

**APPENDIX L**  
**HUMAN HEALTH RISK ASSESSMENT**

## HUMAN HEALTH RISK ASSESSMENT

### CHEMICAL INTAKE EQUATIONS

*Exposure to Soil*—Soil ingestion exposures have been evaluated for Depot workers, construction workers, and residents. Intake estimates for the soil ingestion pathway are estimated by means of the following equation:

$$\text{Intake (mg/kg - day)} = \frac{C_{SO} \times IR \times BAF \times EF \times ED \times CF}{BW \times AT}$$

where:

- $C_{SO}$  = Chemical concentration in soil (mg/kg)
- IR = Ingestion rate (mg/day)
- BAF = Bioavailability factor (unitless)
- EF = Exposure frequency (days/year)
- ED = Exposure duration (years)
- CF = Conversion factor ( $10^{-6}$  kg/mg)
- BW = Body weight (kg)
- AT = Averaging time for noncancer or cancer effects (days).

Bioavailability is a function of both compound-specific physical/chemical properties and the properties of the soil matrix itself. When soil is inadvertently ingested, not all of the contaminants in the ingested soil are available to be absorbed across the gut lining. Lacking EPA-verified or accepted bioavailability factors for the ingestion pathway, a default value of 1.0 was used in the risk assessment. Use of an oral bioavailability factor of 1.0 for chemicals in soil results in a conservative estimate of dose. For example, a chemical that may be 90 to 100 percent available for uptake and absorption from drinking water may exhibit only a fraction of this availability from soil, as is the case for many metals.

Dermal exposure is assumed to occur simultaneously with soil ingestion exposure. Soil dermal exposures also have been evaluated for Depot workers, construction workers, and residents.

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

where:

- $C_{SO}$  = Chemical concentration in soil (mg/kg)
- $SA$  = Skin surface area available for contact (cm<sup>2</sup>/day)
- $AF$  = Soil to skin adherence factor (mg/cm<sup>2</sup>)
- $ABS$  = Dermal absorption factor (unitless)
- $EF$  = Exposure frequency (days/year)
- $ED$  = Exposure duration (years)
- $CF$  = Conversion factor (10<sup>-6</sup> kg/mg)
- $BW$  = Body weight (kg)
- $AT$  = Averaging time for noncancer or cancer effects (days).

Intake of soil (fugitive dust) via inhalation has been evaluated for all receptors. The intake equation is as follows:

$$\text{Intake (mg/kg - day)} = \frac{C_{SO} \times IR \times EF \times ED}{PEF \times BW \times AT}$$

where:

- $C_{SO}$  = Chemical concentration in soil (mg/kg)
- $IR$  = Inhalation rate (m<sup>3</sup>/day)
- $EF$  = Exposure frequency (days/year)
- $ED$  = Exposure duration (years)
- $PEF$  = Particulate emission factor (m<sup>3</sup>/kg)
- $BW$  = Body weight (kg)
- $AT$  = Averaging time for noncancer or cancer effects (days).

Inhalation intake of chemicals volatilized from the soil has been evaluated for all receptors. The intake equation is as follows:

$$\text{Intake (mg/kg - day)} = \frac{C_{SO} \times IR \times EF \times ED}{VF \times BW \times AT}$$

where:

- $C_{SO}$  = Chemical concentration in soil (mg/kg)
- IR = Inhalation rate (m<sup>3</sup>/day)
- EF = Exposure frequency (days/year)
- ED = Exposure duration (years)
- VF = Volatilization factor (m<sup>3</sup>/kg)
- BW = Body weight (kg)
- AT = Averaging time for noncancer or cancer effects (days).

In the above equation, a soil-to-air volatilization factor (VF) is used. This factor relates the concentration of the contaminant in soil to the concentration volatilized in the air. The volatilization factor was calculated using the Jury model from EPA's Soil Screening Guidance (EPA 1996d). This route is applicable only to chemicals with a Henry's Law constant of greater than  $1 \times 10^{-5}$  atm·m<sup>3</sup>/mole and a molecular weight of less than 200 g/mole.

**Exposure to Groundwater**—In the future residential scenario, adults and children are assumed to be exposed to unfiltered groundwater in the home (e.g., as a result of drinking or showering). Oral intake estimates for groundwater ingestion are calculated as follows:

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

where:

- $C_{GW}$  = Chemical concentration in groundwater (µg/L)
- IR = Ingestion rate (L/day)
- EF = Exposure frequency (days/year)

- ED = Exposure duration (years)
- CF = Conversion factor ( $10^{-3}$  mg/ $\mu$ g)
- BW = Body weight (kg)
- AT = Averaging time for noncancer or cancer effects (days).

Dermal contact with groundwater is calculated according to the following equation:

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

where:

- $C_{GW}$  = Chemical concentration in groundwater ( $\mu$ g/L)
- SA = Skin surface area available for contact ( $\text{cm}^2$ )
- PC = Chemical-specific dermal permeability coefficient (cm/hr)
- ET = Exposure time (hours/day)
- EF = Exposure frequency (days/year)
- ED = Exposure duration (years)
- CF = Conversion factor ( $10^{-3}$  L/ $\text{cm}^3$  and  $10^{-3}$  mg/ $\mu$ g)
- BW = Body weight (kg)
- AT = Averaging time for noncancer or cancer effects (days).

Exposures also could hypothetically occur during washing and showering. Hot water temperatures and the spraying action of the shower nozzle could result in releases of volatile constituents from groundwater, particularly in a closed room, which receptors may inhale. The equation is as follows:

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

where:

- $C_{GW}$  = Chemical concentration in groundwater ( $\mu$ g/L)
- IR = Inhalation rate ( $\text{m}^3/\text{day}$ )
- K = Volatilization factor ( $0.5 \text{ L}/\text{m}^3$ , EPA default value)

- FI = Fraction inhaled (unitless)
- EF = Exposure frequency (days/year)
- CF = Conversion factor ( $10^{-3}$  mg/ $\mu$ g)
- ED = Exposure duration (years)
- BW = Body weight (kg)
- AT = Averaging time for noncancer or cancer effects (days).

This route is applicable only to chemicals with a Henry's Law constant of greater than  $1 \times 10^{-5}$  atm·m<sup>3</sup>/mole and a molecular weight of less than 200 g/mole. The volatilization factor (K) used in the above equation is a factor relating the concentration of a contaminant in household water to the concentration of the volatilized contaminant in air. The default value of 0.5 L/m<sup>3</sup> considers all uses of household water and was taken from RAGS, Volume I, Part B (EPA 1991b).

**Produce and Beef Ingestion**—The estimated intake through produce and beef ingestion is calculated using the following equation:

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

where:

- C = Chemical concentration in produce or beef tissue ( $\mu$ g/g = mg/kg)
- IR = Ingestion rate (kg/day)
- FI = Fraction ingested from contaminated source (unitless)
- EF = Exposure frequency (days/year)
- ED = Exposure duration (years)
- BW = Body weight (kg)
- AT = Averaging time for noncancer or cancer effects (days).



**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

COMPOUND	Oral Route									
	Chronic Effects					Subchronic Effects				
	RfDa (mg/kg/day)	Uncert. Factor	Modif. factor	Source b	Date	RfDa (mg/kg/day)	Uncert. Factor	Modif. factor	Source b	Date
Thallium	8.00E-05	3.00E+03	1.00E+00	IRIS	12/10/2000	8.00E-04	3.00E+02	--	HEAST	7/31/1997
Vanadium	9.00E-03	100	--	IRIS	12/10/2000	7.00E-03	100	--	HEAST	7/31/1997
Zinc	3.00E-01	3	1.00E+00	IRIS	12/10/2000	3.00E-01	3	--	HEAST	7/31/1997
<b>ORGANICS</b>										
1,1,1-Trichloroethane	3.50E-02	--	--	NCEA		--	--	--	--	--
1,1,2,2-Tetrachloroethane	6.00E-02	--	--	NCEA		--	--	--	--	--
1,3-Dinitrobenzene	1.00E-04	3.00E+03	1.00E+00	IRIS	12/10/2000	1.00E-03	1.00E+02	--	HEAST	7/31/1997
1,4-Dichlorobenzene	3.00E-02	--	--	NCEA		--	--	--	--	--
2,4,6-Trinitrotoluene	5.00E-04	1000	1	IRIS	12/10/2000	5.00E-04	1000	--	HEAST	7/31/1997
2,4-Dinitrotoluene	2.00E-03	100	1	IRIS	12/10/2000	2.00E-03	100	--	HEAST	7/31/1997
2-Methylnaphthalene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
4-Chloroaniline	4.00E-03	3.00E+03	1.00E+00	IRIS	12/10/2000	4.00E-03	3.00E+03	--	HEAST	7/31/1997
Acenaphthene	6.00E-02	3.00E+03	1.00E+00	IRIS	12/10/2000	6.00E-01	3.00E+02	--	HEAST	7/31/1997
Acetone	1.00E-01	1000	1	IRIS	12/10/2000	1.00E+00	100	--	HEAST	7/31/1997
Anthracene	3.00E-01	3.00E+03	1.00E+00	IRIS	12/10/2000	3.00E+00	3.00E+02	--	HEAST	7/31/1997
Aroclor 1260	--	--	--	--	--	--	--	--	--	--
Benzene	3.00E-03	3.00E+03	--	NCEA	7/2/1996	--	--	--	--	--
Benzo(a)anthracene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Benzo(a)pyrene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Benzo(b)fluoranthene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Benzo(g,h,i)perylene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Benzo(k)fluoranthene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Bis(2-ethylhexyl) phthalate	2.00E-02	1.00E+03	1.00E+00	IRIS	12/10/2000	--	--	--	--	--
Butyl benzyl phthalate	2.00E-01	1000	1	IRIS	12/10/2000	2.00E+00	100	--	HEAST	7/31/1997
Carbon Tetrachloride	7.00E-04	1.00E+03	1.00E+00	IRIS	12/10/2000	--	--	--	--	--
Chloroform	1.00E-02	1000	1	IRIS	12/10/2000	1.00E-02	1.00E+03	--	HEAST	7/31/1997
Chrysene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Dibenzofuran	4.00E-03	--	--	NCEA		--	--	--	--	--



**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

COMPOUND	Oral Route									
	Chronic Effects					Subchronic Effects				
	RfDa (mg/kg/day)	Uncert. Factor	Modif. factor	Source b	Date	RfDa (mg/kg/day)	Uncert. Factor	Modif. factor	Source b	Date
Dimethyl phthalate	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	1.00E-01	1000	1	IRIS	12/10/2000	1.00E+00	1.00E+02	--	HEAST	7/31/1997
Dinitrotoluene mixture 2,4-/2,6-	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	2.00E-02	1000	--	HEAST	7/31/1997	2.00E-02	1000	--	HEAST	7/31/1997
Fluoranthene	4.00E-02	3.00E+03	1.00E+00	IRIS	12/10/2000	4.00E-01	3.00E+02	--	HEAST	7/31/1997
Fluorene	4.00E-02	3.00E+03	1.00E+00	IRIS	12/10/2000	4.00E-01	3.00E+02	--	HEAST	7/31/1997
Isopropyl methylphosphonate	1.00E-01	3000	1	IRIS	12/10/2000	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Methylene Chloride	6.00E-02	100	1	IRIS	12/10/2000	6.00E-02	100	--	HEAST	7/31/1997
Methylphosphonic acid	2.00E-02	--	--	NCEA	--	--	--	--	--	--
Naphthalene	2.00E-02	3.00E+03	1.00E+00	IRIS	12/10/2000	--	--	--	--	--
PCB	--	--	--	--	--	--	--	--	--	--
Phenanthrene	3.00E-02	--	--	surr.	--	3.00E-01	--	--	surr.	--
Pyrene	3.00E-02	3000	1	IRIS	12/10/2000	3.00E-01	300	--	HEAST	7/31/1997
Thiodiglycol	--	--	--	--	--	--	--	--	--	--
Toluene	2.00E-01	1000	1	IRIS	12/10/2000	2.00E+00	100	--	HEAST	7/31/1997
Trichloroethylene	6.00E-03	3000	--	NCEA	3/5/1992	--	--	--	--	--
Trichlorofluoromethane	3.00E-01	1.00E+03	1.00E+00	IRIS	12/10/2000	7.00E-01	1.00E+03	--	HEAST	7/31/1997





**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

COMPOUND	Inhalation Route											
	Chronic Effects						Subchronic Effects					
	RfC <sub>c</sub> (mg/m <sup>3</sup> )	RfD <sub>c</sub> (mg/kg/day)	Uncert. Factor	Modif. factor	Source b	Date	RfC <sub>c</sub> (mg/m <sup>3</sup> )	RfD <sub>c</sub> (mg/kg/day)	Uncert. Factor	Modif. factor	Source b	Date
Dimethyl phthalate	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dinitrotoluene mixture 2,4-/2,6-	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	--	--	--	--
Isopropyl methylphosphonate	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	3.00E+00	8.57E-01	1.00E+02	--	HEAST	7/31/1997	3.00E+00	8.57E-01	1.00E+02	--	HEAST	7/31/1997
Methylphosphonic acid	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	3.00E-03	8.57E-04	3.00E+03	1.00E+00	IRIS	12/10/2000	--	--	--	--	--	--
PCB	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	--	--	--
Thiodiglycol	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	4.00E-01	1.14E-01	3.00E+02	1.00E+00	IRIS	12/10/2000	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	7.00E-01	2.00E-01	1.00E+04	--	HEAST	7/31/1997	7.00E+00	2.00E+00	1.00E+03	--	HEAST	7/31/1997

**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

COMPOUND	Noncarcinogenic Effects			
	Oral/Dermal Target Organ	Oral/Dermal Critical Effect	Inhalation Target Organ	Inhalation Critical Effect
<b>INORGANICS</b>				
Aluminum	CNS	--	--	--
Antimony	blood/circulatory system	longevity, blood glucose, and cholesterol	--	--
Arsenic	skin	hyperpigmentation, keratosis, poss. vascular complications	--	--
Barium	kidney	no adverse effect, increased kidney weight	reproductive system	fetotoxicity
Beryllium	GI system	small intestinal lesions	respiratory system	Be sensitization, progression to chronic Be disease
Cadmium (food)	kidney	proteinuria	--	--
Cadmium (water)	kidney	proteinuria	--	--
Calcium	--	--	--	--
Chloride	--	--	--	--
Chromium (III)	none	no effects observed	--	--
Chromium (VI)	none	none reported	respiratory system	lactate dehydrogenase in bronchioalveolar lavage fluid
Cobalt	--	--	--	--
Copper	gastrointestinal system	irritation	--	--
Cyanide	thyroid, nerve	weight loss, myelin degeneration	--	--
Iron	--	--	--	--
Lead	CNS, blood	--	--	--
Magnesium	--	--	--	--
Manganese (food)	CNS	various effects	CNS	impairment of neurobehavioral function
Manganese	CNS	various effects	CNS	impairment of neurobehavioral function
Mercury	kidney	neurotoxicity	--	--
Nickel	whole body	decreased body and organ weight	--	--
Nitrate	blood	methemoglobinemia	--	--
Nitrite	blood	methemoglobinemia	--	--
Potassium	--	--	--	--
Selenium	whole body	clinical selenosis	--	--
Silver	skin	argyria	--	--
Sodium	--	--	--	--
Sulfate	--	--	--	--

**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

COMPOUND	Noncarcinogenic Effects			
	Oral/Dermal Target Organ	Oral/Dermal Critical Effect	Inhalation Target Organ	Inhalation Critical Effect
Thallium	liver, blood	increased sgot and serum LDH	--	--
Vanadium	none	--	--	--
Zinc	blood	anemia	--	--
<b>ORGANICS</b>				
1,1,1-Trichloroethane	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--
1,3-Dinitrobenzene	spleen	increase weight	--	--
1,4-Dichlorobenzene	liver, kidney	liver and kidney effects	--	--
2,4,6-Trinitrotoluene	liver	liver effects	--	--
2,4-Dinitrotoluene	CNS	CNS, erythrocytes; neurotoxicity, Heinz bodies	--	--
2-Methylnaphthalene	skin	skin effects	--	--
4-Chloroaniline	spleen	proliferative lesions	--	--
Acenaphthene	liver	hepatotoxicity	--	--
Acetone	liver, kidney	nephrotoxicity, inc. liver and kidney weights	--	--
Anthracene	none	--	none	--
Aroclor 1260	--	--	--	--
Benzene	--	--	--	--
Benzo(a)anthracene	--	--	--	--
Benzo(a)pyrene	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--
Benzo(k)fluoranthene	--	--	--	--
Bis(2-ethylhexyl) phthalate	liver	weight increase	--	--
Butyl benzyl phthalate	liver	weight changes	--	--
Carbon Tetrachloride	liver	lesions	--	--
Chloroform	liver	lesions, fatty cyst formation	--	--
Chrysene	--	--	--	--
Dibenzofuran	--	--	--	--

**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

COMPOUND	Noncarcinogenic Effects			
	Oral/Dermal Target Organ	Oral/Dermal Critical Effect	Inhalation Target Organ	Inhalation Critical Effect
Dimethyl phthalate	--	--	--	--
Di-n-butyl phthalate	--	increase mortality	--	--
Dinitrotoluene mixture 2,4-/2,6-	--	--	--	--
Di-n-octyl phthalate	kidney, liver	increase weight, increase sgot and sgpt activity	--	--
Fluoranthene	kidney, liver, blood	increase weight, hematological changes	--	--
Fluorene	blood	decrease counts	--	--
Isopropyl methylphosphonate	none	--	none	--
Indeno(1,2,3-cd)pyrene	--	--	--	--
Methylene Chloride	liver	toxicity	liver	toxicity
Methylphosphonic acid	--	--	--	--
Naphthalene	whole body	decrease body weight	--	--
PCB	--	--	--	--
Phenanthrene	--	--	--	--
Pyrene	kidney	reduced weight, renal tubular pathology	--	--
Thiodiglycol	--	--	--	--
Toluene	liver, kidney	liver, kidney; altered weights	CNS	CNS; neurological effects
Trichloroethylene	--	--	--	--
Trichlorofluoromethane	whole body	decrease body weight	kidney and respiratory system	kidney and lung effects

**Table L-1. Oral and Inhalation Toxicity Values for Noncancer Effects (continued)**

- a. RfD: Reference dose
- b. Source: IRIS - the date refers to the last time the EPA Integrated Risk Information System database was referenced; HEAST - EPA ORD Health Effects Assessment Summary Tables, FY 1997 Update (July);  
 NCEA - provision toxicity values from National Center for Environmental Assessment; surr. - surrogate toxicity value; tef - toxicity equivalence factor is used to adjust concentration term  
 USACHPPM - toxicity values taken from Preliminary Assessment of Health Impacts for the Newport Chemical Agent Disposal Facility, Newport, Indiana, 12 February 1999.
- c. RfC: Reference concentration; inhalation RfCs have been converted to inhalation RfDs by multiplying by 20m3/day and dividing by 70 kg.
- d. Adjustment applied to unit risk to calculate inhalation slope factor: adjustment of 3500 is calculated by multiplying 70 kg and 1000 µg/mg, and dividing by 20 m3/day. Slope factor is calculated by multiplying the unit risk by the adjustment factor of 3500.

