.1E+03	Diisopropyl Ether	108-20-3							2.2E+03	2.2E+03
				8.0E-02	I			V		1		5.3E+02	1.4E+09	3.8E+04	Diisopropyl Methylphosphonate	1445-75-6					6.3E+03			6.3E+03
				2.0E-02	I					1	0.1		1.4E+09		Dimethipin	55290-64-7					1.6E+03	6.6E+03		1.3E+03
				2.0E-04	I					1	0.1		1.4E+09		Dimethoate	60-51-5					1.6E+01	6.6E+01		1.3E+01
1.6E+00	P									1	0.1		1.4E+09		Dimethoxybenzidine, 3,3'-	119-90-4	4.3E-01	1.5E+00		3.4E-01				
1.7E-03	P			6.0E-02	P					1	0.1		1.4E+09		Dimethyl methylphosphonate	756-79-6	4.1E+02	1.5E+03		3.2E+02	4.7E+03	2.0E+04		3.8E+03
4.6E+00	C	1.3E-03	C							1	0.1		1.4E+09		Dimethylamino azobenzene [p-]	60-11-7	1.5E-01	5.4E-01	2.9E+03	1.2E-01				
5.8E-01	H									1	0.1		1.4E+09		Dimethylaniline HCl, 2,4-	21436-96-4	1.2E+00	4.3E+00		9.4E-01				
2.0E-01	P			2.0E-03	X					1	0.1		1.4E+09		Dimethylaniline, 2,4-	95-68-1	3.5E+00	1.2E+01		2.7E+00	1.6E+02	6.6E+02		1.3E+02
				2.0E-03	I			V		1		8.3E+02	1.4E+09	3.1E+04	Dimethylaniline, N,N-	121-69-7					1.6E+02			1.6E+02
1.1E+01	P									1	0.1		1.4E+09		Dimethylbenzidine, 3,3'-	119-93-7	6.3E-02	2.2E-01		4.9E-02				
				1.0E-01	P	3.0E-02	I	V		1		1.1E+05	1.4E+09	1.3E+05	Dimethylformamide	68-12-2					7.8E+03		4.0E+03	2.6E+03
				1.0E-04	X	2.0E-06	X	V		1		1.7E+05	1.4E+09	2.8E+04	Dimethylhydrazine, 1,1-	57-14-7					7.8E+00		5.8E-02	5.7E-02

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information																Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (μg/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
5.5E+02	C	1.6E-01	C					V		1		1.9E+05	1.4E+09	1.7E+05	Dimethylhydrazine, 1,2-	540-73-8	1.3E-03		2.9E-03	8.8E-04				
				2.0E-02	I					1	0.1		1.4E+09		Dimethylphenol, 2,4-	105-67-9					1.6E+03	6.6E+03		1.3E+03
				6.0E-04	I					1	0.1		1.4E+09		Dimethylphenol, 2,6-	576-26-1					4.7E+01	2.0E+02		3.8E+01
				1.0E-03	I					1	0.1		1.4E+09		Dimethylphenol, 3,4-	95-65-8					7.8E+01	3.3E+02		6.3E+01
4.5E-02	C	1.3E-05	C					V		1		1.3E+03	1.4E+09	9.5E+02	Dimethylvinylchloride	513-37-1	1.5E+01		2.1E-01	2.0E-01				
				8.0E-05	X					1	0.1		1.4E+09		Dinitro-o-cresol, 4,6-	534-52-1					6.3E+00	2.6E+01		5.1E+00
				2.0E-03	I					1	0.1		1.4E+09		Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5					1.6E+02	6.6E+02		1.3E+02
				1.0E-04	P					1	0.1		1.4E+09		Dinitrobenzene, 1,2-	528-29-0					7.8E+00	3.3E+01		6.3E+00
				1.0E-04	I					1	0.1		1.4E+09		Dinitrobenzene, 1,3-	99-65-0					7.8E+00	3.3E+01		6.3E+00
				1.0E-04	P					1	0.1		1.4E+09		Dinitrobenzene, 1,4-	100-25-4					7.8E+00	3.3E+01		6.3E+00
				2.0E-03	I					1	0.1		1.4E+09		Dinitrophenol, 2,4-	51-28-5					1.6E+02	6.6E+02		1.3E+02
6.8E-01	I									1	0.1		1.4E+09		Dinitrotoluene Mixture, 2,4/2,6-	NA	1.0E+00	3.6E+00		8.0E-01				
3.1E-01	C	8.9E-05	C	2.0E-03	I					1	0.102		1.4E+09		Dinitrotoluene, 2,4-	121-14-2	2.2E+00	7.8E+00	4.3E+04	1.7E+00	1.6E+02	6.5E+02		1.3E+02
1.5E+00	P			3.0E-04	X					1	0.099		1.4E+09		Dinitrotoluene, 2,6-	606-20-2	4.6E-01	1.7E+00		3.6E-01	2.3E+01	1.0E+02		1.9E+01
				2.0E-03	S					1	0.006		1.4E+09		Dinitrotoluene, 2-Amino-4,6-	35572-78-2					1.6E+02	1.1E+04		1.5E+02
				2.0E-03	S					1	0.009		1.4E+09		Dinitrotoluene, 4-Amino-2,6-	19406-51-0					1.6E+02	7.3E+03		1.5E+02
4.5E-01	X			9.0E-04	X					1	0.1		1.4E+09		Dinitrotoluene, Technical grade	25321-14-6	1.5E+00	5.5E+00		1.2E+00	7.0E+01	3.0E+02		5.7E+01
				1.0E-03	I					1	0.1		1.4E+09		Dinoseb	88-85-7					7.8E+01	3.3E+02		6.3E+01
1.0E-01	I	5.0E-06	I	3.0E-02	I	3.0E-02	I	V		1		1.2E+05	1.4E+09	4.0E+04	Dioxane, 1,4-	123-91-1	7.0E+00		2.2E+01	5.3E+00	2.3E+03		1.2E+03	8.1E+02
															Dioxins									
6.2E+03	I	1.3E+00	I							1	0.03		1.4E+09		~Hexachlorodibenzo-p-dioxin, Mixture	NA	1.1E-04	1.3E-03	2.9E+00	1.0E-04				
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C	V		1	0.03		1.4E+09	2.0E+06	~TCDD, 2,3,7,8-	1746-01-6	5.3E-06	6.3E-05	1.4E-04	4.8E-06	5.5E-05	7.7E-04	8.2E-02	5.1E-05
				3.0E-02	I					1	0.1		1.4E+09		Diphenamid	957-51-7					2.3E+03	9.9E+03		1.9E+03
				8.0E-04	X					1	0.1		1.4E+09		Diphenyl Sulfone	127-63-9					6.3E+01	2.6E+02		5.1E+01
				2.5E-02	I					1	0.1		1.4E+09		Diphenylamine	122-39-4					2.0E+03	8.2E+03		1.6E+03
8.0E-01	I	2.2E-04	I							1	0.1		1.4E+09		Diphenylhydrazine, 1,2-	122-66-7	8.7E-01	3.1E+00	1.7E+04	6.8E-01				
				2.2E-03	I					1	0.1		1.4E+09		Diquat	85-00-7					1.7E+02	7.3E+02		1.4E+02
7.1E+00	C	1.4E-01	C							1	0.1		1.4E+09		Direct Black 38	1937-37-7	9.8E-02	3.5E-01	2.7E+01	7.6E-02				
7.4E+00	C	1.4E-01	C							1	0.1		1.4E+09		Direct Blue 6	2602-46-2	9.4E-02	3.3E-01	2.7E+01	7.3E-02				
6.7E+00	C	1.4E-01	C							1	0.1		1.4E+09		Direct Brown 95	16071-86-6	1.0E-01	3.7E-01	2.7E+01	8.1E-02				
				4.0E-05	I					1	0.1		1.4E+09		Disulfoton	298-04-4					3.1E+00	1.3E+01		2.5E+00
				1.0E-02	I			V		1			1.4E+09	4.5E+04	Dithiane, 1,4-	505-29-3					7.8E+02			7.8E+02
				2.0E-03	I					1	0.1		1.4E+09		Diuron	330-54-1					1.6E+02	6.6E+02		1.3E+02
				4.0E-03	I					1	0.1		1.4E+09		Dodine	2439-10-3					3.1E+02	1.3E+03		2.5E+02
				2.5E-02	I			V		1			1.4E+09	1.2E+05	EPTC	759-94-4					2.0E+03			2.0E+03
				6.0E-03	I			V		1			1.4E+09	4.1E+05	Endosulfan	115-29-7					4.7E+02			4.7E+02
				2.0E-02	I					1	0.1		1.4E+09		Endothall	145-73-3					1.6E+03	6.6E+03		1.3E+03
				3.0E-04	I					1	0.1		1.4E+09		Endrin	72-20-8					2.3E+01	9.9E+01		1.9E+01
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I	V		1		1.1E+04	1.4E+09	1.9E+04	Epichlorohydrin	106-89-8	7.0E+01		4.4E+01	2.7E+01	4.7E+02		2.0E+01	1.9E+01
						2.0E-02	I	V		1		1.5E+04	1.4E+09	7.7E+03	Epoxybutane, 1,2-	106-88-7							1.6E+02	1.6E+02
				4.0E-02	P					1	0.1		1.4E+09		Ethanol, 2-(2-methoxyethoxy)-	111-77-3					3.1E+03	1.3E+04		2.5E+03
				5.0E-03	I					1	0.1		1.4E+09		Ethephon	16672-87-0					3.9E+02	1.6E+03		3.2E+02
				5.0E-04	I					1	0.1		1.4E+09		Ethion	563-12-2					3.9E+01	1.6E+02		3.2E+01
				1.0E-01	P	6.0E-02	P	V		1		2.4E+04	1.4E+09	6.2E+04	Ethoxyethanol Acetate, 2-	111-15-9					7.8E+03		3.8E+03	2.6E+03
				9.0E-02	P	2.0E-01	I	V		1		1.1E+05	1.4E+09	9.8E+04	Ethoxyethanol, 2-	110-80-5					7.0E+03		2.1E+04	5.2E+03
				9.0E-01	I	7.0E-02	P	V		1		1.1E+04	1.4E+09	8.6E+03	Ethyl Acetate	141-78-6					7.0E+04		6.3E+02	6.2E+02
				5.0E-03	P	8.0E-03	P	V		1		2.5E+03	1.4E+09	6.3E+03	Ethyl Acrylate	140-88-5					3.9E+02		5.3E+01	4.7E+01
						1.0E+01	I	V		1		2.1E+03	1.4E+09	1.3E+03	Ethyl Chloride (Chloroethane)	75-00-3							1.4E+04	1.4E+04
				2.0E-01	I			V		1		1.0E+04	1.4E+09	3.1E+03	Ethyl Ether	60-29-7					1.6E+04			1.6E+04
						3.0E-01	P	V		1		1.1E+03	1.4E+09	5.8E+03	Ethyl Methacrylate	97-63-2							1.8E+03	1.8E+03
				1.0E-05	I					1	0.1		1.4E+09		Ethyl-p-nitrophenyl Phosphonate	2104-64-5					7.8E-01	3.3E+00		6.3E-01
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I	V		1		4.8E+02	1.4E+09	5.7E+03	Ethylbenzene	100-41-4	6.3E+01		6.4E+00	5.8E+00	7.8E+03		5.9E+03	3.4E+03
				7.0E-02	P					1	0.1		1.4E+09		Ethylene Cyanohydrin	109-78-4					5.5E+03	2.3E+04		4.4E+03
				9.0E-02	P			V		1		1.9E+05	1.4E+09	1.8E+05	Ethylene Diamine	107-15-3					7.0E+03			7.0E+03
				2.0E+00	I	4.0E-01	C			1	0.1		1.4E+09		Ethylene Glycol	107-21-1					1.6E+05	6.6E+05	5.7E+08	1.3E+05
				1.0E-01	I	1.6E+00	I			1	0.1		1.4E+09		Ethylene Glycol Monobutyl Ether	111-76-2					7.8E+03	3.3E+04	2.3E+09	6.3E+03
3.1E-01	C	8.8E-05	C			3.0E-02	C	V		1		1.2E+05	1.4E+09	6.1E+03	Ethylene Oxide	75-21-8	2.2E+00		1.9E-01	1.8E-01			1.9E+02	1.9E+02
4.5E-02	C	1.3E-05	C	8.0E-05	I					1	0.1		1.4E+09		Ethylene Thiourea	96-45-7	1.5E+01	5.5E+01	2.9E+05	1.2E+01	6.3E+00	2.6E+01		5.1E+00
6.5E+01	C	1.9E-02	C					V		1		1.5E+05	1.4E+09	2.4E+04	Ethyleneimine	151-56-4	1.1E-02		3.5E-03	2.7E-03				
				3.0E+00	I					1	0.1		1.4E+09		Ethylphthalyl Ethyl Glycolate	84-72-0					2.3E+05	9.9E+05		1.9E+05
				2.5E-04	I					1	0.1		1.4E+09		Fenamiphos	22224-92-6					2.0E+01	8.2E+01		1.6E+01
				2.5E-02	I					1	0.1		1.4E+09		Fenpropathrin	39515-41-8					2.0E+03	8.2E+03		1.6E+03
				2.5E-02	I					1	0.1		1.4E+09		Fenvalerate	51630-58-1					2.0E+03	8.2E+03		1.6E+03
				1.3E-02	I					1	0.1		1.4E+09		Fluometuron	2164-17-2					1.0E+03	4.3E+03		8.2E+02

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				4.0E-02	C	1.3E-02	C			1			1.4E+09		Fluoride	16984-48-8					3.1E+03		1.8E+07	3.1E+03
				6.0E-02	I	1.3E-02	C			1			1.4E+09		Fluorine (Soluble Fluoride)	7782-41-4					4.7E+03		1.8E+07	4.7E+03
				8.0E-02	I					1	0.1		1.4E+09		Fluridone	59756-60-4					6.3E+03	2.6E+04		5.1E+03
				2.0E-02	I					1	0.1		1.4E+09		Flurprimidol	56425-91-3					1.6E+03	6.6E+03		1.3E+03
				7.0E-04	I					1	0.1		1.4E+09		Flusilazole	85509-19-9					5.5E+01	2.3E+02		4.4E+01
				6.0E-02	I					1	0.1		1.4E+09		Flutolanil	66332-96-5					4.7E+03	2.0E+04		3.8E+03
				1.0E-02	I					1	0.1		1.4E+09		Fluvalinate	69409-94-5					7.8E+02	3.3E+03		6.3E+02
3.5E-03	I			1.0E-01	I					1	0.1		1.4E+09		Folpet	133-07-3	2.0E+02	7.1E+02		1.6E+02	7.8E+03	3.3E+04		6.3E+03
1.9E-01	I									1	0.1		1.4E+09		Fomesafen	72178-02-0	3.7E+00	1.3E+01		2.9E+00				
				2.0E-03	I					1	0.1		1.4E+09		Fonofos	944-22-9					1.6E+02	6.6E+02		1.3E+02
		1.3E-05	I	2.0E-01	I	9.8E-03	A	V		1		4.2E+04	1.4E+09	7.8E+04	Formaldehyde	50-00-0			1.7E+01	1.7E+01	1.6E+04		8.0E+02	7.6E+02
				9.0E-01	P	3.0E-04	X	V		1		1.1E+05	1.4E+09	9.3E+04	Formic Acid	64-18-6					7.0E+04		2.9E+01	2.9E+01
				3.0E+00	I					1	0.1		1.4E+09		Fosetyl-AL	39148-24-8					2.3E+05	9.9E+05		1.9E+05
															Furans									
				1.0E-03	X			V		1	0.03		1.4E+09	2.0E+05	~Dibenzofuran	132-64-9					7.8E+01	1.1E+03		7.3E+01
				1.0E-03	I			V		1	0.03	6.2E+03	1.4E+09	2.6E+03	~Furan	110-00-9					7.8E+01	1.1E+03		7.3E+01
				9.0E-01	I	2.0E+00	I	V		1	0.03	1.7E+05	1.4E+09	1.2E+04	~Tetrahydrofuran	109-99-9					7.0E+04	9.9E+05	2.5E+04	1.8E+04
3.8E+00	H									1	0.1		1.4E+09		Furazolidone	67-45-8	1.8E-01	6.5E-01		1.4E-01				
				3.0E-03	I	5.0E-02	H	V		1		1.0E+04	1.4E+09	4.9E+04	Furfural	98-01-1					2.3E+02		2.5E+03	2.1E+02
1.5E+00	C	4.3E-04	C							1	0.1		1.4E+09		Furium	531-82-8	4.6E-01	1.6E+00	8.9E+03	3.6E-01				
3.0E-02	I	8.6E-06	C							1	0.1		1.4E+09		Furmecyclox	60568-05-0	2.3E+01	8.2E+01	4.4E+05	1.8E+01				
				4.0E-04	I					1	0.1		1.4E+09		Glufosinate, Ammonium	77182-82-2					3.1E+01	1.3E+02		2.5E+01
						8.0E-05	C			1	0.1		1.4E+09		Glutaraldehyde	111-30-8							1.1E+05	1.1E+05
				4.0E-04	I	1.0E-03	H	V		1		1.1E+05	1.4E+09	8.4E+04	Glycidyl	765-34-4					3.1E+01		8.8E+01	2.3E+01
				1.0E-01	I					1	0.1		1.4E+09		Glyphosate	1071-83-6					7.8E+03	3.3E+04		6.3E+03
				1.0E-02	X			V		1			1.4E+09	1.5E+05	Guanidine	113-00-8					7.8E+02			7.8E+02
				2.0E-02	P					1	0.1		1.4E+09		Guanidine Chloride	50-01-1					1.6E+03	6.6E+03		1.3E+03
				5.0E-05	I					1	0.1		1.4E+09		Haloxyfop, Methyl	69806-40-2					3.9E+00	1.6E+01		3.2E+00
4.5E+00	I	1.3E-03	I	5.0E-04	I			V		1			1.4E+09	4.8E+05	Heptachlor	76-44-8	1.5E-01		1.0E+00	1.3E-01	3.9E+01			3.9E+01
9.1E+00	I	2.6E-03	I	1.3E-05	I			V		1			1.4E+09	8.4E+05	Heptachlor Epoxide	1024-57-3	7.6E-02		9.1E-01	7.0E-02	1.0E+00			1.0E+00
				2.0E-03	I			V		1			1.4E+09	3.8E+05	Hexabromobenzene	87-82-1					1.6E+02			1.6E+02
				2.0E-04	I					1	0.1		1.4E+09		Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2					1.6E+01	6.6E+01		1.3E+01
1.6E+00	I	4.6E-04	I	8.0E-04	I			V		1			1.4E+09	6.8E+04	Hexachlorobenzene	118-74-1	4.3E-01		4.1E-01	2.1E-01	6.3E+01			6.3E+01
7.8E-02	I	2.2E-05	I	1.0E-03	P			V		1		1.7E+01	1.4E+09	1.1E+04	Hexachlorobutadiene	87-68-3	8.9E+00		1.4E+00	1.2E+00	7.8E+01			7.8E+01
6.3E+00	I	1.8E-03	I	8.0E-03	A					1	0.1		1.4E+09		Hexachlorocyclohexane, Alpha-	319-84-6	1.1E-01	3.9E-01	2.1E+03	8.6E-02	6.3E+02	2.6E+03		5.1E+02
1.8E+00	I	5.3E-04	I							1	0.1		1.4E+09		Hexachlorocyclohexane, Beta-	319-85-7	3.9E-01	1.4E+00	7.2E+03	3.0E-01				
1.1E+00	C	3.1E-04	C	3.0E-04	I					1	0.04		1.4E+09		Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	6.3E-01	5.6E+00	1.2E+04	5.7E-01	2.3E+01	2.5E+02		2.1E+01
1.8E+00	I	5.1E-04	I							1	0.1		1.4E+09		Hexachlorocyclohexane, Technical	608-73-1	3.9E-01	1.4E+00	7.5E+03	3.0E-01				
				6.0E-03	I	2.0E-04	I	V		1		1.6E+01	1.4E+09	8.5E+03	Hexachlorocyclopentadiene	77-47-4					4.7E+02		1.8E+00	1.8E+00
4.0E-02	I	1.1E-05	C	7.0E-04	I	3.0E-02	I	V		1			1.4E+09	8.0E+03	Hexachloroethane	67-72-1	1.7E+01		2.0E+00	1.8E+00	5.5E+01		2.5E+02	4.5E+01
				3.0E-04	I					1	0.1		1.4E+09		Hexachlorophene	70-30-4					2.3E+01	9.9E+01		1.9E+01
1.1E-01	I			3.0E-03	I					1	0.015		1.4E+09		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	6.3E+00	1.5E+02		6.1E+00	2.3E+02	6.6E+03		2.3E+02
						1.0E-05	I	V		1		3.4E+03	1.4E+09	3.0E+05	Hexamethylene Diisocyanate, 1,6-	822-06-0							3.1E+00	3.1E+00
				4.0E-04	P					1	0.1		1.4E+09		Hexamethylphosphoramide	680-31-9					3.1E+01	1.3E+02		2.5E+01
						7.0E-01	I	V		1		1.4E+02	1.4E+09	8.3E+02	Hexane, N-	110-54-3							6.1E+02	6.1E+02
				2.0E+00	P					1	0.1		1.4E+09		Hexanedioic Acid	124-04-9					1.6E+05	6.6E+05		1.3E+05
				5.0E-03	I	3.0E-02	I	V		1		3.3E+03	1.4E+09	1.3E+04	Hexanone, 2-	591-78-6					3.9E+02		4.2E+02	2.0E+02
				3.3E-02	I					1	0.1		1.4E+09		Hexazinone	51235-04-2					2.6E+03	1.1E+04		2.1E+03
				2.5E-02	I					1	0.1		1.4E+09		Hexythiazox	78587-05-0					2.0E+03	8.2E+03		1.6E+03
				3.0E-04	I					1	0.1		1.4E+09		Hydramethylnon	67485-29-4					2.3E+01	9.9E+01		1.9E+01
3.0E+00	I	4.9E-03	I			3.0E-05	P	V		1			1.4E+09		Hydrazine	302-01-2	2.3E-01		7.8E+02	2.3E-01			4.3E+04	4.3E+04
3.0E+00	I	4.9E-03	I							1			1.4E+09		Hydrazine Sulfate	10034-93-2	2.3E-01		7.8E+02	2.3E-01				
						2.0E-02	I	V		1			1.4E+09		Hydrogen Chloride	7647-01-0							2.8E+07	2.8E+07
				4.0E-02	C	1.4E-02	C	V		1			1.4E+09		Hydrogen Fluoride	7664-39-3					3.1E+03		2.0E+07	3.1E+03
						2.0E-03	I	V		1			1.4E+09		Hydrogen Sulfide	7783-06-4							2.8E+06	2.8E+06
6.0E-02	P			4.0E-02	P					1	0.1		1.4E+09		Hydroquinone	123-31-9	1.2E+01	4.1E+01		9.0E+00	3.1E+03	1.3E+04		2.5E+03
				1.3E-02	I					1	0.1		1.4E+09		Imazalil	35554-44-0					1.0E+03	4.3E+03		8.2E+02
				2.5E-01	I					1	0.1		1.4E+09		Imazaquin	81335-37-7					2.0E+04	8.2E+04		1.6E+04
				2.5E-01	I					1	0.1		1.4E+09		Imazethapyr	81335-77-5					2.0E+04	8.2E+04		1.6E+04
				1.0E-02	A					1			1.4E+09		Iodine	7553-56-2					7.8E+02			7.8E+02
				4.0E-02	I					1	0.1		1.4E+09		Iprodione	36734-19-7					3.1E+03	1.3E+04		2.5E+03
				7.0E-01	P					1			1.4E+09		Iron	7439-89-6					5.5E+04			5.5E+04
				3.0E-01	I			V		1		1.0E+04	1.4E+09	2.8E+04	Isobutyl Alcohol	78-83-1					2.3E+04			2.3E+04
9.5E-04	I			2.0E-01	I	2.0E+00	C			1	0.1		1.4E+09		Isophorone	78-59-1	7.3E+02	2.6E+03		5.7E+02	1.6E+04	6.6E+04	2.8E+09	1.3E+04

R-1E-06
HQ-1.0

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Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				1.5E-02	I			V		1			1.4E+09	4.2E+05	Isopropalin	33820-53-0					1.2E+03			1.2E+03
				2.0E+00	P	2.0E-01	P	V		1		1.1E+05	1.4E+09	2.8E+04	Isopropanol	67-63-0					1.6E+05		5.8E+03	5.6E+03
				1.0E-01	I					1	0.1		1.4E+09		Isopropyl Methyl Phosphonic Acid	1832-54-8					7.8E+03	3.3E+04		6.3E+03
				5.0E-02	I					1	0.1		1.4E+09		Isoxaben	82558-50-7					3.9E+03	1.6E+04		3.2E+03
						3.0E-01	A	V		1			1.4E+09		JP-7	NA							4.3E+08	4.3E+08
				2.0E-03	I					1	0.1		1.4E+09		Lactofen	77501-63-4					1.6E+02	6.6E+02		1.3E+02
															Lead Compounds									
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		~Lead Chromate	7758-97-6	3.1E-01		9.2E+00	3.0E-01	1.6E+03		2.8E+05	1.6E+03
8.5E-03	C	1.2E-05	C							1			1.4E+09		~Lead Phosphate	7446-27-7	8.2E+01		3.2E+05	8.2E+01				
2.8E-01	C	8.0E-05	C							1	0.1		1.4E+09		~Lead acetate	301-04-2	2.5E+00	8.8E+00	4.8E+04	1.9E+00				
										1			1.4E+09		~Lead and Compounds	7439-92-1								4.0E+02
8.5E-03	C	1.2E-05	C							1	0.1		1.4E+09		~Lead subacetate	1335-32-6	8.2E+01	2.9E+02	3.2E+05	6.4E+01				
				1.0E-07	I			V		1		2.4E+00	1.4E+09	1.9E+03	~Tetraethyl Lead	78-00-2					7.8E-03			7.8E-03
				5.0E-06	P			V		1		3.8E+02	1.4E+09	2.6E+04	Lewisite	541-25-3					3.9E-01			3.9E-01
				2.0E-03	I					1	0.1		1.4E+09		Linuron	330-55-2					1.6E+02	6.6E+02		1.3E+02
				2.0E-03	P					1			1.4E+09		Lithium	7439-93-2					1.6E+02			1.6E+02
				5.0E-04	I					1	0.1		1.4E+09		MCPA	94-74-6					3.9E+01	1.6E+02		3.2E+01
				1.0E-02	I					1	0.1		1.4E+09		MCPB	94-81-5					7.8E+02	3.3E+03		6.3E+02
				1.0E-03	I					1	0.1		1.4E+09		MCPP	93-65-2					7.8E+01	3.3E+02		6.3E+01
				2.0E-02	I					1	0.1		1.4E+09		Malathion	121-75-5					1.6E+03	6.6E+03		1.3E+03
				1.0E-01	I	7.0E-04	C			1	0.1		1.4E+09		Maleic Anhydride	108-31-6					7.8E+03	3.3E+04	9.9E+05	6.3E+03
				5.0E-01	I					1	0.1		1.4E+09		Maleic Hydrazide	123-33-1					3.9E+04	1.6E+05		3.2E+04
				1.0E-04	P					1	0.1		1.4E+09		Malononitrile	109-77-3					7.8E+00	3.3E+01		6.3E+00
				3.0E-02	H					1	0.1		1.4E+09		Mancozeb	8018-01-7					2.3E+03	9.9E+03		1.9E+03
				5.0E-03	I					1	0.1		1.4E+09		Maneb	12427-38-2					3.9E+02	1.6E+03		3.2E+02
				1.4E-01	I	5.0E-05	I			1					Manganese (Diet)	7439-96-5								
				2.4E-02	S	5.0E-05	I			0.04			1.4E+09		Manganese (Non-diet)	7439-96-5					1.9E+03		7.1E+04	1.8E+03
				9.0E-05	H					1	0.1		1.4E+09		Mephosfolan	950-10-7					7.0E+00	3.0E+01		5.7E+00
				3.0E-02	I					1	0.1		1.4E+09		Mepiquat Chloride	24307-26-4					2.3E+03	9.9E+03		1.9E+03
															Mercury Compounds									
				3.0E-04	I	3.0E-04	S			0.07			1.4E+09		~Mercuric Chloride (and other Mercury salts)	7487-94-7					2.3E+01		4.3E+05	2.3E+01
						3.0E-04	I	V		1		3.1E+00	1.4E+09	3.5E+04	~Mercury (elemental)	7439-97-6							1.1E+01	1.1E+01
				1.0E-04	I					1			1.4E+09		~Methyl Mercury	22967-92-6					7.8E+00			7.8E+00
				8.0E-05	I					1	0.1		1.4E+09		~Phenylmercuric Acetate	62-38-4					6.3E+00	2.6E+01		5.1E+00
				3.0E-05	I			V		1			1.4E+09	1.9E+06	Merphos	150-50-5					2.3E+00			2.3E+00
				3.0E-05	I					1	0.1		1.4E+09		Merphos Oxide	78-48-8					2.3E+00	9.9E+00		1.9E+00
				6.0E-02	I					1	0.1		1.4E+09		Metalaxyl	57837-19-1					4.7E+03	2.0E+04		3.8E+03
				1.0E-04	I	3.0E-02	P	V		1		4.6E+03	1.4E+09	6.8E+03	Methacrylonitrile	126-98-7					7.8E+00		2.1E+02	7.5E+00
				5.0E-05	I					1	0.1		1.4E+09		Methamidophos	10265-92-6					3.9E+00	1.6E+01		3.2E+00
				2.0E+00	I	2.0E+01	I	V		1		1.1E+05	1.4E+09	2.9E+04	Methanol	67-56-1					1.6E+05		6.1E+05	1.2E+05
				1.0E-03	I					1	0.1		1.4E+09		Methidathion	950-37-8					7.8E+01	3.3E+02		6.3E+01
				2.5E-02	I					1	0.1		1.4E+09		Methomyl	16752-77-5					2.0E+03	8.2E+03		1.6E+03
4.9E-02	C	1.4E-05	C							1	0.1		1.4E+09		Methoxy-5-nitroaniline, 2-	99-59-2	1.4E+01	5.0E+01	2.7E+05	1.1E+01				
				5.0E-03	I					1	0.1		1.4E+09		Methoxychlor	72-43-5					3.9E+02	1.6E+03		3.2E+02
				8.0E-03	P	1.0E-03	P	V		1		1.2E+05	1.4E+09	1.2E+05	Methoxyethanol Acetate, 2-	110-49-6					6.3E+02		1.3E+02	1.1E+02
				5.0E-03	P	2.0E-02	I	V		1		1.1E+05	1.4E+09	1.0E+05	Methoxyethanol, 2-	109-86-4					3.9E+02		2.1E+03	3.3E+02
				1.0E+00	X			V		1		2.9E+04	1.4E+09	8.1E+03	Methyl Acetate	79-20-9					7.8E+04			7.8E+04
						2.0E-02	P	V		1		6.8E+03	1.4E+09	7.0E+03	Methyl Acrylate	96-33-3							1.5E+02	1.5E+02
				6.0E-01	I	5.0E+00	I	V		1		2.8E+04	1.4E+09	1.2E+04	Methyl Ethyl Ketone (2-Butanone)	78-93-3					4.7E+04		6.4E+04	2.7E+04
		1.0E-03	X	1.0E-03	P	2.0E-05	X	V		1		1.8E+05	1.4E+09	5.0E+04	Methyl Hydrazine	60-34-4			1.4E-01	1.4E-01	7.8E+01		1.1E+00	1.0E+00
						3.0E+00	I	V		1		3.4E+03	1.4E+09	1.1E+04	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1							3.3E+04	3.3E+04
						1.0E-03	C	V		1		1.0E+04	1.4E+09	4.4E+03	Methyl Isocyanate	624-83-9							4.6E+00	4.6E+00
				1.4E+00	I	7.0E-01	I	V		1		2.4E+03	1.4E+09	6.3E+03	Methyl Methacrylate	80-62-6					1.1E+05		4.6E+03	4.4E+03
				2.5E-04	I					1	0.1		1.4E+09		Methyl Parathion	298-00-0					2.0E+01	8.2E+01		1.6E+01
				6.0E-02	X					1	0.1		1.4E+09		Methyl Phosphonic Acid	993-13-5					4.7E+03	2.0E+04		3.8E+03
				6.0E-03	H	4.0E-02	H	V		1		3.9E+02	1.4E+09	2.4E+04	Methyl Styrene (Mixed Isomers)	25013-15-4					4.7E+02		1.0E+03	3.2E+02
9.9E-02	C	2.8E-05	C							1	0.1		1.4E+09		Methyl methanesulfonate	66-27-3	7.0E+00	2.5E+01	1.4E+05	5.5E+00				
1.8E-03	C	2.6E-07	C			3.0E+00	I	V		1		8.9E+03	1.4E+09	4.9E+03	Methyl tert-Butyl Ether (MTBE)	1634-04-4	3.9E+02		5.3E+01	4.7E+01			1.5E+04	1.5E+04
				3.0E-04	X					1	0.1		1.4E+09		Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2					2.3E+01	9.9E+01		1.9E+01
9.0E-03	P			2.0E-02	X					1	0.1		1.4E+09		Methyl-5-Nitroaniline, 2-	99-55-8	7.7E+01	2.7E+02		6.0E+01	1.6E+03	6.6E+03		1.3E+03
8.3E+00	C	2.4E-03	C							1	0.1		1.4E+09		Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	8.4E-02	3.0E-01	1.6E+03	6.5E-02				
1.3E-01	C	3.7E-05	C							1	0.1		1.4E+09		Methylaniline Hydrochloride, 2-	636-21-5	5.3E+00	1.9E+01	1.0E+05	4.2E+00				
				1.0E-02	A					1	0.1		1.4E+09		Methylarsonic acid	124-58-3					7.8E+02	3.3E+03		6.3E+02
				2.0E-04	X					1	0.1		1.4E+09		Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7					1.6E+01	6.6E+01		1.3E+01

DAF=1E-06
DAF10=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information																Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
1.0E-01	X			3.0E-04	X					1	0.1		1.4E+09		Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	7.0E+00	2.5E+01		5.4E+00	2.3E+01	9.9E+01		1.9E+01
2.2E+01	C	6.3E-03	C						M	1	0.1		1.4E+09		Methylcholanthrene, 3-	56-49-5	7.0E-03	2.7E-02	2.2E+02	5.5E-03				
2.0E-03	I	1.0E-08	I	6.0E-03	I	6.0E-01	I	V	M	1		3.3E+03	1.4E+09	2.2E+03	Methylene Chloride	75-09-2	7.7E+01		2.2E+02	5.7E+01	4.7E+02		1.4E+03	3.5E+02
1.0E-01	P	4.3E-04	C	2.0E-03	P				M	1	0.1		1.4E+09		Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	1.5E+00	6.0E+00	3.2E+03	1.2E+00	1.6E+02	6.6E+02		1.3E+02
4.6E-02	I	1.3E-05	C							1	0.1		1.4E+09		Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	1.5E+01	5.4E+01	2.9E+05	1.2E+01				
1.6E+00	C	4.6E-04	C			2.0E-02	C			1	0.1		1.4E+09		Methylenebisbenzenamine, 4,4'-	101-77-9	4.3E-01	1.5E+00	8.3E+03	3.4E-01			2.8E+07	2.8E+07
						6.0E-04	I			1	0.1		1.4E+09		Methylenediphenyl Diisocyanate	101-68-8							8.5E+05	8.5E+05
				7.0E-02	H			V		1		5.0E+02	1.4E+09	1.3E+04	Methylstyrene, Alpha-	98-83-9					5.5E+03			5.5E+03
				1.5E-01	I					1	0.1		1.4E+09		Metolachlor	51218-45-2					1.2E+04	4.9E+04		9.5E+03
				2.5E-02	I					1	0.1		1.4E+09		Metribuzin	21087-64-9					2.0E+03	8.2E+03		1.6E+03
				2.5E-01	I					1	0.1		1.4E+09		Metsulfuron-methyl	74223-64-6					2.0E+04	8.2E+04		1.6E+04
				3.0E+00	P			V		1		3.4E-01	1.4E+09	1.4E+03	Mineral oils	8012-95-1					2.3E+05			2.3E+05
1.8E+01	C	5.1E-03	C	2.0E-04	I			V		1			1.4E+09	8.6E+05	Mirex	2385-85-5	3.9E-02		4.7E-01	3.6E-02	1.6E+01			1.6E+01
				2.0E-03	I					1	0.1		1.4E+09		Molinate	2212-67-1					1.6E+02	6.6E+02		1.3E+02
				5.0E-03	I					1			1.4E+09		Molybdenum	7439-98-7					3.9E+02			3.9E+02
				1.0E-01	I					1			1.4E+09		Monochloramine	10599-90-3					7.8E+03			7.8E+03
				2.0E-03	P					1	0.1		1.4E+09		Monomethylaniline	100-61-8					1.6E+02	6.6E+02		1.3E+02
				2.5E-02	I					1	0.1		1.4E+09		Myclobutanil	88671-89-0					2.0E+03	8.2E+03		1.6E+03
				3.0E-04	X					1	0.1		1.4E+09		N,N'-Diphenyl-1,4-benzenediamine	74-31-7					2.3E+01	9.9E+01		1.9E+01
				2.0E-03	I			V		1			1.4E+09	5.7E+04	Naled	300-76-5					1.6E+02			1.6E+02
				3.0E-02	X	1.0E-01	P	V		1			1.4E+09		Naphtha, High Flash Aromatic (HFAN)	64742-95-6					2.3E+03		1.4E+08	2.3E+03
1.8E+00	C	0.0E+00	C							1	0.1		1.4E+09		Naphthylamine, 2-	91-59-8	3.9E-01	1.4E+00		3.0E-01				
				1.0E-01	I					1	0.1		1.4E+09		Napropamide	15299-99-7					7.8E+03	3.3E+04		6.3E+03
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		1.4E+09		Nickel Acetate	373-02-4			1.5E+04	1.5E+04	8.6E+02	3.6E+03	2.0E+04	6.7E+02
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		1.4E+09		Nickel Carbonate	3333-67-3			1.5E+04	1.5E+04	8.6E+02	3.6E+03	2.0E+04	6.7E+02
		2.6E-04	C	1.1E-02	C	1.4E-05	C	V		1			1.4E+09		Nickel Carbonyl	13463-39-3			1.5E+04	1.5E+04	8.6E+02		2.0E+04	8.2E+02
		2.6E-04	C	1.1E-02	C	1.4E-05	C			0.04			1.4E+09		Nickel Hydroxide	12054-48-7			1.5E+04	1.5E+04	8.6E+02		2.0E+04	8.2E+02
		2.6E-04	C	1.1E-02	C	2.0E-05	C			0.04			1.4E+09		Nickel Oxide	1313-99-1			1.5E+04	1.5E+04	8.6E+02		2.8E+04	8.4E+02
		2.4E-04	I	1.1E-02	C	1.4E-05	C			0.04			1.4E+09		Nickel Refinery Dust	NA			1.6E+04	1.6E+04	8.6E+02		2.0E+04	8.2E+02
		2.6E-04	C	2.0E-02	I	9.0E-05	A			0.04			1.4E+09		Nickel Soluble Salts	7440-02-0			1.5E+04	1.5E+04	1.6E+03		1.3E+05	1.5E+03
1.7E+00	C	4.8E-04	I	1.1E-02	C	1.4E-05	C			0.04			1.4E+09		Nickel Subsulfide	12035-72-2	4.1E-01		8.0E+03	4.1E-01	8.6E+02		2.0E+04	8.2E+02
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		1.4E+09		Nickelocene	1271-28-9			1.5E+04	1.5E+04	8.6E+02	3.6E+03	2.0E+04	6.7E+02
				1.6E+00	I					1			1.4E+09		Nitrate	14797-55-8					1.3E+05			1.3E+05
										1			1.4E+09		Nitrate + Nitrite (as N)	NA								
				1.0E-01	I					1			1.4E+09		Nitrite	14797-65-0					7.8E+03			7.8E+03
				1.0E-02	X	5.0E-05	X			1	0.1		1.4E+09		Nitroaniline, 2-	88-74-4					7.8E+02	3.3E+03	7.1E+04	6.3E+02
2.0E-02	P			4.0E-03	P	6.0E-03	P			1	0.1		1.4E+09		Nitroaniline, 4-	100-01-6	3.5E+01	1.2E+02		2.7E+01	3.1E+02	1.3E+03	8.5E+06	2.5E+02
		4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1		3.1E+03	1.4E+09	7.3E+04	Nitrobenzene	98-95-3			5.1E+00	5.1E+00	1.6E+02		6.9E+02	1.3E+02
				3.0E+03	P					1	0.1		1.4E+09		Nitrocellulose	9004-70-0					2.3E+08	9.9E+08		1.9E+08
				7.0E-02	H					1	0.1		1.4E+09		Nitrofurantoin	67-20-9					5.5E+03	2.3E+04		4.4E+03
1.3E+00	C	3.7E-04	C							1	0.1		1.4E+09		Nitrofurazone	59-87-0	5.3E-01	1.9E+00	1.0E+04	4.2E-01				
1.7E-02	P			1.0E-04	P					1	0.1		1.4E+09		Nitroglycerin	55-63-0	4.1E+01	1.5E+02		3.2E+01	7.8E+00	3.3E+01		6.3E+00
				1.0E-01	I					1	0.1		1.4E+09		Nitroguanidine	556-88-7					7.8E+03	3.3E+04		6.3E+03
		8.8E-06	P			5.0E-03	P	V		1		1.8E+04	1.4E+09	1.7E+04	Nitromethane	75-52-5			5.4E+00	5.4E+00			8.8E+01	8.8E+01
		2.7E-03	H			2.0E-02	I	V		1		4.9E+03	1.4E+09	1.3E+04	Nitropropane, 2-	79-46-9			1.4E-02	1.4E-02			2.7E+02	2.7E+02
2.7E+01	C	7.7E-03	C						M	1	0.1		1.4E+09		Nitroso-N-ethylurea, N-	759-73-9	5.7E-03	2.2E-02	1.8E+02	4.5E-03				
1.2E+02	C	3.4E-02	C						M	1	0.1		1.4E+09		Nitroso-N-methylurea, N-	684-93-5	1.3E-03	5.0E-03	4.1E+01	1.0E-03				
5.4E+00	I	1.6E-03	I					V		1			1.4E+09	2.4E+05	Nitroso-di-N-butylamine, N-	924-16-3	1.3E-01		4.3E-01	9.9E-02				
7.0E+00	I	2.0E-03	C							1	0.1		1.4E+09		Nitroso-di-N-propylamine, N-	621-64-7	9.9E-02	3.5E-01	1.9E+03	7.8E-02				
2.8E+00	I	8.0E-04	C							1	0.1		1.4E+09		Nitrosodiethanolamine, N-	1116-54-7	2.5E-01	8.8E-01	4.8E+03	1.9E-01				
1.5E+02	I	4.3E-02	I						M	1	0.1		1.4E+09		Nitrosodiethylamine, N-	55-18-5	1.0E-03	4.0E-03	3.2E+01	8.1E-04				
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	V	M	1		2.4E+05	1.4E+09	8.2E+04	Nitrosodimethylamine, N-	62-75-9	3.0E-03		6.0E-03	2.0E-03	6.3E-01		3.4E+00	5.3E-01
4.9E-03	I	2.6E-06	C							1	0.1		1.4E+09		Nitrosodiphenylamine, N-	86-30-6	1.4E+02	5.0E+02	1.5E+06	1.1E+02				
2.2E+01	I	6.3E-03	C					V		1		1.1E+05	1.4E+09	1.2E+05	Nitrosomethylethylamine, N-	10595-95-6	3.2E-02		5.4E-02	2.0E-02				
6.7E+00	C	1.9E-03	C							1	0.1		1.4E+09		Nitrosomorpholine [N-]	59-89-2	1.0E-01	3.7E-01	2.0E+03	8.1E-02				
9.4E+00	C	2.7E-03	C							1	0.1		1.4E+09		Nitrosopiperidine [N-]	100-75-4	7.4E-02	2.6E-01	1.4E+03	5.8E-02				
2.1E+00	I	6.1E-04	I							1	0.1		1.4E+09		Nitrosopyrrolidine, N-	930-55-2	3.3E-01	1.2E+00	6.3E+03	2.6E-01				
				1.0E-04	X					1	0.1		1.4E+09		Nitrotoluene, m-	99-08-1					7.8E+00	3.3E+01		6.3E+00
2.2E-01	P			9.0E-04	P			V		1		1.5E+03	1.4E+09	1.4E+05	Nitrotoluene, o-	88-72-2	3.2E+00			3.2E+00	7.0E+01			7.0E+01
1.6E-02	P			4.0E-03	P					1	0.1		1.4E+09		Nitrotoluene, p-	99-99-0	4.3E+01	1.5E+02		3.4E+01	3.1E+02	1.3E+03		2.5E+02
				3.0E-04	X	2.0E-02	P	V		1		6.9E+00	1.4E+09	1.0E+03	Nonane, n-	111-84-2					2.3E+01		2.2E+01	1.1E+01
				4.0E-02	I					1	0.1		1.4E+09		Norflurazon	27314-13-2					3.1E+03	1.3E+04		2.5E+03
				3.0E-03	I					1	0.1		1.4E+09		Octabromodiphenyl Ether	32536-52-0					2.3E+02	9.9E+02		1.9E+02
				5.0E-02	I					1	0.006		1.4E+09		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0					3.9E+03	2.7E+05		3.9E+03

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				2.0E-03	H					1	0.1		1.4E+09		Octamethylpyrophosphoramide	152-16-9					1.6E+02	6.6E+02		1.3E+02
				5.0E-02	I					1	0.1		1.4E+09		Oryzalin	19044-88-3					3.9E+03	1.6E+04		3.2E+03
				5.0E-03	I					1	0.1		1.4E+09		Oxadiazon	19666-30-9					3.9E+02	1.6E+03		3.2E+02
				2.5E-02	I					1	0.1		1.4E+09		Oxamyl	23135-22-0					2.0E+03	8.2E+03		1.6E+03
				3.0E-03	I					1	0.1		1.4E+09		Oxyfluorfen	42874-03-3					2.3E+02	9.9E+02		1.9E+02
				1.3E-02	I					1	0.1		1.4E+09		Paclobutrazol	76738-62-0					1.0E+03	4.3E+03		8.2E+02
				4.5E-03	I					1	0.1		1.4E+09		Paraquat Dichloride	1910-42-5					3.5E+02	1.5E+03		2.8E+02
				6.0E-03	H					1	0.1		1.4E+09		Parathion	56-38-2					4.7E+02	2.0E+03		3.8E+02
				5.0E-02	H			V		1			1.4E+09	4.5E+04	Pebulate	1114-71-2					3.9E+03			3.9E+03
				4.0E-02	I					1	0.1		1.4E+09		Pendimethalin	40487-42-1					3.1E+03	1.3E+04		2.5E+03
				2.0E-03	I			V		1		3.1E-01	1.4E+09	5.1E+05	Pentabromodiphenyl Ether	32534-81-9					1.6E+02			1.6E+02
				1.0E-04	I					1	0.1		1.4E+09		Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9					7.8E+00	3.3E+01		6.3E+00
				8.0E-04	I			V		1			1.4E+09	8.1E+04	Pentachlorobenzene	608-93-5					6.3E+01			6.3E+01
9.0E-02	P							V		1		4.6E+02	1.4E+09	9.7E+03	Pentachloroethane	76-01-7	7.7E+00			7.7E+00				
2.6E-01	H			3.0E-03	I			V		1			1.4E+09	4.3E+05	Pentachloronitrobenzene	82-68-8	2.7E+00			2.7E+00	2.3E+02			2.3E+02
4.0E-01	I	5.1E-06	C	5.0E-03	I					1	0.25		1.4E+09		Pentachlorophenol	87-86-5	1.7E+00	2.5E+00	7.5E+05	1.0E+00	3.9E+02	6.6E+02		2.5E+02
4.0E-03	X			2.0E-03	P					1	0.1		1.4E+09		Pentaerythritol tetranitrate (PETN)	78-11-5	1.7E+02	6.2E+02		1.4E+02	1.6E+02	6.6E+02		1.3E+02
						1.0E+00	P	V		1		3.9E+02	1.4E+09	7.8E+02	Pentane, n-	109-66-0							8.1E+02	8.1E+02
															Perchlorates									
				7.0E-04	I					1			1.4E+09		~Ammonium Perchlorate	7790-98-9					5.5E+01			5.5E+01
				7.0E-04	I					1			1.4E+09		~Lithium Perchlorate	7791-03-9					5.5E+01			5.5E+01
				7.0E-04	I					1			1.4E+09		~Perchlorate and Perchlorate Salts	14797-73-0					5.5E+01			5.5E+01
				7.0E-04	I					1			1.4E+09		~Potassium Perchlorate	7778-74-7					5.5E+01			5.5E+01
				7.0E-04	I					1			1.4E+09		~Sodium Perchlorate	7601-89-0					5.5E+01			5.5E+01
				2.0E-02	P			V		1			1.4E+09	1.3E+05	Perfluorobutane Sulfonate	375-73-5					1.6E+03			1.6E+03
				5.0E-02	I					1	0.1		1.4E+09		Permethrin	52645-53-1					3.9E+03	1.6E+04		3.2E+03
2.2E-03	C	6.3E-07	C							1	0.1		1.4E+09		Phenacetin	62-44-2	3.2E+02	1.1E+03	6.1E+06	2.5E+02				
				2.5E-01	I					1	0.1		1.4E+09		Phenmedipham	13684-63-4					2.0E+04	8.2E+04		1.6E+04
				3.0E-01	I	2.0E-01	C			1	0.1		1.4E+09		Phenol	108-95-2					2.3E+04	9.9E+04	2.8E+08	1.9E+04
				5.0E-04	X					1	0.1		1.4E+09		Phenothiazine	92-84-2					3.9E+01	1.6E+02		3.2E+01
				6.0E-03	I					1	0.1		1.4E+09		Phenylenediamine, m-	108-45-2					4.7E+02	2.0E+03		3.8E+02
4.7E-02	H									1	0.1		1.4E+09		Phenylenediamine, o-	95-54-5	1.5E+01	5.3E+01		1.2E+01				
				1.9E-01	H					1	0.1		1.4E+09		Phenylenediamine, p-	106-50-3					1.5E+04	6.3E+04		1.2E+04
1.9E-03	H									1	0.1		1.4E+09		Phenylphenol, 2-	90-43-7	3.6E+02	1.3E+03		2.8E+02				
				2.0E-04	H					1	0.1		1.4E+09		Phorate	298-02-2					1.6E+01	6.6E+01		1.3E+01
						3.0E-04	I	V		1		1.6E+03	1.4E+09	9.8E+02	Phosgene	75-44-5							3.1E-01	3.1E-01
				2.0E-02	I					1	0.1		1.4E+09		Phosmet	732-11-6					1.6E+03	6.6E+03		1.3E+03
															Phosphates, Inorganic									
				4.9E+01	P					1			1.4E+09		~Aluminum metaphosphate	13776-88-0					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Ammonium polyphosphate	68333-79-9					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Calcium pyrophosphate	7790-76-3					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Diammonium phosphate	7783-28-0					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Dicalcium phosphate	7757-93-9					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Dimagnesium phosphate	7782-75-4					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Dipotassium phosphate	7758-11-4					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Disodium phosphate	7558-79-4					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Monoaluminum phosphate	13530-50-2					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Monoammonium phosphate	7722-76-1					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Monocalcium phosphate	7758-23-8					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Monomagnesium phosphate	7757-86-0					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Monopotassium phosphate	7778-77-0					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Monosodium phosphate	7558-80-7					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Polyphosphoric acid	8017-16-1					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Potassium tripolyphosphate	13845-36-8					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium acid pyrophosphate	7758-16-9					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium aluminum phosphate (acidic)	7785-88-8					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium aluminum phosphate (anhydrous)	10279-59-1					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium aluminum phosphate (tetrahydrate)	10305-76-7					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium hexametaphosphate	10124-56-8					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium polyphosphate	68915-31-1					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium trimetaphosphate	7785-84-4					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Sodium tripolyphosphate	7758-29-4					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Tetrapotassium phosphate	7320-34-5					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Tetrasodium pyrophosphate	7722-88-5					3.8E+06			3.8E+06

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				4.9E+01	P					1			1.4E+09		~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Tricalcium phosphate	7758-87-4					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Trimagnesium phosphate	7757-87-1					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Tripotassium phosphate	7778-53-2					3.8E+06			3.8E+06
				4.9E+01	P					1			1.4E+09		~Trisodium phosphate	7601-54-9					3.8E+06			3.8E+06
				3.0E-04	I	3.0E-04	I	V		1			1.4E+09		Phosphine	7803-51-2					2.3E+01		4.3E+05	2.3E+01
				4.9E+01	P	1.0E-02	I			1			1.4E+09		Phosphoric Acid	7664-38-2					3.8E+06		1.4E+07	3.0E+06
				2.0E-05	I			V		1			1.4E+09	6.9E+03	Phosphorus, White	7723-14-0					1.6E+00			1.6E+00
															Phthalates									
1.4E-02	I	2.4E-06	C	2.0E-02	I					1	0.1		1.4E+09		~Bis(2-ethylhexyl)phthalate	117-81-7	5.0E+01	1.8E+02	1.6E+06	3.9E+01	1.6E+03	6.6E+03		1.3E+03
				1.0E+00	I					1	0.1		1.4E+09		~Butylphthalyl Butylglycolate	85-70-1					7.8E+04	3.3E+05		6.3E+04
				1.0E-01	I					1	0.1		1.4E+09		~Dibutyl Phthalate	84-74-2					7.8E+03	3.3E+04		6.3E+03
				8.0E-01	I					1	0.1		1.4E+09		~Diethyl Phthalate	84-66-2					6.3E+04	2.6E+05		5.1E+04
				1.0E-01	I			V		1			1.4E+09	2.1E+04	~Dimethylterephthalate	120-61-6					7.8E+03			7.8E+03
				1.0E-02	P					1	0.1		1.4E+09		~Octyl Phthalate, di-N-	117-84-0					7.8E+02	3.3E+03		6.3E+02
				1.0E+00	H					1	0.1		1.4E+09		~Phthalic Acid, P-	100-21-0					7.8E+04	3.3E+05		6.3E+04
				2.0E+00	I	2.0E-02	C			1	0.1		1.4E+09		~Phthalic Anhydride	85-44-9					1.6E+05	6.6E+05	2.8E+07	1.3E+05
				7.0E-02	I					1	0.1		1.4E+09		Picloram	1918-02-1					5.5E+03	2.3E+04		4.4E+03
				1.0E-04	X					1	0.1		1.4E+09		Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3					7.8E+00	3.3E+01		6.3E+00
				9.0E-04	X					1	0.1		1.4E+09		Picric Acid (2,4,6-Trinitrophenol)	88-89-1					7.0E+01	3.0E+02		5.7E+01
				1.0E-02	I					1	0.1		1.4E+09		Pirimiphos, Methyl	29232-93-7					7.8E+02	3.3E+03		6.3E+02
3.0E+01	C	8.6E-03	C	7.0E-06	H					1	0.1		1.4E+09		Polybrominated Biphenyls	59536-65-1	2.3E-02	8.2E-02	4.4E+02	1.8E-02	5.5E-01	2.3E+00		4.4E-01
															Polychlorinated Biphenyls (PCBs)									
7.0E-02	S	2.0E-05	S	7.0E-05	I			V		1	0.14		1.4E+09	7.1E+05	~Aroclor 1016	12674-11-2	9.9E+00	2.5E+01	1.0E+02	6.7E+00	5.5E+00	1.6E+01		4.1E+00
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	2.0E+05	~Aroclor 1221	11104-28-2	3.5E-01	8.8E-01	1.0E+00	2.0E-01				
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	1.1E+05	~Aroclor 1232	11141-16-5	3.5E-01	8.8E-01	5.5E-01	1.7E-01				
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	5.9E+05	~Aroclor 1242	53469-21-9	3.5E-01	8.8E-01	2.9E+00	2.3E-01				
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	6.3E+05	~Aroclor 1248	12672-29-6	3.5E-01	8.8E-01	3.1E+00	2.3E-01				
2.0E+00	S	5.7E-04	S	2.0E-05	I			V		1	0.14		1.4E+09	8.4E+05	~Aroclor 1254	11097-69-1	3.5E-01	8.8E-01	4.1E+00	2.4E-01	1.6E+00	4.7E+00		1.2E+00
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	1.3E+06	~Aroclor 1260	11096-82-5	3.5E-01	8.8E-01	6.5E+00	2.4E-01				
				6.0E-04	X			V		1	0.14		1.4E+09	9.6E+05	~Aroclor 5460	11126-42-4					4.7E+01	1.4E+02		3.5E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	3.3E+06	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	1.8E-01	4.5E-01	8.2E+00	1.3E-01	1.8E+00	5.5E+00	4.6E+03	1.4E+00
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	2.2E+06	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	1.8E-01	4.5E-01	5.4E+00	1.2E-01	1.8E+00	5.5E+00	3.1E+03	1.4E+00
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.5E+06	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	1.8E-01	4.5E-01	3.6E+00	1.2E-01	1.8E+00	5.5E+00	2.0E+03	1.4E+00
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.5E+06	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	1.8E-01	4.5E-01	3.8E+00	1.2E-01	1.8E+00	5.5E+00	2.1E+03	1.4E+00
3.9E+03	E	1.1E+00	E	2.3E-08	E	1.3E-06	E	V		1	0.14		1.4E+09	2.2E+06	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	1.8E-04	4.5E-04	5.4E-03	1.2E-04	1.8E-03	5.5E-03	3.1E+00	1.4E-03
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.0E+06	~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	1.8E-01	4.5E-01	2.5E+00	1.2E-01	1.8E+00	5.5E+00	1.4E+03	1.4E+00
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	8.3E+05	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	1.8E-01	4.5E-01	2.0E+00	1.2E-01	1.8E+00	5.5E+00	1.2E+03	1.4E+00
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	8.5E+05	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	1.8E-01	4.5E-01	2.1E+00	1.2E-01	1.8E+00	5.5E+00	1.2E+03	1.4E+00
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.5E+06	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	1.8E-01	4.5E-01	3.6E+00	1.2E-01	1.8E+00	5.5E+00	2.0E+03	1.4E+00
1.3E+04	E	3.8E+00	E	7.0E-09	E	4.0E-07	E	V		1	0.14		1.4E+09	1.0E+06	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	5.3E-05	1.4E-04	7.5E-04	3.7E-05	5.5E-04	1.6E-03	4.3E-01	4.1E-04
2.0E+00	I	5.7E-04	I					V		1	0.14		1.4E+09	5.3E+05	~Polychlorinated Biphenyls (high risk)	1336-36-3	3.5E-01	8.8E-01	2.6E+00	2.3E-01				
4.0E-01	I	1.0E-04	I					V		1	0.14				~Polychlorinated Biphenyls (low risk)	1336-36-3								
7.0E-02	I	2.0E-05	I					V		1	0.14				~Polychlorinated Biphenyls (lowest risk)	1336-36-3								
1.3E+01	E	3.8E-03	E	7.0E-06	E	4.0E-04	E			1	0.14		1.4E+09		~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	5.3E-02	1.4E-01	1.0E+03	3.8E-02	5.5E-01	1.6E+00	5.7E+05	4.1E-01
3.9E+01	E	1.1E-02	E	2.3E-06	E	1.3E-04	E	V		1	0.14		1.4E+09	7.3E+05	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	1.8E-02	4.5E-02	1.8E-01	1.2E-02	1.8E-01	5.5E-01	1.0E+02	1.4E-01
						6.0E-04	I			1	0.1		1.4E+09		Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9							8.5E+05	8.5E+05
															Polynuclear Aromatic Hydrocarbons (PAHs)									
				6.0E-02	I			V		1	0.13		1.4E+09	1.4E+05	~Acenaphthene	83-32-9					4.7E+03	1.5E+04		3.6E+03
				3.0E-01	I			V		1	0.13		1.4E+09	5.2E+05	~Anthracene	120-12-7					2.3E+04	7.6E+04		1.8E+04
7.3E-01	E	1.1E-04	C					V	M	1	0.13		1.4E+09	4.4E+06	~Benz[a]anthracene	56-55-3	2.1E-01	6.3E-01	4.1E+01	1.6E-01				
1.2E+00	C	1.1E-04	C							1	0.13		1.4E+09		~Benzo(j)fluoranthene	205-82-3	5.8E-01	1.6E+00	3.5E+04	4.2E-01				
7.3E+00	I	1.1E-03	C						M	1	0.13		1.4E+09		~Benzo[a]pyrene	50-32-8	2.1E-02	6.3E-02	1.3E+03	1.6E-02				
7.3E-01	E	1.1E-04	C						M	1	0.13		1.4E+09		~Benzo[b]fluoranthene	205-99-2	2.1E-01	6.3E-01	1.3E+04	1.6E-01				
7.3E-02	E	1.1E-04	C						M	1	0.13		1.4E+09		~Benzo[k]fluoranthene	207-08-9	2.1E+00	6.3E+00	1.3E+04	1.6E+00				
				8.0E-02	I			V		1	0.13		1.4E+09	8.0E+04	~Chloronaphthalene, Beta-	91-58-7					6.3E+03	2.0E+04		4.8E+03
7.3E-03	E	1.1E-05	C						M	1	0.13		1.4E+09		~Chrysene	218-01-9	2.1E+01	6.3E+01	1.3E+05	1.6E+01				
7.3E+00	E	1.2E-03	C						M	1	0.13		1.4E+09		~Dibenz[a,h]anthracene	53-70-3	2.1E-02	6.3E-02	1.1E+03	1.6E-02				
1.2E+01	C	1.1E-03	C							1	0.13		1.4E+09		~Dibenzo(a,e)pyrene	192-65-4	5.8E-02	1.6E-01	3.5E+03	4.2E-02				
2.5E+02	C	7.1E-02	C						M	1	0.13		1.4E+09		~Dimethylbenz(a)anthracene, 7,12-	57-97-6	6.1E-04	1.8E-03	1.9E+01	4.6E-04				
				4.0E-02	I					1	0.13		1.4E+09		~Fluoranthene	206-44-0					3.1E+03	1.0E+04		2.4E+03
				4.0E-02	I			V		1	0.13		1.4E+09	2.8E+05	~Fluorene	86-73-7					3.1E+03	1.0E+04		2.4E+03
7.3E-01	E	1.1E-04	C						M	1	0.13		1.4E+09		~Indeno[1,2,3-cd]pyrene	193-39-5	2.1E-01	6.3E-01	1.3E+04	1.6E-01				
2.9E-02	P			7.0E-02	A			V		1	0.13	3.9E+02	1.4E+09	5.9E+04	~Methylnaphthalene, 1-	90-12-0	2.4E+01	6.6E+01		1.8E+01	5.5E+03	1.8E+04		4.2E+03

R=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				4.0E-03	I			V		1	0.13		1.4E+09	5.8E+04	~Methylnaphthalene, 2-	91-57-6					3.1E+02	1.0E+03		2.4E+02
		3.4E-05	C	2.0E-02	I	3.0E-03	I	V		1	0.13		1.4E+09	4.6E+04	~Naphthalene	91-20-3			3.8E+00	3.8E+00	1.6E+03	5.1E+03	1.4E+02	1.3E+02
1.2E+00	C	1.1E-04	C							1	0.13		1.4E+09		~Nitropyrene, 4-	57835-92-4	5.8E-01	1.6E+00	3.5E+04	4.2E-01				
				3.0E-02	I			V		1	0.13		1.4E+09	2.4E+06	~Pyrene	129-00-0					2.3E+03	7.6E+03		1.8E+03
				2.0E-02	P					1	0.1		1.4E+09		Potassium Perfluorobutane Sulfonate	29420-49-3					1.6E+03	6.6E+03		1.3E+03
1.5E-01	I			9.0E-03	I					1	0.1		1.4E+09		Prochloraz	67747-09-5	4.6E+00	1.6E+01		3.6E+00	7.0E+02	3.0E+03		5.7E+02
				6.0E-03	H			V		1			1.4E+09	4.2E+05	Profluralin	26399-36-0					4.7E+02			4.7E+02
				1.5E-02	I					1	0.1		1.4E+09		Prometon	1610-18-0					1.2E+03	4.9E+03		9.5E+02
				4.0E-03	I					1	0.1		1.4E+09		Prometryn	7287-19-6					3.1E+02	1.3E+03		2.5E+02
				1.3E-02	I					1	0.1		1.4E+09		Propachlor	1918-16-7					1.0E+03	4.3E+03		8.2E+02
				4.0E-03	I					1	0.1		1.4E+09		Propanediol, 1,2-	114-26-1					3.1E+02	1.3E+03		2.5E+02
				5.0E-03	I					1	0.1		1.4E+09		Propanil	709-98-8					3.9E+02	1.6E+03		3.2E+02
				2.0E-02	I					1	0.1		1.4E+09		Propargite	2312-35-8					1.6E+03	6.6E+03		1.3E+03
				2.0E-03	I			V		1		1.1E+05	1.4E+09	6.3E+04	Propargyl Alcohol	107-19-7					1.6E+02			1.6E+02
				2.0E-02	I					1	0.1		1.4E+09		Propazine	139-40-2					1.6E+03	6.6E+03		1.3E+03
				2.0E-02	I					1	0.1		1.4E+09		Propham	122-42-9					1.6E+03	6.6E+03		1.3E+03
				1.3E-02	I					1	0.1		1.4E+09		Propiconazole	60207-90-1					1.0E+03	4.3E+03		8.2E+02
						8.0E-03	I	V		1		3.3E+04	1.4E+09	8.9E+03	Propionaldehyde	123-38-6							7.5E+01	7.5E+01
				1.0E-01	X	1.0E+00	X	V		1		2.6E+02	1.4E+09	7.0E+03	Propyl benzene	103-65-1					7.8E+03		7.3E+03	3.8E+03
						3.0E+00	C	V		1		3.5E+02	1.4E+09	7.0E+02	Propylene	115-07-1							2.2E+03	2.2E+03
				2.0E+01	P					1	0.1		1.4E+09		Propylene Glycol	57-55-6					1.6E+06	6.6E+06		1.3E+06
						2.7E-04	A			1	0.1		1.4E+09		Propylene Glycol Dinitrate	6423-43-4							3.9E+05	3.9E+05
				7.0E-01	H	2.0E+00	I	V		1		1.1E+05	1.4E+09	7.8E+04	Propylene Glycol Monomethyl Ether	107-98-2					5.5E+04		1.6E+05	4.1E+04
2.4E-01	I	3.7E-06	I			3.0E-02	I	V		1		7.8E+04	1.4E+09	1.0E+04	Propylene Oxide	75-56-9	2.9E+00		7.8E+00	2.1E+00			3.2E+02	3.2E+02
				7.5E-02	I					1	0.1		1.4E+09		Propyzamide	23950-58-5					5.9E+03	2.5E+04		4.7E+03
				1.0E-03	I			V		1		5.3E+05	1.4E+09	5.5E+04	Pyridine	110-86-1					7.8E+01			7.8E+01
				5.0E-04	I					1	0.1		1.4E+09		Quinalphos	13593-03-8					3.9E+01	1.6E+02		3.2E+01
3.0E+00	I									1	0.1		1.4E+09		Quinoline	91-22-5	2.3E-01	8.2E-01		1.8E-01				
				9.0E-03	I					1	0.1		1.4E+09		Quizalofop-ethyl	76578-14-8					7.0E+02	3.0E+03		5.7E+02
						3.0E-02	A			1			1.4E+09		Refractory Ceramic Fibers	NA							4.3E+07	4.3E+07
				3.0E-02	I					1	0.1		1.4E+09		Resmethrin	10453-86-8					2.3E+03	9.9E+03		1.9E+03
				5.0E-02	H			V		1			1.4E+09	4.7E+05	Ronnel	299-84-3					3.9E+03			3.9E+03
				4.0E-03	I					1	0.1		1.4E+09		Rotenone	83-79-4					3.1E+02	1.3E+03		2.5E+02
2.2E-01	C	6.3E-05	C						M	1	0.1		1.4E+09		Safrole	94-59-7	7.0E-01	2.7E+00	2.2E+04	5.5E-01				
				5.0E-03	I					1			1.4E+09		Selenious Acid	7783-00-8					3.9E+02			3.9E+02
				5.0E-03	I	2.0E-02	C			1			1.4E+09		Selenium	7782-49-2					3.9E+02		2.8E+07	3.9E+02
				5.0E-03	C	2.0E-02	C			1			1.4E+09		Selenium Sulfide	7446-34-6					3.9E+02		2.8E+07	3.9E+02
				9.0E-02	I					1	0.1		1.4E+09		Sethoxydim	74051-80-2					7.0E+03	3.0E+04		5.7E+03
						3.0E-03	C			1			1.4E+09		Silica (crystalline, respirable)	7631-86-9							4.3E+06	4.3E+06
				5.0E-03	I					0.04			1.4E+09		Silver	7440-22-4					3.9E+02			3.9E+02
1.2E-01	H			5.0E-03	I					1	0.1		1.4E+09		Simazine	122-34-9	5.8E+00	2.1E+01		4.5E+00	3.9E+02	1.6E+03		3.2E+02
				1.3E-02	I					1	0.1		1.4E+09		Sodium Acifluorfen	62476-59-9					1.0E+03	4.3E+03		8.2E+02
				4.0E-03	I					1			1.4E+09		Sodium Azide	26628-22-8					3.1E+02			3.1E+02
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Sodium Dichromate	10588-01-9	3.1E-01		9.2E+00	3.0E-01	1.6E+03		2.8E+05	1.6E+03
2.7E-01	H			3.0E-02	I					1	0.1		1.4E+09		Sodium Diethyldithiocarbamate	148-18-5	2.6E+00	9.2E+00		2.0E+00	2.3E+03	9.9E+03		1.9E+03
				5.0E-02	A	1.3E-02	C			1			1.4E+09		Sodium Fluoride	7681-49-4					3.9E+03		1.8E+07	3.9E+03
				2.0E-05	I					1	0.1		1.4E+09		Sodium Fluoroacetate	62-74-8					1.6E+00	6.6E+00		1.3E+00
				1.0E-03	H					1			1.4E+09		Sodium Metavanadate	13718-26-8					7.8E+01			7.8E+01
				8.0E-04	P					1			1.4E+09		Sodium Tungstate	13472-45-2					6.3E+01			6.3E+01
				8.0E-04	P					1			1.4E+09		Sodium Tungstate Dihydrate	10213-10-2					6.3E+01			6.3E+01
2.4E-02	H			3.0E-02	I					1	0.1		1.4E+09		Stirofos (Tetrachlorovinphos)	961-11-5	2.9E+01	1.0E+02		2.3E+01	2.3E+03	9.9E+03		1.9E+03
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Strontium Chromate	7789-06-2	3.1E-01		9.2E+00	3.0E-01	1.6E+03		2.8E+05	1.6E+03
				6.0E-01	I					1			1.4E+09		Strontium, Stable	7440-24-6					4.7E+04			4.7E+04
				3.0E-04	I					1	0.1		1.4E+09		Strychnine	57-24-9					2.3E+01	9.9E+01		1.9E+01
				2.0E-01	I	1.0E+00	I	V		1		8.7E+02	1.4E+09	9.4E+03	Styrene	100-42-5					1.6E+04		9.7E+03	6.0E+03
				3.0E-03	P					1	0.1		1.4E+09		Styrene-Acrylonitrile (SAN) Trimer	NA					2.3E+02	9.9E+02		1.9E+02
				1.0E-03	P	2.0E-03	X			1	0.1		1.4E+09		Sulfolane	126-33-0					7.8E+01	3.3E+02	2.8E+06	6.3E+01
				8.0E-04	P					1	0.1		1.4E+09		Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9					6.3E+01	2.6E+02		5.1E+01
						1.0E-03	C	V		1			1.4E+09		Sulfur Trioxide	7446-11-9							1.4E+06	1.4E+06
						1.0E-03	C			1			1.4E+09		Sulfuric Acid	7664-93-9							1.4E+06	1.4E+06
2.5E-02	I	7.1E-06	I	5.0E-02	H					1	0.1		1.4E+09		Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	2.8E+01	9.9E+01	5.4E+05	2.2E+01	3.9E+03	1.6E+04		3.2E+03
				3.0E-02	H					1	0.1		1.4E+09		TCMTB	21564-17-0					2.3E+03	9.9E+03		1.9E+03
				7.0E-02	I					1	0.1		1.4E+09		Tebuthiuron	34014-18-1					5.5E+03	2.3E+04		4.4E+03
				2.0E-02	H					1	0.1		1.4E+09		Temephos	3383-96-8					1.6E+03	6.6E+03		1.3E+03

R=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				1.3E-02	I					1	0.1		1.4E+09		Terbacil	5902-51-2					1.0E+03	4.3E+03		8.2E+02
				2.5E-05	H			V		1		3.1E+01	1.4E+09	2.6E+05	Terbufos	13071-79-9					2.0E+00			2.0E+00
				1.0E-03	I					1	0.1		1.4E+09		Terbutryn	886-50-0					7.8E+01	3.3E+02		6.3E+01
				1.0E-04	I					1	0.1		1.4E+09		Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1					7.8E+00	3.3E+01		6.3E+00
				3.0E-04	I			V		1			1.4E+09	5.1E+04	Tetrachlorobenzene, 1,2,4,5-	95-94-3					2.3E+01			2.3E+01
2.6E-02	I	7.4E-06	I	3.0E-02	I			V		1		6.8E+02	1.4E+09	5.7E+03	Tetrachloroethane, 1,1,1,2-	630-20-6	2.7E+01		2.2E+00	2.0E+00	2.3E+03			2.3E+03
2.0E-01	I	5.8E-05	C	2.0E-02	I			V		1		1.9E+03	1.4E+09	1.5E+04	Tetrachloroethane, 1,1,2,2-	79-34-5	3.5E+00		7.3E-01	6.0E-01	1.6E+03			1.6E+03
2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		1		1.7E+02	1.4E+09	2.4E+03	Tetrachloroethylene	127-18-4	3.3E+02		2.5E+01	2.4E+01	4.7E+02		9.8E+01	8.1E+01
				3.0E-02	I					1	0.1		1.4E+09		Tetrachlorophenol, 2,3,4,6-	58-90-2					2.3E+03	9.9E+03		1.9E+03
2.0E+01	H							V		1			1.4E+09	1.1E+05	Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	3.5E-02			3.5E-02				
				5.0E-04	I					1	0.1		1.4E+09		Tetraethyl Dithiopyrophosphate	3689-24-5					3.9E+01	1.6E+02		3.2E+01
						8.0E+01	I	V		1		2.1E+03	1.4E+09	1.2E+03	Tetrafluoroethane, 1,1,1,2-	811-97-2							1.0E+05	1.0E+05
				2.0E-03	P					1	0.0007		1.4E+09		Tetryl (Trinitrophenylmethylnitramine)	479-45-8					1.6E+02	1.0E+05		1.6E+02
				7.0E-06	X					1			1.4E+09		Thallium (I) Nitrate	10102-45-1					5.5E-01			5.5E-01
				1.0E-05	X					1			1.4E+09		Thallium (Soluble Salts)	7440-28-0					7.8E-01			7.8E-01
				6.0E-06	X			V		1			1.4E+09		Thallium Acetate	563-68-8					4.7E-01			4.7E-01
				2.0E-05	X			V		1			1.4E+09		Thallium Carbonate	6533-73-9					1.6E+00			1.6E+00
				6.0E-06	X					1			1.4E+09		Thallium Chloride	7791-12-0					4.7E-01			4.7E-01
				2.0E-05	X					1			1.4E+09		Thallium Sulfate	7446-18-6					1.6E+00			1.6E+00
				1.3E-02	I					1	0.1		1.4E+09		Thifensulfuron-methyl	79277-27-3					1.0E+03	4.3E+03		8.2E+02
				1.0E-02	I					1	0.1		1.4E+09		Thiobencarb	28249-77-6					7.8E+02	3.3E+03		6.3E+02
				7.0E-02	X					1	0.0075		1.4E+09		Thiodiglycol	111-48-8					5.5E+03	3.1E+05		5.4E+03
				3.0E-04	H					1	0.1		1.4E+09		Thiofanox	39196-18-4					2.3E+01	9.9E+01		1.9E+01
				8.0E-02	I					1	0.1		1.4E+09		Thiophanate, Methyl	23564-05-8					6.3E+03	2.6E+04		5.1E+03
				5.0E-03	I					1	0.1		1.4E+09		Thiram	137-26-8					3.9E+02	1.6E+03		3.2E+02
				6.0E-01	H					1			1.4E+09		Tin	7440-31-5					4.7E+04			4.7E+04
						1.0E-04	A	V		1			1.4E+09		Titanium Tetrachloride	7550-45-0							1.4E+05	1.4E+05
				8.0E-02	I	5.0E+00	I	V		1		8.2E+02	1.4E+09	4.3E+03	Toluene	108-88-3					6.3E+03		2.2E+04	4.9E+03
1.8E-01	X			2.0E-04	X					1	0.1		1.4E+09		Toluene-2,5-diamine	95-70-5	3.9E+00	1.4E+01		3.0E+00	1.6E+01	6.6E+01		1.3E+01
3.0E-02	P			4.0E-03	X					1	0.1		1.4E+09		Toluidine, p-	106-49-0	2.3E+01	8.2E+01		1.8E+01	3.1E+02	1.3E+03		2.5E+02
				3.0E+00	P			V		1		3.4E-01	1.4E+09	1.1E+03	Total Petroleum Hydrocarbons (Aliphatic High)	NA					2.3E+05			2.3E+05
						6.0E-01	P	V		1		1.4E+02	1.4E+09	8.3E+02	Total Petroleum Hydrocarbons (Aliphatic Low)	NA							5.2E+02	5.2E+02
				1.0E-02	X	1.0E-01	P	V		1		6.9E+00	1.4E+09	1.0E+03	Total Petroleum Hydrocarbons (Aliphatic Medium)	NA					7.8E+02		1.1E+02	9.6E+01
				4.0E-02	P					1	0.1		1.4E+09		Total Petroleum Hydrocarbons (Aromatic High)	NA					3.1E+03	1.3E+04		2.5E+03
				4.0E-03	P	3.0E-02	P	V		1		1.8E+03	1.4E+09	3.5E+03	Total Petroleum Hydrocarbons (Aromatic Low)	NA					3.1E+02		1.1E+02	8.2E+01
				4.0E-03	P	3.0E-03	P	V		1			1.4E+09	5.2E+04	Total Petroleum Hydrocarbons (Aromatic Medium)	NA					3.1E+02		1.6E+02	1.1E+02
1.1E+00	I	3.2E-04	I							1	0.1		1.4E+09		Toxaphene	8001-35-2	6.3E-01	2.2E+00	1.2E+04	4.9E-01				
				7.5E-03	I					1	0.1		1.4E+09		Tralomethrin	66841-25-6					5.9E+02	2.5E+03		4.7E+02
				3.0E-04	A			V		1			1.4E+09	3.4E+03	Tri-n-butyltin	688-73-3					2.3E+01			2.3E+01
				8.0E+01	X					1	0.1		1.4E+09		Triacetin	102-76-1					6.3E+06	2.6E+07		5.1E+06
				3.0E-02	I					1	0.1		1.4E+09		Triadimefon	43121-43-3					2.3E+03	9.9E+03		1.9E+03
				1.3E-02	I			V		1			1.4E+09	3.6E+05	Triallate	2303-17-5					1.0E+03			1.0E+03
				1.0E-02	I					1	0.1		1.4E+09		Triasulfuron	82097-50-5					7.8E+02	3.3E+03		6.3E+02
				8.0E-03	I					1	0.1		1.4E+09		Tribenuron-methyl	101200-48-0					6.3E+02	2.6E+03		5.1E+02
				5.0E-03	I			V		1			1.4E+09	4.8E+04	Tribromobenzene, 1,2,4-	615-54-3					3.9E+02			3.9E+02
9.0E-03	P			1.0E-02	P					1	0.1		1.4E+09		Tributyl Phosphate	126-73-8	7.7E+01	2.7E+02		6.0E+01	7.8E+02	3.3E+03		6.3E+02
				3.0E-04	P					1	0.1		1.4E+09		Tributyltin Compounds	NA					2.3E+01	9.9E+01		1.9E+01
				3.0E-04	I					1	0.1		1.4E+09		Tributyltin Oxide	56-35-9					2.3E+01	9.9E+01		1.9E+01
				3.0E+01	I	3.0E+01	H	V		1		9.1E+02	1.4E+09	1.3E+03	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1					2.3E+06		4.0E+04	4.0E+04
7.0E-02	I			2.0E-02	I					1	0.1		1.4E+09		Trichloroacetic Acid	76-03-9	9.9E+00	3.5E+01		7.8E+00	1.6E+03	6.6E+03		1.3E+03
2.9E-02	H									1	0.1		1.4E+09		Trichloroaniline HCl, 2,4,6-	33663-50-2	2.4E+01	8.5E+01		1.9E+01				
7.0E-03	X			3.0E-05	X					1	0.1		1.4E+09		Trichloroaniline, 2,4,6-	634-93-5	9.9E+01	3.5E+02		7.8E+01	2.3E+00	9.9E+00		1.9E+00
				8.0E-04	X			V		1			1.4E+09	3.2E+04	Trichlorobenzene, 1,2,3-	87-61-6					6.3E+01			6.3E+01
2.9E-02	P			1.0E-02	I	2.0E-03	P	V		1		4.0E+02	1.4E+09	3.0E+04	Trichlorobenzene, 1,2,4-	120-82-1	2.4E+01			2.4E+01	7.8E+02		6.2E+01	5.8E+01
				2.0E+00	I	5.0E+00	I	V		1		6.4E+02	1.4E+09	1.7E+03	Trichloroethane, 1,1,1-	71-55-6					1.6E+05		8.6E+03	8.1E+03
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V		1		2.2E+03	1.4E+09	7.2E+03	Trichloroethane, 1,1,2-	79-00-5	1.2E+01		1.3E+00	1.1E+00	3.1E+02		1.5E+00	1.5E+00
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M	1		6.9E+02	1.4E+09	2.2E+03	Trichloroethylene	79-01-6	8.8E+00		1.1E+00	9.4E-01	3.9E+01		4.6E+00	4.1E+00
				3.0E-01	I			V		1		1.2E+03	1.4E+09	1.0E+03	Trichlorofluoromethane	75-69-4					2.3E+04			2.3E+04
				1.0E-01	I					1	0.1		1.4E+09		Trichlorophenol, 2,4,5-	95-95-4					7.8E+03	3.3E+04		6.3E+03
1.1E-02	I	3.1E-06	I	1.0E-03	P					1	0.1		1.4E+09		Trichlorophenol, 2,4,6-	88-06-2	6.3E+01	2.2E+02	1.2E+06	4.9E+01	7.8E+01	3.3E+02		6.3E+01
				1.0E-02	I					1	0.1		1.4E+09		Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5					7.8E+02	3.3E+03		6.3E+02
				8.0E-03	I					1	0.1		1.4E+09		Trichlorophenoxypropionic acid, -2,4,5	93-72-1					6.3E+02	2.6E+03		5.1E+02
				5.0E-03	I			V		1		1.3E+03	1.4E+09	1.5E+04	Trichloropropane, 1,1,2-	598-77-6					3.9E+02			3.9E+02
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M	1		1.4E+03	1.4E+09	1.6E+04	Trichloropropane, 1,2,3-	96-18-4	5.1E-03			5.1E-03	3.1E+02		4.9E+00	4.8E+00

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Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)
				3.0E-03	X	3.0E-04	P	V		1		3.1E+02	1.4E+09	2.3E+03	Trichloropropene, 1,2,3-	96-19-5					2.3E+02		7.3E-01	7.3E-01
				2.0E-02	A					1	0.1		1.4E+09		Tricresyl Phosphate (TCP)	1330-78-5					1.6E+03	6.6E+03		1.3E+03
				3.0E-03	I					1	0.1		1.4E+09		Tridiphane	58138-08-2					2.3E+02	9.9E+02		1.9E+02
						7.0E-03	I	V		1		2.8E+04	1.4E+09	1.6E+04	Triethylamine	121-44-8							1.2E+02	1.2E+02
				2.0E+00	P					1	0.1		1.4E+09		Triethylene Glycol	112-27-6					1.6E+05	6.6E+05		1.3E+05
						2.0E+01	P	V		1		4.8E+03	1.4E+09	7.1E+02	Trifluoroethane, 1,1,1-	420-46-2							1.5E+04	1.5E+04
7.7E-03	I			7.5E-03	I			V		1			1.4E+09	5.1E+05	Trifluralin	1582-09-8	9.0E+01			9.0E+01	5.9E+02			5.9E+02
2.0E-02	P			1.0E-02	P					1	0.1		1.4E+09		Trimethyl Phosphate	512-56-1	3.5E+01	1.2E+02		2.7E+01	7.8E+02	3.3E+03		6.3E+02
						5.0E-03	P	V		1		2.9E+02	1.4E+09	9.4E+03	Trimethylbenzene, 1,2,3-	526-73-8							4.9E+01	4.9E+01
						7.0E-03	P	V		1		2.2E+02	1.4E+09	7.9E+03	Trimethylbenzene, 1,2,4-	95-63-6							5.8E+01	5.8E+01
				1.0E-02	X			V		1		1.8E+02	1.4E+09	6.6E+03	Trimethylbenzene, 1,3,5-	108-67-8					7.8E+02			7.8E+02
				1.0E-02	X			V		1		3.0E+01	1.4E+09	1.0E+03	Trimethylpentene, 2,4,4-	25167-70-8					7.8E+02			7.8E+02
				3.0E-02	I					1	0.019		1.4E+09		Trinitrobenzene, 1,3,5-	99-35-4					2.3E+03	5.2E+04		2.2E+03
3.0E-02	I			5.0E-04	I					1	0.032		1.4E+09		Trinitrotoluene, 2,4,6-	118-96-7	2.3E+01	2.6E+02		2.1E+01	3.9E+01	5.2E+02		3.6E+01
				2.0E-02	P					1	0.1		1.4E+09		Triphenylphosphine Oxide	791-28-6					1.6E+03	6.6E+03		1.3E+03
				2.0E-02	A					1	0.1		1.4E+09		Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8					1.6E+03	6.6E+03		1.3E+03
				1.0E-02	X					1	0.1		1.4E+09		Tris(1-chloro-2-propyl)phosphate	13674-84-5					7.8E+02	3.3E+03		6.3E+02
2.3E+00	C	6.6E-04	C					V		1		4.7E+02	1.4E+09	9.0E+05	Tris(2,3-dibromopropyl)phosphate	126-72-7	3.0E-01		3.8E+00	2.8E-01				
2.0E-02	P			7.0E-03	P					1	0.1		1.4E+09		Tris(2-chloroethyl)phosphate	115-96-8	3.5E+01	1.2E+02		2.7E+01	5.5E+02	2.3E+03		4.4E+02
3.2E-03	P			1.0E-01	P					1	0.1		1.4E+09		Tris(2-ethylhexyl)phosphate	78-42-2	2.2E+02	7.7E+02		1.7E+02	7.8E+03	3.3E+04		6.3E+03
				8.0E-04	P					1			1.4E+09		Tungsten	7440-33-7					6.3E+01			6.3E+01
				3.0E-03	I	4.0E-05	A			1			1.4E+09		Uranium (Soluble Salts)	NA					2.3E+02		5.7E+04	2.3E+02
1.0E+00	C	2.9E-04	C						M	1	0.1		1.4E+09		Urethane	51-79-6	1.5E-01	6.0E-01	4.8E+03	1.2E-01				
		8.3E-03	P	9.0E-03	I	7.0E-06	P			0.026			1.4E+09		Vanadium Pentoxide	1314-62-1			4.6E+02	4.6E+02	7.0E+02		9.9E+03	6.6E+02
				5.0E-03	S	1.0E-04	A			0.026			1.4E+09		Vanadium and Compounds	7440-62-2					3.9E+02		1.4E+05	3.9E+02
				1.0E-03	I			V		1			1.4E+09	1.2E+05	Vernolate	1929-77-7					7.8E+01			7.8E+01
				2.5E-02	I					1	0.1		1.4E+09		Vinclozolin	50471-44-8					2.0E+03	8.2E+03		1.6E+03
				1.0E+00	H	2.0E-01	I	V		1		2.8E+03	1.4E+09	4.4E+03	Vinyl Acetate	108-05-4					7.8E+04		9.2E+02	9.1E+02
		3.2E-05	H			3.0E-03	I	V		1		2.5E+03	1.4E+09	1.4E+03	Vinyl Bromide	593-60-2			1.2E-01	1.2E-01			4.3E+00	4.3E+00
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M	1		3.9E+03	1.4E+09	9.6E+02	Vinyl Chloride	75-01-4	9.4E-02		1.6E-01	5.9E-02	2.3E+02		1.0E+02	7.0E+01
				3.0E-04	I					1	0.1		1.4E+09		Warfarin	81-81-2					2.3E+01	9.9E+01		1.9E+01
				2.0E-01	S	1.0E-01	S	V		1		3.9E+02	1.4E+09	5.6E+03	Xylene, P-	106-42-3					1.6E+04		5.8E+02	5.6E+02
				2.0E-01	S	1.0E-01	S	V		1		3.9E+02	1.4E+09	5.5E+03	Xylene, m-	108-38-3					1.6E+04		5.7E+02	5.5E+02
				2.0E-01	S	1.0E-01	S	V		1		4.3E+02	1.4E+09	6.5E+03	Xylene, o-	95-47-6					1.6E+04		6.7E+02	6.5E+02
				2.0E-01	I	1.0E-01	I	V		1		2.6E+02	1.4E+09	5.7E+03	Xylenes	1330-20-7					1.6E+04		6.0E+02	5.8E+02
				3.0E-04	I					1			1.4E+09		Zinc Phosphide	1314-84-7					2.3E+01			2.3E+01
				3.0E-01	I					1			1.4E+09		Zinc and Compounds	7440-66-6					2.3E+04			2.3E+04
				5.0E-02	I					1	0.1		1.4E+09		Zineb	12122-67-7					3.9E+03	1.6E+04		3.2E+03
				8.0E-05	X					1			1.4E+09		Zirconium	7440-67-7					6.3E+00			6.3E+00

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
8.7E-03	I			4.0E-03	I					-0.85	1	1	Yes	Acephate	30560-19-1	9.0E+00	1.2E+04		8.9E+00	8.0E+01	1.1E+05		8.0E+01	
		2.2E-06	I			9.0E-03	I	V		-0.34	1	1	Yes	Acetaldehyde	75-07-0			2.6E+00	2.6E+00			1.9E+01	1.9E+01	
				2.0E-02	I					3.03	1	0.9	Yes	Acetochlor	34256-82-1					4.0E+02	2.9E+03		3.5E+02	
				9.0E-01	I	3.1E+01	A	V		-0.24	1	1	Yes	Acetone	67-64-1					1.8E+04	4.4E+06	6.4E+04	1.4E+04	
						2.0E-03	X			-0.03	1	1	Yes	Acetone Cyanohydrin	75-86-5									
						6.0E-02	I	V		-0.34	1	1	Yes	Acetonitrile	75-05-8							1.3E+02	1.3E+02	
				1.0E-01	I			V		1.58	1	1	Yes	Acetophenone	98-86-2					2.0E+03	4.6E+04		1.9E+03	
3.8E+00	C	1.3E-03	C							3.12	1	1	Yes	Acetylaminofluorene, 2-	53-96-3	2.1E-02	6.7E-02		1.6E-02					
				5.0E-04	I	2.0E-05	I	V		-0.01	1	1	Yes	Acrolein	107-02-8					1.0E+01	1.7E+03	4.2E-02	4.2E-02	
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I		M	-0.67	1	1	Yes	Acrylamide	79-06-1	5.0E-02	2.3E+01		5.0E-02	4.0E+01	2.1E+04		4.0E+01	
				5.0E-01	I	1.0E-03	I	V		0.35	1	1	Yes	Acrylic Acid	79-10-7					1.0E+04	1.1E+06	2.1E+00	2.1E+00	
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V		0.25	1	1	Yes	Acrylonitrile	107-13-1	1.4E-01	1.4E+01	8.3E-02	5.2E-02	8.0E+02	8.9E+04	4.2E+00	4.1E+00	
						6.0E-03	P			-0.32	1	1	Yes	Adiponitrile	111-69-3									
5.6E-02	C			1.0E-02	I					3.52	1	0.9	Yes	Alachlor	15972-60-8	1.4E+00	4.4E+00		1.1E+00	2.0E+02	6.9E+02		1.6E+02	2.0E+00
				1.0E-03	I					1.13	1	1	Yes	Aldicarb	116-06-3					2.0E+01	1.4E+03		2.0E+01	3.0E+00
				1.0E-03	I					-0.57	1	1	Yes	Aldicarb Sulfone	1646-88-4					2.0E+01	2.4E+04		2.0E+01	2.0E+00
										-0.78	1	1	Yes	Aldicarb sulfoxide	1646-87-3									4.0E+00
1.7E+01	I	4.9E-03	I	3.0E-05	I			V		6.5	1	1	No	Aldrin	309-00-2	4.6E-03		1.1E-03	9.2E-04	6.0E-01			6.0E-01	
				5.0E-03	I	1.0E-04	X	V		0.17	1	1	Yes	Allyl Alcohol	107-18-6					1.0E+02	1.3E+04	2.1E-01	2.1E-01	
2.1E-02	C	6.0E-06	C			1.0E-03	I	V		1.93	1	1	Yes	Allyl Chloride	107-05-1	3.7E+00	3.5E+01	9.4E-01	7.3E-01			2.1E+00	2.1E+00	
				1.0E+00	P	5.0E-03	P				1	1	Yes	Aluminum	7429-90-5					2.0E+04	4.6E+06		2.0E+04	
				4.0E-04	I						1	1	Yes	Aluminum Phosphide	20859-73-8					8.0E+00	1.8E+03		8.0E+00	
				9.0E-03	I					2.98	1	1	Yes	Ametryn	834-12-8					1.8E+02	9.8E+02		1.5E+02	
2.1E+01	C	6.0E-03	C							2.86	1	1	Yes	Aminobiphenyl, 4-	92-67-1	3.7E-03	1.5E-02		3.0E-03					
				8.0E-02	P					0.21	1	1	Yes	Aminophenol, m-	591-27-5					1.6E+03	2.8E+05		1.6E+03	
				2.0E-02	P					0.04	1	1	Yes	Aminophenol, p-	123-30-8					4.0E+02	9.1E+04		4.0E+02	
				2.5E-03	I					5.5	1	0.9	Yes	Amitraz	33089-61-1					5.0E+01	9.8E+00		8.2E+00	
						1.0E-01	I	V		0.23	1	1		Ammonia	7664-41-7									
				2.0E-01	I						1	1	Yes	Ammonium Sulfamate	7773-06-0					4.0E+03	9.1E+05		4.0E+03	
						3.0E-03	X	V		0.89	1	1	Yes	Amyl Alcohol, tert-	75-85-4							6.3E+00	6.3E+00	
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I			0.9	1	1	Yes	Aniline	62-53-3	1.4E+01	6.9E+02		1.3E+01	1.4E+02	7.7E+03		1.4E+02	
4.0E-02	P			2.0E-03	X					3.39	1	0.9	Yes	Anthraquinone, 9,10-	84-65-1	1.9E+00	5.1E+00		1.4E+00	4.0E+01	1.1E+02		3.0E+01	
				4.0E-04	I						0.15	1	Yes	Antimony (metallic)	7440-36-0					8.0E+00	2.7E+02		7.8E+00	6.0E+00
				5.0E-04	H						0.15	1	Yes	Antimony Pentoxide	1314-60-9					1.0E+01	3.4E+02		9.7E+00	
				4.0E-04	H						0.15	1	Yes	Antimony Tetroxide	1332-81-6					8.0E+00	2.7E+02		7.8E+00	
						2.0E-04	I				0.15	1	Yes	Antimony Trioxide	1309-64-4									
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C				1	1	Yes	Arsenic, Inorganic	7440-38-2	5.2E-02	9.7E+00		5.2E-02	6.0E+00	1.4E+03		6.0E+00	1.0E+01
				3.5E-06	C	5.0E-05	I				1	1	Yes	Arsine	7784-42-1					7.0E-02	1.6E+01		7.0E-02	
				5.0E-02	I					-0.27	1	1	Yes	Asulam	3337-71-1					1.0E+03	8.0E+05		1.0E+03	
2.3E-01	C			3.5E-02	I					2.61	1	1	Yes	Atrazine	1912-24-9	3.4E-01	2.8E+00		3.0E-01	7.0E+02	6.2E+03		6.3E+02	3.0E+00
8.8E-01	C	2.5E-04	C							2.98	1	0.9	Yes	Auramine	492-80-8	8.9E-02	2.7E-01		6.7E-02					
				4.0E-04	I					4.48	1	1	No	Avermectin B1	65195-55-3					8.0E+00			8.0E+00	
				3.0E-03	A	1.0E-02	A			2.75	1	1	Yes	Azinphos-methyl	86-50-0					6.0E+01	8.3E+02		5.6E+01	
1.1E-01	I	3.1E-05	I					V		3.82	1	1	Yes	Azobenzene	103-33-3	7.1E-01	7.3E-01	1.8E-01	1.2E-01					
				1.0E+00	P	7.0E-06	P			-1.7	1	1	Yes	Azodicarbonamide	123-77-3					2.0E+04	6.8E+07		2.0E+04	
				2.0E-01	I	5.0E-04	H				0.07	1	Yes	Barium	7440-39-3					4.0E+03	6.4E+04		3.8E+03	2.0E+03
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Barium Chromate	10294-40-3	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02	
				3.0E-01	I			V		5.29	1	0.8	Yes	Benfluralin	1861-40-1					6.0E+03	2.4E+03		1.7E+03	
				5.0E-02	I					2.12	1	1	Yes	Benomyl	17804-35-2					1.0E+03	3.0E+04		9.7E+02	
				2.0E-01	I					2.18	1	1	Yes	Bensulfuron-methyl	83055-99-6					4.0E+03	2.4E+05		3.9E+03	
				3.0E-02	I					2.34	1	1	Yes	Bentazon	25057-89-0					6.0E+02	9.4E+03		5.7E+02	
				1.0E-01	I			V		1.48	1	1	Yes	Benzaldehyde	100-52-7					2.0E+03	4.9E+04		1.9E+03	
5.5E-02	I	7.8E-06	I	4.0E-03	I	3.0E-02	I	V		2.13	1	1	Yes	Benzene	71-43-2	1.4E+00	9.8E+00	7.2E-01	4.6E-01	8.0E+01	6.1E+02	6.3E+01	3.3E+01	5.0E+00
1.0E-01	X			3.0E-04	X					-3.727	1	1	No	Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	7.8E-01			7.8E-01	6.0E+00			6.0E+00	
				1.0E-03	P			V		2.52	1	1	Yes	Benzenethiol	108-98-5					2.0E+01	1.0E+02		1.7E+01	
2.3E+02	I	6.7E-02	I	3.0E-03	I				M	1.34	1	1	Yes	Benzidine	92-87-5	1.1E-04	5.0E-03		1.1E-04	6.0E+01	3.0E+03		5.9E+01	
				4.0E+00	I					1.87	1	1	Yes	Benzoic Acid	65-85-0					8.0E+04	1.2E+06		7.5E+04	
1.3E+01	I							V		3.9	1	1	Yes	Benzotrichloride	98-07-7	6.0E-03	6.0E-03		3.0E-03					
				1.0E-01	P					1.1	1	1	Yes	Benzyl Alcohol	100-51-6					2.0E+03	8.9E+04		2.0E+03	
1.7E-01	I	4.9E-05	C	2.0E-03	P	1.0E-03	P	V		2.3	1	1	Yes	Benzyl Chloride	100-44-7	4.6E-01	3.4E+00	1.1E-01	8.9E-02	4.0E+01	3.2E+02	2.1E+00	2.0E+00	
		2.4E-03	I	2.0E-03	I	2.0E-05	I				0.007	1	Yes	Beryllium and compounds	7440-41-7					4.0E+01	6.4E+01		2.5E+01	4.0E+00
				9.0E-03	P					4.48	1	0.9	Yes	Bifenox	42576-02-3					1.8E+02	2.3E+02		1.0E+02	
				1.5E-02	I					6	1	0	Yes	Biphenthrin	82657-04-3					3.0E+02			3.0E+02	
8.0E-03	I			5.0E-01	I	4.0E-04	X	V		4.01	1	1	Yes	Biphenyl, 1,1'-	92-52-4	9.7E+00	6.5E+00		3.9E+00	1.0E+04	7.3E+03	8.3E-01	8.3E-01	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				4.0E-02	I			V		2.48	1	1	Yes	Bis(2-chloro-1-methylethyl) ether	108-60-1					8.0E+02	6.5E+03		7.1E+02	
				3.0E-03	P					1.3	1	1	Yes	Bis(2-chloroethoxy)methane	111-91-1					6.0E+01	3.0E+03		5.9E+01	
1.1E+00	I	3.3E-04	I					V		1.29	1	1	Yes	Bis(2-chloroethyl)ether	111-44-4	7.1E-02	2.7E+00	1.7E-02	1.4E-02					
2.2E+02	I	6.2E-02	I					V		0.57	1	1	Yes	Bis(chloromethyl)ether	542-88-1	3.5E-04	3.4E-02	9.1E-05	7.2E-05					
				5.0E-02	I					3.32	1	1	Yes	Bisphenol A	80-05-7					1.0E+03	3.2E+03		7.7E+02	
				2.0E-01	I	2.0E-02	H				1	1	Yes	Boron And Borates Only	7440-42-8					4.0E+03	9.1E+05		4.0E+03	
				2.0E+00	P	2.0E-02	P	V		1.16	1	1	Yes	Boron Trichloride	10294-34-5					4.0E+04	9.1E+06	4.2E+01	4.2E+01	
				4.0E-02	C	1.3E-02	C	V		0.22	1	1	Yes	Boron Trifluoride	7637-07-2					8.0E+02	1.8E+05	2.7E+01	2.6E+01	
7.0E-01	I			4.0E-03	I						1	1	Yes	Bromate	15541-45-4	1.1E-01	2.1E+01		1.1E-01	8.0E+01	1.8E+04		8.0E+01	1.0E+01
2.0E+00	X	6.0E-04	X					V		1.92	1	1	Yes	Bromo-2-chloroethane, 1-	107-04-0	3.9E-02	5.7E-01	9.4E-03	7.4E-03					
				8.0E-03	I	6.0E-02	I	V		2.99	1	1	Yes	Bromobenzene	108-86-1					1.6E+02	5.4E+02	1.3E+02	6.2E+01	
						4.0E-02	X	V		1.41	1	1	Yes	Bromochloromethane	74-97-5							8.3E+01	8.3E+01	
6.2E-02	I	3.7E-05	C	2.0E-02	I			V		2	1	1	Yes	Bromodichloromethane	75-27-4	1.3E+00	1.9E+01	1.5E-01	1.3E-01	4.0E+02	6.5E+03		3.8E+02	8.0E+01(F)
7.9E-03	I	1.1E-06	I	2.0E-02	I			V		2.4	1	1	Yes	Bromoform	75-25-2	9.9E+00	1.4E+02	5.1E+00	3.3E+00	4.0E+02	6.2E+03		3.8E+02	8.0E+01(F)
				1.4E-03	I	5.0E-03	I	V		1.19	1	1	Yes	Bromomethane	74-83-9					2.8E+01	1.0E+03	1.0E+01	7.5E+00	
				5.0E-03	H			V		5.21	1	0.8	Yes	Bromophos	2104-96-3					1.0E+02	5.5E+01		3.5E+01	
				2.0E-02	I					2.8	1	0.9	Yes	Bromoxynil	1689-84-5					4.0E+02	1.8E+03		3.3E+02	
				2.0E-02	I			V		5.4	1	0.8	Yes	Bromoxynil Octanoate	1689-99-2					4.0E+02	2.1E+02		1.4E+02	
3.4E+00	C	3.0E-05	I			2.0E-03	I	V		1.99	1	1	Yes	Butadiene, 1,3-	106-99-0	2.3E-02	1.6E-01	1.9E-01	1.8E-02			4.2E+00	4.2E+00	
				1.0E-01	I			V		0.88	1	1	Yes	Butanol, N-	71-36-3					2.0E+03	1.0E+05		2.0E+03	
1.9E-03	P			2.0E-01	I					4.73	1	0.9	Yes	Butyl Benzyl Phthalate	85-68-7	4.1E+01	2.7E+01		1.6E+01	4.0E+03	2.9E+03		1.7E+03	
				2.0E+00	P	3.0E+01	P	V		0.61	1	1	Yes	Butyl alcohol, sec-	78-92-2					4.0E+04	3.0E+06	6.3E+04	2.4E+04	
				5.0E-02	I			V		4.15	1	1	Yes	Butylate	2008-41-5					1.0E+03	8.5E+02		4.6E+02	
2.0E-04	C	5.7E-08	C							3.5	1	0.8	Yes	Butylated hydroxyanisole	25013-16-5	3.9E+02	2.5E+02		1.5E+02					
3.6E-03	P			3.0E-01	P					5.1	1	1	Yes	Butylated hydroxytoluene	128-37-0	2.2E+01	4.0E+00		3.4E+00	6.0E+03	1.2E+03		1.0E+03	
				5.0E-02	P			V		4.38	1	1	No	Butylbenzene, n-	104-51-8					1.0E+03			1.0E+03	
				1.0E-01	X			V		4.57	1	1	No	Butylbenzene, sec-	135-98-8					2.0E+03			2.0E+03	
				1.0E-01	X			V		4.11	1	1	Yes	Butylbenzene, tert-	98-06-6					2.0E+03	1.1E+03		6.9E+02	
				2.0E-02	A					0.36	1	1	Yes	Cacodylic Acid	75-60-5					4.0E+02	6.7E+04		4.0E+02	
		1.8E-03	I	1.0E-03	I	1.0E-05	A				0.025	1		Cadmium (Diet)	7440-43-9									
		1.8E-03	I	5.0E-04	I	1.0E-05	A				0.05	1	Yes	Cadmium (Water)	7440-43-9					1.0E+01	1.1E+02		9.2E+00	5.0E+00
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Calcium Chromate	13765-19-0	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02	
				5.0E-01	I	2.2E-03	C			-0.19	1	1	Yes	Caprolactam	105-60-2					1.0E+04	9.0E+05		9.9E+03	
1.5E-01	C	4.3E-05	C	2.0E-03	I					3.8	1	0.9	Yes	Captafol	2425-06-1	5.2E-01	1.8E+00		4.0E-01	4.0E+01	1.5E+02		3.2E+01	
2.3E-03	C	6.6E-07	C	1.3E-01	I					2.8	1	1	Yes	Captan	133-06-2	3.4E+01	3.6E+02		3.1E+01	2.6E+03	3.0E+04		2.4E+03	
				1.0E-01	I					2.36	1	1	Yes	Carbaryl	63-25-2					2.0E+03	2.4E+04		1.8E+03	
				5.0E-03	I					2.32	1	1	Yes	Carbofuran	1563-66-2					1.0E+02	1.4E+03		9.4E+01	4.0E+01
				1.0E-01	I	7.0E-01	I	V		1.94	1	1	Yes	Carbon Disulfide	75-15-0					2.0E+03	2.0E+04	1.5E+03	8.1E+02	
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V		2.83	1	1	Yes	Carbon Tetrachloride	56-23-5	1.1E+00	4.3E+00	9.4E-01	4.6E-01	8.0E+01	3.4E+02	2.1E+02	4.9E+01	5.0E+00
						1.0E-01	P	V		-1.33	1	1	Yes	Carbonyl Sulfide	463-58-1							2.1E+02	2.1E+02	
				1.0E-02	I					5.57	1	0.8	Yes	Carbosulfan	55285-14-8					2.0E+02	6.9E+01		5.1E+01	
				1.0E-01	I					2.14	1	1	Yes	Carboxin	5234-68-4					2.0E+03	4.1E+04		1.9E+03	
						9.0E-04	I				1	1	Yes	Ceric oxide	1306-38-3									
				1.0E-01	I			V		0.99	1	1	Yes	Chloral Hydrate	302-17-0					2.0E+03	1.5E+05		2.0E+03	
				1.5E-02	I					1.9	1	1	Yes	Chloramben	133-90-4					3.0E+02	7.4E+03		2.9E+02	
4.0E-01	H									2.22	1	1	Yes	Chloranil	118-75-2	1.9E-01	3.5E+00		1.8E-01					
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I	V		6.26	1	0.7	No	Chlordane	12789-03-6	2.2E-01		5.6E-02	4.5E-02	1.0E+01		1.5E+00	1.3E+00	2.0E+00
1.0E+01	I	4.6E-03	C	3.0E-04	I					5.41	1	0.8	Yes	Chlordecone (Kepone)	143-50-0	7.8E-03	6.5E-03		3.5E-03	6.0E+00	5.4E+00		2.9E+00	
				7.0E-04	A					3.81	1	0.9	Yes	Chlorfenvinphos	470-90-6					1.4E+01	5.6E+01		1.1E+01	
				2.0E-02	I					2.5	1	1	Yes	Chlorimuron, Ethyl-	90982-32-4					4.0E+02	1.5E+04		3.9E+02	
				1.0E-01	I	1.5E-04	A	V		0.85	1	1	Yes	Chlorine	7782-50-5					2.0E+03	4.6E+05	3.0E-01	3.0E-01	
				3.0E-02	I	2.0E-04	I	V			1	1	Yes	Chlorine Dioxide	10049-04-4					6.0E+02	1.4E+05	4.2E-01	4.2E-01	
				3.0E-02	I						1	1	Yes	Chlorite (Sodium Salt)	7758-19-2					6.0E+02	1.4E+05		6.0E+02	1.0E+03
						5.0E+01	I	V		2.05	1	1	Yes	Chloro-1,1-difluoroethane, 1-	75-68-3							1.0E+05	1.0E+05	
		3.0E-04	I	2.0E-02	H	2.0E-02	I	V		2.53	1	1	Yes	Chloro-1,3-butadiene, 2-	126-99-8			1.9E-02	1.9E-02	4.0E+02	1.8E+03	4.2E+01	3.7E+01	
4.6E-01	H									2.27	1	1	Yes	Chloro-2-methylaniline HCl, 4-	3165-93-3	1.7E-01	5.1E+02		1.7E-01					
1.0E-01	P	7.7E-05	C	3.0E-03	X					2.27	1	1	Yes	Chloro-2-methylaniline, 4-	95-69-2	7.8E-01	6.6E+00		7.0E-01	6.0E+01	5.6E+02		5.4E+01	
2.7E-01	X							V		0.09	1	1	Yes	Chloroacetaldehyde, 2-	107-20-0	2.9E-01	4.6E+01		2.9E-01					
										0.22	1	1	Yes	Chloroacetic Acid	79-11-8									6.0E+01
						3.0E-05	I			1.93	1	1	Yes	Chloroacetophenone, 2-	532-27-4									
2.0E-01	P			4.0E-03	I					1.83	1	1	Yes	Chloroaniline, p-	106-47-8	3.9E-01	5.9E+00		3.7E-01	8.0E+01	1.3E+03		7.6E+01	
				2.0E-02	I	5.0E-02	P	V		2.84	1	1	Yes	Chlorobenzene	108-90-7					4.0E+02	1.3E+03	1.0E+02	7.8E+01	1.0E+02
1.1E-01	C	3.1E-05	C	2.0E-02	I					4.74	1	0.8	Yes	Chlorobenzilate	510-15-6	7.1E-01	5.6E-01		3.1E-01	4.0E+02	3.5E+02		1.9E+02	
				3.0E-02	X					2.65	1	1	Yes	Chlorobenzoic Acid, p-	74-11-3					6.0E+02	3.4E+03		5.1E+02	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				3.0E-03	P	3.0E-01	P	V		3.6	1	1	Yes	Chlorobenzotrifluoride, 4-	98-56-6					6.0E+01	9.3E+01	6.3E+02	3.5E+01	
				4.0E-02	P			V		2.64	1	1	Yes	Chlorobutane, 1-	109-69-3					8.0E+02	3.1E+03		6.4E+02	
						5.0E+01	I	V		1.08	1	1	Yes	Chlorodifluoromethane	75-45-6							1.0E+05	1.0E+05	
				2.0E-02	P			V		0.03	1	1	Yes	Chloroethanol, 2-	107-07-3					4.0E+02	7.7E+04		4.0E+02	
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1.97	1	1	Yes	Chloroform	67-66-3	2.5E+00	2.9E+01	2.4E-01	2.2E-01	2.0E+02	2.5E+03	2.0E+02	9.7E+01	8.0E+01(F)
						9.0E-02	I	V		0.91	1	1	Yes	Chloromethane	74-87-3							1.9E+02	1.9E+02	
2.4E+00	C	6.9E-04	C					V		0.32	1	1	Yes	Chloromethyl Methyl Ether	107-30-2	3.2E-02	3.7E+00	8.1E-03	6.5E-03					
3.0E-01	P			3.0E-03	P	1.0E-05	X			2.24	1	1	Yes	Chloronitrobenzene, o-	88-73-3	2.6E-01	2.6E+00		2.4E-01	6.0E+01	6.4E+02		5.5E+01	
6.3E-03	P			1.0E-03	P	6.0E-04	P			2.39	1	1	Yes	Chloronitrobenzene, p-	100-00-5	1.2E+01	9.7E+01		1.1E+01	2.0E+01	1.7E+02		1.8E+01	
				5.0E-03	I			V		2.15	1	1	Yes	Chlorophenol, 2-	95-57-8					1.0E+02	1.0E+03		9.1E+01	
						4.0E-04	C	V		2.09	1	1	Yes	Chloropicrin	76-06-2							8.3E-01	8.3E-01	
3.1E-03	C	8.9E-07	C	1.5E-02	I					3.05	1	0.9	Yes	Chlorothalonil	1897-45-6	2.5E+01	1.6E+02		2.2E+01	3.0E+02	2.1E+03		2.6E+02	
				2.0E-02	I			V		3.42	1	1	Yes	Chlorotoluene, o-	95-49-8					4.0E+02	5.8E+02		2.4E+02	
				2.0E-02	X			V		3.33	1	1	Yes	Chlorotoluene, p-	106-43-4					4.0E+02	6.6E+02		2.5E+02	
2.4E+02	C	6.9E-02	C							-1.02	1	1	Yes	Chlorozotocin	54749-90-5	3.2E-04	1.0E+00		3.2E-04					
				2.0E-01	I					3.51	1	0.9	Yes	Chlorpropham	101-21-3					4.0E+03	9.8E+03		2.8E+03	
				1.0E-03	A					4.96	1	0.8	Yes	Chlorpyrifos	2921-88-2					2.0E+01	1.5E+01		8.4E+00	
				1.0E-02	H					4.31	1	0.9	Yes	Chlorpyrifos Methyl	5598-13-0					2.0E+02	2.9E+02		1.2E+02	
				5.0E-02	I					2	1	1	Yes	Chlorsulfuron	64902-72-3					1.0E+03	5.7E+04		9.9E+02	
				1.0E-02	I					4.28	1	0.9	Yes	Chlorthal-dimethyl	1861-32-1					2.0E+02	3.3E+02		1.2E+02	
				8.0E-04	H					5.8	1	0.8	Yes	Chlorthiophos	60238-56-4					1.6E+01	3.4E+00		2.8E+00	
				1.5E+00	I						0.013	1	Yes	Chromium(III), Insoluble Salts	16065-83-1					3.0E+04	8.9E+04		2.2E+04	
5.0E-01	J	8.4E-02	S	3.0E-03	I	1.0E-04	I		M		0.025	1	Yes	Chromium(VI)	18540-29-9	5.0E-02	1.2E-01		3.5E-02	6.0E+01	1.7E+02		4.4E+01	
											0.013	1	Yes	Chromium, Total	7440-47-3									1.0E+02
				1.3E-02	I					3.1	1	0.9	Yes	Clofentezine	74115-24-5					2.6E+02	2.1E+03		2.3E+02	
		9.0E-03	P	3.0E-04	P	6.0E-06	P				1	1	Yes	Cobalt	7440-48-4					6.0E+00	3.4E+03		6.0E+00	
		6.2E-04	I					V	M		1	0		Coke Oven Emissions	8007-45-2									
				4.0E-02	H						1	1	Yes	Copper	7440-50-8					8.0E+02	1.8E+05		8.0E+02	1.3E+03
				5.0E-02	I	6.0E-01	C			1.96	1	1	Yes	Cresol, m-	108-39-4					1.0E+03	1.2E+04		9.3E+02	
				5.0E-02	I	6.0E-01	C			1.95	1	1	Yes	Cresol, o-	95-48-7					1.0E+03	1.2E+04		9.3E+02	
				1.0E-01	A	6.0E-01	C			1.94	1	1	Yes	Cresol, p-	106-44-5					2.0E+03	2.5E+04		1.9E+03	
				1.0E-01	A					3.1	1	1	Yes	Cresol, p-chloro-m-	59-50-7					2.0E+03	5.2E+03		1.4E+03	
				1.0E-01	A	6.0E-01	C			1.95	1	0.9	Yes	Cresols	1319-77-3					2.0E+03	6.7E+03		1.5E+03	
1.9E+00	H			1.0E-03	P			V		0.6	1	1	Yes	Crotonaldehyde, trans-	123-73-9	4.1E-02	2.7E+00		4.0E-02	2.0E+01	1.5E+03		2.0E+01	
				1.0E-01	I	4.0E-01	I	V		3.66	1	1	Yes	Cumene	98-82-8					2.0E+03	1.9E+03	8.3E+02	4.5E+02	
2.2E-01	C	6.3E-05	C							-1.73	1	1	Yes	Cupferron	135-20-6	3.5E-01	1.3E+04		3.5E-01					
8.4E-01	H			2.0E-03	H					2.22	1	1	Yes	Cyanazine	21725-46-2	9.3E-02	1.6E+00		8.8E-02	4.0E+01	7.6E+02		3.8E+01	
														Cyanides										
				1.0E-03	I						1	1	Yes	~Calcium Cyanide	592-01-8					2.0E+01	4.6E+03		2.0E+01	
				5.0E-03	I						1	1	Yes	~Copper Cyanide	544-92-3					1.0E+02	2.3E+04		1.0E+02	
				6.0E-04	I	8.0E-04	S	V			1	1	Yes	~Cyanide (CN-)	57-12-5					1.2E+01	2.7E+03	1.7E+00	1.5E+00	2.0E+02
				1.0E-03	I			V		0.07	1	1	Yes	~Cyanogen	460-19-5					2.0E+01	5.1E+03		2.0E+01	
				9.0E-02	I			V			1	1	Yes	~Cyanogen Bromide	506-68-3					1.8E+03	1.6E+06		1.8E+03	
				5.0E-02	I			V			1	1	Yes	~Cyanogen Chloride	506-77-4					1.0E+03	5.8E+05		1.0E+03	
				6.0E-04	I	8.0E-04	I	V		-0.25	1	1	Yes	~Hydrogen Cyanide	74-90-8					1.2E+01	2.7E+03	1.7E+00	1.5E+00	
				2.0E-03	I						1	1	Yes	~Potassium Cyanide	151-50-8					4.0E+01	4.6E+03		4.0E+01	
				5.0E-03	I						0.04	1	Yes	~Potassium Silver Cyanide	506-61-6					1.0E+02	4.6E+02		8.2E+01	
				1.0E-01	I						0.04	1	Yes	~Silver Cyanide	506-64-9					2.0E+03	1.8E+04		1.8E+03	
				1.0E-03	I						1	1	Yes	~Sodium Cyanide	143-33-9					2.0E+01	4.6E+03		2.0E+01	2.0E+02
				2.0E-04	P						1	0	Yes	~Thiocyanates	NA					4.0E+00	9.1E+02		4.0E+00	
				2.0E-04	X			V		0.58	1	1	Yes	~Thiocyanic Acid	463-56-9					4.0E+00	9.1E+02		4.0E+00	
				5.0E-02	I						1	1	Yes	~Zinc Cyanide	557-21-1					1.0E+03	3.8E+05		1.0E+03	
						6.0E+00	I	V		3.44	1	1	Yes	Cyclohexane	110-82-7							1.3E+04	1.3E+04	
2.3E-02	H									4.72	1	0.9	Yes	Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	3.4E+00	8.3E+00		2.4E+00					
				5.0E+00	I	7.0E-01	P	V		0.81	1	1	Yes	Cyclohexanone	108-94-1					1.0E+05	6.5E+06	1.5E+03	1.4E+03	
				5.0E-03	P	1.0E+00	X	V		2.86	1	1	Yes	Cyclohexene	110-83-8					1.0E+02	2.5E+02	2.1E+03	7.0E+01	
				2.0E-01	I			V		1.49	1	1	Yes	Cyclohexylamine	108-91-8					4.0E+03	9.3E+04		3.8E+03	
				2.5E-02	I					5.95	1	0.7	Yes	Cyfluthrin	68359-37-5					5.0E+02	1.6E+02		1.2E+02	
				5.0E-03	I					6.9	1	0.5	No	Cyhalothrin	68085-85-8					1.0E+02			1.0E+02	
				1.0E-02	I					6.6	1	0.7	No	Cypermethrin	52315-07-8					2.0E+02			2.0E+02	
				7.5E-03	I					-0.061	1	1	Yes	Cyromazine	66215-27-8					1.5E+02	1.2E+04		1.5E+02	
2.4E-01	I	6.9E-05	C							6.02	1	0.8	Yes	DDD	72-54-8	3.2E-01	3.5E-02		3.2E-02					
3.4E-01	I	9.7E-05	C					V		6.51	1	0.8	No	DDE, p,p'-	72-55-9	2.3E-01		5.8E-02	4.6E-02					
3.4E-01	I	9.7E-05	I	5.0E-04	I					6.91	1	0.7	No	DDT	50-29-3	2.3E-01			2.3E-01	1.0E+01			1.0E+01	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	mutagen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				3.0E-02	I					0.78	1	1	Yes	Dalapon	75-99-0					6.0E+02	5.5E+04		6.0E+02	2.0E+02
1.8E-02	C	5.1E-06	C	1.5E-01	I					-1.5	1	1	Yes	Daminozide	1596-84-5	4.3E+00	1.3E+04		4.3E+00	3.0E+03	1.0E+07		3.0E+03	
7.0E-04	I			7.0E-03	I					12.11	1	0	No	Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	1.1E+02			1.1E+02	1.4E+02			1.4E+02	
				4.0E-05	I					3.21	1	0.8	Yes	Demeton	8065-48-3					8.0E-01	8.8E-01		4.2E-01	
1.2E-03	I			6.0E-01	I					6.11	1	0	Yes	Di(2-ethylhexyl)adipate	103-23-1	6.5E+01			6.5E+01	1.2E+04			1.2E+04	4.0E+02
6.1E-02	H									4.49	1	0.9	Yes	Diallate	2303-16-4	1.3E+00	9.2E-01		5.4E-01					
				7.0E-04	A					3.81	1	0.9	Yes	Diazinon	333-41-5					1.4E+01	3.9E+01		1.0E+01	
				1.0E-02	X			V		4.38	1	1	Yes	Dibenzothiophene	132-65-0					2.0E+02	9.6E+01		6.5E+01	
8.0E-01	P	6.0E-03	P	2.0E-04	P	2.0E-04	I	V	M	2.96	1	1	Yes	Dibromo-3-chloropropane, 1,2-	96-12-8	3.1E-02	1.7E-01	3.4E-04	3.3E-04	4.0E+00	2.4E+01	4.2E-01	3.7E-01	2.0E-01
				4.0E-04	X			V		3.75	1	0.9	Yes	Dibromobenzene, 1,3-	108-36-1					8.0E+00	1.6E+01		5.3E+00	
				1.0E-02	I			V		3.79	1	0.9	Yes	Dibromobenzene, 1,4-	106-37-6					2.0E+02	3.7E+02		1.3E+02	
8.4E-02	I			2.0E-02	I			V		2.16	1	1	Yes	Dibromochloromethane	124-48-1	9.3E-01	1.4E+01		8.7E-01	4.0E+02	6.7E+03		3.8E+02	8.0E+01(F)
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1.96	1	1	Yes	Dibromoethane, 1,2-	106-93-4	3.9E-02	7.1E-01	9.4E-03	7.5E-03	1.8E+02	3.6E+03	1.9E+01	1.7E+01	5.0E-02
						4.0E-03	X	V		1.7	1	1	Yes	Dibromomethane (Methylene Bromide)	74-95-3							8.3E+00	8.3E+00	
				3.0E-04	P						1	0	No	Dibutyltin Compounds	NA					6.0E+00			6.0E+00	
				3.0E-02	I					2.21	1	1	Yes	Dicamba	1918-00-9					6.0E+02	1.0E+04		5.7E+02	
		4.2E-03	P					V		2.6	1	1	Yes	Dichloro-2-butene, 1,4-	764-41-0			1.3E-03	1.3E-03					
		4.2E-03	P					V		2.6	1	1	Yes	Dichloro-2-butene, cis-1,4-	1476-11-5			1.3E-03	1.3E-03					
		4.2E-03	P					V		2.6	1	1	Yes	Dichloro-2-butene, trans-1,4-	110-57-6			1.3E-03	1.3E-03					
5.0E-02	I			4.0E-03	I					0.92	1	1	Yes	Dichloroacetic Acid	79-43-6	1.6E+00	9.6E+01		1.5E+00	8.0E+01	5.4E+03		7.9E+01	6.0E+01
				9.0E-02	I	2.0E-01	H	V		3.43	1	1	Yes	Dichlorobenzene, 1,2-	95-50-1					1.8E+03	2.9E+03	4.2E+02	3.0E+02	6.0E+02
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		3.44	1	1	Yes	Dichlorobenzene, 1,4-	106-46-7	1.4E+01	2.1E+01	5.1E-01	4.8E-01	1.4E+03	2.2E+03	1.7E+03	5.7E+02	7.5E+01
4.5E-01	I	3.4E-04	C							3.51	1	1	Yes	Dichlorobenzidine, 3,3'-	91-94-1	1.7E-01	4.5E-01		1.3E-01					
				9.0E-03	X					4.44	1	0.9	Yes	Dichlorobenzophenone, 4,4'-	90-98-2					1.8E+02	1.4E+02		7.8E+01	
				2.0E-01	I	1.0E-01	X	V		2.16	1	1	Yes	Dichlorodifluoromethane	75-71-8					4.0E+03	3.8E+04	2.1E+02	2.0E+02	
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1.79	1	1	Yes	Dichloroethane, 1,1-	75-34-3	1.4E+01	1.8E+02	3.5E+00	2.8E+00	4.0E+03	5.8E+04		3.8E+03	
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1.48	1	1	Yes	Dichloroethane, 1,2-	107-06-2	8.6E-01	1.8E+01	2.2E-01	1.7E-01	1.2E+02	2.8E+03	1.5E+01	1.3E+01	5.0E+00
				5.0E-02	I	2.0E-01	I	V		2.13	1	1	Yes	Dichloroethylene, 1,1-	75-35-4					1.0E+03	8.5E+03	4.2E+02	2.8E+02	7.0E+00
				2.0E-03	I			V		1.86	1	1	Yes	Dichloroethylene, 1,2-cis-	156-59-2					4.0E+01	3.6E+02		3.6E+01	7.0E+01
				2.0E-02	I			V		2.09	1	1	Yes	Dichloroethylene, 1,2-trans-	156-60-5					4.0E+02	3.6E+03		3.6E+02	1.0E+02
				3.0E-03	I					3.06	1	1	Yes	Dichlorophenol, 2,4-	120-83-2					6.0E+01	1.9E+02		4.6E+01	
				1.0E-02	I					2.81	1	1	Yes	Dichlorophenoxy Acetic Acid, 2,4-	94-75-7					2.0E+02	1.4E+03		1.7E+02	7.0E+01
				8.0E-03	I					3.53	1	0.9	Yes	Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6					1.6E+02	4.8E+02		1.2E+02	
3.6E-02	C	1.0E-05	C	9.0E-02	A	4.0E-03	I	V		1.98	1	1	Yes	Dichloropropane, 1,2-	78-87-5	2.2E+00	2.4E+01	5.6E-01	4.4E-01	1.8E+03	2.2E+04	8.3E+00	8.3E+00	5.0E+00
				2.0E-02	P			V		2	1	1	Yes	Dichloropropane, 1,3-	142-28-9					4.0E+02	4.6E+03		3.7E+02	
				3.0E-03	I					0.78	1	1	Yes	Dichloropropanol, 2,3-	616-23-9					6.0E+01	5.0E+03		5.9E+01	
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		2.04	1	1	Yes	Dichloropropene, 1,3-	542-75-6	7.8E-01	7.8E+00	1.4E+00	4.7E-01	6.0E+02	6.6E+03	4.2E+01	3.9E+01	
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I			1.43	1	1	Yes	Dichlorvos	62-73-7	2.7E-01	1.4E+01		2.6E-01	1.0E+01	5.6E+02		9.9E+00	
				1.0E-04	I					0	1	1	Yes	Dicrotophos	141-66-2					2.0E+00	1.1E+03		2.0E+00	
				8.0E-02	P	3.0E-04	X	V		3.16	1	1	Yes	Dicyclopentadiene	77-73-6					1.6E+03	3.5E+03	6.3E-01	6.3E-01	
1.6E+01	I	4.6E-03	I	5.0E-05	I					5.4	1	0.8	Yes	Dieldrin	60-57-1	4.9E-03	2.7E-03		1.8E-03	1.0E+00	6.1E-01		3.8E-01	
		3.0E-04	C			5.0E-03	I				1	0		Diesel Engine Exhaust	NA									
				2.0E-03	P	2.0E-04	P			-1.43	1	1	Yes	Diethanolamine	111-42-2					4.0E+01	8.4E+04		4.0E+01	
				3.0E-02	P	1.0E-04	P			0.56	1	1	Yes	Diethylene Glycol Monobutyl Ether	112-34-5					6.0E+02	8.7E+04		6.0E+02	
				6.0E-02	P	3.0E-04	P			-0.54	1	1	Yes	Diethylene Glycol Monoethyl Ether	111-90-0					1.2E+03	7.8E+05		1.2E+03	
				1.0E-03	P			V		0.05	1	1	Yes	Diethylformamide	617-84-5					2.0E+01	4.3E+03		2.0E+01	
3.5E+02	C	1.0E-01	C							5.07	1	0.9	Yes	Diethylstilbestrol	56-53-1	2.2E-04	6.6E-05		5.1E-05					
				8.0E-02	I					0.65	1	1	Yes	Difenzoquat	43222-48-6					1.6E+03	7.3E+05		1.6E+03	
				2.0E-02	I					3.88	1	0.9	Yes	Diflubenzuron	35367-38-5					4.0E+02	1.0E+03		2.9E+02	
						4.0E+01	I	V		0.75	1	1	Yes	Difluoroethane, 1,1-	75-37-6							8.3E+04	8.3E+04	
4.4E-02	C	1.3E-05	C					V		3.58	1	1	Yes	Dihydrosafrole	94-58-6	1.8E+00	2.3E+00	4.3E-01	3.0E-01					
						7.0E-01	P	V		1.52	1	1	Yes	Diisopropyl Ether	108-20-3							1.5E+03	1.5E+03	
				8.0E-02	I			V		1.03	1	1	Yes	Diisopropyl Methylphosphonate	1445-75-6					1.6E+03	1.3E+05		1.6E+03	
				2.0E-02	I					-0.17	1	1	Yes	Dimethipin	55290-64-7					4.0E+02	2.4E+05		4.0E+02	
				2.0E-04	I					0.78	1	1	Yes	Dimethoate	60-51-5					4.0E+00	6.4E+02		4.0E+00	
1.6E+00	P									1.81	1	1	Yes	Dimethoxybenzidine, 3,3'-	119-90-4	4.9E-02	1.6E+00		4.7E-02					
1.7E-03	P			6.0E-02	P					-0.61	1	1	Yes	Dimethyl methylphosphonate	756-79-6	4.6E+01	2.8E+04		4.6E+01	1.2E+03	8.1E+05		1.2E+03	
4.6E+00	C	1.3E-03	C							4.58	1	1	Yes	Dimethylamino azobenzene [p-]	60-11-7	1.7E-02	7.2E-03		5.0E-03					
5.8E-01	H									2.17	1	1	Yes	Dimethylaniline HCl, 2,4-	21436-96-4	1.3E-01	5.2E+02		1.3E-01					
2.0E-01	P			2.0E-03	X					1.68	1	1	Yes	Dimethylaniline, 2,4-	95-68-1	3.9E-01	7.1E+00		3.7E-01	4.0E+01	8.0E+02		3.8E+01	
				2.0E-03	I			V		2.31	1	1	Yes	Dimethylaniline, N,N-	121-69-7					4.0E+01	3.1E+02		3.5E+01	
1.1E+01	P									2.34	1	1	Yes	Dimethylbenzidine, 3,3'-	119-93-7	7.1E-03	8.5E-02		6.5E-03					
				1.0E-01	P	3.0E-02	I	V		-1.01	1	1	Yes	Dimethylformamide	68-12-2					2.0E+03	1.8E+06	6.3E+01	6.1E+01	
				1.0E-04	X	2.0E-06	X	V		-1.19	1	1	Yes	Dimethylhydrazine, 1,1-	57-14-7					2.0E+00	3.5E+03	4.2E-03	4.2E-03	