Benzene: IRIS reports a range for the inhalation risk estimate (2.2E-06 to 7.8E-06 per ug/m3); values shown represent the upper value of the range; the oral unit risk (and therefore the oral slope factor) is an extrapolation from the known inhalation dose-response.

Copper: the EPA Office of Drinking Water MCL of 1.3 mg/L has been converted to intake estimate of 3.7E-02 mg/kg-day by assuming ingestion of 2 liters of water/day by a 70 kg adult.

Lead: EPA has not developed a reference dose for lead. EPA recommends use of the biokinetic model (LEAD 0.99d) to estimate blood lead levels for children in a residential setting and the Technical Review Workgroup for Lead paper (December 1996) to estimate blood lead levels for non-residential adults.

Manganese: the toxicity value of 0.14 mg/kg/day is for manganese in food; for non-dietary exposures (e.g., soil, groundwater), the dietary toxicity value has been adjusted assuming 5 mg/day is taken in through dietary sources (leaving 5 mg/day that can be taken in through environmental exposure) and using a modifying factor of 3 ((10 - 5 mg/day) / [70 kg BW] [3 MF] = 2.4E-2 mg/kg/day); note that for evaluating exposure through the foodchain, the RfD of 0.14 mg/kg/day should be used; adjustment made based on conversation with EPA IRIS contact for Mn - Bob Person.

Mercury: in the absence of a chronic or subchronic RfD for elemental mercury, the chronic and subchronic RfD for mercuric chloride have been listed.

PAHs, noncarcinogenic effects: in the absence of toxicity data, the RfDs for pyrene have been adopted for this compound.

PAHs, carcinogenic effects: a toxicity equivalence factor (Table 1) is used to adjust the concentration term to an equivalent concentration of benzo(a)pyrene; the slope factor for benzo(a)pyrene is used.

PCBs, carcinogenic effects: the cancer potency of PCBs is determined using a tiered approach presented in Table 3 (below). The upper bound slope factor of 2 (mg/kg/day)-1 listed in this table is the most conservative of the values.

Thallium: values are for thallium (I) carbonate, thallium (I) chloride, and thallium (I) sulfate

Table 1. Relative Potency of PAHs

PAH	Relative Potency (a)
Benzo(a)pyrene	1.000
Benzo(a)anthracene	0.100
Benzo(b)fluoranthene	0.100
Benzo(k)fluoranthene	0.010
Chrysene	0.001
Dibenzo(a,h)anthracene	1.000
Indeno(1,2,3-cd)pyrene	0.100

Table 3. Tiers of Human Slope Factors for PCBs (c)

	Upper Bound SF (mg/kg/day)-1
High risk & persistence	2
Low risk & persistence	0.4
Lowest risk & persistence	0.07
High	Food chain exposure Sediment or soil ingestion Dust or aerosol inhalation Dermal exposure - if absorption factor is applied Presence of dioxin-like, tumor-promoting, or persistent congeners Early-life exposure (all pathways and mixtures)
Low	Ingestion of water-soluble congeners Inhalation of evaporated congeners Dermal exposure, if no absorption factor is applied
Lowest	Congener or isomer analyses verify that congeners with more than 4 chlorines comprise less than 1/2% of total PCBs

- a. EPA 1993. Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA/600/R-93/089.

c. IRIS file for PCBs (October 1996)



**Table L-2. Oral and Inhalation Toxicity Values for Cancer Effects**

COMPOUND	Oral Route			Inhalation Route			EPA Weight-of-Evidence Classification
	Slope Factor (mg/kg/day) <sup>-1</sup>	Source b	date	Slope Factor (mg/kg/day) <sup>-1</sup> d	Source b,d	date	
<b>INORGANICS</b>							
Aluminum	--	--	--	--	--	--	--
Antimony	--	--	--	--	--	--	--
Arsenic	1.50E+00	IRIS	12/10/2000	1.51E+01	IRIS	--	[A]
Barium	--	--	--	--	--	--	[D]
Beryllium	--	--	--	8.40E+00	IRIS	12/10/2000	[B1]
Cadmium (food)	--	--	--	6.30E+00	IRIS	--	[B1]
Cadmium (water)	--	--	--	6.30E+00	IRIS	--	[B1]
Calcium	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--
Chromium (III)	--	--	--	--	--	--	[D]
Chromium (VI)	--	--	--	4.10E+01	HEAST	7/31/1997	[A]
Cobalt	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	[D]
Cyanide	--	--	--	--	--	--	[D]
Iron	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	[B2]
Magnesium	--	--	--	--	--	--	--
Manganese (food)	--	--	--	--	--	--	[D]
Manganese	--	--	--	--	--	--	[D]
Mercury	--	--	--	--	--	--	[D]
Nickel	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--
Nitrite	--	--	--	--	--	--	--
Potassium	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	[D]
Silver	--	--	--	--	--	--	[D]
Sodium	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--

**Table L-2. Oral and Inhalation Toxicity Values for Cancer Effects (continued)**

COMPOUND	Oral Route			Inhalation Route			EPA Weight-of-Evidence Classification
	Slope Factor (mg/kg/day) <sup>-1</sup>	Source b	date	Slope Factor (mg/kg/day) <sup>-1</sup> d	Source b,d	date	
Thallium	--	--	--	--	--	--	[D]
Vanadium	--	--	--	--	--	--	--
Zinc	--	--	--	--	--	--	[D]
<b>ORGANICS</b>							
1,1,1-Trichloroethane	--	--	--	--	--	--	[D]
1,1,2,2-Tetrachloroethane	2.00E-01	IRIS	12/10/2000	2.03E-01	IRIS	12/10/2000	[C]
1,3-Dinitrobenzene	--	--	--	--	--	--	[D]
1,4-Dichlorobenzene	2.40E-02	HEAST	7/31/1997	2.20E-02	NCEA		[B2]
2,4,6-Trinitrotoluene	3.00E-02	IRIS	12/10/2000	--	--	--	[C]
2,4-Dinitrotoluene	6.80E-01	IRIS	12/10/2000	--	--	--	[B2]
2-Methylnaphthalene	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--
Acetone	--	--	--	--	--	--	[D]
Anthracene	--	--	--	--	--	--	[D]
Aroclor 1260	2.00E+00	IRIS	--	2.00E+00	IRIS	12/10/2000	[B2]
Benzene	5.50E-02	IRIS	12/10/2000	2.73E-02	IRIS	12/10/2000	[A]
Benzo(a)anthracene	7.30E+00	tef	--	3.10E+00	tef		[B2]
Benzo(a)pyrene	7.30E+00	IRIS	12/10/2000	3.10E+00	NCEA		[B2]
Benzo(b)fluoranthene	7.30E+00	tef	--	3.10E+00	tef		[B2]
Benzo(g,h,i)perylene	--	--	--	--	--	--	[D]
Benzo(k)fluoranthene	7.30E+00	tef	--	3.10E+00	tef		[B2]
Bis(2-ethylhexyl) phthalate	1.40E-02	IRIS	12/10/2000	--	--	--	[B2]
Butyl benzyl phthalate	--	--	--	--	--	--	[C]
Carbon Tetrachloride	1.30E-01	IRIS	12/10/2000	5.25E-02	IRIS	12/10/2000	[B2]
Chloroform	6.10E-03	IRIS	12/10/2000	8.05E-02	IRIS	12/10/2000	[B2]
Chrysene	7.30E+00	tef	--	3.10E+00	tef		[B2]
Dibenzofuran	--	--	--	--	--	--	[D]

**Table L-2. Oral and Inhalation Toxicity Values for Cancer Effects (continued)**

COMPOUND	Oral Route			Inhalation Route			EPA Weight-of-Evidence Classification
	Slope Factor (mg/kg/day)-1	Source b	date	Slope Factor (mg/kg/day)-1 d	Source b,d	date	
Dimethyl phthalate	--	--	--	--	--	--	[D]
Di-n-butyl phthalate	--	--	--	--	--	--	[D]
Dinitrotoluene mixture 2,4-/2,6-	6.80E-01	IRIS	12/10/2000	--	--	--	[B2]
Di-n-octyl phthalate	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	--	--	[D]
Fluorene	--	--	--	--	--	--	[D]
Isopropyl methylphosphonate	--	--	--	--	--	--	[D]
Indeno(1,2,3-cd)pyrene	7	tef	--	3.10E+00	tef	--	[B2]
Methylene Chloride	7.50E-03	IRIS	12/10/2000	1.65E-03	IRIS	--	[B2]
Methylphosphonic acid	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	[C]
PCB	2.00E+00	IRIS	12/10/2000	2.00E+00	IRIS	12/10/2000	[B2]
Phenanthrene	--	--	--	--	--	--	[D]
Pyrene	--	--	--	--	--	--	[D]
Thiodiglycol	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	[D]
Trichloroethylene	1.10E-02	NCEA	3/5/1992	6.00E-03	NCEA	3/5/1992	--
Trichlorofluoromethane	--	--	--	--	--	--	--

**Table L-3. Toxicity Values and Other Information for the Dermal Contact Pathway**

COMPOUND	Dermal Route	Dermal Route	Dermal Route	GI	Dermal	Dermal Permeability		
	Chronic RfD a (mg/kg/day)	Subchronic RfD a (mg/kg/day)	Slope Factor b (mg/kg/day) <sup>-1</sup>	Absorption Factor (unitless)	Absorption Factor EPA Reg. 5/DEA (unitless)	Source	Coefficient (cm/hour)	Source
<b>INORGANICS</b>								
Aluminum	1.0E+00	--	--	1	--	--	1.0E-03	i
Antimony	4.0E-04	4.0E-04	--	1	--	--	1.0E-03	i
Arsenic	3.0E-04	3.0E-04	1.5E+00	1	0.03	EPA Reg. 5, h	1.0E-03	i
Barium	7.0E-02	7.0E-02	--	1	--	--	1.0E-03	i
Beryllium	2.0E-03	5.0E-03	--	1	--	--	1.0E-03	i
Cadmium (food)	3.0E-05	--	--	0.03	0.001	EPA Reg. 5, h	--	--
Cadmium (water)	2.5E-05	--	--	0.05	--	--	1.0E-03	i
Calcium	--	--	--	1	--	--	1.0E-03	i
Chloride	--	--	--	1	--	--	1.0E-03	i
Chromium (III)	1.5E+00	1.0E+00	--	1	--	--	1.0E-03	i
Chromium (VI)	3.0E-03	2.0E-02	--	1	--	--	1.0E-03	i
Cobalt	6.0E-02	--	--	1	--	--	1.0E-03	i
Copper	4.0E-02	3.7E-02	--	1	--	--	1.0E-03	i
Cyanide	2.0E-02	2.0E-02	--	1	--	--	1.0E-03	i
Iron	3.0E-01	--	--	1	--	--	1.0E-03	i
Lead	--	--	--	1	--	--	1.0E-03	i
Magnesium	--	--	--	1	--	--	1.0E-03	i
Manganese (food)	1.4E-01	1.4E-01	--	1	--	--	--	--
Manganese	2.4E-02	--	--	1	--	--	1.0E-03	i
Mercury	3.0E-04	3.0E-04	--	1	--	--	1.0E-03	i
Nickel	2.0E-02	2.0E-02	--	1	--	--	1.0E-03	i
Nitrate	1.6E+00	--	--	1	--	--	1.0E-03	i
Nitrite	1.0E-01	1.0E-01	--	1	--	--	1.0E-03	i
Potassium	--	--	--	1	--	--	1.0E-03	i
Selenium	5.0E-03	5.0E-03	--	1	--	--	1.0E-03	i
Silver	5.0E-03	5.0E-03	--	1	--	--	1.0E-03	i
Sodium	--	--	--	1	--	--	1.0E-03	i
Sulfate	--	--	--	1	--	--	1.0E-03	i

Table L-3. Toxicity Values and Other Information for the Dermal Contact Pathway (continued)

COMPOUND	Dermal Route	Dermal Route	Dermal Route	GI	Dermal	Dermal Permeability		
	Chronic RfD a (mg/kg/day)	Subchronic RfD a (mg/kg/day)	Slope Factor b (mg/kg/day) <sup>-1</sup>	Absorption Factor (unitless)	Absorption Factor EPA Reg. 5/DEA (unitless)	Source	Coefficient (cm/hour)	Source
Thallium	8.0E-05	8.0E-04	--	1	--	--	1.0E-03	i
Vanadium	9.0E-03	7.0E-03	--	1	--	--	1.0E-03	i
Zinc	3.0E-01	3.0E-01	--	1	--	--	1.0E-03	i
<b>ORGANICS</b>								
1,1,1-Trichloroethane	3.50E-02	--	--	1	--	--	1.7E-02	j
1,1,2,2-Tetrachloroethane	6.0E-02	--	2.0E-01	1	--	--	9.0E-03	j
1,3-Dinitrobenzene	1.0E-04	1.0E-03	--	1	--	--	2.1E-03	k
1,4-Dichlorobenzene	3.0E-02	--	2.4E-02	1	--	--	6.2E-02	j
2,4,6-Trinitrotoluene	5.0E-04	5.0E-04	3.0E-02	1	--	--	3.1E-03	k
2,4-Dinitrotoluene	2.0E-03	2.0E-03	6.8E-01	1	--	--	3.8E-03	j
2-Methylnaphthalene	3.0E-02	3.0E-01	--	1	--	--	2.1E-01	k
4-Chloroaniline	4.0E-03	4.0E-03	--	1	--	--	6.3E-03	k
Acenaphthene	6.0E-02	6.0E-01	--	1	--	--	1.3E-01	k
Acetone	1.0E-01	1.0E+00	--	1	--	--	5.7E-04	k
Anthracene	3.0E-01	3.0E+00	--	1	--	--	2.3E-01	k
Aroclor 1260	--	--	2.0E+00	1	0.06	DEA, h	8.5E-01	k
Benzene	3.0E-03	--	5.5E-02	1	--	--	2.1E-02	j
Benzo(a)anthracene	3.0E-02	3.0E-01	7.3E+00	1	0.13	surr.	8.1E-01	j
Benzo(a)pyrene	3.0E-02	3.0E-01	7.3E+00	1	0.13	EPA Reg. 5, h	1.2E+00	j
Benzo(b)fluoranthene	3.0E-02	3.0E-01	7.3E+00	1	0.13	surr.	1.2E+00	j
Benzo(g,h,i)perylene	3.0E-02	3.0E-01	--	1	--	--	4.3E+00	k
Benzo(k)fluoranthene	3.0E-02	3.0E-01	7.3E+00	1	0.13	surr.	4.0E+00	k
Bis(2-ethylhexyl) phthalate	2.0E-02	--	1.4E-02	1	--	--	3.3E-02	j
Butyl benzyl phthalate	2.0E-01	2.0E+00	--	1	--	--	5.9E-02	k
Carbon Tetrachloride	7.0E-04	--	1.3E-01	1	--	--	2.2E-02	j
Chloroform	1.0E-02	1.0E-02	6.1E-03	1	--	--	8.9E-03	j
Chrysene	3.0E-02	3.0E-01	7.3E+00	1	0.13	surr.	8.1E-01	j
Dibenzofuran	4.0E-03	--	--	1	--	--	1.6E-01	k

**Table L-3. Toxicity Values and Other Information for the Dermal Contact Pathway (continued)**

COMPOUND	Dermal Route	Dermal Route	Dermal Route	GI	Dermal	Dermal Permeability		
	Chronic RfD a (mg/kg/day)	Subchronic RfD a (mg/kg/day)	Slope Factor b (mg/kg/day) <sup>-1</sup>	Absorption Factor (unitless)	Absorption Factor EPA Reg. 5/DEA (unitless)	Source	Coefficient (cm/hour)	Source
Dimethyl phthalate	--	--	--	1	--	--	1.6E-03	j
Di-n-butyl phthalate	1.0E-01	1.0E+00	--	1	--	--	3.3E-02	j
Dinitrotoluene mixture 2,4-/2,6-	--	--	6.8E-01	1	--	--	--	
Di-n-octyl phthalate	2.0E-02	2.0E-02	--	1	--	--	2.7E+01	k
Fluoranthene	4.0E-02	4.0E-01	--	1	--	--	3.6E-01	j
Fluorene	4.0E-02	4.0E-01	--	1	--	--	1.6E-01	k
Isopropyl methylphosphonate	1.0E-01	--	--	1	--	--	1.1E-04	k
Indeno(1,2,3-cd)pyrene	3.0E-02	3.0E-01	7.3E+00	1	0.13	surr.	1.9E+00	j
Methylene Chloride	6.0E-02	6.0E-02	7.5E-03	1	--	--	4.5E-03	j
Methylphosphonic acid	2.0E-02	--	--	1	--	--	1.2E-05	k
Naphthalene	2.0E-02	--	--	1	--	--	6.9E-02	j
PCB	--	--	2.0E+00	1	--	--	--	
Phenanthrene	3.0E-02	3.0E-01	--	1	--	--	2.7E-01	j
Pyrene	3.0E-02	3.0E-01	--	1	--	--	3.2E-01	k
Thiodiglycol	--	--	--	1	--	--	9.7E-05	k
Toluene	2.0E-01	2.0E+00	--	1	--	--	4.5E-02	j
Trichloroethylene	6.0E-03	--	1.1E-02	1	--	--	1.6E-02	j
Trichlorofluoromethane	3.0E-01	7.0E-01	--	1	--	--	1.7E-02	j

**Table L-3. Toxicity Values and Other Information for the Dermal Contact Pathway (continued)**

- a. The chronic RfD for the dermal route was calculated by multiplying the chronic oral RfD by the gastrointestinal absorption factor.
- b. The slope factor for the dermal route was calculated by dividing the oral slope factor by the gastrointestinal absorption factor.
- i. The default permeability coefficient recommended in EPA 1992 was used for these metals in the absence of chemical specific coefficients.
- j. Chemical specific permeability coefficients were taken from Table 5-7 of EPA 1992. The  $K_p$  for Lindane was used for all of the BHC compounds. The  $K_p$  for Chlorocresol was used for 4-Chloro-3-methylphenol.
- k. The permeability coefficients for these compounds were calculated from the  $K_o/w$  and MW using the Potts and Guy equation in EPA 1992.