TR=1E-06 THQ=1.0

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Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	mutagen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
5.5E+02	C	1.6E-01	C					V		-0.54	1	1	Yes	Dimethylhydrazine, 1,2-	540-73-8	1.4E-04	5.0E-02	3.5E-05	2.8E-05					
				2.0E-02	I					2.3	1	1	Yes	Dimethylphenol, 2,4-	105-67-9					4.0E+02	3.1E+03		3.6E+02	
				6.0E-04	I					2.36	1	1	Yes	Dimethylphenol, 2,6-	576-26-1					1.2E+01	8.5E+01		1.1E+01	
				1.0E-03	I					2.23	1	1	Yes	Dimethylphenol, 3,4-	95-65-8					2.0E+01	1.7E+02		1.8E+01	
4.5E-02	C	1.3E-05	C					V		2.58	1	1	Yes	Dimethylvinylchloride	513-37-1	1.7E+00	6.5E+00	4.3E-01	3.3E-01					
				8.0E-05	X					2.13	1	1	Yes	Dinitro-o-cresol, 4,6-	534-52-1					1.6E+00	2.6E+01		1.5E+00	
				2.0E-03	I					4.12	1	0.9	Yes	Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5					4.0E+01	5.4E+01		2.3E+01	
				1.0E-04	P					1.69	1	1	Yes	Dinitrobenzene, 1,2-	528-29-0					2.0E+00	5.3E+01		1.9E+00	
				1.0E-04	I					1.49	1	1	Yes	Dinitrobenzene, 1,3-	99-65-0					2.0E+00	7.3E+01		2.0E+00	
				1.0E-04	P					1.46	1	1	Yes	Dinitrobenzene, 1,4-	100-25-4					2.0E+00	7.6E+01		2.0E+00	
				2.0E-03	I					1.67	1	1	Yes	Dinitrophenol, 2,4-	51-28-5					4.0E+01	1.2E+03		3.9E+01	
6.8E-01	I									2.18	1	1	Yes	Dinitrotoluene Mixture, 2,4/2,6-	NA	1.1E-01	1.5E+00		1.1E-01					
3.1E-01	C	8.9E-05	C	2.0E-03	I					1.98	1	1	Yes	Dinitrotoluene, 2,4-	121-14-2	2.5E-01	4.3E+00		2.4E-01	4.0E+01	7.5E+02		3.8E+01	
1.5E+00	P			3.0E-04	X					2.1	1	1	Yes	Dinitrotoluene, 2,6-	606-20-2	5.2E-02	7.4E-01		4.9E-02	6.0E+00	9.3E+01		5.7E+00	
				2.0E-03	S					1.84	1	1	Yes	Dinitrotoluene, 2-Amino-4,6-	35572-78-2					4.0E+01	1.0E+03		3.9E+01	
				2.0E-03	S					1.84	1	1	Yes	Dinitrotoluene, 4-Amino-2,6-	19406-51-0					4.0E+01	1.0E+03		3.9E+01	
4.5E-01	X			9.0E-04	X					2.18	1	0.8	Yes	Dinitrotoluene, Technical grade	25321-14-6	1.7E-01	2.6E-01		1.0E-01	1.8E+01	3.0E+01		1.1E+01	
				1.0E-03	I					3.56	1	0.9	Yes	Dinoseb	88-85-7					2.0E+01	5.4E+01		1.5E+01	7.0E+00
1.0E-01	I	5.0E-06	I	3.0E-02	I	3.0E-02	I	V		-0.27	1	1	Yes	Dioxane, 1,4-	123-91-1	7.8E-01	2.3E+02	1.1E+00	4.6E-01	6.0E+02	1.9E+05	6.3E+01	5.7E+01	
														Dioxins										
6.2E+03	I	1.3E+00	I							8.21	1	0	No	~Hexachlorodibenzo-p-dioxin, Mixture	NA	1.3E-05			1.3E-05					
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C	V		6.8	1	0.5	No	~TCDD, 2,3,7,8-	1746-01-6	6.0E-07		1.5E-07	1.2E-07	1.4E-05		8.3E-05	1.2E-05	3.0E-05
				3.0E-02	I					2.17	1	1	Yes	Diphenamid	957-51-7					6.0E+02	4.2E+03		5.3E+02	
				8.0E-04	X					2.4	1	1	Yes	Diphenyl Sulfone	127-63-9					1.6E+01	2.0E+02		1.5E+01	
				2.5E-02	I					3.5	1	1	Yes	Diphenylamine	122-39-4					5.0E+02	8.4E+02		3.1E+02	
8.0E-01	I	2.2E-04	I							2.94	1	1	Yes	Diphenylhydrazine, 1,2-	122-66-7	9.7E-02	3.9E-01		7.8E-02					
				2.2E-03	I					-4.6	1	1	No	Diquat	85-00-7					4.4E+01			4.4E+01	2.0E+01
7.1E+00	C	1.4E-01	C							4.9	1	1	No	Direct Black 38	1937-37-7	1.1E-02			1.1E-02					
7.4E+00	C	1.4E-01	C							2.6	1	1	No	Direct Blue 6	2602-46-2	1.1E-02			1.1E-02					
6.7E+00	C	1.4E-01	C							-6.53	1	1	No	Direct Brown 95	16071-86-6	1.2E-02			1.2E-02					
				4.0E-05	I					4.02	1	0.9	Yes	Disulfoton	298-04-4					8.0E-01	1.3E+00		5.0E-01	
				1.0E-02	I			V		0.77	1	1	Yes	Dithiane, 1,4-	505-29-3					2.0E+02	1.6E+04		2.0E+02	
				2.0E-03	I					2.68	1	1	Yes	Diuron	330-54-1					4.0E+01	3.6E+02		3.6E+01	
				4.0E-03	I					1.15	1	1	Yes	Dodine	2439-10-3					8.0E+01	1.1E+04		8.0E+01	
				2.5E-02	I			V		3.21	1	1	Yes	EPTC	759-94-4					5.0E+02	1.5E+03		3.8E+02	
				6.0E-03	I			V		3.83	1	0.9	Yes	Endosulfan	115-29-7					1.2E+02	6.3E+02		1.0E+02	
				2.0E-02	I					1.91	1	1	Yes	Endothall	145-73-3					4.0E+02	8.5E+03		3.8E+02	1.0E+02
				3.0E-04	I					5.2	1	0.8	Yes	Endrin	72-20-8					6.0E+00	3.7E+00		2.3E+00	2.0E+00
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I	V		0.45	1	1	Yes	Epichlorohydrin	106-89-8	7.9E+00	7.9E+02	4.7E+00	2.9E+00	1.2E+02	1.3E+04	2.1E+00	2.0E+00	
						2.0E-02	I	V		0.86	1	1	Yes	Epoxybutane, 1,2-	106-88-7							4.2E+01	4.2E+01	
				4.0E-02	P					-1.18	1	1	Yes	Ethanol, 2-(2-methoxyethoxy)-	111-77-3					8.0E+02	3.9E+05		8.0E+02	
				5.0E-03	I					-0.22	1	1	Yes	Ethephon	16672-87-0					1.0E+02	4.2E+04		1.0E+02	
				5.0E-04	I					5.07	1	0.8	Yes	Ethion	563-12-2					1.0E+01	7.7E+00		4.3E+00	
				1.0E-01	P	6.0E-02	P	V		0.59	1	1	Yes	Ethoxyethanol Acetate, 2-	111-15-9					2.0E+03	2.3E+05	1.3E+02	1.2E+02	
				9.0E-02	P	2.0E-01	I	V		-0.32	1	1	Yes	Ethoxyethanol, 2-	110-80-5					1.8E+03	6.3E+05	4.2E+02	3.4E+02	
				9.0E-01	I	7.0E-02	P	V		0.73	1	1	Yes	Ethyl Acetate	141-78-6					1.8E+04	1.2E+06	1.5E+02	1.4E+02	
				5.0E-03	P	8.0E-03	P	V		1.32	1	1	Yes	Ethyl Acrylate	140-88-5					1.0E+02	3.0E+03	1.7E+01	1.4E+01	
						1.0E+01	I	V		1.43	1	1	Yes	Ethyl Chloride (Chloroethane)	75-00-3							2.1E+04	2.1E+04	
				2.0E-01	I			V		0.89	1	1	Yes	Ethyl Ether	60-29-7					4.0E+03	2.0E+05		3.9E+03	
						3.0E-01	P	V		1.94	1	1	Yes	Ethyl Methacrylate	97-63-2							6.3E+02	6.3E+02	
				1.0E-05	I					4.78	1	0.8	Yes	Ethyl-p-nitrophenyl Phosphonate	2104-64-5					2.0E-01	1.6E-01		8.9E-02	
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I	V		3.15	1	1	Yes	Ethylbenzene	100-41-4	7.1E+00	1.2E+01	2.2E+00	1.5E+00	2.0E+03	3.8E+03	2.1E+03	8.1E+02	7.0E+02
				7.0E-02	P					-0.94	1	1	Yes	Ethylene Cyanohydrin	109-78-4					1.4E+03	1.1E+06		1.4E+03	
				9.0E-02	P			V		-2.04	1	1	No	Ethylene Diamine	107-15-3					1.8E+03			1.8E+03	
				2.0E+00	I	4.0E-01	C			-1.36	1	1	Yes	Ethylene Glycol	107-21-1					4.0E+04	5.7E+07		4.0E+04	
				1.0E-01	I	1.6E+00	I			0.83	1	1	Yes	Ethylene Glycol Monobutyl Ether	111-76-2					2.0E+03	1.4E+05		2.0E+03	
3.1E-01	C	8.8E-05	C			3.0E-02	C	V		-0.3	1	1	Yes	Ethylene Oxide	75-21-8	2.5E-01	5.4E+01	6.4E-02	5.1E-02			6.3E+01	6.3E+01	
4.5E-02	C	1.3E-05	C	8.0E-05	I					-0.66	1	1	Yes	Ethylene Thiourea	96-45-7	1.7E+00	1.0E+03		1.7E+00	1.6E+00	1.0E+03		1.6E+00	
6.5E+01	C	1.9E-02	C					V		-0.28	1	1	Yes	Ethyleneimine	151-56-4	1.2E-03	2.5E-01	3.0E-04	2.4E-04					
				3.0E+00	I					2.19	1	1	Yes	Ethylphthalyl Ethyl Glycolate	84-72-0					6.0E+04	1.5E+06		5.8E+04	
				2.5E-04	I					3.23	1	0.9	Yes	Fenamiphos	22224-92-6					5.0E+00	3.4E+01		4.4E+00	
				2.5E-02	I					5.7	1	0.8	Yes	Fenpropathrin	39515-41-8					5.0E+02	7.3E+01		6.4E+01	
				2.5E-02	I					6.2	1	0.7	No	Fenvalerate	51630-58-1					5.0E+02			5.0E+02	
				1.3E-02	I					2.42	1	1	Yes	Fluometuron	2164-17-2					2.6E+02	3.4E+03		2.4E+02	

TR=1E-0
THQ=1

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information													Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				4.0E-02	C	1.3E-02	C				1	1	Yes	Fluoride	16984-48-8					8.0E+02	1.8E+05		8.0E+02	
				6.0E-02	I	1.3E-02	C				1	1	Yes	Fluorine (Soluble Fluoride)	7782-41-4					1.2E+03	2.7E+05		1.2E+03	4.0E+03
				8.0E-02	I					3.16	1	0.9	Yes	Fluridone	59756-60-4					1.6E+03	1.4E+04		1.4E+03	
				2.0E-02	I					3.34	1	0.9	Yes	Flurprimidol	56425-91-3					4.0E+02	2.4E+03		3.4E+02	
				7.0E-04	I					3.7	1	0.9	Yes	Flusilazole	85509-19-9					1.4E+01	5.0E+01		1.1E+01	
				6.0E-02	I					3.7	1	0.9	Yes	Flutolanil	66332-96-5					1.2E+03	4.5E+03		9.5E+02	
				1.0E-02	I					6.81	1	0.6	No	Fluvalinate	69409-94-5					2.0E+02			2.0E+02	
3.5E-03	I			1.0E-01	I					2.85	1	1	Yes	Folpet	133-07-3	2.2E+01	2.1E+02		2.0E+01	2.0E+03	2.1E+04		1.8E+03	
1.9E-01	I									2.9	1	1	Yes	Fomesafen	72178-02-0	4.1E-01	9.1E+00		3.9E-01					
				2.0E-03	I					3.94	1	0.9	Yes	Fonofos	944-22-9					4.0E+01	6.3E+01		2.4E+01	
		1.3E-05	I	2.0E-01	I	9.8E-03	A	V		0.35	1	1	Yes	Formaldehyde	50-00-0			4.3E-01	4.3E-01	4.0E+03	3.2E+05	2.0E+01	2.0E+01	
				9.0E-01	P	3.0E-04	X	V		-0.54	1	1	Yes	Formic Acid	64-18-6					1.8E+04	6.4E+06	6.3E-01	6.3E-01	
				3.0E+00	I					-2.4	1	1	No	Fosetyl-AL	39148-24-8					6.0E+04			6.0E+04	
														Furans										
				1.0E-03	X			V		4.12	1	1	Yes	~Dibenzofuran	132-64-9					2.0E+01	1.3E+01		7.9E+00	
				1.0E-03	I			V		1.34	1	1	Yes	~Furan	110-00-9					2.0E+01	4.8E+02		1.9E+01	
				9.0E-01	I	2.0E+00	I	V		0.46	1	1	Yes	~Tetrahydrofuran	109-99-9					1.8E+04	1.7E+06	4.2E+03	3.4E+03	
3.8E+00	H									-0.04	1	1	Yes	Furazolidone	67-45-8	2.1E-02	1.0E+01		2.0E-02					
				3.0E-03	I	5.0E-02	H	V		0.41	1	1	Yes	Furfural	98-01-1					6.0E+01	7.1E+03	1.0E+02	3.8E+01	
1.5E+00	C	4.3E-04	C							1.8	1	1	Yes	Furium	531-82-8	5.2E-02	1.9E+00		5.1E-02					
3.0E-02	I	8.6E-06	C							4.38	1	0.9	Yes	Furmecyclox	60568-05-0	2.6E+00	2.0E+00		1.1E+00					
				4.0E-04	I					-4.81	1	1	No	Glufosinate, Ammonium	77182-82-2					8.0E+00			8.0E+00	
						8.0E-05	C			-0.33	1	1	Yes	Glutaraldehyde	111-30-8									
				4.0E-04	I	1.0E-03	H	V		-0.12	1	1	Yes	Glycidyl	765-34-4					8.0E+00	1.8E+03	2.1E+00	1.7E+00	
				1.0E-01	I					-3.4	1	1	No	Glyphosate	1071-83-6					2.0E+03			2.0E+03	7.0E+02
				1.0E-02	X			V		-1.63	1	1	Yes	Guanidine	113-00-8					2.0E+02	4.2E+05		2.0E+02	
				2.0E-02	P					-3.56	1	1	No	Guanidine Chloride	50-01-1					4.0E+02			4.0E+02	
				5.0E-05	I					4.07	1	0.9	Yes	Haloxyfop, Methyl	69806-40-2					1.0E+00	3.1E+00		7.6E-01	
4.5E+00	I	1.3E-03	I	5.0E-04	I			V		6.1	1	0.8	Yes	Heptachlor	76-44-8	1.7E-02	2.3E-03	4.3E-03	1.4E-03	1.0E+01	1.5E+00		1.3E+00	4.0E-01
9.1E+00	I	2.6E-03	I	1.3E-05	I			V		4.98	1	0.8	Yes	Heptachlor Epoxide	1024-57-3	8.6E-03	7.1E-03	2.2E-03	1.4E-03	2.6E-01	2.4E-01		1.2E-01	2.0E-01
				2.0E-03	I			V		6.07	1	0.7	No	Hexabromobenzene	87-82-1					4.0E+01			4.0E+01	
				2.0E-04	I						1	0	No	Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2					4.0E+00			4.0E+00	
1.6E+00	I	4.6E-04	I	8.0E-04	I			V		5.73	1	0.9	No	Hexachlorobenzene	118-74-1	4.9E-02		1.2E-02	9.8E-03	1.6E+01			1.6E+01	1.0E+00
7.8E-02	I	2.2E-05	I	1.0E-03	P			V		4.78	1	0.9	Yes	Hexachlorobutadiene	87-68-3	1.0E+00	4.4E-01	2.6E-01	1.4E-01	2.0E+01	9.5E+00		6.5E+00	
6.3E+00	I	1.8E-03	I	8.0E-03	A					3.8	1	0.9	Yes	Hexachlorocyclohexane, Alpha-	319-84-6	1.2E-02	1.8E-02		7.2E-03	1.6E+02	2.5E+02		9.7E+01	
1.8E+00	I	5.3E-04	I							3.78	1	0.9	Yes	Hexachlorocyclohexane, Beta-	319-85-7	4.3E-02	6.1E-02		2.5E-02					
1.1E+00	C	3.1E-04	C	3.0E-04	I					3.72	1	0.9	Yes	Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	7.1E-02	1.0E-01		4.2E-02	6.0E+00	9.3E+00		3.6E+00	2.0E-01
1.8E+00	I	5.1E-04	I							4.14	1	0.9	Yes	Hexachlorocyclohexane, Technical	608-73-1	4.3E-02	6.1E-02		2.5E-02					
				6.0E-03	I	2.0E-04	I	V		5.04	1	0.9	Yes	Hexachlorocyclopentadiene	77-47-4					1.2E+02	4.2E+01	4.2E-01	4.1E-01	5.0E+01
4.0E-02	I	1.1E-05	C	7.0E-04	I	3.0E-02	I	V		4.14	1	1	Yes	Hexachloroethane	67-72-1	1.9E+00	1.7E+00	5.1E-01	3.3E-01	1.4E+01	1.4E+01	6.3E+01	6.2E+00	
				3.0E-04	I					7.54	1	0	No	Hexachlorophene	70-30-4					6.0E+00			6.0E+00	
1.1E-01	I			3.0E-03	I					0.87	1	1	Yes	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	7.1E-01	8.6E+01		7.0E-01	6.0E+01	8.0E+03		6.0E+01	
						1.0E-05	I	V		3.2	1	1	Yes	Hexamethylene Diisocyanate, 1,6-	822-06-0							2.1E-02	2.1E-02	
				4.0E-04	P					0.28	1	1	Yes	Hexamethylphosphoramide	680-31-9					8.0E+00	2.0E+03		8.0E+00	
						7.0E-01	I	V		3.9	1	1	Yes	Hexane, N-	110-54-3							1.5E+03	1.5E+03	
				2.0E+00	P					0.08	1	1	Yes	Hexanedioic Acid	124-04-9					4.0E+04	1.1E+07		4.0E+04	
				5.0E-03	I	3.0E-02	I	V		1.38	1	1	Yes	Hexanone, 2-	591-78-6					1.0E+02	2.8E+03	6.3E+01	3.8E+01	
				3.3E-02	I					1.85	1	1	Yes	Hexazinone	51235-04-2					6.6E+02	2.4E+04		6.4E+02	
				2.5E-02	I					5.57	1	0.8	Yes	Hexythiazox	78587-05-0					5.0E+02	1.4E+02		1.1E+02	
				3.0E-04	I					2.31	1	1	Yes	Hydramethylnon	67485-29-4					6.0E+00	5.1E+02		5.9E+00	
3.0E+00	I	4.9E-03	I			3.0E-05	P	V		-2.07	1	1	Yes	Hydrazine	302-01-2	2.6E-02	1.1E+02	1.1E-03	1.1E-03			6.3E-02	6.3E-02	
3.0E+00	I	4.9E-03	I								1	1	Yes	Hydrazine Sulfate	10034-93-2	2.6E-02	4.9E+00		2.6E-02					
						2.0E-02	I	V			1	1	Yes	Hydrogen Chloride	7647-01-0							4.2E+01	4.2E+01	
				4.0E-02	C	1.4E-02	C	V		0.23	1	1	Yes	Hydrogen Fluoride	7664-39-3					8.0E+02	1.8E+05	2.9E+01	2.8E+01	
						2.0E-03	I	V		0.23	1	1	Yes	Hydrogen Sulfide	7783-06-4							4.2E+00	4.2E+00	
6.0E-02	P			4.0E-02	P					0.59	1	1	Yes	Hydroquinone	123-31-9	1.3E+00	1.2E+02		1.3E+00	8.0E+02	7.9E+04		7.9E+02	
				1.3E-02	I					3.82	1	0.9	Yes	Imazalil	35554-44-0					2.6E+02	6.8E+02		1.9E+02	
				2.5E-01	I					1.86	1	1	Yes	Imazaquin	81335-37-7					5.0E+03	2.6E+05		4.9E+03	
				2.5E-01	I					1.49	1	1	Yes	Imazethapyr	81335-77-5					5.0E+03	7.2E+04		4.7E+03	
				1.0E-02	A					2.49	1	1	Yes	Iodine	7553-56-2					2.0E+02	4.6E+04		2.0E+02	
				4.0E-02	I					3	1	0.9	Yes	Iprodione	36734-19-7					8.0E+02	9.1E+03		7.4E+02	
				7.0E-01	P						1	1	Yes	Iron	7439-89-6					1.4E+04	3.2E+06		1.4E+04	
				3.0E-01	I			V		0.76	1	1	Yes	Isobutyl Alcohol	78-83-1					6.0E+03	3.6E+05		5.9E+03	
9.5E-04	I			2.0E-01	I	2.0E+00	C			1.7	1	1	Yes	Isophorone	78-59-1	8.2E+01	1.6E+03		7.8E+01	4.0E+03	8.6E+04		3.8E+03	

RSL-0-1-0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				1.5E-02	I			V		5.8	1	0.8	Yes	Isopropalin	33820-53-0					3.0E+02	4.6E+01		4.0E+01	
				2.0E+00	P	2.0E-01	P	V		0.05	1	1	Yes	Isopropanol	67-63-0					4.0E+04	6.5E+06	4.2E+02	4.1E+02	
				1.0E-01	I					0.27	1	1	Yes	Isopropyl Methyl Phosphonic Acid	1832-54-8					2.0E+03	3.9E+05		2.0E+03	
				5.0E-02	I					3.94	1	0.9	Yes	Isoxaben	82558-50-7					1.0E+03	2.7E+03		7.3E+02	
						3.0E-01	A	V		8	1	0	No	JP-7	NA							6.3E+02	6.3E+02	
				2.0E-03	I					4.81	1	0.9	Yes	Lactofen	77501-63-4					4.0E+01	6.7E+01		2.5E+01	
														Lead Compounds										
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	~Lead Chromate	7758-97-6	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02	
8.5E-03	C	1.2E-05	C								1	0.8	Yes	~Lead Phosphate	7446-27-7	9.2E+00	1.7E+03		9.1E+00					
2.8E-01	C	8.0E-05	C							-0.08	1	1	Yes	~Lead acetate	301-04-2	2.8E-01	2.8E+02		2.8E-01					
											1	1	Yes	~Lead and Compounds	7439-92-1								1.5E+01	1.5E+01
8.5E-03	C	1.2E-05	C							-4	1	1	No	~Lead subacetate	1335-32-6	9.2E+00			9.2E+00					
				1.0E-07	I			V		4.15	1	0.9	Yes	~Tetraethyl Lead	78-00-2					2.0E-03	3.8E-03		1.3E-03	
				5.0E-06	P			V		2.56	1	1	Yes	Lewisite	541-25-3					1.0E-01	9.1E-01		9.0E-02	
				2.0E-03	I					3.2	1	0.9	Yes	Linuron	330-55-2					4.0E+01	2.0E+02		3.3E+01	
				2.0E-03	P						1	1	Yes	Lithium	7439-93-2					4.0E+01	9.1E+03		4.0E+01	
				5.0E-04	I					3.25	1	1	Yes	MCPA	94-74-6					1.0E+01	3.0E+01		7.5E+00	
				1.0E-02	I					2.79	1	0.9	Yes	MCPB	94-81-5					2.0E+02	5.5E+02		1.5E+02	
				1.0E-03	I					3.13	1	1	Yes	MCPP	93-65-2					2.0E+01	7.1E+01		1.6E+01	
				2.0E-02	I					2.36	1	1	Yes	Malathion	121-75-5					4.0E+02	1.1E+04		3.9E+02	
				1.0E-01	I	7.0E-04	C			1.62	1	1	Yes	Maleic Anhydride	108-31-6					2.0E+03	3.8E+04		1.9E+03	
				5.0E-01	I					-0.84	1	1	Yes	Maleic Hydrazide	123-33-1					1.0E+04	8.9E+06		1.0E+04	
				1.0E-04	P					-0.6	1	1	Yes	Malononitrile	109-77-3					2.0E+00	9.2E+02		2.0E+00	
				3.0E-02	H					1.33	1	0.9	Yes	Mancozeb	8018-01-7					6.0E+02	4.9E+03		5.4E+02	
				5.0E-03	I					0.62	1	1	Yes	Maneb	12427-38-2					1.0E+02	3.6E+03		9.8E+01	
				1.4E-01	I	5.0E-05	I				1	1		Manganese (Diet)	7439-96-5									
				2.4E-02	S	5.0E-05	I				0.04	1	Yes	Manganese (Non-diet)	7439-96-5					4.8E+02	4.4E+03		4.3E+02	
				9.0E-05	H					1.04	1	1	Yes	Mephosfolan	950-10-7					1.8E+00	2.5E+02		1.8E+00	
				3.0E-02	I					-2.82	1	1	No	Mepiquat Chloride	24307-26-4					6.0E+02			6.0E+02	
														Mercury Compounds										
				3.0E-04	I	3.0E-04	S			-0.22	0.07	1	Yes	~Mercuric Chloride (and other Mercury salts)	7487-94-7					6.0E+00	9.6E+01		5.7E+00	2.0E+00
						3.0E-04	I	V		0.62	1	1	Yes	~Mercury (elemental)	7439-97-6							6.3E-01	6.3E-01	2.0E+00
				1.0E-04	I						1	1	Yes	~Methyl Mercury	22967-92-6					2.0E+00	4.6E+02		2.0E+00	
				8.0E-05	I					0.71	1	1	Yes	~Phenylmercuric Acetate	62-38-4					1.6E+00	5.7E+02		1.6E+00	
				3.0E-05	I			V		7.67	1	0.3	No	Merphos	150-50-5					6.0E-01			6.0E-01	
				3.0E-05	I					5.7	1	0.9	Yes	Merphos Oxide	78-48-8					6.0E-01	9.9E-02		8.5E-02	
				6.0E-02	I					1.65	1	1	Yes	Metalaxyl	57837-19-1					1.2E+03	6.4E+04		1.2E+03	
				1.0E-04	I	3.0E-02	P	V		0.68	1	1	Yes	Methacrylonitrile	126-98-7					2.0E+00	1.3E+02	6.3E+01	1.9E+00	
				5.0E-05	I					-0.8	1	1	Yes	Methamidophos	10265-92-6					1.0E+00	1.0E+03		1.0E+00	
				2.0E+00	I	2.0E+01	I	V		-0.77	1	1	Yes	Methanol	67-56-1					4.0E+04	1.8E+07	4.2E+04	2.0E+04	
				1.0E-03	I					2.2	1	1	Yes	Methidathion	950-37-8					2.0E+01	5.8E+02		1.9E+01	
				2.5E-02	I					0.6	1	1	Yes	Methomyl	16752-77-5					5.0E+02	6.8E+04		5.0E+02	
4.9E-02	C	1.4E-05	C							1.47	1	1	Yes	Methoxy-5-nitroaniline, 2-	99-59-2	1.6E+00	5.4E+01		1.5E+00					
				5.0E-03	I					5.08	1	0.8	Yes	Methoxychlor	72-43-5					1.0E+02	5.9E+01		3.7E+01	4.0E+01
				8.0E-03	P	1.0E-03	P	V		0.1	1	1	Yes	Methoxyethanol Acetate, 2-	110-49-6					1.6E+02	3.5E+04	2.1E+00	2.1E+00	
				5.0E-03	P	2.0E-02	I	V		-0.77	1	1	Yes	Methoxyethanol, 2-	109-86-4					1.0E+02	6.3E+04	4.2E+01	2.9E+01	
				1.0E+00	X			V		0.18	1	1	Yes	Methyl Acetate	79-20-9					2.0E+04	2.9E+06		2.0E+04	
						2.0E-02	P	V		0.8	1	1	Yes	Methyl Acrylate	96-33-3							4.2E+01	4.2E+01	
				6.0E-01	I	5.0E+00	I	V		0.29	1	1	Yes	Methyl Ethyl Ketone (2-Butanone)	78-93-3					1.2E+04	1.5E+06	1.0E+04	5.6E+03	
		1.0E-03	X	1.0E-03	P	2.0E-05	X	V		-1.05	1	1	Yes	Methyl Hydrazine	60-34-4			5.6E-03	5.6E-03	2.0E+01	1.5E+04	4.2E-02	4.2E-02	
						3.0E+00	I	V		1.31	1	1	Yes	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1							6.3E+03	6.3E+03	
						1.0E-03	C	V		0.79	1	1	Yes	Methyl Isocyanate	624-83-9							2.1E+00	2.1E+00	
				1.4E+00	I	7.0E-01	I	V		1.38	1	1	Yes	Methyl Methacrylate	80-62-6					2.8E+04	7.7E+05	1.5E+03	1.4E+03	
				2.5E-04	I					2.86	1	1	Yes	Methyl Parathion	298-00-0					5.0E+00	4.1E+01		4.5E+00	
				6.0E-02	X					-0.7	1	1	Yes	Methyl Phosphonic Acid	993-13-5					1.2E+03	1.2E+06		1.2E+03	
				6.0E-03	H	4.0E-02	H	V		3.44	1	0.8	Yes	Methyl Styrene (Mixed Isomers)	25013-15-4					1.2E+02	4.3E+01	8.3E+01	2.3E+01	
9.9E-02	C	2.8E-05	C							-0.66	1	1	Yes	Methyl methanesulfonate	66-27-3	7.9E-01	4.8E+02		7.9E-01					
1.8E-03	C	2.6E-07	C			3.0E+00	I	V		0.94	1	1	Yes	Methyl tert-Butyl Ether (MTBE)	1634-04-4	4.3E+01	2.0E+03	2.2E+01	1.4E+01			6.3E+03	6.3E+03	
				3.0E-04	X					-2.06	1	1	Yes	Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2					6.0E+00	5.9E+04		6.0E+00	
9.0E-03	P			2.0E-02	X					1.87	1	1	Yes	Methyl-5-Nitroaniline, 2-	99-55-8	8.7E+00	1.4E+02		8.2E+00	4.0E+02	7.3E+03		3.8E+02	
8.3E+00	C	2.4E-03	C							-0.92	1	1	Yes	Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	9.4E-03	1.1E+01		9.4E-03					
1.3E-01	C	3.7E-05	C							1.62	1	1	Yes	Methylaniline Hydrochloride, 2-	636-21-5	6.0E-01	3.9E+03		6.0E-01					
				1.0E-02	A					-1.18	1	1	Yes	Methylarsonic acid	124-58-3					2.0E+02	3.6E+05		2.0E+02	
				2.0E-04	X						1	0	No	Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7					4.0E+00			4.0E+00	

R1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
1.0E-01	X			3.0E-04	X						1	0	No	Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	7.8E-01			7.8E-01	6.0E+00			6.0E+00	
2.2E+01	C	6.3E-03	C						M	6.42	1	0.8	No	Methylcholanthrene, 3-	56-49-5	1.1E-03			1.1E-03					
2.0E-03	I	1.0E-08	I	6.0E-03	I	6.0E-01	I	V	M	1.25	1	1	Yes	Methylene Chloride	75-09-2	1.3E+01	3.5E+02	2.0E+02	1.1E+01	1.2E+02	3.7E+03	1.3E+03	1.1E+02	5.0E+00
1.0E-01	P	4.3E-04	C	2.0E-03	P				M	3.91	1	0.9	Yes	Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	2.5E-01	4.3E-01		1.6E-01	4.0E+01	7.5E+01		2.6E+01	
4.6E-02	I	1.3E-05	C							4.37	1	1	Yes	Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	1.7E+00	6.7E-01		4.8E-01					
1.6E+00	C	4.6E-04	C			2.0E-02	C			1.59	1	1	Yes	Methylenebisbenzenamine, 4,4'-	101-77-9	4.9E-02	1.7E+00		4.7E-02					
						6.0E-04	I			5.22	1	0.9	Yes	Methylenediphenyl Diisocyanate	101-68-8									
				7.0E-02	H			V		3.48	1	1	Yes	Methylstyrene, Alpha-	98-83-9					1.4E+03	1.7E+03		7.8E+02	
				1.5E-01	I					3.13	1	1	Yes	Metolachlor	51218-45-2					3.0E+03	2.6E+04		2.7E+03	
				2.5E-02	I					1.7	1	1	Yes	Metribuzin	21087-64-9					5.0E+02	1.8E+04		4.9E+02	
				2.5E-01	I					2.2	1	1	Yes	Metsulfuron-methyl	74223-64-6					5.0E+03	2.4E+05		4.9E+03	
				3.0E+00	P			V		6.1	1	1	No	Mineral oils	8012-95-1					6.0E+04			6.0E+04	
1.8E+01	C	5.1E-03	C	2.0E-04	I			V		6.89	1	0.5	No	Mirex	2385-85-5	4.3E-03		1.1E-03	8.8E-04	4.0E+00			4.0E+00	
				2.0E-03	I					3.21	1	1	Yes	Molinate	2212-67-1					4.0E+01	1.2E+02		3.0E+01	
				5.0E-03	I						1	1	Yes	Molybdenum	7439-98-7					1.0E+02	2.3E+04		1.0E+02	
				1.0E-01	I						1	1	Yes	Monochloramine	10599-90-3					2.0E+03	4.6E+05		2.0E+03	4.0E+03
				2.0E-03	P					1.66	1	1	Yes	Monomethylaniline	100-61-8					4.0E+01	7.5E+02		3.8E+01	
				2.5E-02	I					2.94	1	1	Yes	Myclobutanil	88671-89-0					5.0E+02	4.7E+03		4.5E+02	
				3.0E-04	X					4.04	1	0.9	Yes	N,N'-Diphenyl-1,4-benzenediamine	74-31-7					6.0E+00	8.9E+00		3.6E+00	
				2.0E-03	I			V		1.38	1	1	Yes	Naled	300-76-5					4.0E+01	6.8E+03		4.0E+01	
				3.0E-02	X	1.0E-01	P	V			1	0	No	Naphtha, High Flash Aromatic (HFAN)	64742-95-6					6.0E+02		2.1E+02	1.5E+02	
1.8E+00	C	0.0E+00	C							2.28	1	1	Yes	Naphthylamine, 2-	91-59-8	4.3E-02	3.6E-01		3.9E-02					
				1.0E-01	I					3.36	1	0.9	Yes	Napropamide	15299-99-7					2.0E+03	9.0E+03		1.6E+03	
		2.6E-04	C	1.1E-02	C	1.4E-05	C			-1.38	1	1	Yes	Nickel Acetate	373-02-4					2.2E+02	6.8E+05		2.2E+02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C			-2.12	1	1	Yes	Nickel Carbonate	3333-67-3					2.2E+02	1.4E+06		2.2E+02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C	V			1	0	Yes	Nickel Carbonyl	13463-39-3			2.2E-02	2.2E-02	2.2E+02		2.9E-02	2.9E-02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C				0.04	1	Yes	Nickel Hydroxide	12054-48-7					2.2E+02	2.0E+03		2.0E+02	
		2.6E-04	C	1.1E-02	C	2.0E-05	C				0.04	1	Yes	Nickel Oxide	1313-99-1					2.2E+02	2.0E+03		2.0E+02	
		2.4E-04	I	1.1E-02	C	1.4E-05	C				0.04	0	Yes	Nickel Refinery Dust	NA					2.2E+02	1.0E+04		2.2E+02	
		2.6E-04	C	2.0E-02	I	9.0E-05	A				0.04	1	Yes	Nickel Soluble Salts	7440-02-0					4.0E+02	1.8E+04		3.9E+02	
1.7E+00	C	4.8E-04	I	1.1E-02	C	1.4E-05	C				0.04	1	Yes	Nickel Subsulfide	12035-72-2	4.6E-02	1.7E+00		4.5E-02	2.2E+02	1.0E+04		2.2E+02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C				1	0	Yes	Nickelocene	1271-28-9					2.2E+02			2.2E+02	
				1.6E+00	I						1	1	Yes	Nitrate	14797-55-8					3.2E+04	7.3E+06		3.2E+04	1.0E+04
											1	0	Yes	Nitrate + Nitrite (as N)	NA									1.0E+04
				1.0E-01	I						1	1	Yes	Nitrite	14797-65-0					2.0E+03	4.6E+05		2.0E+03	1.0E+03
				1.0E-02	X	5.0E-05	X			1.85	1	1	Yes	Nitroaniline, 2-	88-74-4					2.0E+02	3.4E+03		1.9E+02	
2.0E-02	P			4.0E-03	P	6.0E-03	P			1.39	1	1	Yes	Nitroaniline, 4-	100-01-6	3.9E+00	1.2E+02		3.8E+00	8.0E+01	2.8E+03		7.8E+01	
		4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1.85	1	1	Yes	Nitrobenzene	98-95-3			1.4E-01	1.4E-01	4.0E+01	6.2E+02	1.9E+01	1.3E+01	
				3.0E+03	P					-4.56	1	1	No	Nitrocellulose	9004-70-0					6.0E+07			6.0E+07	
				7.0E-02	H					-0.47	1	1	Yes	Nitrofurantoin	67-20-9					1.4E+03	1.6E+06		1.4E+03	
1.3E+00	C	3.7E-04	C							0.23	1	1	Yes	Nitrofurazone	59-87-0	6.0E-02	1.7E+01		6.0E-02					
1.7E-02	P			1.0E-04	P					1.62	1	1	Yes	Nitroglycerin	55-63-0	4.6E+00	1.8E+02		4.5E+00	2.0E+00	8.7E+01		2.0E+00	
				1.0E-01	I					-0.89	1	1	Yes	Nitroguanidine	556-88-7					2.0E+03	1.8E+06		2.0E+03	
		8.8E-06	P			5.0E-03	P	V		-0.35	1	1	Yes	Nitromethane	75-52-5			6.4E-01	6.4E-01			1.0E+01	1.0E+01	
		2.7E-03	H			2.0E-02	I	V		0.93	1	1	Yes	Nitropropane, 2-	79-46-9			2.1E-03	2.1E-03			4.2E+01	4.2E+01	
2.7E+01	C	7.7E-03	C						M	0.23	1	1	Yes	Nitroso-N-ethylurea, N-	759-73-9	9.3E-04	1.5E-01		9.2E-04					
1.2E+02	C	3.4E-02	C						M	-0.03	1	1	Yes	Nitroso-N-methylurea, N-	684-93-5	2.1E-04	4.6E-02		2.1E-04					
5.4E+00	I	1.6E-03	I					V		2.63	1	1	Yes	Nitroso-di-N-butylamine, N-	924-16-3	1.4E-02	7.9E-02	3.5E-03	2.7E-03					
7.0E+00	I	2.0E-03	C							1.36	1	1	Yes	Nitroso-di-N-propylamine, N-	621-64-7	1.1E-02	3.5E-01		1.1E-02					
2.8E+00	I	8.0E-04	C							-1.28	1	1	Yes	Nitrosodiethanolamine, N-	1116-54-7	2.8E-02	8.1E+01		2.8E-02					
1.5E+02	I	4.3E-02	I						M	0.48	1	1	Yes	Nitrosodiethylamine, N-	55-18-5	1.7E-04	1.7E-02		1.7E-04					
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	V	M	-0.57	1	1	Yes	Nitrosodimethylamine, N-	62-75-9	4.9E-04	2.0E-01	1.4E-04	1.1E-04	1.6E-01	7.4E+01	8.3E-02	5.5E-02	
4.9E-03	I	2.6E-06	C							3.13	1	1	Yes	Nitrosodiphenylamine, N-	86-30-6	1.6E+01	5.2E+01		1.2E+01					
2.2E+01	I	6.3E-03	C					V		0.04	1	1	Yes	Nitrosomethylethylamine, N-	10595-95-6	3.5E-03	6.4E-01	8.9E-04	7.1E-04					
6.7E+00	C	1.9E-03	C							-0.44	1	1	Yes	Nitrosomorpholine [N-]	59-89-2	1.2E-02	5.3E+00		1.2E-02					
9.4E+00	C	2.7E-03	C							0.36	1	1	Yes	Nitrosopiperidine [N-]	100-75-4	8.3E-03	1.1E+00		8.2E-03					
2.1E+00	I	6.1E-04	I							-0.19	1	1	Yes	Nitrosopyrrolidine, N-	930-55-2	3.7E-02	1.0E+01		3.7E-02					
				1.0E-04	X					2.45	1	1	Yes	Nitrotoluene, m-	99-08-1					2.0E+00	1.4E+01		1.7E+00	
2.2E-01	P			9.0E-04	P			V		2.3	1	1	Yes	Nitrotoluene, o-	88-72-2	3.5E-01	2.8E+00		3.1E-01	1.8E+01	1.5E+02		1.6E+01	
1.6E-02	P			4.0E-03	P					2.37	1	1	Yes	Nitrotoluene, p-	99-99-0	4.9E+00	3.4E+01		4.3E+00	8.0E+01	6.2E+02		7.1E+01	
				3.0E-04	X	2.0E-02	P	V		5.65	1	1	No	Nonane, n-	111-84-2					6.0E+00		4.2E+01	5.3E+00	
				4.0E-02	I					2.3	1	1	Yes	Norflurazon	27314-13-2					8.0E+02	2.0E+04		7.7E+02	
				3.0E-03	I					8.71	1	0.3	No	Octabromodiphenyl Ether	32536-52-0					6.0E+01			6.0E+01	
				5.0E-02	I					0.16	1	1	Yes	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0					1.0E+03	6.3E+05		1.0E+03	

TR=1E-0
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information													Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				2.0E-03	H					-1.01	1	1	Yes	Octamethylpyrophosphoramide	152-16-9					4.0E+01	1.4E+05		4.0E+01	
				5.0E-02	I					3.73	1	0.9	Yes	Oryzalin	19044-88-3					1.0E+03	4.1E+03		8.1E+02	
				5.0E-03	I					4.8	1	0.8	Yes	Oxadiazon	19666-30-9					1.0E+02	9.0E+01		4.7E+01	
				2.5E-02	I					-0.47	1	1	Yes	Oxamyl	23135-22-0					5.0E+02	5.1E+05		5.0E+02	2.0E+02
				3.0E-03	I					4.73	1	0.8	Yes	Oxyfluorfen	42874-03-3					6.0E+01	6.7E+01		3.2E+01	
				1.3E-02	I					3.2	1	0.9	Yes	Paclobutrazol	76738-62-0					2.6E+02	1.7E+03		2.3E+02	
				4.5E-03	I					-4.5	1	1	No	Paraquat Dichloride	1910-42-5					9.0E+01			9.0E+01	
				6.0E-03	H					3.83	1	0.9	Yes	Parathion	56-38-2					1.2E+02	3.0E+02		8.6E+01	
				5.0E-02	H			V		3.83	1	1	Yes	Pebulate	1114-71-2					1.0E+03	1.3E+03		5.6E+02	
				4.0E-02	I					5.2	1	0.9	Yes	Pendimethalin	40487-42-1					8.0E+02	2.4E+02		1.8E+02	
				2.0E-03	I			V		6.84	1	0.6	No	Pentabromodiphenyl Ether	32534-81-9					4.0E+01			4.0E+01	
				1.0E-04	I					7.66	1	0.6	No	Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9					2.0E+00			2.0E+00	
				8.0E-04	I			V		5.17	1	0.9	Yes	Pentachlorobenzene	608-93-5					1.6E+01	3.9E+00		3.2E+00	
9.0E-02	P							V		3.22	1	1	Yes	Pentachloroethane	76-01-7	8.7E-01	2.5E+00		6.5E-01					
2.6E-01	H			3.0E-03	I			V		4.64	1	0.9	Yes	Pentachloronitrobenzene	82-68-8	3.0E-01	2.0E-01		1.2E-01	6.0E+01	4.4E+01		2.6E+01	
4.0E-01	I	5.1E-06	C	5.0E-03	I					5.12	1	0.9	Yes	Pentachlorophenol	87-86-5	1.9E-01	5.2E-02		4.1E-02	1.0E+02	2.9E+01		2.3E+01	1.0E+00
4.0E-03	X			2.0E-03	P					2.38	1	1	Yes	Pentaerythritol tetranitrate (PETN)	78-11-5	1.9E+01	4.3E+02		1.9E+01	4.0E+01	9.6E+02		3.9E+01	
						1.0E+00	P	V		3.39	1	1	Yes	Pentane, n-	109-66-0							2.1E+03	2.1E+03	
														Perchlorates										
				7.0E-04	I						1	1	Yes	~Ammonium Perchlorate	7790-98-9					1.4E+01	3.2E+03		1.4E+01	
				7.0E-04	I						1	1	Yes	~Lithium Perchlorate	7791-03-9					1.4E+01	3.2E+03		1.4E+01	
				7.0E-04	I						1	1	Yes	~Perchlorate and Perchlorate Salts	14797-73-0					1.4E+01	3.2E+03		1.4E+01	1.5E+01(F)
				7.0E-04	I						1	1	Yes	~Potassium Perchlorate	7778-74-7					1.4E+01	1.6E+03		1.4E+01	
				7.0E-04	I						1	1	Yes	~Sodium Perchlorate	7601-89-0					1.4E+01	3.2E+03		1.4E+01	
				2.0E-02	P			V		2.41	1	1	Yes	Perfluorobutane Sulfonate	375-73-5					4.0E+02	8.3E+03		3.8E+02	
				5.0E-02	I					6.5	1	0.6	No	Permethrin	52645-53-1					1.0E+03			1.0E+03	
2.2E-03	C	6.3E-07	C							1.58	1	1	Yes	Phenacetin	62-44-2	3.5E+01	1.1E+03		3.4E+01					
				2.5E-01	I					3.59	1	0.9	Yes	Phenmedipham	13684-63-4					5.0E+03	1.9E+04		4.0E+03	
				3.0E-01	I	2.0E-01	C			1.46	1	1	Yes	Phenol	108-95-2					6.0E+03	1.4E+05		5.8E+03	
				5.0E-04	X					4.15	1	1	Yes	Phenothiazine	92-84-2					1.0E+01	7.6E+00		4.3E+00	
				6.0E-03	I					-0.33	1	1	Yes	Phenylenediamine, m-	108-45-2					1.2E+02	4.8E+04		1.2E+02	
4.7E-02	H									0.15	1	1	Yes	Phenylenediamine, o-	95-54-5	1.7E+00	2.9E+02		1.6E+00					
				1.9E-01	H					-0.3	1	1	Yes	Phenylenediamine, p-	106-50-3					3.8E+03	1.4E+06		3.8E+03	
1.9E-03	H									3.09	1	1	Yes	Phenylphenol, 2-	90-43-7	4.0E+01	1.2E+02		3.0E+01					
				2.0E-04	H					3.56	1	0.9	Yes	Phorate	298-02-2					4.0E+00	1.2E+01		3.0E+00	
						3.0E-04	I	V		-0.71	1	1		Phosgene	75-44-5									
				2.0E-02	I					2.78	1	1	Yes	Phosmet	732-11-6					4.0E+02	5.3E+03		3.7E+02	
														Phosphates, Inorganic										
				4.9E+01	P						1	1	Yes	~Aluminum metaphosphate	13776-88-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0	Yes	~Ammonium polyphosphate	68333-79-9					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Calcium pyrophosphate	7790-76-3					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Diammonium phosphate	7783-28-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Dicalcium phosphate	7757-93-9					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Dimagnesium phosphate	7782-75-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Dipotassium phosphate	7758-11-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Disodium phosphate	7558-79-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monoaluminum phosphate	13530-50-2					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monoammonium phosphate	7722-76-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monocalcium phosphate	7758-23-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monomagnesium phosphate	7757-86-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monopotassium phosphate	7778-77-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monosodium phosphate	7558-80-7					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Polyphosphoric acid	8017-16-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.9	Yes	~Potassium tripolyphosphate	13845-36-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium acid pyrophosphate	7758-16-9					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium aluminum phosphate (acidic)	7785-88-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0	Yes	~Sodium aluminum phosphate (anhydrous)	10279-59-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.8	Yes	~Sodium aluminum phosphate (tetrahydrate)	10305-76-7					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.9	Yes	~Sodium hexametaphosphate	10124-56-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium polyphosphate	68915-31-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium trimetaphosphate	7785-84-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium tripolyphosphate	7758-29-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tetrapotassium phosphate	7320-34-5					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tetrasodium pyrophosphate	7722-88-5					9.7E+05	2.2E+08		9.7E+05	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				4.9E+01	P						1	0.8	Yes	~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tricalcium phosphate	7758-87-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Trimagnesium phosphate	7757-87-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tripotassium phosphate	7778-53-2					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Trisodium phosphate	7601-54-9					9.7E+05	2.2E+08		9.7E+05	
				3.0E-04	I	3.0E-04	I	V		-0.27	1	1	Yes	Phosphine	7803-51-2					6.0E+00	1.4E+03	6.3E-01	5.7E-01	
				4.9E+01	P	1.0E-02	I				1	1	Yes	Phosphoric Acid	7664-38-2					9.7E+05	2.2E+08		9.7E+05	
				2.0E-05	I			V		3.08	1	1	Yes	Phosphorus, White	7723-14-0					4.0E-01	9.1E+01		4.0E-01	
														Phthalates										
1.4E-02	I	2.4E-06	C	2.0E-02	I					7.6	1	0.8	No	~Bis(2-ethylhexyl)phthalate	117-81-7	5.6E+00			5.6E+00	4.0E+02			4.0E+02	6.0E+00
				1.0E+00	I					4.15	1	0.9	Yes	~Butylphthalyl Butylglycolate	85-70-1					2.0E+04	4.1E+04		1.3E+04	
				1.0E-01	I					4.5	1	0.9	Yes	~Dibutyl Phthalate	84-74-2					2.0E+03	1.6E+03		9.0E+02	
				8.0E-01	I					2.42	1	1	Yes	~Diethyl Phthalate	84-66-2					1.6E+04	2.0E+05		1.5E+04	
				1.0E-01	I			V		2.25	1	1	Yes	~Dimethylterephthalate	120-61-6					2.0E+03	2.7E+04		1.9E+03	
				1.0E-02	P					8.1	1	0	No	~Octyl Phthalate, di-N-	117-84-0					2.0E+02			2.0E+02	
				1.0E+00	H					2	1	1	Yes	~Phthalic Acid, P-	100-21-0					2.0E+04	3.3E+05		1.9E+04	
				2.0E+00	I	2.0E-02	C			1.6	1	1	Yes	~Phthalic Anhydride	85-44-9					4.0E+04	1.1E+06		3.9E+04	
				7.0E-02	I					1.9	1	1	Yes	Picloram	1918-02-1					1.4E+03	4.3E+04		1.4E+03	5.0E+02
				1.0E-04	X					0.93	1	1	Yes	Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3					2.0E+00	2.1E+02		2.0E+00	
				9.0E-04	X					1.44	1	1	Yes	Picric Acid (2,4,6-Trinitrophenol)	88-89-1					1.8E+01	1.2E+03		1.8E+01	
				1.0E-02	I					4.2	1	0.9	Yes	Pirimiphos, Methyl	29232-93-7					2.0E+02	3.1E+02		1.2E+02	
3.0E+01	C	8.6E-03	C	7.0E-06	H						1	0	No	Polybrominated Biphenyls	59536-65-1	2.6E-03			2.6E-03	1.4E-01			1.4E-01	
														Polychlorinated Biphenyls (PCBs)										
7.0E-02	S	2.0E-05	S	7.0E-05	I			V		5.69	1	0	No	~Aroclor 1016	12674-11-2	1.1E+00		2.8E-01	2.2E-01	1.4E+00			1.4E+00	
2.0E+00	S	5.7E-04	S					V		4.65	1	1	Yes	~Aroclor 1221	11104-28-2	3.9E-02	1.2E-02	9.8E-03	4.7E-03					
2.0E+00	S	5.7E-04	S					V		4.4	1	1	Yes	~Aroclor 1232	11141-16-5	3.9E-02	1.2E-02	9.8E-03	4.7E-03					
2.0E+00	S	5.7E-04	S					V		6.34	1	0.7	No	~Aroclor 1242	53469-21-9	3.9E-02		9.8E-03	7.8E-03					
2.0E+00	S	5.7E-04	S					V		6.2	1	0	No	~Aroclor 1248	12672-29-6	3.9E-02		9.8E-03	7.8E-03					
2.0E+00	S	5.7E-04	S	2.0E-05	I			V		6.5	1	0.5	No	~Aroclor 1254	11097-69-1	3.9E-02		9.8E-03	7.8E-03	4.0E-01			4.0E-01	
2.0E+00	S	5.7E-04	S					V		7.55	1	0	No	~Aroclor 1260	11096-82-5	3.9E-02		9.8E-03	7.8E-03					
				6.0E-04	X			V		6.34	1	0.7	No	~Aroclor 5460	11126-42-4					1.2E+01			1.2E+01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		8.27	1	0	No	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.5	1	0	No	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.6	1	0	No	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 157)	69782-90-7	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.6	1	0	No	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 156)	38380-08-4	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+03	E	1.1E+00	E	2.3E-08	E	1.3E-06	E	V		7.41	1	0.1	No	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	2.0E-05		4.9E-06	4.0E-06	4.7E-04		2.8E-03	4.0E-04	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 123)	65510-44-3	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.12	1	0.3	No	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.79	1	0.5	No	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
1.3E+04	E	3.8E+00	E	7.0E-09	E	4.0E-07	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	6.0E-06		1.5E-06	1.2E-06	1.4E-04		8.3E-04	1.2E-04	
2.0E+00	I	5.7E-04	I					V		7.1	1	0.7		~Polychlorinated Biphenyls (high risk)	1336-36-3									
4.0E-01	I	1.0E-04	I					V		7.1	1	0.7	No	~Polychlorinated Biphenyls (low risk)	1336-36-3	1.9E-01		5.6E-02	4.4E-02					5.0E-01
7.0E-02	I	2.0E-05	I					V		7.1	1	0.7		~Polychlorinated Biphenyls (lowest risk)	1336-36-3									
1.3E+01	E	3.8E-03	E	7.0E-06	E	4.0E-04	E			6.63	1	0.6	No	~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	*6.0E-03*			6.0E-03	1.4E-01			1.4E-01	
3.9E+01	E	1.1E-02	E	2.3E-06	E	1.3E-04	E	V		6.34	1	0.7	No	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	2.0E-03		4.9E-04	4.0E-04	4.7E-02		2.8E-01	4.0E-02	
						6.0E-04	I			10.46	1	0	No	Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9									
														Polynuclear Aromatic Hydrocarbons (PAHs)										
				6.0E-02	I			V		3.92	1	1	Yes	~Acenaphthene	83-32-9					1.2E+03	9.6E+02		5.3E+02	
				3.0E-01	I			V		4.45	1	1	Yes	~Anthracene	120-12-7					6.0E+03	2.5E+03		1.8E+03	
7.3E-01	E	1.1E-04	C					V	M	5.76	1	1	No	~Benz[a]anthracene	56-55-3	3.4E-02		1.8E-02	1.2E-02					
1.2E+00	C	1.1E-04	C							6.11	1	0.9	No	~Benzo(j)fluoranthene	205-82-3	6.5E-02			6.5E-02					
7.3E+00	I	1.1E-03	C						M	6.13	1	1	No	~Benzo[a]pyrene	50-32-8	3.4E-03			3.4E-03					2.0E-01
7.3E-01	E	1.1E-04	C						M	5.78	1	1	No	~Benzo[b]fluoranthene	205-99-2	3.4E-02			3.4E-02					
7.3E-02	E	1.1E-04	C						M	6.11	1	0.9	No	~Benzo[k]fluoranthene	207-08-9	3.4E-01			3.4E-01					
				8.0E-02	I			V		3.9	1	1	Yes	~Chloronaphthalene, Beta-	91-58-7					1.6E+03	1.4E+03		7.5E+02	
7.3E-03	E	1.1E-05	C						M	5.81	1	1	No	~Chrysene	218-01-9	3.4E+00			3.4E+00					
7.3E+00	E	1.2E-03	C						M	6.75	1	0.6	No	~Dibenz[a,h]anthracene	53-70-3	3.4E-03			3.4E-03					
1.2E+01	C	1.1E-03	C							7.71	1	0.3	No	~Dibenzo(a,e)pyrene	192-65-4	6.5E-03			6.5E-03					
2.5E+02	C	7.1E-02	C						M	5.8	1	0.9	No	~Dimethylbenz(a)anthracene, 7,12-	57-97-6	1.0E-04			1.0E-04					
				4.0E-02	I					5.16	1	1	No	~Fluoranthene	206-44-0					8.0E+02			8.0E+02	
				4.0E-02	I			V		4.18	1	1	Yes	~Fluorene	86-73-7					8.0E+02	4.6E+02		2.9E+02	
7.3E-01	E	1.1E-04	C						M	6.7	1	0.6	No	~Indeno[1,2,3-cd]pyrene	193-39-5	3.4E-02			3.4E-02					
2.9E-02	P			7.0E-02	A			V		3.87	1	1	Yes	~Methylnaphthalene, 1-	90-12-0	2.7E+00	2.0E+00		1.1E+00	1.4E+03	1.1E+03		6.2E+02	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				4.0E-03	I			V		3.86	1	1	Yes	~Methylnaphthalene, 2-	91-57-6					8.0E+01	6.5E+01		3.6E+01	
		3.4E-05	C	2.0E-02	I	3.0E-03	I	V		3.3	1	1	Yes	~Naphthalene	91-20-3			1.7E-01	1.7E-01	4.0E+02	7.0E+02	6.3E+00	6.1E+00	
1.2E+00	C	1.1E-04	C							4.75	1	0.9	Yes	~Nitropyrene, 4-	57835-92-4	6.5E-02	2.7E-02		1.9E-02					
				3.0E-02	I			V		4.88	1	1	Yes	~Pyrene	129-00-0					6.0E+02	1.5E+02		1.2E+02	
				2.0E-02	P					-0.33	1	1	Yes	Potassium Perfluorobutane Sulfonate	29420-49-3					4.0E+02	2.8E+05		4.0E+02	
1.5E-01	I			9.0E-03	I					4.1	1	0.9	Yes	Prochloraz	67747-09-5	5.2E-01	1.4E+00		3.8E-01	1.8E+02	5.1E+02		1.3E+02	
				6.0E-03	H			V		5.58	1	0.8	Yes	Profluralin	26399-36-0					1.2E+02	3.3E+01		2.6E+01	
				1.5E-02	I					2.99	1	1	Yes	Prometon	1610-18-0					3.0E+02	1.6E+03		2.5E+02	
				4.0E-03	I					3.51	1	0.9	Yes	Prometryn	7287-19-6					8.0E+01	2.3E+02		6.0E+01	
				1.3E-02	I					2.18	1	1	Yes	Propachlor	1918-16-7					2.6E+02	4.3E+03		2.5E+02	
				4.0E-03	I					1.52	1	1	Yes	Propanediol, 1,2-	114-26-1					8.0E+01	3.6E+03		7.8E+01	
				5.0E-03	I					3.07	1	1	Yes	Propanil	709-98-8					1.0E+02	4.4E+02		8.2E+01	
				2.0E-02	I					5	1	0.8	Yes	Propargite	2312-35-8					4.0E+02	2.7E+02		1.6E+02	
				2.0E-03	I			V		-0.38	1	1	Yes	Propargyl Alcohol	107-19-7					4.0E+01	1.2E+04		4.0E+01	
				2.0E-02	I					2.93	1	1	Yes	Propazine	139-40-2					4.0E+02	2.4E+03		3.4E+02	
				2.0E-02	I					2.6	1	1	Yes	Propham	122-42-9					4.0E+02	2.8E+03		3.5E+02	
				1.3E-02	I					3.72	1	0.9	Yes	Propiconazole	60207-90-1					2.6E+02	1.1E+03		2.1E+02	
						8.0E-03	I	V		0.59	1	1	Yes	Propionaldehyde	123-38-6							1.7E+01	1.7E+01	
				1.0E-01	X	1.0E+00	X	V		3.69	1	1	Yes	Propyl benzene	103-65-1					2.0E+03	1.8E+03	2.1E+03	6.6E+02	
						3.0E+00	C	V		1.77	1	1	Yes	Propylene	115-07-1							6.3E+03	6.3E+03	
				2.0E+01	P					-0.92	1	1	Yes	Propylene Glycol	57-55-6					4.0E+05	3.2E+08		4.0E+05	
						2.7E-04	A			1.83	1	1	Yes	Propylene Glycol Dinitrate	6423-43-4									
				7.0E-01	H	2.0E+00	I	V		-0.49	1	1	Yes	Propylene Glycol Monomethyl Ether	107-98-2					1.4E+04	3.9E+06	4.2E+03	3.2E+03	
2.4E-01	I	3.7E-06	I			3.0E-02	I	V		0.03	1	1	Yes	Propylene Oxide	75-56-9	3.2E-01	4.7E+01	1.5E+00	2.7E-01			6.3E+01	6.3E+01	
				7.5E-02	I					3.43	1	0.9	Yes	Propyzamide	23950-58-5					1.5E+03	5.5E+03		1.2E+03	
				1.0E-03	I			V		0.65	1	1	Yes	Pyridine	110-86-1					2.0E+01	1.5E+03		2.0E+01	
				5.0E-04	I					4.44	1	0.9	Yes	Quinalphos	13593-03-8					1.0E+01	1.0E+01		5.1E+00	
3.0E+00	I									2.03	1	1	Yes	Quinoline	91-22-5	2.6E-02	2.9E-01		2.4E-02					
				9.0E-03	I					4.28	1	0.9	Yes	Quizalofop-ethyl	76578-14-8					1.8E+02	3.8E+02		1.2E+02	
						3.0E-02	A				1	0	Yes	Refractory Ceramic Fibers	NA									
				3.0E-02	I					6.14	1	0.7	Yes	Resmethrin	10453-86-8					6.0E+02	7.6E+01		6.7E+01	
				5.0E-02	H			V		4.88	1	0.8	Yes	Ronnel	299-84-3					1.0E+03	6.8E+02		4.1E+02	
				4.0E-03	I					4.1	1	0.9	Yes	Rotenone	83-79-4					8.0E+01	2.6E+02		6.1E+01	
2.2E-01	C	6.3E-05	C						M	3.45	1	1	Yes	Safrole	94-59-7	1.1E-01	6.0E-01		9.6E-02					
				5.0E-03	I						1	1	Yes	Selenious Acid	7783-00-8					1.0E+02	2.3E+04		1.0E+02	
				5.0E-03	I	2.0E-02	C				1	1	Yes	Selenium	7782-49-2					1.0E+02	2.3E+04		1.0E+02	5.0E+01
				5.0E-03	C	2.0E-02	C				1	1	Yes	Selenium Sulfide	7446-34-6					1.0E+02	2.3E+04		1.0E+02	
				9.0E-02	I					4.38	1	0.9	Yes	Sethoxydim	74051-80-2					1.8E+03	2.4E+03		1.0E+03	
						3.0E-03	C				1	1	Yes	Silica (crystalline, respirable)	7631-86-9									
				5.0E-03	I						0.04	1	Yes	Silver	7440-22-4					1.0E+02	1.5E+03		9.4E+01	
1.2E-01	H			5.0E-03	I					2.18	1	1	Yes	Simazine	122-34-9	6.5E-01	9.3E+00		6.1E-01	1.0E+02	1.6E+03		9.4E+01	4.0E+00
				1.3E-02	I					0.37	1	1	Yes	Sodium Acifluorfen	62476-59-9					2.6E+02	2.1E+05		2.6E+02	
				4.0E-03	I						1	1	Yes	Sodium Azide	26628-22-8					8.0E+01	1.8E+04		8.0E+01	
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Sodium Dichromate	10588-01-9	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02	
2.7E-01	H			3.0E-02	I					-1.43	1	1	Yes	Sodium Diethyldithiocarbamate	148-18-5	2.9E-01	8.5E+02		2.9E-01	6.0E+02	1.9E+06		6.0E+02	
				5.0E-02	A	1.3E-02	C				1	1	Yes	Sodium Fluoride	7681-49-4					1.0E+03	2.3E+05		1.0E+03	
				2.0E-05	I					-3.78	1	1	No	Sodium Fluoroacetate	62-74-8					4.0E-01			4.0E-01	
				1.0E-03	H						1	1	Yes	Sodium Metavanadate	13718-26-8					2.0E+01	4.6E+03		2.0E+01	
				8.0E-04	P						1	1	Yes	Sodium Tungstate	13472-45-2					1.6E+01	3.6E+03		1.6E+01	
				8.0E-04	P						1	1	Yes	Sodium Tungstate Dihydrate	10213-10-2					1.6E+01	3.6E+03		1.6E+01	
2.4E-02	H			3.0E-02	I					3.53	1	0.9	Yes	Stirofos (Tetrachlorovinphos)	961-11-5	3.2E+00	1.9E+01		2.8E+00	6.0E+02	3.8E+03		5.2E+02	
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Strontium Chromate	7789-06-2	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02	
				6.0E-01	I						1	1	Yes	Strontium, Stable	7440-24-6					1.2E+04	2.7E+06		1.2E+04	
				3.0E-04	I					1.93	1	1	Yes	Strychnine	57-24-9					6.0E+00	3.2E+02		5.9E+00	
				2.0E-01	I	1.0E+00	I	V		2.95	1	1	Yes	Styrene	100-42-5					4.0E+03	1.0E+04	2.1E+03	1.2E+03	1.0E+02
				3.0E-03	P					3.1	1	1	Yes	Styrene-Acrylonitrile (SAN) Trimer	NA					6.0E+01	2.4E+02		4.8E+01	
				1.0E-03	P	2.0E-03	X			-0.77	1	1	Yes	Sulfolane	126-33-0					2.0E+01	1.7E+04		2.0E+01	
				8.0E-04	P					3.9	1	0.9	Yes	Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9					1.6E+01	3.5E+01		1.1E+01	
						1.0E-03	C	V			1	1	Yes	Sulfur Trioxide	7446-11-9							2.1E+00	2.1E+00	
						1.0E-03	C				1	1	Yes	Sulfuric Acid	7664-93-9									
2.5E-02	I	7.1E-06	I	5.0E-02	H					4.82	1	0.8	Yes	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	3.1E+00	2.3E+00		1.3E+00	1.0E+03	8.2E+02		4.5E+02	
				3.0E-02	H					3.3	1	0.9	Yes	TCMTB	21564-17-0					6.0E+02	2.4E+03		4.8E+02	
				7.0E-02	I					1.79	1	1	Yes	Tebuthiuron	34014-18-1					1.4E+03	4.7E+04		1.4E+03	
				2.0E-02	H					5.96	1	0.7	No	Temephos	3383-96-8					4.0E+02			4.0E+02	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				1.3E-02	I					1.89	1	1	Yes	Terbacil	5902-51-2					2.6E+02	7.0E+03		2.5E+02	
				2.5E-05	H			V		4.48	1	0.9	Yes	Terbufos	13071-79-9					5.0E-01	4.5E-01		2.4E-01	
				1.0E-03	I					3.74	1	0.9	Yes	Terbutryn	886-50-0					2.0E+01	4.1E+01		1.3E+01	
				1.0E-04	I					6.77	1	0.6	No	Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1					2.0E+00			2.0E+00	
				3.0E-04	I			V		4.64	1	1	Yes	Tetrachlorobenzene, 1,2,4,5-	95-94-3					6.0E+00	2.4E+00		1.7E+00	
2.6E-02	I	7.4E-06	I	3.0E-02	I			V		2.93	1	1	Yes	Tetrachloroethane, 1,1,1,2-	630-20-6	3.0E+00	1.1E+01	7.6E-01	5.7E-01	6.0E+02	2.4E+03		4.8E+02	
2.0E-01	I	5.8E-05	C	2.0E-02	I			V		2.39	1	1	Yes	Tetrachloroethane, 1,1,2,2-	79-34-5	3.9E-01	3.3E+00	9.7E-02	7.6E-02	4.0E+02	3.6E+03		3.6E+02	
2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		3.4	1	1	Yes	Tetrachloroethylene	127-18-4	3.7E+01	6.5E+01	2.2E+01	1.1E+01	1.2E+02	2.3E+02	8.3E+01	4.1E+01	5.0E+00
				3.0E-02	I					4.45	1	0.9	Yes	Tetrachlorophenol, 2,3,4,6-	58-90-2					6.0E+02	3.9E+02		2.4E+02	
2.0E+01	H							V		4.54	1	0.9	Yes	Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	3.9E-03	2.0E-03		1.3E-03					
				5.0E-04	I					3.99	1	0.9	Yes	Tetraethyl Dithiopyrophosphate	3689-24-5					1.0E+01	2.4E+01		7.1E+00	
						8.0E+01	I	V		1.68	1	1	Yes	Tetrafluoroethane, 1,1,1,2-	811-97-2							1.7E+05	1.7E+05	
				2.0E-03	P					1.64	1	1	Yes	Tetryl (Trinitrophenylmethylnitramine)	479-45-8					4.0E+01	2.5E+03		3.9E+01	
				7.0E-06	X						1	1	Yes	Thallium (I) Nitrate	10102-45-1					1.4E-01	3.2E+01		1.4E-01	
				1.0E-05	X						1	1	Yes	Thallium (Soluble Salts)	7440-28-0					2.0E-01	4.6E+01		2.0E-01	2.0E+00
				6.0E-06	X			V		-0.17	1	1	Yes	Thallium Acetate	563-68-8					1.2E-01	1.0E+02		1.2E-01	
				2.0E-05	X			V		-0.86	1	1	Yes	Thallium Carbonate	6533-73-9					4.0E-01	3.7E+03		4.0E-01	
				6.0E-06	X						1	1	Yes	Thallium Chloride	7791-12-0					1.2E-01	2.7E+01		1.2E-01	
				2.0E-05	X						1	0.9	Yes	Thallium Sulfate	7446-18-6					4.0E-01	9.1E+01		4.0E-01	
				1.3E-02	I					1.56	1	1	Yes	Thifensulfuron-methyl	79277-27-3					2.6E+02	3.5E+04		2.6E+02	
				1.0E-02	I					3.4	1	0.9	Yes	Thiobencarb	28249-77-6					2.0E+02	7.7E+02		1.6E+02	
				7.0E-02	X					-0.63	1	1	Yes	Thiodiglycol	111-48-8					1.4E+03	9.7E+05		1.4E+03	
				3.0E-04	H					2.16	1	1	Yes	Thiofanox	39196-18-4					6.0E+00	4.4E+01		5.3E+00	
				8.0E-02	I					1.4	1	1	Yes	Thiophanate, Methyl	23564-05-8					1.6E+03	2.1E+05		1.6E+03	
				5.0E-03	I					1.73	1	1	Yes	Thiram	137-26-8					1.0E+02	4.0E+03		9.8E+01	
				6.0E-01	H						1	1	Yes	Tin	7440-31-5					1.2E+04	2.7E+06		1.2E+04	
						1.0E-04	A	V			1	1	Yes	Titanium Tetrachloride	7550-45-0							2.1E-01	2.1E-01	
				8.0E-02	I	5.0E+00	I	V		2.73	1	1	Yes	Toluene	108-88-3					1.6E+03	5.3E+03	1.0E+04	1.1E+03	1.0E+03
1.8E-01	X			2.0E-04	X					0.16	1	1	Yes	Toluene-2,5-diamine	95-70-5	4.3E-01	8.2E+01		4.3E-01	4.0E+00	8.3E+02		4.0E+00	
3.0E-02	P			4.0E-03	X					1.39	1	1	Yes	Toluidine, p-	106-49-0	2.6E+00	6.8E+01		2.5E+00	8.0E+01	2.3E+03		7.7E+01	
				3.0E+00	P			V		6.1	1	1	No	Total Petroleum Hydrocarbons (Aliphatic High)	NA					6.0E+04			6.0E+04	
						6.0E-01	P	V		3.9	1	1	Yes	Total Petroleum Hydrocarbons (Aliphatic Low)	NA							1.3E+03	1.3E+03	
				1.0E-02	X	1.0E-01	P	V		5.65	1	1	No	Total Petroleum Hydrocarbons (Aliphatic Medium)	NA					2.0E+02		2.1E+02	1.0E+02	
				4.0E-02	P					5.16	1	1	No	Total Petroleum Hydrocarbons (Aromatic High)	NA					8.0E+02			8.0E+02	
				4.0E-03	P	3.0E-02	P	V		2.13	1	1	Yes	Total Petroleum Hydrocarbons (Aromatic Low)	NA					8.0E+01	6.1E+02	6.3E+01	3.3E+01	
				4.0E-03	P	3.0E-03	P	V		3.58	1	1	Yes	Total Petroleum Hydrocarbons (Aromatic Medium)	NA					8.0E+01	9.0E+01	6.3E+00	5.5E+00	
1.1E+00	I	3.2E-04	I							5.9	1	0.8	No	Toxaphene	8001-35-2	7.1E-02			7.1E-02					3.0E+00
				7.5E-03	I					7.56	1	0.5	No	Tralomethrin	66841-25-6					1.5E+02			1.5E+02	
				3.0E-04	A			V		4.1	1	0.9	Yes	Tri-n-butyltin	688-73-3					6.0E+00	9.9E+00		3.7E+00	
				8.0E+01	X					0.25	1	1	Yes	Triacetin	102-76-1					1.6E+06	5.3E+08		1.6E+06	
				3.0E-02	I					2.77	1	1	Yes	Triadimefon	43121-43-3					6.0E+02	6.9E+03		5.5E+02	
				1.3E-02	I			V		4.6	1	0.9	Yes	Triallate	2303-17-5					2.6E+02	2.2E+02		1.2E+02	
				1.0E-02	I					1.1	1	1	Yes	Triasulfuron	82097-50-5					2.0E+02	6.0E+04		2.0E+02	
				8.0E-03	I					0.78	1	1	Yes	Tribenuron-methyl	101200-48-0					1.6E+02	5.0E+03		1.6E+02	
				5.0E-03	I			V		4.66	1	0.9	Yes	Tribromobenzene, 1,2,4-	615-54-3					1.0E+02	8.1E+01		4.5E+01	
9.0E-03	P			1.0E-02	P					4	1	0.9	Yes	Tributyl Phosphate	126-73-8	8.7E+00	1.3E+01		5.2E+00	2.0E+02	3.3E+02		1.2E+02	
				3.0E-04	P						1	0	No	Tributyltin Compounds	NA					6.0E+00			6.0E+00	
				3.0E-04	I					4.05	1	1	Yes	Tributyltin Oxide	56-35-9					6.0E+00	9.5E+01		5.7E+00	
				3.0E+01	I	3.0E+01	H	V		3.16	1	1	Yes	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1					6.0E+05	1.9E+06	6.3E+04	5.5E+04	
7.0E-02	I			2.0E-02	I					1.33	1	1	Yes	Trichloroacetic Acid	76-03-9	1.1E+00	4.6E+01		1.1E+00	4.0E+02	1.8E+04		3.9E+02	6.0E+01
2.9E-02	H									-0.67	1	1	Yes	Trichloroaniline HCl, 2,4,6-	33663-50-2	2.7E+00	3.7E+03		2.7E+00					
7.0E-03	X			3.0E-05	X					3.52	1	1	Yes	Trichloroaniline, 2,4,6-	634-93-5	1.1E+01	2.0E+01		7.1E+00	6.0E-01	1.2E+00		4.0E-01	
				8.0E-04	X			V		4.05	1	1	Yes	Trichlorobenzene, 1,2,3-	87-61-6					1.6E+01	1.3E+01		7.0E+00	
2.9E-02	P			1.0E-02	I	2.0E-03	P	V		4.02	1	1	Yes	Trichlorobenzene, 1,2,4-	120-82-1	2.7E+00	2.0E+00		1.2E+00	2.0E+02	1.6E+02	4.2E+00	4.0E+00	7.0E+01
				2.0E+00	I	5.0E+00	I	V		2.49	1	1	Yes	Trichloroethane, 1,1,1-	71-55-6					4.0E+04	2.5E+05	1.0E+04	8.0E+03	2.0E+02
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V		1.89	1	1	Yes	Trichloroethane, 1,1,2-	79-00-5	1.4E+00	2.0E+01	3.5E-01	2.8E-01	8.0E+01	1.3E+03	4.2E-01	4.1E-01	5.0E+00
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M	2.42	1	1	Yes	Trichloroethylene	79-01-6	1.2E+00	7.4E+00	9.6E-01	4.9E-01	1.0E+01	6.9E+01	4.2E+00	2.8E+00	5.0E+00
				3.0E-01	I			V		2.53	1	1	Yes	Trichlorofluoromethane	75-69-4					6.0E+03	3.6E+04		5.2E+03	
				1.0E-01	I					3.72	1	1	Yes	Trichlorophenol, 2,4,5-	95-95-4					2.0E+03	2.9E+03		1.2E+03	
1.1E-02	I	3.1E-06	I	1.0E-03	P					3.69	1	1	Yes	Trichlorophenol, 2,4,6-	88-06-2	7.1E+00	9.8E+00		4.1E+00	2.0E+01	3.0E+01		1.2E+01	
				1.0E-02	I					3.31	1	0.9	Yes	Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5					2.0E+02	8.7E+02		1.6E+02	
				8.0E-03	I					3.8	1	0.9	Yes	Trichlorophenoxypropionic acid, -2,4,5	93-72-1					1.6E+02	3.6E+02		1.1E+02	5.0E+01
				5.0E-03	I			V		2.43	1	1	Yes	Trichloropropane, 1,1,2-	598-77-6					1.0E+02	7.5E+02		8.8E+01	
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M	2.27	1	1	Yes	Trichloropropane, 1,2,3-	96-18-4	8.4E-04	7.3E-03		7.5E-04	8.0E+01	7.7E+02	6.3E-01	6.2E-01	

TR=1E-06 HQ=1.0

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Toxicity and Chemical-specific Information													Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	Inhalation SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)
				3.0E-03	X	3.0E-04	P	V		2.78	1	1	Yes	Trichloropropene, 1,2,3-	96-19-5					6.0E+01	2.6E+02	6.3E-01	6.2E-01	
				2.0E-02	A					5.11	1	0.8	Yes	Tricresyl Phosphate (TCP)	1330-78-5					4.0E+02	2.6E+02		1.6E+02	
				3.0E-03	I					5.18	1	0.8	Yes	Tridiphane	58138-08-2					6.0E+01	2.6E+01		1.8E+01	
						7.0E-03	I	V		1.45	1	1	Yes	Triethylamine	121-44-8							1.5E+01	1.5E+01	
				2.0E+00	P					-1.75	1	1	Yes	Triethylene Glycol	112-27-6					4.0E+04	1.8E+08		4.0E+04	
						2.0E+01	P	V		1.74	1	1	Yes	Trifluoroethane, 1,1,1-	420-46-2							4.2E+04	4.2E+04	
7.7E-03	I			7.5E-03	I			V		5.34	1	0.8	Yes	Trifluralin	1582-09-8	1.0E+01	3.4E+00		2.6E+00	1.5E+02	5.5E+01		4.0E+01	
2.0E-02	P			1.0E-02	P					-0.65	1	1	Yes	Trimethyl Phosphate	512-56-1	3.9E+00	2.8E+03		3.9E+00	2.0E+02	1.6E+05		2.0E+02	
						5.0E-03	P	V		3.66	1	1	Yes	Trimethylbenzene, 1,2,3-	526-73-8							1.0E+01	1.0E+01	
						7.0E-03	P	V		3.63	1	1	Yes	Trimethylbenzene, 1,2,4-	95-63-6							1.5E+01	1.5E+01	
				1.0E-02	X			V		3.42	1	1	Yes	Trimethylbenzene, 1,3,5-	108-67-8					2.0E+02	2.8E+02		1.2E+02	
				1.0E-02	X			V		4.08	1	1	Yes	Trimethylpentene, 2,4,4-	25167-70-8					2.0E+02	9.6E+01		6.5E+01	
				3.0E-02	I					1.18	1	1	Yes	Trinitrobenzene, 1,3,5-	99-35-4					6.0E+02	4.7E+04		5.9E+02	
3.0E-02	I			5.0E-04	I					1.6	1	1	Yes	Trinitrotoluene, 2,4,6-	118-96-7	2.6E+00	1.1E+02		2.5E+00	1.0E+01	4.5E+02		9.8E+00	
				2.0E-02	P					2.83	1	1	Yes	Triphenylphosphine Oxide	791-28-6					4.0E+02	3.8E+03		3.6E+02	
				2.0E-02	A					3.65	1	0.9	Yes	Tris(1,3-Dichloro-2-propyl)Phosphate	13674-87-8					4.0E+02	3.2E+03		3.6E+02	
				1.0E-02	X					2.59	1	1	Yes	Tris(1-chloro-2-propyl)phosphate	13674-84-5					2.0E+02	3.8E+03		1.9E+02	
2.3E+00	C	6.6E-04	C					V		4.29	1	1	No	Tris(2,3-dibromopropyl)phosphate	126-72-7	3.4E-02		8.5E-03	6.8E-03					
2.0E-02	P			7.0E-03	P					1.44	1	1	Yes	Tris(2-chloroethyl)phosphate	115-96-8	3.9E+00	3.0E+02		3.8E+00	1.4E+02	1.2E+04		1.4E+02	
3.2E-03	P			1.0E-01	P					9.49	1	0	No	Tris(2-ethylhexyl)phosphate	78-42-2	2.4E+01			2.4E+01	2.0E+03			2.0E+03	
				8.0E-04	P						1	1	Yes	Tungsten	7440-33-7					1.6E+01	3.6E+03		1.6E+01	
				3.0E-03	I	4.0E-05	A				1	1	Yes	Uranium (Soluble Salts)	NA					6.0E+01	1.4E+04		6.0E+01	3.0E+01
1.0E+00	C	2.9E-04	C						M	-0.15	1	1	Yes	Urethane	51-79-6	2.5E-02	6.1E+00		2.5E-02					
		8.3E-03	P	9.0E-03	I	7.0E-06	P				0.026	1	Yes	Vanadium Pentoxide	1314-62-1					1.8E+02	1.1E+03		1.5E+02	
				5.0E-03	S	1.0E-04	A				0.026	1	Yes	Vanadium and Compounds	7440-62-2					1.0E+02	6.0E+02		8.6E+01	
				1.0E-03	I			V		3.84	1	1	Yes	Vernolate	1929-77-7					2.0E+01	2.5E+01		1.1E+01	
				2.5E-02	I					3.1	1	0.9	Yes	Vinclozolin	50471-44-8					5.0E+02	3.7E+03		4.4E+02	
				1.0E+00	H	2.0E-01	I	V		0.73	1	1	Yes	Vinyl Acetate	108-05-4					2.0E+04	1.4E+06	4.2E+02	4.1E+02	
		3.2E-05	H			3.0E-03	I	V		1.57	1	1	Yes	Vinyl Bromide	593-60-2			1.8E-01	1.8E-01			6.3E+00	6.3E+00	
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M	1.62	1	1	Yes	Vinyl Chloride	75-01-4	2.1E-02	2.8E-01	3.4E-01	1.9E-02	6.0E+01	8.9E+02	2.1E+02	4.4E+01	2.0E+00
				3.0E-04	I					2.7	1	1	Yes	Warfarin	81-81-2					6.0E+00	8.4E+01		5.6E+00	
				2.0E-01	S	1.0E-01	S	V		3.15	1	1	Yes	Xylene, P-	106-42-3					4.0E+03	7.6E+03	2.1E+02	1.9E+02	
				2.0E-01	S	1.0E-01	S	V		3.2	1	1	Yes	Xylene, m-	108-38-3					4.0E+03	7.1E+03	2.1E+02	1.9E+02	
				2.0E-01	S	1.0E-01	S	V		3.12	1	1	Yes	Xylene, o-	95-47-6					4.0E+03	8.0E+03	2.1E+02	1.9E+02	
				2.0E-01	I	1.0E-01	I	V		3.16	1	1	Yes	Xylenes	1330-20-7					4.0E+03	7.5E+03	2.1E+02	1.9E+02	1.0E+04
				3.0E-04	I						1	1	Yes	Zinc Phosphide	1314-84-7					6.0E+00	2.3E+03		6.0E+00	
				3.0E-01	I						1	1	Yes	Zinc and Compounds	7440-66-6					6.0E+03	2.3E+06		6.0E+03	
				5.0E-02	I					1.3	1	1	Yes	Zineb	12122-67-7					1.0E+03	9.7E+04		9.9E+02	
				8.0E-05	X						1	1	Yes	Zirconium	7440-67-7					1.6E+00	3.6E+02		1.6E+00	

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR $(ug/m^3)^{-1}$	key	RfC_i (mg/m^3)	key	vol	muta-gen		Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 $(\mu g/m^3)$
							Acephate	30560-19-1		
2.2E-06	I	9.0E-03	I	V			Acetaldehyde	75-07-0	1.3E+00	9.4E+00
							Acetochlor	34256-82-1		
		3.1E+01	A	V			Acetone	67-64-1		3.2E+04
		2.0E-03	X				Acetone Cyanohydrin	75-86-5		2.1E+00
		6.0E-02	I	V			Acetonitrile	75-05-8		6.3E+01
				V			Acetophenone	98-86-2		
1.3E-03	C						Acetylaminofluorene, 2-	53-96-3	2.2E-03	
		2.0E-05	I	V			Acrolein	107-02-8		2.1E-02
1.0E-04	I	6.0E-03	I		M		Acrylamide	79-06-1	1.0E-02	6.3E+00
		1.0E-03	I	V			Acrylic Acid	79-10-7		1.0E+00
6.8E-05	I	2.0E-03	I	V			Acrylonitrile	107-13-1	4.1E-02	2.1E+00
		6.0E-03	P				Adiponitrile	111-69-3		6.3E+00
							Alachlor	15972-60-8		
							Aldicarb	116-06-3		
							Aldicarb Sulfone	1646-88-4		
							Aldicarb sulfoxide	1646-87-3		
4.9E-03	I			V			Aldrin	309-00-2	5.7E-04	
		1.0E-04	X	V			Allyl Alcohol	107-18-6		1.0E-01
6.0E-06	C	1.0E-03	I	V			Allyl Chloride	107-05-1	4.7E-01	1.0E+00
		5.0E-03	P				Aluminum	7429-90-5		5.2E+00
							Aluminum Phosphide	20859-73-8		
							Ametryn	834-12-8		
6.0E-03	C						Aminobiphenyl, 4-	92-67-1	4.7E-04	
							Aminophenol, m-	591-27-5		
							Aminophenol, p-	123-30-8		
							Amitraz	33089-61-1		
		1.0E-01	I	V			Ammonia	7664-41-7		1.0E+02
							Ammonium Sulfamate	7773-06-0		
		3.0E-03	X	V			Amyl Alcohol, tert-	75-85-4		3.1E+00
1.6E-06	C	1.0E-03	I				Aniline	62-53-3	1.8E+00	1.0E+00
							Anthraquinone, 9,10-	84-65-1		
							Antimony (metallic)	7440-36-0		
							Antimony Pentoxide	1314-60-9		
							Antimony Tetroxide	1332-81-6		
		2.0E-04	I				Antimony Trioxide	1309-64-4		2.1E-01
4.3E-03	I	1.5E-05	C				Arsenic, Inorganic	7440-38-2	6.5E-04	1.6E-02
		5.0E-05	I				Arsine	7784-42-1		5.2E-02
							Asulam	3337-71-1		
							Atrazine	1912-24-9		
2.5E-04	C						Auramine	492-80-8	1.1E-02	
							Avermectin B1	65195-55-3		
		1.0E-02	A				Azinphos-methyl	86-50-0		1.0E+01
3.1E-05	I			V			Azobenzene	103-33-3	9.1E-02	
		7.0E-06	P				Azodicarbonamide	123-77-3		7.3E-03
		5.0E-04	H				Barium	7440-39-3		5.2E-01
1.5E-01	C	2.0E-04	C		M		Barium Chromate	10294-40-3	6.8E-06	2.1E-01
				V			Benfluralin	1861-40-1		
							Benomyl	17804-35-2		
							Bensulfuron-methyl	83055-99-6		
							Bentazon	25057-89-0		
				V			Benzaldehyde	100-52-7		
7.8E-06	I	3.0E-02	I	V			Benzene	71-43-2	3.6E-01	3.1E+01
							Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1		
				V			Benzenethiol	108-98-5		
6.7E-02	I				M		Benzidine	92-87-5	1.5E-05	
							Benzoic Acid	65-85-0		
				V			Benzotrichloride	98-07-7		
							Benzyl Alcohol	100-51-6		
4.9E-05	C	1.0E-03	P	V			Benzyl Chloride	100-44-7	5.7E-02	1.0E+00
2.4E-03	I	2.0E-05	I				Beryllium and compounds	7440-41-7	1.2E-03	2.1E-02
							Bifenox	42576-02-3		
							Biphenthrin	82657-04-3		
		4.0E-04	X	V			Biphenyl, 1,1'-	92-52-4		4.2E-01
				V			Bis(2-chloro-1-methylethyl) ether	108-60-1		
							Bis(2-chloroethoxy)methane	111-91-1		
3.3E-04	I			V			Bis(2-chloroethyl)ether	111-44-4	8.5E-03	
6.2E-02	I			V			Bis(chloromethyl)ether	542-88-1	4.5E-05	

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen		Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
							Bisphenol A	80-05-7		
		2.0E-02	H				Boron And Borates Only	7440-42-8		2.1E+01
		2.0E-02	P	V			Boron Trichloride	10294-34-5		2.1E+01
		1.3E-02	C	V			Boron Trifluoride	7637-07-2		1.4E+01
							Bromate	15541-45-4		
6.0E-04	X			V			Bromo-2-chloroethane, 1-	107-04-0	4.7E-03	
		6.0E-02	I	V			Bromobenzene	108-86-1		6.3E+01
		4.0E-02	X	V			Bromochloromethane	74-97-5		4.2E+01
3.7E-05	C			V			Bromodichloromethane	75-27-4	7.6E-02	
1.1E-06	I			V			Bromoform	75-25-2	2.6E+00	
		5.0E-03	I	V			Bromomethane	74-83-9		5.2E+00
				V			Bromophos	2104-96-3		
							Bromoxynil	1689-84-5		
				V			Bromoxynil Octanoate	1689-99-2		
3.0E-05	I	2.0E-03	I	V			Butadiene, 1,3-	106-99-0	9.4E-02	2.1E+00
				V			Butanol, N-	71-36-3		
							Butyl Benzyl Phthalate	85-68-7		
		3.0E+01	P	V			Butyl alcohol, sec-	78-92-2		3.1E+04
				V			Butylate	2008-41-5		
5.7E-08	C						Butylated hydroxyanisole	25013-16-5	4.9E+01	
							Butylated hydroxytoluene	128-37-0		
				V			Butylbenzene, n-	104-51-8		
				V			Butylbenzene, sec-	135-98-8		
				V			Butylbenzene, tert-	98-06-6		
							Cacodylic Acid	75-60-5		
1.8E-03	I	1.0E-05	A				Cadmium (Diet)	7440-43-9		
1.8E-03	I	1.0E-05	A				Cadmium (Water)	7440-43-9	1.6E-03	1.0E-02
1.5E-01	C	2.0E-04	C			M	Calcium Chromate	13765-19-0	6.8E-06	2.1E-01
		2.2E-03	C				Caprolactam	105-60-2		2.3E+00
4.3E-05	C						Captafol	2425-06-1	6.5E-02	
6.6E-07	C						Captan	133-06-2	4.3E+00	
							Carbaryl	63-25-2		
							Carbofuran	1563-66-2		
		7.0E-01	I	V			Carbon Disulfide	75-15-0		7.3E+02
6.0E-06	I	1.0E-01	I	V			Carbon Tetrachloride	56-23-5	4.7E-01	1.0E+02
		1.0E-01	P	V			Carbonyl Sulfide	463-58-1		1.0E+02
							Carbosulfan	55285-14-8		
							Carboxin	5234-68-4		
		9.0E-04	I				Ceric oxide	1306-38-3		9.4E-01
				V			Chloral Hydrate	302-17-0		
							Chloramben	133-90-4		
							Chloranil	118-75-2		
1.0E-04	I	7.0E-04	I	V			Chlordane	12789-03-6	2.8E-02	7.3E-01
4.6E-03	C						Chlordecone (Kepone)	143-50-0	6.1E-04	
							Chlorfenvinphos	470-90-6		
							Chlorimuron, Ethyl-	90982-32-4		
		1.5E-04	A	V			Chlorine	7782-50-5		1.5E-01
		2.0E-04	I	V			Chlorine Dioxide	10049-04-4		2.1E-01
							Chlorite (Sodium Salt)	7758-19-2		
		5.0E+01	I	V			Chloro-1,1-difluoroethane, 1-	75-68-3		5.2E+04
3.0E-04	I	2.0E-02	I	V			Chloro-1,3-butadiene, 2-	126-99-8	9.4E-03	2.1E+01
							Chloro-2-methylaniline HCl, 4-	3165-93-3		
7.7E-05	C						Chloro-2-methylaniline, 4-	95-69-2	3.6E-02	
				V			Chloroacetaldehyde, 2-	107-20-0		
							Chloroacetic Acid	79-11-8		
		3.0E-05	I				Chloroacetophenone, 2-	532-27-4		3.1E-02
							Chloroaniline, p-	106-47-8		
		5.0E-02	P	V			Chlorobenzene	108-90-7		5.2E+01
3.1E-05	C						Chlorobenzilate	510-15-6	9.1E-02	
							Chlorobenzoic Acid, p-	74-11-3		
		3.0E-01	P	V			Chlorobenzotrifluoride, 4-	98-56-6		3.1E+02
				V			Chlorobutane, 1-	109-69-3		
		5.0E+01	I	V			Chlorodifluoromethane	75-45-6		5.2E+04
				V			Chloroethanol, 2-	107-07-3		
2.3E-05	I	9.8E-02	A	V			Chloroform	67-66-3	1.2E-01	1.0E+02
		9.0E-02	I	V			Chloromethane	74-87-3		9.4E+01
6.9E-04	C			V			Chloromethyl Methyl Ether	107-30-2	4.1E-03	
		1.0E-05	X				Chloronitrobenzene, o-	88-73-3		1.0E-02

TR=1E-06
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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen		Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
		6.0E-04	P				Chloronitrobenzene, p-	100-00-5		6.3E-01
				V			Chlorophenol, 2-	95-57-8		
		4.0E-04	C	V			Chloropicrin	76-06-2		4.2E-01
8.9E-07	C						Chlorothalonil	1897-45-6	3.2E+00	
				V			Chlorotoluene, o-	95-49-8		
				V			Chlorotoluene, p-	106-43-4		
6.9E-02	C						Chlorozotocin	54749-90-5	4.1E-05	
							Chlorpropham	101-21-3		
							Chlorpyrifos	2921-88-2		
							Chlorpyrifos Methyl	5598-13-0		
							Chlorsulfuron	64902-72-3		
							Chlorthal-dimethyl	1861-32-1		
							Chlorthiophos	60238-56-4		
							Chromium(III), Insoluble Salts	16065-83-1		
8.4E-02	S	1.0E-04	I		M		Chromium(VI)	18540-29-9	1.2E-05	1.0E-01
							Chromium, Total	7440-47-3		
							Clofentezine	74115-24-5		
9.0E-03	P	6.0E-06	P				Cobalt	7440-48-4	3.1E-04	6.3E-03
6.2E-04	I			V	M		Coke Oven Emissions	8007-45-2	1.6E-03	
							Copper	7440-50-8		
		6.0E-01	C				Cresol, m-	108-39-4		6.3E+02
		6.0E-01	C				Cresol, o-	95-48-7		6.3E+02
		6.0E-01	C				Cresol, p-	106-44-5		6.3E+02
							Cresol, p-chloro-m-	59-50-7		
		6.0E-01	C				Cresols	1319-77-3		6.3E+02
				V			Crotonaldehyde, trans-	123-73-9		
		4.0E-01	I	V			Cumene	98-82-8		4.2E+02
6.3E-05	C						Cupferron	135-20-6	4.5E-02	
							Cyanazine	21725-46-2		
							Cyanides			
							~Calcium Cyanide	592-01-8		
							~Copper Cyanide	544-92-3		
		8.0E-04	S	V			~Cyanide (CN-)	57-12-5		8.3E-01
				V			~Cyanogen	460-19-5		
				V			~Cyanogen Bromide	506-68-3		
				V			~Cyanogen Chloride	506-77-4		
		8.0E-04	I	V			~Hydrogen Cyanide	74-90-8		8.3E-01
							~Potassium Cyanide	151-50-8		
							~Potassium Silver Cyanide	506-61-6		
							~Silver Cyanide	506-64-9		
							~Sodium Cyanide	143-33-9		
							~Thiocyanates	NA		
				V			~Thiocyanic Acid	463-56-9		
							~Zinc Cyanide	557-21-1		
		6.0E+00	I	V			Cyclohexane	110-82-7		6.3E+03
							Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3		
		7.0E-01	P	V			Cyclohexanone	108-94-1		7.3E+02
		1.0E+00	X	V			Cyclohexene	110-83-8		1.0E+03
				V			Cyclohexylamine	108-91-8		
							Cyfluthrin	68359-37-5		
							Cyhalothrin	68085-85-8		
							Cypermethrin	52315-07-8		
							Cyromazine	66215-27-8		
6.9E-05	C						DDD	72-54-8	4.1E-02	
9.7E-05	C			V			DDE, p,p'-	72-55-9	2.9E-02	
9.7E-05	I						DDT	50-29-3	2.9E-02	
							Dalapon	75-99-0		
5.1E-06	C						Daminozide	1596-84-5	5.5E-01	
							Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5		
							Demeton	8065-48-3		
							Di(2-ethylhexyl)adipate	103-23-1		
							Diallate	2303-16-4		
							Diazinon	333-41-5		
				V			Dibenzothiophene	132-65-0		
6.0E-03	P	2.0E-04	I	V	M		Dibromo-3-chloropropane, 1,2-	96-12-8	1.7E-04	2.1E-01
				V			Dibromobenzene, 1,3-	108-36-1		
				V			Dibromobenzene, 1,4-	106-37-6		
				V			Dibromochloromethane	124-48-1		