**Table L-4. Lead Results Summary  
Deseret Chemical Depot, Tooele, Utah**

Exposure Unit	Surface Soil			Subsurface Soil	
	Fetal Blood Lead Depot Worker	Fetal Blood Lead Construction Worker	Blood Lead Resident Child	Fetal Blood Lead Construction Worker	Blood Lead Resident Child
	( $\mu\text{g/dL}$ )	( $\mu\text{g/dL}$ )	( $\mu\text{g/dL}$ ) <sup>a</sup>	( $\mu\text{g/dL}$ )	( $\mu\text{g/dL}$ ) <sup>a</sup>
SWMU 11 - Chemical Munitions Storage Area	-	-	7	-	9
SWMU 33A - Inside Building 536	7	8	10	7	7
SWMU 33B - Outside Building 536	8	10	<b>16</b>	9	<b>13</b>
SWMU 33C - Drainage Swale	-	-	-	8	<b>11</b>
SWMU 37 - Slope (Current Land Use)	7	-	-	-	-
SWMU 37 - Slope (Future Land Use)	-	9	<b>12</b>	8	10

Target = 10  $\mu\text{g/dL}$

<sup>a</sup> Results for residential children include groundwater, where applicable.

- Blood lead levels not evaluated due to lack of data or lead concentrations below screening levels

NA - not analyzed

Values in bold exceed the CDC target of 10  $\mu\text{g/dL}$



**Table L-5. Blood Lead Levels of Depot Workers - Current/Future Land Use (Surface Soil Exposures)  
Deseret Chemical Depot, Tooele, Utah**

Exposure Unit	Site Pb Conc. (mg/kg)	PbB <sub>adult,0</sub> (µg/dL)	BKSF (µg/dL per µg/day)	IR <sub>s</sub> (g/day)	AF <sub>s</sub> (unitless)	EF <sub>s</sub> (day/yr)	AT (day)	PbB <sub>adult,central</sub> (µg/dL)	GSD <sub>i,adult</sub> (unitless)	R <sub>fetal/maternal</sub> (unitless)	(Target = 10 µg/dL)	
											PbB <sub>fetal,0.95</sub> (µg/dL)	Conclusion
SWMU 33A - Inside Building 536	125	2.2	0.4	0.05	0.12	250	365	2.4	2.1	0.9	7.3	below target
SWMU 33B - Outside Building 536	347	2.2	0.4	0.05	0.12	250	365	2.8	2.1	0.9	8.4	below target
SWMU 37 - Slope (Current Land Use)	202	2.2	0.4	0.05	0.12	5	365	2.2	2.1	0.9	6.7	below target
SWMU 37 - Slope (Future Land Use)	202	2.2	0.4	0.05	0.12	250	365	2.5	2.1	0.9	7.7	below target

-- Not applicable/not evaluated

< sl - the maximum detected concentration is below the 400 ppm screening level in soil or the 15 ppb action level in drinking water; therefore, blood lead levels were not evaluated  
Model default values were used for all parameters except the site lead concentration. The most conservative baseline blood lead level and geometric standard deviation were selected.

Site Pb Conc. - the arithmetic mean concentration

PbB<sub>adult,0</sub> - Baseline blood lead level

BKSF - biokinetic slope factor

IR<sub>s</sub> - ingestion rate

AF - adherence factor

EF - exposure frequency

AT - averaging time

PbB<sub>adult,central</sub> - mean blood lead level

GSD - geometric standard deviation

R<sub>fetal/maternal</sub> - factor that converts blood lead level in mother to blood lead level in fetus

PbB<sub>fetal,0.95</sub> - mean blood lead level in fetus at 95th percentile

**Table L-6. Blood Lead Levels of Construction Workers - Future Land Use (Surface Soil Exposures)  
Deseret Chemical Depot, Tooele, Utah**

Exposure Unit	Site Pb Conc. (mg/kg)	PbB <sub>adult,0</sub> (µg/dL)	BKSF µg/dL per µg/day	IR <sub>s</sub> (g/day)	AF <sub>s</sub> (unitless)	EF <sub>s</sub> (day/yr)	AT (day)	PbB <sub>adult,central</sub> (µg/dL)	GSD <sub>i,adult</sub> (unitless)	R <sub>fetal/maternal</sub> (unitless)	(Target=10 µg/dl)	
											PbB <sub>fetal,0.95</sub> (µg/dL)	Conclusion
SWMU 33A - Inside Building 536	125	2.2	0.4	0.48	0.12	50	365	3	2.1	0.9	7.9	below target
SWMU 33B - Outside Building 536	347	2.2	0.4	0.48	0.12	50	365	3	2.1	0.9	10	below target
SWMU 37 - Slope (Future Land Use)	202	2.2	0.4	0.48	0.12	50	365	3	2.1	0.9	8.7	below target

-- Not applicable/not evaluated

< sl - the maximum detected concentration is below the 400 ppm screening level in soil or the 15 ppb action level in drinking water; therefore, blood lead levels were not evaluated

Model default values were used for all parameters except the site lead concentration. The most conservative baseline blood lead level and geometric standard deviation were selected.

Site Pb Conc. - the arithmetic mean concentration

PbB<sub>adult,0</sub> - Baseline blood lead level

BKSF - biokinetic slope factor

IR<sub>s</sub> - ingestion rate

AF - adherence factor

EF - exposure frequency

AT - averaging time

PbB<sub>adult,central</sub> - mean blood lead level

GSD - geometric standard deviation

R<sub>fetal/maternal</sub> - factor that converts blood lead level in mother to blood lead level in fetus

PbB<sub>fetal,0.95</sub> - mean blood lead level in fetus at 95th percentile

**Table L-7. Blood Lead Levels of Construction Workers - Future Land Use (Subsurface Soil Exposures)  
Deseret Chemical Depot, Tooele, Utah**

Exposure Unit	Site Pb Conc. (mg/kg)	PbB <sub>adult,0</sub> (µg/dL)	BKSF µg/dL per µg/day	IR <sub>s</sub> (g/day)	AF <sub>s</sub> (unitless)	EF <sub>s</sub> (day/yr)	AT (day)	PbB <sub>adult,central</sub> (µg/dL)	GSD <sub>1,adult</sub> (unitless)	R <sub>fetal/maternal</sub> (unitless)	(Target = 10 µg/dl)		Conclusion
											PbB <sub>fetal,0.95</sub> (µg/dL)		
SWMU 33A - Inside Building 536	44	2.2	0.4	0.48	0.12	50	365	2	2.1	0.9	7.1		below target
SWMU 33B - Outside Building 536	233	2.2	0.4	0.48	0.12	50	365	3	2.1	0.9	9.0		below target
SWMU 33C - Drainage Swale	162	2.2	0.4	0.48	0.12	50	365	3	2.1	0.9	8.3		below target
SWMU 37 - Slope (Future Land Use)	157	2.2	0.4	0.48	0.12	50	365	3	2.1	0.9	8.2		below target

-- Not applicable/not evaluated

<sl - the maximum detected concentration is below the 400 ppm screening level in soil or the 15 ppb action level in drinking water; therefore, blood lead levels were not evaluated  
Model default values were used for all parameters except the site lead concentration. The most conservative baseline blood lead level and geometric standard deviation were selected.

Site Pb Conc. - the arithmetic mean concentration

PbB<sub>adult,0</sub> - Baseline blood lead level

BKSF - biokinetic slope factor

IR<sub>s</sub> - ingestion rate

AF - adherence factor

EF - exposure frequency

AT - averaging time

PbB<sub>adult,central</sub> - mean blood lead level

GSD - geometric standard deviation

R<sub>fetal/maternal</sub> - factor that converts blood lead level in mother to blood lead level in fetus

PbB<sub>fetal,0.95</sub> - mean blood lead level in fetus at 95th percentile

**Table L-8. Blood Lead Levels of Residential Children - Future Land Use (Surface Soil and Groundwater Exposures)  
Deseret Chemical Depot, Tooele, Utah**

Exposure Unit	Lead Concentration in Soil <sup>a</sup> (mg/kg)	Lead Concentration in Groundwater <sup>a</sup> (µg/L)	Geometric Standard Deviation (unitless)	Geometric Mean Blood Lead Level <sup>b</sup> (µg/dL)	Mean Blood Lead Level at 95th Percentile Target = < 10 µg/dL	Percent Exceeding 10 µg Pb/dL <sup>c</sup> (Target = < 5%)	Conclusion
SWMU 11 - Chemical Munitions Storage Area	53	14.00	1.6	3.3	7.1	0.9	below target
SWMU 33A - Inside Building 536	125	15.00	1.6	4.4	9.5	3.7	below target
SWMU 33B - Outside Building 536	347	15.00	1.6	7.2	15.6	22	exceeds target
SWMU 37 - Slope (Future Land Use)	202	15.00	1.6	5.4	11.7	8.8	exceeds target

<sup>a</sup>The site-specific exposure point concentration is the arithmetic mean concentration; the model default values are 200 mg/kg for soil and 4 µg/L for groundwater

<sup>b</sup>USEPA's LEAD 0.99d model was used to project blood lead levels; the blood lead level of the most sensitive age group is reported

<sup>c</sup>The benchmark set by the Centers for Disease Control and Prevention specifies that 95% of the blood lead levels in the sensitive population must not exceed 10 µg/dL  
- Not applicable

< sl - Maximum detected concentration of lead in soil does not exceed the 400 ppm screening level in soil or the 15 µg/L action level in groundwater; therefore, the LEAD 0.99d model was not used

**Table L-9. Blood Lead Levels of Residential Children - Future Land Use (Subsurface Soil and Groundwater Exposures)  
Deseret Chemical Depot, Tooele, Utah**

Exposure Unit	Lead Concentration in Soil <sup>a</sup> (mg/kg)	Lead Concentration in Groundwater <sup>a</sup> (µg/L)	Geometric Standard Deviation (unitless)	Geometric Mean Blood Lead Level <sup>b</sup> (µg/dL)	Mean Blood Lead Level at 95th Percentile Target = < 10 µg/dL	Percent Exceeding 10 µg Pb/dL <sup>c</sup> Target = < 5%	Conclusion
SWMU 11 - Chemical Munitions Storage Area	120	14.00	1.6	4.2	9.1	3.2	below target
SWMU 33A - Inside Building 536	44	15.00	1.6	3.3	7.1	0.8	below target
SWMU 33B - Outside Building 536	233	15.00	1.6	5.8	12.6	12	exceeds target
SWMU 33C - Drainage Swale	162	15.00	1.6	4.9	10.6	6.0	exceeds target
SWMU 37 - Slope (Future Land Use)	157	15.00	1.6	4.8	10.4	5.7	below target

<sup>a</sup>The site-specific exposure point concentration is the arithmetic mean concentration; the model default values are 200 mg/kg for soil and 4 µg/L for groundwater

<sup>b</sup>USEPA's LEAD 0.99d model was used to project blood lead levels; the blood lead level of the most sensitive age group is reported

<sup>c</sup>The benchmark set by the Centers for Disease Control and Prevention specifies that 95% of the blood lead levels in the sensitive population must not exceed 10 µg/dL  
- Not applicable

< sl - Maximum detected concentration of lead in soil does not exceed the 400 ppm screening level in soil or the 15 µg/L action level in groundwater; therefore, the LEAD 0.99d model was not used

**Table L-10. LEAD MODEL (Version 0.99d) Results for SWMU 11 (Surface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m<sup>3</sup> DEFAULT

Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 14.00 ug Pb/L

WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	53.0	53.0
1-2	53.0	53.0
2-3	53.0	53.0
3-4	53.0	53.0
4-5	53.0	53.0
5-6	53.0	53.0
6-7	53.0	53.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model

Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	2.8	5.22	1.27
1-2:	3.3	7.99	2.00
2-3:	3.2	8.54	2.02
3-4:	3.0	8.57	2.03
4-5:	2.8	8.15	1.52
5-6:	2.6	8.41	1.37
6-7:	2.5	8.74	1.30

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.61	1.32	0.00	0.02
1-2:	2.69	3.26	0.00	0.03
2-3:	3.05	3.42	0.00	0.06
3-4:	2.96	3.51	0.00	0.07
4-5:	2.87	3.68	0.00	0.07
5-6:	3.04	3.90	0.00	0.09
6-7:	3.37	3.97	0.00	0.09

**Table L-11. LEAD MODEL (Version 0.99d) Results for SWMU 11 (Subsurface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT  
Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 14.00 ug Pb/L  
WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	120.0	120.0
1-2	120.0	120.0
2-3	120.0	120.0
3-4	120.0	120.0
4-5	120.0	120.0
5-6	120.0	120.0
6-7	120.0	120.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model  
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	3.6	6.71	2.83
1-2:	4.2	10.31	4.44
2-3:	4.0	10.89	4.48
3-4:	3.8	10.97	4.53
4-5:	3.4	9.97	3.41
5-6:	3.1	10.07	3.09
6-7:	2.9	10.31	2.92

Diet Uptake YEAR	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.56	1.30	0.00
1-2:	2.64	3.20	0.00
2-3:	2.99	3.36	0.00
3-4:	2.91	3.46	0.00
4-5:	2.85	3.65	0.00
5-6:	3.02	3.87	0.00
6-7:	3.34	3.95	0.00

**Table L-12. LEAD MODEL (Version 0.99d) Results for SWMU 33A (Surface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT

Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L

WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	125.0	125.0
1-2	125.0	125.0
2-3	125.0	125.0
3-4	125.0	125.0
4-5	125.0	125.0
5-6	125.0	125.0
6-7	125.0	125.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model

Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	3.7	6.91	2.95
1-2:	4.4	10.69	4.61
2-3:	4.2	11.29	4.65
3-4:	4.0	11.38	4.71
4-5:	3.5	10.35	3.54
5-6:	3.2	10.45	3.21
6-7:	3.0	10.69	3.04

Diet Uptake YEAR	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.56	1.39	0.00
1-2:	2.63	3.41	0.00
2-3:	2.98	3.59	0.00
3-4:	2.90	3.70	0.00
4-5:	2.84	3.90	0.00
5-6:	3.01	4.14	0.00
6-7:	3.34	4.22	0.00



**Table L-13. LEAD MODEL (Version 0.99d) Results for SWMU 33A (Subsurface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m<sup>3</sup> DEFAULT  
Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L  
WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	44.0	44.0
1-2	44.0	44.0
2-3	44.0	44.0
3-4	44.0	44.0
4-5	44.0	44.0
5-6	44.0	44.0
6-7	44.0	44.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model  
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	2.8	5.11	1.06
1-2:	3.3	7.90	1.66
2-3:	3.1	8.45	1.67
3-4:	3.0	8.48	1.69
4-5:	2.7	8.15	1.26
5-6:	2.6	8.45	1.14
6-7:	2.5	8.80	1.08

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.61	1.42	0.00	0.02
1-2:	2.70	3.50	0.00	0.03
2-3:	3.05	3.66	0.00	0.06
3-4:	2.96	3.77	0.00	0.07
4-5:	2.87	3.95	0.00	0.07
5-6:	3.04	4.18	0.00	0.09
6-7:	3.37	4.26	0.00	0.09