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
6.0E-04	I	9.0E-03	I	V		Dibromoethane, 1,2-	106-93-4	4.7E-03	9.4E+00
		4.0E-03	X	V		Dibromomethane (Methylene Bromide)	74-95-3		4.2E+00
						Dibutyltin Compounds	NA		
						Dicamba	1918-00-9		
4.2E-03	P			V		Dichloro-2-butene, 1,4-	764-41-0	6.7E-04	
4.2E-03	P			V		Dichloro-2-butene, cis-1,4-	1476-11-5	6.7E-04	
4.2E-03	P			V		Dichloro-2-butene, trans-1,4-	110-57-6	6.7E-04	
						Dichloroacetic Acid	79-43-6		
		2.0E-01	H	V		Dichlorobenzene, 1,2-	95-50-1		2.1E+02
1.1E-05	C	8.0E-01	I	V		Dichlorobenzene, 1,4-	106-46-7	2.6E-01	8.3E+02
3.4E-04	C					Dichlorobenzidine, 3,3'-	91-94-1	8.3E-03	
						Dichlorobenzophenone, 4,4'-	90-98-2		
		1.0E-01	X	V		Dichlorodifluoromethane	75-71-8		1.0E+02
1.6E-06	C			V		Dichloroethane, 1,1-	75-34-3	1.8E+00	
2.6E-05	I	7.0E-03	P	V		Dichloroethane, 1,2-	107-06-2	1.1E-01	7.3E+00
		2.0E-01	I	V		Dichloroethylene, 1,1-	75-35-4		2.1E+02
				V		Dichloroethylene, 1,2-cis-	156-59-2		
				V		Dichloroethylene, 1,2-trans-	156-60-5		
						Dichlorophenol, 2,4-	120-83-2		
						Dichlorophenoxy Acetic Acid, 2,4-	94-75-7		
						Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6		
1.0E-05	C	4.0E-03	I	V		Dichloropropane, 1,2-	78-87-5	2.8E-01	4.2E+00
				V		Dichloropropane, 1,3-	142-28-9		
						Dichloropropanol, 2,3-	616-23-9		
4.0E-06	I	2.0E-02	I	V		Dichloropropene, 1,3-	542-75-6	7.0E-01	2.1E+01
8.3E-05	C	5.0E-04	I			Dichlorvos	62-73-7	3.4E-02	5.2E-01
						Dicrotophos	141-66-2		
		3.0E-04	X	V		Dicyclopentadiene	77-73-6		3.1E-01
4.6E-03	I					Dieldrin	60-57-1	6.1E-04	
3.0E-04	C	5.0E-03	I			Diesel Engine Exhaust	NA	9.4E-03	5.2E+00
		2.0E-04	P			Diethanolamine	111-42-2		2.1E-01
		1.0E-04	P			Diethylene Glycol Monobutyl Ether	112-34-5		1.0E-01
		3.0E-04	P			Diethylene Glycol Monoethyl Ether	111-90-0		3.1E-01
				V		Diethylformamide	617-84-5		
1.0E-01	C					Diethylstilbestrol	56-53-1	2.8E-05	
						Difenzoquat	43222-48-6		
						Diflubenzuron	35367-38-5		
		4.0E+01	I	V		Difluoroethane, 1,1-	75-37-6		4.2E+04
1.3E-05	C			V		Dihydrosafrole	94-58-6	2.2E-01	
		7.0E-01	P	V		Diisopropyl Ether	108-20-3		7.3E+02
				V		Diisopropyl Methylphosphonate	1445-75-6		
						Dimethipin	55290-64-7		
						Dimethoate	60-51-5		
						Dimethoxybenzidine, 3,3'-	119-90-4		
						Dimethyl methylphosphonate	756-79-6		
1.3E-03	C					Dimethylamino azobenzene [p-]	60-11-7	2.2E-03	
						Dimethylaniline HCl, 2,4-	21436-96-4		
						Dimethylaniline, 2,4-	95-68-1		
				V		Dimethylaniline, N,N-	121-69-7		
						Dimethylbenzidine, 3,3'-	119-93-7		
		3.0E-02	I	V		Dimethylformamide	68-12-2		3.1E+01
		2.0E-06	X	V		Dimethylhydrazine, 1,1-	57-14-7		2.1E-03
1.6E-01	C			V		Dimethylhydrazine, 1,2-	540-73-8	1.8E-05	
						Dimethylphenol, 2,4-	105-67-9		
						Dimethylphenol, 2,6-	576-26-1		
						Dimethylphenol, 3,4-	95-65-8		
1.3E-05	C			V		Dimethylvinylchloride	513-37-1	2.2E-01	
						Dinitro-o-cresol, 4,6-	534-52-1		
						Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5		
						Dinitrobenzene, 1,2-	528-29-0		
						Dinitrobenzene, 1,3-	99-65-0		
						Dinitrobenzene, 1,4-	100-25-4		
						Dinitrophenol, 2,4-	51-28-5		
						Dinitrotoluene Mixture, 2,4/2,6-	NA		
8.9E-05	C					Dinitrotoluene, 2,4-	121-14-2	3.2E-02	
						Dinitrotoluene, 2,6-	606-20-2		
						Dinitrotoluene, 2-Amino-4,6-	35572-78-2		
						Dinitrotoluene, 4-Amino-2,6-	19406-51-0		

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
						Dinitrotoluene, Technical grade	25321-14-6		
						Dinoseb	88-85-7		
5.0E-06	I	3.0E-02	I	V		Dioxane, 1,4-	123-91-1	5.6E-01	3.1E+01
						Dioxins			
1.3E+00	I					~Hexachlorodibenzo-p-dioxin, Mixture	NA	2.2E-06	
3.8E+01	C	4.0E-08	C	V		~TCDD, 2,3,7,8-	1746-01-6	7.4E-08	4.2E-05
						Diphenamid	957-51-7		
						Diphenyl Sulfone	127-63-9		
						Diphenylamine	122-39-4		
2.2E-04	I					Diphenylhydrazine, 1,2-	122-66-7	1.3E-02	
						Diquat	85-00-7		
1.4E-01	C					Direct Black 38	1937-37-7	2.0E-05	
1.4E-01	C					Direct Blue 6	2602-46-2	2.0E-05	
1.4E-01	C					Direct Brown 95	16071-86-6	2.0E-05	
						Disulfoton	298-04-4		
					V	Dithiane, 1,4-	505-29-3		
						Diuron	330-54-1		
						Dodine	2439-10-3		
					V	EPTC	759-94-4		
					V	Endosulfan	115-29-7		
						Endothall	145-73-3		
						Endrin	72-20-8		
1.2E-06	I	1.0E-03	I	V		Epichlorohydrin	106-89-8	2.3E+00	1.0E+00
		2.0E-02	I	V		Epoxybutane, 1,2-	106-88-7		2.1E+01
						Ethanol, 2-(2-methoxyethoxy)-	111-77-3		
						Ethephon	16672-87-0		
						Ethion	563-12-2		
		6.0E-02	P	V		Ethoxyethanol Acetate, 2-	111-15-9		6.3E+01
		2.0E-01	I	V		Ethoxyethanol, 2-	110-80-5		2.1E+02
		7.0E-02	P	V		Ethyl Acetate	141-78-6		7.3E+01
		8.0E-03	P	V		Ethyl Acrylate	140-88-5		8.3E+00
		1.0E+01	I	V		Ethyl Chloride (Chloroethane)	75-00-3		1.0E+04
				V		Ethyl Ether	60-29-7		
		3.0E-01	P	V		Ethyl Methacrylate	97-63-2		3.1E+02
						Ethyl-p-nitrophenyl Phosphonate	2104-64-5		
2.5E-06	C	1.0E+00	I	V		Ethylbenzene	100-41-4	1.1E+00	1.0E+03
						Ethylene Cyanohydrin	109-78-4		
				V		Ethylene Diamine	107-15-3		
		4.0E-01	C			Ethylene Glycol	107-21-1		4.2E+02
		1.6E+00	I			Ethylene Glycol Monobutyl Ether	111-76-2		1.7E+03
8.8E-05	C	3.0E-02	C	V		Ethylene Oxide	75-21-8	3.2E-02	3.1E+01
1.3E-05	C					Ethylene Thiourea	96-45-7	2.2E-01	
1.9E-02	C			V		Ethyleneimine	151-56-4	1.5E-04	
						Ethylphthalyl Ethyl Glycolate	84-72-0		
						Fenamiphos	22224-92-6		
						Fenpropathrin	39515-41-8		
						Fenvalerate	51630-58-1		
						Fluometuron	2164-17-2		
		1.3E-02	C			Fluoride	16984-48-8		1.4E+01
		1.3E-02	C			Fluorine (Soluble Fluoride)	7782-41-4		1.4E+01
						Fluridone	59756-60-4		
						Flurprimidol	56425-91-3		
						Flusilazole	85509-19-9		
						Flutolanil	66332-96-5		
						Fluvalinate	69409-94-5		
						Folpet	133-07-3		
						Fomesafen	72178-02-0		
						Fonofos	944-22-9		
1.3E-05	I	9.8E-03	A	V		Formaldehyde	50-00-0	2.2E-01	1.0E+01
		3.0E-04	X	V		Formic Acid	64-18-6		3.1E-01
						Fosetyl-AL	39148-24-8		
						Furans			
					V	~Dibenzofuran	132-64-9		
					V	~Furan	110-00-9		
		2.0E+00	I	V		~Tetrahydrofuran	109-99-9		2.1E+03
						Furazolidone	67-45-8		
		5.0E-02	H	V		Furfural	98-01-1		5.2E+01
4.3E-04	C					Furium	531-82-8	6.5E-03	

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
8.6E-06	C					Furmecyclox	60568-05-0	3.3E-01	
						Glufosinate, Ammonium	77182-82-2		
		8.0E-05	C			Glutaraldehyde	111-30-8		8.3E-02
		1.0E-03	H	V		Glycidyl	765-34-4		1.0E+00
						Glyphosate	1071-83-6		
				V		Guanidine	113-00-8		
						Guanidine Chloride	50-01-1		
						Haloxyfop, Methyl	69806-40-2		
1.3E-03	I			V		Heptachlor	76-44-8	2.2E-03	
2.6E-03	I			V		Heptachlor Epoxide	1024-57-3	1.1E-03	
				V		Hexabromobenzene	87-82-1		
						Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2		
4.6E-04	I			V		Hexachlorobenzene	118-74-1	6.1E-03	
2.2E-05	I			V		Hexachlorobutadiene	87-68-3	1.3E-01	
1.8E-03	I					Hexachlorocyclohexane, Alpha-	319-84-6	1.6E-03	
5.3E-04	I					Hexachlorocyclohexane, Beta-	319-85-7	5.3E-03	
3.1E-04	C					Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	9.1E-03	
5.1E-04	I					Hexachlorocyclohexane, Technical	608-73-1	5.5E-03	
		2.0E-04	I	V		Hexachlorocyclopentadiene	77-47-4		2.1E-01
1.1E-05	C	3.0E-02	I	V		Hexachloroethane	67-72-1	2.6E-01	3.1E+01
						Hexachlorophene	70-30-4		
						Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4		
		1.0E-05	I	V		Hexamethylene Diisocyanate, 1,6-	822-06-0		1.0E-02
						Hexamethylphosphoramide	680-31-9		
		7.0E-01	I	V		Hexane, N-	110-54-3		7.3E+02
						Hexanedioic Acid	124-04-9		
		3.0E-02	I	V		Hexanone, 2-	591-78-6		3.1E+01
						Hexazinone	51235-04-2		
						Hexythiazox	78587-05-0		
						Hydramethylnon	67485-29-4		
4.9E-03	I	3.0E-05	P	V		Hydrazine	302-01-2	5.7E-04	3.1E-02
4.9E-03	I					Hydrazine Sulfate	10034-93-2	5.7E-04	
		2.0E-02	I	V		Hydrogen Chloride	7647-01-0		2.1E+01
		1.4E-02	C	V		Hydrogen Fluoride	7664-39-3		1.5E+01
		2.0E-03	I	V		Hydrogen Sulfide	7783-06-4		2.1E+00
						Hydroquinone	123-31-9		
						Imazalil	35554-44-0		
						Imazaquin	81335-37-7		
						Imazethapyr	81335-77-5		
						Iodine	7553-56-2		
						Iprodione	36734-19-7		
						Iron	7439-89-6		
				V		Isobutyl Alcohol	78-83-1		
		2.0E+00	C			Isophorone	78-59-1		2.1E+03
				V		Isopropalin	33820-53-0		
		2.0E-01	P	V		Isopropanol	67-63-0		2.1E+02
						Isopropyl Methyl Phosphonic Acid	1832-54-8		
						Isoxaben	82558-50-7		
		3.0E-01	A	V		JP-7	NA		3.1E+02
						Lactofen	77501-63-4		
						Lead Compounds			
1.5E-01	C	2.0E-04	C		M	~Lead Chromate	7758-97-6	6.8E-06	2.1E-01
1.2E-05	C					~Lead Phosphate	7446-27-7	2.3E-01	
8.0E-05	C					~Lead acetate	301-04-2	3.5E-02	
						~Lead and Compounds	7439-92-1		1.5E-01
1.2E-05	C					~Lead subacetate	1335-32-6	2.3E-01	
				V		~Tetraethyl Lead	78-00-2		
				V		Lewisite	541-25-3		
						Linuron	330-55-2		
						Lithium	7439-93-2		
						MCPA	94-74-6		
						MCPB	94-81-5		
						MCPP	93-65-2		
						Malathion	121-75-5		
		7.0E-04	C			Maleic Anhydride	108-31-6		7.3E-01
						Maleic Hydrazide	123-33-1		
						Malononitrile	109-77-3		
						Mancozeb	8018-01-7		

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
						Maneb	12427-38-2		
		5.0E-05	I			Manganese (Diet)	7439-96-5		
		5.0E-05	I			Manganese (Non-diet)	7439-96-5		5.2E-02
						Mephosfolan	950-10-7		
						Mepiquat Chloride	24307-26-4		
						Mercury Compounds			
		3.0E-04	S			~Mercuric Chloride (and other Mercury salts)	7487-94-7		3.1E-01
		3.0E-04	I	V		~Mercury (elemental)	7439-97-6		3.1E-01
						~Methyl Mercury	22967-92-6		
						~Phenylmercuric Acetate	62-38-4		
				V		Merphos	150-50-5		
						Merphos Oxide	78-48-8		
						Metalaxyl	57837-19-1		
		3.0E-02	P	V		Methacrylonitrile	126-98-7		3.1E+01
						Methamidophos	10265-92-6		
		2.0E+01	I	V		Methanol	67-56-1		2.1E+04
						Methidathion	950-37-8		
						Methomyl	16752-77-5		
1.4E-05	C					Methoxy-5-nitroaniline, 2-	99-59-2	2.0E-01	
						Methoxychlor	72-43-5		
		1.0E-03	P	V		Methoxyethanol Acetate, 2-	110-49-6		1.0E+00
		2.0E-02	I	V		Methoxyethanol, 2-	109-86-4		2.1E+01
				V		Methyl Acetate	79-20-9		
		2.0E-02	P	V		Methyl Acrylate	96-33-3		2.1E+01
		5.0E+00	I	V		Methyl Ethyl Ketone (2-Butanone)	78-93-3		5.2E+03
1.0E-03	X	2.0E-05	X	V		Methyl Hydrazine	60-34-4	2.8E-03	2.1E-02
		3.0E+00	I	V		Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1		3.1E+03
		1.0E-03	C	V		Methyl Isocyanate	624-83-9		1.0E+00
		7.0E-01	I	V		Methyl Methacrylate	80-62-6		7.3E+02
						Methyl Parathion	298-00-0		
						Methyl Phosphonic Acid	993-13-5		
		4.0E-02	H	V		Methyl Styrene (Mixed Isomers)	25013-15-4		4.2E+01
2.8E-05	C					Methyl methanesulfonate	66-27-3	1.0E-01	
2.6E-07	C	3.0E+00	I	V		Methyl tert-Butyl Ether (MTBE)	1634-04-4	1.1E+01	3.1E+03
						Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2		
						Methyl-5-Nitroaniline, 2-	99-55-8		
2.4E-03	C					Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	1.2E-03	
3.7E-05	C					Methylaniline Hydrochloride, 2-	636-21-5	7.6E-02	
						Methylarsonic acid	124-58-3		
						Methylbenzene,1,4-diamine monohydrochloride, 2-	74612-12-7		
						Methylbenzene-1,4-diamine sulfate, 2-	615-50-9		
6.3E-03	C				M	Methylcholanthrene, 3-	56-49-5	1.6E-04	
1.0E-08	I	6.0E-01	I	V	M	Methylene Chloride	75-09-2	1.0E+02	6.3E+02
4.3E-04	C				M	Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	2.4E-03	
1.3E-05	C					Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	2.2E-01	
4.6E-04	C	2.0E-02	C			Methylenebisbenzenamine, 4,4'-	101-77-9	6.1E-03	2.1E+01
		6.0E-04	I			Methylenediphenyl Diisocyanate	101-68-8		6.3E-01
				V		Methylstyrene, Alpha-	98-83-9		
						Metolachlor	51218-45-2		
						Metribuzin	21087-64-9		
						Metsulfuron-methyl	74223-64-6		
				V		Mineral oils	8012-95-1		
5.1E-03	C			V		Mirex	2385-85-5	5.5E-04	
						Molinate	2212-67-1		
						Molybdenum	7439-98-7		
						Monochloramine	10599-90-3		
						Monomethylaniline	100-61-8		
						Myclobutanil	88671-89-0		
						N,N'-Diphenyl-1,4-benzenediamine	74-31-7		
				V		Naled	300-76-5		
		1.0E-01	P	V		Naphtha, High Flash Aromatic (HFAN)	64742-95-6		1.0E+02
0.0E+00	C					Naphthylamine, 2-	91-59-8		
						Napropamide	15299-99-7		
2.6E-04	C	1.4E-05	C			Nickel Acetate	373-02-4	1.1E-02	1.5E-02
2.6E-04	C	1.4E-05	C			Nickel Carbonate	3333-67-3	1.1E-02	1.5E-02
2.6E-04	C	1.4E-05	C	V		Nickel Carbonyl	13463-39-3	1.1E-02	1.5E-02
2.6E-04	C	1.4E-05	C			Nickel Hydroxide	12054-48-7	1.1E-02	1.5E-02
2.6E-04	C	2.0E-05	C			Nickel Oxide	1313-99-1	1.1E-02	2.1E-02

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR $(ug/m^3)^{-1}$	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 $(\mu g/m^3)$
2.4E-04	I	1.4E-05	C			Nickel Refinery Dust	NA	1.2E-02	1.5E-02
2.6E-04	C	9.0E-05	A			Nickel Soluble Salts	7440-02-0	1.1E-02	9.4E-02
4.8E-04	I	1.4E-05	C			Nickel Subsulfide	12035-72-2	5.8E-03	1.5E-02
2.6E-04	C	1.4E-05	C			Nickelocene	1271-28-9	1.1E-02	1.5E-02
						Nitrate	14797-55-8		
						Nitrate + Nitrite (as N)	NA		
						Nitrite	14797-65-0		
		5.0E-05	X			Nitroaniline, 2-	88-74-4		5.2E-02
		6.0E-03	P			Nitroaniline, 4-	100-01-6		6.3E+00
4.0E-05	I	9.0E-03	I	V		Nitrobenzene	98-95-3	7.0E-02	9.4E+00
						Nitrocellulose	9004-70-0		
						Nitrofurantoin	67-20-9		
3.7E-04	C					Nitrofurazone	59-87-0	7.6E-03	
						Nitroglycerin	55-63-0		
						Nitroguanidine	556-88-7		
8.8E-06	P	5.0E-03	P	V		Nitromethane	75-52-5	3.2E-01	5.2E+00
2.7E-03	H	2.0E-02	I	V		Nitropropane, 2-	79-46-9	1.0E-03	2.1E+01
7.7E-03	C				M	Nitroso-N-ethylurea, N-	759-73-9	1.3E-04	
3.4E-02	C				M	Nitroso-N-methylurea, N-	684-93-5	3.0E-05	
1.6E-03	I			V		Nitroso-di-N-butylamine, N-	924-16-3	1.8E-03	
2.0E-03	C					Nitroso-di-N-propylamine, N-	621-64-7	1.4E-03	
8.0E-04	C					Nitrosodiethanolamine, N-	1116-54-7	3.5E-03	
4.3E-02	I				M	Nitrosodiethylamine, N-	55-18-5	2.4E-05	
1.4E-02	I	4.0E-05	X	V	M	Nitrosodimethylamine, N-	62-75-9	7.2E-05	4.2E-02
2.6E-06	C					Nitrosodiphenylamine, N-	86-30-6	1.1E+00	
6.3E-03	C			V		Nitrosomethylethylamine, N-	10595-95-6	4.5E-04	
1.9E-03	C					Nitrosomorpholine [N-]	59-89-2	1.5E-03	
2.7E-03	C					Nitrosopiperidine [N-]	100-75-4	1.0E-03	
6.1E-04	I					Nitrosopyrrolidine, N-	930-55-2	4.6E-03	
						Nitrotoluene, m-	99-08-1		
				V		Nitrotoluene, o-	88-72-2		
						Nitrotoluene, p-	99-99-0		
		2.0E-02	P	V		Nonane, n-	111-84-2		2.1E+01
						Norflurazon	27314-13-2		
						Octabromodiphenyl Ether	32536-52-0		
						Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0		
						Octamethylpyrophosphoramide	152-16-9		
						Oryzalin	19044-88-3		
						Oxadiazon	19666-30-9		
						Oxamyl	23135-22-0		
						Oxyfluorfen	42874-03-3		
						Paclobutrazol	76738-62-0		
						Paraquat Dichloride	1910-42-5		
						Parathion	56-38-2		
				V		Pebulate	1114-71-2		
						Pendimethalin	40487-42-1		
				V		Pentabromodiphenyl Ether	32534-81-9		
						Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9		
				V		Pentachlorobenzene	608-93-5		
				V		Pentachloroethane	76-01-7		
				V		Pentachloronitrobenzene	82-68-8		
5.1E-06	C					Pentachlorophenol	87-86-5	5.5E-01	
						Pentaerythritol tetranitrate (PETN)	78-11-5		
		1.0E+00	P	V		Pentane, n-	109-66-0		1.0E+03
						Perchlorates			
						~Ammonium Perchlorate	7790-98-9		
						~Lithium Perchlorate	7791-03-9		
						~Perchlorate and Perchlorate Salts	14797-73-0		
						~Potassium Perchlorate	7778-74-7		
						~Sodium Perchlorate	7601-89-0		
				V		Perfluorobutane Sulfonate	375-73-5		
						Permethrin	52645-53-1		
6.3E-07	C					Phenacetin	62-44-2	4.5E+00	
						Phenmedipham	13684-63-4		
		2.0E-01	C			Phenol	108-95-2		2.1E+02
						Phenothiazine	92-84-2		
						Phenylenediamine, m-	108-45-2		
						Phenylenediamine, o-	95-54-5		

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
						Phenylenediamine, p-	106-50-3		
						Phenylphenol, 2-	90-43-7		
						Phorate	298-02-2		
		3.0E-04	I	V		Phosgene	75-44-5		3.1E-01
						Phosmet	732-11-6		
						Phosphates, Inorganic			
						~Aluminum metaphosphate	13776-88-0		
						~Ammonium polyphosphate	68333-79-9		
						~Calcium pyrophosphate	7790-76-3		
						~Diammonium phosphate	7783-28-0		
						~Dicalcium phosphate	7757-93-9		
						~Dimagnesium phosphate	7782-75-4		
						~Dipotassium phosphate	7758-11-4		
						~Disodium phosphate	7558-79-4		
						~Monoaluminum phosphate	13530-50-2		
						~Monoammonium phosphate	7722-76-1		
						~Monocalcium phosphate	7758-23-8		
						~Monomagnesium phosphate	7757-86-0		
						~Monopotassium phosphate	7778-77-0		
						~Monosodium phosphate	7558-80-7		
						~Polyphosphoric acid	8017-16-1		
						~Potassium tripolyphosphate	13845-36-8		
						~Sodium acid pyrophosphate	7758-16-9		
						~Sodium aluminum phosphate (acidic)	7785-88-8		
						~Sodium aluminum phosphate (anhydrous)	10279-59-1		
						~Sodium aluminum phosphate (tetrahydrate)	10305-76-7		
						~Sodium hexametaphosphate	10124-56-8		
						~Sodium polyphosphate	68915-31-1		
						~Sodium trimetaphosphate	7785-84-4		
						~Sodium tripolyphosphate	7758-29-4		
						~Tetrapotassium phosphate	7320-34-5		
						~Tetrasodium pyrophosphate	7722-88-5		
						~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5		
						~Tricalcium phosphate	7758-87-4		
						~Trimagnesium phosphate	7757-87-1		
						~Tripotassium phosphate	7778-53-2		
						~Trisodium phosphate	7601-54-9		
		3.0E-04	I	V		Phosphine	7803-51-2		3.1E-01
		1.0E-02	I			Phosphoric Acid	7664-38-2		1.0E+01
				V		Phosphorus, White	7723-14-0		
						Phthalates			
2.4E-06	C					~Bis(2-ethylhexyl)phthalate	117-81-7	1.2E+00	
						~Butylphthalyl Butylglycolate	85-70-1		
						~Dibutyl Phthalate	84-74-2		
						~Diethyl Phthalate	84-66-2		
				V		~Dimethylterephthalate	120-61-6		
						~Octyl Phthalate, di-N-	117-84-0		
						~Phthalic Acid, P-	100-21-0		
		2.0E-02	C			~Phthalic Anhydride	85-44-9		2.1E+01
						Picloram	1918-02-1		
						Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3		
						Picric Acid (2,4,6-Trinitrophenol)	88-89-1		
						Pirimiphos, Methyl	29232-93-7		
8.6E-03	C					Polybrominated Biphenyls	59536-65-1	3.3E-04	
						Polychlorinated Biphenyls (PCBs)			
2.0E-05	S			V		~Aroclor 1016	12674-11-2	1.4E-01	
5.7E-04	S			V		~Aroclor 1221	11104-28-2	4.9E-03	
5.7E-04	S			V		~Aroclor 1232	11141-16-5	4.9E-03	
5.7E-04	S			V		~Aroclor 1242	53469-21-9	4.9E-03	
5.7E-04	S			V		~Aroclor 1248	12672-29-6	4.9E-03	
5.7E-04	S			V		~Aroclor 1254	11097-69-1	4.9E-03	
5.7E-04	S			V		~Aroclor 1260	11096-82-5	4.9E-03	
				V		~Aroclor 5460	11126-42-4		
1.1E-03	E	1.3E-03	E	V		~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	2.5E-03	1.4E+00
1.1E-03	E	1.3E-03	E	V		~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	2.5E-03	1.4E+00
1.1E-03	E	1.3E-03	E	V		~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	2.5E-03	1.4E+00
1.1E-03	E	1.3E-03	E	V		~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	2.5E-03	1.4E+00
1.1E+00	E	1.3E-06	E	V		~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	2.5E-06	1.4E-03

THQ=1.0E-01
THQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	2.5E-03	1.4E+00
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	2.5E-03	1.4E+00
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	2.5E-03	1.4E+00
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	2.5E-03	1.4E+00
3.8E+00	E	4.0E-07	E	V		~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	7.4E-07	4.2E-04
5.7E-04	I			V		~Polychlorinated Biphenyls (high risk)	1336-36-3	4.9E-03	
1.0E-04	I			V		~Polychlorinated Biphenyls (low risk)	1336-36-3	2.8E-02	
2.0E-05	I			V		~Polychlorinated Biphenyls (lowest risk)	1336-36-3	1.4E-01	
3.8E-03	E	4.0E-04	E			~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	7.4E-04	4.2E-01
1.1E-02	E	1.3E-04	E	V		~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	2.5E-04	1.4E-01
		6.0E-04	I			Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9		6.3E-01
						Polynuclear Aromatic Hydrocarbons (PAHs)			
				V		~Acenaphthene	83-32-9		
				V		~Anthracene	120-12-7		
1.1E-04	C			V	M	~Benz[a]anthracene	56-55-3	9.2E-03	
1.1E-04	C					~Benzo(j)fluoranthene	205-82-3	2.6E-02	
1.1E-03	C				M	~Benzo[a]pyrene	50-32-8	9.2E-04	
1.1E-04	C				M	~Benzo[b]fluoranthene	205-99-2	9.2E-03	
1.1E-04	C				M	~Benzo[k]fluoranthene	207-08-9	9.2E-03	
				V		~Chloronaphthalene, Beta-	91-58-7		
1.1E-05	C				M	~Chrysene	218-01-9	9.2E-02	
1.2E-03	C				M	~Dibenz[a,h]anthracene	53-70-3	8.4E-04	
1.1E-03	C					~Dibenzo(a,e)pyrene	192-65-4	2.6E-03	
7.1E-02	C				M	~Dimethylbenz(a)anthracene, 7,12-	57-97-6	1.4E-05	
						~Fluoranthene	206-44-0		
				V		~Fluorene	86-73-7		
1.1E-04	C				M	~Indeno[1,2,3-cd]pyrene	193-39-5	9.2E-03	
				V		~Methylnaphthalene, 1-	90-12-0		
				V		~Methylnaphthalene, 2-	91-57-6		
3.4E-05	C	3.0E-03	I	V		~Naphthalene	91-20-3	8.3E-02	3.1E+00
1.1E-04	C					~Nitropyrene, 4-	57835-92-4	2.6E-02	
				V		~Pyrene	129-00-0		
						Potassium Perfluorobutane Sulfonate	29420-49-3		
						Prochloraz	67747-09-5		
				V		Profluralin	26399-36-0		
						Prometon	1610-18-0		
						Prometryn	7287-19-6		
						Propachlor	1918-16-7		
						Propanediol, 1,2-	114-26-1		
						Propanil	709-98-8		
						Propargite	2312-35-8		
				V		Propargyl Alcohol	107-19-7		
						Propazine	139-40-2		
						Propham	122-42-9		
						Propiconazole	60207-90-1		
		8.0E-03	I	V		Propionaldehyde	123-38-6		8.3E+00
		1.0E+00	X	V		Propyl benzene	103-65-1		1.0E+03
		3.0E+00	C	V		Propylene	115-07-1		3.1E+03
						Propylene Glycol	57-55-6		
		2.7E-04	A			Propylene Glycol Dinitrate	6423-43-4		2.8E-01
		2.0E+00	I	V		Propylene Glycol Monomethyl Ether	107-98-2		2.1E+03
3.7E-06	I	3.0E-02	I	V		Propylene Oxide	75-56-9	7.6E-01	3.1E+01
						Propyzamide	23950-58-5		
				V		Pyridine	110-86-1		
						Quinalphos	13593-03-8		
						Quinoline	91-22-5		
						Quizalofop-ethyl	76578-14-8		
		3.0E-02	A			Refractory Ceramic Fibers	NA		3.1E+01
						Resmethrin	10453-86-8		
				V		Ronnel	299-84-3		
						Rotenone	83-79-4		
6.3E-05	C				M	Safrole	94-59-7	1.6E-02	
						Selenious Acid	7783-00-8		
		2.0E-02	C			Selenium	7782-49-2		2.1E+01
		2.0E-02	C			Selenium Sulfide	7446-34-6		2.1E+01
						Sethoxydim	74051-80-2		
		3.0E-03	C			Silica (crystalline, respirable)	7631-86-9		3.1E+00
						Silver	7440-22-4		

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
						Simazine	122-34-9		
						Sodium Acifluorfen	62476-59-9		
						Sodium Azide	26628-22-8		
1.5E-01	C	2.0E-04	C		M	Sodium Dichromate	10588-01-9	6.8E-06	2.1E-01
						Sodium Diethyldithiocarbamate	148-18-5		
		1.3E-02	C			Sodium Fluoride	7681-49-4		1.4E+01
						Sodium Fluoroacetate	62-74-8		
						Sodium Metavanadate	13718-26-8		
						Sodium Tungstate	13472-45-2		
						Sodium Tungstate Dihydrate	10213-10-2		
						Stirofos (Tetrachlorovinphos)	961-11-5		
1.5E-01	C	2.0E-04	C		M	Strontium Chromate	7789-06-2	6.8E-06	2.1E-01
						Strontium, Stable	7440-24-6		
						Strychnine	57-24-9		
		1.0E+00	I	V		Styrene	100-42-5		1.0E+03
						Styrene-Acrylonitrile (SAN) Trimer	NA		
		2.0E-03	X			Sulfolane	126-33-0		2.1E+00
						Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9		
		1.0E-03	C	V		Sulfur Trioxide	7446-11-9		1.0E+00
		1.0E-03	C			Sulfuric Acid	7664-93-9		1.0E+00
7.1E-06	I					Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	4.0E-01	
						TCMTB	21564-17-0		
						Tebuthiuron	34014-18-1		
						Temephos	3383-96-8		
						Terbacil	5902-51-2		
				V		Terbufos	13071-79-9		
						Terbutryn	886-50-0		
						Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1		
				V		Tetrachlorobenzene, 1,2,4,5-	95-94-3		
7.4E-06	I			V		Tetrachloroethane, 1,1,1,2-	630-20-6	3.8E-01	
5.8E-05	C			V		Tetrachloroethane, 1,1,2,2-	79-34-5	4.8E-02	
2.6E-07	I	4.0E-02	I	V		Tetrachloroethylene	127-18-4	1.1E+01	4.2E+01
						Tetrachlorophenol, 2,3,4,6-	58-90-2		
				V		Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1		
						Tetraethyl Dithiopyrophosphate	3689-24-5		
		8.0E+01	I	V		Tetrafluoroethane, 1,1,1,2-	811-97-2		8.3E+04
						Tetryl (Trinitrophenylmethylnitramine)	479-45-8		
						Thallium (I) Nitrate	10102-45-1		
						Thallium (Soluble Salts)	7440-28-0		
				V		Thallium Acetate	563-68-8		
				V		Thallium Carbonate	6533-73-9		
						Thallium Chloride	7791-12-0		
						Thallium Sulfate	7446-18-6		
						Thifensulfuron-methyl	79277-27-3		
						Thiobencarb	28249-77-6		
						Thiodiglycol	111 48 8		
						Thiofanox	39196-18-4		
						Thiophanate, Methyl	23564-05-8		
						Thiram	137-26-8		
						Tin	7440-31-5		
		1.0E-04	A	V		Titanium Tetrachloride	7550-45-0		1.0E-01
		5.0E+00	I	V		Toluene	108-88-3		5.2E+03
						Toluene-2,5-diamine	95-70-5		
						Toluidine, p-	106-49-0		
				V		Total Petroleum Hydrocarbons (Aliphatic High)	NA		
		6.0E-01	P	V		Total Petroleum Hydrocarbons (Aliphatic Low)	NA		6.3E+02
		1.0E-01	P	V		Total Petroleum Hydrocarbons (Aliphatic Medium)	NA		1.0E+02
						Total Petroleum Hydrocarbons (Aromatic High)	NA		
		3.0E-02	P	V		Total Petroleum Hydrocarbons (Aromatic Low)	NA		3.1E+01
		3.0E-03	P	V		Total Petroleum Hydrocarbons (Aromatic Medium)	NA		3.1E+00
3.2E-04	I					Toxaphene	8001-35-2	8.8E-03	
						Tralomethrin	66841-25-6		
				V		Tri-n-butyltin	688-73-3		
						Triacetin	102-76-1		
						Triadimefon	43121-43-3		
				V		Triallate	2303-17-5		
						Triasulfuron	82097-50-5		
						Tribenuron-methyl	101200-48-0		

THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen		Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
				V			Tribromobenzene, 1,2,4-	615-54-3		
							Tributyl Phosphate	126-73-8		
							Tributyltin Compounds	NA		
							Tributyltin Oxide	56-35-9		
		3.0E+01	H	V			Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1		3.1E+04
							Trichloroacetic Acid	76-03-9		
							Trichloroaniline HCl, 2,4,6-	33663-50-2		
							Trichloroaniline, 2,4,6-	634-93-5		
				V			Trichlorobenzene, 1,2,3-	87-61-6		
		2.0E-03	P	V			Trichlorobenzene, 1,2,4-	120-82-1		2.1E+00
		5.0E+00	I	V			Trichloroethane, 1,1,1-	71-55-6		5.2E+03
1.6E-05	I	2.0E-04	X	V			Trichloroethane, 1,1,2-	79-00-5	1.8E-01	2.1E-01
4.1E-06	I	2.0E-03	I	V	M		Trichloroethylene	79-01-6	4.8E-01	2.1E+00
				V			Trichlorofluoromethane	75-69-4		
							Trichlorophenol, 2,4,5-	95-95-4		
3.1E-06	I						Trichlorophenol, 2,4,6-	88-06-2	9.1E-01	
							Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5		
							Trichlorophenoxypropionic acid, -2,4,5	93-72-1		
				V			Trichloropropane, 1,1,2-	598-77-6		
		3.0E-04	I	V	M		Trichloropropane, 1,2,3-	96-18-4		3.1E-01
		3.0E-04	P	V			Trichloropropene, 1,2,3-	96-19-5		3.1E-01
							Tricresyl Phosphate (TCP)	1330-78-5		
							Tridiphane	58138-08-2		
		7.0E-03	I	V			Triethylamine	121-44-8		7.3E+00
							Triethylene Glycol	112-27-6		
		2.0E+01	P	V			Trifluoroethane, 1,1,1-	420-46-2		2.1E+04
				V			Trifluralin	1582-09-8		
							Trimethyl Phosphate	512-56-1		
		5.0E-03	P	V			Trimethylbenzene, 1,2,3-	526-73-8		5.2E+00
		7.0E-03	P	V			Trimethylbenzene, 1,2,4-	95-63-6		7.3E+00
				V			Trimethylbenzene, 1,3,5-	108-67-8		
				V			Trimethylpentene, 2,4,4-	25167-70-8		
							Trinitrobenzene, 1,3,5-	99-35-4		
							Trinitrotoluene, 2,4,6-	118-96-7		
							Triphenylphosphine Oxide	791-28-6		
							Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8		
							Tris(1-chloro-2-propyl)phosphate	13674-84-5		
6.6E-04	C			V			Tris(2,3-dibromopropyl)phosphate	126-72-7	4.3E-03	
							Tris(2-chloroethyl)phosphate	115-96-8		
							Tris(2-ethylhexyl)phosphate	78-42-2		
							Tungsten	7440-33-7		
		4.0E-05	A				Uranium (Soluble Salts)	NA		4.2E-02
2.9E-04	C				M		Urethane	51-79-6	3.5E-03	
8.3E-03	P	7.0E-06	P				Vanadium Pentoxide	1314-62-1	3.4E-04	7.3E-03
		1.0E-04	A				Vanadium and Compounds	7440-62-2		1.0E-01
				V			Vernolate	1929-77-7		
							Vinclozolin	50471-44-8		
		2.0E-01	I	V			Vinyl Acetate	108-05-4		2.1E+02
3.2E-05	H	3.0E-03	I	V			Vinyl Bromide	593-60-2	8.8E-02	3.1E+00
4.4E-06	I	1.0E-01	I	V	M		Vinyl Chloride	75-01-4	1.7E-01	1.0E+02
							Warfarin	81-81-2		
		1.0E-01	S	V			Xylene, P-	106-42-3		1.0E+02
		1.0E-01	S	V			Xylene, m-	108-38-3		1.0E+02
		1.0E-01	S	V			Xylene, o-	95-47-6		1.0E+02
		1.0E-01	I	V			Xylenes	1330-20-7		1.0E+02
							Zinc Phosphide	1314-84-7		
							Zinc and Compounds	7440-66-6		
							Zineb	12122-67-7		
							Zirconium	7440-67-7		

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR (μg/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	volatile	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (μg/L)	Dermal SL TR=1E-06 (μg/L)	Inhalation SL TR=1E-06 (μg/L)	Carcinogenic SL TR=1E-06 (μg/L)	Ingestion SL Child THQ=1 (μg/L)	Dermal SL Child THQ=1 (μg/L)	SL Child THQ=1 (μg/L)	Noncarcinogenic SL Child THI=1 (μg/L)	MCL (μg/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
8.7E-03	I			4.0E-03	I					-0.85	1	1	Yes	Acephate	30560-19-1	9.0E+00	1.2E+04		8.9E+00	8.0E+01	1.1E+05		8.0E+01		2.0E-03	
		2.2E-06	I			9.0E-03	I	V		-0.34	1	1	Yes	Acetaldehyde	75-07-0			2.6E+00	2.6E+00			1.9E+01	1.9E+01		5.2E-04	
				2.0E-02	I					3.03	1	0.9	Yes	Acetochlor	34256-82-1					4.0E+02	2.9E+03		3.5E+02		2.8E-01	
				9.0E-01	I	3.1E+01	A	V		-0.24	1	1	Yes	Acetone	67-64-1					1.8E+04	4.4E+06	6.4E+04	1.4E+04		2.9E+00	
						2.0E-03	X			-0.03	1	1	Yes	Acetone Cyanohydrin	75-86-5											
						6.0E-02	I	V		-0.34	1	1	Yes	Acetonitrile	75-05-8							1.3E+02	1.3E+02		2.6E-02	
				1.0E-01	I			V		1.58	1	1	Yes	Acetophenone	98-86-2					2.0E+03	4.6E+04		1.9E+03		5.8E-01	
3.8E+00	C	1.3E-03	C							3.12	1	1	Yes	Acetylaminofluorene, 2-	53-96-3	2.1E-02	6.7E-02		1.6E-02						7.2E-05	
				5.0E-04	I	2.0E-05	I	V		-0.01	1	1	Yes	Acrolein	107-02-8					1.0E+01	1.7E+03	4.2E-02	4.2E-02		8.4E-06	
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I		M	-0.67	1	1	Yes	Acrylamide	79-06-1	5.0E-02	2.3E+01		5.0E-02	4.0E+01	2.1E+04		4.0E+01		1.1E-05	
				5.0E-01	I	1.0E-03	I	V		0.35	1	1	Yes	Acrylic Acid	79-10-7					1.0E+04	1.1E+06	2.1E+00	2.1E+00		4.2E-04	
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V		0.25	1	1	Yes	Acrylonitrile	107-13-1	1.4E-01	1.4E+01	8.3E-02	5.2E-02	8.0E+02	8.9E+04	4.2E+00	4.1E+00		1.1E-05	
						6.0E-03	P			-0.32	1	1	Yes	Adiponitrile	111-69-3											
5.6E-02	C			1.0E-02	I					3.52	1	0.9	Yes	Alachlor	15972-60-8	1.4E+00	4.4E+00		1.1E+00	2.0E+02	6.9E+02		1.6E+02	2.0E+00	8.7E-04	1.7E-03
				1.0E-03	I					1.13	1	1	Yes	Aldicarb	116-06-3					2.0E+01	1.4E+03		2.0E+01	3.0E+00	4.9E-03	7.5E-04
				1.0E-03	I					-0.57	1	1	Yes	Aldicarb Sulfone	1646-88-4					2.0E+01	2.4E+04		2.0E+01	2.0E+00	4.4E-03	4.4E-04
										-0.78	1	1	Yes	Aldicarb sulfoxide	1646-87-3									4.0E+00		8.8E-04
1.7E+01	I	4.9E-03	I	3.0E-05	I			V		6.5	1	1	No	Aldrin	309-00-2	4.6E-03		1.1E-03	9.2E-04	6.0E-01			6.0E-01		1.5E-04	
				5.0E-03	I	1.0E-04	X	V		0.17	1	1	Yes	Allyl Alcohol	107-18-6					1.0E+02	1.3E+04	2.1E-01	2.1E-01		4.2E-05	
2.1E-02	C	6.0E-06	C			1.0E-03	I	V		1.93	1	1	Yes	Allyl Chloride	107-05-1	3.7E+00	3.5E+01	9.4E-01	7.3E-01			2.1E+00	2.1E+00		2.3E-04	
				1.0E+00	P	5.0E-03	P				1	1	Yes	Aluminum	7429-90-5					2.0E+04	4.6E+06		2.0E+04		3.0E+04	
				4.0E-04	I						1	1	Yes	Aluminum Phosphide	20859-73-8					8.0E+00	1.8E+03		8.0E+00			
				9.0E-03	I					2.98	1	1	Yes	Ametryn	834-12-8					1.8E+02	9.8E+02		1.5E+02		1.6E-01	
2.1E+01	C	6.0E-03	C							2.86	1	1	Yes	Aminobiphenyl, 4-	92-67-1	3.7E-03	1.5E-02		3.0E-03						1.5E-05	
				8.0E-02	P					0.21	1	1	Yes	Aminophenol, m-	591-27-5					1.6E+03	2.8E+05		1.6E+03		6.1E-01	
				2.0E-02	P					0.04	1	1	Yes	Aminophenol, p-	123-30-8					4.0E+02	9.1E+04		4.0E+02		1.5E-01	
				2.5E-03	I					5.5	1	0.9	Yes	Amitraz	33089-61-1					5.0E+01	9.8E+00		8.2E+00		4.2E+00	
						1.0E-01	I	V		0.23	1	1		Ammonia	7664-41-7											
				2.0E-01	I						1	1	Yes	Ammonium Sulfamate	7773-06-0					4.0E+03	9.1E+05		4.0E+03			
						3.0E-03	X	V		0.89	1	1	Yes	Amyl Alcohol, tert-	75-85-4							6.3E+00	6.3E+00		1.3E-03	
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I			0.9	1	1	Yes	Aniline	62-53-3	1.4E+01	6.9E+02		1.3E+01	1.4E+02	7.7E+03		1.4E+02		4.6E-03	
4.0E-02	P			2.0E-03	X					3.39	1	0.9	Yes	Anthraquinone, 9,10-	84-65-1	1.9E+00	5.1E+00		1.4E+00	4.0E+01	1.1E+02		3.0E+01		1.4E-02	
				4.0E-04	I						0.15	1	Yes	Antimony (metallic)	7440-36-0					8.0E+00	2.7E+02		7.8E+00	6.0E+00	3.5E-01	2.7E-01
				5.0E-04	H						0.15	1	Yes	Antimony Pentoxide	1314-60-9					1.0E+01	3.4E+02		9.7E+00			
				4.0E-04	H						0.15	1	Yes	Antimony Tetroxide	1332-81-6					8.0E+00	2.7E+02		7.8E+00			
						2.0E-04	I				0.15	1	Yes	Antimony Trioxide	1309-64-4											
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C				1	1	Yes	Arsenic, Inorganic	7440-38-2	5.2E-02	9.7E+00		5.2E-02	6.0E+00	1.4E+03		6.0E+00	1.0E+01	1.5E-03	2.9E-01
				3.5E-06	C	5.0E-05	I				1	1	Yes	Arsine	7784-42-1					7.0E-02	1.6E+01		7.0E-02			
				5.0E-02	I					-0.27	1	1	Yes	Asulam	3337-71-1					1.0E+03	8.0E+05		1.0E+03		2.6E-01	
2.3E-01	C			3.5E-02	I					2.61	1	1	Yes	Atrazine	1912-24-9	3.4E-01	2.8E+00		3.0E-01	7.0E+02	6.2E+03		6.3E+02	3.0E+00	2.0E-04	2.0E-03
8.8E-01	C	2.5E-04	C							2.98	1	0.9	Yes	Auramine	492-80-8	8.9E-02	2.7E-01		6.7E-02						6.1E-04	
				4.0E-04	I					4.48	1	1	No	Avermectin B1	65195-55-3					8.0E+00			8.0E+00		1.4E+01	
				3.0E-03	A	1.0E-02	A			2.75	1	1	Yes	Azinphos-methyl	86-50-0					6.0E+01	8.3E+02		5.6E+01		1.7E-02	
1.1E-01	I	3.1E-05	I					V		3.82	1	1	Yes	Azobenzene	103-33-3	7.1E-01	7.3E-01	1.8E-01	1.2E-01						9.3E-04	
				1.0E+00	P	7.0E-06	P			-1.7	1	1	Yes	Azodicarbonamide	123-77-3					2.0E+04	6.8E+07		2.0E+04		6.8E+00	
				2.0E-01	I	5.0E-04	H				0.07	1	Yes	Barium	7440-39-3					4.0E+03	6.4E+04		3.8E+03	2.0E+03	1.6E+02	8.2E+01
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Barium Chromate	10294-40-3	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02			
				3.0E-01	I			V		5.29	1	0.8	Yes	Benfluralin	1861-40-1					6.0E+03	2.4E+03		1.7E+03		5.6E+01	
				5.0E-02	I					2.12	1	1	Yes	Benomyl	17804-35-2					1.0E+03	3.0E+04		9.7E+02		8.5E-01	
				2.0E-01	I					2.18	1	1	Yes	Bensulfuron-methyl	83055-99-6					4.0E+03	2.4E+05		3.9E+03		1.0E+00	
				3.0E-02	I					2.34	1	1	Yes	Bentazon	25057-89-0					6.0E+02	9.4E+03		5.7E+02		1.2E-01	
				1.0E-01	I			V		1.48	1	1	Yes	Benzaldehyde	100-52-7					2.0E+03	4.9E+04		1.9E+03		4.3E-01	
5.5E-02	I	7.8E-06	I	4.0E-03	I	3.0E-02	I	V		2.13	1	1	Yes	Benzene	71-43-2	1.4E+00	9.8E+00	7.2E-01	4.6E-01	8.0E+01	6.1E+02	6.3E+01	3.3E+01	5.0E+00	2.3E-04	2.6E-03
1.0E-01	X			3.0E-04	X					-3.727	1	1	No	Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	7.8E-01			7.8E-01	6.0E+00			6.0E+00		2.2E-04	
				1.0E-03	P			V		2.52	1	1	Yes	Benzenethiol	108-98-5					2.0E+01	1.0E+02		1.7E+01		1.1E-02	
2.3E+02	I	6.7E-02	I	3.0E-03	I				M	1.34	1	1	Yes	Benzidine	92-87-5	1.1E-04	5.0E-03		1.1E-04	6.0E+01	3.0E+03		5.9E+01		2.8E-07	
				4.0E+00	I					1.87	1	1	Yes	Benzoic Acid	65-85-0					8.0E+04	1.2E+06		7.5E+04		1.8E+01	
1.3E+01	I							V		3.9	1	1	Yes	Benzotrichloride	98-07-7	6.0E-03	6.0E-03		3.0E-03						6.6E-06	
				1.0E-01	P					1.1	1	1	Yes	Benzyl Alcohol	100-51-6					2.0E+03	8.9E+04		2.0E+03		4.8E-01	
1.7E-01	I	4.9E-05	C	2.0E-03	P	1.0E-03	P	V		2.3	1	1	Yes	Benzyl Chloride	100-44-7	4.6E-01	3.4E+00	1.1E-01	8.9E-02	4.0E+01	3.2E+02	2.1E+00	2.0E+00		9.8E-05	
		2.4E-03	I	2.0E-03	I	2.0E-05	I				0.007	1	Yes	Beryllium and compounds	7440-41-7					4.0E+01	6.4E+01		2.5E+01	4.0E+00	2.0E+01	3.2E+00
				9.0E-03	P					4.48	1	0.9	Yes	Bifenox	42576-02-3					1.8E+02	2.3E+02		1.0E+02		7.6E-01	
				1.5E-02	I					6	1	0	Yes	Biphenthrin	82657-04-3					3.0E+02			3.0E+02		1.4E+03	
8.0E-03	I			5.0E-01	I	4.0E-04	X	V		4.01	1	1	Yes	Biphenyl, 1,1'-	92-52-4	9.7E+00	6.5E+00		3.9E+00	1.0E+04	7.3E+03	8.3E-01	8.3E-01		8.7E-03	
				4.0E-02	I			V		2.48	1	1	Yes	Bis(2-chloro-1-methylethyl) ether	108-60-1					8.0E+02	6.5E+03		7.1E+02		2.6E-01	
				3.0E-03	P					1.3	1	1	Yes	Bis(2-chloroethoxy)methane	111-91-1					6.0E+01	3.0E+03		5.9E+01		1.4E-02	
1.1E+00	I	3.3E-04	I					V		1.29	1	1	Yes	Bis(2-chloroethyl)ether	111-44-4	7.1E-02	2.7E+00	1.7E-02	1.4E-02						3.6E-06	
2.2E+02	I	6.2E-02	I					V		0.57	1	1	Yes	Bis(chloromethyl)ether	542-88-1	3.5E-04	3.4E-02	9.1E-05	7.2E-05						1.7E-08	
				5.0E-02	I					3.32	1	1	Yes	Bisphenol A	80-05-7					1.0E+03	3.2E+03		7.7E+02		5.8E+01	
				2.0E-01	I	2.0E-02	H				1	1	Yes	Boron And Borates Only	7440-42-8					4.0E+03	9.1E+05		4.0E+03		1.3E+01	
				2.0E+00	P	2.0E-02	P	V		1.16	1	1	Yes	Boron Trichloride	10294-34-5					4.0E+04	9.1E+06	4.2E+01	4.2E+01			
				4.0E-02	C	1.3E-02	C	V		0.22	1	1	Yes	Boron Trifluoride	7637-07-2					8.0E+02	1.8E+05	2.7E+01	2.6E+01			
7.0E-01	I			4.0E-03	I						1	1	Yes	Bromate	15541-45-4	1.1E-01	2.1E+01		1.1E-01	8.0E+01	1.8E+04		8.0E+01	1.0E+01	8.5E-04	7.7E-02
2.0E+00	X	6.0E-04	X					V		1.92	1	1	Yes	Bromo-2-chloroethane, 1-	107-04-0	3.9E-02	5.7E-01	9.4E-03	7.4E-03						2.1E-06	
				8.0E-03	I	6.0E-02	I	V		2.99	1	1	Yes	Bromobenzene	108-86-1					1.6E+02	5.4E+02	1.3E+02	6.2E+01		4.2E-02	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
						4.0E-02	X	V		1.41	1	1	Yes	Bromochloromethane	74-97-5							8.3E+01	8.3E+01		2.1E-02	
6.2E-02	I	3.7E-05	C	2.0E-02	I			V		2	1	1	Yes	Bromodichloromethane	75-27-4	1.3E+00	1.9E+01	1.5E-01	1.3E-01	4.0E+02	6.5E+03		3.8E+02	8.0E+01(F)	3.7E-05	2.2E-02
7.9E-03	I	1.1E-06	I	2.0E-02	I			V		2.4	1	1	Yes	Bromoform	75-25-2	9.9E+00	1.4E+02	5.1E+00	3.3E+00	4.0E+02	6.2E+03		3.8E+02	8.0E+01(F)	8.7E-04	2.1E-02
				1.4E-03	I	5.0E-03	I	V		1.19	1	1	Yes	Bromomethane	74-83-9					2.8E+01	1.0E+03	1.0E+01	7.5E+00		1.9E-03	
				5.0E-03	H			V		5.21	1	0.8	Yes	Bromophos	2104-96-3					1.0E+02	5.5E+01		3.5E+01		1.5E-01	
				2.0E-02	I					2.8	1	0.9	Yes	Bromoxynil	1689-84-5					4.0E+02	1.8E+03		3.3E+02		2.8E-01	
				2.0E-02	I			V		5.4	1	0.8	Yes	Bromoxynil Octanoate	1689-99-2					4.0E+02	2.1E+02		1.4E+02		1.2E+00	
3.4E+00	C	3.0E-05	I			2.0E-03	I	V		1.99	1	1	Yes	Butadiene, 1,3-	106-99-0	2.3E-02	1.6E-01	1.9E-01	1.8E-02			4.2E+00	4.2E+00		9.9E-06	
				1.0E-01	I			V		0.88	1	1	Yes	Butanol, N-	71-36-3					2.0E+03	1.0E+05		2.0E+03		4.1E-01	
1.9E-03	P			2.0E-01	I					4.73	1	0.9	Yes	Butyl Benzyl Phthalate	85-68-7	4.1E+01	2.7E+01		1.6E+01	4.0E+03	2.9E+03		1.7E+03		2.4E-01	
				2.0E+00	P	3.0E+01	P	V		0.61	1	1	Yes	Butyl alcohol, sec-	78-92-2					4.0E+04	3.0E+06	6.3E+04	2.4E+04		5.0E+00	
				5.0E-02	I			V		4.15	1	1	Yes	Butylate	2008-41-5					1.0E+03	8.5E+02		4.6E+02		4.5E-01	
2.0E-04	C	5.7E-08	C							3.5	1	0.8	Yes	Butylated hydroxyanisole	25013-16-5	3.9E+02	2.5E+02		1.5E+02						2.9E-01	
3.6E-03	P			3.0E-01	P					5.1	1	1	Yes	Butylated hydroxytoluene	128-37-0	2.2E+01	4.0E+00		3.4E+00	6.0E+03	1.2E+03		1.0E+03		1.0E-01	
				5.0E-02	P			V		4.38	1	1	No	Butylbenzene, n-	104-51-8					1.0E+03			1.0E+03		3.2E+00	
				1.0E-01	X			V		4.57	1	1	No	Butylbenzene, sec-	135-98-8					2.0E+03			2.0E+03		5.9E+00	
				1.0E-01	X			V		4.11	1	1	Yes	Butylbenzene, tert-	98-06-6					2.0E+03	1.1E+03		6.9E+02		1.6E+00	
				2.0E-02	A					0.36	1	1	Yes	Cacodylic Acid	75-60-5					4.0E+02	6.7E+04		4.0E+02		1.2E-01	
		1.8E-03	I	1.0E-03	I	1.0E-05	A				0.025	1		Cadmium (Diet)	7440-43-9											
		1.8E-03	I	5.0E-04	I	1.0E-05	A				0.05	1	Yes	Cadmium (Water)	7440-43-9					1.0E+01	1.1E+02		9.2E+00	5.0E+00	6.9E-01	3.8E-01
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Calcium Chromate	13765-19-0	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02			
				5.0E-01	I	2.2E-03	C			-0.19	1	1	Yes	Caprolactam	105-60-2					1.0E+04	9.0E+05		9.9E+03		2.5E+00	
1.5E-01	C	4.3E-05	C	2.0E-03	I					3.8	1	0.9	Yes	Captafol	2425-06-1	5.2E-01	1.8E+00		4.0E-01	4.0E+01	1.5E+02		3.2E+01		7.1E-04	
2.3E-03	C	6.6E-07	C	1.3E-01	I					2.8	1	1	Yes	Captan	133-06-2	3.4E+01	3.6E+02		3.1E+01	2.6E+03	3.0E+04		2.4E+03		2.2E-02	
				1.0E-01	I					2.36	1	1	Yes	Carbaryl	63-25-2					2.0E+03	2.4E+04		1.8E+03		1.7E+00	
				5.0E-03	I					2.32	1	1	Yes	Carbofuran	1563-66-2					1.0E+02	1.4E+03		9.4E+01	4.0E+01	3.7E-02	1.6E-02
				1.0E-01	I	7.0E-01	I	V		1.94	1	1	Yes	Carbon Disulfide	75-15-0					2.0E+03	2.0E+04	1.5E+03	8.1E+02		2.4E-01	
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V		2.83	1	1	Yes	Carbon Tetrachloride	56-23-5	1.1E+00	4.3E+00	9.4E-01	4.6E-01	8.0E+01	3.4E+02	2.1E+02	4.9E+01	5.0E+00	1.8E-04	1.9E-03
						1.0E-01	P	V		-1.33	1	1	Yes	Carbonyl Sulfide	463-58-1							2.1E+02	2.1E+02		5.1E-01	
				1.0E-02	I					5.57	1	0.8	Yes	Carbosulfan	55285-14-8					2.0E+02	6.9E+01		5.1E+01		1.2E+00	
				1.0E-01	I					2.14	1	1	Yes	Carboxin	5234-68-4					2.0E+03	4.1E+04		1.9E+03		1.0E+00	
						9.0E-04	I				1	1	Yes	Ceric oxide	1306-38-3											
				1.0E-01	I			V		0.99	1	1	Yes	Chloral Hydrate	302-17-0					2.0E+03	1.5E+05		2.0E+03		4.0E-01	
				1.5E-02	I					1.9	1	1	Yes	Chloramben	133-90-4					3.0E+02	7.4E+03		2.9E+02		7.0E-02	
4.0E-01	H									2.22	1	1	Yes	Chloranil	118-75-2	1.9E-01	3.5E+00		1.8E-01						1.5E-04	
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I	V		6.26	1	0.7	No	Chlordane	12789-03-6	2.2E-01		5.6E-02	4.5E-02	1.0E+01		1.5E+00	1.3E+00	2.0E+00	3.0E-03	1.4E-01
1.0E+01	I	4.6E-03	C	3.0E-04	I					5.41	1	0.8	Yes	Chlordecone (Kepone)	143-50-0	7.8E-03	6.5E-03		3.5E-03	6.0E+00	5.4E+00		2.9E+00		1.2E-04	
				7.0E-04	A					3.81	1	0.9	Yes	Chlorfenvinphos	470-90-6					1.4E+01	5.6E+01		1.1E+01		3.1E-02	
				2.0E-02	I					2.5	1	1	Yes	Chlorimuron, Ethyl-	90982-32-4					4.0E+02	1.5E+04		3.9E+02		1.3E-01	
				1.0E-01	I	1.5E-04	A	V		0.85	1	1	Yes	Chlorine	7782-50-5					2.0E+03	4.6E+05	3.0E-01	3.0E-01		1.4E-04	
				3.0E-02	I	2.0E-04	I	V			1	1	Yes	Chlorine Dioxide	10049-04-4					6.0E+02	1.4E+05	4.2E-01	4.2E-01			
				3.0E-02	I						1	1	Yes	Chlorite (Sodium Salt)	7758-19-2					6.0E+02	1.4E+05		6.0E+02	1.0E+03		
						5.0E+01	I	V		2.05	1	1	Yes	Chloro-1,1-difluoroethane, 1-	75-68-3							1.0E+05	1.0E+05		5.2E+01	
		3.0E-04	I	2.0E-02	H	2.0E-02	I	V		2.53	1	1	Yes	Chloro-1,3-butadiene, 2-	126-99-8			1.9E-02	1.9E-02	4.0E+02	1.8E+03	4.2E+01	3.7E+01		9.9E-06	
4.6E-01	H									2.27	1	1	Yes	Chloro-2-methylaniline HCl, 4-	3165-93-3	1.7E-01	5.1E+02		1.7E-01						1.5E-04	
1.0E-01	P	7.7E-05	C	3.0E-03	X					2.27	1	1	Yes	Chloro-2-methylaniline, 4-	95-69-2	7.8E-01	6.6E+00		7.0E-01	6.0E+01	5.6E+02		5.4E+01		4.0E-04	
2.7E-01	X							V		0.09	1	1	Yes	Chloroacetaldehyde, 2-	107-20-0	2.9E-01	4.6E+01		2.9E-01						5.8E-05	
										0.22	1	1	Yes	Chloroacetic Acid	79-11-8									6.0E-01		1.2E-02
						3.0E-05	I			1.93	1	1	Yes	Chloroacetophenone, 2-	532-27-4											
2.0E-01	P			4.0E-03	I					1.83	1	1	Yes	Chloroaniline, p-	106-47-8	3.9E-01	5.9E+00		3.7E-01	8.0E+01	1.3E+03		7.6E+01		1.6E-04	
				2.0E-02	I	5.0E-02	P	V		2.84	1	1	Yes	Chlorobenzene	108-90-7					4.0E+02	1.3E+03	1.0E+02	7.8E+01	1.0E+02	5.3E-02	6.8E-02
1.1E-01	C	3.1E-05	C	2.0E-02	I					4.74	1	0.8	Yes	Chlorobenzilate	510-15-6	7.1E-01	5.6E-01		3.1E-01	4.0E+02	3.5E+02		1.9E+02		1.0E-03	
				3.0E-02	X					2.65	1	1	Yes	Chlorobenzoic Acid, p-	74-11-3					6.0E+02	3.4E+03		5.1E+02		1.3E-01	
				3.0E-03	P	3.0E-01	P	V		3.6	1	1	Yes	Chlorobenzotrifluoride, 4-	98-56-6					6.0E+01	9.3E+01	6.3E+02	3.5E+01		1.2E-01	
				4.0E-02	P			V		2.64	1	1	Yes	Chlorobutane, 1-	109-69-3					8.0E+02	3.1E+03		6.4E+02		2.6E-01	
						5.0E+01	I	V		1.08	1	1	Yes	Chlorodifluoromethane	75-45-6							1.0E+05	1.0E+05		4.3E+01	
				2.0E-02	P			V		0.03	1	1	Yes	Chloroethanol, 2-	107-07-3					4.0E+02	7.7E+04		4.0E+02		8.1E-02	
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1.97	1	1	Yes	Chloroform	67-66-3	2.5E+00	2.9E+01	2.4E-01	2.2E-01	2.0E+02	2.5E+03	2.0E+02	9.7E+01	8.0E+01(F)	6.1E-05	2.2E-02
						9.0E-02	I	V		0.91	1	1	Yes	Chloromethane	74-87-3							1.9E+02	1.9E+02		4.9E-02	
2.4E+00	C	6.9E-04	C					V		0.32	1	1	Yes	Chloromethyl Methyl Ether	107-30-2	3.2E-02	3.7E+00	8.1E-03	6.5E-03						1.4E-06	
3.0E-01	P			3.0E-03	P	1.0E-05	X			2.24	1	1	Yes	Chloronitrobenzene, o-	88-73-3	2.6E-01	2.6E+00		2.4E-01	6.0E+01	6.4E+02		5.5E+01		2.2E-04	
6.3E-03	P			1.0E-03	P	6.0E-04	P			2.39	1	1	Yes	Chloronitrobenzene, p-	100-00-5	1.2E+01	9.7E+01		1.1E+01	2.0E+01	1.7E+02		1.8E+01		1.0E-02	
				5.0E-03	I			V		2.15	1	1	Yes	Chlorophenol, 2-	95-57-8					1.0E+02	1.0E+03		9.1E+01		7.4E-02	
						4.0E-04	C	V		2.09	1	1	Yes	Chloropicrin	76-06-2							8.3E-01	8.3E-01		2.5E-04	
3.1E-03	C	8.9E-07	C	1.5E-02	I					3.05	1	0.9	Yes	Chlorothalonil	1897-45-6	2.5E+01	1.6E+02		2.2E+01	3.0E+02	2.1E+03		2.6E+02		5.0E-02	
				2.0E-02	I			V		3.42	1	1	Yes	Chlorotoluene, o-	95-49-8					4.0E+02	5.8E+02		2.4E+02		2.3E-01	
				2.0E-02	X			V		3.33	1	1	Yes	Chlorotoluene, p-	106-43-4					4.0E+02	6.6E+02		2.5E+02		2.4E-01	
2.4E+02	C	6.9E-02	C							-1.02	1	1	Yes	Chlorozotocin	54749-90-5	3.2E-04	1.0E+00		3.2E-04						7.1E-08	
				2.0E-01	I					3.51	1	0.9	Yes	Chlorpropham	101-21-3					4.0E+03	9.8E+03		2.8E+03		2.6E+00	
				1.0E-03	A					4.96	1	0.8	Yes	Chlorpyrifos	2921-88-2					2.0E+01	1.5E+01		8.4E+00		1.3E-01	
				1.0E-02	H					4.31	1	0.9	Yes	Chlorpyrifos Methyl	5598-13-0					2.0E+02	2.9E+02		1.2E+02		5.5E-01	
				5.0E-02	I					2	1	1	Yes	Chlorsulfuron	64902-72-3					1.0E+03	5.7E+04		9.9E+02		8.3E-01	
				1.0E-02	I					4.28	1	0.9	Yes	Chlorthal-dimethyl	1861-32-1					2.0E+02	3.3E+02		1.2E+02		1.5E-01	
				8.0E-04	H					5.8	1	0.8	Yes	Chlorthiophos	60238-56-4					1.6E+01	3.4E+00		2.8E+00		7.3E-02	
				1.5E+00	I						0.013	1	Yes	Chromium(III), Insoluble Salts	16065-83-1					3.0E+04	8.9E+04		2.2E+04		4.0E+07	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information													Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
5.0E-01	J	8.4E-02	S	3.0E-03	I	1.0E-04	I		M		0.025	1	Yes	Chromium(VI)	18540-29-9	5.0E-02	1.2E-01		3.5E-02	6.0E+01	1.7E+02		4.4E+01		6.7E-04	
											0.013	1	Yes	Chromium, Total	7440-47-3									1.0E+02		1.8E+05
				1.3E-02	I					3.1	1	0.9	Yes	Clofentezine	74115-24-5					2.6E+02	2.1E+03		2.3E+02		1.4E+01	
		9.0E-03	P	3.0E-04	P	6.0E-06	P				1	1	Yes	Cobalt	7440-48-4					6.0E+00	3.4E+03		6.0E+00		2.7E-01	
		6.2E-04	I					V	M		1	0		Coke Oven Emissions	8007-45-2											
				4.0E-02	H						1	1	Yes	Copper	7440-50-8					8.0E+02	1.8E+05		8.0E+02	1.3E+03	2.8E+01	4.6E+01
				5.0E-02	I	6.0E-01	C			1.96	1	1	Yes	Cresol, m-	108-39-4					1.0E+03	1.2E+04		9.3E+02		7.4E-01	
				5.0E-02	I	6.0E-01	C			1.95	1	1	Yes	Cresol, o-	95-48-7					1.0E+03	1.2E+04		9.3E+02		7.5E-01	
				1.0E-01	A	6.0E-01	C			1.94	1	1	Yes	Cresol, p-	106-44-5					2.0E+03	2.5E+04		1.9E+03		1.5E+00	
				1.0E-01	A					3.1	1	1	Yes	Cresol, p-chloro-m-	59-50-7					2.0E+03	5.2E+03		1.4E+03		1.7E+00	
				1.0E-01	A	6.0E-01	C			1.95	1	0.9	Yes	Cresols	1319-77-3					2.0E+03	6.7E+03		1.5E+03		1.3E+00	
1.9E+00	H			1.0E-03	P			V		0.6	1	1	Yes	Crotonaldehyde, trans-	123-73-9	4.1E-02	2.7E+00		4.0E-02	2.0E+01	1.5E+03		2.0E+01		8.2E-06	
				1.0E-01	I	4.0E-01	I	V		3.66	1	1	Yes	Cumene	98-82-8					2.0E+03	1.9E+03	8.3E+02	4.5E+02		7.4E-01	
2.2E-01	C	6.3E-05	C							-1.73	1	1	Yes	Cupferron	135-20-6	3.5E-01	1.3E+04		3.5E-01						6.1E-04	
8.4E-01	H			2.0E-03	H					2.22	1	1	Yes	Cyanazine	21725-46-2	9.3E-02	1.6E+00		8.8E-02	4.0E+01	7.6E+02		3.8E+01		4.1E-05	
														Cyanides												
				1.0E-03	I						1	1	Yes	~Calcium Cyanide	592-01-8					2.0E+01	4.6E+03		2.0E+01			
				5.0E-03	I						1	1	Yes	~Copper Cyanide	544-92-3					1.0E+02	2.3E+04		1.0E+02			
				6.0E-04	I	8.0E-04	S	V			1	1	Yes	~Cyanide (CN-)	57-12-5					1.2E+01	2.7E+03	1.7E+00	1.5E+00	2.0E+02	1.5E-02	2.0E+00
				1.0E-03	I			V		0.07	1	1	Yes	~Cyanogen	460-19-5					2.0E+01	5.1E+03		2.0E+01			
				9.0E-02	I			V			1	1	Yes	~Cyanogen Bromide	506-68-3					1.8E+03	1.6E+06		1.8E+03			
				5.0E-02	I			V			1	1	Yes	~Cyanogen Chloride	506-77-4					1.0E+03	5.8E+05		1.0E+03			
				6.0E-04	I	8.0E-04	I	V		-0.25	1	1	Yes	~Hydrogen Cyanide	74-90-8					1.2E+01	2.7E+03	1.7E+00	1.5E+00		1.5E-02	
				2.0E-03	I						1	1	Yes	~Potassium Cyanide	151-50-8					4.0E+01	4.6E+03		4.0E+01			
				5.0E-03	I						0.04	1	Yes	~Potassium Silver Cyanide	506-61-6					1.0E+02	4.6E+02		8.2E+01			
				1.0E-01	I						0.04	1	Yes	~Silver Cyanide	506-64-9					2.0E+03	1.8E+04		1.8E+03			
				1.0E-03	I						1	1	Yes	~Sodium Cyanide	143-33-9					2.0E+01	4.6E+03		2.0E+01	2.0E+02		
				2.0E-04	P						1	0	Yes	~Thiocyanates	NA					4.0E+00	9.1E+02		4.0E+00			
				2.0E-04	X			V		0.58	1	1	Yes	~Thiocyanic Acid	463-56-9					4.0E+00	9.1E+02		4.0E+00			
				5.0E-02	I						1	1	Yes	~Zinc Cyanide	557-21-1					1.0E+03	3.8E+05		1.0E+03			
						6.0E+00	I	V		3.44	1	1	Yes	Cyclohexane	110-82-7							1.3E+04	1.3E+04		1.3E+01	
2.3E-02	H									4.72	1	0.9	Yes	Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	3.4E+00	8.3E+00		2.4E+00						1.4E-02	
				5.0E+00	I	7.0E-01	P	V		0.81	1	1	Yes	Cyclohexanone	108-94-1					1.0E+05	6.5E+06	1.5E+03	1.4E+03		3.4E-01	
				5.0E-03	P	1.0E+00	X	V		2.86	1	1	Yes	Cyclohexene	110-83-8					1.0E+02	2.5E+02	2.1E+03	7.0E+01		4.6E-02	
				2.0E-01	I			V		1.49	1	1	Yes	Cyclohexylamine	108-91-8					4.0E+03	9.3E+04		3.8E+03		1.0E+00	
				2.5E-02	I					5.95	1	0.7	Yes	Cyfluthrin	68359-37-5					5.0E+02	1.6E+02		1.2E+02		3.1E+01	
				5.0E-03	I					6.9	1	0.5	No	Cyhalothrin	68085-85-8					1.0E+02			1.0E+02		6.9E+01	
				1.0E-02	I					6.6	1	0.7	No	Cypermethrin	52315-07-8					2.0E+02			2.0E+02		3.2E+01	
				7.5E-03	I					-0.061	1	1	Yes	Cyromazine	66215-27-8					1.5E+02	1.2E+04		1.5E+02		3.8E-02	
2.4E-01	I	6.9E-05	C							6.02	1	0.8	Yes	DDD	72-54-8	3.2E-01	3.5E-02		3.2E-02						7.5E-03	
3.4E-01	I	9.7E-05	C					V		6.51	1	0.8	No	DDE, p,p'-	72-55-9	2.3E-01		5.8E-02	4.6E-02						1.1E-02	
3.4E-01	I	9.7E-05	I	5.0E-04	I					6.91	1	0.7	No	DDT	50-29-3	2.3E-01			2.3E-01	1.0E+01			1.0E+01		7.7E-02	
				3.0E-02	I					0.78	1	1	Yes	Dalapon	75-99-0					6.0E+02	5.5E+04		6.0E+02	2.0E+02	1.2E-01	4.1E-02
1.8E-02	C	5.1E-06	C	1.5E-01	I					-1.5	1	1	Yes	Daminozide	1596-84-5	4.3E+00	1.3E+04		4.3E+00	3.0E+03	1.0E+07		3.0E+03		9.5E-04	
7.0E-04	I			7.0E-03	I					12.11	1	0	No	Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	1.1E+02			1.1E+02	1.4E+02			1.4E+02		6.2E+01	
				4.0E-05	I					3.21	1	0.8	Yes	Demeton	8065-48-3					8.0E-01	8.8E-01		4.2E-01			
1.2E-03	I			6.0E-01	I					6.11	1	0	Yes	Di(2-ethylhexyl)adipate	103-23-1	6.5E+01			6.5E+01	1.2E+04			1.2E+04	4.0E+02	4.7E+00	2.9E+01
6.1E-02	H									4.49	1	0.9	Yes	Diallate	2303-16-4	1.3E+00	9.2E-01		5.4E-01						8.0E-04	
				7.0E-04	A					3.81	1	0.9	Yes	Diazinon	333-41-5					1.4E+01	3.9E+01		1.0E+01		6.5E-02	
				1.0E-02	X			V		4.38	1	1	Yes	Dibenzothiophene	132-65-0					2.0E+02	9.6E+01		6.5E+01		1.2E+00	
8.0E-01	P	6.0E-03	P	2.0E-04	P	2.0E-04	I	V	M	2.96	1	1	Yes	Dibromo-3-chloropropane, 1,2-	96-12-8	3.1E-02	1.7E-01	3.4E-04	3.3E-04	4.0E+00	2.4E+01	4.2E-01	3.7E-01	2.0E-01	1.4E-07	8.6E-05
				4.0E-04	X			V		3.75	1	0.9	Yes	Dibromobenzene, 1,3-	108-36-1					8.0E+00	1.6E+01		5.3E+00		5.1E-03	
				1.0E-02	I			V		3.79	1	0.9	Yes	Dibromobenzene, 1,4-	106-37-6					2.0E+02	3.7E+02		1.3E+02		1.2E-01	
8.4E-02	I			2.0E-02	I			V		2.16	1	1	Yes	Dibromochloromethane	124-48-1	9.3E-01	1.4E+01		8.7E-01	4.0E+02	6.7E+03		3.8E+02	8.0E+01(F)	2.3E-04	2.1E-02
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1.96	1	1	Yes	Dibromoethane, 1,2-	106-93-4	3.9E-02	7.1E-01	9.4E-03	7.5E-03	1.8E+02	3.6E+03	1.9E+01	1.7E+01	5.0E-02	2.1E-06	1.4E-05
						4.0E-03	X	V		1.7	1	1	Yes	Dibromomethane (Methylene Bromide)	74-95-3							8.3E+00	8.3E+00		2.1E-03	
				3.0E-04	P						1	0	No	Dibutyltin Compounds	NA					6.0E+00			6.0E+00			
				3.0E-02	I					2.21	1	1	Yes	Dicamba	1918-00-9					6.0E+02	1.0E+04		5.7E+02		1.5E-01	
		4.2E-03	P					V		2.6	1	1	Yes	Dichloro-2-butene, 1,4-	764-41-0			1.3E-03	1.3E-03						6.6E-07	
		4.2E-03	P					V		2.6	1	1	Yes	Dichloro-2-butene, cis-1,4-	1476-11-5			1.3E-03	1.3E-03						6.2E-07	
		4.2E-03	P					V		2.6	1	1	Yes	Dichloro-2-butene, trans-1,4-	110-57-6			1.3E-03	1.3E-03						6.2E-07	
5.0E-02	I			4.0E-03	I					0.92	1	1	Yes	Dichloroacetic Acid	79-43-6	1.6E+00	9.6E+01		1.5E+00	8.0E+01	5.4E+03		7.9E+01	6.0E+01	3.1E-04	1.2E-02
				9.0E-02	I	2.0E-01	H	V		3.43	1	1	Yes	Dichlorobenzene, 1,2-	95-50-1					1.8E+03	2.9E+03	4.2E+02	3.0E+02	6.0E+02	3.0E-01	5.8E-01
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		3.44	1	1	Yes	Dichlorobenzene, 1,4-	106-46-7	1.4E+01	2.1E+01	5.1E-01	4.8E-01	1.4E+03	2.2E+03	1.7E+03	5.7E+02	7.5E+01	4.6E-04	7.2E-02
4.5E-01	I	3.4E-04	C							3.51	1	1	Yes	Dichlorobenzidine, 3,3'-	91-94-1	1.7E-01	4.5E-01		1.3E-01						8.2E-04	
				9.0E-03	X					4.44	1	0.9	Yes	Dichlorobenzophenone, 4,4'-	90-98-2					1.8E+02	1.4E+02		7.8E+01		4.7E-01	
				2.0E-01	I	1.0E-01	X	V		2.16	1	1	Yes	Dichlorodifluoromethane	75-71-8					4.0E+03	3.8E+04	2.1E+02	2.0E+02		3.0E-01	
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1.79	1	1	Yes	Dichloroethane, 1,1-	75-34-3	1.4E+01	1.8E+02	3.5E+00	2.8E+00	4.0E+03	5.8E+04		3.8E+03		7.8E-04	
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1.48	1	1	Yes	Dichloroethane, 1,2-	107-06-2	8.6E-01	1.8E+01	2.2E-01	1.7E-01	1.2E+02	2.8E+03	1.5E+01	1.3E+01	5.0E+00	4.8E-05	1.4E-03
				5.0E-02	I	2.0E-01	I	V		2.13	1	1	Yes	Dichloroethylene, 1,1-	75-35-4					1.0E+03	8.5E+03	4.2E+02	2.8E+02	7.0E+00	1.0E-01	2.5E-03
				2.0E-03	I			V		1.86	1	1	Yes	Dichloroethylene, 1,2-cis-	156-59-2					4.0E+01	3.6E+02		3.6E+01	7.0E+01	1.1E-02	2.1E-02
				2.0E-02	I			V		2.09	1	1	Yes	Dichloroethylene, 1,2-trans-	156-60-5					4.0E+02	3.6E+03		3.6E+02	1.0E+02	1.1E-01	3.1E-02
				3.0E-03	I					3.06	1	1	Yes	Dichlorophenol, 2,4-	120-83-2					6.0E+01	1.9E+02		4.6E+01		5.4E-02	
				1.0E-02	I					2.81	1	1	Yes	Dichlorophenoxy Acetic Acid, 2,4-	94-75-7					2.0E+02	1.4E+03		1.7E+02	7.0E+01	4.5E-02	1.8E-02
				8.0E-03	I					3.53	1	0.9	Yes	Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6					1.6E+02	4.8E+02		1.2E+02		1.1E-01	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
3.6E-02	C	1.0E-05	C	9.0E-02	A	4.0E-03	I	V		1.98	1	1	Yes	Dichloropropane, 1,2-	78-87-5	2.2E+00	2.4E+01	5.6E-01	4.4E-01	1.8E+03	2.2E+04	8.3E+00	8.3E+00	5.0E+00	1.5E-04	1.7E-03
				2.0E-02	P			V		2	1	1	Yes	Dichloropropane, 1,3-	142-28-9					4.0E+02	4.6E+03		3.7E+02		1.3E-01	
				3.0E-03	I					0.78	1	1	Yes	Dichloropropanol, 2,3-	616-23-9					6.0E+01	5.0E+03		5.9E+01		1.3E-02	
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		2.04	1	1	Yes	Dichloropropene, 1,3-	542-75-6	7.8E-01	7.8E+00	1.4E+00	4.7E-01	6.0E+02	6.6E+03	4.2E+01	3.9E+01		1.7E-04	
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I			1.43	1	1	Yes	Dichlorvos	62-73-7	2.7E-01	1.4E+01		2.6E-01	1.0E+01	5.6E+02		9.9E+00		8.1E-05	
				1.0E-04	I					0	1	1	Yes	Dicrotophos	141-66-2					2.0E+00	1.1E+03		2.0E+00		4.7E-04	
				8.0E-02	P	3.0E-04	X	V		3.16	1	1	Yes	Dicyclopentadiene	77-73-6					1.6E+03	3.5E+03	6.3E-01	6.3E-01		2.2E-03	
1.6E+01	I	4.6E-03	I	5.0E-05	I					5.4	1	0.8	Yes	Dieldrin	60-57-1	4.9E-03	2.7E-03		1.8E-03	1.0E+00	6.1E-01		3.8E-01		7.1E-05	
		3.0E-04	C			5.0E-03	I				1	0		Diesel Engine Exhaust	NA											
				2.0E-03	P	2.0E-04	P			-1.43	1	1	Yes	Diethanolamine	111-42-2					4.0E+01	8.4E+04		4.0E+01		8.1E-03	
				3.0E-02	P	1.0E-04	P			0.56	1	1	Yes	Diethylene Glycol Monobutyl Ether	112-34-5					6.0E+02	8.7E+04		6.0E+02		1.3E-01	
				6.0E-02	P	3.0E-04	P			-0.54	1	1	Yes	Diethylene Glycol Monoethyl Ether	111-90-0					1.2E+03	7.8E+05		1.2E+03		2.4E-01	
				1.0E-03	P			V		0.05	1	1	Yes	Diethylformamide	617-84-5					2.0E+01	4.3E+03		2.0E+01		4.1E-03	
3.5E+02	C	1.0E-01	C							5.07	1	0.9	Yes	Diethylstilbestrol	56-53-1	2.2E-04	6.6E-05		5.1E-05						2.8E-05	
				8.0E-02	I					0.65	1	1	Yes	Difenzoquat	43222-48-6					1.6E+03	7.3E+05		1.6E+03			
				2.0E-02	I					3.88	1	0.9	Yes	Diflubenzuron	35367-38-5					4.0E+02	1.0E+03		2.9E+02		3.3E-01	
						4.0E+01	I	V		0.75	1	1	Yes	Difluoroethane, 1,1-	75-37-6							8.3E+04	8.3E+04		2.8E+01	
4.4E-02	C	1.3E-05	C					V		3.58	1	1	Yes	Dihydrosafrole	94-58-6	1.8E+00	2.3E+00	4.3E-01	3.0E-01						1.9E-04	
						7.0E-01	P	V		1.52	1	1	Yes	Diisopropyl Ether	108-20-3							1.5E+03	1.5E+03		3.7E-01	
				8.0E-02	I			V		1.03	1	1	Yes	Diisopropyl Methylphosphonate	1445-75-6					1.6E+03	1.3E+05		1.6E+03		4.5E-01	
				2.0E-02	I					-0.17	1	1	Yes	Dimethipin	55290-64-7					4.0E+02	2.4E+05		4.0E+02		8.8E-02	
				2.0E-04	I					0.78	1	1	Yes	Dimethoate	60-51-5					4.0E+00	6.4E+02		4.0E+00		9.0E-04	
1.6E+00	P									1.81	1	1	Yes	Dimethoxybenzidine, 3,3'-	119-90-4	4.9E-02	1.6E+00		4.7E-02						5.8E-05	
1.7E-03	P			6.0E-02	P					-0.61	1	1	Yes	Dimethyl methylphosphonate	756-79-6	4.6E+01	2.8E+04		4.6E+01	1.2E+03	8.1E+05		1.2E+03		9.7E-03	
4.6E+00	C	1.3E-03	C							4.58	1	1	Yes	Dimethylamino azobenzene [p-]	60-11-7	1.7E-02	7.2E-03		5.0E-03						2.2E-05	
5.8E-01	H									2.17	1	1	Yes	Dimethylaniline HCl, 2,4-	21436-96-4	1.3E-01	5.2E+02		1.3E-01						1.2E-04	
2.0E-01	P			2.0E-03	X					1.68	1	1	Yes	Dimethylaniline, 2,4-	95-68-1	3.9E-01	7.1E+00		3.7E-01	4.0E+01	8.0E+02		3.8E+01		2.1E-04	
				2.0E-03	I			V		2.31	1	1	Yes	Dimethylaniline, N,N-	121-69-7					4.0E+01	3.1E+02		3.5E+01		1.3E-02	
1.1E+01	P									2.34	1	1	Yes	Dimethylbenzidine, 3,3'-	119-93-7	7.1E-03	8.5E-02		6.5E-03						4.3E-05	
				1.0E-01	P	3.0E-02	I	V		-1.01	1	1	Yes	Dimethylformamide	68-12-2					2.0E+03	1.8E+06	6.3E+01	6.1E+01		1.2E-02	
				1.0E-04	X	2.0E-06	X	V		-1.19	1	1	Yes	Dimethylhydrazine, 1,1-	57-14-7					2.0E+00	3.5E+03	4.2E-03	4.2E-03		9.3E-07	
5.5E+02	C	1.6E-01	C					V		-0.54	1	1	Yes	Dimethylhydrazine, 1,2-	540-73-8	1.4E-04	5.0E-02	3.5E-05	2.8E-05						6.5E-09	
				2.0E-02	I					2.3	1	1	Yes	Dimethylphenol, 2,4-	105-67-9					4.0E+02	3.1E+03		3.6E+02		4.2E-01	
				6.0E-04	I					2.36	1	1	Yes	Dimethylphenol, 2,6-	576-26-1					1.2E+01	8.5E+01		1.1E+01		1.3E-02	
				1.0E-03	I					2.23	1	1	Yes	Dimethylphenol, 3,4-	95-65-8					2.0E+01	1.7E+02		1.8E+01		2.1E-02	
4.5E-02	C	1.3E-05	C					V		2.58	1	1	Yes	Dimethylvinylchloride	513-37-1	1.7E+00	6.5E+00	4.3E-01	3.3E-01						2.4E-04	
				8.0E-05	X					2.13	1	1	Yes	Dinitro-o-cresol, 4,6-	534-52-1					1.6E+00	2.6E+01		1.5E+00		2.6E-03	
				2.0E-03	I					4.12	1	0.9	Yes	Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5					4.0E+01	5.4E+01		2.3E+01		7.7E-01	
				1.0E-04	P					1.69	1	1	Yes	Dinitrobenzene, 1,2-	528-29-0					2.0E+00	5.3E+01		1.9E+00		1.8E-03	
				1.0E-04	I					1.49	1	1	Yes	Dinitrobenzene, 1,3-	99-65-0					2.0E+00	7.3E+01		2.0E+00		1.8E-03	
				1.0E-04	P					1.46	1	1	Yes	Dinitrobenzene, 1,4-	100-25-4					2.0E+00	7.6E+01		2.0E+00		1.8E-03	
				2.0E-03	I					1.67	1	1	Yes	Dinitrophenol, 2,4-	51-28-5					4.0E+01	1.2E+03		3.9E+01		4.4E-02	
6.8E-01	I									2.18	1	1	Yes	Dinitrotoluene Mixture, 2,4/2,6-	NA	1.1E-01	1.5E+00		1.1E-01						1.5E-04	
3.1E-01	C	8.9E-05	C	2.0E-03	I					1.98	1	1	Yes	Dinitrotoluene, 2,4-	121-14-2	2.5E-01	4.3E+00		2.4E-01	4.0E+01	7.5E+02		3.8E+01		3.2E-04	
1.5E+00	P			3.0E-04	X					2.1	1	1	Yes	Dinitrotoluene, 2,6-	606-20-2	5.2E-02	7.4E-01		4.9E-02	6.0E+00	9.3E+01		5.7E+00		6.7E-05	
				2.0E-03	S					1.84	1	1	Yes	Dinitrotoluene, 2-Amino-4,6-	35572-78-2					4.0E+01	1.0E+03		3.9E+01		3.0E-02	
				2.0E-03	S					1.84	1	1	Yes	Dinitrotoluene, 4-Amino-2,6-	19406-51-0					4.0E+01	1.0E+03		3.9E+01		3.0E-02	
4.5E-01	X			9.0E-04	X					2.18	1	0.8	Yes	Dinitrotoluene, Technical grade	25321-14-6	1.7E-01	2.6E-01		1.0E-01	1.8E+01	3.0E+01		1.1E+01		1.4E-04	
				1.0E-03	I					3.56	1	0.9	Yes	Dinoseb	88-85-7					2.0E+01	5.4E+01		1.5E+01	7.0E+00	1.3E-01	6.2E-02
1.0E-01	I	5.0E-06	I	3.0E-02	I	3.0E-02	I	V		-0.27	1	1	Yes	Dioxane, 1,4-	123-91-1	7.8E-01	2.3E+02	1.1E+00	4.6E-01	6.0E+02	1.9E+05	6.3E+01	5.7E+01		9.4E-05	
														Dioxins												
6.2E+03	I	1.3E+00	I							8.21	1	0	No	~Hexachlorodibenzo-p-dioxin, Mixture	NA	1.3E-05			1.3E-05						1.8E-05	
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C	V		6.8	1	0.5	No	~TCDD, 2,3,7,8-	1746-01-6	6.0E-07		1.5E-07	1.2E-07	1.4E-05		8.3E-05	1.2E-05	3.0E-05	5.9E-08	1.5E-05
				3.0E-02	I					2.17	1	1	Yes	Diphenamid	957-51-7					6.0E+02	4.2E+03		5.3E+02		5.2E+00	
				8.0E-04	X					2.4	1	1	Yes	Diphenyl Sulfone	127-63-9					1.6E+01	2.0E+02		1.5E+01		3.6E-02	
				2.5E-02	I					3.5	1	1	Yes	Diphenylamine	122-39-4					5.0E+02	8.4E+02		3.1E+02		5.8E-01	
8.0E-01	I	2.2E-04	I							2.94	1	1	Yes	Diphenylhydrazine, 1,2-	122-66-7	9.7E-02	3.9E-01		7.8E-02						2.5E-04	
				2.2E-03	I					-4.6	1	1	No	Diquat	85-00-7					4.4E+01			4.4E+01	2.0E+01	8.3E-01	3.8E-01
7.1E+00	C	1.4E-01	C							4.9	1	1	No	Direct Black 38	1937-37-7	1.1E-02			1.1E-02						5.3E+00	
7.4E+00	C	1.4E-01	C							2.6	1	1	No	Direct Blue 6	2602-46-2	1.1E-02			1.1E-02						1.7E+01	
6.7E+00	C	1.4E-01	C							-6.53	1	1	No	Direct Brown 95	16071-86-6	1.2E-02			1.2E-02							
				4.0E-05	I					4.02	1	0.9	Yes	Disulfoton	298-04-4					8.0E-01	1.3E+00		5.0E-01		9.4E-04	
				1.0E-02	I			V		0.77	1	1	Yes	Dithiane, 1,4-	505-29-3					2.0E+02	1.6E+04		2.0E+02		9.7E-02	
				2.0E-03	I					2.68	1	1	Yes	Diuron	330-54-1					4.0E+01	3.6E+02		3.6E+01		1.5E-02	
				4.0E-03	I					1.15	1	1	Yes	Dodine	2439-10-3					8.0E+01	1.1E+04		8.0E+01		4.1E-01	
				2.5E-02	I			V		3.21	1	1	Yes	EPTC	759-94-4					5.0E+02	1.5E+03		3.8E+02		2.0E-01	
				6.0E-03	I			V		3.83	1	0.9	Yes	Endosulfan	115-29-7					1.2E+02	6.3E+02		1.0E+02		1.4E+00	
				2.0E-02	I					1.91	1	1	Yes	Endothall	145-73-3					4.0E+02	8.5E+03		3.8E+02	1.0E+02	9.2E-02	2.4E-02
				3.0E-04	I					5.2	1	0.8	Yes	Endrin	72-20-8					6.0E+00	3.7E+00		2.3E+00	2.0E+00	9.2E-02	8.1E-02
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I	V		0.45	1	1	Yes	Epichlorohydrin	106-89-8	7.9E+00	7.9E+02	4.7E+00	2.9E+00	1.2E+02	1.3E+04	2.1E+00	2.0E+00		4.5E-04	
						2.0E-02	I	V		0.86	1	1	Yes	Epoxybutane, 1,2-	106-88-7							4.2E+01	4.2E+01		9.2E-03	
				4.0E-02	P					-1.18	1	1	Yes	Ethanol, 2-(2-methoxyethoxy)-	111-77-3					8.0E+02	3.9E+05		8.0E+02		1.6E-01	
				5.0E-03	I					-0.22	1	1	Yes	Ethephon	16672-87-0					1.0E+02	4.2E+04		1.0E+02		2.1E-02	
				5.0E-04	I					5.07	1	0.8	Yes	Ethion	563-12-2					1.0E+01	7.7E+00		4.3E+00		8.5E-03	
				1.0E-01	P	6.0E-02	P	V		0.59	1	1	Yes	Ethoxyethanol Acetate, 2-	111-15-9					2.0E+03	2.3E+05	1.3E+02	1.2E+02		2.5E-02	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
				9.0E-02	P	2.0E-01	I	V		-0.32	1	1	Yes	Ethoxyethanol, 2-	110-80-5					1.8E+03	6.3E+05	4.2E+02	3.4E+02		6.8E-02	
				9.0E-01	I	7.0E-02	P	V		0.73	1	1	Yes	Ethyl Acetate	141-78-6					1.8E+04	1.2E+06	1.5E+02	1.4E+02		3.1E-02	
				5.0E-03	P	8.0E-03	P	V		1.32	1	1	Yes	Ethyl Acrylate	140-88-5					1.0E+02	3.0E+03	1.7E+01	1.4E+01		3.2E-03	
						1.0E+01	I	V		1.43	1	1	Yes	Ethyl Chloride (Chloroethane)	75-00-3							2.1E+04	2.1E+04		5.9E+00	
				2.0E-01	I			V		0.89	1	1	Yes	Ethyl Ether	60-29-7					4.0E+03	2.0E+05		3.9E+03		8.8E-01	
						3.0E-01	P	V		1.94	1	1	Yes	Ethyl Methacrylate	97-63-2							6.3E+02	6.3E+02		1.5E-01	
				1.0E-05	I					4.78	1	0.8	Yes	Ethyl-p-nitrophenyl Phosphonate	2104-64-5					2.0E-01	1.6E-01		8.9E-02		2.8E-03	
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I	V		3.15	1	1	Yes	Ethylbenzene	100-41-4	7.1E+00	1.2E+01	2.2E+00	1.5E+00	2.0E+03	3.8E+03	2.1E+03	8.1E+02	7.0E+02	1.7E-03	7.9E-01
				7.0E-02	P					-0.94	1	1	Yes	Ethylene Cyanohydrin	109-78-4					1.4E+03	1.1E+06		1.4E+03		2.8E-01	
				9.0E-02	P			V		-2.04	1	1	No	Ethylene Diamine	107-15-3					1.8E+03			1.8E+03		4.2E-01	
				2.0E+00	I	4.0E-01	C			-1.36	1	1	Yes	Ethylene Glycol	107-21-1					4.0E+04	5.7E+07		4.0E+04		8.1E+00	
				1.0E-01	I	1.6E+00	I			0.83	1	1	Yes	Ethylene Glycol Monobutyl Ether	111-76-2					2.0E+03	1.4E+05		2.0E+03		4.1E-01	
3.1E-01	C	8.8E-05	C			3.0E-02	C	V		-0.3	1	1	Yes	Ethylene Oxide	75-21-8	2.5E-01	5.4E+01	6.4E-02	5.1E-02			6.3E+01	6.3E+01		1.1E-05	
4.5E-02	C	1.3E-05	C	8.0E-05	I					-0.66	1	1	Yes	Ethylene Thiourea	96-45-7	1.7E+00	1.0E+03		1.7E+00	1.6E+00	1.0E+03		1.6E+00		3.6E-04	
6.5E+01	C	1.9E-02	C					V		-0.28	1	1	Yes	Ethyleneimine	151-56-4	1.2E-03	2.5E-01	3.0E-04	2.4E-04						5.2E-08	
				3.0E+00	I					2.19	1	1	Yes	Ethylphthalyl Ethyl Glycolate	84-72-0					6.0E+04	1.5E+06		5.8E+04		1.3E+02	
				2.5E-04	I					3.23	1	0.9	Yes	Fenamiphos	22224-92-6					5.0E+00	3.4E+01		4.4E+00		4.4E-03	
				2.5E-02	I					5.7	1	0.8	Yes	Fenpropathrin	39515-41-8					5.0E+02	7.3E+01		6.4E+01		2.9E+00	
				2.5E-02	I					6.2	1	0.7	No	Fenvalerate	51630-58-1					5.0E+02			5.0E+02		3.2E+02	
				1.3E-02	I					2.42	1	1	Yes	Fluometuron	2164-17-2					2.6E+02	3.4E+03		2.4E+02		1.9E-01	
				4.0E-02	C	1.3E-02	C				1	1	Yes	Fluoride	16984-48-8					8.0E+02	1.8E+05		8.0E+02		1.2E+02	
				6.0E-02	I	1.3E-02	C				1	1	Yes	Fluorine (Soluble Fluoride)	7782-41-4					1.2E+03	2.7E+05		1.2E+03	4.0E+03	1.8E+02	6.0E+02
				8.0E-02	I					3.16	1	0.9	Yes	Fluridone	59756-60-4					1.6E+03	1.4E+04		1.4E+03		1.6E+02	
				2.0E-02	I					3.34	1	0.9	Yes	Flurprimidol	56425-91-3					4.0E+02	2.4E+03		3.4E+02		1.6E+00	
				7.0E-04	I					3.7	1	0.9	Yes	Flusilazole	85509-19-9					1.4E+01	5.0E+01		1.1E+01		1.8E+00	
				6.0E-02	I					3.7	1	0.9	Yes	Flutolanil	66332-96-5					1.2E+03	4.5E+03		9.5E+02		5.0E+00	
				1.0E-02	I					6.81	1	0.6	No	Fluvalinate	69409-94-5					2.0E+02			2.0E+02		2.9E+02	
3.5E-03	I			1.0E-01	I					2.85	1	1	Yes	Folpet	133-07-3	2.2E+01	2.1E+02		2.0E+01	2.0E+03	2.1E+04		1.8E+03		4.7E-03	
1.9E-01	I									2.9	1	1	Yes	Fomesafen	72178-02-0	4.1E-01	9.1E+00		3.9E-01						1.3E-03	
				2.0E-03	I					3.94	1	0.9	Yes	Fonofos	944-22-9					4.0E+01	6.3E+01		2.4E+01		4.7E-02	
		1.3E-05	I	2.0E-01	I	9.8E-03	A	V		0.35	1	1	Yes	Formaldehyde	50-00-0			4.3E-01	4.3E-01	4.0E+03	3.2E+05	2.0E+01	2.0E+01		8.7E-05	
				9.0E-01	P	3.0E-04	X	V		-0.54	1	1	Yes	Formic Acid	64-18-6					1.8E+04	6.4E+06	6.3E-01	6.3E-01		1.3E-04	
				3.0E+00	I					-2.4	1	1	No	Fosetyl-AL	39148-24-8					6.0E+04			6.0E+04		7.9E+02	
														Furans												
				1.0E-03	X			V		4.12	1	1	Yes	"Dibenzofuran	132-64-9					2.0E+01	1.3E+01		7.9E+00		1.5E-01	
				1.0E-03	I			V		1.34	1	1	Yes	"Furan	110-00-9					2.0E+01	4.8E+02		1.9E+01		7.3E-03	
				9.0E-01	I	2.0E+00	I	V		0.46	1	1	Yes	"Tetrahydrofuran	109-99-9					1.8E+04	1.7E+06	4.2E+03	3.4E+03		7.5E-01	
3.8E+00	H									-0.04	1	1	Yes	Furazolidone	67-45-8	2.1E-02	1.0E+01		2.0E-02						3.9E-05	
				3.0E-03	I	5.0E-02	H	V		0.41	1	1	Yes	Furfural	98-01-1					6.0E+01	7.1E+03	1.0E+02	3.8E+01		8.1E-03	
1.5E+00	C	4.3E-04	C							1.8	1	1	Yes	Furium	531-82-8	5.2E-02	1.9E+00		5.1E-02						6.9E-05	
3.0E-02	I	8.6E-06	C							4.38	1	0.9	Yes	Furmecyclox	60568-05-0	2.6E+00	2.0E+00		1.1E+00						1.2E-03	
				4.0E-04	I					-4.81	1	1	No	Glufosinate, Ammonium	77182-82-2					8.0E+00			8.0E+00		1.8E-03	
						8.0E-05	C			-0.33	1	1	Yes	Glutaraldehyde	111-30-8											
				4.0E-04	I	1.0E-03	H	V		-0.12	1	1	Yes	Glycidyl	765-34-4					8.0E+00	1.8E+03	2.1E+00	1.7E+00		3.3E-04	
				1.0E-01	I					-3.4	1	1	No	Glyphosate	1071-83-6					2.0E+03			2.0E+03	7.0E+02	8.8E+00	3.1E+00
				1.0E-02	X			V		-1.63	1	1	Yes	Guanidine	113-00-8					2.0E+02	4.2E+05		2.0E+02		4.5E-02	
				2.0E-02	P					-3.56	1	1	No	Guanidine Chloride	50-01-1					4.0E+02			4.0E+02			
				5.0E-05	I					4.07	1	0.9	Yes	Haloxyfop, Methyl	69806-40-2					1.0E+00	3.1E+00		7.6E-01		8.4E-03	
4.5E+00	I	1.3E-03	I	5.0E-04	I			V		6.1	1	0.8	Yes	Heptachlor	76-44-8	1.7E-02	2.3E-03	4.3E-03	1.4E-03	1.0E+01	1.5E+00		1.3E+00	4.0E-01	1.2E-04	3.3E-02
9.1E+00	I	2.6E-03	I	1.3E-05	I			V		4.98	1	0.8	Yes	Heptachlor Epoxide	1024-57-3	8.6E-03	7.1E-03	2.2E-03	1.4E-03	2.6E-01	2.4E-01		1.2E-01	2.0E-01	2.8E-05	4.1E-03
				2.0E-03	I			V		6.07	1	0.7	No	Hexabromobenzene	87-82-1					4.0E+01			4.0E+01		2.3E-01	
				2.0E-04	I						1	0	No	Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2					4.0E+00			4.0E+00			
1.6E+00	I	4.6E-04	I	8.0E-04	I			V		5.73	1	0.9	No	Hexachlorobenzene	118-74-1	4.9E-02		1.2E-02	9.8E-03	1.6E+01			1.6E+01	1.0E+00	1.2E-04	1.3E-02
7.8E-02	I	2.2E-05	I	1.0E-03	P			V		4.78	1	0.9	Yes	Hexachlorobutadiene	87-68-3	1.0E+00	4.4E-01	2.6E-01	1.4E-01	2.0E+01	9.5E+00		6.5E+00		2.7E-04	
6.3E+00	I	1.8E-03	I	8.0E-03	A					3.8	1	0.9	Yes	Hexachlorocyclohexane, Alpha-	319-84-6	1.2E-02	1.8E-02		7.2E-03	1.6E+02	2.5E+02		9.7E+01		4.2E-05	
1.8E+00	I	5.3E-04	I							3.78	1	0.9	Yes	Hexachlorocyclohexane, Beta-	319-85-7	4.3E-02	6.1E-02		2.5E-02						1.5E-04	
1.1E+00	C	3.1E-04	C	3.0E-04	I					3.72	1	0.9	Yes	Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	7.1E-02	1.0E-01		4.2E-02	6.0E+00	9.3E+00		3.6E+00	2.0E-01	2.4E-04	1.2E-03
1.8E+00	I	5.1E-04	I							4.14	1	0.9	Yes	Hexachlorocyclohexane, Technical	608-73-1	4.3E-02	6.1E-02		2.5E-02						1.5E-04	
				6.0E-03	I	2.0E-04	I	V		5.04	1	0.9	Yes	Hexachlorocyclopentadiene	77-47-4					1.2E+02	4.2E+01	4.2E-01	4.1E-01	5.0E+01	1.3E-03	1.6E-01
4.0E-02	I	1.1E-05	C	7.0E-04	I	3.0E-02	I	V		4.14	1	1	Yes	Hexachloroethane	67-72-1	1.9E+00	1.7E+00	5.1E-01	3.3E-01	1.4E+01	1.4E+01	6.3E+01	6.2E+00		2.0E-04	
				3.0E-04	I					7.54	1	0	No	Hexachlorophene	70-30-4					6.0E+00			6.0E+00		8.1E+00	
1.1E-01	I			3.0E-03	I					0.87	1	1	Yes	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	7.1E-01	8.6E+01		7.0E-01	6.0E+01	8.0E+03		6.0E+01		2.7E-04	
						1.0E-05	I	V		3.2	1	1	Yes	Hexamethylene Diisocyanate, 1,6-	822-06-0							2.1E-02	2.1E-02		2.1E-04	
				4.0E-04	P					0.28	1	1	Yes	Hexamethylphosphoramide	680-31-9					8.0E+00	2.0E+03		8.0E+00		1.8E-03	
						7.0E-01	I	V		3.9	1	1	Yes	Hexane, N-	110-54-3							1.5E+03	1.5E+03		1.0E+01	
				2.0E+00	P					0.08	1	1	Yes	Hexanedioic Acid	124-04-9					4.0E+04	1.1E+07		4.0E+04		9.9E+00	
				5.0E-03	I	3.0E-02	I	V		1.38	1	1	Yes	Hexanone, 2-	591-78-6					1.0E+02	2.8E+03	6.3E+01	3.8E+01		8.8E-03	
				3.3E-02	I					1.85	1	1	Yes	Hexazinone	51235-04-2					6.6E+02	2.4E+04		6.4E+02		3.0E-01	
				2.5E-02	I					5.57	1	0.8	Yes	Hexythiazox	78587-05-0					5.0E+02	1.4E+02		1.1E+02		5.0E-01	
				3.0E-04	I					2.31	1	1	Yes	Hydramethylnon	67485-29-4					6.0E+00	5.1E+02		5.9E+00		2.1E+03	
3.0E+00	I	4.9E-03	I			3.0E-05	P	V		-2.07	1	1	Yes	Hydrazine	302-01-2	2.6E-02	1.1E+02	1.1E-03	1.1E-03			6.3E-02	6.3E-02			
3.0E+00	I	4.9E-03	I								1	1	Yes	Hydrazine Sulfate	10034-93-2	2.6E-02	4.9E+00		2.6E-02							
						2.0E-02	I	V			1	1	Yes	Hydrogen Chloride	7647-01-0							4.2E+01	4.2E+01			
				4.0E-02	C	1.4E-02	C	V		0.23	1	1	Yes	Hydrogen Fluoride	7664-39-3					8.0E+02	1.8E+05	2.9E+01	2.8E+01			
						2.0E-03	I	V		0.23	1	1	Yes	Hydrogen Sulfide	7783-06-4							4.2E+00	4.2E+00			