**Table L-14. LEAD MODEL (Version 0.99d) Results for SWMU 33B (Surface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m<sup>3</sup> DEFAULT

Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L

WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	347.0	347.0
1-2	347.0	347.0
2-3	347.0	347.0
3-4	347.0	347.0
4-5	347.0	347.0
5-6	347.0	347.0
6-7	347.0	347.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model

Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	6.2	11.51	7.75
1-2:	7.2	17.71	12.00
2-3:	6.8	18.50	12.22
3-4:	6.5	18.81	12.45
4-5:	5.6	16.12	9.53
5-6:	4.9	15.74	8.68
6-7:	4.5	15.73	8.25

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.42	1.31	0.00	0.02
1-2:	2.47	3.20	0.00	0.03
2-3:	2.82	3.39	0.00	0.06
3-4:	2.76	3.52	0.00	0.07
4-5:	2.75	3.77	0.00	0.07
5-6:	2.94	4.03	0.00	0.09
6-7:	3.26	4.13	0.00	0.09

**Table L-15. LEAD MODEL (Version 0.99d) Results for SWMU 33B (Subsurface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT  
Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L  
WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	233.0	233.0
1-2	233.0	233.0
2-3	233.0	233.0
3-4	233.0	233.0
4-5	233.0	233.0
5-6	233.0	233.0
6-7	233.0	233.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model  
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	5.0	9.21	5.35
1-2:	5.8	14.21	8.32
2-3:	5.5	14.89	8.44
3-4:	5.3	15.08	8.57
4-5:	4.6	13.20	6.50
5-6:	4.1	13.06	5.91
6-7:	3.7	13.17	5.60

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.49	1.35	0.00	0.02
1-2:	2.55	3.31	0.00	0.03
2-3:	2.90	3.49	0.00	0.06
3-4:	2.83	3.61	0.00	0.07
4-5:	2.80	3.84	0.00	0.07
5-6:	2.98	4.08	0.00	0.09
6-7:	3.30	4.17	0.00	0.09

**Table L-16. LEAD MODEL (Version 0.99d) Results for SWMU 33C (Subsurface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m<sup>3</sup> DEFAULT  
Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L  
WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	162.0	162.0
1-2	162.0	162.0
2-3	162.0	162.0
3-4	162.0	162.0
4-5	162.0	162.0
5-6	162.0	162.0
6-7	162.0	162.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model  
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)
0.5-1:	4.2	7.71
1-2:	4.9	11.92
2-3:	4.6	12.54
3-4:	4.4	12.67
4-5:	3.9	11.34
5-6:	3.5	11.35
6-7:	3.3	11.55

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.53	1.37	0.00	0.02
1-2:	2.60	3.38	0.00	0.03
2-3:	2.96	3.55	0.00	0.06
3-4:	2.88	3.67	0.00	0.07
4-5:	2.82	3.88	0.00	0.07
5-6:	3.00	4.12	0.00	0.09
6-7:	3.33	4.20	0.00	0.09

**Table L-17. LEAD MODEL (Version 0.99d) Results for SWMU 37 - Slope (Surface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m<sup>3</sup> DEFAULT  
Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L  
WATER Consumption: DEFAULT

SOIL & DUST:  
Soil: constant conc.  
Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	202.0	202.0
1-2	202.0	202.0
2-3	202.0	202.0
3-4	202.0	202.0
4-5	202.0	202.0
5-6	202.0	202.0
6-7	202.0	202.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model  
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	4.6	8.56	4.67
1-2:	5.4	13.22	7.28
2-3:	5.1	13.88	7.37
3-4:	4.9	14.04	7.48
4-5:	4.3	12.39	5.66
5-6:	3.8	12.32	5.14
6-7:	3.5	12.47	4.87

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.51	1.36	0.00	0.02
1-2:	2.57	3.34	0.00	0.03
2-3:	2.92	3.52	0.00	0.06
3-4:	2.85	3.63	0.00	0.07
4-5:	2.81	3.85	0.00	0.07
5-6:	2.99	4.10	0.00	0.09
6-7:	3.31	4.19	0.00	0.09

**Table L-18. LEAD MODEL (Version 0.99d) Results for SWMU 37 - Slope (Subsurface Soil and Groundwater)  
Deseret Chemical Depot, Tooele, Utah**

AIR CONCENTRATION: 0.100 ug Pb/m<sup>3</sup> DEFAULT

Indoor AIR Pb Conc: 30.0 percent of outdoor.

Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m <sup>3</sup> /day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 15.00 ug Pb/L

WATER Consumption: DEFAULT

SOIL & DUST:

Soil: constant conc.

Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	157.0	157.0
1-2	157.0	157.0
2-3	157.0	157.0
3-4	157.0	157.0
4-5	157.0	157.0
5-6	157.0	157.0
6-7	157.0	157.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

MATERNAL CONTRIBUTION: Infant Model

Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

Blood Level YEAR	Total Uptake (ug/dL)	Soil+Dust Uptake (ug/day)
0.5-1:	4.1	7.60
1-2:	4.8	11.75
2-3:	4.6	12.37
3-4:	4.4	12.49
4-5:	3.9	11.20
5-6:	3.5	11.23
6-7:	3.2	11.43

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.54	1.38	0.00	0.02
1-2:	2.61	3.38	0.00	0.03
2-3:	2.96	3.56	0.00	0.06
3-4:	2.88	3.67	0.00	0.07
4-5:	2.83	3.88	0.00	0.07
5-6:	3.00	4.12	0.00	0.09
6-7:	3.33	4.21	0.00	0.09

**Table L-19. RME Risk Characterization Summary: SWMU 11 - Chemical Munitions Storage Area  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	2E-02	B	0E+00	B	3E-01	B	3E-02	B	2E-02	B	0E+00	B	0E+00	B
	Dermal Contact	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	8E-03	B	0E+00	B	3E-02	B	1E-02	B	2E-03	B	0E+00	B	0E+00	B
	Inhalation (Volatiles)	1E-06	B	0E+00	B	4E-06	B	2E-06	B	5E-08	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		8E-07	B	8E-08	B	2E-08	B	0E+00	B	0E+00	B
	Dermal Contact	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	NA		NA		7E-11	B	3E-11	B	1E-12	B	0E+00	B	0E+00	B
	Inhalation (Volatiles)	NA		NA		6E-06	B	2E-06	B	5E-08	B	0E+00	B	0E+00	B
Groundwater	Ingestion	NA		NA		4E+01	E	2E+01	E	NA		6E-04	E	NA	
	Dermal Contact	NA		NA		8E-02	B	5E-02	B	NA		2E-06	E	NA	
	Inhalation	NA		NA		6E-01	B	1E-01	B	NA		7E-07	B	NA	
<b>Surface Soil and Groundwater Combined Hazard Index (HI):</b>		3E-02 B				4E+01 E		2E+01 E		2E-02 B					
<b>Combined Cancer Risk:</b>				0E+00 B								6E-04 E		0E+00 B	
<b>Subsurface Soil and Groundwater Combined Hazard Index (HI):</b>		NA				4E+01 E		2E+01 E		8E-08 B					
<b>Combined Cancer Risk:</b>				NA								6E-04 E		0E+00 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-20. CTE Risk Characterization Summary: SWMU 11 - Chemical Munitions Storage Area  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker	Resident Integrated	Construction Worker					
Surface Soil (0 to 0.5 ft BLS)	Ingestion	9E-03	B	0E+00	B	9E-02	B	9E-03	B	1E-02	B	0E+00	B	0E+00	B
	Dermal Contact	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	7E-03	B	0E+00	B	2E-02	B	7E-03	B	1E-03	B	0E+00	B	0E+00	B
	Inhalation (Volatiles)	1E-06	B	0E+00	B	3E-06	B	1E-06	B	3E-08	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		3E-07	B	3E-08	B	1E-08	B	0E+00	B	0E+00	B
	Dermal Contact	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	NA		NA		5E-11	B	2E-11	B	6E-13	B	0E+00	B	0E+00	B
	Inhalation (Volatiles)	NA		NA		4E-06	B	2E-06	B	3E-08	B	0E+00	B	0E+00	B
Groundwater	Ingestion	NA		NA		2E+01	E	7E+00	E	NA		1E-04	E	NA	
	Dermal Contact	NA		NA		3E-02	B	2E-02	B	NA		2E-07	B	NA	
	Inhalation	NA		NA		2E-01	B	4E-02	B	NA		7E-08	B	NA	
<b>Surface Soil and Groundwater Combined Hazard Index (HI):</b>		2E-02 B				3E+01 E		7E+00 E		1E-02 B					
<b>Combined Cancer Risk:</b>				0E+00 B								1E-04 E		0E+00 B	
<b>Subsurface Soil and Groundwater Combined Hazard Index (HI):</b>		NA				2E+01 E		7E+00 E		5E-08 B					
<b>Combined Cancer Risk:</b>				NA								1E-04 E		0E+00 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures



**Table L-21. RME Risk Characterization Summary for Produce and Beef: SWMU 11 - Chemical Munitions Storage Area  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	1E+01	E	4E+00	E	0E+00	B
	Tuberous Vegetable Ingestion	6E+00	E	2E+00	E	0E+00	B
	Fruit Ingestion	2E+00	E	6E-01	B	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	3E-10	B	1E-10	B	0E+00	B
	Tuberous Vegetable Ingestion	3E-05	B	1E-05	B	0E+00	B
	Fruit Ingestion	8E-06	B	3E-06	B	0E+00	B
Beef	Ingestion	5E-02	B	2E-02	B	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		2E+01	E	7E+00	E		
<b>Combined Cancer Risk:</b>						0E+00	B
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		5E-02	B	2E-02	B		
<b>Combined Cancer Risk:</b>						0E+00	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B -  $HI \leq 1$  or  $ELCR \leq 10^{-6}$  for the residential scenario;  $HI \leq 1$  or  $ELCR \leq 10^{-4}$  for the worker scenarios

E -  $HI > 1$  or  $ELCR > 10^{-6}$  for the residential scenario;  $HI > 1$  or  $ELCR > 10^{-4}$  for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-22. CTE Risk Characterization Summary for Produce and Beef: SWMU 11 - Chemical Munitions Storage Area  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	6E+00	E	2E+00	E	0E+00	B
	Tuberous Vegetable Ingestion	2E+00	E	8E-01	B	0E+00	B
	Fruit Ingestion	8E-01	B	3E-01	B	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	1E-10	B	5E-11	B	0E+00	B
	Tuberous Vegetable Ingestion	1E-05	B	4E-06	B	0E+00	B
	Fruit Ingestion	4E-06	B	1E-06	B	0E+00	B
Beef	Ingestion	2E-02	B	8E-03	B	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		9E+00 E		3E+00 E		0E+00 B	
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		2E-02 B		8E-03 B		0E+00 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-23. Chemicals of Concern for RME Risks at SWMU 11 - Chemical Munitions Storage Area  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Current Land Use		Future Land Use				
					Noncancer HI: Depot Worker	Cancer Risk: Depot Worker	Noncancer HI			Cancer Risk	
							Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker
Surface Soil (0 to 0.5 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)										
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)										
Groundwater	Ingestion	Antimony Arsenic Iron Thallium	10% 16% 6% 63%	100%			4E+00 6E+00 2E+00 2E+01	2E+00 2E+00 9E-01 1E+01			6E-04
	Dermal Contact Inhalation	Arsenic	15%	99%							2E-06

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-24. Chemicals of Concern for Produce and Beef RME Risks at SWMU 11 - Chemical Munitions Storage Area  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		Cancer Risk
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion	Manganese	100%		1E+01	4E+00	
	Tuberous Vegetable Ingestion	Manganese	100%		6E+00	2E+00	
	Fruit Ingestion	Manganese	100%		2E+00	6E-01	
Produce (Subsurface Soil)	Leafy Vegetable Ingestion						
	Tuberous Vegetable Ingestion						
	Fruit Ingestion						
Beef	Ingestion						

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-25. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current/Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<b>INORGANICS (mg/kg)</b>															
Magnesium	1.60E+04	6.84E-03	4.88E-04	1.56E-02	5.58E-03			--		--				--	
Manganese	4.96E+02	2.12E-04	1.52E-05	4.85E-04	1.73E-04	8.85E-03	2.02E-02	99.9%	CNS	1				[D]	
<b>ORGANICS (mg/kg)</b>															
Dimethyl Phthalate	3.80E-01	1.63E-07	1.16E-08	3.71E-07	1.33E-07			--		--				[D]	
Fluoranthene	2.26E-01	9.67E-08	6.91E-09	2.21E-07	7.89E-08	2.42E-06	5.52E-06	0.0%	kidney, liver, blood	3000				[D]	
Pyrene	2.21E-01	9.48E-08	6.77E-09	2.17E-07	7.73E-08	3.16E-06	7.22E-06	0.0%	kidney	3000				[D]	
Toluene	2.25E-03	9.63E-10	6.88E-11	2.20E-09	7.85E-10	4.82E-09	1.10E-08	0.0%	liver, kidney	1000				[D]	
Trichlorofluoromethane	1.16E-02	4.97E-09	3.55E-10	1.13E-08	4.05E-09	1.66E-08	3.78E-08	0.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						8.86E-03	2.02E-02	100.0%							
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%			

**Table L-26. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current/Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates											
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE				
						(CTE)	(RME)										
<i>INORGANICS (mg/kg)</i>																	
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS				--	--			--				
Manganese	4.96E+02	No ABS	No ABS	No ABS	No ABS				CNS	1			[D]				
<i>ORGANICS (mg/kg)</i>																	
Dimethyl Phthalate	3.80E-01	No ABS	No ABS	No ABS	No ABS				--	--			[D]				
Fluoranthene	2.26E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000			[D]				
Pyrene	2.21E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000			[D]				
Toluene	2.25E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000			[D]				
Trichlorofluoromethane	1.16E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000			--				
Chemical hazards combined exposure:																	
Hazard index (HI):						0.00E+00			0.00E+00			0.0%					
Excess lifetime cancer risk:											0.00E+00			0.00E+00		0.0%	

Table L-27. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dust Inhalation Exposure (Current/Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ			(CTE)	(RME)		
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Magnesium	1.85E-05	3.17E-06	2.27E-07	3.62E-06	1.29E-06				--					--
Manganese	5.75E-07	9.86E-08	7.04E-09	1.13E-07	4.02E-08	6.90E-03	7.88E-03	100.0%	CNS	1				{D}
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Dimethyl Phthalate	4.40E-10	7.55E-11	5.39E-12	8.62E-11	3.08E-11				--					{D}
Fluoranthene	2.62E-10	4.49E-11	3.21E-12	5.12E-11	1.83E-11				kidney, liver, blood	3000				{D}
Pyrene	2.57E-10	4.40E-11	3.14E-12	5.02E-11	1.79E-11				kidney	3000				{D}
Toluene	2.61E-12	4.47E-13	3.19E-14	5.10E-13	1.82E-13	3.91E-12	4.46E-12	0.0%	liver, kidney	1000				{D}
Trichlorofluoromethane	1.34E-11	2.30E-12	1.65E-13	2.63E-12	9.40E-13	1.15E-11	1.32E-11	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						6.90E-03	7.88E-03	100.0%						
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%	

**Table L-28. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Volatile Inhalation Exposure (Current/Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC	Non Ca	Ca	Non Ca	Ca	Noncarcinogenic Effects		Percent		EPA	Excess Lifetime	Percent
	Conc.	Effects	Effects	Effects	Effects	(CDI/RfD)	(RfD)	of Total		UF	Cancer Risk	of Total
in Air	(CTE)	(CTE)	(RME)	(RME)	(RME)	(CTE)	(RME)	(RME)		(CDI x CSF)	Ca Risk	EPA
										(CTE)	(RME)	WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>												
Dimethyl Phthalate	2.48E-06	4.26E-07	3.04E-08	4.86E-07	1.74E-07				--	--		[D]
Fluoranthene	4.65E-08	7.96E-09	5.69E-10	9.09E-09	3.25E-09				kidney, liver, blood	3000		[D]
Pyrene	4.88E-08	8.36E-09	5.97E-10	9.55E-09	3.41E-09				kidney	3000		[D]
Toluene	6.24E-08	1.07E-08	7.64E-10	1.22E-08	4.36E-09	9.36E-08	1.07E-07	8.4%	liver, kidney	1000		[D]
Trichlorofluoromethane	1.19E-06	2.04E-07	1.46E-08	2.33E-07	8.33E-08	1.02E-06	1.17E-06	91.6%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						1.11E-06	1.27E-06	100.0%				
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%	



Table L-29. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Magnesium	1.60E+04	6.82E-02	2.68E-03	2.04E-01	2.50E-02				--			--
Manganese	4.96E+02	2.12E-03	8.32E-05	6.34E-03	7.76E-04	8.83E-02	2.64E-01	99.9%	CNS	1		[D]
<i>ORGANICS (mg/kg)</i>												
Dimethyl Phthalate	3.80E-01	1.62E-06	6.37E-08	4.85E-06	5.94E-07				--			[D]
Fluoranthene	2.26E-01	9.64E-07	3.79E-08	2.88E-06	3.53E-07	2.41E-05	7.21E-05	0.0%	kidney, liver, blood	3000		[D]
Pyrene	2.21E-01	9.46E-07	3.72E-08	2.83E-06	3.46E-07	3.15E-05	9.43E-05	0.0%	kidney	3000		[D]
Toluene	2.25E-03	9.61E-09	3.77E-10	2.87E-08	3.52E-09	4.80E-08	1.44E-07	0.0%	liver, kidney	1000		[D]
Trichlorofluoromethane	1.16E-02	4.95E-08	1.95E-09	1.48E-07	1.81E-08	1.65E-07	4.94E-07	0.0%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						8.83E-02	2.64E-01	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