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncancer Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
6.0E-02	P			4.0E-02	P					0.59	1	1	Yes	Hydroquinone	123-31-9	1.3E+00	1.2E+02		1.3E+00	8.0E+02	7.9E+04		7.9E+02		8.8E-04	
				1.3E-02	I					3.82	1	0.9	Yes	Imazalil	35554-44-0					2.6E+02	6.8E+02		1.9E+02		3.2E+00	
				2.5E-01	I					1.86	1	1	Yes	Imazaquin	81335-37-7					5.0E+03	2.6E+05		4.9E+03		2.5E+01	
				2.5E-01	I					1.49	1	1	Yes	Imazethapyr	81335-77-5					5.0E+03	7.2E+04		4.7E+03		4.1E+00	
				1.0E-02	A					2.49	1	1	Yes	Iodine	7553-56-2					2.0E+02	4.6E+04		2.0E+02		1.2E+01	
				4.0E-02	I					3	1	0.9	Yes	Iprodione	36734-19-7					8.0E+02	9.1E+03		7.4E+02		2.3E-01	
				7.0E-01	P						1	1	Yes	Iron	7439-89-6					1.4E+04	3.2E+06		1.4E+04		3.5E+02	
				3.0E-01	I			V		0.76	1	1	Yes	Isobutyl Alcohol	78-83-1					6.0E+03	3.6E+05		5.9E+03		1.2E+00	
9.5E-04	I			2.0E-01	I	2.0E+00	C			1.7	1	1	Yes	Isophorone	78-59-1	8.2E+01	1.6E+03		7.8E+01	4.0E+03	8.6E+04		3.8E+03		2.6E-02	
				1.5E-02	I			V		5.8	1	0.8	Yes	Isopropalin	33820-53-0					3.0E+02	4.6E+01		4.0E+01		9.2E-01	
				2.0E+00	P	2.0E-01	P	V		0.05	1	1	Yes	Isopropanol	67-63-0					4.0E+04	6.5E+06	4.2E+02	4.1E+02		8.4E-02	
				1.0E-01	I					0.27	1	1	Yes	Isopropyl Methyl Phosphonic Acid	1832-54-8					2.0E+03	3.9E+05		2.0E+03		4.3E-01	
				5.0E-02	I					3.94	1	0.9	Yes	Isoxaben	82558-50-7					1.0E+03	2.7E+03		7.3E+02		2.0E+00	
						3.0E-01	A	V		8	1	0	No	JP-7	NA							6.3E+02	6.3E+02			
				2.0E-03	I					4.81	1	0.9	Yes	Lactofen	77501-63-4					4.0E+01	6.7E+01		2.5E+01		1.2E+00	
														Lead Compounds												
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	~Lead Chromate	7758-97-6	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02			
8.5E-03	C	1.2E-05	C								1	0.8	Yes	~Lead Phosphate	7446-27-7	9.2E+00	1.7E+03		9.1E+00							
2.8E-01	C	8.0E-05	C							-0.08	1	1	Yes	~Lead acetate	301-04-2	2.8E-01	2.8E+02		2.8E-01							
											1	1	Yes	~Lead and Compounds	7439-92-1								1.5E+01	1.5E+01		1.4E+01
8.5E-03	C	1.2E-05	C							-4	1	1	No	~Lead subacetate	1335-32-6	9.2E+00			9.2E+00							
				1.0E-07	I			V		4.15	1	0.9	Yes	~Tetraethyl Lead	78-00-2					2.0E-03	3.8E-03		1.3E-03		4.7E-06	
				5.0E-06	P			V		2.56	1	1	Yes	Lewisite	541-25-3					1.0E-01	9.1E-01		9.0E-02		3.8E-05	
				2.0E-03	I					3.2	1	0.9	Yes	Linuron	330-55-2					4.0E+01	2.0E+02		3.3E+01		2.9E-02	
				2.0E-03	P						1	1	Yes	Lithium	7439-93-2					4.0E+01	9.1E+03		4.0E+01		1.2E+01	
				5.0E-04	I					3.25	1	1	Yes	MCPA	94-74-6					1.0E+01	3.0E+01		7.5E+00		2.0E-03	
				1.0E-02	I					2.79	1	0.9	Yes	MCPB	94-81-5					2.0E+02	5.5E+02		1.5E+02		5.8E-02	
				1.0E-03	I					3.13	1	1	Yes	MCPP	93-65-2					2.0E+01	7.1E+01		1.6E+01		4.7E-03	
				2.0E-02	I					2.36	1	1	Yes	Malathion	121-75-5					4.0E+02	1.1E+04		3.9E+02		1.0E-01	
				1.0E-01	I	7.0E-04	C			1.62	1	1	Yes	Maleic Anhydride	108-31-6					2.0E+03	3.8E+04		1.9E+03		3.9E-01	
				5.0E-01	I					-0.84	1	1	Yes	Maleic Hydrazide	123-33-1					1.0E+04	8.9E+06		1.0E+04		2.1E+00	
				1.0E-04	P					-0.6	1	1	Yes	Malononitrile	109-77-3					2.0E+00	9.2E+02		2.0E+00		4.1E-04	
				3.0E-02	H					1.33	1	0.9	Yes	Mancozeb	8018-01-7					6.0E+02	4.9E+03		5.4E+02		7.6E-01	
				5.0E-03	I					0.62	1	1	Yes	Maneb	12427-38-2					1.0E+02	3.6E+03		9.8E+01		1.4E-01	
				1.4E-01	I	5.0E-05	I				1	1		Manganese (Diet)	7439-96-5											
				2.4E-02	S	5.0E-05	I				0.04	1	Yes	Manganese (Non-diet)	7439-96-5					4.8E+02	4.4E+03		4.3E+02		2.8E+01	
				9.0E-05	H					1.04	1	1	Yes	Mephosfolan	950-10-7					1.8E+00	2.5E+02		1.8E+00		2.6E-03	
				3.0E-02	I					-2.82	1	1	No	Mepiquat Chloride	24307-26-4					6.0E+02			6.0E+02		2.0E-01	
														Mercury Compounds												
				3.0E-04	I	3.0E-04	S			-0.22	0.07	1	Yes	~Mercuric Chloride (and other Mercury salts)	7487-94-7					6.0E+00	9.6E+01		5.7E+00	2.0E+00		
						3.0E-04	I	V		0.62	1	1	Yes	~Mercury (elemental)	7439-97-6							6.3E-01	6.3E-01	2.0E+00	3.3E-02	1.0E-01
				1.0E-04	I						1	1	Yes	~Methyl Mercury	22967-92-6					2.0E+00	4.6E+02		2.0E+00			
				8.0E-05	I					0.71	1	1	Yes	~Phenylmercuric Acetate	62-38-4					1.6E+00	5.7E+02		1.6E+00		5.0E-04	
				3.0E-05	I			V		7.67	1	0.3	No	Merphos	150-50-5					6.0E-01			6.0E-01		5.9E-02	
				3.0E-05	I					5.7	1	0.9	Yes	Merphos Oxide	78-48-8					6.0E-01	9.9E-02		8.5E-02		4.2E-04	
				6.0E-02	I					1.65	1	1	Yes	Metalaxyl	57837-19-1					1.2E+03	6.4E+04		1.2E+03		3.3E-01	
				1.0E-04	I	3.0E-02	P	V		0.68	1	1	Yes	Methacrylonitrile	126-98-7					2.0E+00	1.3E+02	6.3E+01	1.9E+00		4.4E-04	
				5.0E-05	I					-0.8	1	1	Yes	Methamidophos	10265-92-6					1.0E+00	1.0E+03		1.0E+00		2.1E-04	
				2.0E+00	I	2.0E+01	I	V		-0.77	1	1	Yes	Methanol	67-56-1					4.0E+04	1.8E+07	4.2E+04	2.0E+04		4.1E+00	
				1.0E-03	I					2.2	1	1	Yes	Methidathion	950-37-8					2.0E+01	5.8E+02		1.9E+01		4.7E-03	
				2.5E-02	I					0.6	1	1	Yes	Methomyl	16752-77-5					5.0E+02	6.8E+04		5.0E+02		1.1E-01	
4.9E-02	C	1.4E-05	C							1.47	1	1	Yes	Methoxy-5-nitroaniline, 2-	99-59-2	1.6E+00	5.4E+01		1.5E+00						5.3E-04	
				5.0E-03	I					5.08	1	0.8	Yes	Methoxychlor	72-43-5					1.0E+02	5.9E+01		3.7E+01	4.0E+01	2.0E+00	2.2E+00
				8.0E-03	P	1.0E-03	P	V		0.1	1	1	Yes	Methoxyethanol Acetate, 2-	110-49-6					1.6E+02	3.5E+04	2.1E+00	2.1E+00		4.2E-04	
				5.0E-03	P	2.0E-02	I	V		-0.77	1	1	Yes	Methoxyethanol, 2-	109-86-4					1.0E+02	6.3E+04	4.2E+01	2.9E+01		6.0E-03	
				1.0E+00	X			V		0.18	1	1	Yes	Methyl Acetate	79-20-9					2.0E+04	2.9E+06		2.0E+04		4.1E+00	
						2.0E-02	P	V		0.8	1	1	Yes	Methyl Acrylate	96-33-3							4.2E+01	4.2E+01		8.9E-03	
				6.0E-01	I	5.0E+00	I	V		0.29	1	1	Yes	Methyl Ethyl Ketone (2-Butanone)	78-93-3					1.2E+04	1.5E+06	1.0E+04	5.6E+03		1.2E+00	
		1.0E-03	X	1.0E-03	P	2.0E-05	X	V		-1.05	1	1	Yes	Methyl Hydrazine	60-34-4			5.6E-03	5.6E-03	2.0E+01	1.5E+04	4.2E-02	4.2E-02		1.3E-06	
						3.0E+00	I	V		1.31	1	1	Yes	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1							6.3E+03	6.3E+03		1.4E+00	
						1.0E-03	C	V		0.79	1	1	Yes	Methyl Isocyanate	624-83-9							2.1E+00	2.1E+00		5.9E-04	
				1.4E+00	I	7.0E-01	I	V		1.38	1	1	Yes	Methyl Methacrylate	80-62-6					2.8E+04	7.7E+05	1.5E+03	1.4E+03		3.0E-01	
				2.5E-04	I					2.86	1	1	Yes	Methyl Parathion	298-00-0					5.0E+00	4.1E+01		4.5E+00		7.4E-03	
				6.0E-02	X					-0.7	1	1	Yes	Methyl Phosphonic Acid	993-13-5					1.2E+03	1.2E+06		1.2E+03		2.4E-01	
				6.0E-03	H	4.0E-02	H	V		3.44	1	0.8	Yes	Methyl Styrene (Mixed Isomers)	25013-15-4					1.2E+02	4.3E+01	8.3E+01	2.3E+01		3.8E-02	
9.9E-02	C	2.8E-05	C							-0.66	1	1	Yes	Methyl methanesulfonate	66-27-3	7.9E-01	4.8E+02		7.9E-01							1.6E-04
1.8E-03	C	2.6E-07	C			3.0E+00	I	V		0.94	1	1	Yes	Methyl tert-Butyl Ether (MTBE)	1634-04-4	4.3E+01	2.0E+03	2.2E+01	1.4E+01			6.3E+03	6.3E+03		3.2E-03	
				3.0E-04	X					-2.06	1	1	Yes	Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2					6.0E+00	5.9E+04		6.0E+00		3.6E-03	
9.0E-03	P			2.0E-02	X					1.87	1	1	Yes	Methyl-5-Nitroaniline, 2-	99-55-8	8.7E+00	1.4E+02		8.2E+00	4.0E+02	7.3E+03		3.8E+02		4.6E-03	
8.3E+00	C	2.4E-03	C							-0.92	1	1	Yes	Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	9.4E-03	1.1E+01		9.4E-03						3.2E-06	
1.3E-01	C	3.7E-05	C							1.62	1	1	Yes	Methylaniline Hydrochloride, 2-	636-21-5	6.0E-01	3.9E+03		6.0E-01						2.6E-04	
				1.0E-02	A					-1.18	1	1	Yes	Methylarsonic acid	124-58-3					2.0E+02	3.6E+05		2.0E+02			
				2.0E-04	X						1	0	No	Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7					4.0E+00			4.0E+00			
1.0E-01	X			3.0E-04	X						1	0	No	Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	7.8E-01			7.8E-01	6.0E+00			6.0E+00			
2.2E+01	C	6.3E-03	C						M	6.42	1	0.8	No	Methylcholanthrene, 3-	56-49-5	1.1E-03			1.1E-03						2.2E-03	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
2.0E-03	I	1.0E-08	I	6.0E-03	I	6.0E-01	I	V	M	1.25	1	1	Yes	Methylene Chloride	75-09-2	1.3E+01	3.5E+02	2.0E+02	1.1E+01	1.2E+02	3.7E+03	1.3E+03	1.1E+02	5.0E+00	2.9E-03	1.3E-03
1.0E-01	P	4.3E-04	C	2.0E-03	P				M	3.91	1	0.9	Yes	Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	2.5E-01	4.3E-01		1.6E-01	4.0E+01	7.5E+01		2.6E+01		1.8E-03	
4.6E-02	I	1.3E-05	C							4.37	1	1	Yes	Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	1.7E+00	6.7E-01		4.8E-01						2.7E-03	
1.6E+00	C	4.6E-04	C			2.0E-02	C			1.59	1	1	Yes	Methylenebisbenzenamine, 4,4'-	101-77-9	4.9E-02	1.7E+00		4.7E-02						2.1E-04	
						6.0E-04	I			5.22	1	0.9	Yes	Methylenediphenyl Diisocyanate	101-68-8											
				7.0E-02	H			V		3.48	1	1	Yes	Methylstyrene, Alpha-	98-83-9					1.4E+03	1.7E+03		7.8E+02		1.3E+00	
				1.5E-01	I					3.13	1	1	Yes	Metolachlor	51218-45-2					3.0E+03	2.6E+04		2.7E+03		3.2E+00	
				2.5E-02	I					1.7	1	1	Yes	Metribuzin	21087-64-9					5.0E+02	1.8E+04		4.9E+02		1.5E-01	
				2.5E-01	I					2.2	1	1	Yes	Metsulfuron-methyl	74223-64-6					5.0E+03	2.4E+05		4.9E+03		1.9E+00	
				3.0E+00	P			V		6.1	1	1	No	Mineral oils	8012-95-1					6.0E+04			6.0E+04		2.4E+03	
1.8E+01	C	5.1E-03	C	2.0E-04	I			V		6.89	1	0.5	No	Mirex	2385-85-5	4.3E-03		1.1E-03	8.8E-04	4.0E+00			4.0E+00		6.3E-04	
				2.0E-03	I					3.21	1	1	Yes	Molinate	2212-67-1					4.0E+01	1.2E+02		3.0E+01		1.7E-02	
				5.0E-03	I						1	1	Yes	Molybdenum	7439-98-7					1.0E+02	2.3E+04		1.0E+02		2.0E+00	
				1.0E-01	I						1	1	Yes	Monochloramine	10599-90-3					2.0E+03	4.6E+05		2.0E+03	4.0E+03		
				2.0E-03	P					1.66	1	1	Yes	Monomethylaniline	100-61-8					4.0E+01	7.5E+02		3.8E+01		1.4E-02	
				2.5E-02	I					2.94	1	1	Yes	Myclobutanil	88671-89-0					5.0E+02	4.7E+03		4.5E+02		5.6E+00	
				3.0E-04	X					4.04	1	0.9	Yes	N,N'-Diphenyl-1,4-benzenediamine	74-31-7					6.0E+00	8.9E+00		3.6E+00		3.7E-01	
				2.0E-03	I			V		1.38	1	1	Yes	Naled	300-76-5					4.0E+01	6.8E+03		4.0E+01		1.8E-02	
				3.0E-02	X	1.0E-01	P	V			1	0	No	Naphtha, High Flash Aromatic (HFAN)	64742-95-6					6.0E+02		2.1E+02	1.5E+02			
1.8E+00	C	0.0E+00	C							2.28	1	1	Yes	Naphthylamine, 2-	91-59-8	4.3E-02	3.6E-01		3.9E-02						2.0E-04	
				1.0E-01	I					3.36	1	0.9	Yes	Napropamide	15299-99-7					2.0E+03	9.0E+03		1.6E+03		1.1E+01	
		2.6E-04	C	1.1E-02	C	1.4E-05	C			-1.38	1	1	Yes	Nickel Acetate	373-02-4					2.2E+02	6.8E+05		2.2E+02			
		2.6E-04	C	1.1E-02	C	1.4E-05	C			-2.12	1	1	Yes	Nickel Carbonate	3333-67-3					2.2E+02	1.4E+06		2.2E+02			
		2.6E-04	C	1.1E-02	C	1.4E-05	C	V			1	0	Yes	Nickel Carbonyl	13463-39-3			2.2E-02	2.2E-02	2.2E+02		2.9E-02	2.9E-02			
		2.6E-04	C	1.1E-02	C	1.4E-05	C				0.04	1	Yes	Nickel Hydroxide	12054-48-7					2.2E+02	2.0E+03		2.0E+02			
		2.6E-04	C	1.1E-02	C	2.0E-05	C				0.04	1	Yes	Nickel Oxide	1313-99-1					2.2E+02	2.0E+03		2.0E+02			
		2.4E-04	I	1.1E-02	C	1.4E-05	C				0.04	0	Yes	Nickel Refinery Dust	NA					2.2E+02	1.0E+04		2.2E+02		3.2E+01	
		2.6E-04	C	2.0E-02	I	9.0E-05	A				0.04	1	Yes	Nickel Soluble Salts	7440-02-0					4.0E+02	1.8E+04		3.9E+02		2.6E+01	
1.7E+00	C	4.8E-04	I	1.1E-02	C	1.4E-05	C				0.04	1	Yes	Nickel Subsulfide	12035-72-2	4.8E-02	1.7E+00		4.5E-02	2.2E+02	1.0E+04		2.2E+02			
		2.6E-04	C	1.1E-02	C	1.4E-05	C				1	0	Yes	Nickelocene	1271-28-9					2.2E+02			2.2E+02			
				1.6E+00	I						1	1	Yes	Nitrate	14797-55-8					3.2E+04	7.3E+06		3.2E+04	1.0E+04		
											1	0	Yes	Nitrate + Nitrite (as N)	NA									1.0E+04		
				1.0E-01	I						1	1	Yes	Nitrite	14797-65-0					2.0E+03	4.6E+05		2.0E+03	1.0E+03		
				1.0E-02	X	5.0E-05	X			1.85	1	1	Yes	Nitroaniline, 2-	88-74-4					2.0E+02	3.4E+03		1.9E+02		8.0E-02	
2.0E-02	P			4.0E-03	P	6.0E-03	P			1.39	1	1	Yes	Nitroaniline, 4-	100-01-6	3.9E+00	1.2E+02		3.8E+00	8.0E+01	2.8E+03		7.8E+01		1.6E-03	
		4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1.85	1	1	Yes	Nitrobenzene	98-95-3			1.4E-01	1.4E-01	4.0E+01	6.2E+02	1.9E+01	1.3E+01		9.2E-05	
				3.0E+03	P					-4.56	1	1	No	Nitrocellulose	9004-70-0					6.0E+07			6.0E+07		1.3E+04	
				7.0E-02	H					-0.47	1	1	Yes	Nitrofurantoin	67-20-9					1.4E+03	1.6E+06		1.4E+03		6.1E-01	
1.3E+00	C	3.7E-04	C							0.23	1	1	Yes	Nitrofurazone	59-87-0	6.0E-02	1.7E+01		6.0E-02						5.4E-05	
1.7E-02	P			1.0E-04	P					1.62	1	1	Yes	Nitroglycerin	55-63-0	4.6E+00	1.8E+02		4.5E+00	2.0E+00	8.7E+01		2.0E+00		8.5E-04	
				1.0E-01	I					-0.89	1	1	Yes	Nitroguanidine	556-88-7					2.0E+03	1.8E+06		2.0E+03		4.8E-01	
		8.8E-06	P			5.0E-03	P	V		-0.35	1	1	Yes	Nitromethane	75-52-5			6.4E-01	6.4E-01			1.0E+01	1.0E+01		1.4E-04	
		2.7E-03	H			2.0E-02	I	V		0.93	1	1	Yes	Nitropropane, 2-	79-46-9			2.1E-03	2.1E-03			4.2E+01	4.2E+01		5.5E-07	
2.7E+01	C	7.7E-03	C						M	0.23	1	1	Yes	Nitroso-N-ethylurea, N-	759-73-9	9.3E-04	1.5E-01		9.2E-04						2.2E-07	
1.2E+02	C	3.4E-02	C						M	-0.03	1	1	Yes	Nitroso-N-methylurea, N-	684-93-5	2.1E-04	4.6E-02		2.1E-04						4.6E-08	
5.4E+00	I	1.6E-03	I					V		2.63	1	1	Yes	Nitroso-di-N-butylamine, N-	924-16-3	1.4E-02	7.9E-02	3.5E-03	2.7E-03						5.5E-06	
7.0E+00	I	2.0E-03	C							1.36	1	1	Yes	Nitroso-di-N-propylamine, N-	621-64-7	1.1E-02	3.5E-01		1.1E-02						8.1E-06	
2.8E+00	I	8.0E-04	C							-1.28	1	1	Yes	Nitrosodiethanolamine, N-	1116-54-7	2.8E-02	8.1E+01		2.8E-02						5.6E-06	
1.5E+02	I	4.3E-02	I						M	0.48	1	1	Yes	Nitrosodiethylamine, N-	55-18-5	1.7E-04	1.7E-02		1.7E-04						6.1E-08	
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	V	M	-0.57	1	1	Yes	Nitrosodimethylamine, N-	62-75-9	4.9E-04	2.0E-01	1.4E-04	1.1E-04	1.6E-01	7.4E+01	8.3E-02	5.5E-02		2.8E-08	
4.9E-03	I	2.6E-06	C							3.13	1	1	Yes	Nitrosodiphenylamine, N-	86-30-6	1.6E+01	5.2E+01		1.2E+01						6.7E-02	
2.2E+01	I	6.3E-03	C					V		0.04	1	1	Yes	Nitrosomethylethylamine, N-	10595-95-6	3.5E-03	6.4E-01	8.9E-04	7.1E-04						2.0E-07	
6.7E+00	C	1.9E-03	C							-0.44	1	1	Yes	Nitrosomorpholine [N-]	59-89-2	1.2E-02	5.3E+00		1.2E-02						2.8E-06	
9.4E+00	C	2.7E-03	C							0.36	1	1	Yes	Nitrosopiperidine [N-]	100-75-4	8.3E-03	1.1E+00		8.2E-03						4.4E-06	
2.1E+00	I	6.1E-04	I							-0.19	1	1	Yes	Nitrosopyrrolidine, N-	930-55-2	3.7E-02	1.0E+01		3.7E-02						1.4E-05	
				1.0E-04	X					2.45	1	1	Yes	Nitrotoluene, m-	99-08-1					2.0E+00	1.4E+01		1.7E+00		1.6E-03	
2.2E-01	P			9.0E-04	P			V		2.3	1	1	Yes	Nitrotoluene, o-	88-72-2	3.5E-01	2.8E+00		3.1E-01	1.8E+01	1.5E+02		1.6E+01		3.0E-04	
1.6E-02	P			4.0E-03	P					2.37	1	1	Yes	Nitrotoluene, p-	99-99-0	4.9E+00	3.4E+01		4.3E+00	8.0E+01	6.2E+02		7.1E+01		4.0E-03	
				3.0E-04	X	2.0E-02	P	V		5.65	1	1	No	Nonane, n-	111-84-2					6.0E+00		4.2E+01	5.3E+00		7.5E-02	
				4.0E-02	I					2.3	1	1	Yes	Norflurazon	27314-13-2					8.0E+02	2.0E+04		7.7E+02		5.0E+00	
				3.0E-03	I					8.71	1	0.3	No	Octabromodiphenyl Ether	32536-52-0					6.0E+01			6.0E+01		1.2E+01	
				5.0E-02	I					0.16	1	1	Yes	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0					1.0E+03	6.3E+05		1.0E+03		1.3E+00	
				2.0E-03	H					-1.01	1	1	Yes	Octamethylpyrophosphoramide	152-16-9					4.0E+01	1.4E+05		4.0E+01		9.6E-03	
				5.0E-02	I					3.73	1	0.9	Yes	Oryzalin	19044-88-3					1.0E+03	4.1E+03		8.1E+02		1.5E+00	
				5.0E-03	I					4.8	1	0.8	Yes	Oxadiazon	19666-30-9					1.0E+02	9.0E+01		4.7E+01		4.8E-01	
				2.5E-02	I					-0.47	1	1	Yes	Oxamyl	23135-22-0					5.0E+02	5.1E+05		5.0E+02	2.0E+02	1.1E-01	4.4E-02
				3.0E-03	I					4.73	1	0.8	Yes	Oxyfluorfen	42874-03-3					6.0E+01	6.7E+01		3.2E+01		2.5E+00	
				1.3E-02	I					3.2	1	0.9	Yes	Paclobutrazol	76738-62-0					2.6E+02	1.7E+03		2.3E+02		4.6E-01	
				4.5E-03	I					-4.5	1	1	No	Paraquat Dichloride	1910-42-5					9.0E+01			9.0E+01		1.2E+00	
				6.0E-03	H					3.83	1	0.9	Yes	Parathion	56-38-2					1.2E+02	3.0E+02		8.6E+01		4.3E-01	
				5.0E-02	H			V		3.83	1	1	Yes	Pebulate	1114-71-2					1.0E+03	1.3E+03		5.6E+02		4.5E-01	
				4.0E-02	I					5.2	1	0.9	Yes	Pendimethalin	40487-42-1					8.0E+02	2.4E+02		1.8E+02		2.1E+00	
				2.0E-03	I			V		6.84	1	0.6	No	Pentabromodiphenyl Ether	32534-81-9					4.0E+01			4.0E+01		1.8E+00	
				1.0E-04	I					7.66	1	0.6	No	Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9					2.0E+00			2.0E+00		8.7E-02	
				8.0E-04	I			V		5.17	1	0.9	Yes	Pentachlorobenzene	608-93-5					1.6E+01	3.9E+00		3.2E+00		2.4E-02	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
9.0E-02	P							V		3.22	1	1	Yes	Pentachloroethane	76-01-7	8.7E-01	2.5E+00		6.5E-01						3.1E-04	
2.6E-01	H			3.0E-03	I			V		4.64	1	0.9	Yes	Pentachloronitrobenzene	82-68-8	3.0E-01	2.0E-01		1.2E-01	6.0E+01	4.4E+01		2.6E+01		1.5E-03	
4.0E-01	I	5.1E-06	C	5.0E-03	I					5.12	1	0.9	Yes	Pentachlorophenol	87-86-5	1.9E-01	5.2E-02		4.1E-02	1.0E+02	2.9E+01		2.3E+01	1.0E+00	4.2E-04	1.0E-02
4.0E-03	X			2.0E-03	P					2.38	1	1	Yes	Pentaerythritol tetranitrate (PETN)	78-11-5	1.9E+01	4.3E+02		1.9E+01	4.0E+01	9.6E+02		3.9E+01		2.8E-02	
						1.0E+00	P	V		3.39	1	1	Yes	Pentane, n-	109-66-0							2.1E+03	2.1E+03		1.0E+01	
														Perchlorates												
				7.0E-04	I						1	1	Yes	~Ammonium Perchlorate	7790-98-9					1.4E+01	3.2E+03		1.4E+01			
				7.0E-04	I						1	1	Yes	~Lithium Perchlorate	7791-03-9					1.4E+01	3.2E+03		1.4E+01			
				7.0E-04	I						1	1	Yes	~Perchlorate and Perchlorate Salts	14797-73-0					1.4E+01	3.2E+03		1.4E+01	1.5E+01(F)		
				7.0E-04	I						1	1	Yes	~Potassium Perchlorate	7778-74-7					1.4E+01	1.6E+03		1.4E+01			
				7.0E-04	I						1	1	Yes	~Sodium Perchlorate	7601-89-0					1.4E+01	3.2E+03		1.4E+01			
				2.0E-02	P			V		2.41	1	1	Yes	Perfluorobutane Sulfonate	375-73-5					4.0E+02	8.3E+03		3.8E+02		2.1E-01	
				5.0E-02	I					6.5	1	0.6	No	Permethrin	52645-53-1					1.0E+03			1.0E+03		2.4E+02	
2.2E-03	C	6.3E-07	C							1.58	1	1	Yes	Phenacetin	62-44-2	3.5E+01	1.1E+03		3.4E+01						9.7E-03	
				2.5E-01	I					3.59	1	0.9	Yes	Phenmedipham	13684-63-4					5.0E+03	1.9E+04		4.0E+03		2.1E+01	
				3.0E-01	I	2.0E-01	C			1.46	1	1	Yes	Phenol	108-95-2					6.0E+03	1.4E+05		5.8E+03		3.3E+00	
				5.0E-04	X					4.15	1	1	Yes	Phenothiazine	92-84-2					1.0E+01	7.6E+00		4.3E+00		1.4E-02	
				6.0E-03	I					-0.33	1	1	Yes	Phenylenediamine, m-	108-45-2					1.2E+02	4.8E+04		1.2E+02		3.2E-02	
4.7E-02	H									0.15	1	1	Yes	Phenylenediamine, o-	95-54-5	1.7E+00	2.9E+02		1.6E+00						4.4E-04	
				1.9E-01	H					-0.3	1	1	Yes	Phenylenediamine, p-	106-50-3					3.8E+03	1.4E+06		3.8E+03		1.0E+00	
1.9E-03	H									3.09	1	1	Yes	Phenylphenol, 2-	90-43-7	4.0E+01	1.2E+02		3.0E+01						4.1E-01	
				2.0E-04	H					3.56	1	0.9	Yes	Phorate	298-02-2					4.0E+00	1.2E+01		3.0E+00		3.4E-03	
						3.0E-04	I	V		-0.71	1	1		Phosgene	75-44-5											
				2.0E-02	I					2.78	1	1	Yes	Phosmet	732-11-6					4.0E+02	5.3E+03		3.7E+02		8.2E-02	
														Phosphates, Inorganic												
				4.9E+01	P						1	1	Yes	~Aluminum metaphosphate	13776-88-0					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	0	Yes	~Ammonium polyphosphate	68333-79-9					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Calcium pyrophosphate	7790-76-3					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Diammonium phosphate	7783-28-0					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Dicalcium phosphate	7757-93-9					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Dimagnesium phosphate	7782-75-4					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Dipotassium phosphate	7758-11-4					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Disodium phosphate	7558-79-4					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Monoaluminum phosphate	13530-50-2					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Monoammonium phosphate	7722-76-1					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Monocalcium phosphate	7758-23-8					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Monomagnesium phosphate	7757-86-0					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Monopotassium phosphate	7778-77-0					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Monosodium phosphate	7558-80-7					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Polyphosphoric acid	8017-16-1					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	0.9	Yes	~Potassium tripolyphosphate	13845-36-8					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Sodium acid pyrophosphate	7758-16-9					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Sodium aluminum phosphate (acidic)	7785-88-8					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	0	Yes	~Sodium aluminum phosphate (anhydrous)	10279-59-1					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	0.8	Yes	~Sodium aluminum phosphate (tetrahydrate)	10305-76-7					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	0.9	Yes	~Sodium hexametaphosphate	10124-56-8					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Sodium polyphosphate	68915-31-1					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Sodium trimetaphosphate	7785-84-4					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Sodium tripolyphosphate	7758-29-4					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Tetrapotassium phosphate	7320-34-5					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Tetrasodium pyrophosphate	7722-88-5					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	0.8	Yes	~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Tricalcium phosphate	7758-87-4					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Trimagnesium phosphate	7757-87-1					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Tripotassium phosphate	7778-53-2					9.7E+05	2.2E+08		9.7E+05			
				4.9E+01	P						1	1	Yes	~Trisodium phosphate	7601-54-9					9.7E+05	2.2E+08		9.7E+05			
				3.0E-04	I	3.0E-04	I	V		-0.27	1	1	Yes	Phosphine	7803-51-2					6.0E+00	1.4E+03	6.3E-01	5.7E-01			
				4.9E+01	P	1.0E-02	I				1	1	Yes	Phosphoric Acid	7664-38-2					9.7E+05	2.2E+08		9.7E+05			
				2.0E-05	I			V		3.08	1	1	Yes	Phosphorus, White	7723-14-0					4.0E-01	9.1E+01		4.0E-01		1.5E-03	
														Phthalates												
1.4E-02	I	2.4E-06	C	2.0E-02	I					7.6	1	0.8	No	~Bis(2-ethylhexyl)phthalate	117-81-7	5.6E+00			5.6E+00	4.0E+02			4.0E+02	6.0E+00	1.3E+00	1.4E+00
				1.0E+00	I					4.15	1	0.9	Yes	~Butylphthalyl Butylglycolate	85-70-1					2.0E+04	4.1E+04		1.3E+04		3.1E+02	
				1.0E-01	I					4.5	1	0.9	Yes	~Dibutyl Phthalate	84-74-2					2.0E+03	1.6E+03		9.0E+02		2.3E+00	
				8.0E-01	I					2.42	1	1	Yes	~Diethyl Phthalate	84-66-2					1.6E+04	2.0E+05		1.5E+04		6.1E+00	
				1.0E-01	I			V		2.25	1	1	Yes	~Dimethylterephthalate	120-61-6					2.0E+03	2.7E+04		1.9E+03		4.9E-01	
				1.0E-02	P					8.1	1	0	No	~Octyl Phthalate, di-N-	117-84-0					2.0E+02			2.0E+02		5.7E+01	
				1.0E+00	H					2	1	1	Yes	~Phthalic Acid, P-	100-21-0					2.0E+04	3.3E+05		1.9E+04		6.8E+00	
				2.0E+00	I	2.0E-02	C			1.6	1	1	Yes	~Phthalic Anhydride	85-44-9					4.0E+04	1.1E+06		3.9E+04		8.5E+00	
				7.0E-02	I					1.9	1	1	Yes	Picloram	1918-02-1					1.4E+03	4.3E+04		1.4E+03	5.0E+02	3.8E-01	1.4E-01
				1.0E-04	X					0.93	1	1	Yes	Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3					2.0E+00	2.1E+02		2.0E+00		1.3E-03	
				9.0E-04	X					1.44	1	1	Yes	Picric Acid (2,4,6-Trinitrophenol)	88-89-1					1.8E+01	1.2E+03		1.8E+01		8.4E-02	
				1.0E-02	I					4.2	1	0.9	Yes	Pirimiphos, Methyl	29232-93-7					2.0E+02	3.1E+02		1.2E+02		1.2E-01	
3.0E+01	C	8.6E-03	C	7.0E-06	H						1	0	No	Polybrominated Biphenyls	59536-65-1	2.6E-03			2.6E-03	1.4E-01			1.4E-01			
														Polychlorinated Biphenyls (PCBs)												
7.0E-02	S	2.0E-05	S	7.0E-05	I			V		5.69	1	0	No	~Arodor 1016	12674-11-2	1.1E+00		2.8E-01	2.2E-01	1.4E+00			1.4E+00		2.1E-02	

THQ=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
2.0E+00	S	5.7E-04	S					V		4.65	1	1	Yes	~Aroclor 1221	11104-28-2	3.9E-02	1.2E-02	9.8E-03	4.7E-03						8.0E-05	
2.0E+00	S	5.7E-04	S					V		4.4	1	1	Yes	~Aroclor 1232	11141-16-5	3.9E-02	1.2E-02	9.8E-03	4.7E-03						8.0E-05	
2.0E+00	S	5.7E-04	S					V		6.34	1	0.7	No	~Aroclor 1242	53469-21-9	3.9E-02		9.8E-03	7.8E-03						1.2E-03	
2.0E+00	S	5.7E-04	S					V		6.2	1	0	No	~Aroclor 1248	12672-29-6	3.9E-02		9.8E-03	7.8E-03						1.2E-03	
2.0E+00	S	5.7E-04	S	2.0E-05	I			V		6.5	1	0.5	No	~Aroclor 1254	11097-69-1	3.9E-02		9.8E-03	7.8E-03	4.0E-01			4.0E-01		2.1E-03	
2.0E+00	S	5.7E-04	S					V		7.55	1	0	No	~Aroclor 1260	11096-82-5	3.9E-02		9.8E-03	7.8E-03						5.5E-03	
				6.0E-04	X			V		6.34	1	0.7	No	~Aroclor 5460	11126-42-4					1.2E+01			1.2E+01		2.0E+00	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		8.27	1	0	No	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		2.8E-03	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.5	1	0	No	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.7E-03	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.6	1	0	No	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.7E-03	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.6	1	0	No	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.7E-03	
3.9E+03	E	1.1E+00	E	2.3E-08	E	1.3E-06	E	V		7.41	1	0.1	No	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	2.0E-05		4.9E-06	4.0E-06	4.7E-04		2.8E-03	4.0E-04		1.7E-06	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.0E-03	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.12	1	0.3	No	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.0E-03	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.79	1	0.5	No	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.0E-03	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01		1.0E-03	
1.3E+04	E	3.8E+00	E	7.0E-09	E	4.0E-07	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	6.0E-06		1.5E-06	1.2E-06	1.4E-04		8.3E-04	1.2E-04		3.0E-07	
2.0E+00	I	5.7E-04	I					V		7.1	1	0.7		~Polychlorinated Biphenyls (high risk)	1336-36-3											
4.0E-01	I	1.0E-04	I					V		7.1	1	0.7	No	~Polychlorinated Biphenyls (low risk)	1336-36-3	1.9E-01		5.6E-02	4.4E-02					5.0E-01	6.8E-03	7.8E-02
7.0E-02	I	2.0E-05	I					V		7.1	1	0.7		~Polychlorinated Biphenyls (lowest risk)	1336-36-3											
1.3E+01	E	3.8E-03	E	7.0E-06	E	4.0E-04	E			6.63	1	0.6	No	~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	6.0E-03			6.0E-03	1.4E-01			1.4E-01		9.4E-04	
3.9E+01	E	1.1E-02	E	2.3E-06	E	1.3E-04	E	V		6.34	1	0.7	No	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	2.0E-03		4.9E-04	4.0E-04	4.7E-02		2.8E-01	4.0E-02		6.2E-05	
						6.0E-04	I			10.46	1	0	No	Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9											
														Polynuclear Aromatic Hydrocarbons (PAHs)												
				6.0E-02	I			V		3.92	1	1	Yes	~Acenaphthene	83-32-9					1.2E+03	9.6E+02		5.3E+02		5.5E+00	
				3.0E-01	I			V		4.45	1	1	Yes	~Anthracene	120-12-7					6.0E+03	2.5E+03		1.8E+03		5.8E+01	
7.3E-01	E	1.1E-04	C					V	M	5.76	1	1	No	~Benz[a]anthracene	56-55-3	3.4E-02		1.8E-02	1.2E-02						4.3E-03	
1.2E+00	C	1.1E-04	C							6.11	1	0.9	No	~Benzo[j]fluoranthene	205-82-3	6.5E-02			6.5E-02						7.8E-02	
7.3E+00	I	1.1E-03	C						M	6.13	1	1	No	~Benzo[a]pyrene	50-32-8	3.4E-03			3.4E-03					2.0E-01	4.0E-03	2.4E-01
7.3E-01	E	1.1E-04	C						M	5.78	1	1	No	~Benzo[b]fluoranthene	205-99-2	3.4E-02			3.4E-02						4.1E-02	
7.3E-02	E	1.1E-04	C						M	6.11	1	0.9	No	~Benzo[k]fluoranthene	207-08-9	3.4E-01			3.4E-01						4.0E-01	
				8.0E-02	I			V		3.9	1	1	Yes	~Chloronaphthalene, Beta-	91-58-7					1.6E+03	1.4E+03		7.5E+02		3.9E+00	
7.3E-03	E	1.1E-05	C						M	5.81	1	1	No	~Chrysene	218-01-9	3.4E+00			3.4E+00						1.2E+00	
7.3E+00	E	1.2E-03	C						M	6.75	1	0.6	No	~Dibenz[a,h]anthracene	53-70-3	3.4E-03			3.4E-03						1.3E-02	
1.2E+01	C	1.1E-03	C							7.71	1	0.3	No	~Dibenzo(a,e)pyrene	192-65-4	6.5E-03			6.5E-03						8.4E-02	
2.5E+02	C	7.1E-02	C						M	5.8	1	0.9	No	~Dimethylbenz(a)anthracene, 7,12-	57-97-6	1.0E-04			1.0E-04						9.9E-05	
				4.0E-02	I					5.16	1	1	No	~Fluoranthene	206-44-0					8.0E+02			8.0E+02		8.9E+01	
				4.0E-02	I			V		4.18	1	1	Yes	~Fluorene	86-73-7					8.0E+02	4.6E+02		2.9E+02		5.5E+00	
7.3E-01	E	1.1E-04	C						M	6.7	1	0.6	No	~Indeno[1,2,3-cd]pyrene	193-39-5	3.4E-02			3.4E-02						1.3E-01	
2.9E-02	P			7.0E-02	A			V		3.87	1	1	Yes	~Methylnaphthalene, 1-	90-12-0	2.7E+00	2.0E+00		1.1E+00	1.4E+03	1.1E+03		6.2E+02		6.0E-03	
				4.0E-03	I			V		3.86	1	1	Yes	~Methylnaphthalene, 2-	91-57-6					8.0E+01	6.5E+01		3.6E+01		1.9E-01	
		3.4E-05	C	2.0E-02	I	3.0E-03	I	V		3.3	1	1	Yes	~Naphthalene	91-20-3			1.7E-01	1.7E-01	4.0E+02	7.0E+02	6.3E+00	6.1E+00		5.4E-04	
1.2E+00	C	1.1E-04	C							4.75	1	0.9	Yes	~Nitropyrene, 4-	57835-92-4	6.5E-02	2.7E-02		1.9E-02						3.3E-03	
				3.0E-02	I			V		4.88	1	1	Yes	~Pyrene	129-00-0					6.0E+02	1.5E+02		1.2E+02		1.3E+01	
				2.0E-02	P					-0.33	1	1	Yes	Potassium Perfluorobutane Sulfonate	29420-49-3					4.0E+02	2.8E+05		4.0E+02			
1.5E-01	I			9.0E-03	I					4.1	1	0.9	Yes	Prochloraz	67747-09-5	5.2E-01	1.4E+00		3.8E-01	1.8E+02	5.1E+02		1.3E+02		1.9E-03	
				6.0E-03	H			V		5.58	1	0.8	Yes	Profluralin	26399-36-0					1.2E+02	3.3E+01		2.6E+01		1.6E+00	
				1.5E-02	I					2.99	1	1	Yes	Prometon	1610-18-0					3.0E+02	1.6E+03		2.5E+02		1.2E-01	
				4.0E-03	I					3.51	1	0.9	Yes	Prometryn	7287-19-6					8.0E+01	2.3E+02		6.0E+01		9.1E-02	
				1.3E-02	I					2.18	1	1	Yes	Propachlor	1918-16-7					2.6E+02	4.3E+03		2.5E+02		1.5E-01	
				4.0E-03	I					1.52	1	1	Yes	Propanediol, 1,2-	114-26-1					8.0E+01	3.6E+03		7.8E+01		2.5E-02	
				5.0E-03	I					3.07	1	1	Yes	Propanil	709-98-8					1.0E+02	4.4E+02		8.2E+01		4.5E-02	
				2.0E-02	I					5	1	0.8	Yes	Propargite	2312-35-8					4.0E+02	2.7E+02		1.6E+02		1.2E+01	
				2.0E-03	I			V		-0.38	1	1	Yes	Propargyl Alcohol	107-19-7					4.0E+01	1.2E+04		4.0E+01		8.2E-03	
				2.0E-02	I					2.93	1	1	Yes	Propazine	139-40-2					4.0E+02	2.4E+03		3.4E+02		3.1E-01	
				2.0E-02	I					2.6	1	1	Yes	Propham	122-42-9					4.0E+02	2.8E+03		3.5E+02		2.2E-01	
				1.3E-02	I					3.72	1	0.9	Yes	Propiconazole	60207-90-1					2.6E+02	1.1E+03		2.1E+02		6.9E-01	
						8.0E-03	I	V		0.59	1	1	Yes	Propionaldehyde	123-38-6							1.7E+01	1.7E+01		3.4E-03	
				1.0E-01	X	1.0E+00	X	V		3.69	1	1	Yes	Propyl benzene	103-65-1					2.0E+03	1.8E+03	2.1E+03	6.6E+02		1.2E+00	
						3.0E+00	C	V		1.77	1	1	Yes	Propylene	115-07-1							6.3E+03	6.3E+03		6.0E+00	
				2.0E+01	P					-0.92	1	1	Yes	Propylene Glycol	57-55-6					4.0E+05	3.2E+08		4.0E+05		8.1E+01	
						2.7E-04	A			1.83	1	1	Yes	Propylene Glycol Dinitrate	6423-43-4											
				7.0E-01	H	2.0E+00	I	V		-0.49	1	1	Yes	Propylene Glycol Monomethyl Ether	107-98-2					1.4E+04	3.9E+06	4.2E+03	3.2E+03		6.5E-01	
2.4E-01	I	3.7E-06	I			3.0E-02	I	V		0.03	1	1	Yes	Propylene Oxide	75-56-9	3.2E-01	4.7E+01	1.5E+00	2.7E-01			6.3E+01	6.3E+01		5.6E-05	
				7.5E-02	I					3.43	1	0.9	Yes	Propyzamide	23950-58-5					1.5E+03	5.5E+03		1.2E+03		1.2E+00	
				1.0E-03	I			V		0.65	1	1	Yes	Pyridine	110-86-1					2.0E+01	1.5E+03		2.0E+01		6.8E-03	
				5.0E-04	I					4.44	1	0.9	Yes	Quinalphos	13593-03-8					1.0E+01	1.0E+01		5.1E+00		4.3E-02	
3.0E+00	I									2.03	1	1	Yes	Quinoline	91-22-5	2.6E-02	2.9E-01		2.4E-02						7.8E-05	
				9.0E-03	I					4.28	1	0.9	Yes	Quizalofop-ethyl	76578-14-8					1.8E+02	3.8E+02		1.2E+02		1.9E+00	
						3.0E-02	A				1	0	Yes	Refractory Ceramic Fibers	NA											
				3.0E-02	I					6.14	1	0.7	Yes	Resmethrin	10453-86-8					6.0E+02	7.6E+01		6.7E+01		4.2E+01	
				5.0E-02	H			V		4.88	1	0.8	Yes	Ronnel	299-84-3					1.0E+03	6.8E+02		4.1E+02		3.7E+00	
				4.0E-03	I					4.1	1	0.9	Yes	Rotenone	83-79-4					8.0E+01	2.6E+02		6.1E+01		3.2E+01	
2.2E-01	C	6.3E-05	C						M	3.45	1	1	Yes	Safrole	94-59-7	1.1E-01	6.0E-01		9.6E-02						5.9E-05	
				5.0E-03	I						1	1	Yes	Selenious Acid	7783-00-8					1.0E+02	2.3E+04		1.0E+02			

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 ($\mu g/L$)	Dermal SL TR=1E-06 ($\mu g/L$)	Inhalation SL TR=1E-06 ($\mu g/L$)	Carcinogenic SL TR=1E-06 ($\mu g/L$)	Ingestion SL Child THQ=1 ($\mu g/L$)	Dermal SL Child THQ=1 ($\mu g/L$)	SL Child THQ=1 ($\mu g/L$)	Noncarcinogenic SL Child THI=1 ($\mu g/L$)	MCL ($\mu g/L$)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
				5.0E-03	I	2.0E-02	C				1	1	Yes	Selenium	7782-49-2					1.0E+02	2.3E+04		1.0E+02	5.0E+01	5.2E-01	2.6E-01
				5.0E-03	C	2.0E-02	C				1	1	Yes	Selenium Sulfide	7446-34-6					1.0E+02	2.3E+04		1.0E+02			
				9.0E-02	I					4.38	1	0.9	Yes	Sethoxydim	74051-80-2					1.8E+03	2.4E+03		1.0E+03		9.3E+00	
						3.0E-03	C				1	1	Yes	Silica (crystalline, respirable)	7631-86-9											
				5.0E-03	I						0.04	1	Yes	Silver	7440-22-4					1.0E+02	1.5E+03		9.4E+01		8.0E-01	
1.2E-01	H			5.0E-03	I					2.18	1	1	Yes	Simazine	122-34-9	6.5E-01	9.3E+00		6.1E-01	1.0E+02	1.6E+03		9.4E+01	4.0E+00	3.0E-04	2.0E-03
				1.3E-02	I					0.37	1	1	Yes	Sodium Acifluorfen	62476-59-9					2.6E+02	2.1E+05		2.6E+02		2.1E+00	
				4.0E-03	I						1	1	Yes	Sodium Azide	26628-22-8					8.0E+01	1.8E+04		8.0E+01			
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Sodium Dichromate	10588-01-9	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02			
2.7E-01	H			3.0E-02	I					-1.43	1	1	Yes	Sodium Diethyldithiocarbamate	148-18-5	2.9E-01	8.5E+02		2.9E-01	6.0E+02	1.9E+06		6.0E+02			
				5.0E-02	A	1.3E-02	C				1	1	Yes	Sodium Fluoride	7681-49-4					1.0E+03	2.3E+05		1.0E+03			
				2.0E-05	I					-3.78	1	1	No	Sodium Fluoroacetate	62-74-8					4.0E-01			4.0E-01		8.1E-05	
				1.0E-03	H						1	1	Yes	Sodium Metavanadate	13718-26-8					2.0E+01	4.6E+03		2.0E+01			
				8.0E-04	P						1	1	Yes	Sodium Tungstate	13472-45-2					1.6E+01	3.6E+03		1.6E+01			
				8.0E-04	P						1	1	Yes	Sodium Tungstate Dihydrate	10213-10-2					1.6E+01	3.6E+03		1.6E+01			
2.4E-02	H			3.0E-02	I					3.53	1	0.9	Yes	Stirofos (Tetrachlorovinphos)	961-11-5	3.2E+00	1.9E+01		2.8E+00	6.0E+02	3.8E+03		5.2E+02		8.2E-03	
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M		0.025	1	Yes	Strontium Chromate	7789-06-2	5.0E-02	2.3E-01		4.1E-02	4.0E+02	2.3E+03		3.4E+02			
				6.0E-01	I						1	1	Yes	Strontium, Stable	7440-24-6					1.2E+04	2.7E+06		1.2E+04		4.2E+02	
				3.0E-04	I					1.93	1	1	Yes	Strychnine	57-24-9					6.0E+00	3.2E+02		5.9E+00		6.5E-02	
				2.0E-01	I	1.0E+00	I	V		2.95	1	1	Yes	Styrene	100-42-5					4.0E+03	1.0E+04	2.1E+03	1.2E+03	1.0E+02	1.3E+00	1.1E-01
				3.0E-03	P					3.1	1	1	Yes	Styrene-Acrylonitrile (SAN) Trimer	NA					6.0E+01	2.4E+02		4.8E+01			
				1.0E-03	P	2.0E-03	X			-0.77	1	1	Yes	Sulfolane	126-33-0					2.0E+01	1.7E+04		2.0E+01		4.4E-03	
				8.0E-04	P					3.9	1	0.9	Yes	Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9					1.6E+01	3.5E+01		1.1E+01		6.5E-02	
						1.0E-03	C	V			1	1	Yes	Sulfur Trioxide	7446-11-9							2.1E+00	2.1E+00			
						1.0E-03	C				1	1	Yes	Sulfuric Acid	7664-93-9											
2.5E-02	I	7.1E-06	I	5.0E-02	H					4.82	1	0.8	Yes	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl	140-57-8	3.1E+00	2.3E+00		1.3E+00	1.0E+03	8.2E+02		4.5E+02		1.5E-02	
				3.0E-02	H					3.3	1	0.9	Yes	TCMTB	21564-17-0					6.0E+02	2.4E+03		4.8E+02		3.3E+00	
				7.0E-02	I					1.79	1	1	Yes	Tebuthiuron	34014-18-1					1.4E+03	4.7E+04		1.4E+03		3.9E-01	
				2.0E-02	H					5.96	1	0.7	No	Temephos	3383-96-8					4.0E+02			4.0E+02		7.6E+01	
				1.3E-02	I					1.89	1	1	Yes	Terbacil	5902-51-2					2.6E+02	7.0E+03		2.5E+02		7.5E-02	
				2.5E-05	H			V		4.48	1	0.9	Yes	Terbufos	13071-79-9					5.0E-01	4.5E-01		2.4E-01		5.2E-04	
				1.0E-03	I					3.74	1	0.9	Yes	Terbutryn	886-50-0					2.0E+01	4.1E+01		1.3E+01		1.9E-02	
				1.0E-04	I					6.77	1	0.6	No	Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1					2.0E+00			2.0E+00		5.4E-02	
				3.0E-04	I			V		4.64	1	1	Yes	Tetrachlorobenzene, 1,2,4,5-	95-94-3					6.0E+00	2.4E+00		1.7E+00		7.9E-03	
2.6E-02	I	7.4E-06	I	3.0E-02	I			V		2.93	1	1	Yes	Tetrachloroethane, 1,1,1,2-	630-20-6	3.0E+00	1.1E+01	7.6E-01	5.7E-01	6.0E+02	2.4E+03		4.8E+02		2.2E-04	
2.0E-01	I	5.8E-05	C	2.0E-02	I			V		2.39	1	1	Yes	Tetrachloroethane, 1,1,2,2-	79-34-5	3.9E-01	3.3E+00	9.7E-02	7.6E-02	4.0E+02	3.6E+03		3.6E+02		3.0E-05	
2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		3.4	1	1	Yes	Tetrachloroethylene	127-18-4	3.7E+01	6.5E+01	2.2E+01	1.1E+01	1.2E+02	2.3E+02	8.3E+01	4.1E+01	5.0E+00	5.1E-03	2.3E-03
				3.0E-02	I					4.45	1	0.9	Yes	Tetrachlorophenol, 2,3,4,6-	58-90-2					6.0E+02	3.9E+02		2.4E+02		1.5E+00	
2.0E+01	H							V		4.54	1	0.9	Yes	Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	3.9E-03	2.0E-03		1.3E-03						4.5E-06	
				5.0E-04	I					3.99	1	0.9	Yes	Tetraethyl Dithiopyrophosphate	3689-24-5					1.0E+01	2.4E+01		7.1E+00		5.2E-03	
						8.0E+01	I	V		1.68	1	1	Yes	Tetrafluoroethane, 1,1,1,2-	811-97-2							1.7E+05	1.7E+05		9.3E+01	
				2.0E-03	P					1.64	1	1	Yes	Tetryl (Trinitrophenylmethylnitramine)	479-45-8					4.0E+01	2.5E+03		3.9E+01		3.7E-01	
				7.0E-06	X						1	1	Yes	Thallium (I) Nitrate	10102-45-1					1.4E-01	3.2E+01		1.4E-01			
				1.0E-05	X						1	1	Yes	Thallium (Soluble Salts)	7440-28-0					2.0E-01	4.6E+01		2.0E-01	2.0E+00	1.4E-02	1.4E-01
				6.0E-06	X			V		-0.17	1	1	Yes	Thallium Acetate	563-68-8					1.2E-01	1.0E+02		1.2E-01			
				2.0E-05	X			V		-0.86	1	1	Yes	Thallium Carbonate	6533-73-9					4.0E-01	3.7E+03		4.0E-01			
				6.0E-06	X						1	1	Yes	Thallium Chloride	7791-12-0					1.2E-01	2.7E+01		1.2E-01			
				2.0E-05	X						1	0.9	Yes	Thallium Sulfate	7446-18-6					4.0E-01	9.1E+01		4.0E-01			
				1.3E-02	I					1.56	1	1	Yes	Thifensulfuron-methyl	79277-27-3					2.6E+02	3.5E+04		2.6E+02		7.8E-02	
				1.0E-02	I					3.4	1	0.9	Yes	Thiobencarb	28249-77-6					2.0E+02	7.7E+02		1.6E+02		5.5E-01	
				7.0E-02	X					-0.63	1	1	Yes	Thiodiglycol	111-48-8					1.4E+03	9.7E+05		1.4E+03		2.8E-01	
				3.0E-04	H					2.16	1	1	Yes	Thiotanox	39196-18-4					6.0E+00	4.4E+01		5.3E+00		1.8E-03	
				8.0E-02	I					1.4	1	1	Yes	Thiophanate, Methyl	23564-05-8					1.6E+03	2.1E+05		1.6E+03		1.4E+00	
				5.0E-03	I					1.73	1	1	Yes	Thiram	137-26-8					1.0E+02	4.0E+03		9.8E+01		1.4E-01	
				6.0E-01	H						1	1	Yes	Tin	7440-31-5					1.2E+04	2.7E+06		1.2E+04		3.0E+03	
						1.0E-04	A	V			1	1	Yes	Titanium Tetrachloride	7550-45-0							2.1E-01	2.1E-01			
				8.0E-02	I	5.0E+00	I	V		2.73	1	1	Yes	Toluene	108-88-3					1.6E+03	5.3E+03	1.0E+04	1.1E+03	1.0E+03	7.6E-01	6.9E-01
1.8E-01	X			2.0E-04	X					0.16	1	1	Yes	Toluene-2,5-diamine	95-70-5	4.3E-01	8.2E+01		4.3E-01	4.0E+00	8.3E+02		4.0E+00		1.3E-04	
3.0E-02	P			4.0E-03	X					1.39	1	1	Yes	Toluidine, p-	106-49-0	2.6E+00	6.8E+01		2.5E+00	8.0E+01	2.3E+03		7.7E+01		1.1E-03	
				3.0E+00	P			V		6.1	1	1	No	Total Petroleum Hydrocarbons (Aliphatic High)	NA					6.0E+04			6.0E+04		2.4E+03	
						6.0E-01	P	V		3.9	1	1	Yes	Total Petroleum Hydrocarbons (Aliphatic Low)	NA							1.3E+03	1.3E+03		8.8E+00	
				1.0E-02	X	1.0E-01	P	V		5.65	1	1	No	Total Petroleum Hydrocarbons (Aliphatic Medium)	NA					2.0E+02		2.1E+02	1.0E+02		1.5E+00	
				4.0E-02	P					5.16	1	1	No	Total Petroleum Hydrocarbons (Aromatic High)	NA					8.0E+02			8.0E+02		8.9E+01	
				4.0E-03	P	3.0E-02	P	V		2.13	1	1	Yes	Total Petroleum Hydrocarbons (Aromatic Low)	NA					8.0E+01	6.1E+02	6.3E+01	3.3E+01		1.7E-02	
				4.0E-03	P	3.0E-03	P	V		3.58	1	1	Yes	Total Petroleum Hydrocarbons (Aromatic Medium)	NA					8.0E+01	9.0E+01	6.3E+00	5.5E+00		2.3E-02	
1.1E+00	I	3.2E-04	I							5.9	1	0.8	No	Toxaphene	8001-35-2	7.1E-02			7.1E-02					3.0E+00	1.1E-02	4.6E-01
				7.5E-03	I					7.56	1	0.5	No	Tralomethrin	66841-25-6					1.5E+02			1.5E+02		5.8E+01	
				3.0E-04	A			V		4.1	1	0.9	Yes	Tri-n-butyltin	688-73-3					6.0E+00	9.9E+00		3.7E+00		8.2E-02	
				8.0E+01	X					0.25	1	1	Yes	Triacetin	102-76-1					1.6E+06	5.3E+08		1.6E+06		4.5E+02	
				3.0E-02	I					2.77	1	1	Yes	Triadimefon	43121-43-3					6.0E+02	6.9E+03		5.5E+02		4.4E-01	
				1.3E-02	I			V		4.6	1	0.9	Yes	Triallate	2303-17-5					2.6E+02	2.2E+02		1.2E+02		2.6E-01	
				1.0E-02	I					1.1	1	1	Yes	Triasulfuron	82097-50-5					2.0E+02	6.0E+04		2.0E+02		2.1E-01	
				8.0E-03	I					0.78	1	1	Yes	Tribenuron-methyl	101200-48-0					1.6E+02	5.0E+03		1.6E+02		6.1E-02	
				5.0E-03	I			V		4.66	1	0.9	Yes	Tribromobenzene, 1,2,4-	615-54-3					1.0E+02	8.1E+01		4.5E+01		6.4E-02	
9.0E-03	P			1.0E-02	P					4	1	0.9	Yes	Tributyl Phosphate	126-73-8	8.7E+00	1.3E+01		5.2E+00	2.0E+02	3.3E+02		1.2E+02		2.5E-02	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1					Protection of Groundwater	
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (µg/L)	Dermal SL TR=1E-06 (µg/L)	Inhalation SL TR=1E-06 (µg/L)	Carcinogenic SL TR=1E-06 (µg/L)	Ingestion SL Child THQ=1 (µg/L)	Dermal SL Child THQ=1 (µg/L)	SL Child THQ=1 (µg/L)	Noncarcinogenic SL Child THI=1 (µg/L)	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
				3.0E-04	P						1	0	No	Tributyltin Compounds	NA					6.0E+00			6.0E+00			
				3.0E-04	I					4.05	1	1	Yes	Tributyltin Oxide	56-35-9					6.0E+00	9.5E+01		5.7E+00		2.9E+02	
				3.0E+01	I	3.0E+01	H	V		3.16	1	1	Yes	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1					6.0E+05	1.9E+06	6.3E+04	5.5E+04		1.4E+02	
7.0E-02	I			2.0E-02	I					1.33	1	1	Yes	Trichloroacetic Acid	76-03-9	1.1E+00	4.6E+01		1.1E+00	4.0E+02	1.8E+04		3.9E+02	6.0E+01	2.2E-04	1.2E-02
2.9E-02	H									-0.67	1	1	Yes	Trichloroaniline HCl, 2,4,6-	33663-50-2	2.7E+00	3.7E+03		2.7E+00						7.4E-03	
7.0E-03	X			3.0E-05	X					3.52	1	1	Yes	Trichloroaniline, 2,4,6-	634-93-5	1.1E+01	2.0E+01		7.1E+00	6.0E-01	1.2E+00		4.0E-01		3.6E-03	
				8.0E-04	X			V		4.05	1	1	Yes	Trichlorobenzene, 1,2,3-	87-61-6					1.6E+01	1.3E+01		7.0E+00		2.1E-02	
2.9E-02	P			1.0E-02	I	2.0E-03	P	V		4.02	1	1	Yes	Trichlorobenzene, 1,2,4-	120-82-1	2.7E+00	2.0E+00		1.2E+00	2.0E+02	1.6E+02	4.2E+00	4.0E+00	7.0E+01	3.4E-03	2.0E-01
				2.0E+00	I	5.0E+00	I	V		2.49	1	1	Yes	Trichloroethane, 1,1,1-	71-55-6					4.0E+04	2.5E+05	1.0E+04	8.0E+03	2.0E+02	2.8E+00	7.0E-02
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V		1.89	1	1	Yes	Trichloroethane, 1,1,2-	79-00-5	1.4E+00	2.0E+01	3.5E-01	2.8E-01	8.0E+01	1.3E+03	4.2E-01	4.1E-01	5.0E+00	8.9E-05	1.6E-03
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M	2.42	1	1	Yes	Trichloroethylene	79-01-6	1.2E+00	7.4E+00	9.6E-01	4.9E-01	1.0E+01	6.9E+01	4.2E+00	2.8E+00	5.0E+00	1.8E-04	1.8E-03
				3.0E-01	I			V		2.53	1	1	Yes	Trichlorofluoromethane	75-69-4					6.0E+03	3.6E+04		5.2E+03		3.3E+00	
				1.0E-01	I					3.72	1	1	Yes	Trichlorophenol, 2,4,5-	95-95-4					2.0E+03	2.9E+03		1.2E+03		4.4E+00	
1.1E-02	I	3.1E-06	I	1.0E-03	P					3.69	1	1	Yes	Trichlorophenol, 2,4,6-	88-06-2	7.1E+00	9.8E+00		4.1E+00	2.0E+01	3.0E+01		1.2E+01		1.5E-02	
				1.0E-02	I					3.31	1	0.9	Yes	Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5					2.0E+02	8.7E+02		1.6E+02		6.8E-02	
				8.0E-03	I					3.8	1	0.9	Yes	Trichlorophenoxypropionic acid. -2.4.5	93-72-1					1.6E+02	3.6E+02		1.1E+02	5.0E+01	6.1E-02	2.8E-02
				5.0E-03	I			V		2.43	1	1	Yes	Trichloropropane, 1,1,2-	598-77-6					1.0E+02	7.5E+02		8.8E+01		3.5E-02	
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M	2.27	1	1	Yes	Trichloropropane, 1,2,3-	96-18-4	8.4E-04	7.3E-03		7.5E-04	8.0E+01	7.7E+02	6.3E-01	6.2E-01		3.2E-07	
				3.0E-03	X	3.0E-04	P	V		2.78	1	1	Yes	Trichloropropene, 1,2,3-	96-19-5					6.0E+01	2.6E+02	6.3E-01	6.2E-01		3.1E-04	
				2.0E-02	A					5.11	1	0.8	Yes	Tricresyl Phosphate (TCP)	1330-78-5					4.0E+02	2.6E+02		1.6E+02		1.5E+01	
				3.0E-03	I					5.18	1	0.8	Yes	Tridiphane	58138-08-2					6.0E+01	2.6E+01		1.8E+01		1.3E-01	
						7.0E-03	I	V		1.45	1	1	Yes	Triethylamine	121-44-8							1.5E+01	1.5E+01		4.4E-03	
				2.0E+00	P					-1.75	1	1	Yes	Triethylene Glycol	112-27-6					4.0E+04	1.8E+08		4.0E+04		8.8E+00	
						2.0E+01	P	V		1.74	1	1	Yes	Trifluoroethane, 1,1,1-	420-46-2							4.2E+04	4.2E+04		1.3E+02	
7.7E-03	I			7.5E-03	I			V		5.34	1	0.8	Yes	Trifluralin	1582-09-8	1.0E+01	3.4E+00		2.6E+00	1.5E+02	5.5E+01		4.0E+01		8.4E-02	
2.0E-02	P			1.0E-02	P					-0.65	1	1	Yes	Trimethyl Phosphate	512-56-1	3.9E+00	2.8E+03		3.9E+00	2.0E+02	1.6E+05		2.0E+02		8.6E-04	
						5.0E-03	P	V		3.66	1	1	Yes	Trimethylbenzene, 1,2,3-	526-73-8							1.0E+01	1.0E+01		1.5E-02	
						7.0E-03	P	V		3.63	1	1	Yes	Trimethylbenzene, 1,2,4-	95-63-6							1.5E+01	1.5E+01		2.1E-02	
				1.0E-02	X			V		3.42	1	1	Yes	Trimethylbenzene, 1,3,5-	108-67-8					2.0E+02	2.8E+02		1.2E+02		1.7E-01	
				1.0E-02	X			V		4.08	1	1	Yes	Trimethylpentene, 2,4,4-	25167-70-8					2.0E+02	9.6E+01		6.5E+01		2.2E-01	
				3.0E-02	I					1.18	1	1	Yes	Trinitrobenzene, 1,3,5-	99-35-4					6.0E+02	4.7E+04		5.9E+02		2.1E+00	
3.0E-02	I			5.0E-04	I					1.6	1	1	Yes	Trinitrotoluene, 2,4,6-	118-96-7	2.6E+00	1.1E+02		2.5E+00	1.0E+01	4.5E+02		9.8E+00		1.5E-02	
				2.0E-02	P					2.83	1	1	Yes	Triphenylphosphine Oxide	791-28-6					4.0E+02	3.8E+03		3.6E+02		1.5E+00	
				2.0E-02	A					3.65	1	0.9	Yes	Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8					4.0E+02	3.2E+03		3.6E+02		8.0E+00	
				1.0E-02	X					2.59	1	1	Yes	Tris(1-chloro-2-propyl)phosphate	13674-84-5					2.0E+02	3.8E+03		1.9E+02		6.5E-01	
2.3E+00	C	6.6E-04	C					V		4.29	1	1	No	Tris(2,3-dibromopropyl)phosphate	126-72-7	3.4E-02		8.5E-03	6.8E-03						1.3E-04	
2.0E-02	P			7.0E-03	P					1.44	1	1	Yes	Tris(2-chloroethyl)phosphate	115-96-8	3.9E+00	3.0E+02		3.8E+00	1.4E+02	1.2E+04		1.4E+02		3.8E-03	
3.2E-03	P			1.0E-01	P					9.49	1	0	No	Tris(2-ethylhexyl)phosphate	78-42-2	2.4E+01			2.4E+01	2.0E+03			2.0E+03		1.2E+02	
				8.0E-04	P						1	1	Yes	Tungsten	7440-33-7					1.6E+01	3.6E+03		1.6E+01		2.4E+00	
				3.0E-03	I	4.0E-05	A				1	1	Yes	Uranium (Soluble Salts)	NA					6.0E+01	1.4E+04		6.0E+01	3.0E+01	2.7E+01	1.4E+01
1.0E+00	C	2.9E-04	C						M	-0.15	1	1	Yes	Urethane	51-79-6	2.5E-02	6.1E+00		2.5E-02						5.6E-06	
		8.3E-03	P	9.0E-03	I	7.0E-06	P				0.026	1	Yes	Vanadium Pentoxide	1314-62-1					1.8E+02	1.1E+03		1.5E+02			
				5.0E-03	S	1.0E-04	A				0.026	1	Yes	Vanadium and Compounds	7440-62-2					1.0E+02	6.0E+02		8.6E+01		8.6E+01	
				1.0E-03	I			V		3.84	1	1	Yes	Vernolate	1929-77-7					2.0E+01	2.5E+01		1.1E+01		8.9E-03	
				2.5E-02	I					3.1	1	0.9	Yes	Vinclozolin	50471-44-8					5.0E+02	3.7E+03		4.4E+02		3.4E-01	
				1.0E+00	H	2.0E-01	I	V		0.73	1	1	Yes	Vinyl Acetate	108-05-4					2.0E+04	1.4E+06	4.2E+02	4.1E+02		8.7E-02	
		3.2E-05	H			3.0E-03	I	V		1.57	1	1	Yes	Vinyl Bromide	593-60-2			1.8E-01	1.8E-01			6.3E+00	6.3E+00		5.1E-05	
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M	1.62	1	1	Yes	Vinyl Chloride	75-01-4	2.1E-02	2.8E-01	3.4E-01	1.9E-02	6.0E+01	8.9E+02	2.1E+02	4.4E+01	2.0E+00	6.5E-06	6.9E-04
				3.0E-04	I					2.7	1	1	Yes	Warfarin	81-81-2					6.0E+00	8.4E+01		5.6E+00		5.9E-03	
				2.0E-01	S	1.0E-01	S	V		3.15	1	1	Yes	Xylene, P-	106-42-3					4.0E+03	7.6E+03	2.1E+02	1.9E+02		1.9E-01	
				2.0E-01	S	1.0E-01	S	V		3.2	1	1	Yes	Xylene, m-	108-38-3					4.0E+03	7.1E+03	2.1E+02	1.9E+02		1.9E-01	
				2.0E-01	S	1.0E-01	S	V		3.12	1	1	Yes	Xylene, o-	95-47-6					4.0E+03	8.0E+03	2.1E+02	1.9E+02		1.9E-01	
				2.0E-01	I	1.0E-01	I	V		3.16	1	1	Yes	Xylenes	1330-20-7					4.0E+03	7.5E+03	2.1E+02	1.9E+02	1.0E+04	1.9E-01	9.9E+00
				3.0E-04	I						1	1	Yes	Zinc Phosphide	1314-84-7					6.0E+00	2.3E+03		6.0E+00			
				3.0E-01	I						1	1	Yes	Zinc and Compounds	7440-66-6					6.0E+03	2.3E+06		6.0E+03		3.7E+02	
				5.0E-02	I					1.3	1	1	Yes	Zineb	12122-67-7					1.0E+03	9.7E+04		9.9E+02		2.9E+00	
				8.0E-05	X						1	1	Yes	Zirconium	7440-67-7					1.6E+00	3.6E+02		1.6E+00		4.8E+00	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
8.7E-03	I			4.0E-03	I					1	0.1		1.4E+09		Acephate	30560-19-1	3.8E+02	8.9E+02		2.6E+02	4.7E+03	1.1E+04		3.3E+03
		2.2E-06	I			9.0E-03	I	V		1		1.1E+05	1.4E+09	8.7E+03	Acetaldehyde	75-07-0			4.9E+01	4.9E+01			3.4E+02	3.4E+02
				2.0E-02	I					1	0.1		1.4E+09		Acetochlor	34256-82-1					2.3E+04	5.5E+04		1.6E+04
				9.0E-01	I	3.1E+01	A	V		1		1.1E+05	1.4E+09	1.4E+04	Acetone	67-64-1					1.1E+06		1.8E+06	6.7E+05
						2.0E-03	X			1	0.1		1.4E+09		Acetone Cyanohydrin	75-86-5							1.2E+07	1.2E+07
						6.0E-02	I	V		1		1.3E+05	1.4E+09	1.3E+04	Acetonitrile	75-05-8							3.4E+03	3.4E+03
				1.0E-01	I			V		1		2.5E+03	1.4E+09	6.0E+04	Acetophenone	98-86-2					1.2E+05			1.2E+05
3.8E+00	C	1.3E-03	C							1	0.1		1.4E+09		Acetylaminofluorene, 2-	53-96-3	8.6E-01	2.0E+00	1.3E+04	6.0E-01				
				5.0E-04	I	2.0E-05	I	V		1		2.3E+04	1.4E+09	6.9E+03	Acrolein	107-02-8					5.8E+02		6.1E-01	6.0E-01
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I		M	1	0.1		1.4E+09		Acrylamide	79-06-1	6.5E+00	1.5E+01	1.7E+05	4.6E+00	2.3E+03	5.5E+03	3.6E+07	1.6E+03
				5.0E-01	I	1.0E-03	I	V		1		1.1E+05	1.4E+09	9.5E+04	Acrylic Acid	79-10-7					5.8E+05		4.2E+02	4.2E+02
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V		1		1.1E+04	1.4E+09	7.7E+03	Acrylonitrile	107-13-1	6.1E+00		1.4E+00	1.1E+00	4.7E+04		6.7E+01	6.7E+01
						6.0E-03	P			1	0.1		1.4E+09		Adiponitrile	111-69-3							3.6E+07	3.6E+07
5.6E-02	C			1.0E-02	I					1	0.1		1.4E+09		Alachlor	15972-60-8	5.8E+01	1.4E+02		4.1E+01	1.2E+04	2.8E+04		8.2E+03
				1.0E-03	I					1	0.1		1.4E+09		Aldicarb	116-06-3					1.2E+03	2.8E+03		8.2E+02
				1.0E-03	I					1	0.1		1.4E+09		Aldicarb Sulfone	1646-88-4					1.2E+03	2.8E+03		8.2E+02
										1	0.1		1.4E+09		Aldicarb sulfoxide	1646-87-3								
1.7E+01	I	4.9E-03	I	3.0E-05	I			V		1			1.4E+09	1.7E+06	Aldrin	309-00-2	1.9E-01		4.3E+00	1.8E-01	3.5E+01			3.5E+01
				5.0E-03	I	1.0E-04	X	V		1		1.1E+05	1.4E+09	3.4E+04	Allyl Alcohol	107-18-6					5.8E+03		1.5E+01	1.5E+01
2.1E-02	C	6.0E-06	C			1.0E-03	I	V		1		1.4E+03	1.4E+09	1.6E+03	Allyl Chloride	107-05-1	1.6E+02		3.2E+00	3.2E+00			6.9E+00	6.9E+00
				1.0E+00	P	5.0E-03	P			1			1.4E+09		Aluminum	7429-90-5					1.2E+06		3.0E+07	1.1E+06
				4.0E-04	I					1			1.4E+09		Aluminum Phosphide	20859-73-8					4.7E+02			4.7E+02
				9.0E-03	I					1	0.1		1.4E+09		Ametryn	834-12-8					1.1E+04	2.5E+04		7.4E+03
2.1E+01	C	6.0E-03	C							1	0.1		1.4E+09		Aminobiphenyl, 4-	92-67-1	1.6E-01	3.7E-01	2.8E+03	1.1E-01				
				8.0E-02	P					1	0.1		1.4E+09		Aminophenol, m-	591-27-5					9.3E+04	2.2E+05		6.6E+04
				2.0E-02	P					1	0.1		1.4E+09		Aminophenol, p-	123-30-8					2.3E+04	5.5E+04		1.6E+04
				2.5E-03	I					1	0.1		1.4E+09		Amitraz	33089-61-1					2.9E+03	6.9E+03		2.1E+03
						1.0E-01	I	V		1					Ammonia	7664-41-7								
				2.0E-01	I					1			1.4E+09		Ammonium Sulfamate	7773-06-0					2.3E+05			2.3E+05
						3.0E-03	X	V		1		1.4E+04	1.4E+09	2.6E+04	Amyl Alcohol, tert-	75-85-4							3.4E+02	3.4E+02
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I			1	0.1		1.4E+09		Aniline	62-53-3	5.7E+02	1.4E+03	1.0E+07	4.0E+02	8.2E+03	1.9E+04	6.0E+06	5.7E+03
4.0E-02	P			2.0E-03	X					1	0.1		1.4E+09		Anthraquinone, 9,10-	84-65-1	8.2E+01	1.9E+02		5.7E+01	2.3E+03	5.5E+03		1.6E+03
				4.0E-04	I					0.15			1.4E+09		Antimony (metallic)	7440-36-0					4.7E+02			4.7E+02
				5.0E-04	H					0.15			1.4E+09		Antimony Pentoxide	1314-60-9					5.8E+02			5.8E+02
				4.0E-04	H					0.15			1.4E+09		Antimony Tetroxide	1332-81-6					4.7E+02			4.7E+02
						2.0E-04	I			0.15			1.4E+09		Antimony Trioxide	1309-64-4							1.2E+06	1.2E+06
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C			1	0.03		1.4E+09		Arsenic, Inorganic	7440-38-2	3.6E+00	1.7E+01	3.9E+03	3.0E+00	5.8E+02	2.8E+03	8.9E+04	4.8E+02
				3.5E-06	C	5.0E-05	I			1			1.4E+09		Arsine	7784-42-1					4.1E+00		3.0E+05	4.1E+00
				5.0E-02	I					1	0.1		1.4E+09		Asulam	3337-71-1					5.8E+04	1.4E+05		4.1E+04
2.3E-01	C			3.5E-02	I					1	0.1		1.4E+09		Atrazine	1912-24-9	1.4E+01	3.4E+01		1.0E+01	4.1E+04	9.7E+04		2.9E+04
8.8E-01	C	2.5E-04	C							1	0.1		1.4E+09		Auramine	492-80-8	3.7E+00	8.8E+00	6.7E+04	2.6E+00				
				4.0E-04	I					1	0.1		1.4E+09		Avermectin B1	65195-55-3					4.7E+02	1.1E+03		3.3E+02
				3.0E-03	A	1.0E-02	A			1	0.1		1.4E+09		Azinphos-methyl	86-50-0					3.5E+03	8.3E+03	6.0E+07	2.5E+03
1.1E-01	I	3.1E-05	I					V		1			1.4E+09	5.2E+05	Azobenzene	103-33-3	3.0E+01		2.1E+02	2.6E+01				
				1.0E+00	P	7.0E-06	P			1	0.1		1.4E+09		Azodicarbonamide	123-77-3					1.2E+06	2.8E+06	4.2E+04	4.0E+04
				2.0E-01	I	5.0E-04	H			0.07			1.4E+09		Barium	7440-39-3					2.3E+05		3.0E+06	2.2E+05
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Barium Chromate	10294-40-3	6.5E+00		1.1E+02	6.2E+00	2.3E+04		1.2E+06	2.3E+04
				3.0E-01	I			V		1			1.4E+09	3.1E+05	Benfluralin	1861-40-1					3.5E+05			3.5E+05
				5.0E-02	I					1	0.1		1.4E+09		Benomyl	17804-35-2					5.8E+04	1.4E+05		4.1E+04
				2.0E-01	I					1	0.1		1.4E+09		Bensulfuron-methyl	83055-99-6					2.3E+05	5.5E+05		1.6E+05
				3.0E-02	I					1	0.1		1.4E+09		Bentazon	25057-89-0					3.5E+04	8.3E+04		2.5E+04
				1.0E-01	I			V		1		1.2E+03	1.4E+09	2.3E+04	Benzaldehyde	100-52-7					1.2E+05			1.2E+05
5.5E-02	I	7.8E-06	I	4.0E-03	I	3.0E-02	I	V		1		1.8E+03	1.4E+09	3.5E+03	Benzene	71-43-2	5.9E+01		5.6E+00	5.1E+00	4.7E+03		4.6E+02	4.2E+02
1.0E-01	X			3.0E-04	X					1	0.1		1.4E+09		Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	3.3E+01	7.7E+01		2.3E+01	3.5E+02	8.3E+02		2.5E+02
				1.0E-03	P			V		1		1.3E+03	1.4E+09	1.9E+04	Benzenethiol	108-98-5					1.2E+03			1.2E+03
2.3E+02	I	6.7E-02	I	3.0E-03	I				M	1	0.1		1.4E+09		Benzidine	92-87-5	1.4E-02	3.4E-02	2.5E+02	1.0E-02	3.5E+03	8.3E+03		2.5E+03
				4.0E+00	I					1	0.1		1.4E+09		Benzoic Acid	65-85-0					4.7E+06	1.1E+07		3.3E+06
1.3E+01	I							V		1		3.2E+02	1.4E+09	6.8E+04	Benzotrichloride	98-07-7	2.5E-01			2.5E-01				
				1.0E-01	P					1	0.1		1.4E+09		Benzyl Alcohol	100-51-6					1.2E+05	2.8E+05		8.2E+04
1.7E-01	I	4.9E-05	C	2.0E-03	P	1.0E-03	P	V		1		1.5E+03	1.4E+09	2.6E+04	Benzyl Chloride	100-44-7	1.9E+01		6.4E+00	4.8E+00	2.3E+03		1.1E+02	1.1E+02
		2.4E-03	I	2.0E-03	I	2.0E-05	I			0.007			1.4E+09		Beryllium and compounds	7440-41-7			6.9E+03	6.9E+03	2.3E+03		1.2E+05	2.3E+03
				9.0E-03	P					1	0.1		1.4E+09		Bifenox	42576-02-3					1.1E+04	2.5E+04		7.4E+03
				1.5E-02	I					1	0.1		1.4E+09		Biphenthrin	82657-04-3					1.8E+04	4.1E+04		1.2E+04
8.0E-03	I			5.0E-01	I	4.0E-04	X	V		1			1.4E+09	1.1E+05	Biphenyl, 1,1'-	92-52-4	4.1E+02			4.1E+02	5.8E+05		2.0E+02	2.0E+02
				4.0E-02	I			V		1		1.0E+03	1.4E+09	3.5E+04	Bis(2-chloro-1-methylethyl) ether	108-60-1					4.7E+04			4.7E+04

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (μg/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				3.0E-03	P					1	0.1		1.4E+09		Bis(2-chloroethoxy)methane	111-91-1					3.5E+03	8.3E+03		2.5E+03
1.1E+00	I	3.3E-04	I					V		1		5.1E+03	1.4E+09	4.3E+04	Bis(2-chloroethyl)ether	111-44-4	3.0E+00		1.6E+00	1.0E+00				
2.2E+02	I	6.2E-02	I					V		1		4.2E+03	1.4E+09	1.9E+03	Bis(chloromethyl)ether	542-88-1	1.5E-02		3.7E-04	3.6E-04				
				5.0E-02	I					1	0.1		1.4E+09		Bisphenol A	80-05-7					5.8E+04	1.4E+05		4.1E+04
				2.0E-01	I	2.0E-02	H			1			1.4E+09		Boron And Borates Only	7440-42-8					2.3E+05		1.2E+08	2.3E+05
				2.0E+00	P	2.0E-02	P	V		1			1.4E+09		Boron Trichloride	10294-34-5					2.3E+06		1.2E+08	2.3E+06
				4.0E-02	C	1.3E-02	C	V		1			1.4E+09		Boron Trifluoride	7637-07-2					4.7E+04		7.7E+07	4.7E+04
7.0E-01	I			4.0E-03	I					1			1.4E+09		Bromate	15541-45-4	4.7E+00			4.7E+00	4.7E+03			4.7E+03
2.0E+00	X	6.0E-04	X					V		1		2.4E+03	1.4E+09	5.9E+03	Bromo-2-chloroethane, 1-	107-04-0	1.6E+00		1.2E-01	1.1E-01				
				8.0E-03	I	6.0E-02	I	V		1		6.8E+02	1.4E+09	8.4E+03	Bromobenzene	108-86-1					9.3E+03		2.2E+03	1.8E+03
						4.0E-02	X	V		1		4.0E+03	1.4E+09	3.6E+03	Bromochloromethane	74-97-5							6.3E+02	6.3E+02
6.2E-02	I	3.7E-05	C	2.0E-02	I			V		1		9.3E+02	1.4E+09	4.0E+03	Bromodichloromethane	75-27-4	5.3E+01		1.3E+00	1.3E+00	2.3E+04			2.3E+04
7.9E-03	I	1.1E-06	I	2.0E-02	I			V		1		9.2E+02	1.4E+09	9.7E+03	Bromoform	75-25-2	4.1E+02		1.1E+02	8.6E+01	2.3E+04			2.3E+04
				1.4E-03	I	5.0E-03	I	V		1		3.6E+03	1.4E+09	1.4E+03	Bromomethane	74-83-9					1.6E+03		3.1E+01	3.0E+01
				5.0E-03	H			V		1			1.4E+09	1.2E+05	Bromophos	2104-96-3					5.8E+03			5.8E+03
				2.0E-02	I					1	0.1		1.4E+09		Bromoxynil	1689-84-5					2.3E+04	5.5E+04		1.6E+04
				2.0E-02	I			V		1			1.4E+09	4.7E+05	Bromoxynil Octanoate	1689-99-2					2.3E+04			2.3E+04
3.4E+00	C	3.0E-05	I			2.0E-03	I	V		1		6.7E+02	1.4E+09	8.7E+02	Butadiene, 1,3-	106-99-0	9.6E-01		3.5E-01	2.6E-01			7.6E+00	7.6E+00
				1.0E-01	I			V		1		7.6E+03	1.4E+09	3.0E+04	Butanol, N-	71-36-3					1.2E+05			1.2E+05
1.9E-03	P			2.0E-01	I					1	0.1		1.4E+09		Butyl Benzyl Phthalate	85-68-7	1.7E+03	4.1E+03		1.2E+03	2.3E+05	5.5E+05		1.6E+05
				2.0E+00	P	3.0E+01	P	V		1		2.1E+04	1.4E+09	2.9E+04	Butyl alcohol, sec-	78-92-2					2.3E+06		3.8E+06	1.5E+06
				5.0E-02	I			V		1			1.4E+09	8.6E+04	Butylate	2008-41-5					5.8E+04			5.8E+04
2.0E-04	C	5.7E-08	C							1	0.1		1.4E+09		Butylated hydroxyanisole	25013-16-5	1.6E+04	3.9E+04	2.9E+08	1.1E+04				
3.6E-03	P			3.0E-01	P					1	0.1		1.4E+09		Butylated hydroxytoluene	128-37-0	9.1E+02	2.1E+03		6.4E+02	3.5E+05	8.3E+05		2.5E+05
				5.0E-02	P			V		1		1.1E+02	1.4E+09	8.1E+03	Butylbenzene, n-	104-51-8					5.8E+04			5.8E+04
				1.0E-01	X			V		1		1.5E+02	1.4E+09	7.4E+03	Butylbenzene, sec-	135-98-8					1.2E+05			1.2E+05
				1.0E-01	X			V		1		1.8E+02	1.4E+09	7.4E+03	Butylbenzene, tert-	98-06-6					1.2E+05			1.2E+05
				2.0E-02	A					1	0.1		1.4E+09		Cacodylic Acid	75-60-5					2.3E+04	5.5E+04		1.6E+04
		1.8E-03	I	1.0E-03	I	1.0E-05	A			0.025	0.001		1.4E+09		Cadmium (Diet)	7440-43-9			9.3E+03	9.3E+03	1.2E+03	6.9E+03	6.0E+04	9.8E+02
		1.8E-03	I	5.0E-04	I	1.0E-05	A			0.05	0.001				Cadmium (Water)	7440-43-9								
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Calcium Chromate	13765-19-0	6.5E+00		1.1E+02	6.2E+00	2.3E+04		1.2E+06	2.3E+04
				5.0E-01	I	2.2E-03	C			1	0.1		1.4E+09		Caprolactam	105-60-2					5.8E+05	1.4E+06	1.3E+07	4.0E+05
1.5E-01	C	4.3E-05	C	2.0E-03	I					1	0.1		1.4E+09		Captafol	2425-06-1	2.2E+01	5.2E+01	3.9E+05	1.5E+01	2.3E+03	5.5E+03		1.6E+03
2.3E-03	C	6.6E-07	C	1.3E-01	I					1	0.1		1.4E+09		Captan	133-06-2	1.4E+03	3.4E+03	2.5E+07	1.0E+03	1.5E+05	3.6E+05		1.1E+05
				1.0E-01	I					1	0.1		1.4E+09		Carbaryl	63-25-2					1.2E+05	2.8E+05		8.2E+04
				5.0E-03	I					1	0.1		1.4E+09		Carbofuran	1563-66-2					5.8E+03	1.4E+04		4.1E+03
				1.0E-01	I	7.0E-01	I	V		1		7.4E+02	1.4E+09	1.2E+03	Carbon Disulfide	75-15-0					1.2E+05		3.6E+03	3.5E+03
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V		1		4.6E+02	1.4E+09	1.5E+03	Carbon Tetrachloride	56-23-5	4.7E+01		3.1E+00	2.9E+00	4.7E+03		6.5E+02	5.7E+02
						1.0E-01	P	V		1		5.9E+03	1.4E+09	6.5E+02	Carbonyl Sulfide	463-58-1							2.8E+02	2.8E+02
				1.0E-02	I					1	0.1		1.4E+09		Carbosulfan	55285-14-8					1.2E+04	2.8E+04		8.2E+03
				1.0E-01	I					1	0.1		1.4E+09		Carboxin	5234-68-4					1.2E+05	2.8E+05		8.2E+04
						9.0E-04	I			1			1.4E+09		Ceric oxide	1306-38-3							5.4E+06	5.4E+06
				1.0E-01	I			V		1			1.4E+09	1.5E+05	Chloral Hydrate	302-17-0					1.2E+05			1.2E+05
				1.5E-02	I					1	0.1		1.4E+09		Chloramben	133-90-4					1.8E+04	4.1E+04		1.2E+04
4.0E-01	H									1	0.1		1.4E+09		Chloranil	118-75-2	8.1E+00	1.9E+01		5.7E+00				
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I	V		1	0.04		1.4E+09	9.0E+05	Chlordane	12789-03-6	9.3E+00	5.5E+01	1.1E+02	7.5E+00	5.8E+02	3.4E+03	2.8E+03	4.2E+02
1.0E+01	I	4.6E-03	C	3.0E-04	I					1	0.1		1.4E+09		Chlordecone (Kepone)	143-50-0	3.3E-01	7.7E-01	3.6E+03	2.3E-01	3.5E+02	8.3E+02		2.5E+02
				7.0E-04	A					1	0.1		1.4E+09		Chlorfenvinphos	470-90-6					8.2E+02	1.9E+03		5.7E+02
				2.0E-02	I					1	0.1		1.4E+09		Chlorimuron, Ethyl-	90982-32-4					2.3E+04	5.5E+04		1.6E+04
				1.0E-01	I	1.5E-04	A	V		1		2.8E+03	1.4E+09	1.2E+03	Chlorine	7782-50-5					1.2E+05		7.8E-01	7.8E-01
				3.0E-02	I	2.0E-04	I	V		1			1.4E+09		Chlorine Dioxide	10049-04-4					3.5E+04		1.2E+06	3.4E+04
				3.0E-02	I					1			1.4E+09		Chlorite (Sodium Salt)	7758-19-2					3.5E+04			3.5E+04
						5.0E+01	I	V		1		1.2E+03	1.4E+09	1.0E+03	Chloro-1,1-difluoroethane, 1-	75-68-3							2.3E+05	2.3E+05
		3.0E-04	I	2.0E-02	H	2.0E-02	I	V		1		7.9E+02	1.4E+09	1.1E+03	Chloro-1,3-butadiene, 2-	126-99-8			4.4E-02	4.4E-02	2.3E+04		9.4E+01	9.4E+01
4.6E-01	H									1	0.1		1.4E+09		Chloro-2-methylaniline HCl, 4-	3165-93-3	7.1E+00	1.7E+01		5.0E+00				
1.0E-01	P	7.7E-05	C	3.0E-03	X					1	0.1		1.4E+09		Chloro-2-methylaniline, 4-	95-69-2	3.3E+01	7.7E+01	2.2E+05	2.3E+01	3.5E+03	8.3E+03		2.5E+03
2.7E-01	X							V		1		1.2E+04	1.4E+09	1.6E+04	Chloroacetaldehyde, 2-	107-20-0	1.2E+01			1.2E+01				
										1	0.1		1.4E+09		Chloroacetic Acid	79-11-8								
						3.0E-05	I			1	0.1		1.4E+09		Chloroacetophenone, 2-	532-27-4							1.8E+05	1.8E+05
2.0E-01	P			4.0E-03	I					1	0.1		1.4E+09		Chloroaniline, p-	106-47-8	1.6E+01	3.9E+01		1.1E+01	4.7E+03	1.1E+04		3.3E+03
				2.0E-02	I	5.0E-02	P	V		1		7.6E+02	1.4E+09	6.5E+03	Chlorobenzene	108-90-7					2.3E+04		1.4E+03	1.3E+03
1.1E-01	C	3.1E-05	C	2.0E-02	I					1	0.1		1.4E+09		Chlorobenzilate	510-15-6	3.0E+01	7.0E+01	5.4E+05	2.1E+01	2.3E+04	5.5E+04		1.6E+04
				3.0E-02	X					1	0.1		1.4E+09		Chlorobenzoic Acid, p-	74-11-3					3.5E+04	8.3E+04		2.5E+04
				3.0E-03	P	3.0E-01	P	V		1		2.9E+02	1.4E+09	6.8E+03	Chlorobenzotrifluoride, 4-	98-56-6					3.5E+03		8.9E+03	2.5E+03
				4.0E-02	P			V		1		7.3E+02	1.4E+09	1.8E+03	Chlorobutane, 1-	109-69-3					4.7E+04			4.7E+04

R 1E-06
HQ 1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information																Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (μg/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
						5.0E+01	I	V		1		1.7E+03	1.4E+09	9.4E+02	Chlorodifluoromethane	75-45-6							2.1E+05	2.1E+05
				2.0E-02	P			V		1		1.1E+05	1.4E+09	7.8E+04	Chloroethanol, 2-	107-07-3					2.3E+04			2.3E+04
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1		2.5E+03	1.4E+09	2.6E+03	Chloroform	67-66-3	1.1E+02		1.4E+00	1.4E+00	1.2E+04		1.1E+03	1.0E+03
						9.0E-02	I	V		1		1.3E+03	1.4E+09	1.2E+03	Chloromethane	74-87-3							4.6E+02	4.6E+02
2.4E+00	C	6.9E-04	C					V		1		9.3E+03	1.4E+09	5.3E+03	Chloromethyl Methyl Ether	107-30-2	1.4E+00		9.5E-02	8.9E-02				
3.0E-01	P			3.0E-03	P	1.0E-05	X			1	0.1		1.4E+09		Chloronitrobenzene, o-	88-73-3	1.1E+01	2.6E+01		7.7E+00	3.5E+03	8.3E+03	6.0E+04	2.4E+03
6.3E-03	P			1.0E-03	P	6.0E-04	P			1	0.1		1.4E+09		Chloronitrobenzene, p-	100-00-5	5.2E+02	1.2E+03		3.6E+02	1.2E+03	2.8E+03	3.6E+06	8.2E+02
				5.0E-03	I			V		1		2.2E+04	1.4E+09	1.2E+05	Chlorophenol, 2-	95-57-8					5.8E+03			5.8E+03
						4.0E-04	C	V		1		6.2E+02	1.4E+09	4.7E+03	Chloropicrin	76-06-2							8.2E+00	8.2E+00
3.1E-03	C	8.9E-07	C	1.5E-02	I					1	0.1		1.4E+09		Chlorothalonil	1897-45-6	1.1E+03	2.5E+03	1.9E+07	7.4E+02	1.8E+04	4.1E+04		1.2E+04
				2.0E-02	I			V		1		9.1E+02	1.4E+09	8.1E+03	Chlorotoluene, o-	95-49-8					2.3E+04			2.3E+04
				2.0E-02	X			V		1		2.5E+02	1.4E+09	7.3E+03	Chlorotoluene, p-	106-43-4					2.3E+04			2.3E+04
2.4E+02	C	6.9E-02	C							1	0.1		1.4E+09		Chlorozotocin	54749-90-5	1.4E-02	3.2E-02	2.4E+02	9.6E-03				
				2.0E-01	I					1	0.1		1.4E+09		Chlorpropham	101-21-3					2.3E+05	5.5E+05		1.6E+05
				1.0E-03	A					1	0.1		1.4E+09		Chlorpyrifos	2921-88-2					1.2E+03	2.8E+03		8.2E+02
				1.0E-02	H					1	0.1		1.4E+09		Chlorpyrifos Methyl	5598-13-0					1.2E+04	2.8E+04		8.2E+03
				5.0E-02	I					1	0.1		1.4E+09		Chlorsulfuron	64902-72-3					5.8E+04	1.4E+05		4.1E+04
				1.0E-02	I					1	0.1		1.4E+09		Chlorthal-dimethyl	1861-32-1					1.2E+04	2.8E+04		8.2E+03
				8.0E-04	H					1	0.1		1.4E+09		Chlorthiophos	60238-56-4					9.3E+02	2.2E+03		6.6E+02
				1.5E+00	I					0.013			1.4E+09		Chromium(III), Insoluble Salts	16065-83-1					1.8E+06			1.8E+06
5.0E-01	J	8.4E-02	S	3.0E-03	I	1.0E-04	I		M	0.025			1.4E+09		Chromium(VI)	18540-29-9	6.5E+00		2.0E+02	6.3E+00	3.5E+03		6.0E+05	3.5E+03
										0.013			1.4E+09		*Chromium, Total*	7440-47-3								
				1.3E-02	I					1	0.1		1.4E+09		Clofentezine	74115-24-5					1.5E+04	3.6E+04		1.1E+04
		9.0E-03	P	3.0E-04	P	6.0E-06	P			1			1.4E+09		Cobalt	7440-48-4			1.9E+03	1.9E+03	3.5E+02		3.6E+04	3.5E+02
		6.2E-04	I					V	M	1					Coke Oven Emissions	8007-45-2								
				4.0E-02	H					1			1.4E+09		Copper	7440-50-8					4.7E+04			4.7E+04
				5.0E-02	I	6.0E-01	C			1	0.1		1.4E+09		Cresol, m-	108-39-4					5.8E+04	1.4E+05	3.6E+09	4.1E+04
				5.0E-02	I	6.0E-01	C			1	0.1		1.4E+09		Cresol, o-	95-48-7					5.8E+04	1.4E+05	3.6E+09	4.1E+04
				1.0E-01	A	6.0E-01	C			1	0.1		1.4E+09		Cresol, p-	106-44-5					1.2E+05	2.8E+05	3.6E+09	8.2E+04
				1.0E-01	A					1	0.1		1.4E+09		Cresol, p-chloro-m-	59-50-7					1.2E+05	2.8E+05		8.2E+04
				1.0E-01	A	6.0E-01	C			1	0.1		1.4E+09		Cresols	1319-77-3					1.2E+05	2.8E+05	3.6E+09	8.2E+04
1.9E+00	H			1.0E-03	P			V		1		1.7E+04	1.4E+09	1.9E+04	Crotonaldehyde, trans-	123-73-9	1.7E+00			1.7E+00	1.2E+03			1.2E+03
				1.0E-01	I	4.0E-01	I	V		1		2.7E+02	1.4E+09	6.2E+03	Cumene	98-82-8					1.2E+05		1.1E+04	9.9E+03
2.2E-01	C	6.3E-05	C							1	0.1		1.4E+09		Cupferron	135-20-6	1.5E+01	3.5E+01	2.6E+05	1.0E+01				
8.4E-01	H			2.0E-03	H					1	0.1		1.4E+09		Cyanazine	21725-46-2	3.9E+00	9.2E+00		2.7E+00	2.3E+03	5.5E+03		1.6E+03
															Cyanides									
				1.0E-03	I					1			1.4E+09		~Calcium Cyanide	592-01-8					1.2E+03			1.2E+03
				5.0E-03	I					1			1.4E+09		~Copper Cyanide	544-92-3					5.8E+03			5.8E+03
				6.0E-04	I	8.0E-04	S	V		1		9.7E+05	1.4E+09	3.5E+03	~Cyanide (CN-)	57-12-5					7.0E+02		1.2E+01	1.2E+01
				1.0E-03	I			V		1			1.4E+09		~Cyanogen	460-19-5					1.2E+03			1.2E+03
				9.0E-02	I			V		1			1.4E+09		~Cyanogen Bromide	506-68-3					1.1E+05			1.1E+05
				5.0E-02	I			V		1			1.4E+09		~Cyanogen Chloride	506-77-4					5.8E+04			5.8E+04
				6.0E-04	I	8.0E-04	I	V		1		1.0E+07	1.4E+09	5.2E+04	~Hydrogen Cyanide	74-90-8					7.0E+02		1.8E+02	1.5E+02
				2.0E-03	I					1			1.4E+09		~Potassium Cyanide	151-50-8					2.3E+03			2.3E+03
				5.0E-03	I					0.04			1.4E+09		~Potassium Silver Cyanide	506-61-6					5.8E+03			5.8E+03
				1.0E-01	I					0.04			1.4E+09		~Silver Cyanide	506-64-9					1.2E+05			1.2E+05
				1.0E-03	I					1			1.4E+09		~Sodium Cyanide	143-33-9					1.2E+03			1.2E+03
				2.0E-04	P					1			1.4E+09		~Thiocyanates	NA					2.3E+02			2.3E+02
				2.0E-04	X			V		1			1.4E+09		~Thiocyanic Acid	463-56-9					2.3E+02			2.3E+02
				5.0E-02	I					1			1.4E+09		~Zinc Cyanide	557-21-1					5.8E+04			5.8E+04
						6.0E+00	I	V		1		1.2E+02	1.4E+09	1.0E+03	Cyclohexane	110-82-7							2.7E+04	2.7E+04
2.3E-02	H									1	0.1		1.4E+09		Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	1.4E+02	3.4E+02		1.0E+02				
				5.0E+00	I	7.0E-01	P	V		1		5.1E+03	1.4E+09	4.2E+04	Cyclohexanone	108-94-1					5.8E+06		1.3E+05	1.3E+05
				5.0E-03	P	1.0E+00	X	V		1		2.8E+02	1.4E+09	1.5E+03	Cyclohexene	110-83-8					5.8E+03		6.4E+03	3.1E+03
				2.0E-01	I			V		1		2.9E+05	1.4E+09	7.5E+04	Cyclohexylamine	108-91-8					2.3E+05			2.3E+05
				2.5E-02	I					1	0.1		1.4E+09		Cyfluthrin	68359-37-5					2.9E+04	6.9E+04		2.1E+04
				5.0E-03	I					1	0.1		1.4E+09		Cyhalothrin	68085-85-8					5.8E+03	1.4E+04		4.1E+03
				1.0E-02	I					1	0.1		1.4E+09		Cypermethrin	52315-07-8					1.2E+04	2.8E+04		8.2E+03
				7.5E-03	I					1	0.1		1.4E+09		Cyromazine	66215-27-8					8.8E+03	2.1E+04		6.2E+03
2.4E-01	I	6.9E-05	C							1	0.1		1.4E+09		DDD	72-54-8	1.4E+01	3.2E+01	2.4E+05	9.6E+00				
3.4E-01	I	9.7E-05	C					V		1			1.4E+09	2.1E+06	DDE, p,p'-	72-55-9	9.6E+00		2.7E+02	9.3E+00				
3.4E-01	I	9.7E-05	I	5.0E-04	I					1	0.03		1.4E+09		DDT	50-29-3	9.6E+00	7.6E+01	1.7E+05	8.5E+00	5.8E+02	4.6E+03		5.2E+02
				3.0E-02	I					1	0.1		1.4E+09		Dalapon	75-99-0					3.5E+04	8.3E+04		2.5E+04
1.8E-02	C	5.1E-06	C	1.5E-01	I					1	0.1		1.4E+09		Daminozide	1596-84-5	1.8E+02	4.3E+02	3.3E+06	1.3E+02	1.8E+05	4.1E+05		1.2E+05
7.0E-04	I			7.0E-03	I					1	0.1		1.4E+09		Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	4.7E+03	1.1E+04		3.3E+03	8.2E+03	1.9E+04		5.7E+03

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	mutagen	GIABS	ABS	C$_{sat}$ (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				4.0E-05	I					1	0.1		1.4E+09		Demeton	8065-48-3					4.7E+01	1.1E+02		3.3E+01
1.2E-03	I			6.0E-01	I					1	0.1		1.4E+09		Di(2-ethylhexyl)adipate	103-23-1	2.7E+03	6.4E+03		1.9E+03	7.0E+05	1.7E+06		4.9E+05
6.1E-02	H									1	0.1		1.4E+09		Diallate	2303-16-4	5.4E+01	1.3E+02		3.8E+01				
				7.0E-04	A					1	0.1		1.4E+09		Diazinon	333-41-5					8.2E+02	1.9E+03		5.7E+02
				1.0E-02	X			V		1			1.4E+09	5.2E+05	Dibenzothiophene	132-65-0					1.2E+04			1.2E+04
8.0E-01	P	6.0E-03	P	2.0E-04	P	2.0E-04	I	V	M	1		9.8E+02	1.4E+09	3.2E+04	Dibromo-3-chloropropane, 1,2-	96-12-8	4.1E+00		6.5E-02	6.4E-02	2.3E+02		2.8E+01	2.5E+01
				4.0E-04	X			V		1		1.6E+02	1.4E+09	1.9E+04	Dibromobenzene, 1,3-	108-36-1					4.7E+02			4.7E+02
				1.0E-02	I			V		1			1.4E+09	2.2E+04	Dibromobenzene, 1,4-	106-37-6					1.2E+04			1.2E+04
8.4E-02	I			2.0E-02	I			V		1		8.0E+02	1.4E+09	8.0E+03	Dibromochloromethane	124-48-1	3.9E+01			3.9E+01	2.3E+04			2.3E+04
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1		1.3E+03	1.4E+09	8.6E+03	Dibromoethane, 1,2-	106-93-4	1.6E+00		1.8E-01	1.6E-01	1.1E+04		3.4E+02	3.3E+02
						4.0E-03	X	V		1		2.8E+03	1.4E+09	5.6E+03	Dibromomethane (Methylene Bromide)	74-95-3							9.9E+01	9.9E+01
				3.0E-04	P					1	0.1		1.4E+09		Dibutyltin Compounds	NA					3.5E+02	8.3E+02		2.5E+02
				3.0E-02	I					1	0.1		1.4E+09		Dicamba	1918-00-9					3.5E+04	8.3E+04		2.5E+04
		4.2E-03	P					V		1		5.5E+02	1.4E+09	3.2E+03	Dichloro-2-butene, 1,4-	764-41-0			9.4E-03	9.4E-03				
		4.2E-03	P					V		1		5.2E+02	1.4E+09	1.1E+04	Dichloro-2-butene, cis-1,4-	1476-11-5			3.2E-02	3.2E-02				
		4.2E-03	P					V		1		7.6E+02	1.4E+09	1.1E+04	Dichloro-2-butene, trans-1,4-	110-57-6			3.2E-02	3.2E-02				
5.0E-02	I			4.0E-03	I					1	0.1		1.4E+09		Dichloroacetic Acid	79-43-6	6.5E+01	1.5E+02		4.6E+01	4.7E+03	1.1E+04		3.3E+03
				9.0E-02	I	2.0E-01	H	V		1		3.8E+02	1.4E+09	1.2E+04	Dichlorobenzene, 1,2-	95-50-1					1.1E+05		1.0E+04	9.3E+03
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		1			1.4E+09	1.0E+04	Dichlorobenzene, 1,4-	106-46-7	6.1E+02		1.2E+01	1.1E+01	8.2E+04		3.7E+04	2.5E+04
4.5E-01	I	3.4E-04	C							1	0.1		1.4E+09		Dichlorobenzidine, 3,3'-	91-94-1	7.3E+00	1.7E+01	4.9E+04	5.1E+00				
				9.0E-03	X					1	0.1		1.4E+09		Dichlorobenzophenone, 4,4'-	90-98-2					1.1E+04	2.5E+04		7.4E+03
				2.0E-01	I	1.0E-01	X	V		1		8.5E+02	1.4E+09	8.4E+02	Dichlorodifluoromethane	75-71-8					2.3E+05		3.7E+02	3.7E+02
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1		1.7E+03	1.4E+09	2.1E+03	Dichloroethane, 1,1-	75-34-3	5.7E+02		1.6E+01	1.6E+01	2.3E+05			2.3E+05
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1		3.0E+03	1.4E+09	4.6E+03	Dichloroethane, 1,2-	107-06-2	3.6E+01		2.2E+00	2.0E+00	7.0E+03		1.4E+02	1.4E+02
				5.0E-02	I	2.0E-01	I	V		1		1.2E+03	1.4E+09	1.2E+03	Dichloroethylene, 1,1-	75-35-4					5.8E+04		1.0E+03	1.0E+03
				2.0E-03	I			V		1		2.4E+03	1.4E+09	2.5E+03	Dichloroethylene, 1,2-cis-	156-59-2					2.3E+03			2.3E+03
				2.0E-02	I			V		1		1.9E+03	1.4E+09	1.8E+03	Dichloroethylene, 1,2-trans-	156-60-5					2.3E+04			2.3E+04
				3.0E-03	I					1	0.1		1.4E+09		Dichlorophenol, 2,4-	120-83-2					3.5E+03	8.3E+03		2.5E+03
				1.0E-02	I					1	0.05		1.4E+09		Dichlorophenoxy Acetic Acid, 2,4-	94-75-7					1.2E+04	5.5E+04		9.6E+03
				8.0E-03	I					1	0.1		1.4E+09		Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6					9.3E+03	2.2E+04		6.6E+03
3.6E-02	C	1.0E-05	C	9.0E-02	A	4.0E-03	I	V		1		1.4E+03	1.4E+09	3.8E+03	Dichloropropane, 1,2-	78-87-5	9.1E+01		4.6E+00	4.4E+00	1.1E+05		6.6E+01	6.6E+01
				2.0E-02	P			V		1		1.5E+03	1.4E+09	6.8E+03	Dichloropropane, 1,3-	142-28-9					2.3E+04			2.3E+04
				3.0E-03	I					1	0.1		1.4E+09		Dichloropropanol, 2,3-	616-23-9					3.5E+03	8.3E+03		2.5E+03
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		1		1.6E+03	1.4E+09	3.6E+03	Dichloropropene, 1,3-	542-75-6	3.3E+01		1.1E+01	8.2E+00	3.5E+04		3.1E+02	3.1E+02
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I			1	0.1		1.4E+09		Dichlorvos	62-73-7	1.1E+01	2.7E+01	2.0E+05	7.9E+00	5.8E+02	1.4E+03	3.0E+06	4.1E+02
				1.0E-04	I					1	0.1		1.4E+09		Dicrotophos	141-66-2					1.2E+02	2.8E+02		8.2E+01
				8.0E-02	P	3.0E-04	X	V		1		2.6E+02	1.4E+09	4.1E+03	Dicyclopentadiene	77-73-6					9.3E+04		5.4E+00	5.4E+00
1.6E+01	I	4.6E-03	I	5.0E-05	I					1	0.1		1.4E+09		Dieldrin	60-57-1	2.0E-01	4.8E-01	3.6E+03	1.4E-01	5.8E+01	1.4E+02		4.1E+01
		3.0E-04	C			5.0E-03	I			1	0.1				Diesel Engine Exhaust	NA								
				2.0E-03	P	2.0E-04	P			1	0.1		1.4E+09		Diethanolamine	111-42-2					2.3E+03	5.5E+03	1.2E+06	1.6E+03
				3.0E-02	P	1.0E-04	P			1	0.1		1.4E+09		Diethylene Glycol Monobutyl Ether	112-34-5					3.5E+04	8.3E+04	6.0E+05	2.4E+04
				6.0E-02	P	3.0E-04	P			1	0.1		1.4E+09		Diethylene Glycol Monoethyl Ether	111-90-0					7.0E+04	1.7E+05	1.8E+06	4.8E+04
				1.0E-03	P			V		1		1.1E+05	1.4E+09	1.4E+05	Diethylformamide	617-84-5					1.2E+03			1.2E+03
3.5E+02	C	1.0E-01	C							1	0.1		1.4E+09		Diethylstilbestrol	56-53-1	9.3E-03	2.2E-02	1.7E+02	6.6E-03				
				8.0E-02	I					1	0.1		1.4E+09		Difenzoquat	43222-48-6					9.3E+04	2.2E+05		6.6E+04
				2.0E-02	I					1	0.1		1.4E+09		Diflubenzuron	35367-38-5					2.3E+04	5.5E+04		1.6E+04
						4.0E+01	I	V		1		1.4E+03	1.4E+09	1.2E+03	Difluoroethane, 1,1-	75-37-6							2.0E+05	2.0E+05
4.4E-02	C	1.3E-05	C					V		1			1.4E+09	1.2E+05	Dihydrosafrole	94-58-6	7.4E+01		1.2E+02	4.5E+01				
						7.0E-01	P	V		1		2.3E+03	1.4E+09	3.1E+03	Diisopropyl Ether	108-20-3							9.4E+03	9.4E+03
				8.0E-02	I			V		1		5.3E+02	1.4E+09	3.8E+04	Diisopropyl Methylphosphonate	1445-75-6					9.3E+04			9.3E+04
				2.0E-02	I					1	0.1		1.4E+09		Dimethipin	55290-64-7					2.3E+04	5.5E+04		1.6E+04
				2.0E-04	I					1	0.1		1.4E+09		Dimethoate	60-51-5					2.3E+02	5.5E+02		1.6E+02
1.6E+00	P									1	0.1		1.4E+09		Dimethoxybenzidine, 3,3'-	119-90-4	2.0E+00	4.8E+00		1.4E+00				
1.7E-03	P			6.0E-02	P					1	0.1		1.4E+09		Dimethyl methylphosphonate	756-79-6	1.9E+03	4.5E+03		1.4E+03	7.0E+04	1.7E+05		4.9E+04
4.6E+00	C	1.3E-03	C							1	0.1		1.4E+09		Dimethylamino azobenzene [p-]	60-11-7	7.1E-01	1.7E+00	1.3E+04	5.0E-01				
5.8E-01	H									1	0.1		1.4E+09		Dimethylaniline HCl, 2,4-	21436-96-4	5.6E+00	1.3E+01		4.0E+00				
2.0E-01	P			2.0E-03	X					1	0.1		1.4E+09		Dimethylaniline, 2,4-	95-68-1	1.6E+01	3.9E+01		1.1E+01	2.3E+03	5.5E+03		1.6E+03
				2.0E-03	I			V		1		8.3E+02	1.4E+09	3.1E+04	Dimethylaniline, N,N-	121-69-7					2.3E+03			2.3E+03
1.1E+01	P									1	0.1		1.4E+09		Dimethylbenzidine, 3,3'-	119-93-7	3.0E-01	7.0E-01		2.1E-01				
				1.0E-01	P	3.0E-02	I	V		1		1.1E+05	1.4E+09	1.3E+05	Dimethylformamide	68-12-2					1.2E+05		1.7E+04	1.5E+04
				1.0E-04	X	2.0E-06	X	V		1		1.7E+05	1.4E+09	2.8E+04	Dimethylhydrazine, 1,1-	57-14-7					1.2E+02		2.4E-01	2.4E-01
5.5E+02	C	1.6E-01	C					V		1		1.9E+05	1.4E+09	1.7E+05	Dimethylhydrazine, 1,2-	540-73-8	5.9E-03		1.3E-02	4.1E-03				
				2.0E-02	I					1	0.1		1.4E+09		Dimethylphenol, 2,4-	105-67-9					2.3E+04	5.5E+04		1.6E+04
				6.0E-04	I					1	0.1		1.4E+09		Dimethylphenol, 2,6-	576-26-1					7.0E+02	1.7E+03		4.9E+02
				1.0E-03	I					1	0.1		1.4E+09		Dimethylphenol, 3,4-	95-65-8					1.2E+03	2.8E+03		8.2E+02