Table L-30. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates						
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE			
<i>INORGANICS (mg/kg)</i>																
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS				--			--				
Manganese	4.96E+02	No ABS	No ABS	No ABS	No ABS				CNS			1				
<i>ORGANICS (mg/kg)</i>																
Dimethyl Phthalate	3.80E-01	No ABS	No ABS	No ABS	No ABS				--			--				
Fluoranthene	2.26E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood			3000				
Pyrene	2.21E-01	No ABS	No ABS	No ABS	No ABS				kidney			3000				
Toluene	2.25E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney			1000				
Trichlorofluoromethane	1.16E-02	No ABS	No ABS	No ABS	No ABS				whole body			1000				
Chemical hazards combined exposure:																
Hazard index (HI):						0.00E+00			0.00E+00				0.0%			
Excess lifetime cancer risk:										0.00E+00			0.00E+00		0.0%	

Table L-31. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dust Inhalation Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II REI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Magnesium	1.85E-05	7.91E-06	5.65E-07	1.18E-05	2.75E-06				--	--			--
Manganese	5.75E-07	2.46E-07	1.76E-08	3.68E-07	8.55E-08	1.72E-02	2.57E-02	100.0%	CNS	1			[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Dimethyl Phthalate	4.40E-10	1.88E-10	1.34E-11	2.82E-10	6.55E-11				--	--			[D]
Fluoranthene	2.62E-10	1.12E-10	7.99E-12	1.67E-10	3.89E-11				kidney, liver, blood	3000			[D]
Pyrene	2.57E-10	1.10E-10	7.84E-12	1.64E-10	3.82E-11				kidney	3000			[D]
Toluene	2.61E-12	1.11E-12	7.96E-14	1.67E-12	3.88E-13	9.75E-12	1.46E-11	0.0%	liver, kidney	1000			[D]
Trichlorofluoromethane	1.34E-11	5.75E-12	4.10E-13	8.59E-12	2.00E-12	2.87E-11	4.30E-11	0.0%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						1.72E-02	2.57E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-32. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Dimethyl Phthalate	2.48E-06	1.06E-06	7.59E-08	1.59E-06	3.70E-07				--	--			[D]	
Fluoranthene	4.65E-08	1.99E-08	1.42E-09	2.97E-08	6.91E-09				kidney, liver, blood	3000			[D]	
Pyrene	4.88E-08	2.08E-08	1.49E-09	3.12E-08	7.25E-09				kidney	3000			[D]	
Toluene	6.24E-08	2.67E-08	1.91E-09	3.99E-08	9.28E-09	2.33E-07	3.49E-07	8.4%	liver, kidney	1000			[D]	
Trichlorofluoromethane	1.19E-06	5.09E-07	3.64E-08	7.62E-07	1.77E-07	2.55E-06	3.81E-06	91.6%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						2.78E-06	4.16E-06	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-33. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDD)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>INORGANICS (mg/kg)</b>												
Magnesium	1.60E+04	7.31E-03	2.68E-03	2.19E-02	2.50E-02				--			--
Manganese	4.96E+02	2.27E-04	8.32E-05	6.79E-04	7.76E-04	9.46E-03	2.83E-02	99.9%	CNS	1		[D]
<b>ORGANICS (mg/kg)</b>												
Dimethyl Phthalate	3.80E-01	1.74E-07	6.37E-08	5.20E-07	5.94E-07				--			[D]
Fluoranthene	2.26E-01	1.03E-07	3.79E-08	3.09E-07	3.53E-07	2.58E-06	7.73E-06	0.0%	kidney, liver, blood	3000		[D]
Pyrene	2.21E-01	1.01E-07	3.72E-08	3.03E-07	3.46E-07	3.38E-06	1.01E-05	0.0%	kidney	3000		[D]
Toluene	2.25E-03	1.03E-09	3.77E-10	3.08E-09	3.52E-09	5.15E-09	1.54E-08	0.0%	liver, kidney	1000		[D]
Trichlorofluoromethane	1.16E-02	5.31E-09	1.95E-09	1.59E-08	1.81E-08	1.77E-08	5.29E-08	0.0%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						9.46E-03	2.83E-02	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-34. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)			
<i>INORGANICS (mg/kg)</i>														
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS			--		--				--
Manganese	4.96E+02	No ABS	No ABS	No ABS	No ABS			CNS		1				[D]
<i>ORGANICS (mg/kg)</i>														
Dimethyl Phthalate	3.80E-01	No ABS	No ABS	No ABS	No ABS			--		--				[D]
Fluoranthene	2.26E-01	No ABS	No ABS	No ABS	No ABS			kidney, liver, blood		3000				[D]
Pyrene	2.21E-01	No ABS	No ABS	No ABS	No ABS			kidney		3000				[D]
Toluene	2.25E-03	No ABS	No ABS	No ABS	No ABS			liver, kidney		1000				[D]
Trichlorofluoromethane	1.16E-02	No ABS	No ABS	No ABS	No ABS			whole body		1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00   0.00E+00   0.0%								
Excess lifetime cancer risk:										0.00E+00   0.00E+00   0.0%				

Table L-35. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dust Inhalation Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>INORGANICS (mg/m<sup>3</sup>)</b>												
Magnesium	1.85E-05	3.39E-06	5.65E-07	5.07E-06	2.75E-06				--			--
Manganese	5.75E-07	1.05E-07	1.76E-08	1.58E-07	8.55E-08	7.37E-03	1.10E-02	100.0%	CNS	1		[D]
<b>ORGANICS (mg/m<sup>3</sup>)</b>												
Dimethyl Phthalate	4.40E-10	8.07E-11	1.34E-11	1.21E-10	6.55E-11				--			[D]
Fluoranthene	2.62E-10	4.79E-11	7.99E-12	7.17E-11	3.89E-11				kidney, liver, blood	3000		[D]
Pyrene	2.57E-10	4.70E-11	7.84E-12	7.03E-11	3.82E-11				kidney	3000		[D]
Toluene	2.61E-12	4.78E-13	7.96E-14	7.14E-13	3.88E-13	4.18E-12	6.25E-12	0.0%	liver, kidney	1000		[D]
Trichlorofluoromethane	1.34E-11	2.46E-12	4.10E-13	3.68E-12	2.00E-12	1.23E-11	1.84E-11	0.0%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						7.37E-03	1.10E-02	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-36. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)		
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
Dimethyl Phthalate	2.48E-06	4.55E-07	7.59E-08	6.81E-07	3.70E-07				--	--			[D]	
Fluoranthene	4.65E-08	8.51E-09	1.42E-09	1.27E-08	6.91E-09				kidney, liver, blood	3000			[D]	
Pyrene	4.88E-08	8.93E-09	1.49E-09	1.34E-08	7.25E-09				kidney	3000			[D]	
Toluene	6.24E-08	1.14E-08	1.91E-09	1.71E-08	9.28E-09	1.00E-07	1.50E-07	8.4%	liver, kidney	1000			[D]	
Trichlorofluoromethane	1.19E-06	2.18E-07	3.64E-08	3.26E-07	1.77E-07	1.09E-06	1.63E-06	91.6%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						1.19E-06	1.78E-06	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		



Table L-37. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Magnesium	1.60E+04	8.99E-03	2.57E-04	1.50E-02	1.07E-03				--			--
Manganese	4.96E+02	2.79E-04	7.98E-06	4.66E-04	3.33E-05	1.16E-02	1.94E-02	100.0%	CNS	1		[D]
<i>ORGANICS (mg/kg)</i>												
Dimethyl Phthalate	3.80E-01	2.14E-07	6.11E-09	3.57E-07	2.55E-08				--			[D]
Fluoranthene	2.26E-01	1.27E-07	3.63E-09	2.12E-07	1.51E-08	3.18E-07	5.30E-07	0.0%	kidney, liver, blood	3000		[D]
Pyrene	2.21E-01	1.25E-07	3.56E-09	2.08E-07	1.48E-08	4.16E-07	6.93E-07	0.0%	kidney	3000		[D]
Toluene	2.25E-03	1.27E-09	3.62E-11	2.11E-09	1.51E-10	6.33E-10	1.06E-09	0.0%	liver, kidney	1000		[D]
Trichlorofluoromethane	1.16E-02	6.53E-09	1.87E-10	1.09E-08	7.77E-10	9.33E-09	1.55E-08	0.0%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						1.16E-02	1.94E-02	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-38. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates							
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE		
						(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)			
<i>INORGANICS (mg/kg)</i>																
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS				--	--				--		
Manganese	4.96E+02	No ABS	No ABS	No ABS	No ABS				CNS	1				[D]		
<i>ORGANICS (mg/kg)</i>																
Dimethyl Phthalate	3.80E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]		
Fluoranthene	2.26E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000				[D]		
Pyrene	2.21E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000				[D]		
Toluene	2.25E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000				[D]		
Trichlorofluoromethane	1.16E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000				--		
Chemical hazards combined exposure:																
Hazard index (HI):						0.00E+00			0.00E+00			0.0%				
Excess lifetime cancer risk:										0.00E+00			0.00E+00		0.0%	

Table L-39. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dust Inhalation Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Magnesium	1.85E-05	5.22E-07	1.49E-08	8.69E-07	6.21E-08				--	--			--
Manganese	5.75E-07	1.62E-08	4.63E-10	2.70E-08	1.93E-09	1.13E-03	1.89E-03	100.0%	CNS	1			[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Dimethyl Phthalate	4.40E-10	1.24E-11	3.55E-13	2.07E-11	1.48E-12				--	--			[D]
Fluoranthene	2.62E-10	7.38E-12	2.11E-13	1.23E-11	8.78E-13				kidney, liver, blood	3000			[D]
Pyrene	2.57E-10	7.23E-12	2.07E-13	1.21E-11	8.61E-13				kidney	3000			[D]
Toluene	2.61E-12	7.35E-14	2.10E-15	1.22E-13	8.75E-15	6.43E-13	1.07E-12	0.0%	liver, kidney	1000			[D]
Trichlorofluoromethane	1.34E-11	3.79E-13	1.08E-14	6.31E-13	4.51E-14	1.89E-13	3.16E-13	0.0%	whole body	1000			--

Chemical hazards combined exposure:

Hazard index (HI):

1.13E-03	1.89E-03	100.0%
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Excess lifetime cancer risk:

0.00E+00	0.00E+00	0.0%
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**Table L-40. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Dimethyl Phthalate	2.48E-06	7.00E-08	2.00E-09	1.17E-07	8.34E-09				--	--			[D]	
Fluoranthene	4.65E-08	1.31E-09	3.74E-11	2.18E-09	1.56E-10				kidney, liver, blood	3000			[D]	
Pyrene	4.88E-08	1.37E-09	3.93E-11	2.29E-09	1.64E-10				kidney	3000			[D]	
Toluene	6.24E-08	1.76E-09	5.02E-11	2.93E-09	2.09E-10	1.54E-08	2.56E-08	47.8%	liver, kidney	1000			[D]	
Trichlorofluoromethane	1.19E-06	3.36E-08	9.59E-10	5.60E-08	4.00E-09	1.68E-08	2.80E-08	52.2%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						3.22E-08	5.36E-08	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-41. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Lead	4.40E+01	1.88E-04	7.38E-06	5.62E-04	6.89E-05				CNS, blood				
Magnesium	1.60E+04	6.83E-02	2.68E-03	2.04E-01	2.50E-02				..			[B2]	
<i>ORGANICS (mg/kg)</i>													
Toluene	1.24E-03	5.30E-09	2.08E-10	1.59E-08	1.94E-09	2.65E-08	7.93E-08	10.2%	liver, kidney	1000		[D]	
Trichlorofluoromethane	1.64E-02	6.99E-08	2.75E-09	2.09E-07	2.56E-08	2.33E-07	6.97E-07	89.8%	whole body	1000		..	
Chemical hazards combined exposure:													
Hazard index (HI):						2.60E-07	7.76E-07	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-42. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)				HQ			Risk estimates						
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)	HQ Percent of Total	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)			(RME)	(CTE)			(RME)
<i>INORGANICS (mg/kg)</i>														
Lead	4.40E+01	No ABS	No ABS	No ABS	No ABS			CNS, blood	--				[B2]	
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS			--	--				--	
<i>ORGANICS (mg/kg)</i>														
Toluene	1.24E-03	No ABS	No ABS	No ABS	No ABS			liver, kidney	1000				[D]	
Trichlorofluoromethane	1.64E-02	No ABS	No ABS	No ABS	No ABS			whole body	1000				--	
Chemical hazards combined exposure:														
Hazard index (HI):					0.00E+00   0.00E+00   0.0%									
Excess lifetime cancer risk:									0.00E+00   0.00E+00   0.0%					

**Table L-43. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dust Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
						Noncarcinogenic Effects (CDI/RID) (CTE) (RME)	Percent of Total (RME)						
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Lead	5.10E-08	2.18E-08	1.56E-09	3.26E-08	7.59E-09				CNS, blood	--			[B2]
Magnesium	1.85E-05	7.93E-06	5.66E-07	1.19E-05	2.76E-06				--	--			--
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Toluene	1.44E-12	6.15E-13	4.40E-14	9.20E-13	2.14E-13	5.38E-12	8.05E-12	11.7%	liver, kidney	1000			[D]
Trichlorofluoromethane	1.90E-11	8.11E-12	5.79E-13	1.21E-11	2.82E-12	4.06E-11	6.07E-11	88.3%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						4.59E-11	6.87E-11	100.0%					
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%		

**Table L-44. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
						Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)						
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Toluene	3.45E-08	1.47E-08	1.05E-09	2.20E-08	5.13E-09	1.29E-07	1.93E-07	3.5%	liver, kidney	1000			[D]
Trichlorofluoromethane	1.68E-06	7.19E-07	5.13E-08	1.08E-06	2.50E-07	3.59E-06	5.38E-06	96.5%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						3.72E-06	5.57E-06	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	



**Table L-45. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates						
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/kg)</b>												
Lead	4.40E+01	2.01E-05	7.38E-06	6.02E-05	6.89E-05			CNS, blood	--			[B2]
Magnesium	1.60E+04	7.32E-03	2.68E-03	2.19E-02	2.50E-02			--	--			--
<b>ORGANICS (mg/kg)</b>												
Toluene	1.24E-03	5.68E-10	2.08E-10	1.70E-09	1.94E-09	2.84E-09	8.50E-09	10.2%	liver, kidney	1000		[D]
Trichlorofluoromethane	1.64E-02	7.49E-09	2.75E-09	2.24E-08	2.56E-08	2.50E-08	7.47E-08	89.8%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						2.78E-08	8.32E-08	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-46. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. In Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>													
Lead	4.40E+01	No ABS	No ABS	No ABS	No ABS			CNS, blood	--		[B2]		
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS			--	--		--		
<i>ORGANICS (mg/kg)</i>													
Toluene	1.24E-03	No ABS	No ABS	No ABS	No ABS			liver, kidney	1000		[D]		
Trichlorofluoromethane	1.64E-02	No ABS	No ABS	No ABS	No ABS			whole body	1000		--		
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00			0.00E+00			0.0%	
Excess lifetime cancer risk:						0.00E+00			0.00E+00			0.0%	

**Table L-47. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dust Inhalation Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Lead	5.10E-08	9.35E-09	1.56E-09	1.40E-08	7.59E-09				CNS, blood	--			[B2]
Magnesium	1.85E-05	3.40E-06	5.66E-07	5.08E-06	2.76E-06				--	--			--
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Toluene	1.44E-12	2.64E-13	4.40E-14	3.94E-13	2.14E-13	2.31E-12	3.45E-12	11.7%	liver, kidney	1000			[D]
Trichlorofluoromethane	1.90E-11	3.48E-12	5.79E-13	5.20E-12	2.82E-12	1.74E-11	2.60E-11	88.3%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						1.97E-11	2.94E-11	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-48. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	
<b>ORGANICS (mg/m<sup>3</sup>)</b>													
Toluene	3.45E-08	6.31E-09	1.05E-09	9.44E-09	5.13E-09	5.52E-08	8.26E-08	3.5%	liver, kidney	1000		[D]	
Trichlorofluoromethane	1.68E-06	3.08E-07	5.13E-08	4.61E-07	2.50E-07	1.54E-06	2.30E-06	96.5%	whole body	1000		--	

Chemical hazards combined exposure:

Hazard index (HI):

1.60E-06	2.39E-06	100.0%
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Excess lifetime cancer risk:

0.00E+00	0.00E+00	0.0%
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**Table L-49. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>														
Lead	4.40E+01	2.48E-05	7.08E-07	4.13E-05	2.95E-06				CNS, blood	--				[B2]
Magnesium	1.60E+04	9.01E-03	2.57E-04	1.50E-02	1.07E-03				--	--				--
<i>ORGANICS (mg/kg)</i>														
Toluene	1.24E-03	7.00E-10	2.00E-11	1.17E-09	8.33E-11	3.50E-10	5.83E-10	2.6%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.64E-02	9.22E-09	2.63E-10	1.54E-08	1.10E-09	1.32E-08	2.19E-08	97.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.35E-08	2.25E-08	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-50. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
	<b>INORGANICS (mg/kg)</b>												
Lead	4.40E+01	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[B2]
Magnesium	1.60E+04	No ABS	No ABS	No ABS	No ABS				--	--			--
<b>ORGANICS (mg/kg)</b>													
Toluene	1.24E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000			[D]
Trichlorofluoromethane	1.64E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000			--
<b>Chemical hazards combined exposure:</b>													
Hazard index (HI):						0.00E+00	0.00E+00	0.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-51. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dust Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Lead	5.10E-08	1.44E-09	4.11E-11	2.40E-09	1.71E-10				CNS, blood	--				[B2]
Magnesium	1.85E-05	5.23E-07	1.49E-08	8.71E-07	6.22E-08				--	--				--
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	1.44E-12	4.06E-14	1.16E-15	6.76E-14	4.83E-15	3.55E-13	5.92E-13	57.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.90E-11	5.35E-13	1.53E-14	8.91E-13	6.37E-14	2.67E-13	4.46E-13	43.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						6.22E-13   1.04E-12   100.0%								
Excess lifetime cancer risk:										0.00E+00   0.00E+00   0.0%				

**Table L-52. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	3.45E-08	9.71E-10	2.77E-11	1.62E-09	1.16E-10	8.50E-09	1.42E-08	26.4%	liver, kidney	1000			[D]	
Trichlorofluoromethane	1.68E-06	4.74E-08	1.35E-09	7.90E-08	5.64E-09	2.37E-08	3.95E-08	73.6%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						3.22E-08	5.37E-08	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		



Table L-53. Risk Characterization for Groundwater: Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)			
<b>INORGANICS (µg/L)</b>														
Aluminum	7.81E+03	3.34E-01	1.95E-02	4.99E-01	1.16E-01	3.34E-01	4.99E-01	1.4%	CNS	100				--
Antimony	2.41E+01	1.03E-03	6.03E-05	1.54E-03	3.59E-04	2.58E+00	3.85E+00	10.4%	blood/circulatory system	1000				--
Arsenic	2.71E+01	1.16E-03	6.78E-05	1.73E-03	4.03E-04	3.86E+00	5.77E+00	15.6%	skin	3	1.02E-04	6.04E-04	99.8%	[A]
Calcium	3.33E+05	1.43E+01	8.35E-01	2.13E+01	4.96E+00	--	--	--	--	--				--
Chloride	7.02E+06	3.00E+02	1.76E+01	4.48E+02	1.04E+02	--	--	--	--	--				--
Chromium (III)	1.77E+01	7.58E-04	4.44E-05	1.13E-03	2.64E-04	5.06E-04	7.56E-04	0.0%	none	100				[D]
Chromium (VI)	2.96E+00	1.26E-04	7.40E-06	1.89E-04	4.40E-05	4.21E-02	6.30E-02	0.2%	none	300				[A]
Iron	9.83E+03	4.20E-01	2.46E-02	6.29E-01	1.46E-01	1.40E+00	2.10E+00	5.7%	--	1				--
Lead	2.11E+01	9.04E-04	5.29E-05	1.35E-03	3.14E-04	--	--	--	CNS, blood	--				[B2]
Magnesium	4.49E+05	1.92E+01	1.12E+00	2.87E+01	6.68E+00	--	--	--	--	--				--
Manganese	1.87E+02	8.01E-03	4.69E-04	1.20E-02	2.79E-03	3.34E-01	4.99E-01	1.3%	CNS	1				[D]
Mercury	1.65E-01	7.06E-06	4.14E-07	1.06E-05	2.46E-06	2.35E-02	3.52E-02	0.1%	kidney	--				[D]
Nickel	2.97E+01	1.27E-03	7.43E-05	1.90E-03	4.41E-04	6.34E-02	9.49E-02	0.3%	whole body	300				--
Potassium	2.93E+04	1.25E+00	7.34E-02	1.88E+00	4.36E-01	--	--	--	--	--				--
Selenium	1.98E+01	8.48E-04	4.97E-05	1.27E-03	2.95E-04	1.70E-01	2.54E-01	0.7%	whole body	3				[D]
Sodium	1.69E+06	7.24E+01	4.24E+00	1.08E+02	2.52E+01	--	--	--	--	--				--
Sulfate	8.40E+05	3.59E+01	2.10E+00	5.37E+01	1.25E+01	--	--	--	--	--				--
Thallium	2.93E+01	1.25E-03	7.34E-05	1.88E-03	4.36E-04	1.57E+01	2.34E+01	63.4%	liver, blood	3000				[D]
Vanadium	1.85E+01	7.90E-04	4.63E-05	1.18E-03	2.75E-04	8.78E-02	1.31E-01	0.4%	none	100				--
<b>ORGANICS (µg/L)</b>														
2,4,6-Trinitrotoluene	1.69E+00	7.22E-05	4.23E-06	1.08E-04	2.51E-05	1.44E-01	2.16E-01	0.6%	liver	1000	1.27E-07	7.54E-07	0.1%	[C]
Butyl Benzyl Phthalate	4.66E+00	1.99E-04	1.17E-05	2.98E-04	6.93E-05	9.96E-04	1.49E-03	0.0%	liver	1000				[C]
Chloroform	8.21E-01	3.51E-05	2.06E-06	5.25E-05	1.22E-05	3.51E-03	5.25E-03	0.0%	liver	1000	1.25E-08	7.45E-08	0.0%	[B2]
Dimethyl Phthalate	8.32E+01	3.56E-03	2.08E-04	5.32E-03	1.24E-03	--	--	--	--	--				[D]
Methylene Chloride	2.72E+00	1.16E-04	6.81E-06	1.74E-04	4.05E-05	1.94E-03	2.90E-03	0.0%	liver	100	5.11E-08	3.04E-07	0.1%	[B2]
di-N-Butyl Phthalate	2.09E+00	8.94E-05	5.24E-06	1.34E-04	3.11E-05	8.94E-04	1.34E-03	0.0%	--	1000				[D]

Chemical hazards combined exposure:

Hazard index (HI):

2.47E+01 3.70E+01 100.0%

Excess lifetime cancer risk:

1.02E-04 6.05E-04 100.0%

**Table L-54. Risk Characterization for Groundwater: Residential Children - Dermal Contact Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ						
						Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)							
<b>INORGANICS (µg/L)</b>														
Aluminum	7.81E+03	3.96E-04	3.56E-05	1.00E-03	2.97E-04	3.96E-04	1.00E-03	1.3%	CNS	100			--	
Antimony	2.41E+01	1.22E-06	1.10E-07	3.09E-06	9.16E-07	3.06E-03	7.72E-03	10.2%	blood/circulatory system	1000			--	
Arsenic	2.71E+01	1.37E-06	1.24E-07	3.47E-06	1.03E-06	4.58E-03	1.16E-02	15.3%	skin	3	1.85E-07	1.54E-06	99.3%	[A]
Calcium	3.33E+05	1.69E-02	1.52E-03	4.27E-02	1.27E-02	--	--	--	--	--			--	
Chloride	7.02E+06	3.56E-01	3.20E-02	8.99E-01	2.67E-01	--	--	--	--	--			--	
Chromium (III)	1.77E+01	9.00E-07	8.10E-08	2.27E-06	6.74E-07	6.00E-07	1.52E-06	0.0%	none	100			[D]	
Chromium (VI)	2.96E+00	1.50E-07	1.35E-08	3.79E-07	1.12E-07	5.00E-05	1.26E-04	0.2%	none	300			[A]	
Iron	9.83E+03	4.99E-04	4.49E-05	1.26E-03	3.74E-04	1.66E-03	4.20E-03	5.6%	--	1			--	
Lead	2.11E+01	1.07E-06	9.65E-08	2.71E-06	8.03E-07	--	--	--	CNS, blood	--			[B2]	
Magnesium	4.49E+05	2.28E-02	2.05E-03	5.75E-02	1.71E-02	--	--	--	--	--			--	
Manganese	1.87E+02	9.50E-06	8.55E-07	2.40E-05	7.12E-06	3.96E-04	1.00E-03	1.3%	CNS	1			[D]	
Mercury	1.65E-01	8.38E-09	7.54E-10	2.12E-08	6.28E-09	2.79E-05	7.06E-05	0.1%	kidney	--			[D]	
Nickel	2.97E+01	1.51E-06	1.35E-07	3.80E-06	1.13E-06	7.53E-05	1.90E-04	0.3%	whole body	300			--	
Potassium	2.93E+04	1.49E-03	1.34E-04	3.76E-03	1.11E-03	--	--	--	--	--			--	
Selenium	1.98E+01	1.01E-06	9.06E-08	2.54E-06	7.54E-07	2.01E-04	5.09E-04	0.7%	whole body	3			[D]	
Sodium	1.69E+06	8.59E-02	7.73E-03	2.17E-01	6.43E-02	--	--	--	--	--			--	
Sulfate	8.40E+05	4.26E-02	3.83E-03	1.08E-01	3.19E-02	--	--	--	--	--			--	
Thallium	2.93E+01	1.49E-06	1.34E-07	3.76E-06	1.11E-06	1.86E-02	4.70E-02	62.3%	liver, blood	3000			[D]	
Vanadium	1.85E+01	9.37E-07	8.43E-08	2.37E-06	7.02E-07	1.04E-04	2.63E-04	0.3%	none	100			--	
<b>ORGANICS (µg/L)</b>														
2,4,6-Trinitrotoluene	1.69E+00	2.66E-07	2.39E-08	6.72E-07	1.99E-07	5.32E-04	1.34E-03	1.8%	liver	1000	7.18E-10	5.98E-09	0.4%	[C]
Butyl Benzyl Phthalate	4.66E+00	1.39E-05	1.25E-06	3.50E-05	1.04E-05	6.93E-05	1.75E-04	0.2%	liver	1000				[C]
Chloroform	8.21E-01	3.71E-07	3.33E-08	9.37E-07	2.78E-07	3.71E-05	9.37E-05	0.1%	liver	1000	2.03E-10	1.69E-09	0.1%	[B2]
Dimethyl Phthalate	8.32E+01	6.75E-06	6.08E-07	1.71E-05	5.06E-06	--	--	--	--	--				[D]
Methylene Chloride	2.72E+00	6.21E-07	5.59E-08	1.57E-06	4.65E-07	1.04E-05	2.62E-05	0.0%	liver	100	4.19E-10	3.49E-09	0.2%	[B2]
di-N-Butyl Phthalate	2.09E+00	3.50E-06	3.15E-07	8.85E-06	2.62E-06	3.50E-05	8.85E-05	0.1%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.98E-02	7.54E-02	100.0%						
Excess lifetime cancer risk:											1.87E-07	1.55E-06	100.0%	

**Table L-55. Risk Characterization for Groundwater: Residential Children - Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>ORGANICS (µg/m<sup>3</sup>)</i>														
Chloroform	4.11E-01	1.64E-05	8.22E-07	4.92E-05	7.83E-06	1.91E-01	5.72E-01	100.0%	liver	1000	6.62E-08	6.31E-07	93.7%	[B2]
Methylene Chloride	1.36E+00	5.45E-05	2.73E-06	1.63E-04	2.60E-05	6.36E-05	1.90E-04	0.0%	liver	100	4.49E-09	4.27E-08	6.3%	[B2]
Chemical hazards combined exposure:						1.91E-01			5.72E-01			100.0%		
Hazard index (HI):														
Excess lifetime cancer risk:												7.07E-08		
												6.73E-07		
												100.0%		

**Table L-56. Risk Characterization for Groundwater: Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)		
<b>INORGANICS (µg/L)</b>														
Aluminum	7.81E+03	1.00E-01	1.95E-02	2.14E-01	1.16E-01	1.00E-01	2.14E-01	1.4%	CNS	100				--
Antimony	2.41E+01	3.09E-04	6.03E-05	6.60E-04	3.59E-04	7.73E-01	1.65E+00	10.4%	blood/circulatory system	1000				--
Arsenic	2.71E+01	3.47E-04	6.78E-05	7.42E-04	4.03E-04	1.16E+00	2.47E+00	15.6%	skin	3	1.02E-04	6.04E-04	99.8%	[A]
Calcium	3.33E+05	4.28E+00	8.35E-01	9.14E+00	4.96E+00				--	--				--
Chloride	7.02E+06	9.00E+01	1.76E+01	1.92E+02	1.04E+02				--	--				--
Chromium (III)	1.77E+01	2.28E-04	4.44E-05	4.86E-04	2.64E-04	1.52E-04	3.24E-04	0.0%	none	100				[D]
Chromium (VI)	2.96E+00	3.79E-05	7.40E-06	8.10E-05	4.40E-05	1.26E-02	2.70E-02	0.2%	none	300				[A]
Iron	9.83E+03	1.26E-01	2.46E-02	2.69E-01	1.46E-01	4.20E-01	8.98E-01	5.7%	--	1				--
Lead	2.11E+01	2.71E-04	5.29E-05	5.79E-04	3.14E-04				CNS, blood	--				[B2]
Magnesium	4.49E+05	5.76E+00	1.12E+00	1.23E+01	6.68E+00				--	--				--
Manganese	1.87E+02	2.40E-03	4.69E-04	5.13E-03	2.79E-03	1.00E-01	2.14E-01	1.3%	CNS	1				[D]
Mercury	1.65E-01	2.12E-06	4.14E-07	4.53E-06	2.46E-06	7.06E-03	1.51E-02	0.1%	kidney	--				[D]
Nickel	2.97E+01	3.81E-04	7.43E-05	8.13E-04	4.41E-04	1.90E-02	4.07E-02	0.3%	whole body	300				--
Potassium	2.93E+04	3.76E-01	7.34E-02	8.04E-01	4.36E-01				--	--				--
Selenium	1.98E+01	2.55E-04	4.97E-05	5.44E-04	2.95E-04	5.09E-02	1.09E-01	0.7%	whole body	3				[D]
Sodium	1.69E+06	2.17E+01	4.24E+00	4.64E+01	2.52E+01				--	--				--
Sulfate	8.40E+05	1.08E+01	2.10E+00	2.30E+01	1.25E+01				--	--				--
Thallium	2.93E+01	3.76E-04	7.34E-05	8.04E-04	4.36E-04	4.70E+00	1.00E+01	63.4%	liver, blood	3000				[D]
Vanadium	1.85E+01	2.37E-04	4.63E-05	5.06E-04	2.75E-04	2.63E-02	5.63E-02	0.4%	none	100				--
<b>ORGANICS (µg/L)</b>														
2,4,6-Trinitrotoluene	1.69E+00	2.17E-05	4.23E-06	4.63E-05	2.51E-05	4.33E-02	9.26E-02	0.6%	liver	1000	1.27E-07	7.54E-07	0.1%	[C]
Butyl Benzyl Phthalate	4.66E+00	5.97E-05	1.17E-05	1.28E-04	6.93E-05	2.99E-04	6.38E-04	0.0%	liver	1000				[C]
Chloroform	8.21E-01	1.05E-05	2.06E-06	2.25E-05	1.22E-05	1.05E-03	2.25E-03	0.0%	liver	1000	1.25E-08	7.45E-08	0.0%	[B2]
Dimethyl Phthalate	8.32E+01	1.07E-03	2.08E-04	2.28E-03	1.24E-03				--	--				[D]
Methylene Chloride	2.72E+00	3.49E-05	6.81E-06	7.46E-05	4.05E-05	5.82E-04	1.24E-03	0.0%	liver	100	5.11E-08	3.04E-07	0.1%	[B2]
di-N-Butyl Phthalate	2.09E+00	2.68E-05	5.24E-06	5.73E-05	3.11E-05	2.68E-04	5.73E-04	0.0%	--	1000				[D]
<b>Chemical hazards combined exposure:</b>														
Hazard index (HI):						7.41E+00	1.58E+01	100.0%						
Excess lifetime cancer risk:											1.02E-04	6.05E-04	100.0%	