TR=1E-06 HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
4.5E-02	C	1.3E-05	C					V		1		1.3E+03	1.4E+09	9.5E+02	Dimethylvinylchloride	513-37-1	7.3E+01		9.0E-01	8.9E-01				
				8.0E-05	X					1	0.1		1.4E+09		Dinitro-o-cresol, 4,6-	534-52-1					9.3E+01	2.2E+02		6.6E+01
				2.0E-03	I					1	0.1		1.4E+09		Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5					2.3E+03	5.5E+03		1.6E+03
				1.0E-04	P					1	0.1		1.4E+09		Dinitrobenzene, 1,2-	528-29-0					1.2E+02	2.8E+02		8.2E+01
				1.0E-04	I					1	0.1		1.4E+09		Dinitrobenzene, 1,3-	99-65-0					1.2E+02	2.8E+02		8.2E+01
				1.0E-04	P					1	0.1		1.4E+09		Dinitrobenzene, 1,4-	100-25-4					1.2E+02	2.8E+02		8.2E+01
				2.0E-03	I					1	0.1		1.4E+09		Dinitrophenol, 2,4-	51-28-5					2.3E+03	5.5E+03		1.6E+03
6.8E-01	I									1	0.1		1.4E+09		Dinitrotoluene Mixture, 2,4/2,6-	NA	4.8E+00	1.1E+01		3.4E+00				
3.1E-01	C	8.9E-05	C	2.0E-03	I					1	0.102		1.4E+09		Dinitrotoluene, 2,4-	121-14-2	1.1E+01	2.4E+01	1.9E+05	7.4E+00	2.3E+03	5.4E+03		1.6E+03
1.5E+00	P			3.0E-04	X					1	0.099		1.4E+09		Dinitrotoluene, 2,6-	606-20-2	2.2E+00	5.2E+00		1.5E+00	3.5E+02	8.4E+02		2.5E+02
				2.0E-03	S					1	0.006		1.4E+09		Dinitrotoluene, 2-Amino-4,6-	35572-78-2					2.3E+03	9.2E+04		2.3E+03
				2.0E-03	S					1	0.009		1.4E+09		Dinitrotoluene, 4-Amino-2,6-	19406-51-0					2.3E+03	6.1E+04		2.3E+03
4.5E-01	X			9.0E-04	X					1	0.1		1.4E+09		Dinitrotoluene, Technical grade	25321-14-6	7.3E+00	1.7E+01		5.1E+00	1.1E+03	2.5E+03		7.4E+02
				1.0E-03	I					1	0.1		1.4E+09		Dinoseb	88-85-7					1.2E+03	2.8E+03		8.2E+02
1.0E-01	I	5.0E-06	I	3.0E-02	I	3.0E-02	I	V		1		1.2E+05	1.4E+09	4.0E+04	Dioxane, 1,4-	123-91-1	3.3E+01		9.7E+01	2.4E+01	3.5E+04		5.2E+03	4.5E+03
															Dioxins									
6.2E+03	I	1.3E+00	I							1	0.03		1.4E+09		~Hexachlorodibenzo-p-dioxin, Mixture	NA	5.3E-04	4.2E-03	1.3E+01	4.7E-04				
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C	V		1	0.03		1.4E+09	2.0E+06	~TCDD, 2,3,7,8-	1746-01-6	2.5E-05	2.0E-04	6.3E-04	2.2E-05	8.2E-04	6.4E-03	3.4E-01	7.2E-04
				3.0E-02	I					1	0.1		1.4E+09		Diphenamid	957-51-7					3.5E+04	8.3E+04		2.5E+04
				8.0E-04	X					1	0.1		1.4E+09		Diphenyl Sulfone	127-63-9					9.3E+02	2.2E+03		6.6E+02
				2.5E-02	I					1	0.1		1.4E+09		Diphenylamine	122-39-4					2.9E+04	6.9E+04		2.1E+04
8.0E-01	I	2.2E-04	I							1	0.1		1.4E+09		Diphenylhydrazine, 1,2-	122-66-7	4.1E+00	9.7E+00	7.6E+04	2.9E+00				
				2.2E-03	I					1	0.1		1.4E+09		Diquat	85-00-7					2.6E+03	6.1E+03		1.8E+03
7.1E+00	C	1.4E-01	C							1	0.1		1.4E+09		Direct Black 38	1937-37-7	4.6E-01	1.1E+00	1.2E+02	3.2E-01				
7.4E+00	C	1.4E-01	C							1	0.1		1.4E+09		Direct Blue 6	2602-46-2	4.4E-01	1.0E+00	1.2E+02	3.1E-01				
6.7E+00	C	1.4E-01	C							1	0.1		1.4E+09		Direct Brown 95	16071-86-6	4.9E-01	1.2E+00	1.2E+02	3.4E-01				
				4.0E-05	I					1	0.1		1.4E+09		Disulfoton	298-04-4					4.7E+01	1.1E+02		3.3E+01
				1.0E-02	I			V		1			1.4E+09	4.5E+04	Dithiane, 1,4-	505-29-3					1.2E+04			1.2E+04
				2.0E-03	I					1	0.1		1.4E+09		Diuron	330-54-1					2.3E+03	5.5E+03		1.6E+03
				4.0E-03	I					1	0.1		1.4E+09		Dodine	2439-10-3					4.7E+03	1.1E+04		3.3E+03
				2.5E-02	I			V		1			1.4E+09	1.2E+05	EPTC	759-94-4					2.9E+04			2.9E+04
				6.0E-03	I			V		1			1.4E+09	4.1E+05	Endosulfan	115-29-7					7.0E+03			7.0E+03
				2.0E-02	I					1	0.1		1.4E+09		Endothall	145-73-3					2.3E+04	5.5E+04		1.6E+04
				3.0E-04	I					1	0.1		1.4E+09		Endrin	72-20-8					3.5E+02	8.3E+02		2.5E+02
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I	V		1		1.1E+04	1.4E+09	1.9E+04	Epichlorohydrin	106-89-8	3.3E+02		1.9E+02	1.2E+02	7.0E+03		8.3E+01	8.2E+01
						2.0E-02	I	V		1		1.5E+04	1.4E+09	7.7E+03	Epoxybutane, 1,2-	106-88-7							6.7E+02	6.7E+02
				4.0E-02	P					1	0.1		1.4E+09		Ethanol, 2-(2-methoxyethoxy)-	111-77-3					4.7E+04	1.1E+05		3.3E+04
				5.0E-03	I					1	0.1		1.4E+09		Ethephon	16672-87-0					5.8E+03	1.4E+04		4.1E+03
				5.0E-04	I					1	0.1		1.4E+09		Ethion	563-12-2					5.8E+02	1.4E+03		4.1E+02
				1.0E-01	P	6.0E-02	P	V		1		2.4E+04	1.4E+09	6.2E+04	Ethoxyethanol Acetate, 2-	111-15-9					1.2E+05		1.6E+04	1.4E+04
				9.0E-02	P	2.0E-01	I	V		1		1.1E+05	1.4E+09	9.8E+04	Ethoxyethanol, 2-	110-80-5					1.1E+05		8.6E+04	4.7E+04
				9.0E-01	I	7.0E-02	P	V		1		1.1E+04	1.4E+09	8.6E+03	Ethyl Acetate	141-78-6					1.1E+06		2.6E+03	2.6E+03
				5.0E-03	P	8.0E-03	P	V		1		2.5E+03	1.4E+09	6.3E+03	Ethyl Acrylate	140-88-5					5.8E+03		2.2E+02	2.1E+02
						1.0E+01	I	V		1		2.1E+03	1.4E+09	1.3E+03	Ethyl Chloride (Chloroethane)	75-00-3							5.7E+04	5.7E+04
				2.0E-01	I			V		1		1.0E+04	1.4E+09	3.1E+03	Ethyl Ether	60-29-7					2.3E+05			2.3E+05
						3.0E-01	P	V		1		1.1E+03	1.4E+09	5.8E+03	Ethyl Methacrylate	97-63-2							7.6E+03	7.6E+03
				1.0E-05	I					1	0.1		1.4E+09		Ethyl-p-nitrophenyl Phosphonate	2104-64-5					1.2E+01	2.8E+01		8.2E+00
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I	V		1		4.8E+02	1.4E+09	5.7E+03	Ethylbenzene	100-41-4	3.0E+02		2.8E+01	2.5E+01	1.2E+05		2.5E+04	2.0E+04
				7.0E-02	P					1	0.1		1.4E+09		Ethylene Cyanohydrin	109-78-4					8.2E+04	1.9E+05		5.7E+04
				9.0E-02	P			V		1		1.9E+05	1.4E+09	1.8E+05	Ethylene Diamine	107-15-3					1.1E+05			1.1E+05
				2.0E+00	I	4.0E-01	C			1	0.1		1.4E+09		Ethylene Glycol	107-21-1					2.3E+06	5.5E+06	2.4E+09	1.6E+06
				1.0E-01	I	1.6E+00	I			1	0.1		1.4E+09		Ethylene Glycol Monobutyl Ether	111-76-2					1.2E+05	2.8E+05	9.5E+09	8.2E+04
3.1E-01	C	8.8E-05	C			3.0E-02	C	V		1		1.2E+05	1.4E+09	6.1E+03	Ethylene Oxide	75-21-8	1.1E+01		8.5E-01	7.9E-01			8.0E+02	8.0E+02
4.5E-02	C	1.3E-05	C	8.0E-05	I					1	0.1		1.4E+09		Ethylene Thiourea	96-45-7	7.3E+01	1.7E+02	1.3E+06	5.1E+01	9.3E+01	2.2E+02		6.6E+01
6.5E+01	C	1.9E-02	C					V		1		1.5E+05	1.4E+09	2.4E+04	Ethyleneimine	151-56-4	5.0E-02		1.5E-02	1.2E-02				
				3.0E+00	I					1	0.1		1.4E+09		Ethylphthalyl Ethyl Glycolate	84-72-0					3.5E+06	8.3E+06		2.5E+06
				2.5E-04	I					1	0.1		1.4E+09		Fenamiphos	22224-92-6					2.9E+02	6.9E+02		2.1E+02
				2.5E-02	I					1	0.1		1.4E+09		Fenpropathrin	39515-41-8					2.9E+04	6.9E+04		2.1E+04
				2.5E-02	I					1	0.1		1.4E+09		Fenvalerate	51630-58-1					2.9E+04	6.9E+04		2.1E+04
				1.3E-02	I					1	0.1		1.4E+09		Fluometuron	2164-17-2					1.5E+04	3.6E+04		1.1E+04
				4.0E-02	C	1.3E-02	C			1			1.4E+09		Fluoride	16984-48-8					4.7E+04		7.7E+07	4.7E+04
				6.0E-02	I	1.3E-02	C			1			1.4E+09		Fluorine (Soluble Fluoride)	7782-41-4					7.0E+04		7.7E+07	7.0E+04
				8.0E-02	I					1	0.1		1.4E+09		Fluridone	59756-60-4					9.3E+04	2.2E+05		6.6E+04
				2.0E-02	I					1	0.1		1.4E+09		Flurprimidol	56425-91-3					2.3E+04	5.5E+04		1.6E+04
				7.0E-04	I					1	0.1		1.4E+09		Flusilazole	85509-19-9					8.2E+02	1.9E+03		5.7E+02

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Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (μg/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				6.0E-02	I					1	0.1		1.4E+09		Flutolanil	66332-96-5					7.0E+04	1.7E+05		4.9E+04
				1.0E-02	I					1	0.1		1.4E+09		Fluvalinate	69409-94-5					1.2E+04	2.8E+04		8.2E+03
3.5E-03	I			1.0E-01	I					1	0.1		1.4E+09		Folpet	133-07-3	9.3E+02	2.2E+03		6.6E+02	1.2E+05	2.8E+05		8.2E+04
1.9E-01	I									1	0.1		1.4E+09		Fomesafen	72178-02-0	1.7E+01	4.1E+01		1.2E+01				
				2.0E-03	I					1	0.1		1.4E+09		Fonofos	944-22-9					2.3E+03	5.5E+03		1.6E+03
		1.3E-05	I	2.0E-01	I	9.8E-03	A	V		1		4.2E+04	1.4E+09	7.8E+04	Formaldehyde	50-00-0			7.3E+01	7.3E+01	2.3E+05		3.3E+03	3.3E+03
				9.0E-01	P	3.0E-04	X	V		1		1.1E+05	1.4E+09	9.3E+04	Formic Acid	64-18-6					1.1E+06		1.2E+02	1.2E+02
				3.0E+00	I					1	0.1		1.4E+09		Fosetyl-AL	39148-24-8					3.5E+06	8.3E+06		2.5E+06
															Furans									
				1.0E-03	X			V		1	0.03		1.4E+09	2.0E+05	~Dibenzofuran	132-64-9					1.2E+03	9.2E+03		1.0E+03
				1.0E-03	I			V		1	0.03	6.2E+03	1.4E+09	2.6E+03	~Furan	110-00-9					1.2E+03	9.2E+03		1.0E+03
				9.0E-01	I	2.0E+00	I	V		1	0.03	1.7E+05	1.4E+09	1.2E+04	~Tetrahydrofuran	109-99-9					1.1E+06	8.3E+06	1.1E+05	9.6E+04
3.8E+00	H									1	0.1		1.4E+09		Furazolidone	67-45-8	8.6E-01	2.0E+00		6.0E-01				
				3.0E-03	I	5.0E-02	H	V		1		1.0E+04	1.4E+09	4.9E+04	Furfural	98-01-1					3.5E+03		1.1E+04	2.6E+03
1.5E+00	C	4.3E-04	C							1	0.1		1.4E+09		Furium	531-82-8	2.2E+00	5.2E+00	3.9E+04	1.5E+00				
3.0E-02	I	8.6E-06	C							1	0.1		1.4E+09		Furmecyclox	60568-05-0	1.1E+02	2.6E+02	1.9E+06	7.7E+01				
				4.0E-04	I					1	0.1		1.4E+09		Glufosinate, Ammonium	77182-82-2					4.7E+02	1.1E+03		3.3E+02
						8.0E-05	C			1	0.1		1.4E+09		Glutaraldehyde	111-30-8							4.8E+05	4.8E+05
				4.0E-04	I	1.0E-03	H	V		1		1.1E+05	1.4E+09	8.4E+04	Glycidyl	765-34-4					4.7E+02		3.7E+02	2.1E+02
				1.0E-01	I					1	0.1		1.4E+09		Glyphosate	1071-83-6					1.2E+05	2.8E+05		8.2E+04
				1.0E-02	X			V		1			1.4E+09	1.5E+05	Guanidine	113-00-8					1.2E+04			1.2E+04
				2.0E-02	P					1	0.1		1.4E+09		Guanidine Chloride	50-01-1					2.3E+04	5.5E+04		1.6E+04
				5.0E-05	I					1	0.1		1.4E+09		Haloxyfop, Methyl	69806-40-2					5.8E+01	1.4E+02		4.1E+01
4.5E+00	I	1.3E-03	I	5.0E-04	I			V		1			1.4E+09	4.8E+05	Heptachlor	76-44-8	7.3E-01		4.5E+00	6.3E-01	5.8E+02			5.8E+02
9.1E+00	I	2.6E-03	I	1.3E-05	I			V		1			1.4E+09	8.4E+05	Heptachlor Epoxide	1024-57-3	3.6E-01		4.0E+00	3.3E-01	1.5E+01			1.5E+01
				2.0E-03	I			V		1			1.4E+09	3.8E+05	Hexabromobenzene	87-82-1					2.3E+03			2.3E+03
				2.0E-04	I					1	0.1		1.4E+09		Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2					2.3E+02	5.5E+02		1.6E+02
1.6E+00	I	4.6E-04	I	8.0E-04	I			V		1			1.4E+09	6.8E+04	Hexachlorobenzene	118-74-1	2.0E+00		1.8E+00	9.6E-01	9.3E+02			9.3E+02
7.8E-02	I	2.2E-05	I	1.0E-03	P			V		1		1.7E+01	1.4E+09	1.1E+04	Hexachlorobutadiene	87-68-3	4.2E+01		6.0E+00	5.3E+00	1.2E+03			1.2E+03
6.3E+00	I	1.8E-03	I	8.0E-03	A					1	0.1		1.4E+09		Hexachlorocyclohexane, Alpha-	319-84-6	5.2E-01	1.2E+00	9.3E+03	3.6E-01	9.3E+03	2.2E+04		6.6E+03
1.8E+00	I	5.3E-04	I							1	0.1		1.4E+09		Hexachlorocyclohexane, Beta-	319-85-7	1.8E+00	4.3E+00	3.1E+04	1.3E+00				
1.1E+00	C	3.1E-04	C	3.0E-04	I					1	0.04		1.4E+09		Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	3.0E+00	1.8E+01	5.4E+04	2.5E+00	3.5E+02	2.1E+03		3.0E+02
1.8E+00	I	5.1E-04	I							1	0.1		1.4E+09		Hexachlorocyclohexane, Technical	608-73-1	1.8E+00	4.3E+00	3.3E+04	1.3E+00				
				6.0E-03	I	2.0E-04	I	V		1		1.6E+01	1.4E+09	8.5E+03	Hexachlorocyclopentadiene	77-47-4					7.0E+03		7.5E+00	7.5E+00
4.0E-02	I	1.1E-05	C	7.0E-04	I	3.0E-02	I	V		1			1.4E+09	8.0E+03	Hexachloroethane	67-72-1	8.2E+01		8.9E+00	8.0E+00	8.2E+02		1.1E+03	4.6E+02
				3.0E-04	I					1	0.1		1.4E+09		Hexachlorophene	70-30-4					3.5E+02	8.3E+02		2.5E+02
1.1E-01	I			3.0E-03	I					1	0.015		1.4E+09		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	3.0E+01	4.7E+02		2.8E+01	3.5E+03	5.5E+04		3.3E+03
						1.0E-05	I	V		1		3.4E+03	1.4E+09	3.0E+05	Hexamethylene Diisocyanate, 1,6-	822-06-0							1.3E+01	1.3E+01
				4.0E-04	P					1	0.1		1.4E+09		Hexamethylphosphoramide	680-31-9					4.7E+02	1.1E+03		3.3E+02
						7.0E-01	I	V		1		1.4E+02	1.4E+09	8.3E+02	Hexane, N-	110-54-3							2.5E+03	2.5E+03
				2.0E+00	P					1	0.1		1.4E+09		Hexanedioic Acid	124-04-9					2.3E+06	5.5E+06		1.6E+06
				5.0E-03	I	3.0E-02	I	V		1		3.3E+03	1.4E+09	1.3E+04	Hexanone, 2-	591-78-6					5.8E+03		1.7E+03	1.3E+03
				3.3E-02	I					1	0.1		1.4E+09		Hexazinone	51235-04-2					3.9E+04	9.1E+04		2.7E+04
				2.5E-02	I					1	0.1		1.4E+09		Hexythiazox	78587-05-0					2.9E+04	6.9E+04		2.1E+04
				3.0E-04	I					1	0.1		1.4E+09		Hydramethylnon	67485-29-4					3.5E+02	8.3E+02		2.5E+02
3.0E+00	I	4.9E-03	I			3.0E-05	P	V		1			1.4E+09		Hydrazine	302-01-2	1.1E+00		3.4E+03	1.1E+00			1.8E+05	1.8E+05
3.0E+00	I	4.9E-03	I							1			1.4E+09		Hydrazine Sulfate	10034-93-2	1.1E+00		3.4E+03	1.1E+00				
						2.0E-02	I	V		1			1.4E+09		Hydrogen Chloride	7647-01-0							1.2E+08	1.2E+08
				4.0E-02	C	1.4E-02	C	V		1			1.4E+09		Hydrogen Fluoride	7664-39-3					4.7E+04		8.3E+07	4.7E+04
						2.0E-03	I	V		1			1.4E+09		Hydrogen Sulfide	7783-06-4							1.2E+07	1.2E+07
6.0E-02	P			4.0E-02	P					1	0.1		1.4E+09		Hydroquinone	123-31-9	5.5E+01	1.3E+02		3.8E+01	4.7E+04	1.1E+05		3.3E+04
				1.3E-02	I					1	0.1		1.4E+09		Imazalil	35554-44-0					1.5E+04	3.6E+04		1.1E+04
				2.5E-01	I					1	0.1		1.4E+09		Imazaquin	81335-37-7					2.9E+05	6.9E+05		2.1E+05
				2.5E-01	I					1	0.1		1.4E+09		Imazethapyr	81335-77-5					2.9E+05	6.9E+05		2.1E+05
				1.0E-02	A					1			1.4E+09		Iodine	7553-56-2					1.2E+04			1.2E+04
				4.0E-02	I					1	0.1		1.4E+09		Iprodione	36734-19-7					4.7E+04	1.1E+05		3.3E+04
				7.0E-01	P					1			1.4E+09		Iron	7439-89-6					8.2E+05			8.2E+05
				3.0E-01	I			V		1		1.0E+04	1.4E+09	2.8E+04	Isobutyl Alcohol	78-83-1					3.5E+05			3.5E+05
9.5E-04	I			2.0E-01	I	2.0E+00	C			1	0.1		1.4E+09		Isophorone	78-59-1	3.4E+03	8.1E+03		2.4E+03	2.3E+05	5.5E+05	1.2E+10	1.6E+05
				1.5E-02	I			V		1			1.4E+09	4.2E+05	Isopropalin	33820-53-0					1.8E+04			1.8E+04
				2.0E+00	P	2.0E-01	P	V		1		1.1E+05	1.4E+09	2.8E+04	Isopropanol	67-63-0					2.3E+06		2.4E+04	2.4E+04
				1.0E-01	I					1	0.1		1.4E+09		Isopropyl Methyl Phosphonic Acid	1832-54-8					1.2E+05	2.8E+05		8.2E+04
				5.0E-02	I					1	0.1		1.4E+09		Isoxaben	82558-50-7					5.8E+04	1.4E+05		4.1E+04
						3.0E-01	A	V		1			1.4E+09		JP-7	NA							1.8E+09	1.8E+09
				2.0E-03	I					1	0.1		1.4E+09		Lactofen	77501-63-4					2.3E+03	5.5E+03		1.6E+03

PRELIMINARY HQ=1.0

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Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
															Lead Compounds									
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		~Lead Chromate	7758-97-6	6.5E+00		1.1E+02	6.2E+00	2.3E+04		1.2E+06	2.3E+04
8.5E-03	C	1.2E-05	C							1			1.4E+09		~Lead Phosphate	7446-27-7	3.8E+02		1.4E+06	3.8E+02				
2.8E-01	C	8.0E-05	C							1	0.1		1.4E+09		~Lead acetate	301-04-2	1.2E+01	2.8E+01	2.1E+05	8.2E+00				
										1			1.4E+09		~Lead and Compounds	7439-92-1								8.0E+02
8.5E-03	C	1.2E-05	C							1	0.1		1.4E+09		~Lead subacetate	1335-32-6	3.8E+02	9.1E+02	1.4E+06	2.7E+02				
				1.0E-07	I			V		1		2.4E+00	1.4E+09	1.9E+03	~Tetraethyl Lead	78-00-2					1.2E-01			1.2E-01
				5.0E-06	P			V		1		3.8E+02	1.4E+09	2.6E+04	Lewisite	541-25-3					5.8E+00			5.8E+00
				2.0E-03	I					1	0.1		1.4E+09		Linuron	330-55-2					2.3E+03	5.5E+03		1.6E+03
				2.0E-03	P					1			1.4E+09		Lithium	7439-93-2					2.3E+03			2.3E+03
				5.0E-04	I					1	0.1		1.4E+09		MCPA	94-74-6					5.8E+02	1.4E+03		4.1E+02
				1.0E-02	I					1	0.1		1.4E+09		MCPB	94-81-5					1.2E+04	2.8E+04		8.2E+03
				1.0E-03	I					1	0.1		1.4E+09		MCPP	93-65-2					1.2E+03	2.8E+03		8.2E+02
				2.0E-02	I					1	0.1		1.4E+09		Malathion	121-75-5					2.3E+04	5.5E+04		1.6E+04
				1.0E-01	I	7.0E-04	C			1	0.1		1.4E+09		Maleic Anhydride	108-31-6					1.2E+05	2.8E+05	4.2E+06	8.0E+04
				5.0E-01	I					1	0.1		1.4E+09		Maleic Hydrazide	123-33-1					5.8E+05	1.4E+06		4.1E+05
				1.0E-04	P					1	0.1		1.4E+09		Malononitrile	109-77-3					1.2E+02	2.8E+02		8.2E+01
				3.0E-02	H					1	0.1		1.4E+09		Mancozeb	8018-01-7					3.5E+04	8.3E+04		2.5E+04
				5.0E-03	I					1	0.1		1.4E+09		Maneb	12427-38-2					5.8E+03	1.4E+04		4.1E+03
				1.4E-01	I	5.0E-05	I			1					Manganese (Diet)	7439-96-5								
				2.4E-02	S	5.0E-05	I			0.04			1.4E+09		Manganese (Non-diet)	7439-96-5					2.8E+04		3.0E+05	2.6E+04
				9.0E-05	H					1	0.1		1.4E+09		Mephosfolan	950-10-7					1.1E+02	2.5E+02		7.4E+01
				3.0E-02	I					1	0.1		1.4E+09		Mepiquat Chloride	24307-26-4					3.5E+04	8.3E+04		2.5E+04
															Mercury Compounds									
				3.0E-04	I	3.0E-04	S			0.07			1.4E+09		~Mercuric Chloride (and other Mercury salts)	7487-94-7					3.5E+02		1.8E+06	3.5E+02
						3.0E-04	I	V		1		3.1E+00	1.4E+09	3.5E+04	~Mercury (elemental)	7439-97-6							4.6E+01	4.6E+01
				1.0E-04	I					1			1.4E+09		~Methyl Mercury	22967-92-6					1.2E+02			1.2E+02
				8.0E-05	I					1	0.1		1.4E+09		~Phenylmercuric Acetate	62-38-4					9.3E+01	2.2E+02		6.6E+01
				3.0E-05	I			V		1			1.4E+09	1.9E+06	Merphos	150-50-5					3.5E+01			3.5E+01
				3.0E-05	I					1	0.1		1.4E+09		Merphos Oxide	78-48-8					3.5E+01	8.3E+01		2.5E+01
				6.0E-02	I					1	0.1		1.4E+09		Metalaxyl	57837-19-1					7.0E+04	1.7E+05		4.9E+04
				1.0E-04	I	3.0E-02	P	V		1		4.6E+03	1.4E+09	6.8E+03	Methacrylonitrile	126-98-7					1.2E+02		8.9E+02	1.0E+02
				5.0E-05	I					1	0.1		1.4E+09		Methamidophos	10265-92-6					5.8E+01	1.4E+02		4.1E+01
				2.0E+00	I	2.0E+01	I	V		1		1.1E+05	1.4E+09	2.9E+04	Methanol	67-56-1					2.3E+06		2.5E+06	1.2E+06
				1.0E-03	I					1	0.1		1.4E+09		Methidathion	950-37-8					1.2E+03	2.8E+03		8.2E+02
				2.5E-02	I					1	0.1		1.4E+09		Methomyl	16752-77-5					2.9E+04	6.9E+04		2.1E+04
4.9E-02	C	1.4E-05	C							1	0.1		1.4E+09		Methoxy-5-nitroaniline, 2-	99-59-2	6.7E+01	1.6E+02	1.2E+06	4.7E+01				
				5.0E-03	I					1	0.1		1.4E+09		Methoxychlor	72-43-5					5.8E+03	1.4E+04		4.1E+03
				8.0E-03	P	1.0E-03	P	V		1		1.2E+05	1.4E+09	1.2E+05	Methoxyethanol Acetate, 2-	110-49-6					9.3E+03		5.4E+02	5.1E+02
				5.0E-03	P	2.0E-02	I	V		1		1.1E+05	1.4E+09	1.0E+05	Methoxyethanol, 2-	109-86-4					5.8E+03		8.8E+03	3.5E+03
				1.0E+00	X			V		1		2.9E+04	1.4E+09	8.1E+03	Methyl Acetate	79-20-9					1.2E+06			1.2E+06
						2.0E-02	P	V		1		6.8E+03	1.4E+09	7.0E+03	Methyl Acrylate	96-33-3							6.1E+02	6.1E+02
				6.0E-01	I	5.0E+00	I	V		1		2.8E+04	1.4E+09	1.2E+04	Methyl Ethyl Ketone (2-Butanone)	78-93-3					7.0E+05		2.7E+05	1.9E+05
		1.0E-03	X	1.0E-03	P	2.0E-05	X	V		1		1.8E+05	1.4E+09	5.0E+04	Methyl Hydrazine	60-34-4			6.2E-01	6.2E-01	1.2E+03		4.4E+00	4.4E+00
						3.0E+00	I	V		1		3.4E+03	1.4E+09	1.1E+04	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1							1.4E+05	1.4E+05
						1.0E-03	C	V		1		1.0E+04	1.4E+09	4.4E+03	Methyl Isocyanate	624-83-9							1.9E+01	1.9E+01
				1.4E+00	I	7.0E-01	I	V		1		2.4E+03	1.4E+09	6.3E+03	Methyl Methacrylate	80-62-6					1.6E+06		1.9E+04	1.9E+04
				2.5E-04	I					1	0.1		1.4E+09		Methyl Parathion	298-00-0					2.9E+02	6.9E+02		2.1E+02
				6.0E-02	X					1	0.1		1.4E+09		Methyl Phosphonic Acid	993-13-5					7.0E+04	1.7E+05		4.9E+04
				6.0E-03	H	4.0E-02	H	V		1		3.9E+02	1.4E+09	2.4E+04	Methyl Styrene (Mixed Isomers)	25013-15-4					7.0E+03		4.3E+03	2.6E+03
9.9E-02	C	2.8E-05	C							1	0.1		1.4E+09		Methyl methanesulfonate	66-27-3	3.3E+01	7.8E+01	6.0E+05	2.3E+01				
1.8E-03	C	2.6E-07	C			3.0E+00	I	V		1		8.9E+03	1.4E+09	4.9E+03	Methyl tert-Butyl Ether (MTBE)	1634-04-4	1.8E+03		2.3E+02	2.1E+02			6.4E+04	6.4E+04
				3.0E-04	X					1	0.1		1.4E+09		Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2					3.5E+02	8.3E+02		2.5E+02
9.0E-03	P			2.0E-02	X					1	0.1		1.4E+09		Methyl-5-Nitroaniline, 2-	99-55-8	3.6E+02	8.6E+02		2.6E+02	2.3E+04	5.5E+04		1.6E+04
8.3E+00	C	2.4E-03	C							1	0.1		1.4E+09		Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	3.9E-01	9.3E-01	6.9E+03	2.8E-01				
1.3E-01	C	3.7E-05	C							1	0.1		1.4E+09		Methylaniline Hydrochloride, 2-	636-21-5	2.5E+01	5.9E+01	4.5E+05	1.8E+01				
				1.0E-02	A					1	0.1		1.4E+09		Methylarsonic acid	124-58-3					1.2E+04	2.8E+04		8.2E+03
				2.0E-04	X					1	0.1		1.4E+09		Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7					2.3E+02	5.5E+02		1.6E+02
1.0E-01	X			3.0E-04	X					1	0.1		1.4E+09		Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	3.3E+01	7.7E+01		2.3E+01	3.5E+02	8.3E+02		2.5E+02
2.2E+01	C	6.3E-03	C						M	1	0.1		1.4E+09		Methylcholanthrene, 3-	56-49-5	1.5E-01	3.5E-01	2.6E+03	1.0E-01				
2.0E-03	I	1.0E-08	I	6.0E-03	I	6.0E-01	I	V	M	1		3.3E+03	1.4E+09	2.2E+03	Methylene Chloride	75-09-2	1.6E+03		2.7E+03	1.0E+03	7.0E+03		5.8E+03	3.2E+03
1.0E-01	P	4.3E-04	C	2.0E-03	P				M	1	0.1		1.4E+09		Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	3.3E+01	7.7E+01	3.9E+04	2.3E+01	2.3E+03	5.5E+03		1.6E+03
4.6E-02	I	1.3E-05	C							1	0.1		1.4E+09		Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	7.1E+01	1.7E+02	1.3E+06	5.0E+01				
1.6E+00	C	4.6E-04	C			2.0E-02	C			1	0.1		1.4E+09		Methylenebisbenzenamine, 4,4'-	101-77-9	2.0E+00	4.8E+00	3.6E+04	1.4E+00			1.2E+08	1.2E+08
						6.0E-04	I			1	0.1		1.4E+09		Methylenediphenyl Diisocyanate	101-68-8							3.6E+06	3.6E+06

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information																Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				7.0E-02	H			V		1		5.0E+02	1.4E+09	1.3E+04	Methylstyrene, Alpha-	98-83-9					8.2E+04			8.2E+04
				1.5E-01	I					1	0.1		1.4E+09		Metolachlor	51218-45-2					1.8E+05	4.1E+05		1.2E+05
				2.5E-02	I					1	0.1		1.4E+09		Metribuzin	21087-64-9					2.9E+04	6.9E+04		2.1E+04
				2.5E-01	I					1	0.1		1.4E+09		Metsulfuron-methyl	74223-64-6					2.9E+05	6.9E+05		2.1E+05
				3.0E+00	P			V		1		3.4E-01	1.4E+09	1.4E+03	Mineral oils	8012-95-1					3.5E+06			3.5E+06
1.8E+01	C	5.1E-03	C	2.0E-04	I			V		1			1.4E+09	8.6E+05	Mirex	2385-85-5	1.8E-01		2.1E+00	1.7E-01	2.3E+02			2.3E+02
				2.0E-03	I					1	0.1		1.4E+09		Molinate	2212-67-1					2.3E+03	5.5E+03		1.6E+03
				5.0E-03	I					1			1.4E+09		Molybdenum	7439-98-7					5.8E+03			5.8E+03
				1.0E-01	I					1			1.4E+09		Monochloramine	10599-90-3					1.2E+05			1.2E+05
				2.0E-03	P					1	0.1		1.4E+09		Monomethylaniline	100-61-8					2.3E+03	5.5E+03		1.6E+03
				2.5E-02	I					1	0.1		1.4E+09		Myclobutanil	88671-89-0					2.9E+04	6.9E+04		2.1E+04
				3.0E-04	X					1	0.1		1.4E+09		N,N'-Diphenyl-1,4-benzenediamine	74-31-7					3.5E+02	8.3E+02		2.5E+02
				2.0E-03	I			V		1			1.4E+09	5.7E+04	Naled	300-76-5					2.3E+03			2.3E+03
				3.0E-02	X	1.0E-01	P	V		1			1.4E+09		Naphtha, High Flash Aromatic (HFAN)	64742-95-6					3.5E+04		6.0E+08	3.5E+04
1.8E+00	C	0.0E+00	C							1	0.1		1.4E+09		Naphthylamine, 2-	91-59-8	1.8E+00	4.3E+00		1.3E+00				
				1.0E-01	I					1	0.1		1.4E+09		Napropamide	15299-99-7					1.2E+05	2.8E+05		8.2E+04
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		1.4E+09		Nickel Acetate	373-02-4			6.4E+04	6.4E+04	1.3E+04	3.0E+04	8.3E+04	8.1E+03
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		1.4E+09		Nickel Carbonate	3333-67-3			6.4E+04	6.4E+04	1.3E+04	3.0E+04	8.3E+04	8.1E+03
		2.6E-04	C	1.1E-02	C	1.4E-05	C	V		1			1.4E+09		Nickel Carbonyl	13463-39-3			6.4E+04	6.4E+04	1.3E+04		8.3E+04	1.1E+04
		2.6E-04	C	1.1E-02	C	1.4E-05	C			0.04			1.4E+09		Nickel Hydroxide	12054-48-7			6.4E+04	6.4E+04	1.3E+04		8.3E+04	1.1E+04
		2.6E-04	C	1.1E-02	C	2.0E-05	C			0.04			1.4E+09		Nickel Oxide	1313-99-1			6.4E+04	6.4E+04	1.3E+04		1.2E+05	1.2E+04
		2.4E-04	I	1.1E-02	C	1.4E-05	C			0.04			1.4E+09		Nickel Refinery Dust	NA			6.9E+04	6.9E+04	1.3E+04		8.3E+04	1.1E+04
		2.6E-04	C	2.0E-02	I	9.0E-05	A			0.04			1.4E+09		Nickel Soluble Salts	7440-02-0			6.4E+04	6.4E+04	2.3E+04		5.4E+05	2.2E+04
1.7E+00	C	4.8E-04	I	1.1E-02	C	1.4E-05	C			0.04			1.4E+09		Nickel Subsulfide	12035-72-2	1.9E+00		3.5E+04	1.9E+00	1.3E+04		8.3E+04	1.1E+04
		2.6E-04	C	1.1E-02	C	1.4E-05	C			1	0.1		1.4E+09		Nickelocene	1271-28-9			6.4E+04	6.4E+04	1.3E+04	3.0E+04	8.3E+04	8.1E+03
				1.6E+00	I					1			1.4E+09		Nitrate	14797-55-8					1.9E+06			1.9E+06
										1			1.4E+09		Nitrate + Nitrite (as N)	NA								
				1.0E-01	I					1			1.4E+09		Nitrite	14797-65-0					1.2E+05			1.2E+05
				1.0E-02	X	5.0E-05	X			1	0.1		1.4E+09		Nitroaniline, 2-	88-74-4					1.2E+04	2.8E+04	3.0E+05	8.0E+03
2.0E-02	P			4.0E-03	P	6.0E-03	P			1	0.1		1.4E+09		Nitroaniline, 4-	100-01-6	1.6E+02	3.9E+02		1.1E+02	4.7E+03	1.1E+04	3.6E+07	3.3E+03
		4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1		3.1E+03	1.4E+09	7.3E+04	Nitrobenzene	98-95-3			2.2E+01	2.2E+01	2.3E+03		2.9E+03	1.3E+03
				3.0E+03	P					1	0.1		1.4E+09		Nitrocellulose	9004-70-0					3.5E+09	8.3E+09		2.5E+09
				7.0E-02	H					1	0.1		1.4E+09		Nitrofurantoin	67-20-9					8.2E+04	1.9E+05		5.7E+04
1.3E+00	C	3.7E-04	C							1	0.1		1.4E+09		Nitrofurazone	59-87-0	2.5E+00	5.9E+00	4.5E+04	1.8E+00				
1.7E-02	P			1.0E-04	P					1	0.1		1.4E+09		Nitroglycerin	55-63-0	1.9E+02	4.5E+02		1.4E+02	1.2E+02	2.8E+02		8.2E+01
				1.0E-01	I					1	0.1		1.4E+09		Nitroguanidine	556-88-7					1.2E+05	2.8E+05		8.2E+04
		8.8E-06	P			5.0E-03	P	V		1		1.8E+04	1.4E+09	1.7E+04	Nitromethane	75-52-5			2.4E+01	2.4E+01			3.7E+02	3.7E+02
		2.7E-03	H			2.0E-02	I	V		1		4.9E+03	1.4E+09	1.3E+04	Nitropropane, 2-	79-46-9			6.0E-02	6.0E-02			1.2E+03	1.2E+03
2.7E+01	C	7.7E-03	C						M	1	0.1		1.4E+09		Nitroso-N-ethylurea, N-	759-73-9	1.2E-01	2.9E-01	2.2E+03	8.5E-02				
1.2E+02	C	3.4E-02	C						M	1	0.1		1.4E+09		Nitroso-N-methylurea, N-	684-93-5	2.7E-02	6.4E-02	4.9E+02	1.9E-02				
5.4E+00	I	1.6E-03	I					V		1			1.4E+09	2.4E+05	Nitroso-di-N-butylamine, N-	924-16-3	6.1E-01		1.9E+00	4.6E-01				
7.0E+00	I	2.0E-03	C							1	0.1		1.4E+09		Nitroso-di-N-propylamine, N-	621-64-7	4.7E-01	1.1E+00	8.3E+03	3.3E-01				
2.8E+00	I	8.0E-04	C							1	0.1		1.4E+09		Nitrosodiethanolamine, N-	1116-54-7	1.2E+00	2.8E+00	2.1E+04	8.2E-01				
1.5E+02	I	4.3E-02	I						M	1	0.1		1.4E+09		Nitrosodiethylamine, N-	55-18-5	2.2E-02	5.2E-02	3.9E+02	1.5E-02				
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	V	M	1		2.4E+05	1.4E+09	8.2E+04	Nitrosodimethylamine, N-	62-75-9	6.4E-02		7.2E-02	3.4E-02	9.3E+00		1.4E+01	5.7E+00
4.9E-03	I	2.6E-06	C							1	0.1		1.4E+09		Nitrosodiphenylamine, N-	86-30-6	6.7E+02	1.6E+03	6.4E+06	4.7E+02				
2.2E+01	I	6.3E-03	C					V		1		1.1E+05	1.4E+09	1.2E+05	Nitrosomethylethylamine, N-	10595-95-6	1.5E-01		2.4E-01	9.1E-02				
6.7E+00	C	1.9E-03	C							1	0.1		1.4E+09		Nitrosomorpholine [N-]	59-89-2	4.9E-01	1.2E+00	8.8E+03	3.4E-01				
9.4E+00	C	2.7E-03	C							1	0.1		1.4E+09		Nitrosopiperidine [N-]	100-75-4	3.5E-01	8.2E-01	6.2E+03	2.4E-01				
2.1E+00	I	6.1E-04	I							1	0.1		1.4E+09		Nitrosopyrrolidine, N-	930-55-2	1.6E+00	3.7E+00	2.7E+04	1.1E+00				
				1.0E-04	X					1	0.1		1.4E+09		Nitrotoluene, m-	99-08-1					1.2E+02	2.8E+02		8.2E+01
2.2E-01	P			9.0E-04	P			V		1		1.5E+03	1.4E+09	1.4E+05	Nitrotoluene, o-	88-72-2	1.5E+01			1.5E+01	1.1E+03			1.1E+03
1.6E-02	P			4.0E-03	P					1	0.1		1.4E+09		Nitrotoluene, p-	99-99-0	2.0E+02	4.8E+02		1.4E+02	4.7E+03	1.1E+04		3.3E+03
				3.0E-04	X	2.0E-02	P	V		1		6.9E+00	1.4E+09	1.0E+03	Nonane, n-	111-84-2					3.5E+02		9.1E+01	7.2E+01
				4.0E-02	I					1	0.1		1.4E+09		Norflurazon	27314-13-2					4.7E+04	1.1E+05		3.3E+04
				3.0E-03	I					1	0.1		1.4E+09		Octabromodiphenyl Ether	32536-52-0					3.5E+03	8.3E+03		2.5E+03
				5.0E-02	I					1	0.006		1.4E+09		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0					5.8E+04	2.3E+06		5.7E+04
				2.0E-03	H					1	0.1		1.4E+09		Octamethylpyrophosphoramide	152-16-9					2.3E+03	5.5E+03		1.6E+03
				5.0E-02	I					1	0.1		1.4E+09		Oryzalin	19044-88-3					5.8E+04	1.4E+05		4.1E+04
				5.0E-03	I					1	0.1		1.4E+09		Oxadiazon	19666-30-9					5.8E+03	1.4E+04		4.1E+03
				2.5E-02	I					1	0.1		1.4E+09		Oxamyl	23135-22-0					2.9E+04	6.9E+04		2.1E+04
				3.0E-03	I					1	0.1		1.4E+09		Oxyfluorfen	42874-03-3					3.5E+03	8.3E+03		2.5E+03
				1.3E-02	I					1	0.1		1.4E+09		Paclobutrazol	76738-62-0					1.5E+04	3.6E+04		1.1E+04
				4.5E-03	I					1	0.1		1.4E+09		Paraquat Dichloride	1910-42-5					5.3E+03	1.2E+04		3.7E+03
				6.0E-03	H					1	0.1		1.4E+09		Parathion	56-38-2					7.0E+03	1.7E+04		4.9E+03

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				5.0E-02	H			V		1			1.4E+09	4.5E+04	Pebulate	1114-71-2					5.8E+04			5.8E+04
				4.0E-02	I					1	0.1		1.4E+09		Pendimethalin	40487-42-1					4.7E+04	1.1E+05		3.3E+04
				2.0E-03	I			V		1		3.1E-01	1.4E+09	5.1E+05	Pentabromodiphenyl Ether	32534-81-9					2.3E+03			2.3E+03
				1.0E-04	I					1	0.1		1.4E+09		Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9					1.2E+02	2.8E+02		8.2E+01
				8.0E-04	I			V		1			1.4E+09	8.1E+04	Pentachlorobenzene	608-93-5					9.3E+02			9.3E+02
9.0E-02	P							V		1		4.6E+02	1.4E+09	9.7E+03	Pentachloroethane	76-01-7	3.6E+01			3.6E+01				
2.6E-01	H			3.0E-03	I			V		1			1.4E+09	4.3E+05	Pentachloronitrobenzene	82-68-8	1.3E+01			1.3E+01	3.5E+03			3.5E+03
4.0E-01	I	5.1E-06	C	5.0E-03	I					1	0.25		1.4E+09		Pentachlorophenol	87-86-5	8.2E+00	7.7E+00	3.3E+06	4.0E+00	5.8E+03	5.5E+03		2.8E+03
4.0E-03	X			2.0E-03	P					1	0.1		1.4E+09		Pentaerythritol tetranitrate (PETN)	78-11-5	8.2E+02	1.9E+03		5.7E+02	2.3E+03	5.5E+03		1.6E+03
						1.0E+00	P	V		1		3.9E+02	1.4E+09	7.8E+02	Pentane, n-	109-66-0							3.4E+03	3.4E+03
															Perchlorates									
				7.0E-04	I					1			1.4E+09		~Ammonium Perchlorate	7790-98-9					8.2E+02			8.2E+02
				7.0E-04	I					1			1.4E+09		~Lithium Perchlorate	7791-03-9					8.2E+02			8.2E+02
				7.0E-04	I					1			1.4E+09		~Perchlorate and Perchlorate Salts	14797-73-0					8.2E+02			8.2E+02
				7.0E-04	I					1			1.4E+09		~Potassium Perchlorate	7778-74-7					8.2E+02			8.2E+02
				7.0E-04	I					1			1.4E+09		~Sodium Perchlorate	7601-89-0					8.2E+02			8.2E+02
				2.0E-02	P			V		1			1.4E+09	1.3E+05	Perfluorobutane Sulfonate	375-73-5					2.3E+04			2.3E+04
				5.0E-02	I					1	0.1		1.4E+09		Permethrin	52645-53-1					5.8E+04	1.4E+05		4.1E+04
2.2E-03	C	6.3E-07	C							1	0.1		1.4E+09		Phenacetin	62-44-2	1.5E+03	3.5E+03	2.6E+07	1.0E+03				
				2.5E-01	I					1	0.1		1.4E+09		Phenmedipham	13684-63-4					2.9E+05	6.9E+05		2.1E+05
				3.0E-01	I	2.0E-01	C			1	0.1		1.4E+09		Phenol	108-95-2					3.5E+05	8.3E+05	1.2E+09	2.5E+05
				5.0E-04	X					1	0.1		1.4E+09		Phenothiazine	92-84-2					5.8E+02	1.4E+03		4.1E+02
				6.0E-03	I					1	0.1		1.4E+09		Phenylenediamine, m-	108-45-2					7.0E+03	1.7E+04		4.9E+03
4.7E-02	H									1	0.1		1.4E+09		Phenylenediamine, o-	95-54-5	7.0E+01	1.6E+02		4.9E+01				
		1.9E-01	H							1	0.1		1.4E+09		Phenylenediamine, p-	106-50-3					2.2E+05	5.2E+05		1.6E+05
1.9E-03	H									1	0.1		1.4E+09		Phenylphenol, 2-	90-43-7	1.7E+03	4.0E+03		1.2E+03				
				2.0E-04	H					1	0.1		1.4E+09		Phorate	298-02-2					2.3E+02	5.5E+02		1.6E+02
						3.0E-04	I	V		1		1.6E+03	1.4E+09	9.8E+02	Phosgene	75-44-5							1.3E+00	1.3E+00
				2.0E-02	I					1	0.1		1.4E+09		Phosmet	732-11-6					2.3E+04	5.5E+04		1.6E+04
															Phosphates, Inorganic									
				4.9E+01	P					1			1.4E+09		~Aluminum metaphosphate	13776-88-0					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Ammonium polyphosphate	68333-79-9					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Calcium pyrophosphate	7790-76-3					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Diammonium phosphate	7783-28-0					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Dicalcium phosphate	7757-93-9					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Dimagnesium phosphate	7782-75-4					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Dipotassium phosphate	7758-11-4					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Disodium phosphate	7558-79-4					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Monoaluminum phosphate	13530-50-2					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Monoammonium phosphate	7722-76-1					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Monocalcium phosphate	7758-23-8					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Monomagnesium phosphate	7757-86-0					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Monopotassium phosphate	7778-77-0					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Monosodium phosphate	7558-80-7					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Polyphosphoric acid	8017-16-1					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Potassium tripolyphosphate	13845-36-8					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium acid pyrophosphate	7758-16-9					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium aluminum phosphate (acidic)	7785-88-8					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium aluminum phosphate (anhydrous)	10279-59-1					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium aluminum phosphate (tetrahydrate)	10305-76-7					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium hexametaphosphate	10124-56-8					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium polyphosphate	68915-31-1					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium trimetaphosphate	7785-84-4					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Sodium tripolyphosphate	7758-29-4					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Tetrapotassium phosphate	7320-34-5					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Tetrasodium pyrophosphate	7722-88-5					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Tricalcium phosphate	7758-87-4					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Trimagnesium phosphate	7757-87-1					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Tripotassium phosphate	7778-53-2					5.7E+07			5.7E+07
				4.9E+01	P					1			1.4E+09		~Trisodium phosphate	7601-54-9					5.7E+07			5.7E+07
				3.0E-04	I	3.0E-04	I	V		1			1.4E+09		Phosphine	7803-51-2					3.5E+02		1.8E+06	3.5E+02
				4.9E+01	P	1.0E-02	I			1			1.4E+09		Phosphoric Acid	7664-38-2					5.7E+07		6.0E+07	2.9E+07
				2.0E-05	I			V		1			1.4E+09	6.9E+03	Phosphorus, White	7723-14-0					2.3E+01			2.3E+01
															Phthalates									

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
1.4E-02	I	2.4E-06	C	2.0E-02	I					1	0.1		1.4E+09		~Bis(2-ethylhexyl)phthalate	117-81-7	2.3E+02	5.5E+02	6.9E+06	1.6E+02	2.3E+04	5.5E+04		1.6E+04
				1.0E+00	I					1	0.1		1.4E+09		~Butylphthalyl Butylglycolate	85-70-1					1.2E+06	2.8E+06		8.2E+05
				1.0E-01	I					1	0.1		1.4E+09		~Dibutyl Phthalate	84-74-2					1.2E+05	2.8E+05		8.2E+04
				8.0E-01	I					1	0.1		1.4E+09		~Diethyl Phthalate	84-66-2					9.3E+05	2.2E+06		6.6E+05
				1.0E-01	I			V		1			1.4E+09	2.1E+04	~Dimethylterephthalate	120-61-6					1.2E+05			1.2E+05
				1.0E-02	P					1	0.1		1.4E+09		~Octyl Phthalate, di-N-	117-84-0					1.2E+04	2.8E+04		8.2E+03
				1.0E+00	H					1	0.1		1.4E+09		~Phthalic Acid, P-	100-21-0					1.2E+06	2.8E+06		8.2E+05
				2.0E+00	I	2.0E-02	C			1	0.1		1.4E+09		~Phthalic Anhydride	85-44-9					2.3E+06	5.5E+06	1.2E+08	1.6E+06
				7.0E-02	I					1	0.1		1.4E+09		Picloram	1918-02-1					8.2E+04	1.9E+05		5.7E+04
				1.0E-04	X					1	0.1		1.4E+09		Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3					1.2E+02	2.8E+02		8.2E+01
				9.0E-04	X					1	0.1		1.4E+09		Picric Acid (2,4,6-Trinitrophenol)	88-89-1					1.1E+03	2.5E+03		7.4E+02
				1.0E-02	I					1	0.1		1.4E+09		Pirimiphos, Methyl	29232-93-7					1.2E+04	2.8E+04		8.2E+03
3.0E+01	C	8.6E-03	C	7.0E-06	H					1	0.1		1.4E+09		Polybrominated Biphenyls	59536-65-1	1.1E-01	2.6E-01	1.9E+03	7.7E-02	8.2E+00	1.9E+01		5.7E+00
															Polychlorinated Biphenyls (PCBs)									
7.0E-02	S	2.0E-05	S	7.0E-05	I			V		1	0.14		1.4E+09	7.1E+05	~Aroclor 1016	12674-11-2	4.7E+01	7.9E+01	4.4E+02	2.7E+01	8.2E+01	1.4E+02		5.1E+01
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	2.0E+05	~Aroclor 1221	11104-28-2	1.6E+00	2.8E+00	4.4E+00	8.3E-01				
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	1.1E+05	~Aroclor 1232	11141-16-5	1.6E+00	2.8E+00	2.4E+00	7.2E-01				
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	5.9E+05	~Aroclor 1242	53469-21-9	1.6E+00	2.8E+00	1.3E+01	9.5E-01				
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	6.3E+05	~Aroclor 1248	12672-29-6	1.6E+00	2.8E+00	1.3E+01	9.5E-01				
2.0E+00	S	5.7E-04	S	2.0E-05	I			V		1	0.14		1.4E+09	8.4E+05	~Aroclor 1254	11097-69-1	1.6E+00	2.8E+00	1.8E+01	9.7E-01	2.3E+01	3.9E+01		1.5E+01
2.0E+00	S	5.7E-04	S					V		1	0.14		1.4E+09	1.3E+06	~Aroclor 1260	11096-82-5	1.6E+00	2.8E+00	2.8E+01	9.9E-01				
				6.0E-04	X			V		1	0.14		1.4E+09	9.6E+05	~Aroclor 5460	11126-42-4					7.0E+02	1.2E+03		4.4E+02
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	3.3E+06	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	8.4E-01	1.4E+00	3.6E+01	5.2E-01	2.7E+01	4.6E+01	1.9E+04	1.7E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	2.2E+06	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	8.4E-01	1.4E+00	2.4E+01	5.2E-01	2.7E+01	4.6E+01	1.3E+04	1.7E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.5E+06	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	8.4E-01	1.4E+00	1.6E+01	5.1E-01	2.7E+01	4.6E+01	8.5E+03	1.7E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.5E+06	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	8.4E-01	1.4E+00	1.7E+01	5.1E-01	2.7E+01	4.6E+01	9.0E+03	1.7E+01
3.9E+03	E	1.1E+00	E	2.3E-08	E	1.3E-06	E	V		1	0.14		1.4E+09	2.2E+06	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	8.4E-04	1.4E-03	2.4E-02	5.2E-04	2.7E-02	4.6E-02	1.3E+01	1.7E-02
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.0E+06	~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	8.4E-01	1.4E+00	1.1E+01	5.0E-01	2.7E+01	4.6E+01	6.0E+03	1.7E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	8.3E+05	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	8.4E-01	1.4E+00	8.9E+00	5.0E-01	2.7E+01	4.6E+01	4.8E+03	1.7E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	8.5E+05	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	8.4E-01	1.4E+00	9.1E+00	5.0E-01	2.7E+01	4.6E+01	4.9E+03	1.7E+01
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		1	0.14		1.4E+09	1.5E+06	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	8.4E-01	1.4E+00	1.6E+01	5.1E-01	2.7E+01	4.6E+01	8.6E+03	1.7E+01
1.3E+04	E	3.8E+00	E	7.0E-09	E	4.0E-07	E	V		1	0.14		1.4E+09	1.0E+06	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	2.5E-04	4.2E-04	3.3E-03	1.5E-04	8.2E-03	1.4E-02	1.8E+00	5.1E-03
2.0E+00	I	5.7E-04	I					V		1	0.14		1.4E+09	5.3E+05	~Polychlorinated Biphenyls (high risk)	1336-36-3	1.6E+00	2.8E+00	1.1E+01	9.4E-01				
4.0E-01	I	1.0E-04	I					V		1	0.14				~Polychlorinated Biphenyls (low risk)	1336-36-3								
7.0E-02	I	2.0E-05	I					V		1	0.14				~Polychlorinated Biphenyls (lowest risk)	1336-36-3								
1.3E+01	E	3.8E-03	E	7.0E-06	E	4.0E-04	E			1	0.14		1.4E+09		~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	2.5E-01	4.2E-01	4.4E+03	1.6E-01	8.2E+00	1.4E+01	2.4E+06	5.1E+00
3.9E+01	E	1.1E-02	E	2.3E-06	E	1.3E-04	E	V		1	0.14		1.4E+09	7.3E+05	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	8.4E-02	1.4E-01	7.8E-01	4.9E-02	2.7E+00	4.6E+00	4.2E+02	1.7E+00
						6.0E-04	I			1	0.1		1.4E+09		Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9							3.6E+06	3.6E+06
															Polynuclear Aromatic Hydrocarbons (PAHs)									
				6.0E-02	I			V		1	0.13		1.4E+09	1.4E+05	~Acenaphthene	83-32-9					7.0E+04	1.3E+05		4.5E+04
				3.0E-01	I			V		1	0.13		1.4E+09	5.2E+05	~Anthracene	120-12-7					3.5E+05	6.4E+05		2.3E+05
7.3E-01	E	1.1E-04	C					V	M	1	0.13		1.4E+09	4.4E+06	~Benz[a]anthracene	56-55-3	4.5E+00	8.1E+00	4.9E+02	2.9E+00				
1.2E+00	C	1.1E-04	C							1	0.13		1.4E+09		~Benzo(j)fluoranthene	205-82-3	2.7E+00	5.0E+00	1.5E+05	1.8E+00				
7.3E+00	I	1.1E-03	C						M	1	0.13		1.4E+09		~Benzo[a]pyrene	50-32-8	4.5E-01	8.1E-01	1.5E+04	2.9E-01				
7.3E-01	E	1.1E-04	C						M	1	0.13		1.4E+09		~Benzo[b]fluoranthene	205-99-2	4.5E+00	8.1E+00	1.5E+05	2.9E+00				
7.3E-02	E	1.1E-04	C						M	1	0.13		1.4E+09		~Benzo[k]fluoranthene	207-08-9	4.5E+01	8.1E+01	1.5E+05	2.9E+01				
				8.0E-02	I			V		1	0.13		1.4E+09	8.0E+04	~Chloronaphthalene, Beta-	91-58-7					9.3E+04	1.7E+05		6.0E+04
7.3E-03	E	1.1E-05	C						M	1	0.13		1.4E+09		~Chrysene	218-01-9	4.5E+02	8.1E+02	1.5E+06	2.9E+02				
7.3E+00	E	1.2E-03	C						M	1	0.13		1.4E+09		~Dibenz[a,h]anthracene	53-70-3	4.5E-01	8.1E-01	1.4E+04	2.9E-01				
1.2E+01	C	1.1E-03	C							1	0.13		1.4E+09		~Dibenzo(a,e)pyrene	192-65-4	2.7E-01	5.0E-01	1.5E+04	1.8E-01				
2.5E+02	C	7.1E-02	C						M	1	0.13		1.4E+09		~Dimethylbenz(a)anthracene, 7,12-	57-97-6	1.3E-02	2.4E-02	2.3E+02	8.4E-03				
				4.0E-02	I					1	0.13		1.4E+09		~Fluoranthene	206-44-0					4.7E+04	8.5E+04		3.0E+04
				4.0E-02	I			V		1	0.13		1.4E+09	2.8E+05	~Fluorene	86-73-7					4.7E+04	8.5E+04		3.0E+04
7.3E-01	E	1.1E-04	C						M	1	0.13		1.4E+09		~Indeno[1,2,3-cd]pyrene	193-39-5	4.5E+00	8.1E+00	1.5E+05	2.9E+00				
2.9E-02	P			7.0E-02	A			V		1	0.13	3.9E+02	1.4E+09	5.9E+04	~Methylnaphthalene, 1-	90-12-0	1.1E+02	2.0E+02		7.3E+01	8.2E+04	1.5E+05		5.3E+04
				4.0E-03	I			V		1	0.13		1.4E+09	5.8E+04	~Methylnaphthalene, 2-	91-57-6					4.7E+03	8.5E+03		3.0E+03
		3.4E-05	C	2.0E-02	I	3.0E-03	I	V		1	0.13		1.4E+09	4.6E+04	~Naphthalene	91-20-3			1.7E+01	1.7E+01	2.3E+04	4.2E+04	6.1E+02	5.9E+02
1.2E+00	C	1.1E-04	C							1	0.13		1.4E+09		~Nitropyrene, 4-	57835-92-4	2.7E+00	5.0E+00	1.5E+05	1.8E+00				
				3.0E-02	I			V		1	0.13		1.4E+09	2.4E+06	~Pyrene	129-00-0					3.5E+04	6.4E+04		2.3E+04
				2.0E-02	P					1	0.1		1.4E+09		Potassium Perfluorobutane Sulfonate	29420-49-3					2.3E+04	5.5E+04		1.6E+04
1.5E-01	I			9.0E-03	I					1	0.1		1.4E+09		Prochloraz	67747-09-5	2.2E+01	5.2E+01		1.5E+01	1.1E+04	2.5E+04		7.4E+03
				6.0E-03	H			V		1			1.4E+09	4.2E+05	Profluralin	26399-36-0					7.0E+03			7.0E+03
				1.5E-02	I					1	0.1		1.4E+09		Prometon	1610-18-0					1.8E+04	4.1E+04		1.2E+04
				4.0E-03	I					1	0.1		1.4E+09		Prometryn	7287-19-6					4.7E+03	1.1E+04		3.3E+03
				1.3E-02	I					1	0.1		1.4E+09		Propachlor	1918-16-7					1.5E+04	3.6E+04		1.1E+04

DO NOT USE

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				4.0E-03	I					1	0.1		1.4E+09		Propanediol, 1,2-	114-26-1					4.7E+03	1.1E+04		3.3E+03
				5.0E-03	I					1	0.1		1.4E+09		Propanil	709-98-8					5.8E+03	1.4E+04		4.1E+03
				2.0E-02	I					1	0.1		1.4E+09		Propargite	2312-35-8					2.3E+04	5.5E+04		1.6E+04
				2.0E-03	I			V		1		1.1E+05	1.4E+09	6.3E+04	Propargyl Alcohol	107-19-7					2.3E+03			2.3E+03
				2.0E-02	I					1	0.1		1.4E+09		Propazine	139-40-2					2.3E+04	5.5E+04		1.6E+04
				2.0E-02	I					1	0.1		1.4E+09		Propham	122-42-9					2.3E+04	5.5E+04		1.6E+04
				1.3E-02	I					1	0.1		1.4E+09		Propiconazole	60207-90-1					1.5E+04	3.6E+04		1.1E+04
						8.0E-03	I	V		1		3.3E+04	1.4E+09	8.9E+03	Propionaldehyde	123-38-6							3.1E+02	3.1E+02
				1.0E-01	X	1.0E+00	X	V		1		2.6E+02	1.4E+09	7.0E+03	Propyl benzene	103-65-1					1.2E+05		3.1E+04	2.4E+04
						3.0E+00	C	V		1		3.5E+02	1.4E+09	7.0E+02	Propylene	115-07-1							9.3E+03	9.3E+03
				2.0E+01	P					1	0.1		1.4E+09		Propylene Glycol	57-55-6					2.3E+07	5.5E+07		1.6E+07
						2.7E-04	A			1	0.1		1.4E+09		Propylene Glycol Dinitrate	6423-43-4							1.6E+06	1.6E+06
				7.0E-01	H	2.0E+00	I	V		1		1.1E+05	1.4E+09	7.8E+04	Propylene Glycol Monomethyl Ether	107-98-2					8.2E+05		6.9E+05	3.7E+05
2.4E-01	I	3.7E-06	I			3.0E-02	I	V		1		7.8E+04	1.4E+09	1.0E+04	Propylene Oxide	75-56-9	1.4E+01		3.4E+01	9.7E+00			1.4E+03	1.4E+03
				7.5E-02	I					1	0.1		1.4E+09		Propyzamide	23950-58-5					8.8E+04	2.1E+05		6.2E+04
				1.0E-03	I			V		1		5.3E+05	1.4E+09	5.5E+04	Pyridine	110-86-1					1.2E+03			1.2E+03
				5.0E-04	I					1	0.1		1.4E+09		Quinalphos	13593-03-8					5.8E+02	1.4E+03		4.1E+02
3.0E+00	I									1	0.1		1.4E+09		Quinoline	91-22-5	1.1E+00	2.6E+00		7.7E-01				
				9.0E-03	I					1	0.1		1.4E+09		Quizalofop-ethyl	76578-14-8					1.1E+04	2.5E+04		7.4E+03
						3.0E-02	A			1			1.4E+09		Refractory Ceramic Fibers	NA							1.8E+08	1.8E+08
				3.0E-02	I					1	0.1		1.4E+09		Resmethrin	10453-86-8					3.5E+04	8.3E+04		2.5E+04
				5.0E-02	H			V		1			1.4E+09	4.7E+05	Ronnel	299-84-3					5.8E+04			5.8E+04
				4.0E-03	I					1	0.1		1.4E+09		Rotenone	83-79-4					4.7E+03	1.1E+04		3.3E+03
2.2E-01	C	6.3E-05	C						M	1	0.1		1.4E+09		Safrole	94-59-7	1.5E+01	3.5E+01	2.6E+05	1.0E+01				
				5.0E-03	I					1			1.4E+09		Selenious Acid	7783-00-8					5.8E+03			5.8E+03
				5.0E-03	I	2.0E-02	C			1			1.4E+09		Selenium	7782-49-2					5.8E+03		1.2E+08	5.8E+03
				5.0E-03	C	2.0E-02	C			1			1.4E+09		Selenium Sulfide	7446-34-6					5.8E+03		1.2E+08	5.8E+03
				9.0E-02	I					1	0.1		1.4E+09		Sethoxydim	74051-80-2					1.1E+05	2.5E+05		7.4E+04
						3.0E-03	C			1			1.4E+09		Silica (crystalline, respirable)	7631-86-9							1.8E+07	1.8E+07
				5.0E-03	I					0.04			1.4E+09		Silver	7440-22-4					5.8E+03			5.8E+03
1.2E-01	H			5.0E-03	I					1	0.1		1.4E+09		Simazine	122-34-9	2.7E+01	6.4E+01		1.9E+01	5.8E+03	1.4E+04		4.1E+03
				1.3E-02	I					1	0.1		1.4E+09		Sodium Acifluorfen	62476-59-9					1.5E+04	3.6E+04		1.1E+04
				4.0E-03	I					1			1.4E+09		Sodium Azide	26628-22-8					4.7E+03			4.7E+03
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Sodium Dichromate	10588-01-9	6.5E+00		1.1E+02	6.2E+00	2.3E+04		1.2E+06	2.3E+04
2.7E-01	H			3.0E-02	I					1	0.1		1.4E+09		Sodium Diethyldithiocarbamate	148-18-5	1.2E+01	2.9E+01		8.5E+00	3.5E+04	8.3E+04		2.5E+04
				5.0E-02	A	1.3E-02	C			1			1.4E+09		Sodium Fluoride	7681-49-4					5.8E+04		7.7E+07	5.8E+04
				2.0E-05	I					1	0.1		1.4E+09		Sodium Fluoroacetate	62-74-8					2.3E+01	5.5E+01		1.6E+01
				1.0E-03	H					1			1.4E+09		Sodium Metavanadate	18718-26-8					1.2E+03			1.2E+03
				8.0E-04	P					1			1.4E+09		Sodium Tungstate	13472-45-2					9.3E+02			9.3E+02
				8.0E-04	P					1			1.4E+09		Sodium Tungstate Dihydrate	10213-10-2					9.3E+02			9.3E+02
2.4E-02	H			3.0E-02	I					1	0.1		1.4E+09		Stirofos (Tetrachlorovinphos)	961-11-5	1.4E+02	3.2E+02		9.6E+01	3.5E+04	8.3E+04		2.5E+04
5.0E-01	C	1.5E-01	C	2.0E-02	C	2.0E-04	C		M	0.025			1.4E+09		Strontium Chromate	7789-06-2	6.5E+00		1.1E+02	6.2E+00	2.3E+04		1.2E+06	2.3E+04
				6.0E-01	I					1			1.4E+09		Strontium, Stable	7440-24-6					7.0E+05			7.0E+05
				3.0E-04	I					1	0.1		1.4E+09		Strychnine	57-24-9					3.5E+02	8.3E+02		2.5E+02
				2.0E-01	I	1.0E+00	I	V		1		8.7E+02	1.4E+09	9.4E+03	Styrene	100-42-5					2.3E+05		4.1E+04	3.5E+04
				3.0E-03	P					1	0.1		1.4E+09		Styrene-Acrylonitrile (SAN) Trimer	NA					3.5E+03	8.3E+03		2.5E+03
				1.0E-03	P	2.0E-03	X			1	0.1		1.4E+09		Sulfolane	126-33-0					1.2E+03	2.8E+03	1.2E+07	8.2E+02
				8.0E-04	P					1	0.1		1.4E+09		Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9					9.3E+02	2.2E+03		6.6E+02
						1.0E-03	C	V		1			1.4E+09		Sulfur Trioxide	7446-11-9							6.0E+06	6.0E+06
						1.0E-03	C			1			1.4E+09		Sulfuric Acid	7664-93-9							6.0E+06	6.0E+06
2.5E-02	I	7.1E-06	I	5.0E-02	H					1	0.1		1.4E+09		Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	1.3E+02	3.1E+02	2.3E+06	9.2E+01	5.8E+04	1.4E+05		4.1E+04
				3.0E-02	H					1	0.1		1.4E+09		TCMTB	21564-17-0					3.5E+04	8.3E+04		2.5E+04
				7.0E-02	I					1	0.1		1.4E+09		Tebuthiuron	34014-18-1					8.2E+04	1.9E+05		5.7E+04
				2.0E-02	H					1	0.1		1.4E+09		Temephos	3383-96-8					2.3E+04	5.5E+04		1.6E+04
				1.3E-02	I					1	0.1		1.4E+09		Terbacil	5902-51-2					1.5E+04	3.6E+04		1.1E+04
				2.5E-05	H			V		1		3.1E+01	1.4E+09	2.6E+05	Terbufos	13071-79-9					2.9E+01			2.9E+01
				1.0E-03	I					1	0.1		1.4E+09		Terbutryn	886-50-0					1.2E+03	2.8E+03		8.2E+02
				1.0E-04	I					1	0.1		1.4E+09		Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1					1.2E+02	2.8E+02		8.2E+01
				3.0E-04	I			V		1			1.4E+09	5.1E+04	Tetrachlorobenzene, 1,2,4,5-	95-94-3					3.5E+02			3.5E+02
2.6E-02	I	7.4E-06	I	3.0E-02	I			V		1		6.8E+02	1.4E+09	5.7E+03	Tetrachloroethane, 1,1,1,2-	630-20-6	1.3E+02		9.4E+00	8.8E+00	3.5E+04			3.5E+04
2.0E-01	I	5.8E-05	C	2.0E-02	I			V		1		1.9E+03	1.4E+09	1.5E+04	Tetrachloroethane, 1,1,2,2-	79-34-5	1.6E+01		3.2E+00	2.7E+00	2.3E+04			2.3E+04
2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		1		1.7E+02	1.4E+09	2.4E+03	Tetrachloroethylene	127-18-4	1.6E+03		1.1E+02	1.0E+02	7.0E+03		4.1E+02	3.9E+02
				3.0E-02	I					1	0.1		1.4E+09		Tetrachlorophenol, 2,3,4,6-	58-90-2					3.5E+04	8.3E+04		2.5E+04
2.0E+01	H							V		1			1.4E+09	1.1E+05	Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	1.6E-01			1.6E-01				
				5.0E-04	I					1	0.1		1.4E+09		Tetraethyl Dithiopyrophosphate	3689-24-5					5.8E+02	1.4E+03		4.1E+02

TR=1E-0
THQ=1.0

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Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
						8.0E-01	I	V		1		2.1E+03	1.4E+09	1.2E+03	Tetrafluoroethane, 1,1,1,2-	811-97-2							4.3E+05	4.3E+05
				2.0E-03	P					1	0.0007		1.4E+09		Tetryl (Trinitrophenylmethylnitramine)	479-45-8					2.3E+03	8.5E+05		2.3E+03
				7.0E-06	X					1			1.4E+09		Thallium (I) Nitrate	10102-45-1					8.2E+00			8.2E+00
				1.0E-05	X					1			1.4E+09		Thallium (Soluble Salts)	7440-28-0					1.2E+01			1.2E+01
				6.0E-06	X			V		1			1.4E+09		Thallium Acetate	563-68-8					7.0E+00			7.0E+00
				2.0E-05	X			V		1			1.4E+09		Thallium Carbonate	6533-73-9					2.3E+01			2.3E+01
				6.0E-06	X					1			1.4E+09		Thallium Chloride	7791-12-0					7.0E+00			7.0E+00
				2.0E-05	X					1			1.4E+09		Thallium Sulfate	7446-18-6					2.3E+01			2.3E+01
				1.3E-02	I					1	0.1		1.4E+09		Thifensulfuron-methyl	79277-27-3					1.5E+04	3.6E+04		1.1E+04
				1.0E-02	I					1	0.1		1.4E+09		Thiobencarb	28249-77-6					1.2E+04	2.8E+04		8.2E+03
				7.0E-02	X					1	0.0075		1.4E+09		Thiodiglycol	111-48-8					8.2E+04	2.6E+06		7.9E+04
				3.0E-04	H					1	0.1		1.4E+09		Thiofanox	39196-18-4					3.5E+02	8.3E+02		2.5E+02
				8.0E-02	I					1	0.1		1.4E+09		Thiophanate, Methyl	23564-05-8					9.3E+04	2.2E+05		6.6E+04
				5.0E-03	I					1	0.1		1.4E+09		Thiram	137-26-8					5.8E+03	1.4E+04		4.1E+03
				6.0E-01	H					1			1.4E+09		Tin	7440-31-5					7.0E+05			7.0E+05
						1.0E-04	A	V		1			1.4E+09		Titanium Tetrachloride	7550-45-0							6.0E+05	6.0E+05
				8.0E-02	I	5.0E+00	I	V		1		8.2E+02	1.4E+09	4.3E+03	Toluene	108-88-3					9.3E+04		9.4E+04	4.7E+04
1.8E-01	X			2.0E-04	X					1	0.1		1.4E+09		Toluene-2,5-diamine	95-70-5	1.8E+01	4.3E+01		1.3E+01	2.3E+02	5.5E+02		1.6E+02
3.0E-02	P			4.0E-03	X					1	0.1		1.4E+09		Toluidine, p-	106-49-0	1.1E+02	2.6E+02		7.7E+01	4.7E+03	1.1E+04		3.3E+03
				3.0E+00	P			V		1		3.4E-01	1.4E+09	1.1E+03	Total Petroleum Hydrocarbons (Aliphatic High)	NA					3.5E+06			3.5E+06
						6.0E-01	P	V		1		1.4E+02	1.4E+09	8.3E+02	Total Petroleum Hydrocarbons (Aliphatic Low)	NA							2.2E+03	2.2E+03
				1.0E-02	X	1.0E-01	P	V		1		6.9E+00	1.4E+09	1.0E+03	Total Petroleum Hydrocarbons (Aliphatic Medium)	NA					1.2E+04		4.6E+02	4.4E+02
				4.0E-02	P					1	0.1		1.4E+09		Total Petroleum Hydrocarbons (Aromatic High)	NA					4.7E+04	1.1E+05		3.3E+04
				4.0E-03	P	3.0E-02	P	V		1		1.8E+03	1.4E+09	3.5E+03	Total Petroleum Hydrocarbons (Aromatic Low)	NA					4.7E+03		4.6E+02	4.2E+02
				4.0E-03	P	3.0E-03	P	V		1			1.4E+09	5.2E+04	Total Petroleum Hydrocarbons (Aromatic Medium)	NA					4.7E+03		6.9E+02	6.0E+02
1.1E+00	I	3.2E-04	I							1	0.1		1.4E+09		Toxaphene	8001-35-2	3.0E+00	7.0E+00	5.2E+04	2.1E+00				
				7.5E-03	I					1	0.1		1.4E+09		Tralomethrin	66841-25-6					8.8E+03	2.1E+04		6.2E+03
				3.0E-04	A			V		1			1.4E+09	3.4E+03	Tri-n-butyltin	688-73-3					3.5E+02			3.5E+02
				8.0E+01	X					1	0.1		1.4E+09		Triacetin	102-76-1					9.3E+07	2.2E+08		6.6E+07
				3.0E-02	I					1	0.1		1.4E+09		Triadimefon	43121-43-3					3.5E+04	8.3E+04		2.5E+04
				1.3E-02	I			V		1			1.4E+09	3.6E+05	Triallate	2303-17-5					1.5E+04			1.5E+04
				1.0E-02	I					1	0.1		1.4E+09		Triasulfuron	82097-50-5					1.2E+04	2.8E+04		8.2E+03
				8.0E-03	I					1	0.1		1.4E+09		Tribenuron-methyl	101200-48-0					9.3E+03	2.2E+04		6.6E+03
				5.0E-03	I			V		1			1.4E+09	4.8E+04	Tribromobenzene, 1,2,4-	615-54-3					5.8E+03			5.8E+03
9.0E-03	P			1.0E-02	P					1	0.1		1.4E+09		Tributyl Phosphate	126-73-8	3.6E+02	8.6E+02		2.6E+02	1.2E+04	2.8E+04		8.2E+03
				3.0E-04	P					1	0.1		1.4E+09		Tributyltin Compounds	NA					3.5E+02	8.3E+02		2.5E+02
				3.0E-04	I					1	0.1		1.4E+09		Tributyltin Oxide	56-35-9					3.5E+02	8.3E+02		2.5E+02
				3.0E+01	I	3.0E+01	H	V		1		9.1E+02	1.4E+09	1.3E+03	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1					3.5E+07		1.7E+05	1.7E+05
7.0E-02	I			2.0E-02	I					1	0.1		1.4E+09		Trichloroacetic Acid	76-03-9	4.7E+01	1.1E+02		3.3E+01	2.3E+04	5.5E+04		1.6E+04
2.9E-02	H									1	0.1		1.4E+09		Trichloroaniline HCl, 2,4,6-	33663-50-2	1.1E+02	2.7E+02		7.9E+01				
7.0E-03	X			3.0E-05	X					1	0.1		1.4E+09		Trichloroaniline, 2,4,6-	634-93-5	4.7E+02	1.1E+03		3.3E+02	3.5E+01	8.3E+01		2.5E+01
				8.0E-04	X			V		1			1.4E+09	3.2E+04	Trichlorobenzene, 1,2,3-	87-61-6					9.3E+02			9.3E+02
2.9E-02	P			1.0E-02	I	2.0E-03	P	V		1		4.0E+02	1.4E+09	3.0E+04	Trichlorobenzene, 1,2,4-	120-82-1	1.1E+02			1.1E+02	1.2E+04		2.6E+02	2.6E+02
				2.0E+00	I	5.0E+00	I	V		1		6.4E+02	1.4E+09	1.7E+03	Trichloroethane, 1,1,1-	71-55-6					2.3E+06		3.6E+04	3.6E+04
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V		1		2.2E+03	1.4E+09	7.2E+03	Trichloroethane, 1,1,2	79-00-5	5.7E+01		5.5E+00	5.0E+00	4.7E+03		6.3E+00	6.3E+00
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M	1		6.9E+02	1.4E+09	2.2E+03	Trichloroethylene	79-01-6	7.1E+01		6.6E+00	6.0E+00	5.8E+02		1.9E+01	1.9E+01
				3.0E-01	I			V		1		1.2E+03	1.4E+09	1.0E+03	Trichlorofluoromethane	75-69-4					3.5E+05			3.5E+05
				1.0E-01	I					1	0.1		1.4E+09		Trichlorophenol, 2,4,5-	95-95-4					1.2E+05	2.8E+05		8.2E+04
1.1E-02	I	3.1E-06	I	1.0E-03	P					1	0.1		1.4E+09		Trichlorophenol, 2,4,6-	88-06-2	3.0E+02	7.0E+02	5.4E+06	2.1E+02	1.2E+03	2.8E+03		8.2E+02
				1.0E-02	I					1	0.1		1.4E+09		Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5					1.2E+04	2.8E+04		8.2E+03
				8.0E-03	I					1	0.1		1.4E+09		Trichlorophenoxypropionic acid, -2,4,5	93-72-1					9.3E+03	2.2E+04		6.6E+03
				5.0E-03	I			V		1		1.3E+03	1.4E+09	1.5E+04	Trichloropropane, 1,1,2-	598-77-6					5.8E+03			5.8E+03
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M	1		1.4E+03	1.4E+09	1.6E+04	Trichloropropane, 1,2,3-	96-18-4	1.1E-01			1.1E-01	4.7E+03		2.1E+01	2.1E+01
				3.0E-03	X	3.0E-04	P	V		1		3.1E+02	1.4E+09	2.3E+03	Trichloropropene, 1,2,3-	96-19-5					3.5E+03		3.1E+00	3.1E+00
				2.0E-02	A					1	0.1		1.4E+09		Tricresyl Phosphate (TCP)	1330-78-5					2.3E+04	5.5E+04		1.6E+04
				3.0E-03	I					1	0.1		1.4E+09		Tridiphane	58138-08-2					3.5E+03	8.3E+03		2.5E+03
						7.0E-03	I	V		1		2.8E+04	1.4E+09	1.6E+04	Triethylamine	121-44-8							4.8E+02	4.8E+02
				2.0E+00	P					1	0.1		1.4E+09		Triethylene Glycol	112-27-6					2.3E+06	5.5E+06		1.6E+06
						2.0E+01	P	V		1		4.8E+03	1.4E+09	7.1E+02	Trifluoroethane, 1,1,1-	420-46-2							6.2E+04	6.2E+04
7.7E-03	I			7.5E-03	I			V		1			1.4E+09	5.1E+05	Trifluralin	1582-09-8	4.2E+02			4.2E+02	8.8E+03			8.8E+03
2.0E-02	P			1.0E-02	P					1	0.1		1.4E+09		Trimethyl Phosphate	512-56-1	1.6E+02	3.9E+02		1.1E+02	1.2E+04	2.8E+04		8.2E+03
						5.0E-03	P	V		1		2.9E+02	1.4E+09	9.4E+03	Trimethylbenzene, 1,2,3-	526-73-8							2.1E+02	2.1E+02
						7.0E-03	P	V		1		2.2E+02	1.4E+09	7.9E+03	Trimethylbenzene, 1,2,4-	95-63-6							2.4E+02	2.4E+02
				1.0E-02	X			V		1		1.8E+02	1.4E+09	6.6E+03	Trimethylbenzene, 1,3,5-	108-67-8					1.2E+04			1.2E+04
				1.0E-02	X			V		1		3.0E+01	1.4E+09	1.0E+03	Trimethylpentene, 2,4,4-	25167-70-8					1.2E+04			1.2E+04

TR=1E-06
HQ=1

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; O = EPA Office of Water; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Hazard Index (HI) = 1			
SFO (mg/kg-day)$^{-1}$	key	IUR ($\mu g/m^3$)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	GIABS	ABS	C_{sat} (mg/kg)	PEF (m^3/kg)	VF (m^3/kg)	Analyte	CAS No.	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)
				3.0E-02	I					1	0.019		1.4E+09		Trinitrobenzene, 1,3,5-	99-35-4					3.5E+04	4.4E+05		3.2E+04
3.0E-02	I			5.0E-04	I					1	0.032		1.4E+09		Trinitrotoluene, 2,4,6-	118-96-7	1.1E+02	8.0E+02		9.6E+01	5.8E+02	4.3E+03		5.1E+02
				2.0E-02	P					1	0.1		1.4E+09		Triphenylphosphine Oxide	791-28-6					2.3E+04	5.5E+04		1.6E+04
				2.0E-02	A					1	0.1		1.4E+09		Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8					2.3E+04	5.5E+04		1.6E+04
				1.0E-02	X					1	0.1		1.4E+09		Tris(1-chloro-2-propyl)phosphate	13674-84-5					1.2E+04	2.8E+04		8.2E+03
2.3E+00	C	6.6E-04	C					V		1		4.7E+02	1.4E+09	9.0E+05	Tris(2,3-dibromopropyl)phosphate	126-72-7	1.4E+00		1.7E+01	1.3E+00				
2.0E-02	P			7.0E-03	P					1	0.1		1.4E+09		Tris(2-chloroethyl)phosphate	115-96-8	1.6E+02	3.9E+02		1.1E+02	8.2E+03	1.9E+04		5.7E+03
3.2E-03	P			1.0E-01	P					1	0.1		1.4E+09		Tris(2-ethylhexyl)phosphate	78-42-2	1.0E+03	2.4E+03		7.2E+02	1.2E+05	2.8E+05		8.2E+04
				8.0E-04	P					1			1.4E+09		Tungsten	7440-33-7					9.3E+02			9.3E+02
				3.0E-03	I	4.0E-05	A			1			1.4E+09		Uranium (Soluble Salts)	NA					3.5E+03		2.4E+05	3.5E+03
1.0E+00	C	2.9E-04	C						M	1	0.1		1.4E+09		Urethane	51-79-6	3.3E+00	7.7E+00	5.7E+04	2.3E+00				
		8.3E-03	P	9.0E-03	I	7.0E-06	P			0.026			1.4E+09		Vanadium Pentoxide	1314-62-1			2.0E+03	2.0E+03	1.1E+04		4.2E+04	8.4E+03
				5.0E-03	S	1.0E-04	A			0.026			1.4E+09		Vanadium and Compounds	7440-62-2					5.9E+03		6.0E+05	5.8E+03
				1.0E-03	I			V		1			1.4E+09	1.2E+05	Vernolate	1929-77-7					1.2E+03			1.2E+03
				2.5E-02	I					1	0.1		1.4E+09		Vinclozolin	50471-44-8					2.9E+04	6.9E+04		2.1E+04
				1.0E+00	H	2.0E-01	I	V		1		2.8E+03	1.4E+09	4.4E+03	Vinyl Acetate	108-05-4					1.2E+06		3.9E+03	3.8E+03
		3.2E-05	H			3.0E-03	I	V		1		2.5E+03	1.4E+09	1.4E+03	Vinyl Bromide	593-60-2			5.2E-01	5.2E-01			1.8E+01	1.8E+01
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M	1		3.9E+03	1.4E+09	9.6E+02	Vinyl Chloride	75-01-4	4.5E+00		2.7E+00	1.7E+00	3.5E+03		4.2E+02	3.7E+02
				3.0E-04	I					1	0.1		1.4E+09		Warfarin	81-81-2					3.5E+02	8.3E+02		2.5E+02
				2.0E-01	S	1.0E-01	S	V		1		3.9E+02	1.4E+09	5.6E+03	Xylene, P-	106-42-3					2.3E+05		2.4E+03	2.4E+03
				2.0E-01	S	1.0E-01	S	V		1		3.9E+02	1.4E+09	5.5E+03	Xylene, m-	108-38-3					2.3E+05		2.4E+03	2.4E+03
				2.0E-01	S	1.0E-01	S	V		1		4.3E+02	1.4E+09	6.5E+03	Xylene, o-	95-47-6					2.3E+05		2.8E+03	2.8E+03
				2.0E-01	I	1.0E-01	I	V		1		2.6E+02	1.4E+09	5.7E+03	Xylenes	1330-20-7					2.3E+05		2.5E+03	2.5E+03
				3.0E-04	I					1			1.4E+09		Zinc Phosphide	1314-84-7					3.5E+02			3.5E+02
				3.0E-01	I					1			1.4E+09		Zinc and Compounds	7440-66-6					3.5E+05			3.5E+05
				5.0E-02	I					1	0.1		1.4E+09		Zineb	12122-67-7					5.8E+04	1.4E+05		4.1E+04
				8.0E-05	X					1			1.4E+09		Zirconium	7440-67-7					9.3E+01			9.3E+01

THR=1E-06
THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR $(ug/m^3)^{-1}$	key	RfC_i (mg/m^3)	key	vol	muta-gen		Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 $(\mu g/m^3)$
							Acephate	30560-19-1		
2.2E-06	I	9.0E-03	I	V			Acetaldehyde	75-07-0	5.6E+00	3.9E+01
							Acetochlor	34256-82-1		
		3.1E+01	A	V			Acetone	67-64-1		1.4E+05
		2.0E-03	X				Acetone Cyanohydrin	75-86-5		8.8E+00
		6.0E-02	I	V			Acetonitrile	75-05-8		2.6E+02
				V			Acetophenone	98-86-2		
1.3E-03	C						Acetylaminofluorene, 2-	53-96-3	9.4E-03	
		2.0E-05	I	V			Acrolein	107-02-8		8.8E-02
1.0E-04	I	6.0E-03	I		M		Acrylamide	79-06-1	1.2E-01	2.6E+01
		1.0E-03	I	V			Acrylic Acid	79-10-7		4.4E+00
6.8E-05	I	2.0E-03	I	V			Acrylonitrile	107-13-1	1.8E-01	8.8E+00
		6.0E-03	P				Adiponitrile	111-69-3		2.6E+01
							Alachlor	15972-60-8		
							Aldicarb	116-06-3		
							Aldicarb Sulfone	1646-88-4		
							Aldicarb sulfoxide	1646-87-3		
4.9E-03	I			V			Aldrin	309-00-2	2.5E-03	
		1.0E-04	X	V			Allyl Alcohol	107-18-6		4.4E-01
6.0E-06	C	1.0E-03	I	V			Allyl Chloride	107-05-1	2.0E+00	4.4E+00
		5.0E-03	P				Aluminum	7429-90-5		2.2E+01
							Aluminum Phosphide	20859-73-8		
							Ametryn	834-12-8		
6.0E-03	C						Aminobiphenyl, 4-	92-67-1	2.0E-03	
							Aminophenol, m-	591-27-5		
							Aminophenol, p-	123-30-8		
							Amitraz	33089-61-1		
		1.0E-01	I	V			Ammonia	7664-41-7		4.4E+02
							Ammonium Sulfamate	7773-06-0		
		3.0E-03	X	V			Amyl Alcohol, tert-	75-85-4		1.3E+01
1.6E-06	C	1.0E-03	I				Aniline	62-53-3	7.7E+00	4.4E+00
							Anthraquinone, 9,10-	84-65-1		
							Antimony (metallic)	7440-36-0		
							Antimony Pentoxide	1314-60-9		
							Antimony Tetroxide	1332-81-6		
		2.0E-04	I				Antimony Trioxide	1309-64-4		8.8E-01
4.3E-03	I	1.5E-05	C				Arsenic, Inorganic	7440-38-2	2.9E-03	6.6E-02
		5.0E-05	I				Arsine	7784-42-1		2.2E-01
							Asulam	3337-71-1		
							Atrazine	1912-24-9		
2.5E-04	C						Auramine	492-80-8	4.9E-02	
							Avermectin B1	65195-55-3		
		1.0E-02	A				Azinphos-methyl	86-50-0		4.4E+01
3.1E-05	I			V			Azobenzene	103-33-3	4.0E-01	
		7.0E-06	P				Azodicarbonamide	123-77-3		3.1E-02
		5.0E-04	H				Barium	7440-39-3		2.2E+00
1.5E-01	C	2.0E-04	C		M		Barium Chromate	10294-40-3	8.2E-05	8.8E-01
				V			Benfluralin	1861-40-1		
							Benomyl	17804-35-2		
							Bensulfuron-methyl	83055-99-6		
							Bentazon	25057-89-0		
				V			Benzaldehyde	100-52-7		
7.8E-06	I	3.0E-02	I	V			Benzene	71-43-2	1.6E+00	1.3E+02
							Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1		
				V			Benzenethiol	108-98-5		
6.7E-02	I				M		Benzidine	92-87-5	1.8E-04	
							Benzoic Acid	65-85-0		
				V			Benzotrichloride	98-07-7		
							Benzyl Alcohol	100-51-6		
4.9E-05	C	1.0E-03	P	V			Benzyl Chloride	100-44-7	2.5E-01	4.4E+00
2.4E-03	I	2.0E-05	I				Beryllium and compounds	7440-41-7	5.1E-03	8.8E-02
							Bifenox	42576-02-3		
							Biphenthrin	82657-04-3		
		4.0E-04	X	V			Biphenyl, 1,1'-	92-52-4		1.8E+00
				V			Bis(2-chloro-1-methylethyl) ether	108-60-1		
							Bis(2-chloroethoxy)methane	111-91-1		
3.3E-04	I			V			Bis(2-chloroethyl)ether	111-44-4	3.7E-02	
6.2E-02	I			V			Bis(chloromethyl)ether	542-88-1	2.0E-04	

TR=1E-0
THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen		Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
							Bisphenol A	80-05-7		
		2.0E-02	H				Boron And Borates Only	7440-42-8		8.8E+01
		2.0E-02	P	V			Boron Trichloride	10294-34-5		8.8E+01
		1.3E-02	C	V			Boron Trifluoride	7637-07-2		5.7E+01
							Bromate	15541-45-4		
6.0E-04	X			V			Bromo-2-chloroethane, 1-	107-04-0	2.0E-02	
		6.0E-02	I	V			Bromobenzene	108-86-1		2.6E+02
		4.0E-02	X	V			Bromochloromethane	74-97-5		1.8E+02
3.7E-05	C			V			Bromodichloromethane	75-27-4	3.3E-01	
1.1E-06	I			V			Bromoform	75-25-2	1.1E+01	
		5.0E-03	I	V			Bromomethane	74-83-9		2.2E+01
				V			Bromophos	2104-96-3		
							Bromoxynil	1689-84-5		
				V			Bromoxynil Octanoate	1689-99-2		
3.0E-05	I	2.0E-03	I	V			Butadiene, 1,3-	106-99-0	4.1E-01	8.8E+00
				V			Butanol, N-	71-36-3		
							Butyl Benzyl Phthalate	85-68-7		
		3.0E+01	P	V			Butyl alcohol, sec-	78-92-2		1.3E+05
				V			Butylate	2008-41-5		
5.7E-08	C						Butylated hydroxyanisole	25013-16-5	2.2E+02	
							Butylated hydroxytoluene	128-37-0		
				V			Butylbenzene, n-	104-51-8		
				V			Butylbenzene, sec-	135-98-8		
				V			Butylbenzene, tert-	98-06-6		
							Cacodylic Acid	75-60-5		
1.8E-03	I	1.0E-05	A				Cadmium (Diet)	7440-43-9		
1.8E-03	I	1.0E-05	A				Cadmium (Water)	7440-43-9	6.8E-03	4.4E-02
1.5E-01	C	2.0E-04	C		M		Calcium Chromate	13765-19-0	8.2E-05	8.8E-01
		2.2E-03	C				Caprolactam	105-60-2		9.6E+00
4.3E-05	C						Captafol	2425-06-1	2.9E-01	
6.6E-07	C						Captan	133-06-2	1.9E+01	
							Carbaryl	63-25-2		
							Carbofuran	1563-66-2		
		7.0E-01	I	V			Carbon Disulfide	75-15-0		3.1E+03
6.0E-06	I	1.0E-01	I	V			Carbon Tetrachloride	56-23-5	2.0E+00	4.4E+02
		1.0E-01	P	V			Carbonyl Sulfide	463-58-1		4.4E+02
							Carbosulfan	55285-14-8		
							Carboxin	5234-68-4		
		9.0E-04	I				Ceric oxide	1306-38-3		3.9E+00
				V			Chloral Hydrate	302-17-0		
							Chloramben	133-90-4		
							Chloranil	118-75-2		
1.0E-04	I	7.0E-04	I	V			Chlordane	12789-03-6	1.2E-01	3.1E+00
4.6E-03	C						Chlordecone (Kepone)	143-50-0	2.7E-03	
							Chlorfenvinphos	470-90-6		
							Chlorimuron, Ethyl-	90982-32-4		
		1.5E-04	A	V			Chlorine	7782-50-5		6.4E-01
		2.0E-04	I	V			Chlorine Dioxide	10049-04-4		8.8E-01
							Chlorite (Sodium Salt)	7758-19-2		
		5.0E+01	I	V			Chloro-1,1-difluoroethane, 1-	75-68-3		2.2E+05
3.0E-04	I	2.0E-02	I	V			Chloro-1,3-butadiene, 2-	126-99-8	4.1E-02	8.8E+01
							Chloro-2-methylaniline HCl, 4-	3165-93-3		
7.7E-05	C						Chloro-2-methylaniline, 4-	95-69-2	1.6E-01	
				V			Chloroacetaldehyde, 2-	107-20-0		
							Chloroacetic Acid	79-11-8		
		3.0E-05	I				Chloroacetophenone, 2-	532-27-4		1.3E-01
							Chloroaniline, p-	106-47-8		
		5.0E-02	P	V			Chlorobenzene	108-90-7		2.2E+02
3.1E-05	C						Chlorobenzilate	510-15-6	4.0E-01	
							Chlorobenzoic Acid, p-	74-11-3		
		3.0E-01	P	V			Chlorobenzotrifluoride, 4-	98-56-6		1.3E+03
				V			Chlorobutane, 1-	109-69-3		
		5.0E+01	I	V			Chlorodifluoromethane	75-45-6		2.2E+05
				V			Chloroethanol, 2-	107-07-3		
2.3E-05	I	9.8E-02	A	V			Chloroform	67-66-3	5.3E-01	4.3E+02
		9.0E-02	I	V			Chloromethane	74-87-3		3.9E+02
6.9E-04	C			V			Chloromethyl Methyl Ether	107-30-2	1.8E-02	
		1.0E-05	X				Chloronitrobenzene, o-	88-73-3		4.4E-02

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR $(ug/m^3)^{-1}$	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 $(\mu g/m^3)$
		6.0E-04	P			Chloronitrobenzene, p-	100-00-5		2.6E+00
				V		Chlorophenol, 2-	95-57-8		
		4.0E-04	C	V		Chloropicrin	76-06-2		1.8E+00
8.9E-07	C					Chlorothalonil	1897-45-6	1.4E+01	
				V		Chlorotoluene, o-	95-49-8		
				V		Chlorotoluene, p-	106-43-4		
6.9E-02	C					Chlorozotocin	54749-90-5	1.8E-04	
						Chlorpropham	101-21-3		
						Chlorpyrifos	2921-88-2		
						Chlorpyrifos Methyl	5598-13-0		
						Chlorsulfuron	64902-72-3		
						Chlorthal-dimethyl	1861-32-1		
						Chlorthiophos	60238-56-4		
						Chromium(III), Insoluble Salts	16065-83-1		
8.4E-02	S	1.0E-04	I		M	Chromium(VI)	18540-29-9	1.5E-04	4.4E-01
						Chromium, Total	7440-47-3		
						Clofentezine	74115-24-5		
9.0E-03	P	6.0E-06	P			Cobalt	7440-48-4	1.4E-03	2.6E-02
6.2E-04	I			V	M	Coke Oven Emissions	8007-45-2	2.0E-02	
						Copper	7440-50-8		
		6.0E-01	C			Cresol, m-	108-39-4		2.6E+03
		6.0E-01	C			Cresol, o-	95-48-7		2.6E+03
		6.0E-01	C			Cresol, p-	106-44-5		2.6E+03
						Cresol, p-chloro-m-	59-50-7		
		6.0E-01	C			Cresols	1319-77-3		2.6E+03
				V		Crotonaldehyde, trans-	123-73-9		
		4.0E-01	I	V		Cumene	98-82-8		1.8E+03
6.3E-05	C					Cupferron	135-20-6	1.9E-01	
						Cyanazine	21725-46-2		
						Cyanides			
						~Calcium Cyanide	592-01-8		
						~Copper Cyanide	544-92-3		
		8.0E-04	S	V		~Cyanide (CN-)	57-12-5		3.5E+00
				V		~Cyanogen	460-19-5		
				V		~Cyanogen Bromide	506-68-3		
				V		~Cyanogen Chloride	506-77-4		
		8.0E-04	I	V		~Hydrogen Cyanide	74-90-8		3.5E+00
						~Potassium Cyanide	151-50-8		
						~Potassium Silver Cyanide	506-61-6		
						~Silver Cyanide	506-64-9		
						~Sodium Cyanide	143-33-9		
						~Thiocyanates	NA		
				V		~Thiocyanic Acid	463-56-9		
						~Zinc Cyanide	557-21-1		
		6.0E+00	I	V		Cyclohexane	110-82-7		2.6E+04
						Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3		
		7.0E-01	P	V		Cyclohexanone	108-94-1		3.1E+03
		1.0E+00	X	V		Cyclohexene	110-83-8		4.4E+03
				V		Cyclohexylamine	108-91-8		
						Cyfluthrin	68359-37-5		
						Cyhalothrin	68085-85-8		
						Cypermethrin	52315-07-8		
						Cyromazine	66215-27-8		
6.9E-05	C					DDD	72-54-8	1.8E-01	
9.7E-05	C			V		DDE, p,p'-	72-55-9	1.3E-01	
9.7E-05	I					DDT	50-29-3	1.3E-01	
						Dalapon	75-99-0		
5.1E-06	C					Daminozide	1596-84-5	2.4E+00	
						Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5		
						Demeton	8065-48-3		
						Di(2-ethylhexyl)adipate	103-23-1		
						Diallate	2303-16-4		
						Diazinon	333-41-5		
				V		Dibenzothiophene	132-65-0		
6.0E-03	P	2.0E-04	I	V	M	Dibromo-3-chloropropane, 1,2-	96-12-8	2.0E-03	8.8E-01
				V		Dibromobenzene, 1,3-	108-36-1		
				V		Dibromobenzene, 1,4-	106-37-6		
				V		Dibromochloromethane	124-48-1		

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
6.0E-04	I	9.0E-03	I	V		Dibromoethane, 1,2-	106-93-4	2.0E-02	3.9E+01
		4.0E-03	X	V		Dibromomethane (Methylene Bromide)	74-95-3		1.8E+01
						Dibutyltin Compounds	NA		
						Dicamba	1918-00-9		
4.2E-03	P			V		Dichloro-2-butene, 1,4-	764-41-0	2.9E-03	
4.2E-03	P			V		Dichloro-2-butene, cis-1,4-	1476-11-5	2.9E-03	
4.2E-03	P			V		Dichloro-2-butene, trans-1,4-	110-57-6	2.9E-03	
						Dichloroacetic Acid	79-43-6		
		2.0E-01	H	V		Dichlorobenzene, 1,2-	95-50-1		8.8E+02
1.1E-05	C	8.0E-01	I	V		Dichlorobenzene, 1,4-	106-46-7	1.1E+00	3.5E+03
3.4E-04	C					Dichlorobenzidine, 3,3'-	91-94-1	3.6E-02	
						Dichlorobenzophenone, 4,4'-	90-98-2		
		1.0E-01	X	V		Dichlorodifluoromethane	75-71-8		4.4E+02
1.6E-06	C			V		Dichloroethane, 1,1-	75-34-3	7.7E+00	
2.6E-05	I	7.0E-03	P	V		Dichloroethane, 1,2-	107-06-2	4.7E-01	3.1E+01
		2.0E-01	I	V		Dichloroethylene, 1,1-	75-35-4		8.8E+02
				V		Dichloroethylene, 1,2-cis-	156-59-2		
				V		Dichloroethylene, 1,2-trans-	156-60-5		
						Dichlorophenol, 2,4-	120-83-2		
						Dichlorophenoxy Acetic Acid, 2,4-	94-75-7		
						Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6		
1.0E-05	C	4.0E-03	I	V		Dichloropropane, 1,2-	78-87-5	1.2E+00	1.8E+01
				V		Dichloropropane, 1,3-	142-28-9		
						Dichloropropanol, 2,3-	616-23-9		
4.0E-06	I	2.0E-02	I	V		Dichloropropene, 1,3-	542-75-6	3.1E+00	8.8E+01
8.3E-05	C	5.0E-04	I			Dichlorvos	62-73-7	1.5E-01	2.2E+00
						Dicrotophos	141-66-2		
		3.0E-04	X	V		Dicyclopentadiene	77-73-6		1.3E+00
4.6E-03	I					Dieldrin	60-57-1	2.7E-03	
3.0E-04	C	5.0E-03	I			Diesel Engine Exhaust	NA	4.1E-02	2.2E+01
		2.0E-04	P			Diethanolamine	111-42-2		8.8E-01
		1.0E-04	P			Diethylene Glycol Monobutyl Ether	112-34-5		4.4E-01
		3.0E-04	P			Diethylene Glycol Monoethyl Ether	111-90-0		1.3E+00
				V		Diethylformamide	617-84-5		
1.0E-01	C					Diethylstilbestrol	56-53-1	1.2E-04	
						Difenzoquat	43222-48-6		
						Diflubenzuron	35367-38-5		
		4.0E+01	I	V		Difluoroethane, 1,1-	75-37-6		1.8E+05
1.3E-05	C			V		Dihydrosafrole	94-58-6	9.4E-01	
		7.0E-01	P	V		Diisopropyl Ether	108-20-3		3.1E+03
				V		Diisopropyl Methylphosphonate	1445-75-6		
						Dimethipin	55290-64-7		
						Dimethoate	60-51-5		
						Dimethoxybenzidine, 3,3'-	119-90-4		
						Dimethyl methylphosphonate	756-79-6		
1.3E-03	C					Dimethylamino azobenzene [p-]	60-11-7	9.4E-03	
						Dimethylaniline HCl, 2,4-	21436-96-4		
						Dimethylaniline, 2,4-	95-68-1		
				V		Dimethylaniline, N,N-	121-69-7		
						Dimethylbenzidine, 3,3'-	119-93-7		
		3.0E-02	I	V		Dimethylformamide	68-12-2		1.3E+02
		2.0E-06	X	V		Dimethylhydrazine, 1,1-	57-14-7		8.8E-03
1.6E-01	C			V		Dimethylhydrazine, 1,2-	540-73-8	7.7E-05	
						Dimethylphenol, 2,4-	105-67-9		
						Dimethylphenol, 2,6-	576-26-1		
						Dimethylphenol, 3,4-	95-65-8		
1.3E-05	C			V		Dimethylvinylchloride	513-37-1	9.4E-01	
						Dinitro-o-cresol, 4,6-	534-52-1		
						Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5		
						Dinitrobenzene, 1,2-	528-29-0		
						Dinitrobenzene, 1,3-	99-65-0		
						Dinitrobenzene, 1,4-	100-25-4		
						Dinitrophenol, 2,4-	51-28-5		
						Dinitrotoluene Mixture, 2,4/2,6-	NA		
8.9E-05	C					Dinitrotoluene, 2,4-	121-14-2	1.4E-01	
						Dinitrotoluene, 2,6-	606-20-2		
						Dinitrotoluene, 2-Amino-4,6-	35572-78-2		
						Dinitrotoluene, 4-Amino-2,6-	19406-51-0		

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
						Dinitrotoluene, Technical grade	25321-14-6		
						Dinoseb	88-85-7		
5.0E-06	I	3.0E-02	I	V		Dioxane, 1,4-	123-91-1	2.5E+00	1.3E+02
						Dioxins			
1.3E+00	I					~Hexachlorodibenzo-p-dioxin, Mixture	NA	9.4E-06	
3.8E+01	C	4.0E-08	C	V		~TCDD, 2,3,7,8-	1746-01-6	3.2E-07	1.8E-04
						Diphenamid	957-51-7		
						Diphenyl Sulfone	127-63-9		
						Diphenylamine	122-39-4		
2.2E-04	I					Diphenylhydrazine, 1,2-	122-66-7	5.6E-02	
						Diquat	85-00-7		
1.4E-01	C					Direct Black 38	1937-37-7	8.8E-05	
1.4E-01	C					Direct Blue 6	2602-46-2	8.8E-05	
1.4E-01	C					Direct Brown 95	16071-86-6	8.8E-05	
						Disulfoton	298-04-4		
				V		Dithiane, 1,4-	505-29-3		
						Diuron	330-54-1		
						Dodine	2439-10-3		
				V		EPTC	759-94-4		
				V		Endosulfan	115-29-7		
						Endothall	145-73-3		
						Endrin	72-20-8		
1.2E-06	I	1.0E-03	I	V		Epichlorohydrin	106-89-8	1.0E+01	4.4E+00
		2.0E-02	I	V		Epoxybutane, 1,2	106-88-7		8.8E+01
						Ethanol, 2-(2-methoxyethoxy)-	111-77-3		
						Ethephon	16672-87-0		
						Ethion	563-12-2		
		6.0E-02	P	V		Ethoxyethanol Acetate, 2-	111-15-9		2.6E+02
		2.0E-01	I	V		Ethoxyethanol, 2-	110-80-5		8.8E+02
		7.0E-02	P	V		Ethyl Acetate	141-78-6		3.1E+02
		8.0E-03	P	V		Ethyl Acrylate	140-88-5		3.5E+01
		1.0E+01	I	V		Ethyl Chloride (Chloroethane)	75-00-3		4.4E+04
				V		Ethyl Ether	60-29-7		
		3.0E-01	P	V		Ethyl Methacrylate	97-63-2		1.3E+03
						Ethyl-p-nitrophenyl Phosphonate	2104-64-5		
2.5E-06	C	1.0E+00	I	V		Ethylbenzene	100-41-4	4.9E+00	4.4E+03
						Ethylene Cyanohydrin	109-78-4		
				V		Ethylene Diamine	107-15-3		
		4.0E-01	C			Ethylene Glycol	107-21-1		1.8E+03
		1.6E+00	I			Ethylene Glycol Monobutyl Ether	111-76-2		7.0E+03
8.8E-05	C	3.0E-02	C	V		Ethylene Oxide	75-21-8	1.4E-01	1.3E+02
1.3E-05	C					Ethylene Thiourea	96-45-7	9.4E-01	
1.9E-02	C			V		Ethyleneimine	151-56-4	6.5E-04	
						Ethylphthalyl Ethyl Glycolate	84-72-0		
						Fenamiphos	22224-92-6		
						Fenpropathrin	39515-41-8		
						Fenvalerate	51630-58-1		
						Fluometuron	2164-17-2		
		1.3E-02	C			Fluoride	16984-48-8		5.7E+01
		1.3E-02	C			Fluorine (Soluble Fluoride)	7782-41-4		5.7E+01
						Fluridone	59756-60-4		
						Flurprimidol	56425-91-3		
						Flusilazole	85509-19-9		
						Flutolanil	66332-96-5		
						Fluvalinate	69409-94-5		
						Folpet	133-07-3		
						Fomesafen	72178-02-0		
						Fonofos	944-22-9		
1.3E-05	I	9.8E-03	A	V		Formaldehyde	50-00-0	9.4E-01	4.3E+01
		3.0E-04	X	V		Formic Acid	64-18-6		1.3E+00
						Fosetyl-AL	39148-24-8		
						Furans			
				V		~Dibenzofuran	132-64-9		
				V		~Furan	110-00-9		
		2.0E+00	I	V		~Tetrahydrofuran	109-99-9		8.8E+03
						Furazolidone	67-45-8		
		5.0E-02	H	V		Furfural	98-01-1		2.2E+02
4.3E-04	C					Furium	531-82-8	2.9E-02	

TR=1E-06
HQ=1

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
8.6E-06	C					Furmecyclox	60568-05-0	1.4E+00	
						Glufosinate, Ammonium	77182-82-2		
		8.0E-05	C			Glutaraldehyde	111-30-8		3.5E-01
		1.0E-03	H	V		Glycidyl	765-34-4		4.4E+00
						Glyphosate	1071-83-6		
				V		Guanidine	113-00-8		
						Guanidine Chloride	50-01-1		
						Haloxyfop, Methyl	69806-40-2		
1.3E-03	I			V		Heptachlor	76-44-8	9.4E-03	
2.6E-03	I			V		Heptachlor Epoxide	1024-57-3	4.7E-03	
				V		Hexabromobenzene	87-82-1		
						Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2		
4.6E-04	I			V		Hexachlorobenzene	118-74-1	2.7E-02	
2.2E-05	I			V		Hexachlorobutadiene	87-68-3	5.6E-01	
1.8E-03	I					Hexachlorocyclohexane, Alpha-	319-84-6	6.8E-03	
5.3E-04	I					Hexachlorocyclohexane, Beta-	319-85-7	2.3E-02	
3.1E-04	C					Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	4.0E-02	
5.1E-04	I					Hexachlorocyclohexane, Technical	608-73-1	2.4E-02	
		2.0E-04	I	V		Hexachlorocyclopentadiene	77-47-4		8.8E-01
1.1E-05	C	3.0E-02	I	V		Hexachloroethane	67-72-1	1.1E+00	1.3E+02
						Hexachlorophene	70-30-4		
						Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4		
		1.0E-05	I	V		Hexamethylene Diisocyanate, 1,6-	822-06-0		4.4E-02
						Hexamethylphosphoramide	680-31-9		
		7.0E-01	I	V		Hexane, N-	110-54-3		3.1E+03
						Hexanedioic Acid	124-04-9		
		3.0E-02	I	V		Hexanone, 2-	591-78-6		1.3E+02
						Hexazinone	51235-04-2		
						Hexythiazox	78587-05-0		
						Hydramethylnon	67485-29-4		
4.9E-03	I	3.0E-05	P	V		Hydrazine	302-01-2	2.5E-03	1.3E-01
4.9E-03	I					Hydrazine Sulfate	10034-93-2	2.5E-03	
		2.0E-02	I	V		Hydrogen Chloride	7647-01-0		8.8E+01
		1.4E-02	C	V		Hydrogen Fluoride	7664-39-3		6.1E+01
		2.0E-03	I	V		Hydrogen Sulfide	7783-06-4		8.8E+00
						Hydroquinone	123-31-9		
						Imazalil	35554-44-0		
						Imazaquin	81335-37-7		
						Imazethapyr	81335-77-5		
						Iodine	7553-56-2		
						Iprodione	36734-19-7		
						Iron	7439-89-6		
				V		Isobutyl Alcohol	78-83-1		
		2.0E+00	C			Isophorone	78-59-1		8.8E+03
				V		Isopropalin	33820-53-0		
		2.0E-01	P	V		Isopropanol	67-63-0		8.8E+02
						Isopropyl Methyl Phosphonic Acid	1832-54-8		
						Isoxaben	82558-50-7		
		3.0E-01	A	V		JP-7	NA		1.3E+03
						Lactofen	77501-63-4		
						Lead Compounds			
1.5E-01	C	2.0E-04	C		M	~Lead Chromate	7758-97-6	8.2E-05	8.8E-01
1.2E-05	C					~Lead Phosphate	7446-27-7	1.0E+00	
8.0E-05	C					~Lead acetate	301-04-2	1.5E-01	
						~Lead and Compounds	7439-92-1		
1.2E-05	C					~Lead subacetate	1335-32-6	1.0E+00	
				V		~Tetraethyl Lead	78-00-2		
				V		Lewisite	541-25-3		
						Linuron	330-55-2		
						Lithium	7439-93-2		
						MCPA	94-74-6		
						MCPB	94-81-5		
						MCPP	93-65-2		
						Malathion	121-75-5		
		7.0E-04	C			Maleic Anhydride	108-31-6		3.1E+00
						Maleic Hydrazide	123-33-1		
						Malononitrile	109-77-3		
						Mancozeb	8018-01-7		

TR=1E-06
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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
						Maneb	12427-38-2		
		5.0E-05	I			Manganese (Diet)	7439-96-5		
		5.0E-05	I			Manganese (Non-diet)	7439-96-5		2.2E-01
						Mephosfolan	950-10-7		
						Mepiquat Chloride	24307-26-4		
						Mercury Compounds			
		3.0E-04	S			~Mercuric Chloride (and other Mercury salts)	7487-94-7		1.3E+00
		3.0E-04	I	V		~Mercury (elemental)	7439-97-6		1.3E+00
						~Methyl Mercury	22967-92-6		
						~Phenylmercuric Acetate	62-38-4		
				V		Merphos	150-50-5		
						Merphos Oxide	78-48-8		
						Metalaxyl	57837-19-1		
		3.0E-02	P	V		Methacrylonitrile	126-98-7		1.3E+02
						Methamidophos	10265-92-6		
		2.0E+01	I	V		Methanol	67-56-1		8.8E+04
						Methidathion	950-37-8		
						Methomyl	16752-77-5		
1.4E-05	C					Methoxy-5-nitroaniline, 2-	99-59-2	8.8E-01	
						Methoxychlor	72-43-5		
		1.0E-03	P	V		Methoxyethanol Acetate, 2-	110-49-6		4.4E+00
		2.0E-02	I	V		Methoxyethanol, 2-	109-86-4		8.8E+01
				V		Methyl Acetate	79-20-9		
		2.0E-02	P	V		Methyl Acrylate	96-33-3		8.8E+01
		5.0E+00	I	V		Methyl Ethyl Ketone (2-Butanone)	78-93-3		2.2E+04
1.0E-03	X	2.0E-05	X	V		Methyl Hydrazine	60-34-4	1.2E-02	8.8E-02
		3.0E+00	I	V		Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1		1.3E+04
		1.0E-03	C	V		Methyl Isocyanate	624-83-9		4.4E+00
		7.0E-01	I	V		Methyl Methacrylate	80-62-6		3.1E+03
						Methyl Parathion	298-00-0		
						Methyl Phosphonic Acid	993-13-5		
		4.0E-02	H	V		Methyl Styrene (Mixed Isomers)	25013-15-4		1.8E+02
2.8E-05	C					Methyl methanesulfonate	66-27-3	4.4E-01	
2.6E-07	C	3.0E+00	I	V		Methyl tert-Butyl Ether (MTBE)	1634-04-4	4.7E+01	1.3E+04
						Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2		
						Methyl-5-Nitroaniline, 2-	99-55-8		
2.4E-03	C					Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	5.1E-03	
3.7E-05	C					Methylaniline Hydrochloride, 2-	636-21-5	3.3E-01	
						Methylarsonic acid	124-58-3		
						Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7		
						Methylbenzene-1,4-diamine sulfate, 2-	615-50-9		
6.3E-03	C				M	Methylcholanthrene, 3-	56-49-5	1.9E-03	
1.0E-08	I	6.0E-01	I	V	M	Methylene Chloride	75-09-2	1.2E+03	2.6E+03
4.3E-04	C				M	Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	2.9E-02	
1.3E-05	C					Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	9.4E-01	
4.6E-04	C	2.0E-02	C			Methylenebisbenzenamine, 4,4'-	101-77-9	2.7E-02	8.8E+01
		6.0E-04	I			Methylenediphenyl Diisocyanate	101-68-8		2.6E+00
				V		Methylstyrene, Alpha-	98-83-9		
						Metolachlor	51218-45-2		
						Metribuzin	21087-64-9		
						Metsulfuron-methyl	74223-64-6		
				V		Mineral oils	8012-95-1		
5.1E-03	C			V		Mirex	2385-85-5	2.4E-03	
						Molinate	2212-67-1		
						Molybdenum	7439-98-7		
						Monochloramine	10599-90-3		
						Monomethylaniline	100-61-8		
						Myclobutanil	88671-89-0		
						N,N'-Diphenyl-1,4-benzenediamine	74-31-7		
				V		Naled	300-76-5		
		1.0E-01	P	V		Naphtha, High Flash Aromatic (HFAN)	64742-95-6		4.4E+02
0.0E+00	C					Naphthylamine, 2-	91-59-8		
						Napropamide	15299-99-7		
2.6E-04	C	1.4E-05	C			Nickel Acetate	373-02-4	4.7E-02	6.1E-02
2.6E-04	C	1.4E-05	C			Nickel Carbonate	3333-67-3	4.7E-02	6.1E-02
2.6E-04	C	1.4E-05	C	V		Nickel Carbonyl	13463-39-3	4.7E-02	6.1E-02
2.6E-04	C	1.4E-05	C			Nickel Hydroxide	12054-48-7	4.7E-02	6.1E-02
2.6E-04	C	2.0E-05	C			Nickel Oxide	1313-99-1	4.7E-02	8.8E-02

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific							Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
2.4E-04	I	1.4E-05	C			Nickel Refinery Dust	NA	5.1E-02	6.1E-02
2.6E-04	C	9.0E-05	A			Nickel Soluble Salts	7440-02-0	4.7E-02	3.9E-01
4.8E-04	I	1.4E-05	C			Nickel Subsulfide	12035-72-2	2.6E-02	6.1E-02
2.6E-04	C	1.4E-05	C			Nickelocene	1271-28-9	4.7E-02	6.1E-02
						Nitrate	14797-55-8		
						Nitrate + Nitrite (as N)	NA		
						Nitrite	14797-65-0		
		5.0E-05	X			Nitroaniline, 2-	88-74-4		2.2E-01
		6.0E-03	P			Nitroaniline, 4-	100-01-6		2.6E+01
4.0E-05	I	9.0E-03	I	V		Nitrobenzene	98-95-3	3.1E-01	3.9E+01
						Nitrocellulose	9004-70-0		
						Nitrofurantoin	67-20-9		
3.7E-04	C					Nitrofurazone	59-87-0	3.3E-02	
						Nitroglycerin	55-63-0		
						Nitroguanidine	556-88-7		
8.8E-06	P	5.0E-03	P	V		Nitromethane	75-52-5	1.4E+00	2.2E+01
2.7E-03	H	2.0E-02	I	V		Nitropropane, 2-	79-46-9	4.5E-03	8.8E+01
7.7E-03	C				M	Nitroso-N-ethylurea, N-	759-73-9	1.6E-03	
3.4E-02	C				M	Nitroso-N-methylurea, N-	684-93-5	3.6E-04	
1.6E-03	I			V		Nitroso-di-N-butylamine, N-	924-16-3	7.7E-03	
2.0E-03	C					Nitroso-di-N-propylamine, N-	621-64-7	6.1E-03	
8.0E-04	C					Nitrosodiethanolamine, N-	1116-54-7	1.5E-02	
4.3E-02	I				M	Nitrosodiethylamine, N-	55-18-5	2.9E-04	
1.4E-02	I	4.0E-05	X	V	M	Nitrosodimethylamine, N-	62-75-9	8.8E-04	1.8E-01
2.6E-06	C					Nitrosodiphenylamine, N-	86-30-6	4.7E+00	
6.3E-03	C			V		Nitrosomethylethylamine, N-	10595-95-6	1.9E-03	
1.9E-03	C					Nitrosomorpholine [N-]	59-89-2	6.5E-03	
2.7E-03	C					Nitrosopiperidine [N-]	100-75-4	4.5E-03	
6.1E-04	I					Nitrosopyrrolidine, N-	930-55-2	2.0E-02	
						Nitrotoluene, m-	99-08-1		
				V		Nitrotoluene, o-	88-72-2		
						Nitrotoluene, p-	99-99-0		
		2.0E-02	P	V		Nonane, n-	111-84-2		8.8E+01
						Norflurazon	27314-13-2		
						Octabromodiphenyl Ether	32536-52-0		
						Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0		
						Octamethylpyrophosphoramide	152-16-9		
						Oryzalin	19044-88-3		
						Oxadiazon	19666-30-9		
						Oxamyl	23135-22-0		
						Oxyfluorfen	42874-03-3		
						Paclobutrazol	76738-62-0		
						Paraquat Dichloride	1910-42-5		
						Parathion	56-38-2		
				V		Pebulate	1114-71-2		
						Pendimethalin	40487-42-1		
				V		Pentabromodiphenyl Ether	32534-81-9		
						Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9		
				V		Pentachlorobenzene	608-93-5		
				V		Pentachloroethane	76-01-7		
				V		Pentachloronitrobenzene	82-68-8		
5.1E-06	C					Pentachlorophenol	87-86-5	2.4E+00	
						Pentaerythritol tetranitrate (PETN)	78-11-5		
		1.0E+00	P	V		Pentane, n-	109-66-0		4.4E+03
						Perchlorates			
						~Ammonium Perchlorate	7790-98-9		
						~Lithium Perchlorate	7791-03-9		
						~Perchlorate and Perchlorate Salts	14797-73-0		
						~Potassium Perchlorate	7778-74-7		
						~Sodium Perchlorate	7601-89-0		
				V		Perfluorobutane Sulfonate	375-73-5		
						Permethrin	52645-53-1		
6.3E-07	C					Phenacetin	62-44-2	1.9E+01	
						Phenmedipham	13684-63-4		
		2.0E-01	C			Phenol	108-95-2		8.8E+02
						Phenothiazine	92-84-2		
						Phenylenediamine, m-	108-45-2		
						Phenylenediamine, o-	95-54-5		

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR $(ug/m^3)^{-1}$	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 $(\mu g/m^3)$
						Phenylenediamine, p-	106-50-3		
						Phenylphenol, 2-	90-43-7		
						Phorate	298-02-2		
		3.0E-04	I	V		Phosgene	75-44-5		1.3E+00
						Phosmet	732-11-6		
						Phosphates, Inorganic			
						~Aluminum metaphosphate	13776-88-0		
						~Ammonium polyphosphate	68333-79-9		
						~Calcium pyrophosphate	7790-76-3		
						~Diammonium phosphate	7783-28-0		
						~Dicalcium phosphate	7757-93-9		
						~Dimagnesium phosphate	7782-75-4		
						~Dipotassium phosphate	7758-11-4		
						~Disodium phosphate	7558-79-4		
						~Monoaluminum phosphate	13530-50-2		
						~Monoammonium phosphate	7722-76-1		
						~Monocalcium phosphate	7758-23-8		
						~Monomagnesium phosphate	7757-86-0		
						~Monopotassium phosphate	7778-77-0		
						~Monosodium phosphate	7558-80-7		
						~Polyphosphoric acid	8017-16-1		
						~Potassium tripolyphosphate	13845-36-8		
						~Sodium acid pyrophosphate	7758-16-9		
						~Sodium aluminum phosphate (acidic)	7785-88-8		
						~Sodium aluminum phosphate (anhydrous)	10279-59-1		
						~Sodium aluminum phosphate (tetrahydrate)	10305-76-7		
						~Sodium hexametaphosphate	10124-56-8		
						~Sodium polyphosphate	68915-31-1		
						~Sodium trimetaphosphate	7785-84-4		
						~Sodium tripolyphosphate	7758-29-4		
						~Tetrapotassium phosphate	7320-34-5		
						~Tetrasodium pyrophosphate	7722-88-5		
						~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5		
						~Tricalcium phosphate	7758-87-4		
						~Trimagnesium phosphate	7757-87-1		
						~Tripotassium phosphate	7778-53-2		
						~Trisodium phosphate	7601-54-9		
		3.0E-04	I	V		Phosphine	7803-51-2		1.3E+00
		1.0E-02	I			Phosphoric Acid	7664-38-2		4.4E+01
				V		Phosphorus, White	7723-14-0		
						Phthalates			
2.4E-06	C					~Bis(2-ethylhexyl)phthalate	117-81-7	5.1E+00	
						~Butylphthalyl Butylglycolate	85-70-1		
						~Dibutyl Phthalate	84-74-2		
						~Diethyl Phthalate	84-66-2		
				V		~Dimethylterephthalate	120-61-6		
						~Octyl Phthalate, di-N-	117-84-0		
						~Phthalic Acid, P-	100-21-0		
		2.0E-02	C			~Phthalic Anhydride	85-44-9		8.8E+01
						Picloram	1918-02-1		
						Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3		
						Picric Acid (2,4,6-Trinitrophenol)	88-89-1		
						Pirimiphos, Methyl	29232-93-7		
8.6E-03	C					Polybrominated Biphenyls	59536-65-1	1.4E-03	
						Polychlorinated Biphenyls (PCBs)			
2.0E-05	S			V		~Aroclor 1016	12674-11-2	6.1E-01	
5.7E-04	S			V		~Aroclor 1221	11104-28-2	2.1E-02	
5.7E-04	S			V		~Aroclor 1232	11141-16-5	2.1E-02	
5.7E-04	S			V		~Aroclor 1242	53469-21-9	2.1E-02	
5.7E-04	S			V		~Aroclor 1248	12672-29-6	2.1E-02	
5.7E-04	S			V		~Aroclor 1254	11097-69-1	2.1E-02	
5.7E-04	S			V		~Aroclor 1260	11096-82-5	2.1E-02	
				V		~Aroclor 5460	11126-42-4		
1.1E-03	E	1.3E-03	E	V		~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	1.1E-02	5.8E+00
1.1E-03	E	1.3E-03	E	V		~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	1.1E-02	5.8E+00
1.1E-03	E	1.3E-03	E	V		~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	1.1E-02	5.8E+00
1.1E-03	E	1.3E-03	E	V		~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	1.1E-02	5.8E+00
1.1E+00	E	1.3E-06	E	V		~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	1.1E-05	5.8E-03

TR=1E-06
THQ=1.0

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	1.1E-02	5.8E+00
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	1.1E-02	5.8E+00
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	1.1E-02	5.8E+00
1.1E-03	E	1.3E-03	E	V		~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	1.1E-02	5.8E+00
3.8E+00	E	4.0E-07	E	V		~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	3.2E-06	1.8E-03
5.7E-04	I			V		~Polychlorinated Biphenyls (high risk)	1336-36-3	2.1E-02	
1.0E-04	I			V		~Polychlorinated Biphenyls (low risk)	1336-36-3	1.2E-01	
2.0E-05	I			V		~Polychlorinated Biphenyls (lowest risk)	1336-36-3	6.1E-01	
3.8E-03	E	4.0E-04	E			~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	3.2E-03	1.8E+00
1.1E-02	E	1.3E-04	E	V		~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	1.1E-03	5.8E-01
		6.0E-04	I			Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9		2.6E+00
						Polynuclear Aromatic Hydrocarbons (PAHs)			
				V		~Acenaphthene	83-32-9		
				V		~Anthracene	120-12-7		
1.1E-04	C			V	M	~Benz[a]anthracene	56-55-3	1.1E-01	
1.1E-04	C					~Benzo(j)fluoranthene	205-82-3	1.1E-01	
1.1E-03	C				M	~Benzo[a]pyrene	50-32-8	1.1E-02	
1.1E-04	C				M	~Benzo[b]fluoranthene	205-99-2	1.1E-01	
1.1E-04	C				M	~Benzo[k]fluoranthene	207-08-9	1.1E-01	
				V		~Chloronaphthalene, Beta-	91-58-7		
1.1E-05	C				M	~Chrysene	218-01-9	1.1E+00	
1.2E-03	C				M	~Dibenz[a,h]anthracene	53-70-3	1.0E-02	
1.1E-03	C					~Dibenzo(a,e)pyrene	192-65-4	1.1E-02	
7.1E-02	C				M	~Dimethylbenz(a)anthracene, 7,12-	57-97-6	1.7E-04	
						~Fluoranthene	206-44-0		
				V		~Fluorene	86-73-7		
1.1E-04	C				M	~Indeno[1,2,3-cd]pyrene	193-39-5	1.1E-01	
				V		~Methylnaphthalene, 1-	90-12-0		
				V		~Methylnaphthalene, 2-	91-57-6		
3.4E-05	C	3.0E-03	I	V		~Naphthalene	91-20-3	3.6E-01	1.3E+01
1.1E-04	C					~Nitropyrene, 4-	57835-92-4	1.1E-01	
				V		~Pyrene	129-00-0		
						Potassium Perfluorobutane Sulfonate	29420-49-3		
						Prochloraz	67747-09-5		
				V		Profluralin	26399-36-0		
						Prometon	1610-18-0		
						Prometryn	7287-19-6		
						Propachlor	1918-16-7		
						Propanediol, 1,2-	114-26-1		
						Propanil	709-98-8		
						Propargite	2312-35-8		
				V		Propargyl Alcohol	107-19-7		
						Propazine	139-40-2		
						Propham	122-42-9		
						Propiconazole	60207-90-1		
		8.0E-03	I	V		Propionaldehyde	123-38-6		3.5E+01
		1.0E+00	X	V		Propyl benzene	103-65-1		4.4E+03
		3.0E+00	C	V		Propylene	115-07-1		1.3E+04
						Propylene Glycol	57-55-6		
		2.7E-04	A			Propylene Glycol Dinitrate	6423-43-4		1.2E+00
		2.0E+00	I	V		Propylene Glycol Monomethyl Ether	107-98-2		8.8E+03
3.7E-06	I	3.0E-02	I	V		Propylene Oxide	75-56-9	3.3E+00	1.3E+02
						Propyzamide	23950-58-5		
				V		Pyridine	110-86-1		
						Quinalphos	13593-03-8		
						Quinoline	91-22-5		
						Quizalofop-ethyl	76578-14-8		
		3.0E-02	A			Refractory Ceramic Fibers	NA		1.3E+02
						Resmethrin	10453-86-8		
				V		Ronnel	299-84-3		
						Rotenone	83-79-4		
6.3E-05	C				M	Safrole	94-59-7	1.9E-01	
						Selenious Acid	7783-00-8		
		2.0E-02	C			Selenium	7782-49-2		8.8E+01
		2.0E-02	C			Selenium Sulfide	7446-34-6		8.8E+01
						Sethoxydim	74051-80-2		
		3.0E-03	C			Silica (crystalline, respirable)	7631-86-9		1.3E+01
						Silver	7440-22-4		

TR=1E-06
THQ=1

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR $(ug/m^3)^{-1}$	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 $(\mu g/m^3)$
						Simazine	122-34-9		
						Sodium Acifluorfen	62476-59-9		
						Sodium Azide	26628-22-8		
1.5E-01	C	2.0E-04	C		M	Sodium Dichromate	10588-01-9	8.2E-05	8.8E-01
						Sodium Diethyldithiocarbamate	148-18-5		
		1.3E-02	C			Sodium Fluoride	7681-49-4		5.7E+01
						Sodium Fluoroacetate	62-74-8		
						Sodium Metavanadate	13718-26-8		
						Sodium Tungstate	13472-45-2		
						Sodium Tungstate Dihydrate	10213-10-2		
						Stirofos (Tetrachlorovinphos)	961-11-5		
1.5E-01	C	2.0E-04	C		M	Strontium Chromate	7789-06-2	8.2E-05	8.8E-01
						Strontium, Stable	7440-24-6		
						Strychnine	57-24-9		
		1.0E+00	I	V		Styrene	100-42-5		4.4E+03
						Styrene-Acrylonitrile (SAN) Trimer	NA		
		2.0E-03	X			Sulfolane	126-33-0		8.8E+00
						Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9		
		1.0E-03	C	V		Sulfur Trioxide	7446-11-9		4.4E+00
		1.0E-03	C			Sulfuric Acid	7664-93-9		4.4E+00
7.1E-06	I					Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	1.7E+00	
						TCMTB	21564-17-0		
						Tebuthiuron	34014-18-1		
						Temephos	3383-96-8		
						Terbacil	5902-51-2		
				V		Terbufos	13071-79-9		
						Terbutryn	886-50-0		
						Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1		
				V		Tetrachlorobenzene, 1,2,4,5-	95-94-3		
7.4E-06	I			V		Tetrachloroethane, 1,1,1,2-	630-20-6	1.7E+00	
5.8E-05	C			V		Tetrachloroethane, 1,1,2,2-	79-34-5	2.1E-01	
2.6E-07	I	4.0E-02	I	V		Tetrachloroethylene	127-18-4	4.7E+01	1.8E+02
						Tetrachlorophenol, 2,3,4,6-	58-90-2		
				V		Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1		
						Tetraethyl Dithiopyrophosphate	3689-24-5		
		8.0E+01	I	V		Tetrafluoroethane, 1,1,1,2-	811-97-2		3.5E+05
						Tetryl (Trinitrophenylmethylnitramine)	479-45-8		
						Thallium (I) Nitrate	10102-45-1		
						Thallium (Soluble Salts)	7440-28-0		
				V		Thallium Acetate	563-68-8		
				V		Thallium Carbonate	6533-73-9		
						Thallium Chloride	7791-12-0		
						Thallium Sulfate	7446-18-6		
						Thifensulfuron-methyl	79277-27-3		
						Thiobencarb	28249-77-6		
						Thiodiglycol	111-48-8		
						Thiofanox	39196-18-4		
						Thiophanate, Methyl	23564-05-8		
						Thiram	137-26-8		
						Tin	7440-31-5		
		1.0E-04	A	V		Titanium Tetrachloride	7550-45-0		4.4E-01
		5.0E+00	I	V		Toluene	108-88-3		2.2E+04
						Toluene-2,5-diamine	95-70-5		
						Toluidine, p-	106-49-0		
				V		Total Petroleum Hydrocarbons (Aliphatic High)	NA		
		6.0E-01	P	V		Total Petroleum Hydrocarbons (Aliphatic Low)	NA		2.6E+03
		1.0E-01	P	V		Total Petroleum Hydrocarbons (Aliphatic Medium)	NA		4.4E+02
						Total Petroleum Hydrocarbons (Aromatic High)	NA		
		3.0E-02	P	V		Total Petroleum Hydrocarbons (Aromatic Low)	NA		1.3E+02
		3.0E-03	P	V		Total Petroleum Hydrocarbons (Aromatic Medium)	NA		1.3E+01
3.2E-04	I					Toxaphene	8001-35-2	3.8E-02	
						Tralomethrin	66841-25-6		
				V		Tri-n-butyltin	688-73-3		
						Triacetin	102-76-1		
						Triadimefon	43121-43-3		
				V		Triallate	2303-17-5		
						Triasulfuron	82097-50-5		
						Tribenuron-methyl	101200-48-0		

TR=1E-06
HQ=1

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Toxicity and Chemical-specific						Contaminant		Carcinogenic Target Risk (TR) = 1E-06	Noncancer Hazard Index (HI) = 1
IUR ($(ug/m^3)^{-1}$)	key	RfC_i (mg/m^3)	key	vol	muta-gen	Analyte	CAS No.	Carcinogenic SL TR=1E-06 (ug/m^3)	Noncarcinogenic SL HI=1 ($\mu g/m^3$)
				V		Tribromobenzene, 1,2,4-	615-54-3		
						Tributyl Phosphate	126-73-8		
						Tributyltin Compounds	NA		
						Tributyltin Oxide	56-35-9		
		3.0E+01	H	V		Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1		1.3E+05
						Trichloroacetic Acid	76-03-9		
						Trichloroaniline HCl, 2,4,6-	33663-50-2		
						Trichloroaniline, 2,4,6-	634-93-5		
				V		Trichlorobenzene, 1,2,3-	87-61-6		
		2.0E-03	P	V		Trichlorobenzene, 1,2,4-	120-82-1		8.8E+00
		5.0E+00	I	V		Trichloroethane, 1,1,1-	71-55-6		2.2E+04
1.6E-05	I	2.0E-04	X	V		Trichloroethane, 1,1,2-	79-00-5	7.7E-01	8.8E-01
4.1E-06	I	2.0E-03	I	V	M	Trichloroethylene	79-01-6	3.0E+00	8.8E+00
				V		Trichlorofluoromethane	75-69-4		
						Trichlorophenol, 2,4,5-	95-95-4		
3.1E-06	I					Trichlorophenol, 2,4,6-	88-06-2	4.0E+00	
						Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5		
						Trichlorophenoxypropionic acid, -2,4,5	93-72-1		
				V		Trichloropropane, 1,1,2-	598-77-6		
		3.0E-04	I	V	M	Trichloropropane, 1,2,3-	96-18-4		1.3E+00
		3.0E-04	P	V		Trichloropropene, 1,2,3-	96-19-5		1.3E+00
						Tricresyl Phosphate (TCP)	1330-78-5		
						Tridiphane	58138-08-2		
		7.0E-03	I	V		Triethylamine	121-44-8		3.1E+01
						Triethylene Glycol	112-27-6		
		2.0E+01	P	V		Trifluoroethane, 1,1,1-	420-46-2		8.8E+04
				V		Trifluralin	1582-09-8		
						Trimethyl Phosphate	512-56-1		
		5.0E-03	P	V		Trimethylbenzene, 1,2,3-	526-73-8		2.2E+01
		7.0E-03	P	V		Trimethylbenzene, 1,2,4-	95-63-6		3.1E+01
				V		Trimethylbenzene, 1,3,5-	108-67-8		
				V		Trimethylpentene, 2,4,4-	25167-70-8		
						Trinitrobenzene, 1,3,5-	99-35-4		
						Trinitrotoluene, 2,4,6-	118-96-7		
						Triphenylphosphine Oxide	791-28-6		
						Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8		
						Tris(1-chloro-2-propyl)phosphate	13674-84-5		
6.6E-04	C			V		Tris(2,3-dibromopropyl)phosphate	126-72-7	1.9E-02	
						Tris(2-chloroethyl)phosphate	115-96-8		
						Tris(2-ethylhexyl)phosphate	78-42-2		
						Tungsten	7440-33-7		
		4.0E-05	A			Uranium (Soluble Salts)	NA		1.8E-01
2.9E-04	C				M	Urethane	51-79-6	4.2E-02	
8.3E-03	P	7.0E-06	P			Vanadium Pentoxide	1314-62-1	1.5E-03	3.1E-02
		1.0E-04	A			Vanadium and Compounds	7440-62-2		4.4E-01
				V		Vernolate	1929-77-7		
						Vinclozolin	50471-44-8		
		2.0E-01	I	V		Vinyl Acetate	108-05-4		8.8E+02
3.2E-05	H	3.0E-03	I	V		Vinyl Bromide	593-60-2	3.8E-01	1.3E+01
4.4E-06	I	1.0E-01	I	V	M	Vinyl Chloride	75-01-4	2.8E+00	4.4E+02
						Warfarin	81-81-2		
		1.0E-01	S	V		Xylene, P-	106-42-3		4.4E+02
		1.0E-01	S	V		Xylene, m-	108-38-3		4.4E+02
		1.0E-01	S	V		Xylene, o-	95-47-6		4.4E+02
		1.0E-01	I	V		Xylenes	1330-20-7		4.4E+02
						Zinc Phosphide	1314-84-7		
						Zinc and Compounds	7440-66-6		
						Zineb	12122-67-7		
						Zirconium	7440-67-7		

TR=1E-06
HQ=1.0

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Acephate	30560-19-1	1.8E+02	PHYSPROP	2.0E-11	5.0E-13	EPI	1.7E-06	PHYSPROP	8.8E+01	PHYSPROP	1.4E+00	CRC89	3.7E-02	8.0E-06	EPA WATER9			1.0E+01	EPI	-8.5E-01	PHYSPROP	8.2E+05	PHYSPROP	2.1E-04	1.1E+00	2.7E+00	4.0E-05	EPI
Acetaldehyde	75-07-0	4.4E+01	PHYSPROP	2.7E-03	6.7E-05	PHYSPROP	9.0E+02	PHYSPROP	-1.2E+02	PHYSPROP	7.8E-01	CRC89	1.3E-01	1.4E-05	EPA WATER9			1.0E+00	EPI	-3.4E-01	PHYSPROP	1.0E+06	PHYSPROP	1.3E-03	1.9E-01	4.5E-01	5.3E-04	EPI
Acetochlor	34256-82-1	2.7E+02	PHYSPROP	9.1E-07	2.2E-08	PHYSPROP	2.8E-05	PHYSPROP	1.1E+01	PubChem	1.1E+00	PubChem	2.2E-02	5.6E-06	EPA WATER9			3.0E+02	EPI	3.0E+00	PHYSPROP	2.2E+02	PHYSPROP	3.1E-02	3.4E+00	8.2E+00	5.0E-03	EPI
Acetone	67-64-1	5.8E+01	PHYSPROP	1.4E-03	3.5E-05	PHYSPROP	2.3E+02	PHYSPROP	-9.5E+01	PHYSPROP	7.8E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			2.4E+00	EPI	-2.4E-01	PHYSPROP	1.0E+06	PHYSPROP	1.5E-03	2.2E-01	5.3E-01	5.1E-04	EPI
Acetone Cyanohydrin	75-86-5	8.5E+01	PHYSPROP	8.1E-08	2.0E-09	PHYSPROP	3.4E-01	PHYSPROP	-1.9E+01	PHYSPROP	9.3E-01	CRC89	8.6E-02	1.0E-05	EPA WATER9			1.0E+00	EPI	-3.0E-02	PHYSPROP	1.0E+06	PHYSPROP	1.8E-03	3.2E-01	7.6E-01	5.0E-04	EPI
Acetonitrile	75-05-8	4.1E+01	PHYSPROP	1.4E-03	3.5E-05	PHYSPROP	8.9E+01	PHYSPROP	-4.4E+01	PHYSPROP	7.9E-01	CRC89	1.3E-01	1.4E-05	EPA WATER9			4.7E+00	EPI	-3.4E-01	PHYSPROP	1.0E+06	PHYSPROP	1.4E-03	1.8E-01	4.3E-01	5.5E-04	EPI
Acetophenone	98-86-2	1.2E+02	PHYSPROP	4.3E-04	1.0E-05	PHYSPROP	4.0E-01	PHYSPROP	2.0E+01	PHYSPROP	1.0E+00	CRC89	6.5E-02	8.7E-06	EPA WATER9			5.2E+01	EPI	1.6E+00	PHYSPROP	6.1E+03	PHYSPROP	1.6E-02	5.0E-01	1.2E+00	3.7E-03	EPI
Acetylaminofluorene, 2-	53-96-3	2.2E+02	PHYSPROP	7.8E-09	1.9E-10	PHYSPROP	9.4E-08	PHYSPROP	1.9E+02	PHYSPROP			5.2E-02	6.0E-06	EPA WATER9			2.2E+03	EPI	3.1E+00	PHYSPROP	5.5E+00	PHYSPROP	7.2E-02	1.9E+00	4.5E+00	1.2E-02	RAGSE
Acrolein	107-02-8	5.6E+01	PHYSPROP	5.0E-03	1.2E-04	PHYSPROP	2.7E+02	PHYSPROP	-8.8E+01	PHYSPROP	8.4E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			1.0E+00	EPI	-1.0E-02	PHYSPROP	2.1E+05	PHYSPROP	2.2E-03	2.2E-01	5.2E-01	7.5E-04	EPI
Acrylamide	79-06-1	7.1E+01	PHYSPROP	7.0E-08	1.7E-09	EPI	7.0E-03	PHYSPROP	8.5E+01	PHYSPROP	1.2E+00	LANGE	1.1E-01	1.3E-05	EPA WATER9			5.7E+00	EPI	-6.7E-01	PHYSPROP	3.9E+05	PHYSPROP	7.3E-04	2.6E-01	6.3E-01	2.2E-04	EPI
Acrylic Acid	79-10-7	7.2E+01	PHYSPROP	1.5E-05	3.7E-07	EPI	4.0E+00	PHYSPROP	1.3E+01	PHYSPROP	1.1E+00	CRC89	1.0E-01	1.2E-05	EPA WATER9			1.4E+00	EPI	3.5E-01	PHYSPROP	1.0E+06	PHYSPROP	3.4E-03	2.7E-01	6.4E-01	1.1E-03	EPI
Acrylonitrile	107-13-1	5.3E+01	PHYSPROP	5.6E-03	1.4E-04	PHYSPROP	1.1E+02	PHYSPROP	-8.4E+01	PHYSPROP	8.0E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			8.5E+00	EPI	2.5E-01	PHYSPROP	7.5E+04	PHYSPROP	3.3E-03	2.1E-01	5.0E-01	1.2E-03	EPI
Adiponitrile	111-69-3	1.1E+02	PHYSPROP	4.9E-08	1.2E-09	EPI	6.8E-04	PHYSPROP	1.0E+00	PHYSPROP	9.7E-01	CRC89	7.1E-02	9.0E-06	EPA WATER9			2.0E+01	EPI	-3.2E-01	PHYSPROP	8.0E+04	PHYSPROP	9.5E-04	4.2E-01	1.0E+00	2.4E-04	EPI
Alachlor	15972-60-8	2.7E+02	PHYSPROP	3.4E-07	8.3E-09	PHYSPROP	2.2E-05	PHYSPROP	4.0E+01	PHYSPROP	1.1E+00	CRC89	2.3E-02	5.7E-06	EPA WATER9			3.1E+02	EPI	3.5E+00	PHYSPROP	2.4E+02	PHYSPROP	6.6E-02	3.4E+00	8.2E+00	1.1E-02	EPI
Aldicarb	116-06-3	1.9E+02	PHYSPROP	5.9E-08	1.4E-09	EPI	3.5E-05	PHYSPROP	9.9E+01	PHYSPROP	1.2E+00	CRC89	3.2E-02	7.2E-06	EPA WATER9			2.5E+01	EPI	1.1E+00	PHYSPROP	6.0E+03	PHYSPROP	4.0E-03	1.2E+00	2.9E+00	7.6E-04	EPI
Aldicarb Sulfone	1646-88-4	2.2E+02	PHYSPROP	1.4E-07	3.4E-09	EPI	9.0E-05	PHYSPROP	1.4E+02	PHYSPROP			5.2E-02	6.1E-06	EPA WATER9			1.0E+01	EPI	-5.7E-01	PHYSPROP	1.0E+04	PHYSPROP	2.1E-04	1.8E+00	4.4E+00	3.7E-05	EPI
Aldicarb sulfoxide	1646-87-3	2.1E+02	PHYSPROP	4.0E-08	9.7E-10	EPI	1.0E-04	PHYSPROP	7.8E+01	EPI			5.4E-02	6.4E-06	EPA WATER9			1.0E+01	EPI	-7.8E-01	PHYSPROP	2.8E+04	PHYSPROP	1.8E-04	1.5E+00	3.6E+00	3.3E-05	EPI
Aldrin	309-00-2	3.6E+02	PHYSPROP	1.8E-03	4.4E-05	PHYSPROP	1.2E-04	PHYSPROP	1.0E+02	PHYSPROP	1.6E+00	PubChem	2.3E-02	5.8E-06	EPA WATER9			8.2E+04	EPI	6.5E+00	PHYSPROP	1.7E-02	PHYSPROP	2.2E+00	1.2E+01	4.8E+01	2.9E-01	EPI
Allyl Alcohol	107-18-6	5.8E+01	PHYSPROP	2.0E-04	5.0E-06	PHYSPROP	2.6E+01	PHYSPROP	-1.3E+02	PHYSPROP	8.5E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			1.9E+00	EPI	1.7E-01	PHYSPROP	1.0E+06	PHYSPROP	2.8E-03	2.2E-01	5.3E-01	9.6E-04	EPI
Allyl Chloride	107-05-1	7.7E+01	PHYSPROP	4.5E-01	1.1E-02	EPI	3.7E+02	PHYSPROP	-1.3E+02	PHYSPROP	9.4E-01	CRC89	9.4E-02	1.1E-05	EPA WATER9			4.0E+01	EPI	1.9E+00	PHYSPROP	3.4E+03	PHYSPROP	3.8E-02	2.8E-01	6.8E-01	1.1E-02	EPI
Aluminum	7429-90-5	2.7E+01	CRC89				0.0E+00	NIOSH	6.6E+02	CRC89	2.7E+00	CRC89				1.5E+03	BAES							2.0E-03	1.5E-01	3.6E-01	1.0E-03	RAGSE
Aluminum Phosphide	20859-73-8	5.8E+01	PHYSPROP						2.6E+03	CRC89	2.4E+00	CRC89												2.9E-03	2.2E-01	5.3E-01	1.0E-03	RAGSE
Ametryn	834-12-8	2.3E+02	PHYSPROP	9.9E-08	2.4E-09	EPI	2.7E-06	PHYSPROP	8.8E+01	PHYSPROP			5.1E-02	6.0E-06	EPA WATER9			4.3E+02	EPI	3.0E+00	PHYSPROP	2.1E+02	PHYSPROP	4.6E-02	2.0E+00	4.7E+00	7.9E-03	EPI
Aminobiphenyl, 4-	92-67-1	1.7E+02	PHYSPROP	6.0E-06	1.5E-07	PHYSPROP	1.2E-04	PHYSPROP	5.4E+01	PHYSPROP			6.2E-02	7.3E-06	EPA WATER9			2.5E+03	EPI	2.9E+00	PHYSPROP	2.2E+02	PHYSPROP	7.0E-02	9.3E-01	2.2E+00	1.4E-02	EPI
Aminophenol, m-	591-27-5	1.1E+02	PHYSPROP	8.1E-09	2.0E-10	PHYSPROP	9.6E-03	PHYSPROP	1.2E+02	PHYSPROP			8.3E-02	9.7E-06	EPA WATER9			9.0E+01	EPI	2.1E-01	PHYSPROP	2.7E+04	PHYSPROP	2.1E-03	4.3E-01	1.0E+00	5.3E-04	EPI
Aminophenol, p-	123-30-8	1.1E+02	PHYSPROP	1.5E-08	3.6E-10	EPI	4.0E-05	EPI	1.9E+02	PHYSPROP			8.3E-02	9.7E-06	EPA WATER9			9.0E+01	EPI	4.0E-02	PHYSPROP	1.6E+04	PHYSPROP	1.6E-03	4.3E-01	1.0E+00	4.1E-04	EPI
Amitraz	33089-61-1	2.9E+02	PHYSPROP	4.0E-04	9.9E-06	PHYSPROP	2.0E-06	PHYSPROP	8.6E+01	PHYSPROP	1.1E+00	CRC89	2.2E-02	5.4E-06	EPA WATER9			2.6E+05	EPI	5.5E+00	PHYSPROP	1.0E+00	PHYSPROP	1.1E+00	4.6E+00	1.8E+01	1.6E-01	EPI
Ammonia	7664-41-7	1.7E+01	PHYSPROP	6.6E-04	1.6E-05	PHYSPROP	7.5E+03	PHYSPROP	-7.8E+01	PHYSPROP	7.0E-01	CRC89	2.3E-01	2.2E-05	EPA WATER9					2.3E-01	OTHER	4.8E+05	PHYSPROP	1.6E-03	1.3E-01	3.1E-01	1.0E-03	RAGSE
Ammonium Sulfamate	7773-06-0	1.1E+02	CRC89				0.0E+00	NIOSH	1.3E+02	CRC89	1.8E+00	PubChem										1.3E+06	PERRY	4.1E-03	4.6E-01	1.1E+00	1.0E-03	RAGSE
Amyl Alcohol, tert-	75-85-4	8.8E+01	PHYSPROP	5.6E-04	1.4E-05	PHYSPROP	1.7E+01	PHYSPROP	-9.1E+00	PHYSPROP	8.1E-01	CRC89	7.9E-02	9.1E-06	EPA WATER9			4.1E+00	EPI	8.9E-01	PHYSPROP	1.1E+05	PHYSPROP	7.1E-03	3.3E-01	7.9E-01	2.0E-03	EPI
Aniline	62-53-3	9.3E+01	PHYSPROP	8.3E-05	2.0E-06	PHYSPROP	6.7E-01	PHYSPROP	-6.0E+00	PHYSPROP	1.0E+00	CRC89	8.3E-02	1.0E-05	EPA WATER9			7.0E+01	EPI	9.0E-01	PHYSPROP	3.6E+04	PHYSPROP	6.9E-03	3.5E-01	8.4E-01	1.9E-03	EPI
Anthraquinone, 9,10-	84-65-1	2.1E+02	PHYSPROP	9.6E-07	2.4E-08	EPI	1.2E-07	PHYSPROP	2.9E+02	PHYSPROP			5.4E-02	6.3E-06	EPA WATER9			5.0E+03	EPI	3.4E+00	PHYSPROP	1.4E+00	PHYSPROP	1.1E-01	1.5E+00	3.7E+00	1.9E-02	EPI
Antimony (metallic)	7440-36-0	1.2E+02	PHYSPROP				0.0E+00	NIOSH	6.3E+02	PHYSPROP	6.7E+00	CRC89				4.5E+01	SSL							4.3E-03	5.3E-01	1.3E+00	1.0E-03	RAGSE
Antimony Pentoxide	1314-60-9	3.2E+02	CRC89								3.8E+00	CRC89										3.0E+03	CRC89	6.9E-03	6.8E+00	1.6E+01	1.0E-03	RAGSE
Antimony Tetroxide	1332-81-6	3.1E+02	EPI								6.6E+00	CRC89												6.7E-03	5.5E+00	1.3E+01	1.0E-03	RAGSE
Antimony Trioxide	1309-64-4	2.9E+02	EPI						5.7E+02	CRC89	5.6E+00	CRC89												6.6E-03	4.5E+00	1.1E+01	1.0E-03	RAGSE
Arsenic, Inorganic	7440-38-2	7.8E+01	PHYSPROP						2.7E+02	CRC89	4.9E+00	CRC89				2.9E+01	SSL							3.4E-03	2.9E-01	6.9E-01	1.0E-03	RAGSE
Arsine	7784-42-1	7.8E+01	PHYSPROP						-1.2E+02	PHYSPROP	3.2E+00	CRC89										2.0E+05	PERRY	3.4E-03	2.9E-01	6.9E-01	1.0E-03	RAGSE
Asulam	3337-71-1	2.3E+02	PHYSPROP	7.0E-11	1.7E-12	PHYSPROP	1.4E-06	PHYSPROP	1.4E+02	PHYSPROP			5.1E-02	5.9E-06	EPA WATER9			2.8E+01	EPI	-2.7E-01	PHYSPROP	5.0E+03	PHYSPROP	3.1E-04	2.0E+00	4.9E+00	5.3E-05	EPI
Atrazine	1912-24-9	2.2E+02	PHYSPROP	9.6E-08	2.4E-09	EPI	2.9E-07	PHYSPROP	1.7E+02	PHYSPROP	1.2E+00	PubChem	2.6E-02	6.8E-06	EPA WATER9			2.2E+02	EPI	2.6E+00	PHYSPROP	3.5E+01	PHYSPROP	3.0E-02	1.7E+00	4.1E+00	5.2E-03	EPI
Auramine	492-80-8	2.7E+02	PHYSPROP	1.5E-07	3.6E-09	PHYSPROP	1.3E-06	PHYSPROP	1.4E+02	PHYSPROP			4.6E-02	5.3E-06	EPA WATER9			4.5E+03	EPI	3.0E+00	PHYSPROP	5.4E+01	PHYSPROP	7.0E-02	3.3E+00	7.9E+00	1.1E-02	RAGSE
Avermectin B1	65195-55-3	8.8E+02	PHYSPROP	5.4E-26	1.3E-27	PHYSPROP	1.5E-30	PHYSPROP	3.5E+02	EPI			2.1E-02	2.4E-06	EPA WATER9			8.8E+05	EPI	4.5E+00	PHYSPROP	3.5E-04	PHYSPROP	2.1E-04	8.4E+03	2.0E+04	1.8E-05	EPI
Azinphos-methyl	86-50-0	3.2E+02	PHYSPROP	9.8E-07	2.4E-08	EPI	1.6E-06	PHYSPROP	7.3E+01	PHYSPROP	1.4E+00	CRC89	2.3E-02	6.0E-06	EPA WATER9			5.2E+01	EPI	2.8E+00	PHYSPROP	2.1E+01	PHYSPROP	1.2E-02	6.3E+00	1.5E+01	1.8E-03	EPI
Azobenzene	103-33-3	1.8E+02	PHYSPROP	5.5E-04	1.4E-05	EPI	3.6E-04	PHYSPROP	6.8E+01	PHYSPROP	1.2E+00	PERRY	3.6E-02	7.5E-06	EPA WATER9			3.8E+03	EPI	3.8E+00	PHYSPROP	6.4E+00	PHYSPROP	2.7E-01	1.1E+00	2.6E+00	5.1E-02	EPI
Azodicarbonamide	123-77-3	1.2E+02	PHYSPROP	3.4E-11	8.2E-13	EPI	1.9E-10	PHYSPROP	2.1E+02	EPI	1.7E+00	GuideChem	8.3E-02	1.2E-05	EPA WATER9			7.0E+01	EPI	-1.7E+00	PHYSPROP	3.5E+01	PHYSPROP	1.1E-04	4.7E-01	1.1E+00	2.6E-05	EPI
Barium	7440-39-3	1.4E+02	PHYSPROP						7.1E+02	PHYSPROP	3.6E+00	CRC89				4.1E+01	SSL							4.5E-03	6.3E-01	1.5E+00	1.0E-03	RAGSE
Barium Chromate	10294-40-3	2.5E+02	CRC89						1.4E+03	CRC89	4.5E+00	CRC89										2.6E+00	CRC89	6.1E-03	2.8E+00	6.6E+00	1.0E-03	RAGSE
Benfluralin	1861-40-1	3.4E+02	PHYSPROP	1.2E-02	2.9E-04	EPI	6.5E-05	PHYSPROP	6.6E+01	PHYSPROP	1.3E+00	ChemNet	2.2E-02	5.5E-06	EPA WATER9			1.6E+04	EPI	5.3E+00	PHYSPROP	1.0E-01	PHYSPROP	4.8E-01	7.9E+00	1.9E+01	6.8E-02	EPI
Benomyl	17804-35-2	2.9E+02	PHYSPROP	2.0E-10	4.9E-12	PHYSPROP	3.7E-09	PHYSPROP	1.4E+02	EPI			4.3E-02	5.1E-06	EPA WATER9			3.4E+02	EPI	2.1E+00	PHYSPROP	3.8E+00	PHYSPROP	6.2E-03	4.4E+00	1.1E+01	9.4E-04	EPI
Bensulfuron-methyl	83055-99-6	4.1E+02	PHYSPROP	1.5E-13	3.8E-15	EPI	2.1E-14	PHYSPROP	1.9E+02	PHYSPROP			3.4E-02	4.0E-06	EPA WATER9			2.8E+01	EPI	2.2E+00	PHYSPROP	1.2E+02	PHYSPROP	1.7E-03	2.1E+01	5.0E+01	2.2E-04	EPI
Bentazon	25057-89-0	2.4E+02	PHYSPROP	8.9E-08	2.2E-09	EPI	3.5E-06	PHYSPROP	1.4E+02	PHYSPROP			4.9E-02	5.7E-06	EPA WATER9			1.0E+01	EPI	2.3E+00	PHYSPROP	5.0E+02	PHYSPROP	1.5E-02	2.3E+00	5.6E+00	2.5E-03	EPI
Benzaldehyde	100-52-7	1.1E+02	PHYSPROP	1.1E-03	2.7E-05	PHYSPROP	1.3E+00	PHYSPROP	-2.6E+01	PHYSPROP	1.0E+00	CRC89	7.4E-02	9.5E-06	EPA WATER9			1.1E+01	EPI	1.5E+00	PHYSPROP	7.0E+03	PHYSPROP	1.5E-02	4.1E-01	9.9E-01	3.8E-03	EPI
Benzene	71-43-2	7.8E+01	PHYSPROP	2.3E-01	5.6E-03	PHYSPROP	9.5E+01	PHYSPROP	5.5E+00	PHYSPROP	8.8E-01	CRC89	9.0E-02	1.0E-05	EPA WATER9			1.5E+02	EPI	2.1E+00	PHYSPROP	1.8E+03	PHYSPROP	5.1E-02	2.9E-01	6.9E-01	1.5E-02	EPI
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	2.2E+02	EPI	8.9E-22	2.2E-23	EPI	2.9E-14	EPI	2.4E+02	EPI			5.2E-02	6.1E-06	EPA WATER9			3.8E+01	EPI	-3.7E+00	EPI	1.0E+06	EPI	1.7E-06	1.8E+00	4.3E+00	3.0E-07	EPI
Benzenethiol	108-98-5	1.1E+02	PHYSPROP	1.4E-02	3.4E-04	EPI	1.9E+00	PHYSPROP	-1.5E+01	PHYSPROP	1.1E+00	CRC89	7.3E-02	9.5E-06	EPA WATER9			2.3E+02	EPI	2.5E+00	PHYSPROP	8.4E+02	PHYSPROP	7.2E-02	4.4E-01	1.0E+00	1.8E-02	EPI
Benzidine	92-87-5	1.8E+02	PHYSPROP	2.1E-09	5.2E-11	PHYSPROP	9.0E-07	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	Yaws 2008	3.5E-02	7.5E-06	EPA WATER9			1.2E+03	EPI	1.3E+00	PHYSPROP	3.2E+02	PHYSPROP	5.9E-03	1.1E+00	2.7E+00	1.1E-03	EPI
Benzoic Acid	65-85-0	1.2E+02	PHYSPROP	1.6E-06	3.8E-08	EPI	7.0E-04	PHYSPROP	1.2E+02	PHYSPROP	1.3E+00	CRC89	7.0E-02	9.8E-06	EPA WATER9			1.7E+01	EPI	1.9E+00	PHYSPROP	3.4E+03	PHYSPROP	2.4E-02	5.1E-01	1.2E+00	5.7E-03	EPI
Benzotrichloride	98-07-7	2.0E+02	PHYSPROP	1.1E-02	2.6E-04	PHYSPROP	4.1E-01	EPI	-5.0E+00	PHYSPROP	1.4E+00	CRC89	3.1E-02	7.7E-06	EPA WATER9			1.0E+03	EPI	3.9E+00	PHYSPROP	5.3E+01	PHYSPROP	2.6E-01	1.3E+00	3.1E+00	4.9E-02	EPI
Benzyl Alcohol	100-51-6	1.1E+02	PHYSPROP	1.4E-05	3.4E-07	PHYSPROP	9.4E-02	PHYSPROP	-1.5E+01	PHYSPROP	1.0E+00	CRC89	7.3E-02	9.4E-06	EPA WATER9			2.1E+01	EPI	1.1E+00	PHYSPROP	4.3E+04	PHYSPROP	8.4E-03	4.2E-01	1.0E+00	2.1E-03	EPI
Benzyl Chloride	100-44-7	1.3E+02	PHYSPROP	1.7E-02	4.1E-04	EPI	1.2E+00	PHYSPROP	-4.5E+01	PHYSPROP	1.1E+00	CRC89	6.3E-02	8.8E-06	EPA WATER9			4.5E+02	EPI	2.3E+00	PHYSPROP	5.3E+02	PHYSPROP	4.5E-02	5.4E-01	1.3E+00	1.0E-02	EPI
Beryllium and compounds	7440-41-7	1.1E+01	PHYSPROP				0.0E+00	NIOSH	9.9E+02	PHYSPROP	1.9E+00	CRC89				7.9E+02	SSL							1.3E-03	1.2E-01	2.9E-01	1.0E-03	RAGSE
Bifenox	42576-02-3	3.4E+02	PHYSPROP	4.4E-06	1.1E-07	EPI	1.0E-07	PHYSPROP	8.5E+01	PHYSPROP	1.2E+00	PubChem	2.0E-02	5.0E-06	EPA WATER9			3.7E+03	EPI	4.5E+00	PHYSPROP	4.0E-01	PHYSPROP	1.3E-01	8.7E+00	2.1E+01	1.8E-02	EPI
Biphenthrin	82657-04-3	4.2E+02	PHYSPROP	4.1E-05	1.0E-06	EPI	1.8E-07	PHYSPROP	6.9E+01	PHYSPROP	1.2E+00	CRC89	1.8E-02	4.5E-06	EPA WATER9			2.3E+06	EPI	6.0E+00	PHYSPROP	1.0E-03	PHYSPROP	1.4E+01	2.5E+01	1.1E+02	1.7E+00	EPI
Biphenyl, 1,1'-	92-52-4	1.5E+02	PHYSPROP	1.3E-02	3.1E-04	PHYSPROP	8.9E-03	PHYSPROP	6.9E+01	PHYSPROP	1.0E+00	CRC89	4.7E-02	7.6E-06	EPA WATER9			5.1E+03	EPI	4.0E+00	PHYSPROP	7.5E+00	PHYSPROP	4.5E-01	7.7E-01	1.8E+00	9.4E-02	EPI
Bis(2-chloro-1-methylethyl) ether	108-60-1	1.7E+02	PHYSPROP	3.0E-03	7.4E-05	EPI	5.6E-01	PHYSPROP	-9.7E+01	PHYSPROP	1.1E+00	CRC89	4.0E-02	7.4E-06	EPA WATER9			8.3E+01	EPI	2.5E+00	PHYSPROP	1.7E+03	PHYSPROP	3.8E-02	9.5E-01	2.3E+00	7.6E-03	EPI
Bis(2-chloroethoxy)methane	111-91-1	1.7E+02	PHYSPROP	1.6E-04	3.9E-06	EPI	1.3E-01	EPI	-3.2E+01	PHYSPROP			6.1E-02	7.1E-06	EPA WATER9			1.4E+01	EPI	1.3E+00	PHYSPROP	7.8E+03	PHYSPROP	6.2E-03	9.8E-01	2.4E+00	1.2E-03	EPI
Bis(2-chloroethyl)ether	111-44-4	1.4E+02	PHYSPROP	7.0E-04	1.7E-05	EPI	1.6E+00	PHYSPROP	-5.2E+01	PHYSPROP	1.2E+00	CRC89	5.7E-02	8.7E-06	EPA WATER9			3.2E+01	EPI	1.3E+00	PHYSPROP	1.7E+04	PHYSPROP	8.2E-03	6.6E-01	1.6E+00	1.8E-03	EPI
Bis(chloromethyl)ether	542-88-1	1.1E+02	PHYSPROP	1.8E-01	4.4E-03	EPI	2.9E+01	PHYSPROP	-4.2E+01	PHYSPROP	1.3E+00	CRC89	7.6E-02	1.0E-05	EPA WATER9			9.7E+00	EPI	5.7E-01	PHYSPROP	2.2E+04	PHYSPROP	3.5E-03	4.6E-01	1.1E+00	8.6E-04	EPI
Bisphenol A	80-05-7	2.3E+02	PHYSPROP	4.1E-10	1.0E-11	PHYSPROP	3.9E-07	PHYSPROP	1.5E+02	PHYSPROP	1.2E+00	PubChem	2.5E-02	6.5E-06	EPA WATER9			3.8E+04	EPI	3.3E+00	PHYSPROP	1.2E+02	PHYSPROP	7.7E-02	2.0E+00	4.8E+00	1.3E-02	EPI
Boron And Borates Only	7440-42-8	1.4E+01	EPI						2.1E+03	CRC89	2.3E+00	CRC89				3.0E+00	BAES							1.4E-03	1.3E-01	3.0E-01	1.0E-03	RAGSE
Boron Trichloride	10294-34-5	1.2E+02	PHYSPROP	7.5E-01	1.8E-02		1.0E+00	PHYSPROP	-1.1E+02	PHYSPROP	4.8E+00	CRC89	1.2E-01	2.2E-05	EPA WATER9					1.2E+00	OTHER			4.2E-03	4.8E-01	1.1E+00	1.0E-03	RAGSE
Boron Trifluoride	7637-07-2	6.8E+01	PHYSPROP				3.7E+04	PHYSPROP	-1.3E+02	PHYSPROP	2.8E+00	CRC89	1.6E-01	2.2E-05	EPA WATER9					2.2E-01	OTHER	3.3E+06	PHYSPROP	3.2E-03	2.5E-01	6.1E-01	1.0E-03	RAGSE
Bromate	15541-45-4	8.0E+01	EPI													7.5E+00	BAES							3.4E-03	2.9E-01	7.1E-01	1.0E-03	RAGSE
Bromo-2-chloroethane, 1-	107-04-0	1.4E+02	PHYSPROP	3.7E-02	9.1E-04	PHYSPROP	3.3E+01	PHYSPROP	-1.7E+01	PHYSPROP	1.7E+00	CRC89	6.6E-02	1.1E-05	EPA WATER9			4.0E+01	EPI	1.9E+00	PHYSPROP	6.9E+03	PHYSPROP	2.1E-02	6.7E-01	1.6E+00	4.6E-03	EPI
Bromobenzene	108-86-1	1.6E+02	PHYSPROP	1.0E-01	2.5E-03	PHYSPROP	4.2E+00	PHYSPROP	-3.1E+01	PHYSPROP	1.5E+00	CRC89	5.4E-02	9.3E-06	EPA WATER9			2.3E+02	EPI	3.0E+00	PHYSPROP	4.5E+02	PHYSPROP	9.6E-02	8.0E-01	1.9E+00	2.0E-02	EPI
Bromochloromethane	74-97-5	1.3E+02	PHYSPROP	6.0E-02	1.5E-03	EPI	1.4E+02	PHYSPROP	-8.8E+01	PHYSPROP	1.9E+00	CRC89	7.9E-02	1.2E-05	EPA WATER9			2.2E+01	EPI	1.4E+00	PHYSPROP	1.7E+04	PHYSPROP	1.1E-02	5.6E-01	1.3E+00	2.6E-03	EPI
Bromodichloromethane	75-27-4	1.6E+02	PHYSPROP	8.7E-02	2.1E-03	PHYSPROP	5.0E+01	PHYSPROP	-5.7E+01	PHYSPROP	2.0E+00	CRC89	5.6E-02	1.1E-05	EPA WATER9			3.2E+01	EPI	2.0E+00	PHYSPROP	3.0E+03	PHYSPROP	2.0E-02	8.7E-01	2.1E+00	4.0E-03	EPI
Bromoform	75-25-2	2.5E+02	PHYSPROP	2.2E-02	5.4E-04	PHYSPROP	5.4E+00	EPI	8.0E+00	PHYSPROP	2.9E+00	CRC89	3.6E-02	1.0E-05	EPA WATER9			3.2E+01	EPI	2.4E+00	PHYSPROP	3.1E+03	PHYSPROP	1.4E-02	2.7E+00	6.6E+00	2.4E-03	EPI
Bromomethane	74-83-9	9.5E+01	PHYSPROP	3.0E-01	7.3E-03	PHYSPROP	1.6E+03	PHYSPROP	-9.4E+01	PHYSPROP	1.7E+00	CRC89	1.0E-01	1.4E-05	EPA WATER9			1.3E+01	EPI	1.2E+00	PHYSPROP	1.5E+04	PHYSPROP	1.1E-02	3.6E-01	8.6E-01	2.8E-03	EPI
Bromophos	2104-96-3	3.7E+02	PHYSPROP	8.4E-03	2.1E-04	EPI	1.3E-04	PHYSPROP	5.4E+01	PHYSPROP	1.7E+00	LookChem	2.3E-02	6.1E-06	EPA WATER9			2.0E+03	EPI	5.2E+00	PHYSPROP	3.0E-01	PHYSPROP	3.0E-01	1.2E+01	2.8E+01	4.0E-02	EPI
Bromoxynil	1689-84-5	2.8E+02	PHYSPROP	5.4E-09	1.3E-10	EPI	4.7E-08	PHYSPROP	1.9E+02	PHYSPROP			4.5E-02	5.2E-06	EPA WATER9			3.3E+02	EPI	2.8E+00	PHYSPROP	1.3E+02	PHYSPROP	5.0E-02	3.7E+00	9.0E+00	7.8E-03	EPI
Bromoxynil Octanoate	1689-99-2	4.0E+02	PHYSPROP	1.3E-03	3.2E-05	EPI	4.8E-06	PHYSPROP	4.6E+01	PHYSPROP	1.5E+00	LookChem	2.1E-02	5.4E-06	EPA WATER9			4.3E+03	EPI	5.4E+00	PHYSPROP	8.0E-02	PHYSPROP	2.6E-01	1.9E+01	4.6E+01	3.3E-02	EPI
Butadiene, 1,3-	106-99-0	5.4E+01	PHYSPROP	3.0E+00	7.4E-02	EPI	2.1E+03	PHYSPROP	-1.1E+02	PHYSPROP	6.1E-01	CRC89	1.0E-01	1.0E-05	EPA WATER9			4.0E+01	EPI	2.0E+00	PHYSPROP	7.4E+02	PHYSPROP	4.6E-02	2.1E-01	5.1E-01	1.6E-02	EPI
Butanol, N-	71-36-3	7.4E+01	PHYSPROP	3.6E-04	8.8E-06	PHYSPROP	6.7E+00	PHYSPROP	-9.0E+01	PHYSPROP	8.1E-01	CRC89	9.0E-02	1.0E-05	EPA WATER9			3.5E+00	EPI	8.8E-01	PHYSPROP	6.3E+04	PHYSPROP	7.6E-03	2.7E-01	6.6E-01	2.3E-03	EPI
Butyl Benzyl Phthalate	85-68-7	3.1E+02	PHYSPROP	5.2E-05	1.3E-06	EPI	8.3E-06	PHYSPROP	-3.5E+01	PubChem	1.1E+00	CRC89	2.1E-02	5.2E-06	EPA WATER9			7.2E+03	EPI	4.7E+00	PHYSPROP	2.7E+00	PHYSPROP	2.6E-01	5.9E+00	1.4E+01	3.9E-02	EPI
Butyl alcohol, sec-	78-92-2	7.4E+01	PHYSPROP	3.7E-04	9.1E-06	PHYSPROP	1.8E+01	PHYSPROP	-1.1E+02	PHYSPROP	8.1E-01	CRC89	9.0E-02	1.0E-05	EPA WATER9			2.9E+00	EPI	6.1E-01	PHYSPROP	1.8E+05	PHYSPROP	5.1E-03	2.7E-01	6.6E-01	1.5E-03	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Butylate	2008-41-5	2.2E+02	PHYSPROP	3.5E-03	8.5E-05	EPI	1.3E-02	PHYSPROP	6.0E+01	EPI	9.4E-01	CRC89	2.3E-02	5.8E-06	EPA WATER9			3.9E+02	EPI	4.2E+00	PHYSPROP	4.5E+01	PHYSPROP	3.1E-01	1.7E+00	4.2E+00	5.4E-02	EPI
Butylated hydroxyanisole	25013-16-5	3.6E+02	PHYSPROP	4.8E-05	1.2E-06	PHYSPROP	2.5E-03	PHYSPROP	5.1E+01	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			8.4E+02	EPI	3.5E+00	PHYSPROP	2.1E+02	PHYSPROP	2.4E-01	1.1E+01	2.6E+01	3.3E-02	EPI
Butylated hydroxytoluene	128-37-0	2.2E+02	PHYSPROP	1.7E-04	4.1E-06	PHYSPROP	5.2E-03	EPI	7.1E+01	PHYSPROP	8.9E-01	CRC89	2.3E-02	5.6E-06	EPA WATER9			1.5E+04	EPI	5.1E+00	PHYSPROP	6.0E-01	PHYSPROP	1.3E+00	1.8E+00	7.1E+00	2.2E-01	EPI
Butylbenzene, n-	104-51-8	1.3E+02	PHYSPROP	6.5E-01	1.6E-02	EPI	1.1E+00	PHYSPROP	-8.8E+01	PHYSPROP	8.6E-01	CRC89	5.3E-02	7.3E-06	EPA WATER9			1.5E+03	EPI	4.4E+00	PHYSPROP	1.2E+01	PHYSPROP	1.0E+00	5.9E-01	2.3E+00	2.3E-01	EPI
Butylbenzene, sec-	135-98-8	1.3E+02	PHYSPROP	7.2E-01	1.8E-02	EPI	1.8E+00	PHYSPROP	-8.3E+01	PHYSPROP	8.6E-01	LANGE	5.3E-02	7.3E-06	EPA WATER9			1.3E+03	EPI	4.6E+00	PHYSPROP	1.8E+01	PHYSPROP	1.3E+00	5.9E-01	2.3E+00	3.0E-01	EPI
Butylbenzene, tert-	98-06-6	1.3E+02	PHYSPROP	5.4E-01	1.3E-02	EPI	2.2E+00	PHYSPROP	-5.8E+01	PHYSPROP	8.7E-01	CRC89	5.3E-02	7.4E-06	EPA WATER9			1.0E+03	EPI	4.1E+00	PHYSPROP	3.0E+01	PHYSPROP	6.6E-01	5.9E-01	2.3E+00	1.5E-01	EPI
Cacodylic Acid	75-60-5	1.4E+02	PHYSPROP	7.4E-13	1.8E-14	PHYSPROP	1.0E-07	PHYSPROP	2.0E+02	PHYSPROP			7.1E-02	8.3E-06	EPA WATER9			4.4E+01	EPI	3.6E-01	PHYSPROP	2.0E+06	PHYSPROP	2.1E-03	6.2E-01	1.5E+00	4.6E-04	EPI
Cadmium (Diet)	7440-43-9	1.1E+02	PHYSPROP				0.0E+00	NIOSH	3.2E+02	PHYSPROP	8.7E+00	CRC89				7.5E+01	SSL							4.1E-03	4.5E-01	1.1E+00	1.0E-03	RAGSE
Cadmium (Water)	7440-43-9	1.1E+02	PHYSPROP				0.0E+00	NIOSH	3.2E+02	PHYSPROP	8.7E+00	CRC89				7.5E+01	SSL							4.1E-03	4.5E-01	1.1E+00	1.0E-03	RAGSE
Calcium Chromate	13765-19-0	1.6E+02	CRC89						1.0E+03	CRC89														4.8E-03	7.9E-01	1.9E+00	1.0E-03	RAGSE
Caprolactam	105-60-2	1.1E+02	PHYSPROP	1.0E-06	2.5E-08	PHYSPROP	1.6E-03	EPI	6.9E+01	PHYSPROP	1.0E+00	LANGE	6.9E-02	9.0E-06	EPA WATER9			2.5E+01	EPI	-1.9E-01	YAWS	7.7E+05	PHYSPROP	4.1E-03	4.5E-01	1.1E+00	1.0E-03	EPI
Captafol	2425-06-1	3.5E+02	PHYSPROP	2.0E-07	4.9E-09	EPI	1.5E-08	EPI	1.6E+02	PHYSPROP			3.8E-02	4.5E-06	EPA WATER9			7.8E+02	EPI	3.8E+00	PHYSPROP	1.4E+00	PHYSPROP	4.1E-02	9.5E+00	2.3E+01	5.8E-03	EPI
Captan	133-06-2	3.0E+02	PHYSPROP	2.9E-07	7.0E-09	EPI	9.0E-08	PHYSPROP	1.8E+02	PHYSPROP	1.7E+00	CRC89	2.6E-02	6.9E-06	EPA WATER9			2.5E+02	EPI	2.8E+00	PHYSPROP	5.1E+00	PHYSPROP	1.6E-02	5.1E+00	1.2E+01	2.3E-03	EPI
Carbaryl	63-25-2	2.0E+02	PHYSPROP	1.3E-07	3.3E-09	EPI	1.4E-06	PHYSPROP	1.5E+02	PHYSPROP	1.2E+00	CRC89	2.7E-02	7.1E-06	EPA WATER9			3.5E+02	EPI	2.4E+00	PHYSPROP	1.1E+02	PHYSPROP	2.4E-02	1.4E+00	3.4E+00	4.3E-03	EPI
Carbofuran	1563-66-2	2.2E+02	PHYSPROP	1.3E-07	3.1E-09	EPI	4.9E-06	PHYSPROP	1.5E+02	PHYSPROP	1.2E+00	CRC89	2.6E-02	6.6E-06	EPA WATER9			9.5E+01	EPI	2.3E+00	PHYSPROP	3.2E+02	PHYSPROP	1.8E-02	1.8E+00	4.4E+00	3.1E-03	EPI
Carbon Disulfide	75-15-0	7.6E+01	PHYSPROP	5.9E-01	1.4E-02	PHYSPROP	3.6E+02	PHYSPROP	-1.1E+02	PHYSPROP	1.3E+00	CRC89	1.1E-01	1.3E-05	EPA WATER9			2.2E+01	EPI	1.9E+00	PHYSPROP	2.2E+03	PHYSPROP	3.8E-02	2.8E-01	6.7E-01	1.1E-02	EPI
Carbon Tetrachloride	56-23-5	1.5E+02	PHYSPROP	1.1E+00	2.8E-02	PHYSPROP	1.2E+02	PHYSPROP	-2.3E+01	PHYSPROP	1.6E+00	CRC89	5.7E-02	9.8E-06	EPA WATER9			4.4E+01	EPI	2.8E+00	PHYSPROP	7.9E+02	PHYSPROP	7.8E-02	7.6E-01	1.8E+00	1.6E-02	EPI
Carbonyl Sulfide	463-58-1	6.0E+01	PHYSPROP	2.5E+01	6.1E-01	EPI	9.4E+03	PHYSPROP	-1.4E+02	PHYSPROP	1.0E+00	CRC89	1.2E-01	1.3E-05	EPA WATER9			1.0E+00	EPI	-1.3E+00	PHYSPROP	1.2E+03	PHYSPROP	2.8E-04	2.3E-01	5.5E-01	9.4E-05	EPI
Carbosulfan	55285-14-8	3.8E+02	PHYSPROP	2.1E-05	5.1E-07	EPI	3.1E-07	PHYSPROP	1.8E+02	EPI	1.1E+00	CRC89	1.8E-02	4.4E-06	EPA WATER9			1.2E+04	EPI	5.6E+00	PHYSPROP	3.0E-01	PHYSPROP	4.3E-01	1.4E+01	3.4E+01	5.8E-02	EPI
Carboxin	5234-68-4	2.4E+02	PHYSPROP	1.3E-08	3.2E-10	EPI	1.5E-07	PHYSPROP	9.2E+01	PHYSPROP			5.0E-02	5.8E-06	EPA WATER9			1.7E+02	EPI	2.1E+00	PHYSPROP	1.5E+02	PHYSPROP	1.2E-02	2.2E+00	5.2E+00	2.0E-03	EPI
Ceric oxide	1306-38-3	1.7E+02	CRC89						2.5E+03	CRC89	7.2E+00	CRC89												5.0E-03	9.7E-01	2.3E+00	1.0E-03	RAGSE
Chloral Hydrate	302-17-0	1.7E+02	PHYSPROP	2.3E-07	5.7E-09	PHYSPROP	1.5E+01	PHYSPROP	5.7E+01	PHYSPROP	1.9E+00	CRC89	5.4E-02	1.0E-05	EPA WATER9			1.0E+00	EPI	9.9E-01	PHYSPROP	7.9E+05	PHYSPROP	4.2E-03	8.9E-01	2.1E+00	8.4E-04	EPI
Chloramben	133-90-4	2.1E+02	PHYSPROP	1.6E-09	3.9E-11	EPI	1.0E-07	PHYSPROP	2.0E+02	PHYSPROP			5.4E-02	6.4E-06	EPA WATER9			2.1E+01	EPI	1.9E+00	PHYSPROP	7.0E+02	PHYSPROP	1.1E-02	1.5E+00	3.6E+00	2.0E-03	EPI
Chloranil	118-75-2	2.5E+02	PHYSPROP	1.3E-08	3.3E-10	PHYSPROP	2.3E-06	PHYSPROP	2.9E+02	PHYSPROP			4.8E-02	5.7E-06	EPA WATER9			3.1E+02	EPI	2.2E+00	PHYSPROP	2.5E+02	PHYSPROP	1.2E-02	2.5E+00	6.0E+00	1.9E-03	EPI
Chlordane	12789-03-6	4.1E+02	PHYSPROP	2.9E-03	7.0E-05	PHYSPROP	1.0E-05	PHYSPROP	4.1E+02	PhysProp	1.6E+00	PubChem	2.1E-02	5.4E-06	EPA WATER9			3.4E+04	EPI	6.3E+00	PHYSPROP	1.3E-02	PHYSPROP	8.3E-01	2.1E+01	8.0E+01	1.1E-01	EPI
Chlordecone (Kepone)	143-50-0	4.9E+02	PHYSPROP	2.2E-06	5.4E-08	EPI	2.3E-07	PHYSPROP	3.5E+02	EPI	1.6E+00	CRC89	2.0E-02	4.9E-06	EPA WATER9			1.8E+04	EPI	5.4E+00	PHYSPROP	2.7E+00	PHYSPROP	9.3E-02	5.9E+01	1.4E+02	1.1E-02	EPI
Chlorfenvinphos	470-90-6	3.6E+02	PHYSPROP	1.2E-06	2.9E-08	EPI	7.5E-06	PHYSPROP	-2.0E+01	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			1.3E+03	EPI	3.8E+00	PHYSPROP	1.2E+02	PHYSPROP	3.7E-02	1.1E+01	2.6E+01	5.1E-03	EPI
Chlorimuron, Ethyl-	90982-32-4	4.1E+02	PHYSPROP	7.4E-14	1.8E-15	EPI	4.0E-12	PHYSPROP	1.8E+02	PHYSPROP			3.4E-02	4.0E-06	EPA WATER9			7.2E+01	EPI	2.5E+00	PHYSPROP	1.2E+03	PHYSPROP	2.6E-03	2.2E+01	5.3E+01	3.4E-04	EPI
Chlorine	7782-50-5	7.1E+01	PHYSPROP	4.8E-01	1.2E-02	PHYSPROP	5.9E+03	PHYSPROP	-1.0E+02	PHYSPROP	2.9E+00	CRC89	1.5E-01	2.2E-05	EPA WATER9	2.5E-01	BAES			8.5E-01	OTHER	6.3E+03	PHYSPROP	3.2E-03	2.6E-01	6.3E-01	1.0E-03	RAGSE
Chlorine Dioxide	10049-04-4	6.7E+01	EPI	1.6E+00	4.0E-02	Toxnet HSDB	7.6E+02	Toxnet HSDB	-5.9E+01	CRC89	2.8E+00	CRC89	1.6E-01	2.2E-05	EPA WATER9									3.2E-03	2.5E-01	6.0E-01	1.0E-03	RAGSE
Chlorite (Sodium Salt)	7758-19-2	9.0E+01	EPI						1.8E+02	CRC89												6.4E+05	CRC89	3.7E-03	3.4E-01	8.1E-01	1.0E-03	RAGSE
Chloro-1,1-difluoroethane, 1-	75-68-3	1.0E+02	PHYSPROP	2.4E+00	5.9E-02	PHYSPROP	2.5E+03	PHYSPROP	-1.3E+02	PHYSPROP	1.1E+00	CRC89	8.0E-02	1.0E-05	EPA WATER9			4.4E+01	EPI	2.1E+00	PHYSPROP	1.4E+03	PHYSPROP	3.8E-02	3.8E-01	9.2E-01	9.9E-03	EPI
Chloro-1,3-butadiene, 2-	126-99-8	8.9E+01	PHYSPROP	2.3E+00	5.6E-02	PHYSPROP	2.2E+02	PHYSPROP	-1.3E+02	PHYSPROP	9.6E-01	CRC89	8.4E-02	1.0E-05	EPA WATER9			6.1E+01	EPI	2.5E+00	PHYSPROP	8.7E+02	PHYSPROP	8.6E-02	3.3E-01	7.9E-01	2.4E-02	EPI
Chloro-2-methylaniline HCl, 4-	3165-93-3	1.8E+02	PHYSPROP	6.4E-05	1.6E-06	PHYSPROP	4.1E-02	PHYSPROP	1.6E+02	EPI			6.0E-02	7.0E-06	EPA WATER9			3.5E+02	EPI	2.3E+00	PHYSPROP	9.5E+02	PHYSPROP	9.2E-05	1.0E+00	2.5E+00	1.8E-05	EPI
Chloro-2-methylaniline, 4-	95-69-2	1.4E+02	PHYSPROP	8.1E-05	2.0E-06	PHYSPROP	4.1E-02	PHYSPROP	3.0E+01	PHYSPROP			7.0E-02	8.2E-06	EPA WATER9			1.8E+02	EPI	2.3E+00	PHYSPROP	9.5E+02	PHYSPROP	3.7E-02	6.5E-01	1.6E+00	8.1E-03	EPI
Chloroacetaldehyde, 2-	107-20-0	7.8E+01	PHYSPROP	9.8E-04	2.4E-05	PHYSPROP	6.4E+01	PHYSPROP	-1.6E+01	PHYSPROP	1.2E+00	CRC89	1.0E-01	1.2E-05	EPA WATER9			1.0E+00	EPI	9.0E-02	PHYSPROP	1.1E+05	PHYSPROP	2.2E-03	2.9E-01	6.9E-01	6.5E-04	EPI
Chloroacetic Acid	79-11-8	9.4E+01	PHYSPROP	3.8E-07	9.3E-09	PHYSPROP	6.5E-02	PHYSPROP	6.3E+01	PHYSPROP	1.4E+00	CRC89	9.4E-02	1.2E-05	EPA WATER9			1.4E+00	EPI	2.2E-01	PHYSPROP	8.6E+05	PHYSPROP	2.4E-03	3.6E-01	8.5E-01	6.5E-04	EPI
Chloroacetophenone, 2-	532-27-4	1.5E+02	PHYSPROP	1.4E-04	3.5E-06	PHYSPROP	5.4E-03	PHYSPROP	5.7E+01	PHYSPROP	1.3E+00	CRC89	5.2E-02	8.7E-06	EPA WATER9			9.9E+01	EPI	1.9E+00	PHYSPROP	1.1E+03	PERRY	1.9E-02	7.7E-01	1.9E+00	4.1E-03	EPI
Chloroaniline, p-	106-47-8	1.3E+02	PHYSPROP	4.7E-05	1.2E-06	EPI	2.7E-02	PHYSPROP	7.3E+01	PHYSPROP	1.4E+00	CRC89	7.0E-02	1.0E-05	EPA WATER9			1.1E+02	EPI	1.8E+00	PHYSPROP	3.9E+03	PHYSPROP	2.2E-02	5.4E-01	1.3E+00	5.0E-03	EPI
Chlorobenzene	108-90-7	1.1E+02	PHYSPROP	1.3E-01	3.1E-03	PHYSPROP	1.2E+01	PHYSPROP	-4.5E+01	PHYSPROP	1.1E+00	CRC89	7.2E-02	9.5E-06	EPA WATER9			2.3E+02	EPI	2.8E+00	PHYSPROP	5.0E+02	PHYSPROP	1.2E-01	4.5E-01	1.1E+00	2.8E-02	EPI
Chlorobenzilate	510-15-6	3.3E+02	PHYSPROP	3.0E-06	7.2E-08	EPI	2.2E-06	PHYSPROP	3.7E+01	PHYSPROP	1.3E+00	CRC89	2.2E-02	5.5E-06	EPA WATER9			1.5E+03	EPI	4.7E+00	PHYSPROP	1.3E+01	PHYSPROP	2.3E-01	7.0E+00	1.7E+01	3.3E-02	EPI
Chlorobenzoic Acid, p-	74-11-3	1.6E+02	PHYSPROP	3.3E-06	8.0E-08	PHYSPROP	2.3E-03	PHYSPROP	2.4E+02	PHYSPROP	1.5E+00	PERRY	5.5E-02	9.5E-06	EPA WATER9			2.7E+01	EPI	2.7E+00	PHYSPROP	7.2E+01	PHYSPROP	5.8E-02	7.9E-01	1.9E+00	1.2E-02	EPI
Chlorobenzotrifluoride, 4-	98-56-6	1.8E+02	PHYSPROP	1.4E+00	3.5E-02	PHYSPROP	7.6E+00	PHYSPROP	-3.3E+01	PHYSPROP	1.3E+00	CRC89	3.8E-02	8.0E-06	EPA WATER9			1.6E+03	EPI	3.6E+00	PHYSPROP	2.9E+01	PHYSPROP	1.9E-01	1.1E+00	2.6E+00	3.8E-02	EPI
Chlorobutane, 1-	109-69-3	9.3E+01	PHYSPROP	6.8E-01	1.7E-02	PHYSPROP	1.0E+02	PHYSPROP	-1.2E+02	PHYSPROP	8.9E-01	CRC89	7.8E-02	9.3E-06	EPA WATER9			7.2E+01	EPI	2.6E+00	PHYSPROP	1.1E+03	PHYSPROP	1.0E-01	3.5E-01	8.3E-01	2.7E-02	EPI
Chlorodifluoromethane	75-45-6	8.6E+01	PHYSPROP	1.7E+00	4.1E-02	PHYSPROP	7.3E+03	PHYSPROP	-1.6E+02	PHYSPROP	1.5E+00	CRC89	1.0E-01	1.3E-05	EPA WATER9			3.2E+01	EPI	1.1E+00	PHYSPROP	2.8E+03	PHYSPROP	9.6E-03	3.2E-01	7.7E-01	2.7E-03	EPI
Chloroethanol, 2-	107-07-3	8.1E+01	PHYSPROP	3.1E-05	7.6E-07	EPI	7.2E+00	PHYSPROP	-6.8E+01	PHYSPROP	1.2E+00	CRC89	1.0E-01	1.2E-05	EPA WATER9			1.9E+00	EPI	3.0E-02	PHYSPROP	1.0E+06	PHYSPROP	2.0E-03	3.0E-01	7.1E-01	5.8E-04	EPI
Chloroform	67-66-3	1.2E+02	PHYSPROP	1.5E-01	3.7E-03	PHYSPROP	2.0E+02	PHYSPROP	-6.4E+01	PHYSPROP	1.5E+00	CRC89	7.7E-02	1.1E-05	EPA WATER9			3.2E+01	EPI	2.0E+00	PHYSPROP	8.0E+03	PHYSPROP	2.9E-02	4.9E-01	1.2E+00	6.8E-03	EPI
Chloromethane	74-87-3	5.0E+01	PHYSPROP	3.6E-01	8.8E-03	PHYSPROP	4.3E+03	PHYSPROP	-9.8E+01	PHYSPROP	9.1E-01	CRC89	1.2E-01	1.4E-05	EPA WATER9			1.3E+01	EPI	9.1E-01	PHYSPROP	5.3E+03	PHYSPROP	9.0E-03	2.0E-01	4.8E-01	3.3E-03	EPI
Chloromethyl Methyl Ether	107-30-2	8.1E+01	PHYSPROP	1.2E-02	3.0E-04	PHYSPROP	3.0E+01	PHYSPROP	-1.0E+02	PHYSPROP	1.1E+00	CRC89	9.5E-02	1.1E-05	EPA WATER9			5.3E+00	EPI	3.2E-01	PHYSPROP	6.9E+04	PHYSPROP	3.1E-03	3.0E-01	7.1E-01	9.1E-04	EPI
Chloronitrobenzene, o-	88-73-3	1.6E+02	PHYSPROP	3.8E-04	9.3E-06	PHYSPROP	1.8E-02	EPI	3.3E+01	PHYSPROP	1.4E+00	CRC89	5.1E-02	8.8E-06	EPA WATER9			3.7E+02	EPI	2.2E+00	PHYSPROP	4.4E+02	PHYSPROP	3.0E-02	8.0E-01	1.9E+00	6.3E-03	EPI
Chloronitrobenzene, p-	100-00-5	1.6E+02	PHYSPROP	2.0E-04	4.9E-06	PHYSPROP	2.2E-02	EPI	8.4E+01	PHYSPROP	1.3E+00	CRC89	5.0E-02	8.5E-06	EPA WATER9			3.6E+02	EPI	2.4E+00	PHYSPROP	2.3E+02	PHYSPROP	3.8E-02	8.0E-01	1.9E+00	7.9E-03	EPI
Chlorophenol, 2-	95-57-8	1.3E+02	PHYSPROP	4.6E-04	1.1E-05	PHYSPROP	2.5E+00	PHYSPROP	9.8E+00	PHYSPROP	1.3E+00	CRC89	6.6E-02	9.5E-06	EPA WATER9			3.1E+02	EPI	2.2E+00	PHYSPROP	1.1E+04	PHYSPROP	3.5E-02	5.5E-01	1.3E+00	8.0E-03	EPI
Chloropicrin	76-06-2	1.6E+02	PHYSPROP	8.4E-02	2.1E-03	PHYSPROP	2.4E+01	PHYSPROP	-6.4E+01	PHYSPROP	1.7E+00	CRC89	5.2E-02	9.6E-06	EPA WATER9			4.4E+01	EPI	2.1E+00	PHYSPROP	1.6E+03	PHYSPROP	2.3E-02	8.8E-01	2.1E+00	4.6E-03	EPI
Chlorothalonil	1897-45-6	2.7E+02	PHYSPROP	8.2E-05	2.0E-06	PHYSPROP	5.7E-07	PHYSPROP	2.5E+02	PHYSPROP	1.7E+00	CRC89	2.8E-02	7.3E-06	EPA WATER9			1.0E+03	EPI	3.1E+00	PHYSPROP	8.1E-01	PHYSPROP	3.4E-02	3.2E+00	7.8E+00	5.4E-03	EPI
Chlorotoluene, o-	95-49-8	1.3E+02	PHYSPROP	1.5E-01	3.6E-03	PHYSPROP	3.4E+00	PHYSPROP	-3.6E+01	PHYSPROP	1.1E+00	CRC89	6.3E-02	8.7E-06	EPA WATER9			3.8E+02	EPI	3.4E+00	PHYSPROP	3.7E+02	PHYSPROP	2.5E-01	5.4E-01	1.3E+00	5.7E-02	EPI
Chlorotoluene, p-	106-43-4	1.3E+02	PHYSPROP	1.8E-01	4.4E-03	EPI	2.7E+00	PHYSPROP	7.5E+00	PHYSPROP	1.1E+00	CRC89	6.3E-02	8.7E-06	EPA WATER9			3.8E+02	EPI	3.3E+00	PHYSPROP	1.1E+02	PHYSPROP	2.2E-01	5.4E-01	1.3E+00	5.0E-02	EPI
Chlorozotocin	54749-90-5	2.7E+02	PHYSPROP	1.5E-20	3.7E-22	PHYSPROP	4.0E-14	PHYSPROP	1.5E+02	EPI			4.6E-02	5.4E-06	EPA WATER9			1.0E+01	EPI	-1.0E+00	PHYSPROP	1.8E+03	PHYSPROP	6.2E-05	3.2E+00	7.8E+00	9.9E-06	EPI
Chlorpropham	101-21-3	2.1E+02	PHYSPROP	2.3E-05	5.7E-07	EPI	1.8E-04	PHYSPROP	4.1E+01	PHYSPROP	1.2E+00	CRC89	2.6E-02	6.7E-06	EPA WATER9			3.5E+02	EPI	3.5E+00	PHYSPROP	8.9E+01	PHYSPROP	1.2E-01	1.7E+00	4.0E+00	2.1E-02	EPI
Chlorpyrifos	2921-88-2	3.5E+02	PHYSPROP	1.2E-04	2.9E-06	PHYSPROP	2.0E-05	PHYSPROP	4.2E+01	PHYSPROP			3.8E-02	4.5E-06	EPA WATER9			7.3E+03	EPI	5.0E+00	PHYSPROP	1.1E+00	PHYSPROP	2.4E-01	9.7E+00	2.3E+01	3.3E-02	EPI
Chlorpyrifos Methyl	5598-13-0	3.2E+02	PHYSPROP	1.5E-04	3.8E-06	EPI	4.2E-05	PHYSPROP	4.3E+01	PHYSPROP			4.0E-02	4.7E-06	EPA WATER9			2.2E+03	EPI	4.3E+00	PHYSPROP	4.8E+00	PHYSPROP	1.2E-01	6.7E+00	1.6E+01	1.8E-02	EPI
Chlorsulfuron	64902-72-3	3.6E+02	PHYSPROP	1.4E-14	3.4E-16	EPI	2.3E-11	PHYSPROP	1.8E+02	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			3.2E+02	EPI	2.0E+00	PHYSPROP	3.1E+04	PHYSPROP	2.4E-03	1.1E+01	2.5E+01	3.3E-04	EPI
Chlorthal-dimethyl	1861-32-1	3.3E+02	PHYSPROP	8.9E-05	2.2E-06	EPI	2.5E-06	PHYSPROP	1.6E+02	PHYSPROP			4.0E-02	4.6E-06	EPA WATER9			5.1E+02	EPI	4.3E+00	PHYSPROP	5.0E-01	PHYSPROP	1.1E-01	7.6E+00	1.8E+01	1.5E-02	EPI
Chlorthiophos	60238-56-4	3.6E+02	PHYSPROP	4.9E-05	1.2E-06	PHYSPROP	4.0E-01	PHYSPROP	8.6E+01	EPI			3.7E-02	4.4E-06	EPA WATER9			1.3E+04	EPI	5.8E+00	PHYSPROP	3.0E-01	PHYSPROP	7.7E-01	1.1E+01	4.3E+01	1.1E-01	EPI
Chromium(III), Insoluble Salts	16065-83-1	5.2E+01	EPI								5.2E+00	CRC89				1.8E+06	SSL							2.8E-03	2.1E-01	4.9E-01	1.0E-03	RAGSE
Chromium(VI)	18540-29-9	5.2E+01	EPI													1.9E+01	SSL					1.7E+06	CRC89	5.5E-03	2.1E-01	4.9E-01	2.0E-03	RAGSE
Chromium, Total	7440-47-3	5.2E+01	PHYSPROP						1.9E+03	PHYSPROP	7.2E+00	CRC89				1.8E+06	SSL							2.8E-03	2.1E-01	4.9E-01	1.0E-03	RAGSE
Clofentezine	74115-24-5	3.0E+02	PHYSPROP	1.6E-08	3.9E-10	EPI	9.8E-10	PHYSPROP	1.8E+02	PHYSPROP			4.2E-02	4.9E-06	EPA WATER9			3.0E+04	EPI	3.1E+00	PHYSPROP	1.0E+00	PHYSPROP	2.4E-02	5.2E+00	1.3E+01	3.6E-03	EPI
Cobalt	7440-48-4	5.9E+01	EPI				0.0E+00	NIOSH	1.5E+03	CRC89	8.9E+00	CRC89				4.5E+01	BAES							1.2E-03	2.2E-01	5.4E-01	4.0E-04	RAGSE
Coke Oven Emissions	8007-45-2			4.5E-01	1.1E-02	Toxnet HSDB	9.5E+01	Toxnet HSDB					1.0E-01	1.2E-05	EPA WATER9			1.6E+04										
Copper	7440-50-8	6.4E+01	PHYSPROP				0.0E+00	NIOSH	1.1E+03	PHYSPROP	9.0E+00	CRC89				3.5E+01	BAES							3.1E-03	2.4E-01	5.7E-01	1.0E-03	RAGSE
Cresol, m-	108-39-4	1.1E+02	PHYSPROP	3.5E-05	8.6E-07	PHYSPROP	1.1E-01	PHYSPROP	1.2E+01	PHYSPROP	1.0E+00	CRC89	7.3E-02	9.3E-06	EPA WATER9			3.0E+02	EPI	2.0E+00	PHYSPROP	2.3E+04	PHYSPROP	3.1E-02	4.2E-01	1.0E+00	7.8E-03	EPI
Cresol, o-	95-48-7	1.1E+02	PHYSPROP	4.9E-05	1.2E-06	PHYSPROP	3.0E-01	EPI	3.0E+01	PHYSPROP	1.0E+00	CRC89	7.3E-02	9.3E-06	EPA WATER9			3.1E+02	EPI	2.0E+00	PHYSPROP	2.6E+04	PHYSPROP	3.1E-02	4.2E-01	1.0E+00	7.7E-03	EPI
Cresol, p-	106-44-5	1.1E+02	PHYSPROP	4.1E-05	1.0E-06	PHYSPROP	1.1E-01	PHYSPROP	3.6E+01	PHYSPROP	1.0E+00	CRC89	7.2E-02	9.2E-06	EPA WATER9			3.0E+02	EPI	1.9E+00	PHYSPROP	2.2E+04	PHYSPROP	3.0E-02	4.2E-01	1.0E+00	7.5E-03	EPI
Cresol, p-chloro-m-	59-50-7	1.4E+02	PHYSPROP	1.0E-04	2.5E-06	EPI	5.0E-02	PHYSPROP	6.7E+01	PHYSPROP			7.0E-02	8.1E-06	EPA WATER9			4.9E+02	EPI	3.1E+00	PHYSPROP	3.8E+03	PHYSPROP	1.3E-01	6.6E-01	1.6E+00	2.9E-02	EPI
Cresols	1319-77-3	3.2E+02	PHYSPROP	2.5E-05	6.2E-07	PHYSPROP	1.7E-01	PHYSPROP	3.0E+01	EPI			4.0E-02	4.7E-06	EPA WATER9			3.1E+02	EPI	2.0E+00	PHYSPROP	9.1E+03	PHYSPROP	5.3E-02	6.9E+00	1.7E+01	7.7E-03	EPI
Crotonaldehyde, trans-	123-73-9	7.0E+01	PHYSPROP	7.9E-04	1.9E-05	PHYSPROP	3.0E+01	PHYSPROP	-7.6E+01	PHYSPROP	8.5E-01	CRC89	9.6E-02	1.1E-05	EPA WATER9			1.8E+00	EPI	6.0E-01	PHYSPROP	1.5E+05	PHYSPROP	5.1E-03	2.6E-01	6.2E-01	1.6E-03	EPI
Cumene	98-82-8	1.2E+02	PHYSPROP	4.7E-01	1.2E-02	PHYSPROP	4.5E+00	PHYSPROP	-9.6E+01	PHYSPROP	8.6E-01	CRC89	6.0E-02	7.9E-06	EPA WATER9			7.0E+02	EPI	3.7E+00	PHYSPROP	6.1E+01	PHYSPROP	3.8E-01	5.0E-01	1.2E+00	9.0E-02	EPI
Cupferron	135-20-6	1.6E+02	PHYSPROP	1.5E-07	3.6E-09	PHYSPROP	6.3E-05	PHYSPROP	1.6E+02	PHYSPROP			6.6E-02	7.7E-06	EPA WATER9			7.6E+02	EPI	-1.7E+00	PHYSPROP	6.1E+05	PHYSPROP	8.0E-06	7.8E-01	1.9E+00	1.7E-06	EPI
Cyanazine	21725-46-2	2.4E+02	PHYSPROP	1.1E-10	2.6E-12	EPI	1.4E-07	PHYSPROP	1.7E+02	PHYSPROP			4.9E-02	5.7E-06	EPA WATER9			1.3E+02	EPI	2.2E+00	PHYSPROP	1.7E+02	PHYSPROP	1.2E-02	2.3E+00	5.6E+00	2.1E-03	EPI
Cyanides																												
~Calcium Cyanide	592-01-8	9.2E+01	PHYSPROP																					3.7E-03	3.4E-01	8.3E-01	1.0E-03	RAGSE
~Copper Cyanide	544-92-3	9.0E+01	PHYSPROP						4.7E+02	PHYSPROP	2.9E+00	CRC89												3.6E-03	3.3E-01	8.0E-01	1.0E-03	RAGSE
~Cyanide (CN-)	57-12-5	2.6E+01	PHYSPROP	9.9E-01	2.4E-02	PHYSPROP	3.1E+02	PHYSPROP			7.0E-01	CHEM GUIDE	2.1E-01	2.5E-05	EPA WATER9	9.9E+00	SSL					9.5E+04	PHYSPROP	2.0E-03	1.5E-01	3.5E-01	1.0E-03	RAGSE
~Cyanogen	460-19-5	5.2E+01	PHYSPROP	2.2E-01	5.4E-03	EPI	4.3E+03	PHYSPROP	-2.8E+01	PHYSPROP	9.5E-01	CRC89	1.2E-01	1.4E-05	EPA WATER9					7.0E-02	PHYSPROP	9.5E+03	YAWS	2.5E-03	2.1E-01	4.9E-01	8.9E-04	RAGSE
~Cyanogen Bromide	506-68-3	1.1E+02	PHYSPROP	1.0E+00	2.5E-02	EPI	1.2E+02	PHYSPROP	5.2E+01	PHYSPROP	2.0E+00	CRC89	9.8E-02	1.4E-05	EPA WATER9									1.0E-03	4.1E-01	9.9E-01	2.6E-04	RAGSE
~Cyanogen Chloride	506-77-4	6.1E+01	PHYSPROP	7.9E-02	1.9E-03	YAWS	1.2E+03	PHYSPROP	-6.6E+00	PHYSPROP	1.2E+00	CRC89	1.2E-01	1.4E-05	EPA WATER9							6.0E+04	PHYSPROP	1.2E-03	2.3E-01	5.6E-01	3.9E-04	RAGSE