Table L-57. Risk Characterization for Groundwater: Residential Adults - Dermal Contact Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (µg/L)</b>														
Aluminum	7.81E+03	2.43E-04	3.56E-05	6.15E-04	2.97E-04	2.43E-04	6.15E-04	1.3%	CNS	100				--
Antimony	2.41E+01	7.51E-07	1.10E-07	1.90E-06	9.16E-07	1.88E-03	4.75E-03	10.2%	blood/circulatory system	1000				--
Arsenic	2.71E+01	8.43E-07	1.24E-07	2.13E-06	1.03E-06	2.81E-03	7.11E-03	15.3%	skin	3	1.85E-07	1.54E-06	99.3%	[A]
Calcium	3.33E+05	1.04E-02	1.52E-03	2.63E-02	1.27E-02				--	--				--
Chloride	7.02E+06	2.18E-01	3.20E-02	5.53E-01	2.67E-01				--	--				--
Chromium (III)	1.77E+01	5.53E-07	8.10E-08	1.40E-06	6.74E-07	3.68E-07	9.32E-07	0.0%	none	100				[D]
Chromium (VI)	2.96E+00	9.21E-08	1.35E-08	2.33E-07	1.12E-07	3.07E-05	7.76E-05	0.2%	none	300				[A]
Iron	9.83E+03	3.06E-04	4.49E-05	7.75E-04	3.74E-04	1.02E-03	2.58E-03	5.6%	--	1				--
Lead	2.11E+01	6.58E-07	9.65E-08	1.67E-06	8.03E-07				CNS, blood	--				[B2]
Magnesium	4.49E+05	1.40E-02	2.05E-03	3.54E-02	1.71E-02				--	--				--
Manganese	1.87E+02	5.83E-06	8.55E-07	1.48E-05	7.12E-06	2.43E-04	6.15E-04	1.3%	CNS	1				[D]
Mercury	1.65E-01	5.14E-09	7.54E-10	1.30E-08	6.28E-09	1.71E-05	4.34E-05	0.1%	kidney	--				[D]
Nickel	2.97E+01	9.24E-07	1.35E-07	2.34E-06	1.13E-06	4.62E-05	1.17E-04	0.3%	whole body	300				--
Potassium	2.93E+04	9.14E-04	1.34E-04	2.31E-03	1.11E-03				--	--				--
Selenium	1.98E+01	6.18E-07	9.06E-08	1.56E-06	7.54E-07	1.24E-04	3.13E-04	0.7%	whole body	3				[D]
Sodium	1.69E+06	5.27E-02	7.73E-03	1.33E-01	6.43E-02				--	--				--
Sulfate	8.40E+05	2.62E-02	3.83E-03	6.62E-02	3.19E-02				--	--				--
Thallium	2.93E+01	9.13E-07	1.34E-07	2.31E-06	1.11E-06	1.14E-02	2.89E-02	62.3%	liver, blood	3000				[D]
Vanadium	1.85E+01	5.75E-07	8.43E-08	1.46E-06	7.02E-07	6.39E-05	1.62E-04	0.3%	none	100				--
<b>ORGANICS (µg/L)</b>														
2,4,6-Trinitrotoluene	1.69E+00	1.63E-07	2.39E-08	4.13E-07	1.99E-07	3.27E-04	8.26E-04	1.8%	liver	1000	7.18E-10	5.98E-09	0.4%	[C]
Butyl Benzyl Phthalate	4.66E+00	8.51E-06	1.25E-06	2.15E-05	1.04E-05	4.26E-05	1.08E-04	0.2%	liver	1000				[C]
Chloroform	8.21E-01	2.28E-07	3.33E-08	5.76E-07	2.78E-07	2.28E-05	5.76E-05	0.1%	liver	1000	2.03E-10	1.69E-09	0.1%	[B2]
Dimethyl Phthalate	8.32E+01	4.15E-06	6.08E-07	1.05E-05	5.06E-06				--	--				[D]
Methylene Chloride	2.72E+00	3.81E-07	5.59E-08	9.65E-07	4.65E-07	6.36E-06	1.61E-05	0.0%	liver	100	4.19E-10	3.49E-09	0.2%	[B2]
di-N-Butyl Phthalate	2.09E+00	2.15E-06	3.15E-07	5.44E-06	2.62E-06	2.15E-05	5.44E-05	0.1%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI): <span style="border: 1px solid black; padding: 2px;">1.83E-02</span> <span style="border: 1px solid black; padding: 2px;">4.63E-02</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>														
Excess lifetime cancer risk: <span style="border: 1px solid black; padding: 2px;">1.87E-07</span> <span style="border: 1px solid black; padding: 2px;">1.55E-06</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>														

**Table L-58. Risk Characterization for Groundwater: Residential Adults - Inhalation Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)			
<i>ORGANICS (µg/m<sup>3</sup>)</i>														
Chloroform	4.11E-01	3.52E-06	8.22E-07	1.05E-05	7.83E-06	4.10E-02	1.23E-01	100.0%	liver	1000	6.62E-08	6.31E-07	93.7%	[B2]
Methylene Chloride	1.36E+00	1.17E-05	2.73E-06	3.50E-05	2.60E-05	1.36E-05	4.08E-05	0.0%	liver	100	4.49E-09	4.27E-08	6.3%	[B2]
Chemical hazards combined exposure:						4.10E-02			1.23E-01			100.0%		
Hazard index (HI):														
Excess lifetime cancer risk:									7.07E-08			6.73E-07		100.0%

Table L-59. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)				Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	
<i>INORGANICS (mg/kg)</i>													
Magnesium	1.60E+04	7.67E+00	4.64E-01	1.84E+01	3.58E+00			--	--			--	
Manganese	2.78E+02	1.33E-01	8.07E-03	3.19E-01	6.23E-02	5.56E+00	1.33E+01	100.0%	CNS	1		[D]	
<i>ORGANICS (mg/kg)</i>													
Dimethyl Phthalate	2.96E-04	1.42E-07	8.59E-09	3.40E-07	6.63E-08			0.0%	kidney, liver, blood	3000		[D]	
Fluoranthene	2.86E-08	1.37E-11	8.31E-13	3.29E-11	6.41E-12	3.43E-10	8.22E-10	0.0%	kidney	3000		[D]	
Pyrene	7.66E-06	3.68E-09	2.23E-10	8.81E-09	1.72E-09	1.23E-07	2.94E-07	0.0%	kidney	3000		[D]	
Toluene	1.07E-07	5.16E-11	3.12E-12	1.24E-10	2.41E-11	2.58E-10	6.18E-10	0.0%	liver, kidney	1000		[D]	
Trichlorofluoromethane	4.88E-10	2.34E-13	1.42E-14	5.61E-13	1.09E-13	7.82E-13	1.87E-12	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						5.56E+00	1.33E+01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-60. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)			
						(CTE)	(RME)	(RME)							
<i>INORGANICS (mg/kg)</i>															
Magnesium	8.78E+03	6.84E+00	4.17E-01	1.64E+01	3.22E+00				--		--			--	
Manganese	7.44E+01	5.80E-02	3.53E-03	1.39E-01	2.73E-02	2.42E+00	5.78E+00	99.9%	CNS	1				[D]	
<i>ORGANICS (mg/kg)</i>															
Dimethyl Phthalate	1.77E-04	1.38E-07	8.39E-09	3.30E-07	6.48E-08				--		--			[D]	
Fluoranthene	6.19E-02	4.83E-05	2.94E-06	1.16E-04	2.27E-05	1.21E-03	2.89E-03	0.0%	kidney, liver, blood	3000				[D]	
Pyrene	4.14E-02	3.23E-05	1.97E-06	7.73E-05	1.52E-05	1.08E-03	2.58E-03	0.0%	kidney	3000				[D]	
Toluene	1.03E-03	8.04E-07	4.89E-08	1.92E-06	3.78E-07	4.02E-06	9.62E-06	0.0%	liver, kidney	1000				[D]	
Trichlorofluoromethane	3.00E-03	2.34E-06	1.42E-07	5.60E-06	1.10E-06	7.79E-06	1.87E-05	0.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						2.42E+00	5.79E+00	100.0%							
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%		



Table L-61. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS (mg/kg)</i>													
Magnesium	8.78E+03	6.98E+00	4.24E-01	1.57E+01	3.07E+00				--	--		--	
Manganese	2.48E+01	1.97E-02	1.20E-03	4.42E-02	8.68E-03	8.21E-01	1.84E+00	100.0%	CNS	1		[D]	
<i>ORGANICS (mg/kg)</i>													
Dimethyl Phthalate	1.80E-05	1.43E-08	8.69E-10	3.21E-08	6.30E-09				--	--		[D]	
Fluorethene	7.32E-08	5.82E-11	3.34E-12	1.31E-10	2.56E-11	1.46E-09	3.26E-09	0.0%	kidney, liver, blood	3000		[D]	
Pyrene	1.32E-07	1.05E-10	6.38E-12	2.35E-10	4.62E-11	3.50E-09	7.84E-09	0.0%	kidney	3000		[D]	
Toluene	1.02E-03	8.08E-07	4.91E-08	1.81E-06	3.56E-07	4.04E-06	9.06E-06	0.0%	liver, kidney	1000		[D]	
Trichlorofluoromethane	3.53E-04	2.81E-07	1.71E-08	6.30E-07	1.24E-07	9.36E-07	2.10E-06	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						8.21E-01	1.84E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-62. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS</i> (mg/kg)													
Magnesium	1.60E+04	2.45E+00	4.64E-01	5.86E+00	3.58E+00				--	--		--	
Manganese	2.78E+02	4.26E-02	8.07E-03	1.02E-01	6.23E-02	1.77E+00	4.25E+00	100.0%	CNS	1		[D]	
<i>ORGANICS</i> (mg/kg)													
Dimethyl Phthalate	2.96E-04	4.53E-08	8.59E-09	1.08E-07	6.63E-08				--	--		[D]	
Fluoranthene	2.86E-08	4.38E-12	8.31E-13	1.05E-11	6.41E-12	1.10E-10	2.62E-10	0.0%	kidney, liver, blood	3000		[D]	
Pyrene	7.66E-06	1.17E-09	2.23E-10	2.81E-09	1.72E-09	3.92E-08	9.37E-08	0.0%	kidney	3000		[D]	
Toluene	1.07E-07	1.65E-11	3.12E-12	3.94E-11	2.41E-11	8.23E-11	1.97E-10	0.0%	liver, kidney	1000		[D]	
Trichlorofluoromethane	4.88E-10	7.48E-14	1.42E-14	1.79E-13	1.09E-13	2.49E-13	5.97E-13	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						1.77E+00	4.25E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-63. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)				
<i>INORGANICS (mg/kg)</i>															
Magnesium	8.78E+03	2.21E+00	4.17E-01	5.29E+00	3.22E+00				--	--				--	
Manganese	7.44E+01	1.87E-02	3.53E-03	4.48E-02	2.73E-02	7.80E-01	1.87E+00	99.9%	CNS	1				[D]	
<i>ORGANICS (mg/kg)</i>															
Dimethyl Phthalate	1.77E-04	4.45E-08	8.39E-09	1.06E-07	6.48E-08				--	--				[D]	
Fluoranthene	6.19E-02	1.56E-05	2.94E-06	3.73E-05	2.27E-05	3.90E-04	9.33E-04	0.0%	kidney, liver, blood	3000				[D]	
Pyrene	4.14E-02	1.04E-05	1.97E-06	2.50E-05	1.52E-05	3.48E-04	8.32E-04	0.0%	kidney	3000				[D]	
Toluene	1.03E-03	2.60E-07	4.89E-08	6.21E-07	3.78E-07	1.30E-06	3.11E-06	0.0%	liver, kidney	1000				[D]	
Trichlorofluoromethane	3.00E-03	7.55E-07	1.42E-07	1.81E-06	1.10E-06	2.52E-06	6.02E-06	0.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						7.81E-01			1.87E+00		100.0%				
Excess lifetime cancer risk:										0.00E+00		0.00E+00		0.0%	

Table L-64. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>INORGANICS (mg/kg)</b>												
Magnesium	8.78E+03	2.25E+00	4.24E-01	5.05E+00	3.07E+00							
Manganese	2.48E+01	6.36E-03	1.20E-03	1.43E-02	8.68E-03	2.65E-01	5.94E-01	100.0%	CNS	--		--
<b>ORGANICS (mg/kg)</b>												
Dimethyl Phthalate	1.80E-05	4.61E-09	8.69E-10	1.03E-08	6.30E-09				--			
Fluoranthene	7.32E-08	1.88E-11	3.54E-12	4.21E-11	2.56E-11	4.69E-10	1.05E-09	0.0%	kidney, liver, blood	--		[D]
Pyrene	1.32E-07	3.38E-11	6.38E-12	7.59E-11	4.62E-11	1.13E-09	2.53E-09	0.0%	kidney	3000		[D]
Toluene	1.02E-03	2.61E-07	4.91E-08	5.85E-07	3.56E-07	1.30E-06	2.92E-06	0.0%	liver, kidney	1000		[D]
Trichlorofluoromethane	3.53E-04	9.06E-08	1.71E-08	2.03E-07	1.24E-07	3.02E-07	6.78E-07	0.0%	whole body	1000		[D]
										1000		--
Chemical hazards combined exposure:												
Hazard index (HI):												
						2.65E-01	5.94E-01	100.0%				
Excess lifetime cancer risk:												
						0.00E+00	0.00E+00	0.0%				

**Table L-65. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Lead	2.55E-01	1.23E-04	7.42E-06	2.94E-04	5.73E-05				CNS, blood	--		[B2]
Magnesium	1.60E+04	7.69E+00	4.65E-01	1.84E+01	3.59E+00				--	--		--
<i>ORGANICS (mg/kg)</i>												
Toluene	5.93E-08	2.85E-11	1.72E-12	6.82E-11	1.33E-11	1.43E-10	3.41E-10	99.2%	liver, kidney	1000		[D]
Trichlorofluoromethane	6.88E-10	3.31E-13	2.00E-14	7.92E-13	1.55E-13	1.10E-12	2.64E-12	0.8%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						1.44E-10	3.44E-10	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-66. Risk Characterization for Tuberos Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Lead	1.41E-01	1.10E-04	6.68E-06	2.63E-04	5.16E-05				CNS, blood					[B2]
Magnesium	8.79E+03	6.86E+00	4.17E-01	1.64E+01	3.22E+00				--					--
<i>ORGANICS (mg/kg)</i>														
Toluene	5.69E-04	4.44E-07	2.70E-08	1.06E-06	2.09E-07	2.22E-06	5.31E-06	16.8%	liver, kidney	1000				[D]
Trichlorofluoromethane	4.23E-03	3.30E-06	2.01E-07	7.90E-06	1.55E-06	1.10E-05	2.63E-05	83.2%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.32E-05	3.16E-05	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-67. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Narcarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS</i> (mg/kg)													
Lead	3.96E-01	3.15E-04	1.91E-05	7.06E-04	1.39E-04				CNS, blood	--		[B2]	
Magnesium	8.79E+03	6.99E+00	4.25E-01	1.57E+01	3.08E+00				--			--	
<i>ORGANICS</i> (mg/kg)													
Toluene	5.61E-04	4.46E-07	2.71E-08	1.00E-06	1.97E-07	2.23E-06	5.01E-06	62.8%	liver, kidney	1000		[D]	
Trichlorofluoromethane	4.99E-04	3.97E-07	2.41E-08	8.90E-07	1.75E-07	1.32E-06	2.97E-06	37.2%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						3.55E-06	7.97E-06	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-68. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)			
<i>INORGANICS (mg/kg)</i>														
Lead	2.55E-01	3.91E-05	7.42E-06	9.36E-05	5.73E-05				CNS, blood	--			[D2]	
Magnesium	1.60E+04	2.45E+00	4.65E-01	5.87E+00	3.59E+00				--	--			--	
<i>ORGANICS (mg/kg)</i>														
Toluene	5.93E-08	9.10E-12	1.72E-12	2.18E-11	1.33E-11	4.55E-11	1.09E-10	99.2%	liver, kidney	1000			[D]	
Trichlorofluoromethane	6.88E-10	1.06E-13	2.00E-14	2.53E-13	1.55E-13	3.52E-13	8.42E-13	0.8%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						4.58E-11	1.10E-10	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		



**Table L-69. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Lead	1.41E-01	3.54E-05	6.68E-06	8.48E-05	5.16E-05				CNS, blood	--		[B2]	
Magnesium	8.79E+03	2.21E+00	4.17E-01	5.30E+00	3.22E+00				--	--		--	
<i>ORGANICS (mg/kg)</i>													
Toluene	5.69E-04	1.43E-07	2.70E-08	3.43E-07	2.09E-07	7.17E-07	1.72E-06	16.8%	liver, kidney	1000		[D]	
Trichlorofluoromethane	4.23E-03	1.07E-06	2.01E-07	2.55E-06	1.55E-06	3.55E-06	8.50E-06	83.2%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						4.27E-06	1.02E-05	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-70. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFL, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	(CTE)	(RME)						
<i>INORGANICS (mg/kg)</i>													
Lead	3.96E-01	1.02E-04	1.91E-05	2.28E-04	1.39E-04				CNS, blood	--			[B2]
Magnesium	8.79E+03	2.25E+00	4.25E-01	5.06E+00	3.08E+00				--	--			--
<i>ORGANICS (mg/kg)</i>													
Toluene	5.61E-04	1.44E-07	2.71E-08	3.23E-07	1.97E-07	7.20E-07	1.61E-06	62.8%	liver, kidney	1000			[D]
Trichlorofluoromethane	4.99E-04	1.28E-07	2.41E-08	2.87E-07	1.75E-07	4.26E-07	9.57E-07	37.2%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						1.15E-06	2.57E-06	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-71. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS (mg/kg)</i>													
Magnesium	3.18E+02	3.35E-01	2.24E-02	8.55E-01	1.85E-01	2.09E-02	5.34E-02	99.9%	--	--			--
Manganese	4.77E-01	5.02E-04	3.36E-05	1.28E-03	2.78E-04	2.09E-02	5.34E-02	99.9%	CNS	1			[D]
<i>ORGANICS (mg/kg)</i>													
Dimethyl Phthalate	1.36E-07	1.43E-10	9.57E-12	3.65E-10	7.92E-11				--	--			[D]
Fluoranthene	3.67E-04	3.86E-07	2.58E-08	9.85E-07	2.14E-07	9.66E-06	2.46E-05	0.0%	kidney, liver, blood	3000			[D]
Pyrene	2.84E-04	2.99E-07	2.00E-08	7.63E-07	1.66E-07	9.98E-06	2.54E-05	0.0%	kidney	3000			[D]
Toluene	8.14E-09	8.57E-12	5.73E-13	2.19E-11	4.74E-12	4.29E-11	1.09E-10	0.0%	liver, kidney	1000			[D]
Trichlorofluoromethane	3.85E-08	4.05E-11	2.71E-12	1.03E-10	2.24E-11	1.35E-10	3.44E-10	0.0%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						2.10E-02	5.34E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-72. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 11 - Chemical Munitions Storage Area, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS (mg/kg)</i>													
Magnesium	3.18E+02	1.28E-01	2.24E-02	3.27E-01	1.85E-01				--	--		--	
Manganese	4.77E-01	1.92E-04	3.36E-05	4.90E-04	2.78E-04	8.01E-03	2.04E-02	99.9%	CNS	1		[D]	
<i>ORGANICS (mg/kg)</i>													
Dimethyl Phthalate	1.36E-07	5.48E-11	9.57E-12	1.40E-10	7.92E-11				--	--		[D]	
Fluoranthene	3.67E-04	1.48E-07	2.58E-08	3.77E-07	2.14E-07	3.70E-06	9.42E-06	0.0%	kidney, liver, blood	3000		[D]	
Pyrene	2.84E-04	1.15E-07	2.00E-08	2.92E-07	1.66E-07	3.82E-06	9.73E-06	0.0%	kidney	3000		[D]	
Toluene	8.14E-09	3.28E-12	5.73E-13	8.36E-12	4.74E-12	1.64E-11	4.18E-11	0.0%	liver, kidney	1000		[D]	
Trichlorofluoromethane	3.85E-08	1.55E-11	2.71E-12	3.95E-11	2.24E-11	5.17E-11	1.32E-10	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						8.02E-03	2.04E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-73. RME Risk Characterization Summary: SWMU 19 - Building 533 Foundation  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI			Cancer Risk						
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	5E-07	B	1E-11	B	6E-06	B	7E-07	B	4E-07	B	4E-11	B	2E-12	B
	Dermal Contact	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	2E-11	B	1E-15	B	7E-11	B	3E-11	B	1E-12	B	3E-15	B	6E-17	B
	Inhalation (Volatiles)	2E-06	B	4E-11	B	5E-06	B	2E-06	B	6E-08	B	8E-11	B	2E-12	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		9E-01	B	9E-02	B	6E-02	B	5E-05	E	2E-06	B
	Dermal Contact	NA		NA		3E-01	B	2E-01	B	2E-02	B	3E-05	E	7E-07	B
	Inhalation (Dust)	NA		NA		4E-11	B	2E-11	B	9E-13	B	5E-08	B	1E-09	B
	Inhalation (Volatiles)	NA		NA		3E-06	B	1E-06	B	4E-08	B	0E+00	B	0E+00	B
Groundwater	Ingestion	NA		NA		5E-01	B	2E-01	B	NA		2E-06	E	NA	
	Dermal Contact	NA		NA		1E+00	B	7E-01	B	NA		2E-07	B	NA	
	Inhalation	NA		NA		4E-01	B	8E-02	B	NA		4E-07	B	NA	
<b>Surface Soil and Groundwater Combined Hazard Index (HI):</b>		2E-06 B				2E+00 E	1E+00 B	5E-07 B							
<b>Combined Cancer Risk:</b>				5E-11 B					3E-06 E		4E-12 B				
<b>Subsurface Soil and Groundwater Combined Hazard Index (HI):</b>		NA				3E+00 E	1E+00 B	9E-02 B							
<b>Combined Cancer Risk:</b>				NA					8E-05 E		3E-06 B				