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC ($atm\text{-}m^3/mole$)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
~Hydrogen Cyanide	74-90-8	2.7E+01	PHYSPROP	5.4E-03	1.3E-04	PHYSPROP	7.4E+02	PHYSPROP	-1.3E+01	PHYSPROP	6.9E-01	CRC89	1.7E-01	1.7E-05	EPA WATER9	9.9E+00	SSL			-2.5E-01	PHYSPROP	1.0E+06	PHYSPROP	2.0E-03	1.5E-01	3.6E-01	1.0E-03	RAGSE
~Potassium Cyanide	151-50-8	6.5E+01	PHYSPROP				0.0E+00	NIOSH	6.3E+02	PHYSPROP	1.6E+00	CRC89										7.2E+05	PHYSPROP	6.2E-03	2.4E-01	5.8E-01	2.0E-03	RAGSE
~Potassium Silver Cyanide	506-61-6	2.0E+02	PHYSPROP																					1.1E-02	1.4E+00	3.3E+00	2.0E-03	RAGSE
~Silver Cyanide	506-64-9	1.3E+02	PHYSPROP						3.2E+02	PHYSPROP	4.0E+00	CRC89										2.3E+01	PHYSPROP	4.5E-03	5.9E-01	1.4E+00	1.0E-03	RAGSE
~Sodium Cyanide	143-33-9	4.9E+01	PHYSPROP				0.0E+00	NIOSH	5.6E+02	PHYSPROP	1.6E+00	CRC89										5.8E+05	CRC89	2.7E-03	2.0E-01	4.7E-01	1.0E-03	RAGSE
~Thiocyanates	NA																										1.0E-03	RAGSE
~Thiocyanic Acid	463-56-9	5.9E+01	PHYSPROP				4.7E+00	PPRTV	5.0E+00	PPRTV	1.1E+00	PPRTV	1.2E-01	1.4E-05	EPA WATER9					5.8E-01	OTHER			3.0E-03	2.3E-01	5.4E-01	1.0E-03	RAGSE
~Zinc Cyanide	557-21-1	1.2E+02	PHYSPROP						8.0E+01	PERRY	1.9E+00	CRC89										4.7E+00	CRC89	2.5E-03	4.8E-01	1.1E+00	6.0E-04	RAGSE
Cyclohexane	110-82-7	8.4E+01	PHYSPROP	6.1E+00	1.5E-01	PHYSPROP	9.7E+01	PHYSPROP	6.6E+00	PHYSPROP	7.7E-01	CRC89	8.0E-02	9.1E-06	EPA WATER9			1.5E+02	EPI	3.4E+00	PHYSPROP	5.5E+01	PHYSPROP	3.6E-01	3.1E-01	7.5E-01	1.0E-01	EPI
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	5.1E+02	PHYSPROP	3.9E-05	9.6E-07	PHYSPROP	3.5E-06	PHYSPROP	2.0E+02	CRC89			3.0E-02	3.5E-06	EPA WATER9			2.8E+03	EPI	4.7E+00	PHYSPROP	5.5E-02	PHYSPROP	2.5E-02	7.9E+01	1.9E+02	2.8E-03	EPI
Cyclohexanone	108-94-1	9.8E+01	PHYSPROP	3.7E-04	9.0E-06	PHYSPROP	4.3E+00	PHYSPROP	-3.1E+01	PHYSPROP	9.5E-01	CRC89	7.7E-02	9.4E-06	EPA WATER9			1.7E+01	EPI	8.1E-01	PHYSPROP	2.5E+04	PHYSPROP	5.8E-03	3.7E-01	8.9E-01	1.5E-03	EPI
Cyclohexene	110-83-8	8.2E+01	PHYSPROP	1.9E+00	4.6E-02	PHYSPROP	8.9E+01	PHYSPROP	-1.0E+02	PHYSPROP	8.1E-01	NIOSH	8.3E-02	9.5E-06	EPA WATER9			1.5E+02	EPI	2.9E+00	PHYSPROP	2.1E+02	PHYSPROP	1.5E-01	3.0E-01	7.3E-01	4.3E-02	EPI
Cyclohexylamine	108-91-8	9.9E+01	PHYSPROP	1.7E-04	4.2E-06	PHYSPROP	1.0E+01	PHYSPROP	-1.8E+01	PHYSPROP	8.2E-01	CRC89	7.1E-02	8.5E-06	EPA WATER9			3.2E+01	EPI	1.5E+00	PHYSPROP	1.0E+06	PHYSPROP	1.6E-02	3.8E-01	9.1E-01	4.3E-03	EPI
Cyfluthrin	68359-37-5	4.3E+02	PHYSPROP	1.2E-06	2.9E-08	EPI	1.5E-10	PHYSPROP	6.0E+01	PHYSPROP			3.3E-02	3.9E-06	EPA WATER9			1.3E+05	EPI	6.0E+00	PHYSPROP	3.0E-03	PHYSPROP	4.1E-01	2.8E+01	6.8E+01	5.2E-02	EPI
Cyhalothrin	68085-85-8	4.5E+02	PHYSPROP	6.1E-05	1.5E-06	EPI	1.5E-09	EPI	4.9E+01	EPI			3.2E-02	3.8E-06	EPA WATER9			3.4E+05	EPI	6.9E+00	PHYSPROP	5.0E-03	PHYSPROP	1.7E+00	3.5E+01	1.4E+02	2.1E-01	EPI
Cypermethrin	52315-07-8	4.2E+02	PHYSPROP	1.7E-05	4.2E-07	EPI	3.1E-09	PHYSPROP	8.1E+01	PHYSPROP	1.3E+00	CRC89	1.9E-02	4.7E-06	EPA WATER9			8.0E+04	EPI	6.6E+00	PHYSPROP	4.0E-03	PHYSPROP	6.0E-01	2.3E+01	9.1E+01	7.7E-02	EPI
Cyromazine	66215-27-8	1.7E+02	PHYSPROP	2.3E-12	5.7E-14	EPI	3.4E-09	PHYSPROP	2.2E+02	PHYSPROP			6.3E-02	7.3E-06	EPA WATER9			2.9E+01	EPI	-6.1E-02	PHYSPROP	1.3E+04	PHYSPROP	4.0E-03	9.0E-01	2.2E+00	8.0E-04	EPI
DDD	72-54-8	3.2E+02	PHYSPROP	2.7E-04	6.6E-06	PHYSPROP	1.4E-06	PHYSPROP	1.1E+02	PHYSPROP			4.1E-02	4.7E-06	EPA WATER9			1.2E+05	EPI	6.0E+00	PHYSPROP	9.0E-02	PHYSPROP	1.7E+00	6.5E+00	2.6E+01	2.5E-01	EPI
DDE, p,p'-	72-55-9	3.2E+02	PHYSPROP	1.7E-03	4.2E-05	PHYSPROP	6.0E-06	EPI	8.9E+01	PHYSPROP	1.4E+00	LookChem	2.3E-02	5.9E-06	EPA WATER9			1.2E+05	EPI	6.5E+00	PHYSPROP	4.0E-02	PHYSPROP	3.7E+00	6.4E+00	2.7E+01	5.5E-01	EPI
DDT	50-29-3	3.5E+02	PHYSPROP	3.4E-04	8.3E-06	PHYSPROP	1.6E-07	PHYSPROP	1.1E+02	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			1.7E+05	EPI	6.9E+00	PHYSPROP	5.5E-03	PHYSPROP	4.5E+00	1.0E+01	4.4E+01	6.3E-01	EPI
Dalapon	75-99-0	1.4E+02	PHYSPROP	2.3E-06	5.7E-08	EPI	1.5E-01	EPI	-5.0E+00	PHYSPROP	1.4E+00	CRC89	6.0E-02	9.4E-06	EPA WATER9			3.2E+00	EPI	7.8E-01	PHYSPROP	5.0E+05	PHYSPROP	3.7E-03	6.6E-01	1.6E+00	8.2E-04	EPI
Daminozide	1596-84-5	1.6E+02	PHYSPROP	1.7E-08	4.2E-10	EPI	2.0E-04	PHYSPROP	1.5E+02	PHYSPROP			6.4E-02	7.5E-06	EPA WATER9			1.0E+01	EPI	-1.5E+00	PHYSPROP	1.0E+05	PHYSPROP	9.7E-05	8.3E-01	2.0E+00	2.0E-05	EPI
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209	1163-19-5	9.6E+02	PHYSPROP	4.9E-07	1.2E-08	PHYSPROP	4.7E-12	PHYSPROP	3.1E+02	PHYSPROP	3.0E+00	IRIS	1.9E-02	4.8E-06	EPA WATER9			2.8E+05	EPI	1.2E+01	PHYSPROP	1.0E-04	PHYSPROP	8.6E+00	2.5E+04	1.1E+05	7.3E-01	EPI
Demeton	8065-48-3	5.2E+02	PHYSPROP	1.6E-04	3.8E-06	PHYSPROP	3.4E-04	PHYSPROP			1.1E+00	PubChem	1.6E-02	3.8E-06	EPA WATER9					3.2E+00	PHYSPROP	6.7E+02	PHYSPROP	6.6E-02	8.2E+01	2.0E+02	7.6E-03	RAGSE
Di(2-ethylhexyl)adipate	103-23-1	3.7E+02	PHYSPROP	1.8E-05	4.3E-07	PHYSPROP	8.5E-07	PHYSPROP	-6.8E+01	PHYSPROP	9.2E-01	CRC89	1.7E-02	4.2E-06	EPA WATER9			3.6E+04	EPI	6.1E+00	PHYSPROP	7.8E-01	PHYSPROP	2.4E+01	1.3E+01	5.8E+01	3.2E+00	EPI
Diallate	2303-16-4	2.7E+02	PHYSPROP	1.6E-04	3.8E-06	EPI	1.5E-04	PHYSPROP	2.5E+01	PHYSPROP			4.5E-02	5.3E-06	EPA WATER9			6.4E+02	EPI	4.5E+00	PHYSPROP	1.4E+01	PHYSPROP	2.9E-01	3.4E+00	8.2E+00	4.6E-02	EPI
Diazinon	333-41-5	3.0E+02	PHYSPROP	4.6E-06	1.1E-07	PHYSPROP	9.0E-05	PHYSPROP	8.8E+01	EPI	1.1E+00	CRC89	2.1E-02	5.2E-06	EPA WATER9			3.0E+03	EPI	3.8E+00	PHYSPROP	4.0E+01	PHYSPROP	7.0E-02	5.3E+00	1.3E+01	1.0E-02	EPI
Dibenzothiophene	132-65-0	1.8E+02	PHYSPROP	1.4E-03	3.4E-05	EPI	2.1E-04	EPI	9.7E+01	PHYSPROP	1.3E+00	ChemNet	3.6E-02	7.6E-06	EPA WATER9			9.2E+03	EPI	4.4E+00	PHYSPROP	1.5E+00	PHYSPROP	6.2E-01	1.1E+00	4.5E+00	1.2E-01	EPI
Dibromo-3-chloropropane, 1,2-	96-12-8	2.4E+02	PHYSPROP	6.0E-03	1.5E-04	EPI	5.8E-01	PHYSPROP	6.0E+00	PHYSPROP	2.1E+00	CRC89	3.2E-02	8.9E-06	EPA WATER9			1.2E+02	EPI	3.0E+00	PHYSPROP	1.2E+03	PHYSPROP	4.1E-02	2.2E+00	5.3E+00	6.9E-03	EPI
Dibromobenzene, 1,3-	108-36-1	2.4E+02	PHYSPROP	5.1E-02	1.2E-03	EPI	2.7E-01	PHYSPROP	-7.0E+00	PHYSPROP	2.0E+00	CRC89	3.1E-02	8.5E-06	EPA WATER9			3.8E+02	EPI	3.8E+00	PHYSPROP	6.8E+01	PHYSPROP	1.4E-01	2.2E+00	5.3E+00	2.3E-02	EPI
Dibromobenzene, 1,4-	106-37-6	2.4E+02	PHYSPROP	3.7E-02	8.9E-04	EPI	5.8E-02	PHYSPROP	8.7E+01	PHYSPROP	2.3E+00	CRC89	3.3E-02	9.3E-06	EPA WATER9			3.8E+02	EPI	3.8E+00	PHYSPROP	2.0E+01	PHYSPROP	1.4E-01	2.2E+00	5.3E+00	2.5E-02	EPI
Dibromochloromethane	124-48-1	2.1E+02	PHYSPROP	3.2E-02	7.8E-04	PHYSPROP	5.5E+00	PHYSPROP	-2.0E+01	PHYSPROP	2.5E+00	CRC89	3.7E-02	1.1E-05	EPA WATER9			3.2E+01	EPI	2.2E+00	PHYSPROP	2.7E+03	PHYSPROP	1.6E-02	1.5E+00	3.7E+00	2.9E-03	EPI
Dibromoethane, 1,2-	106-93-4	1.9E+02	PHYSPROP	2.7E-02	6.5E-04	PHYSPROP	1.1E+01	PHYSPROP	9.9E+00	PHYSPROP	2.2E+00	CRC89	4.3E-02	1.0E-05	EPA WATER9			4.0E+01	EPI	2.0E+00	PHYSPROP	3.9E+03	PHYSPROP	1.5E-02	1.2E+00	2.8E+00	2.8E-03	EPI
Dibromomethane (Methylene Bromide)	74-95-3	1.7E+02	PHYSPROP	3.4E-02	8.2E-04	PHYSPROP	4.4E+01	PHYSPROP	-5.3E+01	PHYSPROP	2.5E+00	CRC89	5.5E-02	1.2E-05	EPA WATER9			2.2E+01	EPI	1.7E+00	PHYSPROP	1.2E+04	PHYSPROP	1.1E-02	9.9E-01	2.4E+00	2.2E-03	EPI
Dibutyltin Compounds	NA																											
Dicamba	1918-00-9	2.2E+02	PHYSPROP	8.9E-08	2.2E-09	EPI	1.3E-05	PHYSPROP	1.2E+02	PHYSPROP	1.6E+00	CRC89	2.9E-02	7.8E-06	EPA WATER9			2.9E+01	EPI	2.2E+00	PHYSPROP	8.3E+03	PHYSPROP	1.5E-02	1.8E+00	4.4E+00	2.7E-03	EPI
Dichloro-2-butene, 1,4-	764-41-0	1.3E+02	PHYSPROP	3.5E-01	8.5E-03	PHYSPROP	3.0E+00	EPI	3.5E+00	PHYSPROP	1.2E+00	LANGE	6.7E-02	9.3E-06	EPA WATER9			1.3E+02	EPI	2.6E+00	PHYSPROP	5.8E+02	PHYSPROP	7.1E-02	5.3E-01	1.3E+00	1.7E-02	EPI
Dichloro-2-butene, cis-1,4-	1476-11-5	1.3E+02	PHYSPROP	2.7E-02	6.6E-04	EPI	4.1E+00	PHYSPROP	-4.8E+01	PHYSPROP	1.2E+00	CRC89	6.7E-02	9.3E-06	EPA WATER9			1.3E+02	EPI	2.6E+00	PHYSPROP	5.8E+02	PHYSPROP	7.1E-02	5.3E-01	1.3E+00	1.7E-02	EPI
Dichloro-2-butene, trans-1,4-	110-57-6	1.3E+02	PHYSPROP	2.7E-02	6.6E-04	EPI	3.4E+00	PHYSPROP	2.0E+00	PHYSPROP	1.2E+00	CRC89	6.6E-02	9.3E-06	EPA WATER9			1.3E+02	EPI	2.6E+00	PHYSPROP	8.5E+02	PHYSPROP	7.1E-02	5.3E-01	1.3E+00	1.7E-02	EPI
Dichloroacetic Acid	79-43-6	1.3E+02	PHYSPROP	3.4E-07	8.4E-09	PHYSPROP	1.8E-01	PHYSPROP	1.4E+01	PHYSPROP	1.6E+00	CRC89	7.2E-02	1.1E-05	EPA WATER9			2.3E+00	EPI	9.2E-01	PHYSPROP	1.0E+06	PHYSPROP	5.3E-03	5.5E-01	1.3E+00	1.2E-03	EPI
Dichlorobenzene, 1,2-	95-50-1	1.5E+02	PHYSPROP	7.8E-02	1.9E-03	PHYSPROP	1.4E+00	PHYSPROP	-1.7E+01	PHYSPROP	1.3E+00	CRC89	5.6E-02	8.9E-06	EPA WATER9			3.8E+02	EPI	3.4E+00	PHYSPROP	1.6E+02	PHYSPROP	2.1E-01	7.0E-01	1.7E+00	4.5E-02	EPI
Dichlorobenzene, 1,4-	106-46-7	1.5E+02	PHYSPROP	9.9E-02	2.4E-03	PHYSPROP	1.7E+00	PHYSPROP	5.2E+01	PHYSPROP	1.2E+00	CRC89	5.5E-02	8.7E-06	EPA WATER9			3.8E+02	EPI	3.4E+00	PHYSPROP	8.1E+01	PHYSPROP	2.1E-01	7.0E-01	1.7E+00	4.5E-02	EPI
Dichlorobenzidine, 3,3'-	91-94-1	2.5E+02	PHYSPROP	1.2E-09	2.8E-11	PHYSPROP	2.6E-07	PHYSPROP	1.3E+02	PHYSPROP			4.7E-02	5.5E-06	EPA WATER9			3.2E+03	EPI	3.5E+00	PHYSPROP	3.1E+00	PHYSPROP	7.8E-02	2.8E+00	6.6E+00	1.3E-02	EPI
Dichlorobenzophenone, 4,4'-	90-98-2	2.5E+02	PHYSPROP	4.4E-05	1.1E-06	PHYSPROP	6.4E-06	PHYSPROP	1.5E+02	PHYSPROP	1.5E+00	CRC89	2.6E-02	6.9E-06	EPA WATER9			2.9E+03	EPI	4.4E+00	PHYSPROP	8.3E-01	PHYSPROP	3.3E-01	2.7E+00	6.4E+00	5.4E-02	EPI
Dichlorodifluoromethane	75-71-8	1.2E+02	PHYSPROP	1.4E+01	3.4E-01	PHYSPROP	4.8E+03	PHYSPROP	-1.6E+02	PHYSPROP	1.5E+00	PERRY	7.6E-02	1.1E-05	EPA WATER9			4.4E+01	EPI	2.2E+00	PHYSPROP	2.8E+02	PHYSPROP	3.8E-02	5.0E-01	1.2E+00	9.0E-03	EPI
Dichloroethane, 1,1-	75-34-3	9.9E+01	PHYSPROP	2.3E-01	5.6E-03	PHYSPROP	2.3E+02	PHYSPROP	-9.7E+01	PHYSPROP	1.2E+00	CRC89	8.4E-02	1.1E-05	EPA WATER9			3.2E+01	EPI	1.8E+00	PHYSPROP	5.0E+03	PHYSPROP	2.6E-02	3.8E-01	9.0E-01	6.8E-03	EPI
Dichloroethane, 1,2-	107-06-2	9.9E+01	PHYSPROP	4.8E-02	1.2E-03	PHYSPROP	7.9E+01	PHYSPROP	-3.6E+01	PHYSPROP	1.2E+00	CRC89	8.6E-02	1.1E-05	EPA WATER9			4.0E+01	EPI	1.5E+00	PHYSPROP	8.6E+03	PHYSPROP	1.6E-02	3.8E-01	9.0E-01	4.2E-03	EPI
Dichloroethylene, 1,1-	75-35-4	9.7E+01	PHYSPROP	1.1E+00	2.6E-02	PHYSPROP	6.0E+02	PHYSPROP	-1.2E+02	PHYSPROP	1.2E+00	CRC89	8.6E-02	1.1E-05	EPA WATER9			3.2E+01	EPI	2.1E+00	PHYSPROP	2.4E+03	PHYSPROP	4.4E-02	3.7E-01	8.8E-01	1.2E-02	EPI
Dichloroethylene, 1,2-cis-	156-59-2	9.7E+01	PHYSPROP	1.7E-01	4.1E-03	PHYSPROP	2.0E+02	PHYSPROP	-8.0E+01	PHYSPROP	1.3E+00	CRC89	8.8E-02	1.1E-05	EPA WATER9			4.0E+01	EPI	1.9E+00	PHYSPROP	6.4E+03	PHYSPROP	4.2E-02	3.7E-01	8.8E-01	1.1E-02	EPI
Dichloroethylene, 1,2-trans-	156-60-5	9.7E+01	PHYSPROP	3.8E-01	9.4E-03	PHYSPROP	3.3E+02	EPI	-5.0E+01	PHYSPROP	1.3E+00	CRC89	8.8E-02	1.1E-05	EPA WATER9			4.0E+01	EPI	2.1E+00	PHYSPROP	4.5E+03	PHYSPROP	4.2E-02	3.7E-01	8.8E-01	1.1E-02	EPI
Dichlorophenol, 2,4-	120-83-2	1.6E+02	PHYSPROP	1.8E-04	4.3E-06	EPI	9.0E-02	PHYSPROP	4.5E+01	PHYSPROP	1.4E+00	PERRY	4.9E-02	8.7E-06	EPA WATER9			4.9E+02	EPI	3.1E+00	PHYSPROP	5.6E+03	PHYSPROP	1.0E-01	8.6E-01	2.1E+00	2.1E-02	EPI
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	2.2E+02	PHYSPROP	1.4E-06	3.5E-08	EPI	8.3E-05	PHYSPROP	1.4E+02	PHYSPROP	1.4E+00	PubChem	2.8E-02	7.3E-06	EPA WATER9			3.0E+01	EPI	2.8E+00	PHYSPROP	6.8E+02	PHYSPROP	3.8E-02	1.8E+00	4.4E+00	6.6E-03	EPI
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6	2.5E+02	PHYSPROP	9.4E-08	2.3E-09	PHYSPROP	1.1E-05	PHYSPROP	1.2E+02	PHYSPROP	1.4E+00	ChemNet	2.6E-02	6.7E-06	EPA WATER9			3.7E+02	PubChem	3.5E+00	PHYSPROP	4.6E+01	PHYSPROP	8.4E-02	2.6E+00	6.3E+00	1.4E-02	EPI
Dichloropropane, 1,2-	78-87-5	1.1E+02	PHYSPROP	1.2E-01	2.8E-03	PHYSPROP	5.3E+01	PHYSPROP	-1.0E+02	PHYSPROP	1.2E+00	PERRY	7.3E-02	9.7E-06	EPA WATER9			6.1E+01	EPI	2.0E+00	PHYSPROP	2.8E+03	PHYSPROP	3.1E-02	4.5E-01	1.1E+00	7.5E-03	EPI
Dichloropropane, 1,3-	142-28-9	1.1E+02	PHYSPROP	4.0E-02	9.8E-04	PHYSPROP	1.8E+01	PHYSPROP	-1.0E+02	PHYSPROP	1.2E+00	CRC89	7.4E-02	9.8E-06	EPA WATER9			7.2E+01	EPI	2.0E+00	PHYSPROP	2.8E+03	PHYSPROP	3.2E-02	4.5E-01	1.1E+00	7.8E-03	EPI
Dichloropropanol, 2,3-	616-23-9	1.3E+02	PHYSPROP	1.5E-07	3.6E-09	PHYSPROP	1.8E-01	PHYSPROP	-2.5E+01	EPI	1.4E+00	CRC89	6.8E-02	9.9E-06	EPA WATER9			5.6E+00	EPI	7.8E-01	PHYSPROP	6.4E+04	PHYSPROP	4.3E-03	5.5E-01	1.3E+00	9.8E-04	EPI
Dichloropropene, 1,3-	542-75-6	1.1E+02	PHYSPROP	1.5E-01	3.6E-03	PHYSPROP	3.4E+01	PHYSPROP	-5.0E+01	PHYSPROP	1.2E+00	LANGE	7.6E-02	1.0E-05	EPA WATER9			7.2E+01	EPI	2.0E+00	PHYSPROP	2.8E+03	PHYSPROP	3.4E-02	4.4E-01	1.1E+00	8.3E-03	EPI
Dichlorvos	62-73-7	2.2E+02	PHYSPROP	2.4E-05	5.7E-07	EPI	1.6E-02	PHYSPROP	-6.0E+01	PHYSPROP	1.4E+00	CRC89	2.8E-02	7.3E-06	EPA WATER9			5.4E+01	EPI	1.4E+00	PHYSPROP	8.0E+03	PHYSPROP	4.6E-03	1.8E+00	4.4E+00	8.0E-04	EPI
Dicrotophos	141-66-2	2.4E+02	PHYSPROP	2.1E-09	5.0E-11	PHYSPROP	1.6E-04	PHYSPROP	7.9E+01	EPI	1.2E+00	CRC89	2.5E-02	6.4E-06	EPA WATER9			1.7E+01	EPI	0.0E+00	PHYSPROP	1.0E+06	PHYSPROP	4.3E-04	2.2E+00	5.4E+00	7.3E-05	EPI
Dicyclopentadiene	77-73-6	1.3E+02	PHYSPROP	2.6E+00	6.3E-02	PHYSPROP	2.3E+00	EPI	-1.0E+00	PHYSPROP	9.3E-01	LANGE	5.6E-02	7.8E-06	EPA WATER9			1.5E+03	EPI	3.2E+00	PHYSPROP	2.6E+01	PHYSPROP	1.6E-01	5.8E-01	1.4E+00	3.6E-02	EPI
Dieldrin	60-57-1	3.8E+02	PHYSPROP	4.1E-04	1.0E-05	PHYSPROP	5.9E-06	PHYSPROP	1.8E+02	PHYSPROP	1.8E+00	CRC89	2.3E-02	6.0E-06	EPA WATER9			2.0E+04	EPI	5.4E+00	PHYSPROP	2.0E-01	PHYSPROP	2.4E-01	1.4E+01	3.4E+01	3.3E-02	EPI
Diesel Engine Exhaust	NA																											
Diethanolamine	111-42-2	1.1E+02	PHYSPROP	1.6E-09	3.9E-11	EPI	2.8E-04	PHYSPROP	2.8E+01	PHYSPROP	1.1E+00	CRC89	7.7E-02	9.8E-06	EPA WATER9			1.0E+00	EPI	-1.4E+00	PHYSPROP	1.0E+06	PHYSPROP	1.8E-04	4.1E-01	9.8E-01	4.5E-05	EPI
Diethylene Glycol Monobutyl Ether	112-34-5	1.6E+02	PHYSPROP	2.9E-07	7.2E-09	PHYSPROP	2.2E-02	PHYSPROP	-6.8E+01	PHYSPROP	9.6E-01	CRC89	4.1E-02	7.0E-06	EPA WATER9			1.0E+01	EPI	5.6E-01	PHYSPROP	1.0E+06	PHYSPROP	2.2E-03	8.5E-01	2.0E+00	4.5E-04	EPI
Diethylene Glycol Monoethyl Ether	111-90-0	1.3E+02	PHYSPROP	9.1E-07	2.2E-08	EPI	1.3E-01	PHYSPROP	-7.6E+01	PHYSPROP	9.9E-01	CRC89	5.6E-02	8.0E-06	EPA WATER9			1.0E+00	EPI	-5.4E-01	PHYSPROP	1.0E+06	PHYSPROP	5.4E-04	5.9E-01	1.4E+00	1.2E-04	EPI
Diethylformamide	617-84-5	1.0E+02	PHYSPROP	5.3E-06	1.3E-07	PHYSPROP	1.2E+00	EPI	-7.6E+00	EPI	9.1E-01	CRC89	7.3E-02	9.0E-06	EPA WATER9			2.1E+00	EPI	5.0E-02	PHYSPROP	1.0E+06	PHYSPROP	1.8E-03	3.9E-01	9.3E-01	4.6E-04	EPI
Diethylstilbestrol	56-53-1	2.7E+02	PHYSPROP	2.4E-10	5.8E-12	PHYSPROP	1.4E-08	PHYSPROP	1.7E+02	PHYSPROP			4.6E-02	5.3E-06	EPA WATER9			2.7E+05	EPI	5.1E+00	PHYSPROP	1.2E+01	PHYSPROP	7.2E-01	3.3E+00	1.3E+01	1.1E-01	EPI
Difenzoquat	43222-48-6	3.6E+02	PHYSPROP				4.1E-12	PHYSPROP	1.6E+02	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			7.8E+04	EPI	6.5E-01	PHYSPROP	8.2E+05	PHYSPROP	2.9E-04	1.1E+01	2.6E+01	4.0E-05	EPI
Diflubenzuron	35367-38-5	3.1E+02	PHYSPROP	1.9E-07	4.6E-09	EPI	9.0E-10	PHYSPROP	2.4E+02	PHYSPROP			4.1E-02	4.8E-06	EPA WATER9			4.6E+02	EPI	3.9E+00	PHYSPROP	8.0E-02	PHYSPROP	7.3E-02	5.8E+00	1.4E+01	1.1E-02	EPI
Difluoroethane, 1,1-	75-37-6	6.6E+01	PHYSPROP	8.3E-01	2.0E-02	PHYSPROP	4.6E+03	PHYSPROP	-1.2E+02	PHYSPROP	9.0E-01	CRC89	1.0E-01	1.2E-05	EPA WATER9			3.2E+01	EPI	7.5E-01	PHYSPROP	3.2E+03	PHYSPROP	6.6E-03	2.5E-01	5.9E-01	2.1E-03	EPI
Dihydrosafrole	94-58-6	1.6E+02	PHYSPROP	5.0E-04	1.2E-05	PHYSPROP	5.6E-02	PHYSPROP	4.4E+01	EPI	1.1E+00	PubChem	4.3E-02	7.4E-06	EPA WATER9			2.1E+02	EPI	3.6E+00	PHYSPROP	5.7E+01	PHYSPROP	2.2E-01	8.7E-01	2.1E+00	4.5E-02	EPI
Diisopropyl Ether	108-20-3	1.0E+02	PHYSPROP	1.0E-01	2.6E-03	PHYSPROP	1.5E+02	PHYSPROP	-8.7E+01	PHYSPROP	7.2E-01	CRC89	6.5E-02	7.8E-06	EPA WATER9			2.3E+01	EPI	1.5E+00	PHYSPROP	8.8E+03	PHYSPROP	1.7E-02	3.9E-01	9.4E-01	4.3E-03	EPI
Diisopropyl Methylphosphonate	1445-75-6	1.8E+02	PHYSPROP	1.8E-03	4.4E-05	EPI	2.3E-01	PHYSPROP	-2.4E+01	EPI	9.8E-01	ATSDR Profile	3.4E-02	6.6E-06	EPA WATER9			4.2E+01	EPI	1.0E+00	PHYSPROP	1.5E+03	PHYSPROP	3.8E-03	1.1E+00	2.6E+00	7.4E-04	EPI
Dimethipin	55290-64-7	2.1E+02	PHYSPROP	9.4E-10	2.3E-11	EPI	3.8E-07	PHYSPROP	1.7E+02	PHYSPROP			5.4E-02	6.3E-06	EPA WATER9			1.0E+01	EPI	-1.7E-01	PHYSPROP	4.6E+03	PHYSPROP	4.5E-04	1.6E+00	3.8E+00	8.0E-05	EPI
Dimethoate	60-51-5	2.3E+02	PHYSPROP	9.9E-09	2.4E-10	EPI	1.9E-05	PHYSPROP	5.2E+01	PHYSPROP	1.3E+00	CRC89	2.6E-02	6.7E-06	EPA WATER9			1.3E+01	EPI	7.8E-01	PHYSPROP	2.3E+04	PHYSPROP	1.6E-03	2.0E+00	4.9E+00	2.7E-04	EPI
Dimethoxybenzidine, 3,3'-	119-90-4	2.4E+02	PHYSPROP	1.9E-09	4.7E-11	PHYSPROP	1.3E-07	PHYSPROP	1.4E+02	PHYSPROP			4.9E-02	5.7E-06	EPA WATER9			5.1E+02	EPI	1.8E+00	PHYSPROP	6.0E+01	PHYSPROP	6.4E-03	2.5E+00	5.9E+00	1.1E-03	EPI
Dimethyl methylphosphonate	756-79-6	1.2E+02	PHYSPROP	5.6E-06	1.4E-07	PHYSPROP	8.3E-01	PHYSPROP	-4.8E+01	EPI	1.2E+00	CRC89	6.7E-02	9.2E-06	EPA WATER9			5.4E+00	EPI	-6.1E-01	PHYSPROP	1.0E+06	PHYSPROP	5.3E-04	5.2E-01	1.2E+00	1.2E-04	EPI
Dimethylamino azobenzene [p-]	60-11-7	2.3E+02	PHYSPROP	1.6E-08	4.0E-10	PHYSPROP	7.0E-08	EPI	1.2E+02	PHYSPROP			5.1E-02	6.0E-06	EPA WATER9			2.0E+03	EPI	4.6E+00	PHYSPROP	2.3E-01	PHYSPROP	5.4E-01	1.9E+00	4.6E+00	9.4E-02	EPI
Dimethylaniline HCl, 2,4-	21436-96-4	1.2E+02	PHYSPROP	9.5E-05	2.3E-06	PHYSPROP	1.8E-01	PHYSPROP	1.6E+02	EPI			7.8E-02	9.1E-06	EPA WATER9			3.5E+02	EPI	2.2E+00	PHYSPROP	3.7E+03	PHYSPROP	8.6E-05	5.0E-01	1.2E+00	2.0E-05	EPI
Dimethylaniline, 2,4-	95-68-1	1.2E+02	PHYSPROP	1.0E-04	2.5E-06	PHYSPROP	1.3E-01	PHYSPROP	-1.4E+01	PHYSPROP	9.7E-01	CRC89	6.3E-02	8.4E-06	EPA WATER9			1.8E+02	EPI	1.7E+00	PHYSPROP	6.1E+03	PHYSPROP	1.8E-02	5.0E-01	1.2E+00	4.3E-03	EPI
Dimethylaniline, N,N-	121-69-7	1.2E+02	PHYSPROP	2.3E-03	5.7E-05	EPI	7.0E-01	PHYSPROP	2.5E+00	PHYSPROP	9.6E-01	CRC89	6.3E-02	8.3E-06	EPA WATER9			7.9E+01	EPI	2.3E+00	PHYSPROP	1.5E+03	PHYSPROP	4.7E-02	5.0E-01	1.2E+00	1.1E-02	EPI
Dimethylbenzidine, 3,3'-	119-93-7	2.1E+02	PHYSPROP	2.6E-09	6.3E-11	PHYSPROP	6.9E-07	PHYSPROP	1.3E+02	PHYSPROP			5.3E-02	6.2E-06	EPA WATER9			3.2E+03	EPI	2.3E+00	PHYSPROP	1.3E+03	PHYSPROP	2.0E-02	1.6E+00	3.9E+00	3.6E-03	EPI
Dimethylformamide	68-12-2	7.3E+01	PHYSPROP	3.0E-06	7.4E-08	PHYSPROP	3.9E+00	PHYSPROP	-6.0E+01	PHYSPROP	9.4E-01	CRC89	9.7E-02	1.1E-05	EPA WATER9			1.0E+00	EPI	-1.0E+00	PHYSPROP	1.0E+06	PHYSPROP	4.3E-04	2.7E-01	6.5E-01	1.3E-04	EPI
Dimethylhydrazine, 1,1-	57-14-7	6.0E+01	PHYSPROP	5.3E-04	1.3E-05	PHYSPROP	1.6E+02	PHYSPROP	-5.8E+01	PHYSPROP	7.9E-01	CRC89	1.0E-01	1.1E-05	EPA WATER9			1.2E+01	EPI	-1.2E+00	PHYSPROP	1.0E+06	PHYSPROP	2.2E-04	2.3E-01	5.5E-01	7.3E-05	RAGSE
Dimethylhydrazine, 1,2-	540-73-8	6.0E+01	PHYSPROP	2.8E-06	7.0E-08	PHYSPROP	7.0E+01	PHYSPROP	-9.0E+00	PHYSPROP	8.3E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			1.5E+01	EPI	-5.4E-01	PHYSPROP	1.0E+06	PHYSPROP	9.5E-04	2.3E-01	5.5E-01	3.2E-04	EPI
Dimethylphenol, 2,4-	105-67-9	1.2E+02	PHYSPROP	3.9E-05	9.5E-07	PHYSPROP	1.0E-01	PHYSPROP	2.5E+01	PHYSPROP	9.7E-01	CRC89	6.2E-02	8.3E-06	EPA WATER9			4.9E+02	EPI	2.3E+00	PHYSPROP	7.9E+03	PHYSPROP	4.6E-02	5.1E-01	1.2E+00	1.1E-02	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Dimethylphenol, 2,6-	576-26-1	1.2E+02	PHYSPROP	2.7E-04	6.7E-06	PHYSPROP	1.7E-01	EPI	4.6E+01	PHYSPROP			7.7E-02	9.0E-06	EPA WATER9			5.0E+02	EPI	2.4E+00	PHYSPROP	6.1E+03	PHYSPROP	5.1E-02	5.1E-01	1.2E+00	1.2E-02	EPI
Dimethylphenol, 3,4-	95-65-8	1.2E+02	PHYSPROP	1.7E-05	4.2E-07	PHYSPROP	3.6E-02	EPI	6.1E+01	PHYSPROP	9.8E-01	CRC89	6.3E-02	8.4E-06	EPA WATER9			4.9E+02	EPI	2.2E+00	PHYSPROP	4.8E+03	PHYSPROP	4.2E-02	5.1E-01	1.2E+00	9.8E-03	EPI
Dimethylvinylchloride	513-37-1	9.1E+01	PHYSPROP	4.5E+00	1.1E-01	PHYSPROP	2.1E+02	PHYSPROP	-1.0E+02	EPI	9.2E-01	CRC89	8.1E-02	9.7E-06	EPA WATER9			6.1E+01	EPI	2.6E+00	PHYSPROP	1.0E+03	PHYSPROP	9.3E-02	3.4E-01	8.1E-01	2.5E-02	EPI
Dinitro-o-cresol, 4,6-	534-52-1	2.0E+02	PHYSPROP	5.7E-05	1.4E-06	PHYSPROP	1.2E-04	PHYSPROP	8.7E+01	PHYSPROP			5.6E-02	6.5E-06	EPA WATER9			7.5E+02	EPI	2.1E+00	PHYSPROP	2.0E+02	PHYSPROP	1.7E-02	1.4E+00	3.2E+00	3.2E-03	EPI
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	2.7E+02	PHYSPROP	2.3E-06	5.5E-08	PHYSPROP	4.2E-08	PHYSPROP	1.1E+02	PHYSPROP			4.6E-02	5.4E-06	EPA WATER9			1.7E+04	EPI	4.1E+00	PHYSPROP	1.5E+01	PHYSPROP	1.7E-01	3.3E+00	7.8E+00	2.8E-02	EPI
Dinitrobenzene, 1,2-	528-29-0	1.7E+02	PHYSPROP	2.2E-06	5.3E-08	EPI	4.6E-05	EPI	1.2E+02	PHYSPROP	1.3E+00	CRC89	4.5E-02	8.3E-06	EPA WATER9			3.6E+02	EPI	1.7E+00	PHYSPROP	1.3E+02	PHYSPROP	1.2E-02	9.2E-01	2.2E+00	2.4E-03	EPI
Dinitrobenzene, 1,3-	99-65-0	1.7E+02	PHYSPROP	2.0E-06	4.9E-08	PHYSPROP	9.0E-04	EPI	9.0E+01	PHYSPROP	1.6E+00	CRC89	4.8E-02	9.2E-06	EPA WATER9			3.5E+02	EPI	1.5E+00	PHYSPROP	5.3E+02	PHYSPROP	8.7E-03	9.2E-01	2.2E+00	1.7E-03	EPI
Dinitrobenzene, 1,4-	100-25-4	1.7E+02	PHYSPROP	3.4E-06	8.4E-08	PHYSPROP	2.6E-05	PHYSPROP	1.7E+02	PHYSPROP	1.6E+00	CRC89	4.9E-02	9.4E-06	EPA WATER9			3.5E+02	EPI	1.5E+00	PHYSPROP	6.9E+01	PHYSPROP	8.3E-03	9.2E-01	2.2E+00	1.7E-03	EPI
Dinitrophenol, 2,4-	51-28-5	1.8E+02	PHYSPROP	3.5E-06	8.6E-08	PHYSPROP	3.9E-04	PHYSPROP	1.1E+02	PHYSPROP	1.7E+00	CRC89	4.1E-02	9.1E-06	EPA WATER9			4.6E+02	EPI	1.7E+00	PHYSPROP	2.8E+03	PHYSPROP	9.8E-03	1.1E+00	2.7E+00	1.9E-03	EPI
Dinitrotoluene Mixture, 2,4/2,6-	NA	1.8E+02	EPI	1.6E-05	4.0E-07	EPI	2.2E-03	EPI	6.0E+01	EPI			5.9E-02	6.9E-06	EPA WATER9			5.9E+02	EPI	2.2E+00	EPI	2.7E+02	EPI	2.2E-02	1.1E+00	2.6E+00	4.2E-03	EPI
Dinitrotoluene, 2,4-	121-14-2	1.8E+02	PHYSPROP	2.2E-06	5.4E-08	PHYSPROP	1.5E-04	PHYSPROP	7.1E+01	PHYSPROP	1.3E+00	CRC89	3.8E-02	7.9E-06	EPA WATER9			5.8E+02	EPI	2.0E+00	PHYSPROP	2.0E+02	PHYSPROP	1.6E-02	1.1E+00	2.6E+00	3.1E-03	EPI
Dinitrotoluene, 2,6-	606-20-2	1.8E+02	PHYSPROP	3.1E-05	7.5E-07	EPI	5.7E-04	PHYSPROP	6.6E+01	PHYSPROP	1.3E+00	CRC89	3.7E-02	7.8E-06	EPA WATER9			5.9E+02	EPI	2.1E+00	PHYSPROP	1.8E+02	PHYSPROP	1.9E-02	1.1E+00	2.6E+00	3.7E-03	EPI
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	2.0E+02	PHYSPROP	1.3E-09	3.3E-11	PHYSPROP	1.1E-05	PHYSPROP	1.7E+02	PHYSPROP			5.6E-02	6.6E-06	EPA WATER9			2.8E+02	EPI	1.8E+00	PHYSPROP	1.2E+03	PHYSPROP	1.1E-02	1.3E+00	3.2E+00	2.0E-03	EPI
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	2.0E+02	PHYSPROP	1.3E-09	3.3E-11	PHYSPROP	1.1E-05	PHYSPROP	1.7E+02	PHYSPROP			5.6E-02	6.6E-06	EPA WATER9			2.8E+02	EPI	1.8E+00	PHYSPROP	1.2E+03	PHYSPROP	1.1E-02	1.3E+00	3.2E+00	2.0E-03	EPI
Dinitrotoluene, Technical grade	25321-14-6	5.5E+02	PHYSPROP	3.8E-06	9.3E-08	PHYSPROP	4.0E-04	PHYSPROP	6.0E+01	EPI			2.8E-02	3.3E-06	EPA WATER9			5.9E+02	EPI	2.2E+00	PHYSPROP	2.7E+02	PHYSPROP	3.7E-02	1.2E+02	2.9E+02	4.2E-03	EPI
Dinoseb	88-85-7	2.4E+02	PHYSPROP	1.9E-05	4.6E-07	EPI	7.5E-05	PHYSPROP	4.0E+01	PHYSPROP	1.3E+00	CRC89	2.5E-02	6.5E-06	EPA WATER9			4.3E+03	EPI	3.6E+00	PHYSPROP	5.2E+01	PHYSPROP	9.7E-02	2.3E+00	5.6E+00	1.6E-02	EPI
Dioxane, 1,4-	123-91-1	8.8E+01	PHYSPROP	2.0E-04	4.8E-06	PHYSPROP	3.8E+01	PHYSPROP	1.2E+01	PHYSPROP	1.0E+00	CRC89	8.7E-02	1.1E-05	EPA WATER9			2.6E+00	EPI	-2.7E-01	PHYSPROP	1.0E+06	PHYSPROP	1.2E-03	3.3E-01	7.9E-01	3.3E-04	EPI
Dioxins																												
~Hexachlorodibenzo-p-dioxin, Mixture	NA	3.9E+02	EPI	2.3E-04	5.7E-06	EPI	4.4E-11	EPI	2.5E+02	EPI			3.6E-02	4.2E-06	EPA WATER9			7.0E+05	EPI	8.2E+00	EPI	4.0E-06	EPI	2.2E+01	1.6E+01	7.5E+01	2.9E+00	EPI
~TCDD, 2,3,7,8-	1746-01-6	3.2E+02	PHYSPROP	2.0E-03	5.0E-05	EPI	1.5E-09	PHYSPROP	3.1E+02	PHYSPROP	1.8E+00	PubChem	4.7E-02	6.8E-06	EPA WATER9			2.5E+05	EPI	6.8E+00	PHYSPROP	2.0E-04	PHYSPROP	5.6E+00	6.7E+00	2.9E+01	8.1E-01	EPI
Diphenamid	957-51-7	2.4E+02	PHYSPROP	1.5E-09	3.6E-11	EPI	3.0E-08	PHYSPROP	1.4E+02	PHYSPROP	1.2E+00	CRC89	2.4E-02	6.2E-06	EPA WATER9			4.8E+03	EPI	2.2E+00	PHYSPROP	2.6E+02	PHYSPROP	3.3E-02	2.3E+00	5.5E+00	5.6E-03	EPI
Diphenyl Sulfone	127-63-9	2.2E+02	PHYSPROP	1.0E-05	2.5E-07	PHYSPROP	1.5E-05	PHYSPROP	1.3E+02	PHYSPROP	1.3E+00	CRC89	2.7E-02	6.9E-06	EPA WATER9			1.1E+03	EPI	2.4E+00	PHYSPROP	3.1E+02	PHYSPROP	2.1E-02	1.8E+00	4.2E+00	3.7E-03	EPI
Diphenylamine	122-39-4	1.7E+02	PHYSPROP	1.1E-04	2.7E-06	EPI	6.7E-04	PHYSPROP	5.3E+01	PHYSPROP	1.2E+00	CRC89	4.2E-02	7.6E-06	EPA WATER9			8.3E+02	EPI	3.5E+00	PHYSPROP	5.3E+01	PHYSPROP	1.9E-01	9.3E-01	2.2E+00	3.7E-02	EPI
Diphenylhydrazine, 1,2-	122-66-7	1.8E+02	PHYSPROP	2.0E-05	4.8E-07	EPI	4.4E-04	EPI	1.3E+02	PHYSPROP	1.2E+00	CRC89	3.4E-02	7.2E-06	EPA WATER9			1.5E+03	EPI	2.9E+00	PHYSPROP	2.2E+02	PHYSPROP	6.8E-02	1.1E+00	2.7E+00	1.3E-02	EPI
Diquat	85-00-7	3.4E+02	PHYSPROP	5.8E-12	1.4E-13	PHYSPROP	1.8E-06	PHYSPROP	3.4E+02	PHYSPROP	1.2E+00	CRC89	2.1E-02	5.2E-06	EPA WATER9			9.3E+03	EPI	-4.6E+00	PHYSPROP	7.1E+05	PHYSPROP	1.7E-06	8.9E+00	2.1E+01	2.4E-07	EPI
Direct Black 38	1937-37-7	7.8E+02	PHYSPROP	3.4E-38	8.2E-40	PHYSPROP	1.5E-36	PHYSPROP	3.5E+02	EPI			2.2E-02	2.6E-06	EPA WATER9			2.4E+08	EPI	4.9E+00	PHYSPROP	3.0E+03	PHYSPROP	2.2E-03	2.4E+03	5.9E+03	2.1E-04	EPI
Direct Blue 6	2602-46-2	9.3E+02	PHYSPROP	3.7E-42	9.1E-44	PHYSPROP	9.5E-39	PHYSPROP	3.5E+02	EPI			2.0E-02	2.3E-06	EPA WATER9			7.9E+08	EPI	2.6E+00	PHYSPROP	1.4E-04	PHYSPROP	2.0E-08	1.8E+04	4.2E+04	1.7E-09	EPI
Direct Brown 95	16071-86-6	7.6E+02	PHYSPROP				1.4E-41	PHYSPROP	3.5E+02	EPI			2.3E-02	2.7E-06	EPA WATER9			7.0E+06	EPI	-6.5E+00	PHYSPROP	1.0E+06	PHYSPROP	4.1E-11	1.9E+03	4.6E+03	3.9E-12	EPI
Disulfoton	298-04-4	2.7E+02	PHYSPROP	8.8E-05	2.2E-06	EPI	9.8E-05	PHYSPROP	-2.5E+01	PHYSPROP	1.1E+00	CRC89	2.3E-02	5.7E-06	EPA WATER9			8.4E+02	EPI	4.0E+00	PHYSPROP	1.6E+01	PHYSPROP	1.4E-01	3.6E+00	8.7E+00	2.1E-02	EPI
Dithiane, 1,4-	505-29-3	1.2E+02	PHYSPROP	1.7E-03	4.2E-05	EPI	8.0E-02	PHYSPROP	1.1E+02	PHYSPROP	1.1E+00	ChemNet	6.8E-02	9.3E-06	EPA WATER9			1.5E+02	EPI	7.7E-01	PHYSPROP	3.0E+03	PHYSPROP	4.6E-03	5.0E-01	1.2E+00	1.1E-03	EPI
Diuron	330-54-1	2.3E+02	PHYSPROP	2.1E-08	5.0E-10	EPI	6.9E-08	PHYSPROP	1.6E+02	PHYSPROP			5.0E-02	5.9E-06	EPA WATER9			1.1E+02	EPI	2.7E+00	PHYSPROP	4.2E+01	PHYSPROP	2.7E-02	2.1E+00	5.1E+00	4.7E-03	EPI
Dodine	2439-10-3	2.9E+02	PHYSPROP	3.7E-09	9.0E-11	EPI	1.5E-07	PHYSPROP	1.4E+02	PHYSPROP			4.4E-02	5.1E-06	EPA WATER9			2.5E+03	EPI	1.2E+00	PHYSPROP	6.3E+02	PHYSPROP	1.4E-03	4.3E+00	1.0E+01	2.2E-04	EPI
EPTC	759-94-4	1.9E+02	PHYSPROP	6.5E-04	1.6E-05	EPI	2.4E-02	PHYSPROP	6.1E+01	EPI	9.5E-01	CRC89	2.9E-02	6.4E-06	EPA WATER9			1.6E+02	EPI	3.2E+00	PHYSPROP	3.8E+02	PHYSPROP	9.7E-02	1.2E+00	2.9E+00	1.8E-02	EPI
Endosulfan	115-29-7	4.1E+02	PHYSPROP	2.7E-03	6.5E-05	PHYSPROP	1.7E-07	PHYSPROP	1.1E+02	PHYSPROP	1.7E+00	CRC89	2.2E-02	5.8E-06	EPA WATER9			6.8E+03	EPI	3.8E+00	PHYSPROP	3.3E-01	PHYSPROP	2.2E-02	2.0E+01	4.8E+01	2.9E-03	EPI
Endothall	145-73-3	1.9E+02	PHYSPROP	1.6E-14	3.9E-16	EPI	1.6E-10	PHYSPROP	1.4E+02	PHYSPROP	1.4E+00	CRC89	3.7E-02	8.2E-06	EPA WATER9			1.9E+01	EPI	1.9E+00	PHYSPROP	1.0E+05	PHYSPROP	1.4E-02	1.2E+00	2.8E+00	2.6E-03	EPI
Endrin	72-20-8	3.8E+02	PHYSPROP	2.6E-04	6.4E-06	PHYSPROP	3.0E-06	PHYSPROP	2.3E+02	PHYSPROP			3.6E-02	4.2E-06	EPA WATER9			2.0E+04	EPI	5.2E+00	PHYSPROP	2.5E-01	PHYSPROP	2.4E-01	1.4E+01	3.4E+01	3.3E-02	EPI
Epichlorohydrin	106-89-8	9.3E+01	PHYSPROP	1.2E-03	3.0E-05	EPI	1.6E+01	PHYSPROP	-5.7E+01	PHYSPROP	1.2E+00	PERRY	8.9E-02	1.1E-05	EPA WATER9			9.9E+00	EPI	4.5E-01	PHYSPROP	6.6E+04	PHYSPROP	3.5E-03	3.5E-01	8.3E-01	9.4E-04	EPI
Epoxybutane, 1,2-	106-88-7	7.2E+01	PHYSPROP	7.4E-03	1.8E-04	EPI	1.8E+02	PHYSPROP	-1.5E+02	PHYSPROP	8.3E-01	CRC89	9.3E-02	1.0E-05	EPA WATER9			9.9E+00	EPI	8.6E-01	PHYSPROP	9.5E+04	PHYSPROP	7.5E-03	2.7E-01	6.4E-01	2.3E-03	EPI
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	1.2E+02	PHYSPROP	6.7E-10	1.7E-11	PHYSPROP	2.5E-01	PHYSPROP	-1.5E+01	EPI			7.8E-02	9.1E-06	EPA WATER9			1.0E+00	EPI	-1.2E+00	PHYSPROP	1.0E+06	PHYSPROP	7.4E-04	5.0E-01	1.2E+00	1.7E-04	RAGSE
Ethephon	16672-87-0	1.4E+02	PHYSPROP	2.3E-10	5.7E-12	PHYSPROP	9.8E-08	PHYSPROP	7.4E+01	PHYSPROP	1.2E+00	CRC89	5.5E-02	8.6E-06	EPA WATER9			5.0E+00	EPI	-2.2E-01	PHYSPROP	1.0E+06	PHYSPROP	8.0E-04	6.8E-01	1.6E+00	1.7E-04	EPI
Ethion	563-12-2	3.8E+02	PHYSPROP	1.6E-05	3.8E-07	EPI	1.5E-06	PHYSPROP	-1.3E+01	PHYSPROP	1.2E+00	CRC89	1.9E-02	4.8E-06	EPA WATER9			8.8E+02	EPI	5.1E+00	PHYSPROP	2.0E+00	PHYSPROP	1.9E-01	1.5E+01	3.6E+01	2.6E-02	EPI
Ethoxyethanol Acetate, 2-	111-15-9	1.3E+02	PHYSPROP	1.3E-04	3.2E-06	PHYSPROP	2.0E+00	PHYSPROP	-6.2E+01	PHYSPROP	9.7E-01	CRC89	5.7E-02	8.0E-06	EPA WATER9			4.5E+00	EPI	5.9E-01	PHYSPROP	1.9E+05	PHYSPROP	3.1E-03	5.8E-01	1.4E+00	7.0E-04	EPI
Ethoxyethanol, 2-	110-80-5	9.0E+01	PHYSPROP	1.9E-05	4.7E-07	PHYSPROP	5.3E+00	PHYSPROP	-7.0E+01	PHYSPROP	9.3E-01	CRC89	8.2E-02	9.7E-06	EPA WATER9			1.0E+00	EPI	-3.2E-01	PHYSPROP	1.0E+06	PHYSPROP	1.1E-03	3.4E-01	8.1E-01	3.0E-04	EPI
Ethyl Acetate	141-78-6	8.8E+01	PHYSPROP	5.5E-03	1.3E-04	PHYSPROP	9.3E+01	PHYSPROP	-8.4E+01	PHYSPROP	9.0E-01	CRC89	8.2E-02	9.7E-06	EPA WATER9			5.6E+00	EPI	7.3E-01	PHYSPROP	8.0E+04	PHYSPROP	5.5E-03	3.3E-01	7.9E-01	1.5E-03	EPI
Ethyl Acrylate	140-88-5	1.0E+02	PHYSPROP	1.4E-02	3.4E-04	EPI	3.9E+01	PHYSPROP	-7.1E+01	PHYSPROP	9.2E-01	CRC89	7.5E-02	9.1E-06	EPA WATER9			1.1E+01	EPI	1.3E+00	PHYSPROP	1.5E+04	PHYSPROP	1.2E-02	3.8E-01	9.2E-01	3.2E-03	EPI
Ethyl Chloride (Chloroethane)	75-00-3	6.5E+01	PHYSPROP	4.5E-01	1.1E-02	PHYSPROP	1.0E+03	PHYSPROP	-1.4E+02	PHYSPROP	8.9E-01	CRC89	1.0E-01	1.2E-05	EPA WATER9			2.2E+01	EPI	1.4E+00	PHYSPROP	6.7E+03	PHYSPROP	1.9E-02	2.4E-01	5.8E-01	6.1E-03	EPI
Ethyl Ether	60-29-7	7.4E+01	PHYSPROP	5.0E-02	1.2E-03	PHYSPROP	5.4E+02	PHYSPROP	-1.2E+02	PHYSPROP	7.1E-01	CRC89	8.5E-02	9.4E-06	EPA WATER9			9.7E+00	EPI	8.9E-01	PHYSPROP	6.0E+04	PHYSPROP	7.8E-03	2.7E-01	6.6E-01	2.4E-03	EPI
Ethyl Methacrylate	97-63-2	1.1E+02	PHYSPROP	2.3E-02	5.7E-04	EPI	2.1E+01	PHYSPROP	-7.5E+01	PHYSPROP	9.1E-01	CRC89	6.5E-02	8.4E-06	EPA WATER9			1.7E+01	EPI	1.9E+00	PHYSPROP	5.4E+03	PHYSPROP	2.9E-02	4.6E-01	1.1E+00	7.0E-03	EPI
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	3.2E+02	PHYSPROP	1.8E-05	4.4E-07	EPI	9.5E-07	PHYSPROP	3.6E+01	PHYSPROP	1.3E+00	CRC89	2.2E-02	5.5E-06	EPA WATER9			1.5E+04	EPI	4.8E+00	PHYSPROP	3.1E+00	PHYSPROP	2.5E-01	6.8E+00	1.6E+01	3.6E-02	EPI
Ethylbenzene	100-41-4	1.1E+02	PHYSPROP	3.2E-01	7.9E-03	PHYSPROP	9.6E+00	PHYSPROP	-9.5E+01	PHYSPROP	8.6E-01	CRC89	6.8E-02	8.5E-06	EPA WATER9			4.5E+02	EPI	3.2E+00	PHYSPROP	1.7E+02	PHYSPROP	2.0E-01	4.1E-01	9.9E-01	4.9E-02	EPI
Ethylene Cyanohydrin	109-78-4	7.1E+01	PHYSPROP	3.1E-07	7.5E-09	EPI	8.0E-02	PHYSPROP	-4.6E+01	PHYSPROP	1.0E+00	CRC89	1.0E-01	1.2E-05	EPA WATER9			1.0E+00	EPI	-9.4E-01	PHYSPROP	1.0E+06	PHYSPROP	4.8E-04	2.6E-01	6.3E-01	1.5E-04	EPI
Ethylene Diamine	107-15-3	6.0E+01	PHYSPROP	7.1E-08	1.7E-09	PHYSPROP	1.2E+01	PHYSPROP	1.1E+01	PHYSPROP	9.0E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			1.5E+01	EPI	-2.0E+00	PHYSPROP	1.0E+06	PHYSPROP	9.5E-05	2.3E-01	5.5E-01	3.2E-05	EPI
Ethylene Glycol	107-21-1	6.2E+01	PHYSPROP	2.5E-06	6.0E-08	PHYSPROP	9.2E-02	PHYSPROP	-1.3E+01	PHYSPROP	1.1E+00	CRC89	1.2E-01	1.4E-05	EPA WATER9			1.0E+00	EPI	-1.4E+00	PHYSPROP	1.0E+06	PHYSPROP	2.7E-04	2.3E-01	5.6E-01	8.8E-05	EPI
Ethylene Glycol Monobutyl Ether	111-76-2	1.2E+02	PHYSPROP	6.5E-05	1.6E-06	PHYSPROP	8.8E-01	PHYSPROP	-7.5E+01	PHYSPROP	9.0E-01	CRC89	6.3E-02	8.1E-06	EPA WATER9			2.8E+00	EPI	8.3E-01	PHYSPROP	1.0E+06	PHYSPROP	5.1E-03	4.8E-01	1.2E+00	1.2E-03	EPI
Ethylene Oxide	75-21-8	4.4E+01	PHYSPROP	6.1E-03	1.5E-04	PHYSPROP	1.3E+03	PHYSPROP	-1.1E+02	PHYSPROP	8.8E-01	CRC89	1.3E-01	1.5E-05	EPA WATER9			3.2E+00	EPI	-3.0E-01	PHYSPROP	1.0E+06	PHYSPROP	1.4E-03	1.9E-01	4.5E-01	5.6E-04	EPI
Ethylene Thiourea	96-45-7	1.0E+02	PHYSPROP	5.6E-10	1.4E-11	PHYSPROP	2.0E-06	PHYSPROP	2.0E+02	PHYSPROP			8.7E-02	1.0E-05	EPA WATER9			1.3E+01	EPI	-6.6E-01	PHYSPROP	2.0E+04	PHYSPROP	5.9E-04	3.9E-01	9.4E-01	1.5E-04	EPI
Ethyleneimine	151-56-4	4.3E+01	PHYSPROP	4.9E-04	1.2E-05	EPI	2.1E+02	PHYSPROP	-7.8E+01	PHYSPROP	8.3E-01	CRC89	1.3E-01	1.4E-05	EPA WATER9			9.0E+00	EPI	-2.8E-01	PHYSPROP	1.0E+06	PHYSPROP	1.5E-03	1.8E-01	4.4E-01	5.8E-04	EPI
Ethylphthalyl Ethyl Glycolate	84-72-0	2.8E+02	PHYSPROP	2.7E-07	6.6E-09	PHYSPROP	2.2E-04	PHYSPROP	2.3E+01	EPI			4.4E-02	5.2E-06	EPA WATER9			1.0E+03	EPI	2.2E+00	PHYSPROP	2.2E+02	PHYSPROP	7.7E-03	3.9E+00	9.4E+00	1.2E-03	EPI
Fenamiphos	22224-92-6	3.0E+02	PHYSPROP	4.9E-08	1.2E-09	EPI	1.0E-06	PHYSPROP	4.9E+01	PHYSPROP	1.2E+00	CRC89	2.1E-02	5.4E-06	EPA WATER9			4.0E+02	EPI	3.2E+00	PHYSPROP	3.3E+02	PHYSPROP	2.9E-02	5.3E+00	1.3E+01	4.4E-03	EPI
Fenpropathrin	39515-41-8	3.5E+02	PHYSPROP	3.1E-04	7.6E-06	EPI	5.5E-06	PHYSPROP	4.7E+01	PHYSPROP			3.8E-02	4.5E-06	EPA WATER9			2.2E+04	EPI	5.7E+00	PHYSPROP	3.3E-01	PHYSPROP	1.2E+00	9.5E+00	3.7E+01	1.7E-01	EPI
Fenvalerate	51630-58-1	4.2E+02	PHYSPROP	1.4E-06	3.5E-08	EPI	1.5E-09	PHYSPROP	4.0E+01	PHYSPROP	1.2E+00	CRC89	1.8E-02	4.4E-06	EPA WATER9			3.2E+05	EPI	6.2E+00	PHYSPROP	2.4E-02	PHYSPROP	7.4E-01	2.4E+01	9.1E+01	9.4E-02	EPI
Fluometuron	2164-17-2	2.3E+02	PHYSPROP	1.1E-07	2.6E-09	EPI	9.4E-07	PHYSPROP	1.6E+02	PHYSPROP			5.0E-02	5.9E-06	EPA WATER9			2.9E+02	EPI	2.4E+00	PHYSPROP	1.1E+02	PHYSPROP	1.9E-02	2.1E+00	5.0E+00	3.2E-03	EPI
Fluoride	16984-48-8	3.8E+01	EPI						-2.2E+02	EPI						1.5E+02	BAES					1.7E+00	EPI	2.4E-03	1.7E-01	4.1E-01	1.0E-03	RAGSE
Fluorine (Soluble Fluoride)	7782-41-4	3.8E+01	PHYSPROP						-2.2E+02	PHYSPROP	1.6E+00	CRC89				1.5E+02	BAES					1.7E+00	PHYSPROP	2.4E-03	1.7E-01	4.1E-01	1.0E-03	RAGSE
Fluridone	59756-60-4	3.3E+02	PHYSPROP	3.3E-07	8.1E-09	EPI	9.8E-08	PHYSPROP	1.5E+02	PHYSPROP			4.0E-02	4.7E-06	EPA WATER9			5.7E+04	EPI	3.2E+00	PHYSPROP	1.2E+01	PHYSPROP	2.0E-02	7.3E+00	1.8E+01	2.8E-03	EPI
Flurprimidol	56425-91-3	3.1E+02	PHYSPROP	5.4E-08	1.3E-09	EPI	3.6E-07	PHYSPROP	9.5E+01	PHYSPROP			4.1E-02	4.8E-06	EPA WATER9			2.2E+03	EPI	3.3E+00	PHYSPROP	1.1E+02	PHYSPROP	3.1E-02	5.9E+00	1.4E+01	4.6E-03	EPI
Flusilazole	85509-19-9	3.2E+02	PHYSPROP	9.2E-08	2.3E-09	PHYSPROP	2.9E-07	PHYSPROP	5.4E+01	PHYSPROP			4.1E-02	4.8E-06	EPA WATER9			8.1E+04	EPI	3.7E+00	PHYSPROP	5.4E+01	PHYSPROP	5.2E-02	6.1E+00	1.5E+01	7.7E-03	EPI
Flutolanil	66332-96-5	3.2E+02	PHYSPROP	1.3E-07	3.2E-09	EPI	4.9E-08	PHYSPROP	1.0E+02	PHYSPROP			4.0E-02	4.7E-06	EPA WATER9			2.6E+03	EPI	3.7E+00	PHYSPROP	6.5E+00	PHYSPROP	4.8E-02	6.8E+00	1.6E+01	6.9E-03	EPI
Fluvalinate	69409-94-5	5.0E+02	PHYSPROP	5.9E-07	1.5E-08	PHYSPROP	1.0E-07	PHYSPROP	1.6E+02	EPI			3.0E-02	3.5E-06	EPA WATER9			7.3E+05	EPI	6.8E+00	PHYSPROP	5.0E-03	PHYSPROP	6.8E-01	6.9E+01	2.7E+02	7.9E-02	EPI
Folpet	133-07-3	3.0E+02	PHYSPROP	3.1E-06	7.7E-08	EPI	1.6E-07	PHYSPROP	1.8E+02	EPI			4.3E-02	5.0E-06	EPA WATER9			1.8E+01	EPI	2.9E+00	PHYSPROP	8.0E-01	PHYSPROP	1.8E-02	4.8E+00	1.2E+01	2.7E-03	EPI
Fomesafen	72178-02-0	4.4E+02	PHYSPROP	3.1E-11	7.5E-13	PHYSPROP	7.5E-07	EPI	2.2E+02	PHYSPROP	1.3E+00	CRC89	1.9E-02	4.6E-06	EPA WATER9			1.5E+03	EPI	2.9E+00	PHYSPROP	5.0E+01	PHYSPROP	3.7E-03	3.0E+01	7.2E+01	4.6E-04	EPI
Fonofos	944-22-9	2.5E+02	PHYSPROP	2.9E-04	7.0E-06	EPI	3.4E-04	PHYSPROP	6.6E-01	EPI	1.2E+00	CRC89	2.4E-02	6.1E-06	EPA WATER9			8.6E+02	EPI	3.9E+00	PHYSPROP	1.6E+01	PHYSPROP	1.6E-01	2.5E+00	6.0E+00	2.7E-02	EPI
Formaldehyde	50-00-0	3.0E+01	PHYSPROP	1.4E-05	3.4E-07	PHYSPROP	3.9E+03	EPI	-9.2E+01	PHYSPROP	8.2E-01	CRC89	1.7E-01	1.7E-05	EPA WATER9			1.0E+00	EPI	3.5E-01	PHYSPROP	4.0E+05	PHYSPROP	3.8E-03	1.5E-01	3.7E-01	1.8E-03	EPI
Formic Acid	64-18-6	4.6E+01	PHYSPROP	6.8E-06	1.7E-07	PHYSPROP	4.3E+01	PHYSPROP	8.3E+00	PHYSPROP	1.2E+00	CRC89	1.5E-01	1.7E-05	EPA WATER9			1.0E+00	EPI	-5.4E-01	PHYSPROP	1.0E+06	PHYSPROP	9.9E-04	1.9E-01	4.6E-01	3.8E-04	EPI
Fosetyl-AL	39148-24-8	3.5E+02	PHYSPROP	1.3E-12	3.2E-14	PHYSPROP	7.5E-11	PHYSPROP	2.2E+02	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			6.5E+03	EPI	-2.4E+00	PHYSPROP	1.1E+05	PHYSPROP	3.0E-06	1.0E+01	2.4E+01	4.1E-07	EPI
Furans																												
~Dibenzofuran	132-64-9	1.7E+02	PHYSPROP	8.7E-03	2.1E-04	EPI	2.5E-03	PHYSPROP	8.7E+01	PHYSPROP	1.1E+00	CRC89	4.1E-02	7.4E-06	EPA WATER9			9.2E+03	EPI	4.1E+00	PHYSPROP	3.1E+00	PHYSPROP	4.9E-01	9.2E-01	2.2E+00	9.8E-02	EPI
~Furan	110-00-9	6.8E+01	PHYSPROP	2.2E-01	5.4E-03	EPI	6.0E+02	PHYSPROP	-8.6E+01	PHYSPROP	9.5E-01	CRC89	1.0E-01	1.2E-05	EPA WATER9			8.0E+01	EPI	1.3E+00	PHYSPROP	1.0E+04	PHYSPROP	1.6E-02	2.5E-01	6.1E-01	5.1E-03	EPI
~Tetrahydrofuran	109-99-9	7.2E+01	PHYSPROP	2.9E-03	7.1E-05	PHYSPROP	1.6E+02	PHYSPROP	-1.1E+02	PHYSPROP	8.8E-01	CRC89	9.5E-02	1.1E-05	EPA WATER9			1.1E+01	EPI	4.6E-01	PHYSPROP	1.0E+06	PHYSPROP	4.1E-03	2.7E-01	6.4E-01	1.3E-03	EPI
Furazolidone	67-45-8	2.3E+02	PHYSPROP	1.3E-09	3.3E-11	PHYSPROP	2.6E-06	PHYSPROP	2.6E+02	PHYSPROP			5.1E-02	6.0E-06	EPA WATER9			8.6E+02	EPI	-4.0E-02	PHYSPROP	4.0E+01	PHYSPROP	4.6E-04	1.9E+00	4.6E+00	8.0E-05	EPI
Furfural	98-01-1	9.6E+01	PHYSPROP	1.5E-04	3.8E-06	EPI	2.2E+00	PHYSPROP	-3.8E+01	PHYSPROP	1.2E+00	CRC89	8.5E-02	1.1E-05	EPA WATER9			6.1E+00	EPI	4.1E-01	PHYSPROP	7.4E+04	PHYSPROP	3.2E-03	3.6E-01	8.7E-01	8.5E-04	EPI
Furium	531-82-8	2.5E+02	EPI	5.4E-14	1.3E-15	EPI	8.8E-09	EPI	1.9E+02	EPI			4.7E-02	5.5E-06	EPA WATER9			5.8E+02	EPI	1.8E+00	EPI	4.2E+03	EPI	5.7E-03	2.8E+00	6.6E+00	9.4E-04	EPI
Furmecyclox	60568-05-0	2.5E+02	PHYSPROP	2.8E-07	6.9E-09	PHYSPROP	8.4E-05	PHYSPROP	3.3E+01	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			4.3E+02	EPI	4.4E+00	PHYSPROP	3.0E-01	PHYSPROP	3.0E-01	2.7E+00	6.4E+00	5.0E-02	EPI
Glufosinate, Ammonium	77182-82-2	2.0E+02	PHYSPROP	1.8E-12	4.4E-14	PHYSPROP	9.1E-12	PHYSPROP	2.2E+02	PHYSPROP			5.6E-02	6.5E-06	EPA WATER9			1.0E+01	EPI	-4.8E+00	PHYSPROP	1.4E+06	PHYSPROP	1.9E-07	1.4E+00	3.2E+00	3.4E-08	EPI
Glutaraldehyde	111-30-8	1.0E+02	PHYSPROP	1.3E-06	3.3E-08	PHYSPROP	6.0E-01	PHYSPROP	-3.0E+01	EPI			8.8E-02	1.0E-05	EPA WATER9			1.0E+00	EPI	-3.3E-01	PHYSPROP	2.2E+05	PHYSPROP	1.3E-03	3.8E-01	9.2E-01	3.3E-04	EPI
Glycidyl	765-34-4	7.2E+01	PHYSPROP	2.1E-05	5.1E-07	PHYSPROP	4.5E+01	PHYSPROP	-6.2E+01	PHYSPROP	1.1E+00	CRC89	1.1E-01	1.3E-05	EPA WATER9			1.0E+00	EPI	-1.2E-01	PHYSPROP	1.0E+06	PHYSPROP	1.7E-03	2.7E-01	6.4E-01	5.2E-04	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Glyphosate	1071-83-6	1.7E+02	PHYSPROP	8.6E-11	2.1E-12	EPI	9.8E-08	PHYSPROP	1.9E+02	PHYSPROP			6.2E-02	7.3E-06	EPA WATER9			2.1E+03	USDA ARS	-3.4E+00	PHYSPROP	1.1E+04	PHYSPROP	2.3E-07	9.3E-01	2.2E+00	4.5E-08	EPI
Guanidine	113-00-8	5.9E+01	PHYSPROP	9.6E-10	2.3E-11	PHYSPROP	2.2E+00	PHYSPROP	5.0E+01	PHYSPROP	1.6E+00	GuideChem	1.4E-01	1.7E-05	EPA WATER9			1.2E+01	EPI	-1.6E+00	PHYSPROP	1.8E+03	PHYSPROP	1.8E-04	2.3E-01	5.4E-01	6.0E-05	EPI
Guanidine Chloride	50-01-1	9.6E+01	PHYSPROP	8.9E-17	2.2E-18	PHYSPROP	1.8E-06	PHYSPROP	1.8E+02	PHYSPROP	1.4E+00	CRC89	9.2E-02	1.2E-05	EPA WATER9					-3.6E+00	PHYSPROP	1.0E+06	PHYSPROP	1.5E-07	3.6E-01	8.7E-01	3.9E-08	EPI
Haloxyfop, Methyl	69806-40-2	3.8E+02	PHYSPROP	1.3E-05	3.2E-07	EPI	6.0E-06	PHYSPROP	5.6E+01	PHYSPROP			3.6E-02	4.3E-06	EPA WATER9			5.5E+03	EPI	4.1E+00	PHYSPROP	9.3E+00	PHYSPROP	4.5E-02	1.3E+01	3.2E+01	6.0E-03	EPI
Heptachlor	76-44-8	3.7E+02	PHYSPROP	1.2E-02	2.9E-04	PHYSPROP	4.0E-04	PHYSPROP	9.6E+01	PHYSPROP	1.6E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			4.1E+04	EPI	6.1E+00	PHYSPROP	1.8E-01	PHYSPROP	1.1E+00	1.3E+01	5.0E+01	1.4E-01	EPI
Heptachlor Epoxide	1024-57-3	3.9E+02	PHYSPROP	8.6E-04	2.1E-05	PHYSPROP	2.0E-05	PHYSPROP	1.6E+02	PHYSPROP	1.9E+00	LookChem	2.4E-02	6.2E-06	EPA WATER9			1.0E+04	EPI	5.0E+00	PHYSPROP	2.0E-01	PHYSPROP	1.6E-01	1.6E+01	3.8E+01	2.1E-02	EPI
Hexabromobenzene	87-82-1	5.5E+02	PHYSPROP	1.1E-03	2.8E-05	PHYSPROP	1.6E-08	PHYSPROP	3.3E+02	PHYSPROP	3.0E+00	LookChem	2.5E-02	6.6E-06	EPA WATER9			2.8E+03	EPI	6.1E+00	PHYSPROP	1.6E-04	PHYSPROP	1.2E-01	1.3E+02	3.1E+02	1.4E-02	EPI
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	6.4E+02	OTHER				5.8E-06	IRIS					2.5E-02	3.0E-06	EPA WATER9							9.0E-04	IRIS		4.2E+02	1.0E+03		
Hexachlorobenzene	118-74-1	2.8E+02	PHYSPROP	7.0E-02	1.7E-03	PHYSPROP	1.8E-05	PHYSPROP	2.3E+02	PHYSPROP	2.0E+00	CRC89	2.9E-02	7.8E-06	EPA WATER9			6.2E+03	EPI	5.7E+00	PHYSPROP	6.2E-03	PHYSPROP	1.6E+00	4.1E+00	1.7E+01	2.5E-01	EPI
Hexachlorobutadiene	87-68-3	2.6E+02	PHYSPROP	4.2E-01	1.0E-02	PHYSPROP	2.2E-01	PHYSPROP	-2.1E+01	PHYSPROP	1.6E+00	CRC89	2.7E-02	7.0E-06	EPA WATER9			8.5E+02	EPI	4.8E+00	PHYSPROP	3.2E+00	PHYSPROP	5.0E-01	3.0E+00	7.3E+00	8.1E-02	EPI
Hexachlorocyclohexane, Alpha-	319-84-6	2.9E+02	PHYSPROP	2.7E-04	6.7E-06	PHYSPROP	3.5E-05	EPI	1.6E+02	PHYSPROP			4.3E-02	5.1E-06	EPA WATER9			2.8E+03	EPI	3.8E+00	PHYSPROP	2.0E+00	PHYSPROP	1.4E-01	4.5E+00	1.1E+01	2.1E-02	EPI
Hexachlorocyclohexane, Beta-	319-85-7	2.9E+02	PHYSPROP	1.8E-05	4.4E-07	PHYSPROP	3.6E-07	PHYSPROP	3.1E+02	PHYSPROP	1.9E+00	CRC89	2.8E-02	7.4E-06	EPA WATER9			2.8E+03	EPI	3.8E+00	PHYSPROP	2.4E-01	PHYSPROP	1.4E-01	4.5E+00	1.1E+01	2.1E-02	EPI
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	2.9E+02	PHYSPROP	2.1E-04	5.1E-06	PHYSPROP	4.2E-05	PHYSPROP	1.1E+02	PHYSPROP			4.3E-02	5.1E-06	EPA WATER9			2.8E+03	EPI	3.7E+00	PHYSPROP	7.3E+00	PHYSPROP	1.4E-01	4.5E+00	1.1E+01	2.1E-02	EPI
Hexachlorocyclohexane, Technical	608-73-1	2.9E+02	PHYSPROP	2.1E-04	5.1E-06	EPI	3.5E-05	EPI	1.1E+02	EPI			4.3E-02	5.1E-06	EPA WATER9			2.8E+03	EPI	4.1E+00	EPI	8.0E+00	PHYSPROP	1.4E-01	4.5E+00	1.1E+01	2.1E-02	EPI
Hexachlorocyclopentadiene	77-47-4	2.7E+02	PHYSPROP	1.1E+00	2.7E-02	PHYSPROP	6.0E-02	PHYSPROP	-9.0E+00	PHYSPROP	1.7E+00	CRC89	2.7E-02	7.2E-06	EPA WATER9			1.4E+03	EPI	5.0E+00	PHYSPROP	1.8E+00	PHYSPROP	6.5E-01	3.5E+00	1.4E+01	1.0E-01	EPI
Hexachloroethane	67-72-1	2.4E+02	PHYSPROP	1.6E-01	3.9E-03	PHYSPROP	2.1E-01	PHYSPROP	1.9E+02	PHYSPROP	2.1E+00	CRC89	3.2E-02	8.9E-06	EPA WATER9			2.0E+02	EPI	4.1E+00	PHYSPROP	5.0E+01	PHYSPROP	2.5E-01	2.2E+00	5.3E+00	4.2E-02	EPI
Hexachlorophene	70-30-4	4.1E+02	PHYSPROP	2.2E-11	5.5E-13	PHYSPROP	1.0E-10	PHYSPROP	1.7E+02	PHYSPROP			3.5E-02	4.0E-06	EPA WATER9			6.7E+05	EPI	7.5E+00	PHYSPROP	1.4E+02	PHYSPROP	6.5E+00	2.0E+01	8.9E+01	8.4E-01	EPI
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	2.2E+02	PHYSPROP	8.2E-10	2.0E-11	EPI	4.1E-09	EPI	2.1E+02	PHYSPROP	1.8E+00	CRC89	3.1E-02	8.5E-06	EPA WATER9			8.9E+01	EPI	8.7E-01	PHYSPROP	6.0E+01	PHYSPROP	1.9E-03	1.8E+00	4.4E+00	3.4E-04	EPI
Hexamethylene Diisocyanate, 1,6-	822-06-0	1.7E+02	PHYSPROP	2.0E-03	4.8E-05	PHYSPROP	3.0E-02	PHYSPROP	-6.7E+01	PHYSPROP	1.1E+00	CRC89	4.0E-02	7.2E-06	EPA WATER9			4.8E+03	EPI	3.2E+00	PHYSPROP	1.2E+02	PHYSPROP	1.2E-01	9.2E-01	2.2E+00	2.4E-02	EPI
Hexamethylphosphoramide	680-31-9	1.8E+02	PHYSPROP	8.2E-07	2.0E-08	PHYSPROP	4.6E-02	PHYSPROP	7.2E+00	PHYSPROP	1.0E+00	CRC89	3.5E-02	6.9E-06	EPA WATER9			1.0E+01	EPI	2.8E-01	PHYSPROP	1.0E+06	PHYSPROP	1.2E-03	1.1E+00	2.5E+00	2.4E-04	EPI
Hexane, N-	110-54-3	8.6E+01	PHYSPROP	7.4E+01	1.8E+00	EPI	1.5E+02	PHYSPROP	-9.5E+01	PHYSPROP	6.6E-01	CRC89	7.3E-02	8.2E-06	EPA WATER9			1.3E+02	EPI	3.9E+00	PHYSPROP	9.5E+00	PHYSPROP	7.2E-01	3.2E-01	1.2E+00	2.0E-01	EPI
Hexanedioic Acid	124-04-9	1.5E+02	PHYSPROP	1.9E-10	4.7E-12	EPI	3.2E-07	EPI	1.5E+02	PHYSPROP	1.4E+00	CRC89	5.8E-02	9.2E-06	EPA WATER9			2.4E+01	EPI	8.0E-02	PHYSPROP	3.1E+04	PHYSPROP	1.2E-03	6.9E-01	1.7E+00	2.7E-04	EPI
Hexanone, 2-	591-78-6	1.0E+02	PHYSPROP	3.8E-03	9.3E-05	EPI	1.2E+01	PHYSPROP	-5.6E+01	PHYSPROP	8.1E-01	CRC89	7.0E-02	8.4E-06	EPA WATER9			1.5E+01	EPI	1.4E+00	PHYSPROP	1.7E+04	PHYSPROP	1.4E-02	3.8E-01	9.2E-01	3.6E-03	EPI
Hexazinone	51235-04-2	2.5E+02	PHYSPROP	9.2E-11	2.3E-12	EPI	2.3E-07	EPI	1.2E+02	PHYSPROP	1.3E+00	CRC89	2.5E-02	6.3E-06	EPA WATER9			1.3E+02	EPI	1.9E+00	PHYSPROP	3.3E+04	PHYSPROP	6.2E-03	2.7E+00	6.5E+00	1.0E-03	EPI
Hexythiazox	78587-05-0	3.5E+02	PHYSPROP	9.7E-07	2.4E-08	EPI	2.6E-08	PHYSPROP	1.1E+02	PHYSPROP			3.8E-02	4.4E-06	EPA WATER9			2.1E+03	EPI	5.6E+00	PHYSPROP	5.0E-01	PHYSPROP	6.0E-01	1.0E+01	2.4E+01	8.3E-02	EPI
Hydramethylnon	67485-29-4	4.9E+02	PHYSPROP	9.0E-05	2.2E-06	EPI	2.0E-08	PHYSPROP	1.9E+02	PHYSPROP			3.0E-02	3.6E-06	EPA WATER9			1.8E+08	EPI	2.3E+00	PHYSPROP	6.0E-03	PHYSPROP	7.7E-04	6.2E+01	1.5E+02	9.0E-05	EPI
Hydrazine	302-01-2	3.2E+01	PHYSPROP	2.5E-05	6.1E-07	PubChem	1.4E+01	PHYSPROP	2.0E+00	PHYSPROP	1.0E+00	CRC89	1.7E-01	1.9E-05	EPA WATER9					-2.1E+00	PHYSPROP	1.0E+06	PHYSPROP	9.5E-05	1.6E-01	3.8E-01	4.4E-05	RAGSE
Hydrazine Sulfate	10034-93-2	1.3E+02	EPI						2.5E+02	CRC89	1.4E+00	CRC89										3.1E+04	PERRY	4.4E-03	5.5E-01	1.3E+00	1.0E-03	RAGSE
Hydrogen Chloride	7647-01-0	3.5E+01	EPI	8.3E+07	2.0E+06	Toxnet HSDB	3.5E+04	PubChem	-1.1E+02	CRC89	1.5E+00	CRC89	1.9E-01	2.3E-05	EPA WATER9							6.7E+05	Toxnet HSDB	2.3E-03	1.7E-01	4.0E-01	1.0E-03	RAGSE
Hydrogen Fluoride	7664-39-3	2.0E+01	PHYSPROP	4.3E-03	1.0E-04	PHYSPROP	9.2E+02	PHYSPROP	-8.4E+01	PHYSPROP	8.2E-01	CRC89	2.2E-01	2.2E-05	EPA WATER9					2.3E-01	OTHER	1.0E+06	PHYSPROP	1.7E-03	1.4E-01	3.3E-01	1.0E-03	RAGSE
Hydrogen Sulfide	7783-06-4	3.4E+01	PHYSPROP	3.5E-01	8.6E-03	PhysProp	1.6E+04	PHYSPROP	-8.5E+01	PHYSPROP	1.4E+00	CRC89	1.9E-01	2.2E-05	EPA WATER9					2.3E-01	OTHER	3.7E+03	PHYSPROP	2.2E-03	1.6E-01	3.9E-01	1.0E-03	RAGSE
Hydroquinone	123-31-9	1.1E+02	PHYSPROP	1.9E-09	4.7E-11	EPI	2.4E-05	EPI	1.7E+02	PHYSPROP	1.3E+00	CRC89	8.0E-02	1.1E-05	EPA WATER9			2.4E+02	EPI	5.9E-01	PHYSPROP	7.2E+04	PHYSPROP	3.8E-03	4.3E-01	1.0E+00	9.3E-04	EPI
Imazalil	35554-44-0	3.0E+02	PHYSPROP	1.1E-07	2.6E-09	EPI	1.2E-06	PHYSPROP	5.3E+01	PHYSPROP	1.2E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			8.5E+03	EPI	3.8E+00	PHYSPROP	1.8E+02	PHYSPROP	7.7E-02	4.9E+00	1.2E+01	1.2E-02	EPI
Imazaquin	81335-37-7	3.1E+02	PHYSPROP	2.8E-16	6.9E-18	PHYSPROP	1.0E-13	PHYSPROP	2.2E+02	PHYSPROP			4.1E-02	4.8E-06	EPA WATER9			2.4E+03	EPI	1.9E+00	PHYSPROP	9.0E+01	PHYSPROP	3.3E-03	5.8E+00	1.4E+01	4.8E-04	EPI
Imazethapyr	81335-77-5	2.9E+02	PHYSPROP	4.3E-15	1.0E-16	PHYSPROP	2.2E-11	PHYSPROP	1.7E+02	PHYSPROP			4.3E-02	5.1E-06	EPA WATER9			3.4E+02	EPI	1.5E+00	PHYSPROP	1.4E+03	PHYSPROP	1.3E-02	4.4E+00	1.1E+01	2.0E-03	EPI
Iodine	7553-56-2	2.5E+02	PHYSPROP				2.3E-01	PHYSPROP	1.1E+02	PHYSPROP	4.9E+00	CRC89				6.0E+01	BAES			2.5E+00	PHYSPROP	3.3E+02	PHYSPROP	6.1E-03	2.8E+00	6.7E+00	1.0E-03	RAGSE
Iprodione	36734-19-7	3.3E+02	PHYSPROP	1.3E-07	3.1E-09	PHYSPROP	3.8E-09	PHYSPROP	1.4E+02	PHYSPROP			4.0E-02	4.6E-06	EPA WATER9			5.3E+01	EPI	3.0E+00	PHYSPROP	1.4E+01	PHYSPROP	1.5E-02	7.4E+00	1.8E+01	2.2E-03	EPI
Iron	7439-89-6	5.6E+01	PHYSPROP				0.0E+00	NIOSH	1.5E+03	CRC89	7.9E+00	CRC89				2.5E+01	BAES							2.9E-03	2.2E-01	5.2E-01	1.0E-03	RAGSE
Isobutyl Alcohol	78-83-1	7.4E+01	PHYSPROP	4.0E-04	9.8E-06	PHYSPROP	1.0E+01	PHYSPROP	-1.1E+02	PHYSPROP	8.0E-01	CRC89	9.0E-02	1.0E-05	EPA WATER9			2.9E+00	EPI	7.6E-01	PHYSPROP	8.5E+04	PHYSPROP	6.4E-03	2.7E-01	6.6E-01	1.9E-03	EPI
Isophorone	78-59-1	1.4E+02	PHYSPROP	2.7E-04	6.6E-06	EPI	4.4E-01	PHYSPROP	-8.1E+00	PHYSPROP	9.3E-01	CRC89	5.3E-02	7.5E-06	EPA WATER9			6.5E+01	EPI	1.7E+00	PHYSPROP	1.2E+04	PHYSPROP	1.6E-02	6.2E-01	1.5E+00	3.5E-03	EPI
Isopropalin	33820-53-0	3.1E+02	PHYSPROP	4.5E-03	1.1E-04	EPI	3.0E-05	PHYSPROP	1.5E+02	EPI	1.2E+00	ChemNet	2.1E-02	5.3E-06	EPA WATER9			1.1E+04	EPI	5.8E+00	PHYSPROP	1.1E-01	PHYSPROP	1.4E+00	5.7E+00	2.2E+01	2.1E-01	EPI
Isopropanol	67-63-0	6.0E+01	PHYSPROP	3.3E-04	8.1E-06	PHYSPROP	4.5E+01	PHYSPROP	-9.0E+01	PHYSPROP	7.8E-01	CRC89	1.0E-01	1.1E-05	EPA WATER9			1.5E+00	EPI	5.0E-02	PHYSPROP	1.0E+06	PHYSPROP	2.3E-03	2.3E-01	5.5E-01	7.8E-04	EPI
Isopropyl Methyl Phosphonic Acid	1832-54-8	1.4E+02	PHYSPROP	2.8E-07	6.9E-09	PHYSPROP	1.2E-02	PHYSPROP	-8.1E+00	EPI			7.1E-02	8.3E-06	EPA WATER9			7.7E+00	EPI	2.7E-01	PHYSPROP	5.0E+04	PHYSPROP	1.8E-03	6.2E-01	1.5E+00	4.0E-04	EPI
Isoxaben	82558-50-7	3.3E+02	PHYSPROP	5.2E-08	1.3E-09	EPI	4.1E-09	PHYSPROP	1.8E+02	PHYSPROP			4.0E-02	4.6E-06	EPA WATER9			1.3E+03	EPI	3.9E+00	PHYSPROP	1.4E+00	PHYSPROP	6.2E-02	7.6E+00	1.8E+01	8.9E-03	EPI
JP-7	NA			4.1E-01	1.0E-02	EPA HCD	1.1E+01	EPA HCD	-5.5E+01	EPA HCD	7.8E-01	ATSDR Profile								8.0E+00	OTHER	1.0E+01	EPA HCD					
Lactofen	77501-63-4	4.6E+02	PHYSPROP	1.9E-05	4.7E-07	EPI	7.0E-08	PHYSPROP	4.5E+01	PHYSPROP			3.2E-02	3.7E-06	EPA WATER9			2.3E+04	EPI	4.8E+00	PHYSPROP	1.0E-01	PHYSPROP	5.2E-02	4.1E+01	9.7E+01	6.3E-03	EPI
Lead Compounds																												
~Lead Chromate	7758-97-6	3.2E+02	CRC89						8.4E+02	CRC89	6.1E+00	CRC89										1.7E-01	CRC89	6.9E-03	6.8E+00	1.6E+01	1.0E-03	RAGSE
~Lead Phosphate	7446-27-7	8.1E+02	PHYSPROP						1.0E+03	PHYSPROP	7.0E+00	CRC89										0.0E+00	CRC89	1.1E-02	3.7E+03	8.8E+03	1.0E-03	RAGSE
~Lead acetate	301-04-2	3.3E+02	PHYSPROP				7.2E-04	PHYSPROP	3.3E+02	PHYSPROP	3.3E+00	CRC89	3.3E-02	9.5E-06	EPA WATER9			1.0E+00	EPI	-8.0E-02	PHYSPROP	1.6E+03	PHYSPROP	1.4E-04	7.2E+00	1.7E+01	2.1E-05	EPI
~Lead and Compounds	7439-92-1	2.1E+02	EPI				0.0E+00	NIOSH	3.3E+02	EPI	1.1E+01	CRC89				9.0E+02	BAES							5.5E-04	1.5E+00	3.7E+00	1.0E-04	RAGSE
~Lead subacetate	1335-32-6	8.1E+02	PHYSPROP				3.0E-10	PHYSPROP	1.6E+02	EPI			2.2E-02	2.6E-06	EPA WATER9			1.0E+01	EPI	-4.0E+00	PHYSPROP	6.3E+04	PHYSPROP	1.1E-09	3.4E+03	8.2E+03	1.0E-10	EPI
~Tetraethyl Lead	78-00-2	3.2E+02	PHYSPROP	2.3E+01	5.7E-01	PHYSPROP	2.6E-01	PHYSPROP	-1.3E+02	PHYSPROP	1.7E+00	CRC89	2.5E-02	6.4E-06	EPA WATER9			6.5E+02	EPI	4.2E+00	PHYSPROP	2.9E-01	PHYSPROP	9.5E-02	6.8E+00	1.6E+01	1.4E-02	EPI
Lewisite	541-25-3	2.1E+02	PHYSPROP	8.9E-03	2.2E-04	EPI	5.8E-01	PHYSPROP	1.0E-01	PHYSPROP	1.9E+00	CRC89	3.3E-02	9.1E-06	EPA WATER9			1.1E+02	EPI	2.6E+00	PHYSPROP	5.0E+02	PHYSPROP	3.0E-02	1.5E+00	3.7E+00	5.4E-03	EPI
Linuron	330-55-2	2.5E+02	PHYSPROP	2.6E-07	6.3E-09	EPI	1.4E-06	PHYSPROP	9.3E+01	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			3.4E+02	EPI	3.2E+00	PHYSPROP	7.5E+01	PHYSPROP	5.1E-02	2.6E+00	6.3E+00	8.4E-03	EPI
Lithium	7439-93-2	6.9E+00	EPI						1.8E+02	CRC89	5.3E-01	CRC89				3.0E+02	BAES							1.0E-03	1.2E-01	2.8E-01	1.0E-03	RAGSE
MCPA	94-74-6	2.0E+02	PHYSPROP	5.4E-08	1.3E-09	EPI	5.9E-06	PHYSPROP	1.2E+02	PHYSPROP	1.6E+00	PubChem	3.1E-02	8.2E-06	EPA WATER9			3.0E+01	EPI	3.3E+00	PHYSPROP	6.3E+02	PHYSPROP	9.2E-02	1.4E+00	3.4E+00	1.7E-02	EPI
MCPB	94-81-5	2.3E+02	PHYSPROP	1.1E-07	2.7E-09	EPI	4.3E-07	PHYSPROP	1.0E+02	PHYSPROP			5.1E-02	5.9E-06	EPA WATER9			9.8E+01	EPI	2.8E+00	PHYSPROP	4.8E+01	PHYSPROP	1.0E-01	2.0E+00	4.8E+00	1.7E-02	EPI
MCPP	93-65-2	2.1E+02	PHYSPROP	7.4E-07	1.8E-08	PHYSPROP	7.5E-07	PHYSPROP	9.5E+01	PHYSPROP	1.3E+00	PubChem	2.7E-02	7.0E-06	EPA WATER9			4.9E+01	EPI	3.1E+00	PHYSPROP	6.2E+02	PHYSPROP	7.4E-02	1.7E+00	4.0E+00	1.3E-02	EPI
Malathion	121-75-5	3.3E+02	PHYSPROP	2.0E-07	4.9E-09	PHYSPROP	3.4E-06	PHYSPROP	2.8E+00	PHYSPROP	1.2E+00	CRC89	2.1E-02	5.2E-06	EPA WATER9			3.1E+01	EPI	2.4E+00	PHYSPROP	1.4E+02	PHYSPROP	5.7E-03	7.4E+00	1.8E+01	8.1E-04	EPI
Maleic Anhydride	108-31-6	9.8E+01	PHYSPROP	1.6E-04	3.9E-06	PHYSPROP	2.5E-01	EPI	5.3E+01	PHYSPROP	1.3E+00	CRC89	8.8E-02	1.1E-05	EPA WATER9			1.0E+00	EPI	1.6E+00	PHYSPROP	1.6E+05	PERRY	2.0E-02	3.7E-01	8.9E-01	5.3E-03	EPI
Maleic Hydrazide	123-33-1	1.1E+02	PHYSPROP	1.1E-09	2.7E-11	PHYSPROP	2.8E-06	PHYSPROP	3.1E+02	PHYSPROP			8.2E-02	9.5E-06	EPA WATER9			3.3E+00	EPI	-8.4E-01	PHYSPROP	4.5E+03	PHYSPROP	4.2E-04	4.5E-01	1.1E+00	1.0E-04	EPI
Malononitrile	109-77-3	6.6E+01	PHYSPROP	5.4E-06	1.3E-07	EPI	2.0E-01	EPI	3.2E+01	PHYSPROP	1.2E+00	CRC89	1.2E-01	1.4E-05	EPA WATER9			3.3E+00	EPI	-6.0E-01	PHYSPROP	1.3E+05	PHYSPROP	8.3E-04	2.5E-01	5.9E-01	2.7E-04	EPI
Mancozeb	8018-01-7	5.4E+02	PHYSPROP	6.2E-10	1.5E-11	PHYSPROP	1.3E-10	PHYSPROP	1.7E+02	PhysProp	1.9E+00	PubChem	2.0E-02	5.1E-06	EPA WATER9			6.1E+02	EPI	1.3E+00	PHYSPROP	6.2E+00	PHYSPROP	6.9E-03	1.1E+02	2.7E+02	7.7E-04	EPI
Maneb	12427-38-2	3.0E+02	PHYSPROP	2.0E-07	4.9E-09	PHYSPROP	7.5E-08	PHYSPROP	2.0E+02	EPI			4.3E-02	5.0E-06	EPA WATER9			6.1E+02	EPI	6.2E-01	PHYSPROP	6.0E+00	PHYSPROP	5.1E-03	4.7E+00	1.1E+01	7.7E-04	EPI
Manganese (Diet)	7439-96-5	5.5E+01	PHYSPROP				0.0E+00	NIOSH	1.2E+03	PHYSPROP	7.3E+00	CRC89				6.5E+01	BAES							2.9E-03	2.1E-01	5.1E-01	1.0E-03	RAGSE
Manganese (Non-diet)	7439-96-5	5.5E+01	PHYSPROP				0.0E+00	NIOSH	1.2E+03	PHYSPROP	7.3E+00	CRC89				6.5E+01	BAES							2.9E-03	2.1E-01	5.1E-01	1.0E-03	RAGSE
Mephosfolan	950-10-7	2.7E+02	PHYSPROP	4.9E-09	1.2E-10	PHYSPROP	3.2E-05	PHYSPROP	8.4E+01	EPI			4.6E-02	5.3E-06	EPA WATER9			6.4E+02	EPI	1.0E+00	PHYSPROP	5.7E+01	PHYSPROP	1.5E-03	3.4E+00	8.1E+00	2.4E-04	EPI
Mepiquat Chloride	24307-26-4	1.5E+02	PHYSPROP	1.8E-10	4.3E-12	PHYSPROP	3.7E-07	PHYSPROP	2.2E+02	PHYSPROP			6.7E-02	7.9E-06	EPA WATER9			6.6E+01	EPI	-2.8E+00	PHYSPROP	5.0E+05	PHYSPROP	1.4E-05	7.2E-01	1.7E+00	3.0E-06	EPI
Mercury Compounds																												
~Mercuric Chloride (and other Mercury salts)	7487-94-7	2.7E+02	PHYSPROP						2.8E+02	PHYSPROP	5.6E+00	CRC89								-2.2E-01	PHYSPROP	6.9E+04	PHYSPROP	6.3E-03	3.5E+00	8.4E+00	1.0E-03	RAGSE
~Mercury (elemental)	7439-97-6	2.0E+02	PHYSPROP	3.5E-01	8.6E-03	PHYSPROP	2.0E-03	PHYSPROP	-3.9E+01	PHYSPROP	1.4E+01	CRC89	3.1E-02	6.3E-06	EPA WATER9	5.2E+01	SSL			6.2E-01	PHYSPROP	6.0E-02	PHYSPROP	5.4E-03	1.4E+00	3.4E+00	1.0E-03	RAGSE
~Methyl Mercury	22967-92-6	2.2E+02	OTHER																					5.7E-03	1.7E+00	4.1E+00	1.0E-03	RAGSE
~Phenylmercuric Acetate	62-38-4	3.4E+02	PHYSPROP	2.3E-08	5.7E-10	EPI	6.0E-06	PHYSPROP	1.5E+02	PHYSPROP			3.9E-02	4.6E-06	EPA WATER9			5.6E+01	EPI	7.1E-01	PHYSPROP	4.4E+03	PHYSPROP	4.2E-04	8.1E+00	1.9E+01	6.0E-05	EPI
Merphos	150-50-5	3.0E+02	PHYSPROP	9.3E-04	2.3E-05	PHYSPROP	2.0E-05	PHYSPROP	1.0E+02	PHYSPROP	1.0E+00	CRC89	2.0E-02	5.0E-06	EPA WATER9			4.9E+04	EPI	7.7E+00	PHYSPROP	3.5E-03	PHYSPROP	2.8E+01	4.9E+00	2.3E+01	4.2E+00	EPI
Merphos Oxide	78-48-8	3.1E+02	PHYSPROP	1.2E-05	2.9E-07	PHYSPROP	5.3E-06	PHYSPROP	-2.5E+01	CRC89	1.1E+00	CRC89	2.0E-02	5.0E-06	EPA WATER9			2.4E+03	EPI	5.7E+00	PHYSPROP	2.3E+00	PHYSPROP	1.1E+00	6.1E+00	2.4E+01	1.7E-01	EPI
Metalaxyl	57837-19-1	2.8E+02	PHYSPROP	1.2E-07	3.0E-09	EPI	5.6E-06	PHYSPROP	7.1E+01	PHYSPROP			4.4E-02	5.2E-06	EPA WATER9			3.9E+01	EPI	1.7E+00	PHYSPROP	8.4E+03	PHYSPROP	3.7E-03	3.9E+00	9.3E+00	5.8E-04	EPI
Methacrylonitrile	126-98-7	6.7E+01	PHYSPROP	1.0E-02	2.5E-04	EPI	7.1E+01	PHYSPROP	-3.6E+01	PHYSPROP	8.0E-01	CRC89	9.6E-02	1.1E-05	EPA WATER9			1.3E+01	EPI	6.8E-01	PHYSPROP	2.5E+04	PHYSPROP	5.9E-03	2.5E-01	6.0E-01	1.9E-03	EPI
Methamidophos	10265-92-6	1.4E+02	PHYSPROP	3.5E-08	8.7E-10	PHYSPROP	3.5E-05	PHYSPROP	4.6E+01	PHYSPROP	1.3E+00	CRC89	6.0E-02	9.2E-06	EPA WATER9			5.4E+00	EPI	-8.0E-01	PHYSPROP	1.0E+06	PHYSPROP	3.4E-04	6.5E-01	1.6E+00	7.4E-05	EPI
Methanol	67-56-1	3.2E+01	PHYSPROP	1.9E-04	4.6E-06	PHYSPROP	1.3E+02	PHYSPROP	-9.8E+01	PHYSPROP	7.9E-01	CRC89	1.6E-01	1.7E-05	EPA WATER9			1.0E+00	EPI	-7.7E-01	PHYSPROP	1.0E+06	PHYSPROP	6.9E-04	1.6E-01	3.8E-01	3.2E-04	EPI
Methidathion	950-37-8	3.0E+02	PHYSPROP	2.9E-07	7.2E-09	EPI	3.4E-06	PHYSPROP	3.9E+01	PHYSPROP			4.2E-02	4.9E-06	EPA WATER9			2.1E+01	EPI	2.2E+00	PHYSPROP	1.9E+02	PHYSPROP	6.1E-03	5.2E+00	1.2E+01	9.1E-04	EPI
Methomyl	16752-77-5	1.6E+02	PHYSPROP	8.1E-10	2.0E-11	EPI	5.4E-06	PHYSPROP	7.8E+01	PHYSPROP	1.3E+00	CRC89	4.8E-02	8.4E-06	EPA WATER9			1.0E+01	EPI	6.0E-01	PHYSPROP	5.8E+04	PHYSPROP	2.4E-03	8.5E-01	2.0E+00	4.8E-04	EPI
Methoxy-5-nitroaniline, 2-	99-59-2	1.7E+02	PHYSPROP	5.1E-07	1.3E-08	PHYSPROP	3.2E-04	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	CRC89	4.3E-02	7.8E-06	EPA WATER9			7.1E+01	EPI	1.5E+00	PHYSPROP	1.2E+02	PHYSPROP	8.4E-03	9.2E-01	2.2E+00	1.7E-03	EPI
Methoxychlor	72-43-5	3.5E+02	PHYSPROP	8.3E-06	2.0E-07	PHYSPROP	2.6E-06	PHYSPROP	8.7E+01	PHYSPROP	1.4E+00	CRC89	2.2E-02	5.6E-06	EPA WATER9			2.7E+04	EPI	5.1E+00	PHYSPROP	1.0E-01	PHYSPROP	3.1E-01	9.1E+00	2.2E+01	4.3E-02	EPI
Methoxyethanol Acetate, 2-	110-49-6	1.2E+02	PHYSPROP	1.3E-05	3.1E-07	EPI	7.0E+00	PHYSPROP	-6.5E+01	PHYSPROP	1.0E+00	CRC89	6.6E-02	8.7E-06	EPA WATER9			2.5E+00	EPI	1.0E-01	PHYSPROP	1.0E+06	PHYSPROP	1.7E-03	4.8E-01	1.2E+00	4.0E-04	EPI
Methoxyethanol, 2-	109-86-4	7.6E+01	PHYSPROP	1.4E-05	3.3E-07	PHYSPROP	9.5E+00	PHYSPROP	-8.5E+01	PHYSPROP	9.6E-01	CRC89	9.5E-02	1.1E-05	EPA WATER9			1.0E+00	EPI	-7.7E-01	PHYSPROP	1.0E+06	PHYSPROP	6.0E-04	2.8E-01	6.7E-01	1.8E-04	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H\` (unitless)	HLC (atm-m^3/mole)	H\` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Methyl Acetate	79-20-9	7.4E+01	PHYSPROP	4.7E-03	1.2E-04	PHYSPROP	2.2E+02	PHYSPROP	-9.8E+01	PHYSPROP	9.3E-01	CRC89	9.6E-02	1.1E-05	EPA WATER9			3.1E+00	EPI	1.8E-01	PHYSPROP	2.4E+05	PHYSPROP	2.6E-03	2.7E-01	6.6E-01	7.9E-04	EPI
Methyl Acrylate	96-33-3	8.6E+01	PHYSPROP	8.1E-03	2.0E-04	EPI	8.7E+01	PHYSPROP	-7.7E+01	PHYSPROP	9.5E-01	CRC89	8.6E-02	1.0E-05	EPA WATER9			5.8E+00	EPI	8.0E-01	PHYSPROP	4.9E+04	PHYSPROP	6.2E-03	3.2E-01	7.7E-01	1.8E-03	EPI
Methyl Ethyl Ketone (2-Butanone)	78-93-3	7.2E+01	PHYSPROP	2.3E-03	5.7E-05	PHYSPROP	9.1E+01	PHYSPROP	-8.7E+01	PHYSPROP	8.0E-01	CRC89	9.1E-02	1.0E-05	EPA WATER9			4.5E+00	EPI	2.9E-01	PHYSPROP	2.2E+05	PHYSPROP	3.1E-03	2.7E-01	6.4E-01	9.6E-04	EPI
Methyl Hydrazine	60-34-4	4.6E+01	PHYSPROP	1.2E-04	3.0E-06	PHYSPROP	5.0E+01	PHYSPROP	-5.2E+01	PHYSPROP	8.7E-01	LANGE	1.3E-01	1.4E-05	EPA WATER9			1.3E+01	EPI	-1.1E+00	PHYSPROP	1.0E+06	PHYSPROP	4.5E-04	1.9E-01	4.6E-01	1.7E-04	EPI
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	1.0E+02	PHYSPROP	5.6E-03	1.4E-04	EPI	2.0E+01	PHYSPROP	-8.4E+01	PHYSPROP	8.0E-01	CRC89	7.0E-02	8.3E-06	EPA WATER9			1.3E+01	EPI	1.3E+00	PHYSPROP	1.9E+04	PHYSPROP	1.2E-02	3.8E-01	9.2E-01	3.2E-03	EPI
Methyl Isocyanate	624-83-9	5.7E+01	PHYSPROP	3.8E-02	9.3E-04	PHYSPROP	3.5E+02	PHYSPROP	-4.5E+01	PHYSPROP	9.6E-01	CRC89	1.2E-01	1.3E-05	EPA WATER9			4.0E+01	EPI	7.9E-01	PHYSPROP	2.9E+04	PHYSPROP	7.3E-03	2.2E-01	5.3E-01	2.5E-03	EPI
Methyl Methacrylate	80-62-6	1.0E+02	PHYSPROP	1.3E-02	3.2E-04	EPI	3.9E+01	PHYSPROP	-4.8E+01	PHYSPROP	9.4E-01	CRC89	7.5E-02	9.2E-06	EPA WATER9			9.1E+00	EPI	1.4E+00	PHYSPROP	1.5E+04	PHYSPROP	1.4E-02	3.8E-01	9.2E-01	3.6E-03	EPI
Methyl Parathion	298-00-0	2.6E+02	PHYSPROP	4.1E-06	1.0E-07	PHYSPROP	3.5E-06	PHYSPROP	3.6E+01	PHYSPROP	1.4E+00	CRC89	2.5E-02	6.4E-06	EPA WATER9			7.3E+02	EPI	2.9E+00	PHYSPROP	3.8E+01	PHYSPROP	2.6E-02	3.1E+00	7.5E+00	4.2E-03	EPI
Methyl Phosphonic Acid	993-13-5	9.6E+01	PHYSPROP	5.0E-10	1.2E-11	PHYSPROP	3.3E-04	EPI	1.1E+02	PHYSPROP			9.1E-02	1.1E-05	EPA WATER9			1.4E+00	EPI	-7.0E-01	PHYSPROP	2.0E+04	PHYSPROP	3.7E-04	3.6E-01	8.7E-01	9.8E-05	EPI
Methyl Styrene (Mixed Isomers)	25013-15-4	3.5E+02	PHYSPROP	1.1E-01	2.6E-03	PHYSPROP	1.5E+00	PHYSPROP	-8.6E+01	EPI	8.9E-01	HSDB	1.7E-02	4.2E-06	EPA WATER9			7.2E+02	EPI	3.4E+00	PHYSPROP	8.9E+01	PHYSPROP	4.8E-01	1.0E+01	2.4E+01	6.6E-02	EPI
Methyl methanesulfonate	66-27-3	1.1E+02	PHYSPROP	1.6E-04	4.0E-06	PHYSPROP	3.1E-01	PHYSPROP	2.0E+01	PHYSPROP	1.3E+00	CRC89	7.9E-02	1.1E-05	EPA WATER9			4.3E+00	EPI	-6.6E-01	PHYSPROP	2.0E+05	LANGE	5.6E-04	4.4E-01	1.0E+00	1.4E-04	EPI
Methyl tert-Butyl Ether (MTBE)	1634-04-4	8.8E+01	PHYSPROP	2.4E-02	5.9E-04	PHYSPROP	2.5E+02	PHYSPROP	-1.1E+02	PHYSPROP	7.4E-01	CRC89	7.5E-02	8.6E-06	EPA WATER9			1.2E+01	EPI	9.4E-01	PHYSPROP	5.1E+04	PHYSPROP	7.6E-03	3.3E-01	7.9E-01	2.1E-03	EPI
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	2.0E+02	PHYSPROP	2.6E-16	6.4E-18	PHYSPROP	4.1E-12	PHYSPROP	2.4E+02	EPI			5.6E-02	6.6E-06	EPA WATER9			2.0E+02	EPI	-2.1E+00	PHYSPROP	1.0E+06	PHYSPROP	2.9E-05	1.3E+00	3.1E+00	5.4E-06	EPI
Methyl-5-Nitroaniline, 2-	99-55-8	1.5E+02	PHYSPROP	3.4E-07	8.3E-09	PHYSPROP	9.8E-04	PHYSPROP	1.1E+02	PHYSPROP			6.7E-02	7.8E-06	EPA WATER9			1.8E+02	EPI	1.9E+00	PHYSPROP	1.0E+04	PHYSPROP	1.8E-02	7.5E-01	1.8E+00	3.8E-03	EPI
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	1.5E+02	PHYSPROP	5.0E-11	1.2E-12	PHYSPROP	1.2E-04	PHYSPROP	1.2E+02	EPI			6.8E-02	8.0E-06	EPA WATER9			7.2E+01	EPI	-9.2E-01	PHYSPROP	2.7E+05	PHYSPROP	2.7E-04	7.0E-01	1.7E+00	5.7E-05	EPI
Methylaniline Hydrochloride, 2-	636-21-5	1.4E+02	PHYSPROP	8.6E-05	2.1E-06	PHYSPROP	2.9E-01	PHYSPROP	2.2E+02	PHYSPROP			6.9E-02	8.1E-06	EPA WATER9			1.2E+02	EPI	1.6E+00	PHYSPROP	8.3E+03	PHYSPROP	4.8E-05	6.7E-01	1.6E+00	1.1E-05	EPI
Methylarsonic acid	124-58-3	1.4E+02	PHYSPROP				1.6E-03	PHYSPROP	1.6E+02	PHYSPROP			7.0E-02	8.2E-06	EPA WATER9			4.4E+01	EPI	-1.2E+00	PHYSPROP	2.6E+05	PHYSPROP	1.9E-04	6.4E-01	1.5E+00	4.2E-05	EPI
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	1.6E+02	OTHER										6.5E-02	7.6E-06	EPA WATER9										8.1E-01	2.0E+00		
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	2.2E+02	OTHER										5.2E-02	6.1E-06	EPA WATER9										1.8E+00	4.3E+00		
Methylcholanthrene, 3-	56-49-5	2.7E+02	PHYSPROP	2.1E-04	5.2E-06	EPI	4.3E-08	EPI	1.8E+02	PHYSPROP	1.3E+00	CRC89	2.4E-02	6.1E-06	EPA WATER9			9.6E+05	EPI	6.4E+00	PHYSPROP	2.9E-03	PHYSPROP	5.7E+00	3.3E+00	1.5E+01	9.0E-01	EPI
Methylene Chloride	75-09-2	8.5E+01	PHYSPROP	1.3E-01	3.3E-03	PHYSPROP	4.4E+02	PHYSPROP	-9.5E+01	PHYSPROP	1.3E+00	CRC89	1.0E-01	1.3E-05	EPA WATER9			2.2E+01	EPI	1.3E+00	PHYSPROP	1.3E+04	PHYSPROP	1.3E-02	3.1E-01	7.5E-01	3.5E-03	EPI
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	2.7E+02	PHYSPROP	1.7E-09	4.1E-11	PHYSPROP	2.9E-07	PHYSPROP	1.1E+02	PHYSPROP			4.6E-02	5.4E-06	EPA WATER9			5.7E+03	EPI	3.9E+00	PHYSPROP	1.4E+01	PHYSPROP	1.2E-01	3.3E+00	7.9E+00	2.0E-02	EPI
Methylene-bis(N,N-dimethyl) Aniline, 4,4'	101-61-1	2.5E+02	PHYSPROP	4.4E-08	1.1E-09	PHYSPROP	1.8E-05	PHYSPROP	9.2E+01	PHYSPROP			4.7E-02	5.5E-06	EPA WATER9			2.7E+03	EPI	4.4E+00	PHYSPROP	4.1E+00	PHYSPROP	5.2E-01	2.8E+00	6.7E+00	8.4E-02	RAGSE
Methylenebisbenzenamine, 4,4'-	101-77-9	2.0E+02	PHYSPROP	2.2E-09	5.3E-11	PHYSPROP	2.0E-07	PHYSPROP	9.3E+01	PHYSPROP			5.6E-02	6.5E-06	EPA WATER9			2.1E+03	EPI	1.6E+00	PHYSPROP	1.0E+03	PHYSPROP	7.5E-03	1.4E+00	3.3E+00	1.4E-03	EPI
Methylenediphenyl Diisocyanate	101-68-8	2.5E+02	PHYSPROP	3.7E-05	9.0E-07	PHYSPROP	5.0E-06	PHYSPROP	3.8E+01	PHYSPROP	1.2E+00	CRC89	2.4E-02	6.2E-06	EPA WATER9			2.8E+05	EPI	5.2E+00	PHYSPROP	8.3E-01	PHYSPROP	1.1E+00	2.7E+00	1.0E+01	1.8E-01	EPI
Methylstyrene, Alpha-	98-83-9	1.2E+02	PHYSPROP	1.0E-01	2.6E-03	EPI	1.9E+00	EPI	-2.3E+01	PHYSPROP	9.1E-01	CRC89	6.3E-02	8.2E-06	EPA WATER9			7.0E+02	EPI	3.5E+00	PHYSPROP	1.2E+02	PHYSPROP	2.9E-01	4.8E-01	1.2E+00	7.0E-02	EPI
Metolachlor	51218-45-2	2.8E+02	PHYSPROP	3.7E-07	9.0E-09	PHYSPROP	3.1E-05	PHYSPROP	-6.2E+01	PHYSPROP	1.1E+00	CRC89	2.2E-02	5.5E-06	EPA WATER9			4.9E+02	EPI	3.1E+00	PHYSPROP	5.3E+02	PHYSPROP	2.2E-02	4.1E+00	9.8E+00	3.4E-03	EPI
Metribuzin	21087-64-9	2.1E+02	PHYSPROP	4.8E-09	1.2E-10	EPI	4.4E-07	PHYSPROP	1.3E+02	PHYSPROP	1.3E+00	CRC89	2.7E-02	7.1E-06	EPA WATER9			5.3E+01	EPI	1.7E+00	PHYSPROP	1.1E+03	PHYSPROP	7.4E-03	1.7E+00	4.0E+00	1.3E-03	EPI
Metsulfuron-methyl	74223-64-6	3.8E+02	PHYSPROP	5.4E-15	1.3E-16	EPI	2.5E-12	PHYSPROP	1.6E+02	PHYSPROP			3.6E-02	4.2E-06	EPA WATER9			9.3E+01	EPI	2.2E+00	PHYSPROP	9.5E+03	PHYSPROP	2.5E-03	1.4E+01	3.4E+01	3.3E-04	EPI
Mineral oils	8012-95-1	1.7E+02	EPI	3.3E+02	8.2E+00	EPI	1.4E-01	EPI	-9.6E+00	EPI	8.8E-01	ChemNet	3.6E-02	6.4E-06	EPA WATER9			4.8E+03	EPI	6.1E+00	EPI	3.7E-03	EPI	9.8E+00	9.5E-01	4.3E+00	2.0E+00	EPI
Mirex	2385-85-5	5.5E+02	PHYSPROP	3.3E-02	8.1E-04	PHYSPROP	8.0E-07	PHYSPROP	4.9E+02	CRC89	2.3E+00	ChemNet	2.2E-02	5.6E-06	EPA WATER9			3.6E+05	EPI	6.9E+00	PHYSPROP	8.5E-02	PHYSPROP	4.6E-01	1.2E+02	2.9E+02	5.2E-02	EPI
Molinate	2212-67-1	1.9E+02	PHYSPROP	1.7E-04	4.1E-06	PHYSPROP	5.6E-03	PHYSPROP	7.0E+01	EPI	1.1E+00	CRC89	3.2E-02	6.8E-06	EPA WATER9			1.8E+02	EPI	3.2E+00	PHYSPROP	9.7E+02	PHYSPROP	9.9E-02	1.2E+00	2.8E+00	1.9E-02	EPI
Molybdenum	7439-98-7	9.6E+01	PHYSPROP				0.0E+00	NIOSH	2.6E+03	PHYSPROP	1.0E+01	CRC89				2.0E+01	BAES							3.8E-03	3.6E-01	8.7E-01	1.0E-03	RAGSE
Monochloramine	10599-90-3	5.1E+01	EPI						-6.6E+01	CRC89														2.8E-03	2.0E-01	4.9E-01	1.0E-03	RAGSE
Monomethylaniline	100-61-8	1.1E+02	PHYSPROP	3.6E-04	8.9E-06	PHYSPROP	4.5E-01	PHYSPROP	-5.7E+01	PHYSPROP	9.9E-01	CRC89	7.2E-02	9.1E-06	EPA WATER9			8.2E+01	EPI	1.7E+00	PHYSPROP	5.6E+03	PHYSPROP	2.0E-02	4.2E-01	1.0E+00	5.0E-03	EPI
Myclobutanil	88671-89-0	2.7E+02	PHYSPROP	1.7E-07	4.3E-09	EPI	1.6E-06	PHYSPROP	6.6E+01	PHYSPROP			4.5E-02	5.3E-06	EPA WATER9			6.1E+03	EPI	2.9E+00	PHYSPROP	1.4E+02	PHYSPROP	2.1E-02	3.6E+00	8.7E+00	3.4E-03	EPI
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	2.6E+02	PHYSPROP	8.4E-09	2.1E-10	PHYSPROP	6.4E-09	EPI	1.4E+02	PHYSPROP			4.7E-02	5.4E-06	EPA WATER9			5.2E+04	EPI	4.0E+00	PHYSPROP	7.4E+00	PHYSPROP	1.6E-01	3.0E+00	7.2E+00	2.6E-02	EPI
Naled	300-76-5	3.8E+02	PHYSPROP	2.7E-03	6.5E-05	EPI	2.0E-04	PHYSPROP	2.7E+01	PHYSPROP	2.0E+00	CRC89	2.5E-02	6.4E-06	EPA WATER9			1.3E+02	EPI	1.4E+00	PHYSPROP	1.5E+00	PHYSPROP	7.1E-04	1.4E+01	3.4E+01	9.4E-05	EPI
Naphtha, High Flash Aromatic (HFAN)	64742-95-6			1.8E-02	4.4E-04	EPI	8.5E-02	EPI														3.1E+01	EPI					
Naphthylamine, 2-	91-59-8	1.4E+02	PHYSPROP	3.3E-06	8.1E-08	PHYSPROP	2.6E-04	PHYSPROP	1.1E+02	PHYSPROP	1.6E+00	CRC89	6.4E-02	1.0E-05	EPA WATER9			2.5E+03	EPI	2.3E+00	PHYSPROP	1.9E+02	PHYSPROP	3.7E-02	6.7E-01	1.6E+00	8.1E-03	EPI
Napropamide	15299-99-7	2.7E+02	PHYSPROP	3.4E-08	8.4E-10	EPI	1.7E-07	PHYSPROP	7.5E+01	PHYSPROP			4.5E-02	5.3E-06	EPA WATER9			3.2E+03	EPI	3.4E+00	PHYSPROP	7.3E+01	PHYSPROP	5.1E-02	3.5E+00	8.3E+00	8.0E-03	EPI
Nickel Acetate	373-02-4	1.8E+02	PHYSPROP				1.8E-05	PHYSPROP			1.8E+00	PERRY	4.6E-02	9.7E-06	EPA WATER9					-1.4E+00	PHYSPROP	1.7E+05	PHYSPROP	9.9E-05	1.0E+00	2.5E+00	1.9E-05	EPI
Nickel Carbonate	3333-67-3	1.2E+02	PHYSPROP				3.6E-06	PHYSPROP					7.9E-02	9.2E-06	EPA WATER9					-2.1E+00	PHYSPROP	9.3E+01	PERRY	5.5E-05	4.9E-01	1.2E+00	1.3E-05	EPI
Nickel Carbonyl	13463-39-3	1.7E+02	CRC89	2.0E+01	5.0E-01	MSDS	3.2E+02	NIOSH	-1.9E+01	CRC89	1.3E+00	CRC89	4.3E-02	8.2E-06	EPA WATER9							1.8E+02	PERRY		9.5E-01	2.3E+00		
Nickel Hydroxide	12054-48-7	9.3E+01	OTHER																					3.7E-03	3.5E-01	8.3E-01	1.0E-03	RAGSE
Nickel Oxide	1313-99-1	7.5E+01	EPI						2.0E+03	CRC89	6.7E+00	CRC89												3.3E-03	2.8E-01	6.6E-01	1.0E-03	RAGSE
Nickel Refinery Dust	NA															1.5E+02	BAES										2.0E-04	RAGSE
Nickel Soluble Salts	7440-02-0	5.9E+01	PHYSPROP				0.0E+00	NIOSH	1.5E+03	CRC89	8.9E+00	CRC89				6.5E+01	SSL							5.9E-04	2.2E-01	5.4E-01	2.0E-04	RAGSE
Nickel Subsulfide	12035-72-2	2.4E+02	CRC89						7.9E+02	CRC89	5.9E+00	CRC89												1.2E-03	2.3E+00	5.6E+00	2.0E-04	RAGSE
Nickelocene	1271-28-9	1.9E+02	CRC89						1.7E+02	CRC89			5.8E-02	6.7E-06	EPA WATER9										1.2E+00	2.9E+00		
Nitrate	14797-55-8	6.2E+01	EPI																					3.0E-03	2.3E-01	5.6E-01	1.0E-03	RAGSE
Nitrate + Nitrite (as N)	NA																										1.0E-03	RAGSE
Nitrite	14797-65-0	4.7E+01	EPI																					2.6E-03	1.9E-01	4.6E-01	1.0E-03	RAGSE
Nitroaniline, 2-	88-74-4	1.4E+02	PHYSPROP	2.4E-06	5.9E-08	PHYSPROP	2.8E-03	PHYSPROP	7.1E+01	PHYSPROP	9.0E-01	CRC89	5.2E-02	7.4E-06	EPA WATER9			1.1E+02	EPI	1.9E+00	PHYSPROP	1.5E+03	PHYSPROP	2.0E-02	6.2E-01	1.5E+00	4.5E-03	EPI
Nitroaniline, 4-	100-01-6	1.4E+02	PHYSPROP	5.2E-08	1.3E-09	PHYSPROP	3.2E-06	EPI	1.5E+02	PHYSPROP	1.4E+00	CRC89	6.4E-02	9.8E-06	EPA WATER9			1.1E+02	EPI	1.4E+00	PHYSPROP	7.3E+02	PHYSPROP	1.0E-02	6.2E-01	1.5E+00	2.2E-03	EPI
Nitrobenzene	98-95-3	1.2E+02	PHYSPROP	9.8E-04	2.4E-05	PHYSPROP	2.5E-01	PHYSPROP	5.7E+00	PHYSPROP	1.2E+00	CRC89	6.8E-02	9.4E-06	EPA WATER9			2.3E+02	EPI	1.9E+00	PHYSPROP	2.1E+03	PHYSPROP	2.3E-02	5.1E-01	1.2E+00	5.4E-03	EPI
Nitrocellulose	9004-70-0	3.9E+02	PHYSPROP	1.3E-21	3.3E-23	PHYSPROP	1.4E-17	PHYSPROP	2.6E+02	EPI			3.6E-02	4.2E-06	EPA WATER9			1.0E+01	EPI	-4.6E+00	PHYSPROP	1.0E+06	PHYSPROP	7.5E-08	1.6E+01	3.7E+01	9.9E-09	EPI
Nitrofurantoin	67-20-9	2.4E+02	PHYSPROP	5.4E-11	1.3E-12	PHYSPROP	2.8E-10	PHYSPROP	2.6E+02	PHYSPROP			4.9E-02	5.8E-06	EPA WATER9			1.2E+02	EPI	-4.7E-01	PHYSPROP	8.0E+01	PHYSPROP	2.1E-04	2.3E+00	5.4E+00	3.5E-05	EPI
Nitrofurazone	59-87-0	2.0E+02	PHYSPROP	1.3E-11	3.1E-13	PHYSPROP	4.3E-06	PHYSPROP	2.4E+02	EPI			5.6E-02	6.5E-06	EPA WATER9			3.5E+02	EPI	2.3E-01	PHYSPROP	2.1E+02	PHYSPROP	9.3E-04	1.4E+00	3.2E+00	1.7E-04	EPI
Nitroglycerin	55-63-0	2.3E+02	PHYSPROP	3.5E-06	8.7E-08	EPI	4.0E-04	EPI	1.4E+01	PHYSPROP	1.6E+00	CRC89	2.9E-02	7.7E-06	EPA WATER9			1.2E+02	EPI	1.6E+00	PHYSPROP	1.4E+03	PHYSPROP	5.8E-03	2.0E+00	4.7E+00	9.9E-04	EPI
Nitroguanidine	556-88-7	1.0E+02	PHYSPROP	1.8E-14	4.5E-16	PHYSPROP	1.4E-11	PHYSPROP	2.4E+02	EPI	2.0E+00	ChemNet	1.0E-01	1.4E-05	EPA WATER9			2.1E+01	EPI	-8.9E-01	PHYSPROP	4.4E+03	PHYSPROP	4.1E-04	4.0E-01	9.7E-01	1.1E-04	EPI
Nitromethane	75-52-5	6.1E+01	PHYSPROP	1.2E-03	2.9E-05	PHYSPROP	3.6E+01	PHYSPROP	-2.9E+01	PHYSPROP	1.1E+00	CRC89	1.2E-01	1.4E-05	EPA WATER9			1.0E+01	EPI	-3.5E-01	PHYSPROP	1.1E+05	PHYSPROP	1.3E-03	2.3E-01	5.5E-01	4.2E-04	EPI
Nitropropane, 2-	79-46-9	8.9E+01	PHYSPROP	4.9E-03	1.2E-04	EPI	1.7E+01	PHYSPROP	-9.1E+01	PHYSPROP	9.8E-01	CRC89	8.5E-02	1.0E-05	EPA WATER9			3.1E+01	EPI	9.3E-01	PHYSPROP	1.7E+04	PHYSPROP	7.5E-03	3.3E-01	8.0E-01	2.1E-03	EPI
Nitroso-N-ethylurea, N-	759-73-9	1.2E+02	PHYSPROP	5.4E-09	1.3E-10	PHYSPROP	1.8E-02	PHYSPROP	9.9E+01	EPI			7.9E-02	9.3E-06	EPA WATER9			2.1E+01	EPI	2.3E-01	PHYSPROP	1.3E+04	PHYSPROP	2.0E-03	4.8E-01	1.1E+00	4.9E-04	EPI
Nitroso-N-methylurea, N-	684-93-5	1.0E+02	PHYSPROP	4.1E-09	9.9E-11	PHYSPROP	2.9E-02	PHYSPROP	1.2E+02	EPI			8.6E-02	1.0E-05	EPA WATER9			1.1E+01	EPI	-3.0E-02	PHYSPROP	1.4E+04	PHYSPROP	1.5E-03	4.0E-01	9.5E-01	4.0E-04	EPI
Nitroso-di-N-butylamine, N-	924-16-3	1.6E+02	PHYSPROP	5.4E-04	1.3E-05	PHYSPROP	4.7E-02	EPI	2.8E+01	EPI	9.0E-01	PubChem	4.2E-02	6.8E-06	EPA WATER9			9.1E+02	EPI	2.6E+00	PHYSPROP	1.3E+03	PHYSPROP	5.5E-02	8.1E-01	1.9E+00	1.1E-02	EPI
Nitroso-di-N-propylamine, N-	621-64-7	1.3E+02	PHYSPROP	2.2E-04	5.4E-06	PHYSPROP	8.6E-02	PHYSPROP	6.8E+00	EPI	9.2E-01	CRC89	5.6E-02	7.8E-06	EPA WATER9			2.8E+02	EPI	1.4E+00	PHYSPROP	1.3E+04	PHYSPROP	1.0E-02	5.6E-01	1.4E+00	2.3E-03	EPI
Nitrosodiethanolamine, N-	1116-54-7	1.3E+02	PHYSPROP	2.0E-10	4.9E-12	PHYSPROP	5.0E-04	PHYSPROP	8.2E+01	EPI			7.3E-02	8.5E-06	EPA WATER9			1.0E+00	EPI	-1.3E+00	PHYSPROP	1.0E+06	PHYSPROP	1.1E-04	5.9E-01	1.4E+00	2.5E-05	RAGSE
Nitrosodiethylamine, N-	55-18-5	1.0E+02	PHYSPROP	1.5E-04	3.6E-06	PHYSPROP	8.6E-01	PHYSPROP	-1.6E+01	EPI	9.4E-01	CRC89	7.4E-02	9.1E-06	EPA WATER9			8.3E+01	EPI	4.8E-01	PHYSPROP	1.1E+05	PHYSPROP	3.4E-03	3.9E-01	9.4E-01	8.7E-04	EPI
Nitrosodimethylamine, N-	62-75-9	7.4E+01	PHYSPROP	7.4E-05	1.8E-06	PHYSPROP	2.7E+00	PHYSPROP	-3.9E+01	EPI	1.0E+00	CRC89	9.9E-02	1.2E-05	EPA WATER9			2.3E+01	EPI	-5.7E-01	PHYSPROP	1.0E+06	PHYSPROP	8.3E-04	2.7E-01	6.6E-01	2.5E-04	EPI
Nitrosodiphenylamine, N-	86-30-6	2.0E+02	PHYSPROP	5.0E-05	1.2E-06	PHYSPROP	1.0E-01	PHYSPROP	6.7E+01	PHYSPROP			5.6E-02	6.5E-06	EPA WATER9			2.6E+03	EPI	3.1E+00	PHYSPROP	3.5E+01	PHYSPROP	7.9E-02	1.4E+00	3.3E+00	1.5E-02	EPI
Nitrosomethylethylamine, N-	10595-95-6	8.8E+01	PHYSPROP	5.9E-05	1.4E-06	PHYSPROP	1.1E+00	PHYSPROP	-2.7E+01	EPI	9.4E-01	PubChem	8.4E-02	1.0E-05	EPA WATER9			4.3E+01	EPI	4.0E-02	PHYSPROP	3.0E+05	PHYSPROP	1.9E-03	3.3E-01	7.9E-01	5.3E-04	EPI
Nitrosomorpholine [N-]	59-89-2	1.2E+02	PHYSPROP	1.0E-06	2.5E-08	PHYSPROP	3.6E-02	PHYSPROP	2.9E+01	PHYSPROP			8.0E-02	9.3E-06	EPA WATER9			2.3E+01	EPI	-4.4E-01	PHYSPROP	1.0E+06	PHYSPROP	7.4E-04	4.7E-01	1.1E+00	1.8E-04	EPI
Nitrosopiperidine [N-]	100-75-4	1.1E+02	PHYSPROP	3.5E-05	8.4E-07	PHYSPROP	9.2E-02	PHYSPROP	6.8E+00	EPI	1.1E+00	CRC89	7.0E-02	9.2E-06	EPA WATER9			1.7E+02	EPI	3.6E-01	PHYSPROP	7.7E+04	PHYSPROP	2.6E-03	4.6E-01	1.1E+00	6.2E-04	EPI
Nitrosopyrrolidine, N-	930-55-2	1.0E+02	PHYSPROP	2.0E-06	4.9E-08	PHYSPROP	6.0E-02	PHYSPROP	-3.1E+00	EPI	1.1E+00	CRC89	8.0E-02	1.0E-05	EPA WATER9			9.2E+01	EPI	-1.9E-01	PHYSPROP	1.0E+06	PHYSPROP	1.2E-03	3.8E-01	9.2E-01	3.2E-04	EPI
Nitrotoluene, m-	99-08-1	1.4E+02	PHYSPROP	3.8E-04	9.3E-06	PHYSPROP	2.1E-01	EPI	1.6E+01	PHYSPROP	1.2E+00	CRC89	5.9E-02	8.7E-06	EPA WATER9			3.6E+02	EPI	2.5E+00	PHYSPROP	5.0E+02	PHYSPROP	5.1E-02	6.2E-01	1.5E+00	1.1E-02	EPI
Nitrotoluene, o-	88-72-2	1.4E+02	PHYSPROP	5.1E-04	1.3E-05	PHYSPROP	1.9E-01	EPI	-1.0E+01	PHYSPROP	1.2E+00	CRC89	5.9E-02	8.7E-06	EPA WATER9			3.7E+02	EPI	2.3E+00	PHYSPROP	6.5E+02	PHYSPROP	4.0E-02	6.2E-01	1.5E+00	9.0E-03	EPI
Nitrotoluene, p-	99-99-0	1.4E+02	PHYSPROP	2.3E-04	5.6E-06	PHYSPROP	1.6E-02	EPI	5.2E+01	PHYSPROP	1.1E+00	CRC89	5.7E-02	8.4E-06	EPA WATER9			3.6E+02	EPI	2.4E+00	PHYSPROP	4.4E+02	PHYSPROP	4.5E-02	6.2E-01	1.5E+00	1.0E-02	EPI
Nonane, n-	111-84-2	1.3E+02	PHYSPROP	1.4E+02	3.4E+00	EPI	4.5E+00	PHYSPROP	-5.4E+01	PHYSPROP	7.2E-01	CRC89	5.1E-02	6.8E-06	EPA WATER9			8.0E+02	EPI	5.7E+00	PHYSPROP	2.2E-01	PHYSPROP	7.4E+00	5.5E-01	2.5E+00	1.7E+00	EPI
Norflurazon	27314-13-2	3.0E+02	PHYSPROP	1.4E-08	3.4E-10	EPI	2.9E-08	PHYSPROP	1.8E+02	PHYSPROP			4.2E-02	4.9E-06	EPA WATER9			3.1E+03	EPI	2.3E+00	PHYSPROP	3.4E+01	PHYSPROP	7.0E-03	5.3E+00	1.3E+01	1.1E-03	EPI
Octabromodiphenyl Ether	32536-52-0	8.0E+02	PHYSPROP	3.1E-06	7.5E-08	PHYSPROP	1.3E-02	EPI	2.0E+02	PHYSPROP			2.2E-02	2.6E-06	EPA WATER9			9.9E+04	EPI	8.7E+00	PHYSPROP	1.1E-08	PHYSPROP	3.3E-01	3.2E+03	7.8E+03	3.1E-02	EPI
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	3.0E+02	PHYSPROP	3.5E-08	8.7E-10	PHYSPROP	3.3E-14	PHYSPROP	2.9E+02	CRC89			4.3E-02	5.0E-06	EPA WATER9			5.3E+02	EPI	1.6E-01	PHYSPROP	5.0E+00	PHYSPROP	2.9E-04	4.8E+00	1.1E+01	4.4E-05	EPI
Octamethylpyrophosphoramide	152-16-9	2.9E+02	PHYSPROP	1.5E-08	3.8E-10	PHYSPROP	1.0E-03	PHYSPROP	1.7E+01	PHYSPROP	1.1E+00	CRC89	2.2E-02	5.4E-06	EPA WATER9			2.0E+01	EPI	-1.0E+00	PHYSPROP	1.0E+06	PHYSPROP	5.4E-05	4.2E+00	1.0E+01	8.3E-06	EPI
Oryzalin	19044-88-3	3.5E+02	PHYSPROP	7.8E-08	1.9E-09	PHYSPROP	9.8E-09	PHYSPROP	1.4E+02	PHYSPROP			3.9E-02	4.5E-06	EPA WATER9			8.3E+02	EPI	3.7E+00	PHYSPROP	2.5E+00	PHYSPROP	3.8E-02	9.2E+00	2.2E+01	5.4E-03	EPI
Oxadiazon	19666-30-9	3.5E+02	PHYSPROP	3.0E-06	7.3E-08	EPI	1.1E-07	PHYSPROP	9.0E+01	PHYSPROP			3.9E-02	4.5E-06	EPA WATER9			5.0E+03	EPI	4.8E+00	PHYSPROP	7.0E-01	PHYSPROP	2.0E-01	9.0E+00	2.2E+01	2.8E-02	EPI
Oxamyl	23135-22-0	2.2E+02	PHYSPROP	9.7E-09	2.4E-10	EPI	2.3E-04	PHYSPROP	1.0E+02	PHYSPROP	9.7E-01	CRC89	2.3E-02	5.9E-06	EPA WATER9			1.0E+01	EPI	-4.7E-01	PHYSPROP	2.8E+05	PHYSPROP	2.6E-04	1.8E+00	4.3E+00	4.5E-05	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H' (unitless)	HLC (atm-m³/mole)	H' and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm³)	Density Ref	Dia (cm²/s)	Diw (cm²/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t^* (hr)	K_p (cm/hr)	KPREF
Oxyfluorfen	42874-03-3	3.6E+02	PHYSPROP	3.4E-05	8.2E-07	EPI	2.0E-07	PHYSPROP	8.4E+01	PHYSPROP	1.4E+00	CRC89	2.1E-02	5.3E-06	EPA WATER9			4.0E+04	EPI	4.7E+00	PHYSPROP	1.2E-01	PHYSPROP	1.5E-01	1.1E+01	2.7E+01	2.0E-02	EPI
Paclobutrazol	76738-62-0	2.9E+02	PHYSPROP	3.4E-09	8.3E-11	EPI	7.5E-09	PHYSPROP	1.7E+02	PHYSPROP	1.2E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			9.2E+02	EPI	3.2E+00	PHYSPROP	2.6E+01	PHYSPROP	3.1E-02	4.6E+00	1.1E+01	4.7E-03	EPI
Paraquat Dichloride	1910-42-5	2.6E+02	PHYSPROP	1.3E-11	3.2E-13	PHYSPROP	7.5E-08	PHYSPROP	3.0E+02	EPI			4.7E-02	5.5E-06	EPA WATER9			6.8E+03	EPI	-4.5E+00	PHYSPROP	6.2E+05	PHYSPROP	3.6E-07	2.9E+00	7.0E+00	5.8E-08	EPI
Parathion	56-38-2	2.9E+02	PHYSPROP	1.2E-05	3.0E-07	PHYSPROP	6.7E-06	PHYSPROP	6.1E+00	PHYSPROP	1.3E+00	CRC89	2.3E-02	5.8E-06	EPA WATER9			2.4E+03	EPI	3.8E+00	PHYSPROP	1.1E+01	PHYSPROP	8.4E-02	4.5E+00	1.1E+01	1.3E-02	EPI
Pebulate	1114-71-2	2.0E+02	PHYSPROP	9.7E-03	2.4E-04	EPI	8.9E-02	PHYSPROP	7.1E+01	EPI	9.5E-01	CRC89	2.4E-02	6.1E-06	EPA WATER9			3.0E+02	EPI	3.8E+00	PHYSPROP	1.0E+02	PHYSPROP	2.2E-01	1.4E+00	3.5E+00	4.0E-02	EPI
Pendimethalin	40487-42-1	2.8E+02	PHYSPROP	3.5E-05	8.6E-07	EPI	1.5E-05	PHYSPROP	5.6E+01	PHYSPROP	1.2E+00	CRC89	2.3E-02	5.7E-06	EPA WATER9			5.6E+03	EPI	5.2E+00	PHYSPROP	3.3E-01	PHYSPROP	7.4E-01	4.0E+00	1.5E+01	1.2E-01	EPI
Pentabromodiphenyl Ether	32534-81-9	5.6E+02	PHYSPROP	4.4E-03	1.1E-04	PHYSPROP	3.1E-08	EPI	5.0E+00	PHYSPROP			2.8E-02	3.2E-06	EPA WATER9			2.2E+04	EPI	6.8E+00	PHYSPROP	2.4E-03	PHYSPROP	3.4E-01	1.5E+02	3.7E+02	3.7E-02	EPI
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	5.6E+02	PHYSPROP	4.8E-05	1.2E-06	PHYSPROP	3.1E-08	EPI	-5.0E+00	EPI	2.3E+00	IRIS	2.2E-02	5.6E-06	EPA WATER9			2.2E+04	EPI	7.7E+00	PHYSPROP	7.9E-05	PHYSPROP	3.4E-01	1.5E+02	3.7E+02	3.7E-02	EPI
Pentachlorobenzene	608-93-5	2.5E+02	PHYSPROP	2.9E-02	7.0E-04	PHYSPROP	1.0E-03	EPI	8.6E+01	PHYSPROP	1.8E+00	CRC89	2.9E-02	7.9E-06	EPA WATER9			3.7E+03	EPI	5.2E+00	PHYSPROP	8.3E-01	PHYSPROP	1.0E+00	2.7E+00	1.0E+01	1.7E-01	EPI
Pentachloroethane	76-01-7	2.0E+02	PHYSPROP	7.9E-02	1.9E-03	EPI	3.5E+00	PHYSPROP	2.9E+01	PHYSPROP	1.7E+00	CRC89	3.2E-02	8.6E-06	EPA WATER9			1.4E+02	EPI	3.2E+00	PHYSPROP	4.9E+02	PHYSPROP	8.6E-02	1.4E+00	3.4E+00	1.6E-02	EPI
Pentachloronitrobenzene	82-68-8	3.0E+02	PHYSPROP	1.8E-03	4.4E-05	EPI	5.0E-05	PHYSPROP	1.4E+02	PHYSPROP	1.7E+00	CRC89	2.6E-02	6.9E-06	EPA WATER9			6.0E+03	EPI	4.6E+00	PHYSPROP	4.4E-01	PHYSPROP	2.8E-01	4.7E+00	1.1E+01	4.2E-02	EPI
Pentachlorophenol	87-86-5	2.7E+02	PHYSPROP	1.0E-06	2.5E-08	PHYSPROP	1.1E-04	PHYSPROP	1.7E+02	PHYSPROP	2.0E+00	CRC89	3.0E-02	8.0E-06	EPA WATER9			5.0E+03	EPI	5.1E+00	PHYSPROP	1.4E+01	PHYSPROP	8.0E-01	3.3E+00	1.3E+01	1.3E-01	EPI
Pentaerythritol tetranitrate (PETN)	78-11-5	3.2E+02	PHYSPROP	5.4E-08	1.3E-09	PHYSPROP	5.5E-09	EPI	1.4E+02	PHYSPROP	1.8E+00	CRC89	2.6E-02	6.8E-06	EPA WATER9			6.5E+02	EPI	2.4E+00	PHYSPROP	4.3E+01	PHYSPROP	6.9E-03	6.2E+00	1.5E+01	1.0E-03	EPI
Pentane, n-	109-66-0	7.2E+01	PHYSPROP	5.1E+01	1.3E+00	PHYSPROP	5.1E+02	PHYSPROP	-1.3E+02	PHYSPROP	6.3E-01	CRC89	8.2E-02	8.8E-06	EPA WATER9			7.2E+01	EPI	3.4E+00	PHYSPROP	3.8E+01	PHYSPROP	3.6E-01	2.7E-01	6.4E-01	1.1E-01	EPI
Perchlorates																												
~Ammonium Perchlorate	7790-98-9	1.2E+02	PHYSPROP								2.0E+00	CRC89										2.5E+05	PHYSPROP	4.2E-03	4.8E-01	1.1E+00	1.0E-03	RAGSE
~Lithium Perchlorate	7791-03-9	1.1E+02	CRC89						2.4E+02	CRC89	2.4E+00	CRC89										5.9E+05	CRC89	4.0E-03	4.1E-01	1.0E+00	1.0E-03	RAGSE
~Perchlorate and Perchlorate Salts	14797-73-0	1.2E+02	CRC89																			2.5E+05	CRC89	4.2E-03	4.8E-01	1.1E+00	1.0E-03	RAGSE
~Potassium Perchlorate	7778-74-7	1.4E+02	PHYSPROP						5.3E+02	PHYSPROP	2.5E+00	CRC89										1.5E+04	PHYSPROP	9.1E-03	6.3E-01	1.5E+00	2.0E-03	RAGSE
~Sodium Perchlorate	7601-89-0	1.2E+02	PHYSPROP						4.8E+02	EPI	2.5E+00	CRC89										2.1E+06	PHYSPROP	4.3E-03	5.1E-01	1.2E+00	1.0E-03	RAGSE
Perfluorobutane Sulfonate	375-73-5	3.0E+02	PHYSPROP	5.9E-04	1.4E-05	PHYSPROP	5.2E-02	PHYSPROP	3.7E+01	EPI	1.8E+00	LookChem	2.7E-02	7.2E-06	EPA WATER9			1.8E+02	EPI	2.4E+00	PHYSPROP	1.1E+02	PHYSPROP	8.7E-03	5.0E+00	1.2E+01	1.3E-03	EPI
Permethrin	52645-53-1	3.9E+02	PHYSPROP	7.7E-05	1.9E-06	EPI	2.2E-08	PHYSPROP	3.4E+01	PHYSPROP	1.2E+00	CRC89	1.9E-02	4.8E-06	EPA WATER9			1.2E+05	EPI	6.5E+00	PHYSPROP	6.0E-03	PHYSPROP	1.6E+00	1.6E+01	6.5E+01	2.1E-01	EPI
Phenacetin	62-44-2	1.8E+02	PHYSPROP	8.7E-09	2.1E-10	EPI	6.9E-07	PHYSPROP	1.4E+02	PHYSPROP			6.0E-02	7.0E-06	EPA WATER9			4.1E+01	EPI	1.6E+00	PHYSPROP	7.7E+02	PHYSPROP	8.9E-03	1.1E+00	2.5E+00	1.7E-03	EPI
Phenmedipham	13684-63-4	3.0E+02	PHYSPROP	3.4E-11	8.4E-13	EPI	1.0E-11	PHYSPROP	1.4E+02	PHYSPROP			4.2E-02	5.0E-06	EPA WATER9			2.6E+03	EPI	3.6E+00	PHYSPROP	4.7E+00	PHYSPROP	5.2E-02	5.1E+00	1.2E+01	7.9E-03	EPI
Phenol	108-95-2	9.4E+01	PHYSPROP	1.4E-05	3.3E-07	PHYSPROP	3.5E-01	PHYSPROP	4.1E+01	PHYSPROP	1.1E+00	CRC89	8.3E-02	1.0E-05	EPA WATER9			1.9E+02	EPI	1.5E+00	PHYSPROP	8.3E+04	PHYSPROP	1.6E-02	3.5E-01	8.5E-01	4.3E-03	EPI
Phenothiazine	92-84-2	2.0E+02	PHYSPROP	1.1E-06	2.8E-08	PHYSPROP	8.9E-07	PHYSPROP	1.9E+02	PHYSPROP	1.3E+00	PubChem	2.9E-02	7.5E-06	EPA WATER9			1.5E+03	EPI	4.2E+00	PHYSPROP	1.6E+00	PHYSPROP	3.7E-01	1.4E+00	3.3E+00	6.8E-02	EPI
Phenylenediamine, m-	108-45-2	1.1E+02	PHYSPROP	5.1E-08	1.3E-09	EPI	2.1E-03	EPI	6.4E+01	PHYSPROP	1.0E+00	CRC89	7.2E-02	9.2E-06	EPA WATER9			3.4E+01	EPI	-3.3E-01	PHYSPROP	2.4E+05	PHYSPROP	9.4E-04	4.2E-01	1.0E+00	2.3E-04	EPI
Phenylenediamine, o-	95-54-5	1.1E+02	PHYSPROP	2.9E-07	7.2E-09	EPI	2.1E-03	EPI	1.0E+02	PHYSPROP			8.4E-02	9.8E-06	EPA WATER9			3.5E+01	EPI	1.5E-01	PHYSPROP	4.0E+04	PHYSPROP	1.9E-03	4.2E-01	1.0E+00	4.9E-04	EPI
Phenylenediamine, p-	106-50-3	1.1E+02	PHYSPROP	2.8E-08	6.7E-10	PHYSPROP	5.0E-03	PHYSPROP	1.5E+02	PHYSPROP			8.4E-02	9.8E-06	EPA WATER9			3.4E+01	EPI	-3.0E-01	PHYSPROP	3.7E+04	PHYSPROP	9.8E-04	4.2E-01	1.0E+00	2.5E-04	EPI
Phenylphenol, 2-	90-43-7	1.7E+02	PHYSPROP	4.3E-05	1.1E-06	EPI	2.0E-03	EPI	5.9E+01	PHYSPROP	1.2E+00	CRC89	4.2E-02	7.8E-06	EPA WATER9			6.7E+03	EPI	3.1E+00	PHYSPROP	7.0E+02	PHYSPROP	9.8E-02	9.4E-01	2.3E+00	2.0E-02	EPI
Phorate	298-02-2	2.6E+02	PHYSPROP	1.8E-04	4.4E-06	EPI	6.4E-04	PHYSPROP	-1.5E+01	CRC89	1.2E+00	CRC89	2.3E-02	5.9E-06	EPA WATER9			4.6E+02	EPI	3.6E+00	PHYSPROP	5.0E+01	PHYSPROP	7.8E-02	3.0E+00	7.2E+00	1.3E-02	EPI
Phosgene	75-44-5	9.9E+01	PHYSPROP	6.8E-01	1.7E-02	PHYSPROP	1.4E+03	PHYSPROP	-1.2E+02	PHYSPROP	1.4E+00	CRC89	8.9E-02	1.2E-05	EPA WATER9			1.0E+00	EPI	-7.1E-01	PHYSPROP	6.8E+03	YAWS	5.6E-04	3.8E-01	9.0E-01	1.5E-04	EPI
Phosmet	732-11-6	3.2E+02	PHYSPROP	3.4E-07	8.4E-09	EPI	4.9E-07	PHYSPROP	7.2E+01	PHYSPROP			4.1E-02	4.8E-06	EPA WATER9			1.0E+01	EPI	2.8E+00	PHYSPROP	2.4E+01	PHYSPROP	1.3E-02	6.3E+00	1.5E+01	1.8E-03	EPI
Phosphates, Inorganic																												
~Aluminum metaphosphate	13776-88-0	2.6E+02	CRC89								2.8E+00	CRC89												6.2E-03	3.2E+00	7.6E+00	1.0E-03	RAGSE
~Ammonium polyphosphate	68333-79-9																										1.0E-03	RAGSE
~Calcium pyrophosphate	7790-76-3	2.5E+02	CRC89						1.2E+03	CRC89	3.1E+00	CRC89												6.1E-03	2.8E+00	6.7E+00	1.0E-03	RAGSE
~Diammonium phosphate	7783-28-0	1.3E+02	EPI																					4.4E-03	5.8E-01	1.4E+00	1.0E-03	RAGSE
~Dicalcium phosphate	7757-93-9	1.4E+02	EPI																					4.5E-03	6.1E-01	1.5E+00	1.0E-03	RAGSE
~Dimagnesium phosphate	7782-75-4	1.7E+02	CRC89								2.1E+00	CRC89												5.1E-03	1.0E+00	2.4E+00	1.0E-03	RAGSE
~Dipotassium phosphate	7758-11-4	1.7E+02	EPI																					5.1E-03	9.9E-01	2.4E+00	1.0E-03	RAGSE
~Disodium phosphate	7558-79-4	1.4E+02	EPI																					4.6E-03	6.6E-01	1.6E+00	1.0E-03	RAGSE
~Monoaluminum phosphate	13530-50-2	3.2E+02	CRC89																					6.9E-03	6.3E+00	1.5E+01	1.0E-03	RAGSE
~Monoammonium phosphate	7722-76-1	1.2E+02	EPI																					4.1E-03	4.6E-01	1.1E+00	1.0E-03	RAGSE
~Monocalcium phosphate	7758-23-8	2.3E+02	EPI																					5.9E-03	2.2E+00	5.2E+00	1.0E-03	RAGSE
~Monomagnesium phosphate	7757-86-0	1.2E+02	CRC89																					4.2E-03	5.0E-01	1.2E+00	1.0E-03	RAGSE
~Monopotassium phosphate	7778-77-0	1.4E+02	EPI																					4.5E-03	6.1E-01	1.5E+00	1.0E-03	RAGSE
~Monosodium phosphate	7558-80-7	1.2E+02	PHYSPROP						6.0E+01	PHYSPROP												4.9E+05	PHYSPROP	4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE
~Polyphosphoric acid	8017-16-1	2.6E+02	EPI																					6.2E-03	2.9E+00	7.0E+00	1.0E-03	RAGSE
~Potassium tripolyphosphate	13845-36-8	4.5E+02	OTHER																					8.1E-03	3.4E+01	8.2E+01	1.0E-03	RAGSE
~Sodium acid pyrophosphate	7758-16-9	2.2E+02	EPI																					5.7E-03	1.8E+00	4.4E+00	1.0E-03	RAGSE
~Sodium aluminum phosphate (acidic)	7785-88-8	1.4E+02	OTHER																					4.6E-03	6.8E-01	1.6E+00	1.0E-03	RAGSE
~Sodium aluminum phosphate (anhydrous)	10279-59-1																										1.0E-03	RAGSE
~Sodium aluminum phosphate (tetrahydrate	10305-76-7	9.5E+02	OTHER																					1.2E-02	2.2E+04	5.3E+04	1.0E-03	RAGSE
~Sodium hexametaphosphate	10124-56-8	6.1E+02	CRC89																					9.5E-03	2.8E+02	6.7E+02	1.0E-03	RAGSE
~Sodium polyphosphate	68915-31-1	3.6E+02	EPI																					7.3E-03	1.1E+01	2.6E+01	1.0E-03	RAGSE
~Sodium trimetaphosphate	7785-84-4	3.1E+02	EPI																					6.7E-03	5.4E+00	1.3E+01	1.0E-03	RAGSE
~Sodium tripolyphosphate	7758-29-4	3.7E+02	EPI																					7.4E-03	1.2E+01	2.9E+01	1.0E-03	RAGSE
~Tetrapotassium phosphate	7320-34-5	3.3E+02	PHYSPROP																					7.0E-03	7.4E+00	1.8E+01	1.0E-03	RAGSE
~Tetrasodium pyrophosphate	7722-88-5	2.7E+02	PHYSPROP						8.0E+01	PHYSPROP												8.1E+04	PHYSPROP	6.3E-03	3.2E+00	7.8E+00	1.0E-03	RAGSE
~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	8.9E+02	OTHER																					1.1E-02	9.9E+03	2.4E+04	1.0E-03	RAGSE
~Tricalcium phosphate	7758-87-4	3.1E+02	CRC89						1.7E+03	CRC89	3.1E+00	CRC89												6.8E-03	5.7E+00	1.4E+01	1.0E-03	RAGSE
~Trimagnesium phosphate	7757-87-1	2.6E+02	CRC89						1.2E+03	CRC89														6.2E-03	3.1E+00	7.5E+00	1.0E-03	RAGSE
~Tripotassium phosphate	7778-53-2	2.1E+02	EPI																					5.6E-03	1.6E+00	3.9E+00	1.0E-03	RAGSE
~Trisodium phosphate	7601-54-9	1.6E+02	PHYSPROP						7.5E+01	PHYSPROP														4.9E-03	8.7E-01	2.1E+00	1.0E-03	RAGSE
Phosphine	7803-51-2	3.4E+01	PHYSPROP	1.0E+00	2.4E-02	PHYSPROP	2.9E+04	PHYSPROP	-1.3E+02	PHYSPROP	1.4E+00	CRC89	1.9E-01	2.2E-05	EPA WATER9					-2.7E-01	OTHER	2.6E+05	PERRY	2.2E-03	1.6E-01	3.9E-01	1.0E-03	RAGSE
Phosphoric Acid	7664-38-2	9.8E+01	PHYSPROP				3.0E-02	NIOSH	4.2E+01	PHYSPROP	1.8E+00	PERRY										5.5E+06	CRC89	3.8E-03	3.7E-01	8.9E-01	1.0E-03	RAGSE
Phosphorus, White	7723-14-0	3.4E+01	PHYSPROP	8.6E-02	2.1E-03	ATSDR Profile	2.5E-02	ATSDR Profile	4.4E+01	PHYSPROP	1.8E+00	CRC89	2.2E-01	2.8E-05	EPA WATER9	3.5E+00	BAES			3.1E+00	OTHER	3.3E+00	PHYSPROP	2.2E-03	1.6E-01	3.9E-01	1.0E-03	RAGSE
Phthalates																												
~Bis(2-ethylhexyl)phthalate	117-81-7	3.9E+02	PHYSPROP	1.1E-05	2.7E-07	EPI	1.4E-07	PHYSPROP	5.5E+01	PHYSPROP	9.8E-01	CRC89	1.7E-02	4.2E-06	EPA WATER9			1.2E+05	EPI	7.6E+00	PHYSPROP	2.7E-01	PHYSPROP	8.6E+00	1.6E+01	7.3E+01	1.1E+00	EPI
~Butylphthalyl Butylglycolate	85-70-1	3.4E+02	PHYSPROP	8.4E-07	2.1E-08	PHYSPROP	7.1E-06	PHYSPROP	3.5E+01	PHYSPROP	1.1E+00	LANGE	2.0E-02	4.9E-06	EPA WATER9			1.1E+04	EPI	4.2E+00	PHYSPROP	8.8E+00	PHYSPROP	8.2E-02	8.0E+00	1.9E+01	1.2E-02	EPI
~Dibutyl Phthalate	84-74-2	2.8E+02	PHYSPROP	7.4E-05	1.8E-06	PHYSPROP	2.0E-05	PHYSPROP	3.5E+01	PHYSPROP	1.0E+00	CRC89	2.1E-02	5.3E-06	EPA WATER9			1.2E+03	EPI	4.5E+00	PHYSPROP	1.1E+01	PHYSPROP	2.7E-01	3.8E+00	9.1E+00	4.2E-02	EPI
~Diethyl Phthalate	84-66-2	2.2E+02	PHYSPROP	2.5E-05	6.1E-07	EPI	2.1E-03	PHYSPROP	4.1E+01	PHYSPROP	1.2E+00	CRC89	2.6E-02	6.7E-06	EPA WATER9			1.0E+02	EPI	2.4E+00	PHYSPROP	1.1E+03	PHYSPROP	2.1E-02	1.8E+00	4.4E+00	3.6E-03	EPI
~Dimethylterephthalate	120-61-6	1.9E+02	PHYSPROP	5.5E-03	1.3E-04	EPI	1.0E-02	PHYSPROP	1.4E+02	PHYSPROP	1.1E+00	CRC89	2.9E-02	6.7E-06	EPA WATER9			3.1E+01	EPI	2.3E+00	PHYSPROP	1.9E+01	PHYSPROP	2.1E-02	1.3E+00	3.1E+00	4.0E-03	EPI
~Octyl Phthalate, di-N-	117-84-0	3.9E+02	PHYSPROP	1.1E-04	2.6E-06	EPI	1.0E-07	PHYSPROP	2.5E+01	PHYSPROP			3.6E-02	4.2E-06	EPA WATER9			1.4E+05	EPI	8.1E+00	PHYSPROP	2.2E-02	PHYSPROP	1.8E+01	1.6E+01	7.5E+01	2.4E+00	EPI
~Phthalic Acid, P-	100-21-0	1.7E+02	PHYSPROP	1.6E-11	3.9E-13	PHYSPROP	9.2E-06	EPI	4.0E+02	LANGE	1.5E+00	PERRY	4.9E-02	9.0E-06	EPA WATER9			7.9E+01	EPI	2.0E+00	PHYSPROP	1.5E+01	PHYSPROP	1.9E-02	9.0E-01	2.1E+00	3.9E-03	EPI
~Phthalic Anhydride	85-44-9	1.5E+02	PHYSPROP	6.7E-07	1.6E-08	EPI	5.2E-04	EPI	1.3E+02	PHYSPROP	1.5E+00	CRC89	5.9E-02	9.8E-06	EPA WATER9			1.0E+01	EPI	1.6E+00	PHYSPROP	6.2E+03	PHYSPROP	1.2E-02	7.1E-01	1.7E+00	2.7E-03	EPI
Picloram	1918-02-1	2.4E+02	PHYSPROP	2.2E-12	5.3E-14	EPI	7.2E-11	PHYSPROP	2.2E+02	PHYSPROP			4.9E-02	5.7E-06	EPA WATER9			3.9E+01	EPI	1.9E+00	PHYSPROP	4.3E+02	PHYSPROP	7.6E-03	2.4E+00	5.7E+00	1.3E-03	EPI
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	2.0E+02	PHYSPROP	4.0E-10	9.8E-12	PHYSPROP	4.2E-07	PHYSPROP	1.7E+02	PHYSPROP			5.6E-02	6.5E-06	EPA WATER9			2.3E+02	EPI	9.3E-01	PHYSPROP	1.4E+03	PHYSPROP	2.7E-03	1.4E+00	3.3E+00	5.0E-04	EPI
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	2.3E+02	PHYSPROP	7.0E-10	1.7E-11	EPI	7.5E-07	PHYSPROP	1.2E+02	PHYSPROP	1.8E+00	PERRY	3.0E-02	8.2E-06	EPA WATER9			2.3E+03	EPI	1.4E+00	PHYSPROP	1.3E+04	PHYSPROP	3.6E-03	2.0E+00	4.8E+00	6.2E-04	EPI
Pirimiphos, Methy	29232-93-7	3.1E+02	PHYSPROP	2.9E-05	7.0E-07	EPI	1.5E-05	PHYSPROP	1.5E+01	PHYSPROP	1.2E+00	CRC89	2.2E-02	5.4E-06	EPA WATER9			3.7E+02	EPI	4.2E+00	PHYSPROP	8.6E+00	PHYSPROP	1.3E-01	5.4E+00	1.3E+01	1.9E-02	EPI
Polybrominated Biphenyls	59536-65-1																											
Polychlorinated Biphenyls (PCBs)																												
~Aroclor 1016	12674-11-2	5.5E+02	PHYSPROP	8.2E-03	2.0E-04	EPI	4.0E-04	PHYSPROP	1.0E+02	EPI	1.4E+00	ATSDR Profile	1.7E-02	4.2E-06	EPA WATER9			4.8E+04	EPI	5.7E+00	PHYSPROP	4.2E-01	PHYSPROP	2.7E+00	1.3E+02	5.3E+02	3.1E-01	EPI
~Aroclor 1221	11104-28-2	1.9E+02	PHYSPROP	9.3E-03	2.3E-04	PHYSPROP	6.7E-03	PHYSPROP	3.4E+01	EPI	1.2E+00	ATSDR Profile	3.2E-02	7.2E-06	EPA WATER9			8.4E+03	EPI	4.7E+00	PHYSPROP	1.5E+01	PHYSPROP	8.9E-01	1.2E+00	4.6E+00	1.7E-01	EPI
~Aroclor 1232	11141-16-5	1.9E+02	PHYSPROP	3.0E-02	7.4E-04	EPI	4.1E-03	PHYSPROP	3.4E+01	EPI	1.3E+00	ATSDR Profile	3.3E-02	7.5E-06	EPA WATER9			8.4E+03	EPI	4.4E+00	PHYSPROP	1.5E+00	PHYSPROP	8.9E-01	1.2E+00	4.6E+00	1.7E-01	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
~Aroclor 1242	53469-21-9	2.9E+02	PHYSPROP	1.4E-02	3.4E-04	PHYSPROP	8.6E-05	EPI	1.2E+02	EPI	1.4E+00	ATSDR Profile	2.4E-02	6.1E-06	EPA WATER9			7.8E+04	EPI	6.3E+00	PHYSPROP	2.8E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI
~Aroclor 1248	12672-29-6	6.2E+02	PHYSPROP	1.8E-02	4.4E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	1.6E-02	3.9E-06	EPA WATER9			7.7E+04	EPI	6.2E+00	PHYSPROP	1.0E-01	PHYSPROP	4.5E+00	3.1E+02	1.3E+03	4.8E-01	EPI
~Aroclor 1254	11097-69-1	3.3E+02	PHYSPROP	1.2E-02	2.8E-04	PHYSPROP	7.7E-05	PHYSPROP	1.3E+02	EPI	1.5E+00	ATSDR Profile	2.4E-02	6.1E-06	EPA WATER9			1.3E+05	EPI	6.5E+00	PHYSPROP	4.3E-02	PHYSPROP	5.2E+00	7.1E+00	3.1E+01	7.5E-01	EPI
~Aroclor 1260	11096-82-5	4.0E+02	PHYSPROP	1.4E-02	3.4E-04	PHYSPROP	4.1E-05	PHYSPROP	1.6E+02	EPI	1.6E+00	ATSDR Profile	2.2E-02	5.6E-06	EPA WATER9			3.5E+05	EPI	7.6E+00	PHYSPROP	1.4E-02	PHYSPROP	7.5E+00	1.7E+01	7.7E+01	9.9E-01	EPI
~Aroclor 5460	11126-42-4	2.9E+02	PHYSPROP	5.1E-03	1.3E-04	PHYSPROP	8.5E-06	PHYSPROP	1.2E+02	EPI	1.6E+00	LookChem	2.6E-02	6.8E-06	EPA WATER9			8.1E+04	EPI	6.3E+00	PHYSPROP	5.3E-02	PHYSPROP	3.8E+00	4.5E+00	2.0E+01	5.8E-01	EPI
~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	4.0E+02	PHYSPROP	2.1E-03	5.1E-05	PHYSPROP	1.3E-07	PHYSPROP	1.6E+02	EPI	1.7E+00	LookChem	2.2E-02	5.7E-06	EPA WATER9			3.5E+05	EPI	8.3E+00	PHYSPROP	7.5E-04	PHYSPROP	2.3E+01	1.7E+01	8.0E+01	3.0E+00	EPI
~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167	52663-72-6	3.6E+02	PHYSPROP	2.8E-03	6.9E-05	PHYSPROP	5.8E-07	PHYSPROP	1.5E+02	EPI	1.6E+00	LookChem	2.3E-02	5.9E-06	EPA WATER9			2.1E+05	EPI	7.5E+00	PHYSPROP	2.2E-03	PHYSPROP	1.0E+01	1.1E+01	5.0E+01	1.4E+00	EPI
~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	3.6E+02	PHYSPROP	6.6E-03	1.6E-04	EPI	5.8E-07	EPI	1.5E+02	EPI	1.6E+00	l	2.3E-02	5.9E-06	EPA WATER9			2.1E+05	EPI	7.6E+00	PHYSPROP	1.6E-03	EPI	1.2E+01	1.1E+01	5.0E+01	1.7E+00	EPI
~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	3.6E+02	PHYSPROP	5.8E-03	1.4E-04	EPI	1.6E-06	PHYSPROP	1.5E+02	EPI	1.6E+00	LookChem	2.3E-02	5.9E-06	EPA WATER9			2.1E+05	EPI	7.6E+00	PHYSPROP	5.3E-03	PHYSPROP	1.2E+01	1.1E+01	5.0E+01	1.7E+00	EPI
~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169	32774-16-6	3.6E+02	PHYSPROP	2.8E-03	6.9E-05	PHYSPROP	5.8E-07	PHYSPROP	1.5E+02	EPI	1.6E+00	LookChem	2.3E-02	5.9E-06	EPA WATER9			2.1E+05	EPI	7.4E+00	PHYSPROP	5.1E-04	PHYSPROP	9.1E+00	1.1E+01	5.0E+01	1.2E+00	EPI
~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	3.3E+02	EPI	7.8E-03	1.9E-04	EPI	5.5E-06	EPI	9.8E+01	EPI	1.5E+00	LookChem	2.4E-02	6.1E-06	EPA WATER9			1.3E+05	EPI	7.0E+00	EPI	1.6E-02	EPI	6.9E+00	7.1E+00	3.2E+01	1.0E+00	EPI
~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	3.3E+02	PHYSPROP	1.2E-02	2.9E-04	EPI	9.0E-06	PHYSPROP	1.3E+02	EPI	1.5E+00	LookChem	2.4E-02	6.1E-06	EPA WATER9			1.3E+05	EPI	7.1E+00	PHYSPROP	1.3E-02	PHYSPROP	8.6E+00	7.1E+00	3.2E+01	1.2E+00	EPI
~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105	32598-14-4	3.3E+02	PHYSPROP	1.2E-02	2.8E-04	EPI	6.5E-06	PHYSPROP	1.3E+02	EPI	1.5E+00	LookChem	2.4E-02	6.1E-06	EPA WATER9			1.3E+05	EPI	6.8E+00	PHYSPROP	3.4E-03	PHYSPROP	5.2E+00	7.1E+00	3.1E+01	7.5E-01	EPI
~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	3.3E+02	PHYSPROP	3.8E-03	9.2E-05	PHYSPROP	5.5E-06	PHYSPROP	9.8E+01	PHYSPROP	1.5E+00	LookChem	2.4E-02	6.1E-06	EPA WATER9			1.3E+05	EPI	7.0E+00	PHYSPROP	1.6E-02	PHYSPROP	6.9E+00	7.1E+00	3.2E+01	1.0E+00	EPI
~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	3.3E+02	EPI	7.8E-03	1.9E-04	EPI	2.2E-06	EPI	1.3E+02	EPI	1.5E+00	LookChem	2.4E-02	6.1E-06	EPA WATER9			1.3E+05	EPI	7.0E+00	EPI	7.3E-03	EPI	6.9E+00	7.1E+00	3.2E+01	1.0E+00	EPI
~Polychlorinated Biphenyls (high risk	1336-36-3	2.9E+02	PHYSPROP	1.7E-02	4.2E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	2.4E-02	6.3E-06	EPA WATER9			7.8E+04	EPI	7.1E+00	PHYSPROP	7.0E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI
~Polychlorinated Biphenyls (low risk)	1336-36-3	2.9E+02	PHYSPROP	1.7E-02	4.2E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	2.4E-02	6.3E-06	EPA WATER9			7.8E+04	EPI	7.1E+00	PHYSPROP	7.0E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI
~Polychlorinated Biphenyls (lowest risk)	1336-36-3	2.9E+02	PHYSPROP	1.7E-02	4.2E-04	PHYSPROP	4.9E-04	PHYSPROP	1.2E+02	EPI	1.4E+00	HSDB	2.4E-02	6.3E-06	EPA WATER9			7.8E+04	EPI	7.1E+00	PHYSPROP	7.0E-01	PHYSPROP	3.6E+00	4.5E+00	1.9E+01	5.5E-01	EPI
~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77	32598-13-3	2.9E+02	PHYSPROP	3.8E-04	9.4E-06	PHYSPROP	1.6E-05	PHYSPROP	1.8E+02	CRC89			4.3E-02	5.0E-06	EPA WATER9			7.8E+04	EPI	6.6E+00	PHYSPROP	5.7E-04	PHYSPROP	6.0E+00	4.5E+00	2.0E+01	9.2E-01	EPI
~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	2.9E+02	EPI	9.1E-03	2.2E-04	EPI	8.5E-06	EPI	1.2E+02	EPI	1.4E+00	LookChem	2.4E-02	6.3E-06	EPA WATER9			7.8E+04	EPI	6.3E+00	EPI	3.2E-02	EPI	3.8E+00	4.5E+00	2.0E+01	5.8E-01	EPI
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	5.1E+02	EPI	5.4E-10	1.3E-11	EPI	5.4E-13	EPI	2.5E+02	EPI			3.0E-02	3.5E-06	EPA WATER9			1.0E+10	EPI	1.0E+01	EPI	1.8E-06	EPI	1.6E+02	7.8E+01	3.7E+02	1.9E+01	EPI
Polynuclear Aromatic Hydrocarbons (PAHs)																												
~Acenaphthene	83-32-9	1.5E+02	PHYSPROP	7.5E-03	1.8E-04	PHYSPROP	2.2E-03	PHYSPROP	9.3E+01	PHYSPROP	1.2E+00	CRC89	5.1E-02	8.3E-06	EPA WATER9			5.0E+03	EPI	3.9E+00	PHYSPROP	3.9E+00	PHYSPROP	4.1E-01	7.7E-01	1.8E+00	8.6E-02	EPI
~Anthracene	120-12-7	1.8E+02	PHYSPROP	2.3E-03	5.6E-05	PHYSPROP	6.5E-06	EPI	2.2E+02	PHYSPROP	1.3E+00	CRC89	3.9E-02	7.9E-06	EPA WATER9			1.6E+04	EPI	4.5E+00	PHYSPROP	4.3E-02	PHYSPROP	7.3E-01	1.0E+00	4.1E+00	1.4E-01	EPI
~Benz[a]anthracene	56-55-3	2.3E+02	PHYSPROP	4.9E-04	1.2E-05	PHYSPROP	2.1E-07	PHYSPROP	8.4E+01	PHYSPROP	1.3E+00	PubChem	2.6E-02	6.7E-06	EPA WATER9			1.8E+05	EPI	5.8E+00	PHYSPROP	9.4E-03	PHYSPROP	3.2E+00	2.0E+00	8.5E+00	5.5E-01	EPI
~Benzo(j)fluoranthene	205-82-3	2.5E+02	PHYSPROP	8.3E-06	2.0E-07	PHYSPROP	2.6E-08	PHYSPROP	1.7E+02	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			6.0E+05	EPI	6.1E+00	PHYSPROP	2.5E-03	PHYSPROP	4.2E+00	2.7E+00	1.2E+01	6.9E-01	EPI
~Benzo[a]pyrene	50-32-8	2.5E+02	PHYSPROP	1.9E-05	4.6E-07	PHYSPROP	5.5E-09	EPI	1.8E+02	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			5.9E+05	EPI	6.1E+00	PHYSPROP	1.6E-03	PHYSPROP	4.4E+00	2.7E+00	1.2E+01	7.1E-01	EPI
~Benzo[b]fluoranthene	205-99-2	2.5E+02	PHYSPROP	2.7E-05	6.6E-07	PHYSPROP	5.0E-07	PHYSPROP	1.7E+02	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			6.0E+05	EPI	5.8E+00	PHYSPROP	1.5E-03	PHYSPROP	2.5E+00	2.7E+00	1.1E+01	4.2E-01	EPI
~Benzo[k]fluoranthene	207-08-9	2.5E+02	PHYSPROP	2.4E-05	5.8E-07	PHYSPROP	9.7E-10	EPI	2.2E+02	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			5.9E+05	EPI	6.1E+00	PHYSPROP	8.0E-04	PHYSPROP	4.2E+00	2.7E+00	1.2E+01	6.9E-01	EPI
~Chloronaphthalene, Beta-	91-58-7	1.6E+02	PHYSPROP	1.3E-02	3.2E-04	PHYSPROP	1.2E-02	EPI	6.1E+01	PHYSPROP	1.1E+00	CRC89	4.5E-02	7.7E-06	EPA WATER9			2.5E+03	EPI	3.9E+00	PHYSPROP	1.2E+01	PHYSPROP	3.7E-01	8.6E-01	2.1E+00	7.5E-02	EPI
~Chrysene	218-01-9	2.3E+02	PHYSPROP	2.1E-04	5.2E-06	PHYSPROP	6.2E-09	PHYSPROP	2.6E+02	PHYSPROP	1.3E+00	CRC89	2.6E-02	6.7E-06	EPA WATER9			1.8E+05	EPI	5.8E+00	PHYSPROP	2.0E-03	PHYSPROP	3.5E+00	2.0E+00	8.5E+00	6.0E-01	EPI
~Dibenz[a,h]anthracene	53-70-3	2.8E+02	PHYSPROP	5.8E-06	1.4E-07	EPI	9.6E-10	EPI	2.7E+02	PHYSPROP			4.5E-02	5.2E-06	EPA WATER9			1.9E+06	EPI	6.8E+00	PHYSPROP	2.5E-03	PHYSPROP	6.1E+00	3.8E+00	1.7E+01	9.5E-01	EPI
~Dibenzo(a,e)pyrene	192-65-4	3.0E+02	PHYSPROP	5.8E-07	1.4E-08	PHYSPROP	7.0E-11	PHYSPROP	2.3E+02	PHYSPROP			4.2E-02	4.9E-06	EPA WATER9			6.5E+06	EPI	7.7E+00	EPI	8.0E-05	PHYSPROP	2.8E+01	5.2E+00	2.4E+01	4.2E+00	EPI
~Dimethylbenz(a)anthracene, 7,12-	57-97-6	2.6E+02	PHYSPROP	1.5E-04	3.8E-06	EPI	6.8E-07	PHYSPROP	1.2E+02	PHYSPROP			4.7E-02	5.5E-06	EPA WATER9			4.9E+05	EPI	5.8E+00	PHYSPROP	6.1E-02	PHYSPROP	2.5E+00	2.9E+00	1.2E+01	4.1E-01	EPI
~Fluoranthene	206-44-0	2.0E+02	PHYSPROP	3.6E-04	8.9E-06	PHYSPROP	9.2E-06	PHYSPROP	1.1E+02	PHYSPROP	1.3E+00	CRC89	2.8E-02	7.2E-06	EPA WATER9			5.5E+04	EPI	5.2E+00	PHYSPROP	2.6E-01	PHYSPROP	1.7E+00	1.4E+00	5.7E+00	3.1E-01	EPI
~Fluorene	86-73-7	1.7E+02	PHYSPROP	3.9E-03	9.6E-05	PHYSPROP	6.0E-04	PHYSPROP	1.1E+02	PHYSPROP	1.2E+00	CRC89	4.4E-02	7.9E-06	EPA WATER9			9.2E+03	EPI	4.2E+00	PHYSPROP	1.7E+00	PHYSPROP	5.5E-01	9.0E-01	2.2E+00	1.1E-01	EPI
~Indeno[1,2,3-cd]pyrene	193-39-5	2.8E+02	PHYSPROP	1.4E-05	3.5E-07	PHYSPROP	1.3E-10	PHYSPROP	1.6E+02	PHYSPROP			4.5E-02	5.2E-06	EPA WATER9			2.0E+06	EPI	6.7E+00	PHYSPROP	1.9E-04	PHYSPROP	7.9E+00	3.7E+00	1.7E+01	1.2E+00	EPI
~Methylnaphthalene, 1-	90-12-0	1.4E+02	PHYSPROP	2.1E-02	5.1E-04	PHYSPROP	6.7E-02	PHYSPROP	-3.0E+01	PHYSPROP	1.0E+00	CRC89	5.3E-02	7.8E-06	EPA WATER9			2.5E+03	EPI	3.9E+00	PHYSPROP	2.6E+01	PHYSPROP	4.3E-01	6.6E-01	1.6E+00	9.3E-02	EPI
~Methylnaphthalene, 2-	91-57-6	1.4E+02	PHYSPROP	2.1E-02	5.2E-04	PHYSPROP	5.5E-02	PHYSPROP	3.4E+01	PHYSPROP	1.0E+00	CRC89	5.2E-02	7.8E-06	EPA WATER9			2.5E+03	EPI	3.9E+00	PHYSPROP	2.5E+01	PHYSPROP	4.2E-01	6.6E-01	1.6E+00	9.2E-02	EPI
~Naphthalene	91-20-3	1.3E+02	PHYSPROP	1.8E-02	4.4E-04	PHYSPROP	8.5E-02	PHYSPROP	8.0E+01	PHYSPROP	1.0E+00	CRC89	6.0E-02	8.4E-06	EPA WATER9			1.5E+03	EPI	3.3E+00	PHYSPROP	3.1E+01	PHYSPROP	2.0E-01	5.5E-01	1.3E+00	4.7E-02	EPI
~Nitropyrene, 4-	57835-92-4	2.5E+02	PHYSPROP	1.0E-06	2.5E-08	PHYSPROP	5.5E-08	PHYSPROP	1.9E+02	PHYSPROP			4.8E-02	5.6E-06	EPA WATER9			8.6E+04	EPI	4.8E+00	PHYSPROP	6.8E-02	PHYSPROP	5.6E-01	2.6E+00	6.3E+00	9.2E-02	EPI
~Pyrene	129-00-0	2.0E+02	PHYSPROP	4.9E-04	1.2E-05	PHYSPROP	4.5E-06	PHYSPROP	1.5E+02	PHYSPROP	1.3E+00	CRC89	2.8E-02	7.2E-06	EPA WATER9			5.4E+04	EPI	4.9E+00	PHYSPROP	1.4E-01	PHYSPROP	1.1E+00	1.4E+00	5.5E+00	2.0E-01	EPI
Potassium Perfluorobutane Sulfonate	29420-49-3	3.4E+02	EPI				1.1E-08	EPI	1.9E+02	EPI			3.9E-02	4.6E-06	EPA WATER9			1.8E+02	EPI	-3.3E-01	EPI	1.4E+00	EPI	2.1E-04	8.2E+00	2.0E+01	3.0E-05	EPI
Prochloraz	67747-09-5	3.8E+02	PHYSPROP	6.7E-07	1.6E-08	EPI	1.1E-06	PHYSPROP	4.8E+01	PHYSPROP			3.6E-02	4.3E-06	EPA WATER9			2.4E+03	EPI	4.1E+00	PHYSPROP	3.4E+01	PHYSPROP	4.8E-02	1.4E+01	3.2E+01	6.4E-03	EPI
Profluralin	26399-36-0	3.5E+02	PHYSPROP	1.2E-02	2.9E-04	EPI	6.3E-05	PHYSPROP	3.2E+01	PHYSPROP	1.4E+00	HSDB	2.2E-02	5.5E-06	EPA WATER9			3.1E+04	EPI	5.6E+00	PHYSPROP	1.0E-01	PHYSPROP	6.5E-01	9.3E+00	3.7E+01	9.0E-02	EPI
Prometon	1610-18-0	2.3E+02	PHYSPROP	3.7E-08	9.1E-10	EPI	2.3E-06	PHYSPROP	9.1E+01	PHYSPROP			5.1E-02	6.0E-06	EPA WATER9			1.4E+02	EPI	3.0E+00	PHYSPROP	7.5E+02	PHYSPROP	4.8E-02	1.9E+00	4.6E+00	8.3E-03	EPI
Prometryn	7287-19-6	2.4E+02	PHYSPROP	4.9E-07	1.2E-08	EPI	1.2E-06	PHYSPROP	1.2E+02	PHYSPROP	1.2E+00	CRC89	2.4E-02	6.2E-06	EPA WATER9			6.6E+02	EPI	3.5E+00	PHYSPROP	3.3E+01	PHYSPROP	8.9E-02	2.4E+00	5.7E+00	1.5E-02	EPI
Propachlor	1918-16-7	2.1E+02	PHYSPROP	1.5E-05	3.6E-07	EPI	2.3E-04	PHYSPROP	7.7E+01	PHYSPROP	1.2E+00	CRC89	2.7E-02	7.0E-06	EPA WATER9			2.0E+02	EPI	2.2E+00	PHYSPROP	5.8E+02	PHYSPROP	1.6E-02	1.6E+00	3.9E+00	2.9E-03	EPI
Propanediol, 1,2-	114-26-1	2.1E+02	PHYSPROP	5.8E-08	1.4E-09	EPI	2.1E-05	PHYSPROP	9.0E+01	PHYSPROP	1.1E+00	CRC89	2.6E-02	6.6E-06	EPA WATER9			6.0E+01	EPI	1.5E+00	PHYSPROP	1.9E+03	PHYSPROP	6.0E-03	1.6E+00	3.7E+00	1.1E-03	EPI
Propanil	709-98-8	2.2E+02	PHYSPROP	7.0E-08	1.7E-09	EPI	9.1E-07	PHYSPROP	9.2E+01	PHYSPROP	1.3E+00	CRC89	2.7E-02	6.9E-06	EPA WATER9			1.8E+02	EPI	3.1E+00	PHYSPROP	1.5E+02	PHYSPROP	5.9E-02	1.8E+00	4.2E+00	1.0E-02	EPI
Propargite	2312-35-8	3.5E+02	PHYSPROP	2.6E-05	6.4E-07	EPI	3.0E-07	PHYSPROP	1.7E+02	EPI	1.1E+00	CRC89	1.9E-02	4.8E-06	EPA WATER9			3.7E+04	EPI	5.0E+00	PHYSPROP	2.2E-01	PHYSPROP	2.6E-01	9.7E+00	2.3E+01	3.6E-02	EPI
Propargyl Alcohol	107-19-7	5.6E+01	PHYSPROP	4.7E-05	1.2E-06	EPI	1.6E+01	PHYSPROP	-5.0E+01	PHYSPROP	9.5E-01	CRC89	1.2E-01	1.3E-05	EPA WATER9			1.9E+00	EPI	-3.8E-01	PHYSPROP	1.0E+06	PHYSPROP	1.2E-03	2.2E-01	5.2E-01	4.2E-04	EPI
Propazine	139-40-2	2.3E+02	PHYSPROP	1.9E-07	4.6E-09	EPI	1.3E-07	PHYSPROP	2.1E+02	PHYSPROP	1.2E+00	CRC89	2.5E-02	6.4E-06	EPA WATER9			3.4E+02	EPI	2.9E+00	PHYSPROP	8.6E+00	PHYSPROP	4.2E-02	2.0E+00	4.9E+00	7.1E-03	EPI
Propham	122-42-9	1.8E+02	PHYSPROP	7.5E-06	1.8E-07	EPI	1.4E-04	PHYSPROP	8.7E+01	PHYSPROP	1.1E+00	CRC89	3.6E-02	7.1E-06	EPA WATER9			2.2E+02	EPI	2.6E+00	PHYSPROP	1.8E+02	PHYSPROP	4.3E-02	1.1E+00	2.5E+00	8.3E-03	EPI
Propiconazole	60207-90-1	3.4E+02	PHYSPROP	7.0E-08	1.7E-09	EPI	4.2E-07	PHYSPROP	1.7E+02	EPI	1.3E+00	CRC89	2.1E-02	5.3E-06	EPA WATER9			1.6E+03	EPI	3.7E+00	PHYSPROP	1.1E+02	PHYSPROP	4.0E-02	8.7E+00	2.1E+01	5.6E-03	EPI
Propionaldehyde	123-38-6	5.8E+01	PHYSPROP	3.0E-03	7.3E-05	PHYSPROP	3.2E+02	PHYSPROP	-8.0E+01	PHYSPROP	8.7E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			1.0E+00	EPI	5.9E-01	PHYSPROP	3.1E+05	PHYSPROP	5.3E-03	2.2E-01	5.3E-01	1.8E-03	EPI
Propyl benzene	103-65-1	1.2E+02	PHYSPROP	4.3E-01	1.1E-02	PHYSPROP	3.4E+00	PHYSPROP	-1.0E+02	PHYSPROP	8.6E-01	CRC89	6.0E-02	7.8E-06	EPA WATER9			8.1E+02	EPI	3.7E+00	PHYSPROP	5.2E+01	PHYSPROP	4.0E-01	5.0E-01	1.2E+00	9.4E-02	EPI
Propylene	115-07-1	4.2E+01	PHYSPROP	8.0E+00	2.0E-01	PHYSPROP	8.7E+03	PHYSPROP	-1.9E+02	PHYSPROP	5.1E-01	CRC89	1.1E-01	1.1E-05	EPA WATER9			2.2E+01	EPI	1.8E+00	PHYSPROP	2.0E+02	PHYSPROP	3.4E-02	1.8E-01	4.3E-01	1.4E-02	EPI
Propylene Glycol	57-55-6	7.6E+01	PHYSPROP	5.3E-07	1.3E-08	EPI	1.3E-01	PHYSPROP	-6.0E+01	PHYSPROP	1.0E+00	CRC89	9.8E-02	1.2E-05	EPA WATER9			1.0E+00	EPI	-9.2E-01	PHYSPROP	1.0E+06	PHYSPROP	4.8E-04	2.8E-01	6.7E-01	1.4E-04	EPI
Propylene Glycol Dinitrate	6423-43-4	1.7E+02	PHYSPROP	3.9E-05	9.4E-07	PHYSPROP	3.8E-01	PHYSPROP	-9.6E+00	EPI			6.3E-02	7.3E-06	EPA WATER9			6.1E+01	EPI	1.8E+00	PHYSPROP	3.3E+03	EPI	1.0E-02	9.0E-01	2.1E+00	2.1E-03	EPI
Propylene Glycol Monomethyl Ether	107-98-2	9.0E+01	PHYSPROP	3.8E-05	9.2E-07	PHYSPROP	1.3E+01	PHYSPROP	-9.5E+01	PHYSPROP	9.6E-01	CRC89	8.3E-02	1.0E-05	EPA WATER9			1.0E+00	EPI	-4.9E-01	PHYSPROP	1.0E+06	PHYSPROP	1.4E-03	3.4E-01	8.1E-01	3.7E-04	RAGSE
Propylene Oxide	75-56-9	5.8E+01	PHYSPROP	2.8E-03	7.0E-05	EPI	5.4E+02	PHYSPROP	-1.1E+02	PHYSPROP	8.3E-01	PERRY	1.1E-01	1.2E-05	EPA WATER9			5.2E+00	EPI	3.0E-02	PHYSPROP	5.9E+05	PHYSPROP	2.3E-03	2.2E-01	5.3E-01	7.7E-04	EPI
Propyzamide	23950-58-5	2.6E+02	PHYSPROP	4.0E-07	9.8E-09	EPI	4.4E-07	PHYSPROP	1.6E+02	PHYSPROP			4.7E-02	5.5E-06	EPA WATER9			4.0E+02	EPI	3.4E+00	PHYSPROP	1.5E+01	PHYSPROP	6.7E-02	2.9E+00	6.9E+00	1.1E-02	EPI
Pyridine	110-86-1	7.9E+01	PHYSPROP	4.5E-04	1.1E-05	PHYSPROP	2.1E+01	PHYSPROP	-4.2E+01	PHYSPROP	9.8E-01	CRC89	9.3E-02	1.1E-05	EPA WATER9			7.2E+01	EPI	6.5E-01	PHYSPROP	1.0E+06	PHYSPROP	5.2E-03	2.9E-01	7.0E-01	1.5E-03	EPI
Quinalphos	13593-03-8	3.0E+02	PHYSPROP	1.9E-06	4.6E-08	EPI	2.6E-06	PHYSPROP	3.2E+01	PHYSPROP			4.3E-02	5.0E-06	EPA WATER9			4.2E+03	EPI	4.4E+00	PHYSPROP	2.2E+01	PHYSPROP	2.0E-01	4.9E+00	1.2E+01	3.0E-02	EPI
Quinoline	91-22-5	1.3E+02	PHYSPROP	6.8E-05	1.7E-06	EPI	6.0E-02	PHYSPROP	-1.5E+01	PHYSPROP	1.1E+00	CRC89	6.2E-02	8.7E-06	EPA WATER9			1.5E+03	EPI	2.0E+00	PHYSPROP	6.1E+03	PHYSPROP	2.9E-02	5.6E-01	1.3E+00	6.6E-03	EPI
Quizalofop-ethyl	76578-14-8	3.7E+02	PHYSPROP	4.3E-07	1.1E-08	EPI	6.5E-09	PHYSPROP	9.2E+01	PHYSPROP			3.7E-02	4.3E-06	EPA WATER9			7.7E+03	EPI	4.3E+00	PHYSPROP	3.0E-01	PHYSPROP	6.6E-02	1.3E+01	3.1E+01	8.9E-03	EPI
Refractory Ceramic Fibers	NA																										1.0E-03	RAGSE
Resmethrin	10453-86-8	3.4E+02	PHYSPROP	5.4E-06	1.3E-07	EPI	1.1E-08	PHYSPROP	5.7E+01	PHYSPROP			3.9E-02	4.6E-06	EPA WATER9			3.1E+05	EPI	6.1E+00	PHYSPROP	3.8E-02	PHYSPROP	1.7E+00	8.3E+00	3.3E+01	2.4E-01	EPI
Ronnel	299-84-3	3.2E+02	PHYSPROP	1.3E-03	3.2E-05	EPI	7.5E-05	PHYSPROP	4.1E+01	PHYSPROP	1.4E+00	CRC89	2.3E-02	5.9E-06	EPA WATER9			4.5E+03	EPI	4.9E+00	PHYSPROP	1.0E+00	PHYSPROP	3.0E-01	6.6E+00	1.6E+01	4.3E-02	EPI
Rotenone	83-79-4	3.9E+02	PHYSPROP	4.6E-12	1.1E-13	PHYSPROP	6.9E-10	PHYSPROP	1.8E+02	PHYSPROP			3.5E-02	4.1E-06	EPA WATER9			2.6E+05	EPI	4.1E+00	PHYSPROP	2.0E-01	PHYSPROP	3.9E-02	1.7E+01	4.1E+01	5.1E-03	EPI
Safrole	94-59-7	1.6E+02	PHYSPROP	3.7E-04	9.1E-06	PHYSPROP	6.2E-02	PHYSPROP	1.1E+01	PHYSPROP	1.1E+00	CRC89	4.4E-02	7.6E-06	EPA WATER9			2.1E+02	EPI	3.5E+00	PHYSPROP	1.2E+02	PHYSPROP	5.5E-02	8.5E-01	2.0E+00	1.1E-02	RAGSE
Selenious Acid	7783-00-8	1.3E+02	PHYSPROP						7.0E+01	EPI	3.0E+00	CRC89										9.0E+05	PERRY	4.4E-03	5.5E-01	1.3E+00	1.0E-03	RAGSE
Selenium	7782-49-2	7.9E+01	PHYSPROP				1.4E-10	EPI	2.2E+02	PHYSPROP	4.8E+00	CRC89				5.0E+00	SSL							3.4E-03	2.9E-01	7.0E-01	1.0E-03	RAGSE
Selenium Sulfide	7446-34-6	1.1E+02	EPI																					4.1E-03	4.4E-01	1.1E+00	1.0E-03	RAGSE
Sethoxydim	74051-80-2	3.3E+02	PHYSPROP	8.8E-10	2.2E-11	PHYSPROP	1.6E-07	PHYSPROP	1.6E+02	EPI	1.0E+00	CRC89	2.0E-02	4.8E-06	EPA WATER9			4.4E+03	EPI	4.4E+00	PHYSPROP	2.5E+01	PHYSPROP	1.3E-01	7.2E+00	1.7E+01	1.9E-02	EPI
Silica (crystalline, respirable)	7631-86-9	6.0E+01	EPI						1.7E+03	PERRY	2.3E+00	PERRY												3.0E-03	2.3E-01	5.5E-01	1.0E-03	RAGSE
Silver	7440-22-4	1.1E+02	PHYSPROP				0.0E+00	NIOSH	9.6E+02	PHYSPROP	1.1E+01	CRC89				8.3E+00	SSL							2.4E-03	4.2E-01	1.0E+00	6.0E-04	RAGSE
Simazine	122-34-9	2.0E+02	PHYSPROP	3.9E-08	9.4E-10	EPI	2.2E-08	PHYSPROP	2.3E+02	PHYSPROP	1.3E+00	CRC89	2.8E-02	7.4E-06	EPA WATER9			1.5E+02	EPI	2.2E+00	PHYSPROP	6.2E+00	PHYSPROP	1.8E-02	1.4E+00	3.4E+00	3.3E-03	EPI
Sodium Acifluorfen	62476-59-9	3.8E+02	PHYSPROP	2.5E-09	6.1E-11	PHYSPROP	9.8E-09	EPI	2.8E+02	EPI			3.6E-02	4.2E-06	EPA WATER9			3.9E+03	EPI	3.7E-01	PHYSPROP	2.5E+05	PHYSPROP	1.5E-04	1.5E+01	3.6E+01	2.0E-05	EPI
Sodium Azide	26628-22-8	6.5E+01	EPI						3.0E+02	CRC89	1.8E+00	CRC89										4.1E+05	CRC89	3.1E-03	2.4E-01	5.8E-01	1.0E-03	RAGSE
Sodium Dichromate	10588-01-9	2.6E+02	CRC89						3.6E+02	CRC89												1.9E+06	CRC89	6.2E-03	3.1E+00	7.4E+00	1.0E-03	RAGSE
Sodium Diethyldithiocarbamate	148-18-5	1.7E+02	PHYSPROP				8.2E-10	PHYSPROP	9.4E+01	PHYSPROP			6.1E-02	7.2E-06	EPA WATER9			2.0E+02	EPI	-1.4E+00	PHYSPROP	3.6E+05	PHYSPROP	9.7E-05	9.7E-01	2.3E+00	1.9E-05	EPI
Sodium Fluoride	7681-49-4	4.2E+01	PHYSPROP				0.0E+00	NIOSH	9.9E+02	PHYSPROP	2.8E+00	CRC89										4.2E+04	PHYSPROP	2.5E-03	1.8E-01	4.3E-01	1.0E-03	RAGSE
Sodium Fluoroacetate	62-74-8	1.0E+02	PHYSPROP	4.5E-05	1.1E-06	PHYSPROP	6.5E-07	PHYSPROP	2.0E+02	PHYSPROP			8.8E-02	1.0E-05	EPA WATER9			1.4E+00	EPI	-3.8E+00	PHYSPROP	1.1E+06	PHYSPROP	5.1E-06	3.8E-01	9.2E-01	1.3E-06	EPI
Sodium Metavanadate	13718-26-8	1.2E+02	CRC89						6.3E+02	CRC89												2.1E+05	CRC89	4.2E-03	5.1E-01	1.2E+00	1.0E-03	RAGSE

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H` (unitless)	HLC (atm-m^3/mole)	H` and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm^3)	Density Ref	Dia (cm^2/s)	Diw (cm^2/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t* (hr)	K_p (cm/hr)	KPREF
Sodium Tungstate	13472-45-2	2.9E+02	CRC89						7.0E+02	CRC89	4.2E+00	CRC89										7.4E+05	CRC89	6.6E-03	4.6E+00	1.1E+01	1.0E-03	RAGSE
Sodium Tungstate Dihydrate	10213-10-2	3.3E+02	CRC89						1.0E+02	CRC89	3.3E+00	CRC89										7.4E+05	CRC89	7.0E-03	7.4E+00	1.8E+01	1.0E-03	RAGSE
Stirofos (Tetrachlorovinphos)	961-11-5	3.7E+02	PHYSPROP	7.5E-08	1.8E-09	EPI	4.2E-08	PHYSPROP	9.8E+01	PHYSPROP			3.7E-02	4.3E-06	EPA WATER9			1.4E+03	EPI	3.5E+00	PHYSPROP	1.1E+01	PHYSPROP	2.3E-02	1.2E+01	2.8E+01	3.1E-03	EPI
Strontium Chromate	7789-06-2	2.0E+02	CRC89								3.9E+00	CRC89										1.1E+03	CRC89	5.5E-03	1.5E+00	3.5E+00	1.0E-03	RAGSE
Strontium, Stable	7440-24-6	8.8E+01	PHYSPROP						7.8E+02	PHYSPROP	2.6E+00	CRC89				3.5E+01	BAES							3.6E-03	3.3E-01	7.8E-01	1.0E-03	RAGSE
Strychnine	57-24-9	3.3E+02	PHYSPROP	3.1E-12	7.6E-14	PHYSPROP	2.9E-09	PHYSPROP	2.9E+02	PHYSPROP	1.4E+00	CRC89	2.2E-02	5.6E-06	EPA WATER9			5.4E+03	EPI	1.9E+00	PHYSPROP	1.6E+02	PHYSPROP	2.8E-03	7.8E+00	1.9E+01	4.0E-04	EPI
Styrene	100-42-5	1.0E+02	PHYSPROP	1.1E-01	2.8E-03	PHYSPROP	6.4E+00	PHYSPROP	-3.1E+01	PHYSPROP	9.0E-01	CRC89	7.1E-02	8.8E-06	EPA WATER9			4.5E+02	EPI	3.0E+00	PHYSPROP	3.1E+02	PHYSPROP	1.5E-01	4.0E-01	9.7E-01	3.7E-02	EPI
Styrene-Acrylonitrile (SAN) Trimer	NA	2.1E+02	OTHER								1.1E+00	PPRTV	2.6E-02	6.5E-06	EPA WATER9					3.1E+00	OTHER	8.5E+01	PPRTV	6.6E-02	1.6E+00	3.8E+00	1.2E-02	RAGSE
Sulfolane	126-33-0	1.2E+02	PHYSPROP	2.0E-04	4.9E-06	PHYSPROP	4.1E-03	EPI	2.8E+01	PHYSPROP	1.3E+00	CRC89	7.2E-02	9.9E-06	EPA WATER9			9.1E+00	EPI	-7.7E-01	PHYSPROP	1.0E+06	PHYSPROP	4.3E-04	5.0E-01	1.2E+00	1.0E-04	EPI
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	2.9E+02	PHYSPROP	5.6E-06	1.4E-07	PHYSPROP	8.1E-07	PHYSPROP	1.5E+02	PHYSPROP			4.4E-02	5.1E-06	EPA WATER9			2.9E+03	EPI	3.9E+00	PHYSPROP	2.4E+00	PHYSPROP	9.7E-02	4.3E+00	1.0E+01	1.5E-02	EPI
Sulfur Trioxide	7446-11-9	8.0E+01	PHYSPROP				2.6E+02	PHYSPROP	1.7E+01	PHYSPROP	1.9E+00	CRC89	1.2E-01	1.6E-05	EPA WATER9									3.4E-03	3.0E-01	7.1E-01	1.0E-03	RAGSE
Sulfuric Acid	7664-93-9	9.8E+01	PHYSPROP				5.9E-05	PHYSPROP	1.0E+01	PHYSPROP	1.8E+00	CRC89										1.0E+06	PHYSPROP	3.8E-03	3.7E-01	8.9E-01	1.0E-03	RAGSE
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	3.3E+02	PHYSPROP	7.8E-06	1.9E-07	PHYSPROP	2.2E-07	PHYSPROP	-3.2E+01	PHYSPROP	1.1E+00	CRC89	2.0E-02	5.0E-06	EPA WATER9			5.6E+03	EPI	4.8E+00	PHYSPROP	5.9E-01	PHYSPROP	2.3E-01	7.9E+00	1.9E+01	3.3E-02	EPI
TCMTB	21564-17-0	2.4E+02	PHYSPROP	2.7E-10	6.5E-12	PHYSPROP	3.1E-07	PHYSPROP	1.5E+02	EPI			4.9E-02	5.8E-06	EPA WATER9			3.4E+03	EPI	3.3E+00	PHYSPROP	1.3E+02	PHYSPROP	6.7E-02	2.3E+00	5.5E+00	1.1E-02	EPI
Tebuthiuron	34014-18-1	2.3E+02	PHYSPROP	4.9E-09	1.2E-10	PHYSPROP	3.0E-07	PHYSPROP	1.6E+02	PHYSPROP			5.1E-02	5.9E-06	EPA WATER9			4.2E+01	EPI	1.8E+00	PHYSPROP	2.5E+03	PHYSPROP	7.4E-03	2.0E+00	4.8E+00	1.3E-03	EPI
Temephos	3383-96-8	4.7E+02	PHYSPROP	8.0E-08	2.0E-09	PHYSPROP	7.9E-08	PHYSPROP	3.0E+01	PHYSPROP	1.3E+00	CRC89	1.8E-02	4.5E-06	EPA WATER9			9.5E+04	EPI	6.0E+00	PHYSPROP	2.7E-01	PHYSPROP	2.9E-01	4.3E+01	1.0E+02	3.5E-02	EPI
Terbacil	5902-51-2	2.2E+02	PHYSPROP	4.9E-09	1.2E-10	EPI	4.7E-07	PHYSPROP	1.8E+02	PHYSPROP	1.3E+00	CRC89	2.7E-02	7.2E-06	EPA WATER9			5.0E+01	EPI	1.9E+00	PHYSPROP	7.1E+02	PHYSPROP	9.7E-03	1.7E+00	4.1E+00	1.7E-03	EPI
Terbufos	13071-79-9	2.9E+02	PHYSPROP	9.8E-04	2.4E-05	EPI	3.2E-04	PHYSPROP	-2.9E+01	PHYSPROP	1.1E+00	CRC89	2.2E-02	5.4E-06	EPA WATER9			1.0E+03	EPI	4.5E+00	PHYSPROP	5.1E+00	PHYSPROP	2.3E-01	4.3E+00	1.0E+01	3.6E-02	EPI
Terbutryn	886-50-0	2.4E+02	PHYSPROP	8.8E-07	2.2E-08	EPI	1.7E-06	PHYSPROP	1.0E+02	PHYSPROP	1.1E+00	CRC89	2.4E-02	6.0E-06	EPA WATER9			6.1E+02	EPI	3.7E+00	PHYSPROP	2.5E+01	PHYSPROP	1.3E-01	2.4E+00	5.7E+00	2.1E-02	EPI
Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47	5436-43-1	4.9E+02	PHYSPROP	1.2E-04	3.0E-06	PHYSPROP	7.0E-08	EPI	1.6E+02	EPI			3.1E-02	3.6E-06	EPA WATER9			1.3E+04	EPI	6.8E+00	PHYSPROP	1.5E-03	PHYSPROP	7.9E-01	5.5E+01	2.1E+02	9.3E-02	EPI
Tetrachlorobenzene, 1,2,4,5-	95-94-3	2.2E+02	PHYSPROP	4.1E-02	1.0E-03	PHYSPROP	5.4E-03	EPI	1.4E+02	PHYSPROP	1.9E+00	CRC89	3.2E-02	8.8E-06	EPA WATER9			2.2E+03	EPI	4.6E+00	PHYSPROP	6.0E-01	PHYSPROP	6.6E-01	1.7E+00	6.7E+00	1.2E-01	EPI
Tetrachloroethane, 1,1,1,2-	630-20-6	1.7E+02	PHYSPROP	1.0E-01	2.5E-03	PHYSPROP	1.2E+01	PHYSPROP	-7.0E+01	PHYSPROP	1.5E+00	CRC89	4.8E-02	9.1E-06	EPA WATER9			8.6E+01	EPI	2.9E+00	PHYSPROP	1.1E+03	PHYSPROP	7.9E-02	9.2E-01	2.2E+00	1.6E-02	EPI
Tetrachloroethane, 1,1,2,2-	79-34-5	1.7E+02	PHYSPROP	1.5E-02	3.7E-04	PHYSPROP	4.6E+00	PHYSPROP	-4.4E+01	PHYSPROP	1.6E+00	CRC89	4.9E-02	9.3E-06	EPA WATER9			9.5E+01	EPI	2.4E+00	PHYSPROP	2.8E+03	PHYSPROP	3.5E-02	9.2E-01	2.2E+00	6.9E-03	EPI
Tetrachloroethylene	127-18-4	1.7E+02	PHYSPROP	7.2E-01	1.8E-02	PHYSPROP	1.9E+01	PHYSPROP	-2.2E+01	PHYSPROP	1.6E+00	CRC89	5.0E-02	9.5E-06	EPA WATER9			9.5E+01	EPI	3.4E+00	PHYSPROP	2.1E+02	PHYSPROP	1.7E-01	8.9E-01	2.1E+00	3.3E-02	EPI
Tetrachlorophenol, 2,3,4,6-	58-90-2	2.3E+02	PHYSPROP	3.6E-04	8.8E-06	EPI	6.7E-04	EPI	7.0E+01	PHYSPROP			5.0E-02	5.9E-06	EPA WATER9			3.0E+03	EPI	4.5E+00	PHYSPROP	2.3E+01	PHYSPROP	4.2E-01	2.1E+00	5.0E+00	7.1E-02	EPI
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	2.3E+02	PHYSPROP	7.9E-03	1.9E-04	PHYSPROP	3.8E-02	PHYSPROP	4.0E+01	EPI	1.4E+00	CRC89	2.8E-02	7.3E-06	EPA WATER9			1.6E+03	EPI	4.5E+00	PHYSPROP	4.0E+00	PHYSPROP	4.9E-01	2.0E+00	4.9E+00	8.4E-02	EPI
Tetraethyl Dithiopyrophosphate	3689-24-5	3.2E+02	PHYSPROP	1.8E-04	4.5E-06	EPI	1.1E-04	PHYSPROP	-3.2E+01	EPI	1.2E+00	CRC89	2.1E-02	5.3E-06	EPA WATER9			2.7E+02	EPI	4.0E+00	PHYSPROP	3.0E+01	PHYSPROP	7.5E-02	6.7E+00	1.6E+01	1.1E-02	EPI
Tetrafluoroethane, 1,1,1,2-	811-97-2	1.0E+02	PHYSPROP	2.0E+00	5.0E-02	PHYSPROP	5.0E+03	PHYSPROP	-1.0E+02	PHYSPROP	1.2E+00	CRC89	8.2E-02	1.1E-05	EPA WATER9			8.6E+01	EPI	1.7E+00	PHYSPROP	2.0E+03	PHYSPROP	2.1E-02	3.9E-01	9.4E-01	5.5E-03	EPI
Tetryl (Trinitrophenylmethylnitramine	479-45-8	2.9E+02	PHYSPROP	1.1E-07	2.7E-09	PHYSPROP	5.7E-08	PHYSPROP	1.3E+02	PHYSPROP	1.6E+00	CRC89	2.6E-02	6.7E-06	EPA WATER9			4.6E+03	EPI	1.6E+00	PHYSPROP	7.4E+01	PHYSPROP	3.1E-03	4.3E+00	1.0E+01	4.7E-04	EPI
Thallium (I) Nitrate	10102-45-1	2.7E+02	PHYSPROP						2.1E+02	PHYSPROP	5.6E+00	CRC89										9.6E+04	PHYSPROP	6.3E-03	3.3E+00	7.9E+00	1.0E-03	RAGSE
Thallium (Soluble Salts)	7440-28-0	2.1E+02	PHYSPROP						3.0E+02	PHYSPROP	1.2E+01	CRC89				7.1E+01	SSL							5.5E-03	1.5E+00	3.6E+00	1.0E-03	RAGSE
Thallium Acetate	563-68-8	2.6E+02	PHYSPROP				1.5E+01	PHYSPROP	1.3E+02	CRC89	3.7E+00	CRC89	3.9E-02	1.2E-05	EPA WATER9					-1.7E-01	PHYSPROP	2.8E+04	PHYSPROP	2.5E-04	3.1E+00	7.5E+00	4.0E-05	EPI
Thallium Carbonate	6533-73-9	4.7E+02	PHYSPROP				5.8E+00	PHYSPROP	2.7E+02	PHYSPROP	7.1E+00	CRC89	3.9E-02	1.2E-05	EPA WATER9					-8.6E-01	PHYSPROP	5.2E+04	PHYSPROP	8.2E-06	4.4E+01	1.1E+02	9.8E-07	EPI
Thallium Chloride	7791-12-0	2.4E+02	PHYSPROP						4.3E+02	PHYSPROP	7.0E+00	CRC89	5.2E-02	1.8E-05	EPA WATER9							2.9E+03	PHYSPROP	6.0E-03	2.3E+00	5.6E+00	1.0E-03	RAGSE
Thallium Sulfate	7446-18-6	5.0E+02	PHYSPROP						6.3E+02	PHYSPROP	6.8E+00	CRC89										5.5E+04	CRC89	8.6E-03	7.1E+01	1.7E+02	1.0E-03	RAGSE
Thifensulfuron-methyl	79277-27-3	3.9E+02	PHYSPROP	1.7E-12	4.1E-14	PHYSPROP	1.3E-10	PHYSPROP	1.8E+02	PHYSPROP			3.6E-02	4.2E-06	EPA WATER9			5.1E+01	EPI	1.6E+00	PHYSPROP	2.2E+03	PHYSPROP	8.6E-04	1.6E+01	3.7E+01	1.1E-04	EPI
Thiobencarb	28249-77-6	2.6E+02	PHYSPROP	1.1E-05	2.7E-07	EPI	2.2E-05	PHYSPROP	3.3E+00	PHYSPROP	1.2E+00	CRC89	2.3E-02	5.9E-06	EPA WATER9			1.6E+03	EPI	3.4E+00	PHYSPROP	2.8E+01	PHYSPROP	6.3E-02	2.9E+00	7.0E+00	1.0E-02	EPI
Thiodiglycol	111-48-8	1.2E+02	PHYSPROP	7.6E-08	1.9E-09	PHYSPROP	3.2E-03	PHYSPROP	-1.0E+01	PHYSPROP	1.2E+00	CRC89	6.8E-02	9.4E-06	EPA WATER9			1.0E+00	EPI	-6.3E-01	PHYSPROP	1.0E+06	PHYSPROP	5.2E-04	5.1E-01	1.2E+00	1.2E-04	EPI
Thiofanox	39196-18-4	2.2E+02	PHYSPROP	3.8E-07	9.4E-09	EPI	1.7E-04	PHYSPROP	5.7E+01	PHYSPROP			5.2E-02	6.1E-06	EPA WATER9			7.2E+01	EPI	2.2E+00	PHYSPROP	5.2E+03	PHYSPROP	3.6E-02	1.8E+00	4.2E+00	6.3E-03	EPI
Thiophanate, Methyl	23564-05-8	3.4E+02	PHYSPROP	4.9E-08	1.2E-09	EPI	7.1E-08	PHYSPROP	1.7E+02	EPI			3.9E-02	4.5E-06	EPA WATER9			3.3E+02	EPI	1.4E+00	PHYSPROP	2.7E+01	PHYSPROP	1.1E-03	8.7E+00	2.1E+01	1.6E-04	EPI
Thiram	137-26-8	2.4E+02	PHYSPROP	7.4E-06	1.8E-07	EPI	1.7E-05	PHYSPROP	1.6E+02	PHYSPROP	1.3E+00	PERRY	2.6E-02	6.6E-06	EPA WATER9			6.1E+02	EPI	1.7E+00	PHYSPROP	3.0E+01	PHYSPROP	5.9E-03	2.3E+00	5.6E+00	9.9E-04	EPI
Tin	7440-31-5	1.2E+02	CRC89				0.0E+00	NIOSH	1.3E+01	CRC89	7.3E+00	CRC89				2.5E+02	BAES							4.2E-03	4.9E-01	1.2E+00	1.0E-03	RAGSE
Titanium Tetrachloride	7550-45-0	1.9E+02	CRC89				1.0E+01	ATSDR Profile	-2.4E+01	CRC89	1.7E+00	CRC89	3.8E-02	9.1E-06	EPA WATER9									5.3E-03	1.2E+00	2.9E+00	1.0E-03	RAGSE
Toluene	108-88-3	9.2E+01	PHYSPROP	2.7E-01	6.6E-03	PHYSPROP	2.8E+01	PHYSPROP	-9.5E+01	PHYSPROP	8.6E-01	CRC89	7.8E-02	9.2E-06	EPA WATER9			2.3E+02	EPI	2.7E+00	PHYSPROP	5.3E+02	PHYSPROP	1.1E-01	3.5E-01	8.3E-01	3.1E-02	EPI
Toluene-2,5-diamine	95-70-5	1.2E+02	PHYSPROP	3.0E-07	7.4E-09	PHYSPROP	3.4E-03	PHYSPROP	6.4E+01	PHYSPROP			7.7E-02	9.0E-06	EPA WATER9			5.5E+01	EPI	1.6E-01	PHYSPROP	7.7E+04	PHYSPROP	1.7E-03	5.1E-01	1.2E+00	4.1E-04	EPI
Toluidine, p-	106-49-0	1.1E+02	PHYSPROP	8.3E-05	2.0E-06	PHYSPROP	2.9E-01	PHYSPROP	4.4E+01	PHYSPROP	9.6E-01	CRC89	7.1E-02	9.0E-06	EPA WATER9			1.1E+02	EPI	1.4E+00	PHYSPROP	6.5E+03	PHYSPROP	1.3E-02	4.2E-01	1.0E+00	3.3E-03	EPI
Total Petroleum Hydrocarbons (Aliphatic High)	NA	1.7E+02	EPI	3.3E+02	8.2E+00	EPI	1.4E-01	EPI	-9.6E+00	EPI			6.2E-02	7.2E-06	EPA WATER9			4.8E+03	EPI	6.1E+00	EPI	3.7E-03	EPI	9.8E+00	9.5E-01	4.3E+00	2.0E+00	EPI
Total Petroleum Hydrocarbons (Aliphatic Low)	NA	8.6E+01	EPI	7.4E+01	1.8E+00	EPI	1.5E+02	EPI	-9.5E+01	EPI	6.6E-01	CRC89	7.3E-02	8.2E-06	EPA WATER9			1.3E+02	EPI	3.9E+00	EPI	9.5E+00	EPI	7.2E-01	3.2E-01	1.2E+00	2.0E-01	EPI
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	1.3E+02	EPI	1.4E+02	3.4E+00	EPI	4.5E+00	EPI	-5.4E+01	EPI	7.2E-01	CRC89	5.1E-02	6.8E-06	EPA WATER9			8.0E+02	EPI	5.7E+00	EPI	2.2E-01	EPI	7.4E+00	5.5E-01	2.5E+00	1.7E+00	EPI
Total Petroleum Hydrocarbons (Aromatic High)	NA	2.0E+02	EPI	3.6E-04	8.9E-06	EPI	9.2E-06	EPI	1.1E+02	EPI	1.3E+00	CRC89	2.8E-02	7.2E-06	EPA WATER9			5.5E+04	EPI	5.2E+00	EPI	2.6E-01	EPI	1.7E+00	1.4E+00	5.7E+00	3.1E-01	EPI
Total Petroleum Hydrocarbons (Aromatic Low)	NA	7.8E+01	EPI	2.3E-01	5.6E-03	EPI	9.5E+01	EPI	5.5E+00	EPI	8.8E-01	CRC89	9.0E-02	1.0E-05	EPA WATER9			1.5E+02	EPI	2.1E+00	EPI	1.8E+03	EPI	5.1E-02	2.9E-01	6.9E-01	1.5E-02	EPI
Total Petroleum Hydrocarbons (Aromatic Medium)	NA	1.4E+02	EPI	2.0E-02	4.8E-04	EPI	7.0E-02	EPI	5.7E+01	EPI	1.0E+00	CRC89	5.6E-02	8.1E-06	EPA WATER9			2.0E+03	EPI	3.6E+00	EPI	2.8E+01	EPI	3.1E-01	6.0E-01	1.4E+00	6.9E-02	EPI
Toxaphene	8001-35-2	4.5E+02	PHYSPROP	2.5E-04	6.0E-06	PHYSPROP	6.7E-06	PHYSPROP	7.7E+01	PHYSPROP			3.2E-02	3.8E-06	EPA WATER9			7.7E+04	EPI	5.9E+00	PHYSPROP	5.5E-01	PHYSPROP	4.2E-01	3.4E+01	8.2E+01	5.2E-02	EPI
Tralomethrin	66841-25-6	6.7E+02	PHYSPROP	1.6E-08	3.9E-10	EPI	3.6E-11	PHYSPROP	1.4E+02	PHYSPROP			2.5E-02	2.9E-06	EPA WATER9			1.9E+05	EPI	7.6E+00	PHYSPROP	8.0E-02	PHYSPROP	3.0E-01	5.6E+02	1.3E+03	3.1E-02	EPI
Tri-n-butyltin	688-73-3	2.9E+02	PHYSPROP	6.2E+01	1.5E+00	PHYSPROP	4.0E-02	PHYSPROP	2.9E+01	EPI	1.1E+00	CRC89	2.1E-02	5.4E-06	EPA WATER9			8.1E+03	EPI	4.1E+00	PHYSPROP	7.3E-03	PHYSPROP	1.3E-01	4.5E+00	1.1E+01	1.9E-02	EPI
Triacetin	102-76-1	2.2E+02	PHYSPROP	5.0E-07	1.2E-08	EPI	2.5E-03	PHYSPROP	7.8E+01	PHYSPROP	1.2E+00	CRC89	2.6E-02	6.6E-06	EPA WATER9			4.1E+01	EPI	2.5E-01	PHYSPROP	5.8E+04	PHYSPROP	7.8E-04	1.8E+00	4.2E+00	1.4E-04	EPI
Triadimefon	43121-43-3	2.9E+02	PHYSPROP	3.3E-09	8.1E-11	EPI	1.5E-08	PHYSPROP	8.2E+01	PHYSPROP	1.2E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			3.0E+02	EPI	2.8E+00	PHYSPROP	7.2E+01	PHYSPROP	1.6E-02	4.6E+00	1.1E+01	2.4E-03	EPI
Triallate	2303-17-5	3.0E+02	PHYSPROP	4.9E-04	1.2E-05	EPI	1.2E-04	PHYSPROP	2.9E+01	PHYSPROP	1.3E+00	CRC89	2.2E-02	5.7E-06	EPA WATER9			1.0E+03	EPI	4.6E+00	PHYSPROP	4.0E+00	PHYSPROP	2.3E-01	5.3E+00	1.3E+01	3.5E-02	EPI
Triasulfuron	82097-50-5	4.0E+02	PHYSPROP	1.3E-11	3.2E-13	PHYSPROP	5.5E-12	PHYSPROP	1.9E+02	PHYSPROP			3.5E-02	4.1E-06	EPA WATER9			4.3E+02	EPI	1.1E+00	PHYSPROP	3.2E+01	PHYSPROP	3.6E-04	1.9E+01	4.5E+01	4.7E-05	EPI
Tribenuron-methyl	101200-48-0	4.0E+02	PHYSPROP	4.2E-12	1.0E-13	PHYSPROP	3.9E-10	PHYSPROP	1.4E+02	PHYSPROP			3.5E-02	4.1E-06	EPA WATER9			9.5E+01	EPI	7.8E-01	PHYSPROP	5.0E+01	PHYSPROP	3.6E-03	1.7E+01	4.1E+01	4.7E-04	EPI
Tribromobenzene, 1,2,4-	615-54-3	3.1E+02	PHYSPROP	1.4E-02	3.4E-04	PHYSPROP	5.5E-03	PHYSPROP	4.5E+01	PHYSPROP	2.3E+00	ChemNet	2.9E-02	7.9E-06	EPA WATER9			6.1E+02	EPI	4.7E+00	PHYSPROP	4.9E+00	PHYSPROP	2.3E-01	6.1E+00	1.5E+01	3.4E-02	EPI
Tributyl Phosphate	126-73-8	2.7E+02	PHYSPROP	5.8E-05	1.4E-06	EPI	1.1E-03	PHYSPROP	-7.9E+01	PHYSPROP	9.7E-01	CRC89	2.1E-02	5.2E-06	EPA WATER9			2.4E+03	EPI	4.0E+00	PHYSPROP	2.8E+02	PHYSPROP	1.4E-01	3.3E+00	7.8E+00	2.3E-02	EPI
Tributyltin Compounds	NA																											
Tributyltin Oxide	56-35-9	6.0E+02	PHYSPROP	1.2E-05	3.0E-07	EPI	7.5E-06	PHYSPROP	-4.5E+01	PHYSPROP	1.2E+00	CRC89	1.5E-02	3.6E-06	EPA WATER9			2.6E+07	EPI	4.1E+00	PHYSPROP	2.0E+01	PHYSPROP	2.4E-03	2.3E+02	5.5E+02	2.5E-04	EPI
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	1.9E+02	PHYSPROP	2.2E+01	5.3E-01	EPI	3.6E+02	PHYSPROP	-3.5E+01	PHYSPROP	1.6E+00	CRC89	3.8E-02	8.6E-06	EPA WATER9			2.0E+02	EPI	3.2E+00	PHYSPROP	1.7E+02	PHYSPROP	9.2E-02	1.2E+00	2.8E+00	1.8E-02	EPI
Trichloroacetic Acid	76-03-9	1.6E+02	PHYSPROP	5.5E-07	1.4E-08	PHYSPROP	6.0E-02	EPI	5.8E+01	PHYSPROP	1.6E+00	CRC89	5.2E-02	9.5E-06	EPA WATER9			3.2E+00	EPI	1.3E+00	PHYSPROP	5.5E+04	PHYSPROP	7.1E-03	8.6E-01	2.1E+00	1.5E-03	EPI
Trichloroaniline HCl, 2,4,6-	33663-50-2	2.3E+02	EPI	2.9E-12	7.2E-14	EPI	6.1E-08	EPI	1.8E+02	EPI			5.0E-02	5.9E-06	EPA WATER9			1.3E+03	EPI	-6.7E-01	EPI	2.1E+01	EPI	1.6E-04	2.1E+00	5.1E+00	2.8E-05	EPI
Trichloroaniline, 2,4,6-	634-93-5	2.0E+02	PHYSPROP	5.5E-05	1.3E-06	PHYSPROP	4.4E-03	PHYSPROP	7.9E+01	PHYSPROP			5.6E-02	6.6E-06	EPA WATER9			4.4E+03	EPI	3.5E+00	PHYSPROP	4.0E+01	PHYSPROP	1.5E-01	1.3E+00	3.2E+00	2.7E-02	EPI
Trichlorobenzene, 1,2,3-	87-61-6	1.8E+02	PHYSPROP	5.1E-02	1.3E-03	PHYSPROP	2.1E-01	PHYSPROP	5.4E+01	PHYSPROP	1.5E+00	CRC89	4.0E-02	8.4E-06	EPA WATER9			1.4E+03	EPI	4.1E+00	PHYSPROP	1.8E+01	PHYSPROP	3.8E-01	1.1E+00	2.6E+00	7.4E-02	EPI
Trichlorobenzene, 1,2,4-	120-82-1	1.8E+02	PHYSPROP	5.8E-02	1.4E-03	PHYSPROP	4.6E-01	PHYSPROP	1.7E+01	PHYSPROP	1.5E+00	CRC89	4.0E-02	8.4E-06	EPA WATER9			1.4E+03	EPI	4.0E+00	PHYSPROP	4.9E+01	PHYSPROP	3.7E-01	1.1E+00	2.6E+00	7.1E-02	EPI
Trichloroethane, 1,1,1-	71-55-6	1.3E+02	PHYSPROP	7.0E-01	1.7E-02	PHYSPROP	1.2E+02	PHYSPROP	-3.0E+01	PHYSPROP	1.3E+00	CRC89	6.5E-02	9.6E-06	EPA WATER9			4.4E+01	EPI	2.5E+00	PHYSPROP	1.3E+03	PHYSPROP	5.6E-02	5.9E-01	1.4E+00	1.3E-02	EPI
Trichloroethane, 1,1,2-	79-00-5	1.3E+02	PHYSPROP	3.4E-02	8.2E-04	PHYSPROP	2.3E+01	PHYSPROP	-3.7E+01	PHYSPROP	1.4E+00	CRC89	6.7E-02	1.0E-05	EPA WATER9			6.1E+01	EPI	1.9E+00	PHYSPROP	4.6E+03	PHYSPROP	2.2E-02	5.9E-01	1.4E+00	5.0E-03	EPI
Trichloroethylene	79-01-6	1.3E+02	PHYSPROP	4.0E-01	9.9E-03	PHYSPROP	6.9E+01	PHYSPROP	-8.5E+01	PHYSPROP	1.5E+00	CRC89	6.9E-02	1.0E-05	EPA WATER9			6.1E+01	EPI	2.4E+00	PHYSPROP	1.3E+03	PHYSPROP	5.1E-02	5.7E-01	1.4E+00	1.2E-02	EPI
Trichlorofluoromethane	75-69-4	1.4E+02	PHYSPROP	4.0E+00	9.7E-02	PHYSPROP	8.0E+02	PHYSPROP	-1.1E+02	PHYSPROP	1.5E+00	CRC89	6.5E-02	1.0E-05	EPA WATER9			4.4E+01	EPI	2.5E+00	PHYSPROP	1.1E+03	PHYSPROP	5.7E-02	6.2E-01	1.5E+00	1.3E-02	EPI
Trichlorophenol, 2,4,5-	95-95-4	2.0E+02	PHYSPROP	6.6E-05	1.6E-06	EPI	7.5E-03	EPI	6.9E+01	PHYSPROP	1.5E+00	PERRY	3.1E-02	8.1E-06	EPA WATER9			1.8E+03	EPI	3.7E+00	PHYSPROP	1.2E+03	PHYSPROP	2.0E-01	1.3E+00	3.2E+00	3.6E-02	EPI
Trichlorophenol, 2,4,6-	88-06-2	2.0E+02	PHYSPROP	1.1E-04	2.6E-06	EPI	8.0E-03	EPI	6.9E+01	PHYSPROP	1.5E+00	CRC89	3.1E-02	8.1E-06	EPA WATER9			1.8E+03	EPI	3.7E+00	PHYSPROP	8.0E+02	PHYSPROP	1.9E-01	1.3E+00	3.2E+00	3.5E-02	EPI
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	2.6E+02	PHYSPROP	3.5E-07	8.7E-09	PHYSPROP	3.8E-05	EPI	1.5E+02	PHYSPROP	1.8E+00	PubChem	2.9E-02	7.8E-06	EPA WATER9			1.1E+02	EPI	3.3E+00	PHYSPROP	2.8E+02	PHYSPROP	5.6E-02	2.8E+00	6.8E+00	9.1E-03	EPI
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	2.7E+02	PHYSPROP	3.7E-07	9.1E-09	PHYSPROP	1.0E-05	PHYSPROP	1.8E+02	PHYSPROP	1.2E+00	PubChem	2.3E-02	5.9E-06	EPA WATER9			1.8E+02	EPI	3.8E+00	PHYSPROP	7.1E+01	PHYSPROP	1.0E-01	3.4E+00	8.2E+00	1.6E-02	EPI
Trichloropropane, 1,1,2-	598-77-6	1.5E+02	PHYSPROP	1.3E-02	3.2E-04	EPI	3.1E+00	PHYSPROP	-6.5E+01	EPI	1.4E+00	CRC89	5.7E-02	9.2E-06	EPA WATER9			9.5E+01	EPI	2.4E+00	PHYSPROP	1.9E+03	PHYSPROP	4.5E-02	7.0E-01	1.7E+00	9.6E-03	EPI
Trichloropropane, 1,2,3-	96-18-4	1.5E+02	PHYSPROP	1.4E-02	3.4E-04	PHYSPROP	3.7E+00	PHYSPROP	-1.5E+01	PHYSPROP	1.4E+00	CRC89	5.7E-02	9.2E-06	EPA WATER9			1.2E+02	EPI	2.3E+00	PHYSPROP	1.8E+03	PHYSPROP	3.5E-02	7.0E-01	1.7E+00	7.5E-03	EPI
Trichloropropene, 1,2,3-	96-19-5	1.5E+02	PHYSPROP	7.2E-01	1.8E-02	PHYSPROP	4.4E+00	PHYSPROP	-5.6E+01	EPI	1.4E+00	CRC89	5.9E-02	9.4E-06	EPA WATER9			1.2E+02	EPI	2.8E+00	PHYSPROP	3.3E+02	PHYSPROP	7.8E-02	6.9E-01	1.6E+00	1.7E-02	EPI
Tricresyl Phosphate (TCP)	1330-78-5	3.7E+02	PHYSPROP	3.3E-05	8.1E-07	EPI	6.0E-07	EPI	-3.3E+01	PHYSPROP	1.2E+00	Yaws	1.9E-02	4.8E-06	EPA WATER9			4.7E+04	EPI	5.1E+00	PHYSPROP	3.6E-01	PHYSPROP	2.5E-01	1.2E+01	2.9E+01	3.3E-02	EPI
Tridiphane	58138-08-2	3.2E+02	PHYSPROP	1.7E-05	4.1E-07	PHYSPROP	3.9E-04	PHYSPROP	4.3E+01	PHYSPROP			4.1E-02	4.7E-06	EPA WATER9			3.4E+03	EPI	5.2E+00	PHYSPROP	1.1E+00	PHYSPROP	4.7E-01	6.6E+00	1.6E+01	6.9E-02	EPI
Triethylamine	121-44-8	1.0E+02	PHYSPROP	6.1E-03	1.5E-04	PHYSPROP	5.7E+01	PHYSPROP	-1.1E+02	PHYSPROP	7.3E-01	CRC89	6.6E-02	7.9E-06	EPA WATER9			5.1E+01	EPI	1.5E+00	PHYSPROP	6.9E+04	PHYSPROP	1.5E-02	3.9E-01	9.3E-01	3.9E-03	EPI
Triethylene Glycol	112-27-6	1.5E+02	PHYSPROP	1.3E-09	3.2E-11	PHYSPROP	1.3E-03	PHYSPROP	-7.0E+00	PHYSPROP	1.1E+00	CRC89	5.1E-02	8.1E-06	EPA WATER9			1.0E+01	EPI	-1.8E+00	PHYSPROP	1.0E+06	PHYSPROP	7.3E-05	7.3E-01	1.8E+00	1.6E-05	EPI
Trifluoroethane, 1,1,1-	420-46-2	8.4E+01	PHYSPROP	3.1E+01	7.7E-01	PHYSPROP	9.5E+03	PHYSPROP	-1.1E+02	PHYSPROP			9.9E-02	1.2E-05	EPA WATER9			4.4E+01	EPI	1.7E+00	PHYSPROP	7.6E+02	PHYSPROP	2.7E-02	3.1E-01	7.5E-01	7.6E-03	EPI

Contaminant		Molecular Weight		Volatility Parameters					Melting Point		Density		Diffusivity in Air and Water			Soil Partition Coefficients				Water Partition		Water Solubility		Tapwater Dermal Parameters				
Analyte	CAS No.	MW	MW Ref	H' (unitless)	HLC (atm-m³/mole)	H' and HLC Ref	VP	VP Ref	MP	MP Ref	Density (g/cm³)	Density Ref	Dia (cm²/s)	Diw (cm²/s)	D_{ia} and D_{iw} Ref	K_d (L/kg)	K_d Ref	K_{oc} (L/kg)	K_{oc} Ref	log K_{ow} (unitless)	log K_{ow} Ref	S (mg/L)	S Ref	B (unitless)	τ_{event} (hr/event)	t^* (hr)	K_p (cm/hr)	KPREF
Trifluralin	1582-09-8	3.4E+02	PHYSPROP	4.2E-03	1.0E-04	PHYSPROP	4.6E-05	PHYSPROP	4.9E+01	PHYSPROP	1.4E+00	PubChem	2.2E-02	5.6E-06	EPA WATER9			1.6E+04	EPI	5.3E+00	PHYSPROP	1.8E-01	PHYSPROP	5.1E-01	7.9E+00	1.9E+01	7.3E-02	EPI
Trimethyl Phosphate	512-56-1	1.4E+02	PHYSPROP	2.9E-07	7.2E-09	PHYSPROP	8.5E-01	EPI	-4.6E+01	PHYSPROP	1.2E+00	CRC89	5.8E-02	8.8E-06	EPA WATER9			1.1E+01	EPI	-6.5E-01	PHYSPROP	5.0E+05	PHYSPROP	4.3E-04	6.4E-01	1.5E+00	9.5E-05	EPI
Trimethylbenzene, 1,2,3-	526-73-8	1.2E+02	PHYSPROP	1.8E-01	4.4E-03	PHYSPROP	1.7E+00	PHYSPROP	-2.5E+01	PHYSPROP	8.9E-01	CRC89	6.1E-02	8.0E-06	EPA WATER9			6.3E+02	EPI	3.7E+00	PHYSPROP	7.5E+01	PHYSPROP	3.8E-01	5.0E-01	1.2E+00	9.0E-02	EPI
Trimethylbenzene, 1,2,4-	95-63-6	1.2E+02	PHYSPROP	2.5E-01	6.2E-03	PHYSPROP	2.1E+00	PHYSPROP	-4.4E+01	PHYSPROP	8.8E-01	CRC89	6.1E-02	7.9E-06	EPA WATER9			6.1E+02	EPI	3.6E+00	PHYSPROP	5.7E+01	PHYSPROP	3.6E-01	5.0E-01	1.2E+00	8.6E-02	EPI
Trimethylbenzene, 1,3,5-	108-67-8	1.2E+02	PHYSPROP	3.6E-01	8.8E-03	PHYSPROP	2.5E+00	PHYSPROP	-4.5E+01	PHYSPROP	8.6E-01	CRC89	6.0E-02	7.8E-06	EPA WATER9			6.0E+02	EPI	3.4E+00	PHYSPROP	4.8E+01	PHYSPROP	2.6E-01	5.0E-01	1.2E+00	6.2E-02	EPI
Trimethylpentene, 2,4,4-	25167-70-8	1.1E+02	PHYSPROP	3.0E+01	7.5E-01	PHYSPROP	7.1E+01	PHYSPROP	-8.4E+01	EPI	7.2E-01	PubChem	6.0E-02	7.3E-06	EPA WATER9			2.4E+02	EPI	4.1E+00	PHYSPROP	4.0E+00	PHYSPROP	7.7E-01	4.5E-01	1.7E+00	1.9E-01	RAGSE
Trinitrobenzene, 1,3,5-	99-35-4	2.1E+02	PHYSPROP	2.7E-07	6.5E-09	EPI	6.4E-06	EPI	1.2E+02	PHYSPROP	1.5E+00	CRC89	2.9E-02	7.7E-06	EPA WATER9			1.7E+03	EPI	1.2E+00	PHYSPROP	2.8E+02	PHYSPROP	3.4E-03	1.6E+00	3.9E+00	6.1E-04	EPI
Trinitrotoluene, 2,4,6-	118-96-7	2.3E+02	PHYSPROP	8.5E-07	2.1E-08	EPI	8.0E-06	PHYSPROP	8.0E+01	PHYSPROP	1.7E+00	CRC89	3.0E-02	7.9E-06	EPA WATER9			2.8E+03	EPI	1.6E+00	PHYSPROP	1.2E+02	PHYSPROP	5.6E-03	2.0E+00	4.7E+00	9.6E-04	EPI
Triphenylphosphine Oxide	791-28-6	2.8E+02	PHYSPROP	2.2E-08	5.3E-10	PHYSPROP	2.6E-09	EPI	1.6E+02	PHYSPROP	1.2E+00	CRC89	2.3E-02	5.8E-06	EPA WATER9			2.0E+03	EPI	2.8E+00	PHYSPROP	6.3E+01	PHYSPROP	2.1E-02	3.8E+00	9.1E+00	3.3E-03	EPI
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	4.3E+02	PHYSPROP	1.1E-07	2.6E-09	PHYSPROP	7.4E-08	PHYSPROP	2.7E+01	PHYSPROP			3.3E-02	3.9E-06	EPA WATER9			1.1E+04	EPI	3.7E+00	PHYSPROP	7.0E+00	PHYSPROP	1.3E-02	2.7E+01	6.5E+01	1.6E-03	EPI
Tris(1-chloro-2-propyl)phosphate	13674-84-5	3.3E+02	PHYSPROP	2.4E-06	6.0E-08	PHYSPROP	2.0E-05	PHYSPROP	-4.0E+01	PHYSPROP			4.0E-02	4.7E-06	EPA WATER9			1.6E+03	EPI	2.6E+00	PHYSPROP	1.2E+03	PHYSPROP	8.4E-03	7.2E+00	1.7E+01	1.2E-03	EPI
Tris(2,3-dibromopropyl)phosphate	126-72-7	7.0E+02	PHYSPROP	8.9E-04	2.2E-05	EPI	1.9E-04	PHYSPROP	5.5E+00	PHYSPROP	2.3E+00	PubChem	1.9E-02	4.9E-06	EPA WATER9			9.7E+03	EPI	4.3E+00	PHYSPROP	8.0E+00	PHYSPROP	1.4E-03	8.5E+02	2.0E+03	1.4E-04	EPI
Tris(2-chloroethyl)phosphate	115-96-8	2.9E+02	PHYSPROP	1.3E-04	3.3E-06	EPI	6.1E-02	PHYSPROP	-5.5E+01	PHYSPROP	1.4E+00	CRC89	2.4E-02	6.2E-06	EPA WATER9			3.9E+02	EPI	1.4E+00	PHYSPROP	7.0E+03	PHYSPROP	2.3E-03	4.2E+00	1.0E+01	3.6E-04	EPI
Tris(2-ethylhexyl)phosphate	78-42-2	4.3E+02	PHYSPROP	3.2E-06	7.9E-08	EPI	8.3E-08	PHYSPROP	-7.4E+01	PHYSPROP	9.9E-01	CRC89	1.6E-02	3.9E-06	EPA WATER9			2.5E+06	EPI	9.5E+00	PHYSPROP	6.0E-01	PHYSPROP	9.3E+01	2.9E+01	1.3E+02	1.2E+01	EPI
Tungsten	7440-33-7	1.8E+02	PHYSPROP				0.0E+00	NIOSH	3.4E+03	PHYSPROP	1.9E+01	CRC89				1.5E+02	BAES							5.2E-03	1.1E+00	2.7E+00	1.0E-03	RAGSE
Uranium (Soluble Salts)	NA	2.4E+02	CRC89				0.0E+00	NIOSH	1.1E+03	CRC89	1.9E+01	CRC89				4.5E+02	BAES							5.9E-03	2.3E+00	5.4E+00	1.0E-03	RAGSE
Urethane	51-79-6	8.9E+01	PHYSPROP	2.6E-06	6.4E-08	EPI	2.6E-01	EPI	4.9E+01	PHYSPROP	9.9E-01	CRC89	8.5E-02	1.0E-05	EPA WATER9			1.2E+01	EPI	-1.5E-01	PHYSPROP	4.8E+05	PHYSPROP	1.4E-03	3.3E-01	8.0E-01	3.9E-04	EPI
Vanadium Pentoxide	1314-62-1	1.8E+02	EPI				0.0E+00	NIOSH	6.8E+02	CRC89	3.4E+00	CRC89										7.0E+02	CRC89	5.2E-03	1.1E+00	2.6E+00	1.0E-03	RAGSE
Vanadium and Compounds	7440-62-2	5.1E+01	EPI						1.9E+03	CRC89	6.0E+00	CRC89				1.0E+03	SSL							2.7E-03	2.0E-01	4.9E-01	1.0E-03	RAGSE
Vernolate	1929-77-7	2.0E+02	PHYSPROP	1.3E-03	3.1E-05	EPI	1.0E-02	PHYSPROP	7.1E+01	EPI	9.5E-01	CRC89	2.4E-02	6.1E-06	EPA WATER9			3.0E+02	EPI	3.8E+00	PHYSPROP	9.0E+01	PHYSPROP	2.2E-01	1.4E+00	3.5E+00	4.0E-02	EPI
Vinclozolin	50471-44-8	2.9E+02	PHYSPROP	7.1E-07	1.7E-08	EPI	1.2E-07	PHYSPROP	1.1E+02	PHYSPROP	1.5E+00	CRC89	2.5E-02	6.5E-06	EPA WATER9			2.8E+02	EPI	3.1E+00	PHYSPROP	2.6E+00	PHYSPROP	2.9E-02	4.2E+00	1.0E+01	4.5E-03	EPI
Vinyl Acetate	108-05-4	8.6E+01	PHYSPROP	2.1E-02	5.1E-04	EPI	9.0E+01	PHYSPROP	-9.3E+01	PHYSPROP	9.3E-01	CRC89	8.5E-02	1.0E-05	EPA WATER9			5.6E+00	EPI	7.3E-01	PHYSPROP	2.0E+04	PHYSPROP	5.6E-03	3.2E-01	7.7E-01	1.6E-03	EPI
Vinyl Bromide	593-60-2	1.1E+02	PHYSPROP	5.0E-01	1.2E-02	PHYSPROP	1.0E+03	PHYSPROP	-1.4E+02	PHYSPROP	1.5E+00	CRC89	8.6E-02	1.2E-05	EPA WATER9			2.2E+01	EPI	1.6E+00	PHYSPROP	7.6E+03	PHYSPROP	1.7E-02	4.2E-01	1.0E+00	4.4E-03	EPI
Vinyl Chloride	75-01-4	6.2E+01	PHYSPROP	1.1E+00	2.8E-02	PHYSPROP	3.0E+03	EPI	-1.5E+02	PHYSPROP	9.1E-01	CRC89	1.1E-01	1.2E-05	EPA WATER9			2.2E+01	EPI	1.6E+00	PHYSPROP	8.8E+03	PHYSPROP	2.5E-02	2.4E-01	5.7E-01	8.4E-03	EPI
Warfarin	81-81-2	3.1E+02	PHYSPROP	1.1E-07	2.8E-09	EPI	1.2E-07	PHYSPROP	1.6E+02	PHYSPROP			4.2E-02	4.9E-06	EPA WATER9			4.3E+02	EPI	2.7E+00	PHYSPROP	1.7E+01	PHYSPROP	1.2E-02	5.6E+00	1.3E+01	1.8E-03	EPI
Xylene, P-	106-42-3	1.1E+02	PHYSPROP	2.8E-01	6.9E-03	PHYSPROP	8.8E+00	PHYSPROP	1.3E+01	PHYSPROP	8.6E-01	CRC89	6.8E-02	8.4E-06	EPA WATER9			3.8E+02	EPI	3.2E+00	PHYSPROP	1.6E+02	PHYSPROP	2.0E-01	4.1E-01	9.9E-01	4.9E-02	EPI
Xylene, m-	108-38-3	1.1E+02	PHYSPROP	2.9E-01	7.2E-03	PHYSPROP	8.3E+00	PHYSPROP	-4.8E+01	PHYSPROP	8.6E-01	CRC89	6.8E-02	8.4E-06	EPA WATER9			3.8E+02	EPI	3.2E+00	PHYSPROP	1.6E+02	PHYSPROP	2.1E-01	4.1E-01	9.9E-01	5.3E-02	EPI
Xylene, o-	95-47-6	1.1E+02	PHYSPROP	2.1E-01	5.2E-03	PHYSPROP	6.6E+00	PHYSPROP	-2.5E+01	PHYSPROP	8.8E-01	CRC89	6.9E-02	8.5E-06	EPA WATER9			3.8E+02	EPI	3.1E+00	PHYSPROP	1.8E+02	PHYSPROP	1.9E-01	4.1E-01	9.9E-01	4.7E-02	EPI
Xylenes	1330-20-7	1.1E+02	PHYSPROP	2.7E-01	6.6E-03	PHYSPROP	8.0E+00	PHYSPROP	-2.5E+01	EPI	8.6E-01	ATSDR Profile	6.9E-02	8.5E-06	EPA WATER9			3.8E+02	EPI	3.2E+00	PHYSPROP	1.1E+02	PHYSPROP	2.0E-01	4.1E-01	9.9E-01	5.0E-02	EPI
Zinc Phosphide	1314-84-7	2.6E+02	CRC89						1.2E+03	CRC89	4.6E+00	CRC89												3.7E-03	2.9E+00	7.0E+00	6.0E-04	RAGSE
Zinc and Compounds	7440-66-6	6.5E+01	PHYSPROP						4.2E+02	PHYSPROP	7.1E+00	CRC89				6.2E+01	SSL							1.9E-03	2.4E-01	5.9E-01	6.0E-04	RAGSE
Zineb	12122-67-7	2.8E+02	PHYSPROP	1.1E-07	2.7E-09	PHYSPROP	7.5E-08	PHYSPROP	1.6E+02	EPI			4.5E-02	5.2E-06	EPA WATER9			1.3E+03	EPI	1.3E+00	PHYSPROP	1.0E+01	PHYSPROP	2.1E-03	3.7E+00	8.8E+00	3.3E-04	EPI
Zirconium	7440-67-7	9.1E+01	EPI				0.0E+00	NIOSH	1.9E+03	CRC89	6.5E+00	CRC89				3.0E+03	BAES							3.7E-03	3.4E-01	8.2E-01	1.0E-03	RAGSE

Strontium-90 Risk Based Concentration as Calculated by the U.S. EPA Radionuclide Calculator

MARCH 2016

Site-Specific
Resident Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	1.0E-6
t_{res} (time - resident) yr	26
ED_{res} (exposure duration - resident) yr	26
ET_{res} (exposure time - resident) hr/day	24
ET_{res-c} (exposure time - resident child) hr/day	24
ET_{res-a} (exposure time - resident adult) hr/day	24
ET_{res-i} (exposure time - indoor resident) hr/day	16.416
ET_{res-o} (exposure time - outdoor resident) hr/day	1.752
ED_{res-c} (exposure duration - resident child) yr	6
ED_{res-a} (exposure duration - resident adult) yr	20
EF_{res} (exposure frequency - resident) day/yr	350
EF_{res-c} (exposure frequency - resident child) day/yr	350
EF_{res-a} (exposure frequency - resident adult) day/yr	350
IRS_{res-a} (soil intake rate - resident adult) mg/day	100
IRS_{res-c} (soil intake rate - resident child) mg/day	200
IRA_{res-a} (inhalation rate - resident adult) m^3/day	20
IRA_{res-c} (inhalation rate - resident child) m^3/day	10
$IFS_{res-adj}$ (age-adjusted soil ingestion factor - resident) mg	1120000
$IFA_{res-adj}$ (age-adjusted soil inhalation factor - resident) m^3	161000
GSF_i (gamma shielding factor - indoor) unitless	0.4
$MLF_{produce}$ (produce plant mass loading factor) unitless	0.26
Slab size for ACF (area correction factor) m^2	10000
Cover thickness for GSF (gamma shielding factor) cm	0
IRV_{res-a} (vegetable consumption rate - resident adult) g/day	0
IRV_{res-c} (vegetable consumption rate - resident child) g/day	0
$IFV_{res-adj}$ (age-adjusted vegetable ingestion factor - resident) g	0
$IFF_{res-adj}$ (age-adjusted fruit ingestion factor - resident) g	0
IRF_{res-a} (fruit consumption rate - resident adult) g/day	0
IRF_{res-c} (fruit consumption rate - resident child) g/day	0
$CF_{res-produce}$ (contaminated plant fraction) unitless	0.25
TR (target cancer risk) unitless	1.0E-6
ED_{res-c} (exposure duration - resident child) yr	6
ED_{res-a} (exposure duration - resident adult) yr	20
EF_{res-c} (exposure frequency - resident child) day/yr	350

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Site-Specific
Resident Equation Inputs for Soil

Variable	Value
EF_{res-a} (exposure frequency - resident adult) day/yr	350
City (Climate Zone)	Default
A_c (acres)	.5
Q/C_{wp} (g/m^2-s per kg/m^3)	93.77
PEF (particulate emission factor) m^3/kg	1359344438
A (PEF Dispersion Constant)	16.2302
B (PEF Dispersion Constant)	18.7762
C (PEF Dispersion Constant)	216.108
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.69
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.194

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Site-Specific
Resident PRGs for Soil

Isotope	ICRP Lung Absorption Type	Inhalation Slope Factor (risk/pCi)	External Exposure Slope Factor (risk/yr per pCi/g)	Food Ingestion Slope Factor (risk/pCi)	Soil Ingestion Slope Factor (risk/pCi)	Particulate Emission Factor (m^3/kg)	Lambda (1/yr)	Halflife (yr)	10000 m^2 Soil Volume Area Correction Factor	0 cm Soil Volume Gamma Shielding Factor	Wet Soil-to-plant transfer factor (pCi/g-fresh plant per pCi/g-wet soil)
Sr-90+D	S	4.33E-10	1.95E-08	9.51E-11	1.35E-10	1.36E+09	2.41E-02	2.88E+01	1.00E+00	1.00E+00	9.57E-02

Isotope	Ingestion PRG (pCi/g)	Inhalation PRG (pCi/g)	External Exposure PRG (pCi/g)	Produce Consumption PRG (pCi/g)	Total PRG (pCi/g)	Total PRG (mg/kg)
Sr-90+D	8.87E+00	2.62E+04	7.98E+00	-	4.20E+00	3.05E-08

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Final

Radiological and Soil Investigation Report for the American Jewish University Brandeis-Bardin Campus at Simi Valley, California

Prepared for:

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