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-74. CTE Risk Characterization Summary: SWMU 19 - Building 533 Foundation  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	2E-07	B	9E-13	B	2E-06	B	2E-07	B	3E-07	B	5E-12	B	5E-13	B
	Dermal Contact	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	2E-11	B	2E-16	B	4E-11	B	2E-11	B	8E-13	B	6E-16	B	1E-17	B
	Inhalation (Volatiles)	1E-06	B	6E-12	B	3E-06	B	1E-06	B	3E-08	B	2E-11	B	4E-13	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		3E-01	B	3E-02	B	4E-02	B	5E-06	E	5E-07	B
	Dermal Contact	NA		NA		3E-02	B	2E-02	B	2E-03	B	1E-06	B	3E-08	B
	Inhalation (Dust)	NA		NA		3E-11	B	1E-11	B	5E-13	B	1E-08	B	3E-10	B
	Inhalation (Volatiles)	NA		NA		2E-06	B	1E-06	B	2E-08	B	0E+00	B	0E+00	B
Groundwater	Ingestion	NA		NA		3E-01	B	1E-01	B	NA		3E-07	B	NA	
	Dermal Contact	NA		NA		5E-01	B	3E-01	B	NA		2E-08	B	NA	
	Inhalation	NA		NA		1E-01	B	3E-02	B	NA		4E-08	B	NA	
<b>Surface Soil and Groundwater Combined Hazard Index (HI):</b>		2E-06 B				9E-01 B		4E-01 B		3E-07 B					
<b>Combined Cancer Risk:</b>				7E-12 B								4E-07 B		9E-13 B	
<b>Subsurface Soil and Groundwater Combined Hazard Index (HI):</b>		NA				1E+00 B		5E-01 B		4E-02 B					
<b>Combined Cancer Risk:</b>				NA								7E-06 E		5E-07 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-75. RME Risk Characterization Summary for Produce and Beef: SWMU 19 - Building 533 Foundation  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	1E-08	B	5E-09	B	2E-13	B
	Tuberous Vegetable Ingestion	4E-04	B	1E-04	B	4E-09	B
	Fruit Ingestion	3E-04	B	8E-05	B	3E-09	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	3E+00	E	9E-01	B	2E-04	E
	Tuberous Vegetable Ingestion	1E+00	B	3E-01	B	9E-05	E
	Fruit Ingestion	2E-01	B	8E-02	B	2E-05	E
Beef	Ingestion	7E-09	B	2E-09	B	9E-14	B
<b>Produce (Surface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		6E-04	B	2E-04	B		
<b>Combined Cancer Risk:</b>						7E-09	B
<b>Produce (Subsurface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		4E+00	E	1E+00	B		
<b>Combined Cancer Risk:</b>						4E-04	E

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-76. CTE Risk Characterization Summary for Produce and Beef: SWMU 19 - Building 533 Foundation  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	6E-09	B	2E-09	B	2E-14	B
	Tuberous Vegetable Ingestion	2E-04	B	5E-05	B	6E-10	B
	Fruit Ingestion	1E-04	B	4E-05	B	4E-10	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	1E+00	B	4E-01	B	3E-05	E
	Tuberous Vegetable Ingestion	4E-01	B	1E-01	B	1E-05	E
	Fruit Ingestion	1E-01	B	3E-02	B	3E-06	E
Beef	Ingestion	3E-09	B	1E-09	B	1E-14	B
<b>Produce (Surface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		3E-04	B	9E-05	B		
<b>Combined Cancer Risk:</b>						1E-09	B
<b>Produce (Subsurface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		2E+00	E	5E-01	B		
<b>Combined Cancer Risk:</b>						5E-05	E

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures



**Table L-77. Chemicals of Concern for RME Risks at SWMU 19 - Building 533 Foundation  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC*	% of Total HI	% of Total Cancer Risk	Current Land Use		Future Land Use					
					Noncancer	Cancer	Noncancer HI			Cancer Risk		
					HI: Depot Worker	Risk: Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker	
Surface Soil (0 to 0.5 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)											
Subsurface Soil (> 0.5 to 15 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)	Arsenic Arsenic		100% 100%								5E-05 3E-05
Groundwater	Ingestion Dermal Contact Inhalation	bis(2-Ethylhexyl)phthalate		98%								2E-06

\* COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-78. Chemicals of Concern for Produce and Beef RME Risks at SWMU 19 - Building 533 Foundation  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		Cancer Risk
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion Tuberous Vegetable Ingestion Fruit Ingestion						
Produce (Subsurface Soil)	Leafy Vegetable Ingestion Tuberous Vegetable Ingestion Fruit Ingestion	Arsenic Arsenic Arsenic	100% 100% 100%	100% 100% 100%	3E+00 1E+00	9E-01 3E-01	2E-04 9E-05 2E-05
Beef	Ingestion						

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-79. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current/Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<b>ORGANICS (mg/kg)</b>														
Toluene	2.08E-03	8.91E-10	6.37E-11	2.04E-09	7.27E-10	4.46E-09	1.02E-08	2.1%	liver, kidney	1000				[D]
Trichloroethylene	2.60E-03	1.11E-09	7.95E-11	2.54E-09	9.08E-10	1.86E-07	4.24E-07	88.4%	--	3000	8.75E-13	9.99E-12	100.0%	--
Trichlorofluoromethane	1.40E-02	6.00E-09	4.29E-10	1.37E-08	4.89E-09	2.00E-08	4.57E-08	9.5%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.10E-07	4.80E-07	100.0%						
Excess lifetime cancer risk:										8.75E-13	9.99E-12	100.0%		

**Table L-80. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current/Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>ORGANICS (mg/kg)</b>												
Toluene	2.08E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000		[D]
Trichloroethylene	2.60E-03	No ABS	No ABS	No ABS	No ABS				--	3000		--
Trichlorofluoromethane	1.40E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%	

**Table L-81. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Current/Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			(CDI x CSF) (CTE)	(RME)		
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	2.41E-12	4.14E-13	2.95E-14	4.72E-13	1.69E-13	3.62E-12	4.13E-12	20.6%	liver, kidney	1000				[D]
Trichloroethylene	3.01E-12	5.17E-13	3.69E-14	5.90E-13	2.11E-13				--	3000	2.21E-16	1.26E-15	100.0%	--
Trichlorofluoromethane	1.62E-11	2.78E-12	1.99E-13	3.18E-12	1.14E-12	1.39E-11	1.59E-11	79.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.75E-11	2.00E-11	100.0%						
Excess lifetime cancer risk:										2.21E-16	1.26E-15	100.0%		

**Table L-82. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Volatile Inhalation Exposure (Current/Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)		
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	5.78E-08	9.90E-09	7.07E-10	1.13E-08	4.04E-09	8.66E-08	9.89E-08	6.6%	liver, kidney	1000			[D]	
Trichloroethylene	8.83E-08	1.51E-08	1.08E-09	1.73E-08	6.17E-09				--	3000	6.49E-12	3.70E-11	100.0%	--
Trichlorofluoromethane	1.44E-06	2.47E-07	1.76E-08	2.82E-07	1.01E-07	1.23E-06	1.41E-06	93.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.32E-06	1.51E-06	100.0%						
Excess lifetime cancer risk:										6.49E-12	3.70E-11	100.0%		

**Table L-83. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<i>ORGANICS (mg/kg)</i>														
Toluene	2.08E-03	8.89E-09	3.49E-10	2.66E-08	3.26E-09	4.44E-08	1.33E-07	2.1%	liver, kidney	1000				[D]
Trichloroethylene	2.60E-03	1.11E-08	4.36E-10	3.32E-08	4.07E-09	1.85E-06	5.54E-06	88.4%	--	3000	4.80E-12	4.48E-11	100.0%	--
Trichlorofluoromethane	1.40E-02	5.98E-08	2.35E-09	1.79E-07	2.19E-08	1.99E-07	5.97E-07	9.5%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.09E-06	6.27E-06	100.0%						
Excess lifetime cancer risk:										4.80E-12	4.48E-11	100.0%		

**Table L-84. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
 SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/kg)</i>													
Toluene	2.08E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000			[D]
Trichloroethylene	2.60E-03	No ABS	No ABS	No ABS	No ABS				--	3000			--
Trichlorofluoromethane	1.40E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00	0.00E+00	0.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	



**Table L-85. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ						
						Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)							
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	2.41E-12	1.03E-12	7.37E-14	1.54E-12	3.59E-13	9.02E-12	1.35E-11	20.6%	liver, kidney	1000			[D]	
Trichloroethylene	3.01E-12	1.29E-12	9.20E-14	1.93E-12	4.48E-13				--	3000	5.52E-16	2.69E-15	100.0%	--
Trichlorofluoromethane	1.62E-11	6.94E-12	4.96E-13	1.04E-11	2.42E-12	3.47E-11	5.19E-11	79.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						4.37E-11	6.54E-11	100.0%						
Excess lifetime cancer risk:									5.52E-16	2.69E-15	100.0%			

**Table L-86. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ	EPA UF		(CTE)	(RME)		
						Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)							
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	5.78E-08	2.47E-08	1.76E-09	3.69E-08	8.59E-09	2.16E-07	3.23E-07	6.6%	liver, kidney	1000				[D]
Trichloroethylene	8.83E-08	3.77E-08	2.70E-09	5.65E-08	1.31E-08				--	3000	1.62E-11	7.88E-11	100.0%	--
Trichlorofluoromethane	1.44E-06	6.15E-07	4.39E-08	9.20E-07	2.14E-07	3.08E-06	4.60E-06	93.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						3.29E-06	4.92E-06	100.0%						
Excess lifetime cancer risk:										1.62E-11	7.88E-11	100.0%		

**Table L-87. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/kg)</i>														
Toluene	2.08E-03	9.52E-10	3.49E-10	2.85E-09	3.26E-09	4.76E-09	1.42E-08	2.1%	liver, kidney	1000			[D]	
Trichloroethylene	2.60E-03	1.19E-09	4.36E-10	3.56E-09	4.07E-09	1.98E-07	5.93E-07	88.4%	--	3000	4.80E-12	4.48E-11	100.0%	--
Trichlorofluoromethane	1.40E-02	6.41E-09	2.35E-09	1.92E-08	2.19E-08	2.14E-08	6.39E-08	9.5%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.24E-07	6.71E-07	100.0%						
Excess lifetime cancer risk:										4.80E-12	4.48E-11	100.0%		

**Table L-88. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ				
<b>ORGANICS (mg/kg)</b>												
Toluene	2.08E-03	No ABS	No ABS	No ABS	No ABS			liver, kidney	1000			[D]
Trichloroethylene	2.60E-03	No ABS	No ABS	No ABS	No ABS			--	3000			--
Trichlorofluoromethane	1.40E-02	No ABS	No ABS	No ABS	No ABS			whole body	1000			--
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-89. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	2.41E-12	4.42E-13	7.37E-14	6.61E-13	3.59E-13	3.87E-12	5.78E-12	20.6%	liver, kidney	1000			[D]	
Trichloroethylene	3.01E-12	5.52E-13	9.20E-14	8.26E-13	4.48E-13				--	3000	5.52E-16	2.69E-15	100.0%	--
Trichlorofluoromethane	1.62E-11	2.97E-12	4.96E-13	4.45E-12	2.42E-12	1.49E-11	2.22E-11	79.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.87E-11	2.80E-11	100.0%						
Excess lifetime cancer risk:										5.52E-16	2.69E-15	100.0%		

**Table L-90. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<i>ORGANICS (mg/m<sup>3</sup>)</i>															
Toluene	5.78E-08	1.06E-08	1.76E-09	1.58E-08	8.59E-09	9.26E-08	1.38E-07	6.6%	liver, kidney	1000				[D]	
Trichloroethylene	8.83E-08	1.62E-08	2.70E-09	2.42E-08	1.31E-08				--	3000	1.62E-11	7.88E-11	100.0%	--	
Trichlorofluoromethane	1.44E-06	2.64E-07	4.39E-08	3.94E-07	2.14E-07	1.32E-06	1.97E-06	93.4%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						1.41E-06	2.11E-06	100.0%							
Excess lifetime cancer risk:											1.62E-11	7.88E-11	100.0%		

**Table L-91. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)	
<b>ORGANICS (mg/kg)</b>														
Toluene	2.08E-03	1.17E-09	3.35E-11	1.95E-09	1.40E-10	5.86E-10	9.77E-10	0.2%	liver, kidney	1000				[D]
Trichloroethylene	2.60E-03	1.46E-09	4.18E-11	2.44E-09	1.74E-10	2.44E-07	4.07E-07	95.4%	--	3000	4.60E-13	1.92E-12	100.0%	--
Trichlorofluoromethane	1.40E-02	7.89E-09	2.25E-10	1.32E-08	9.39E-10	1.13E-08	1.88E-08	4.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.56E-07	4.27E-07	100.0%						
Excess lifetime cancer risk:									4.60E-13 1.92E-12 100.0%					

**Table L-92. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/kg)</i>												
Toluene	2.08E-03	No ABS	No ABS	No ABS	No ABS			liver, kidney	1000			[D]
Trichloroethylene	2.60E-03	No ABS	No ABS	No ABS	No ABS			--	3000			--
Trichlorofluoromethane	1.40E-02	No ABS	No ABS	No ABS	No ABS			whole body	1000			--
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%	



**Table L-93. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	2.41E-12	6.80E-14	1.94E-15	1.13E-13	8.09E-15	5.95E-13	9.92E-13	72.2%	liver, kidney	1000				[D]
Trichloroethylene	3.01E-12	8.50E-14	2.43E-15	1.42E-13	1.01E-14				--	3000	1.46E-17	6.07E-17	100.0%	--
Trichlorofluoromethane	1.62E-11	4.58E-13	1.31E-14	7.63E-13	5.45E-14	2.29E-13	3.81E-13	27.8%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						8.24E-13	1.37E-12	100.0%						
Excess lifetime cancer risk:										1.46E-17	6.07E-17	100.0%		

**Table L-94. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)		Percent of Total Ca Risk (RME)
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
Toluene	5.78E-08	1.63E-09	4.65E-11	2.71E-09	1.94E-10	1.42E-08	2.37E-08	41.2%	liver, kidney	1000			[D]	
Trichloroethylene	8.83E-08	2.49E-09	7.11E-11	4.15E-09	2.96E-10				--	3000	4.27E-13	1.78E-12	100.0%	--
Trichlorofluoromethane	1.44E-06	4.06E-08	1.16E-09	6.76E-08	4.83E-09	2.03E-08	3.38E-08	58.8%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						3.45E-08	5.75E-08	100.0%						
Excess lifetime cancer risk:										4.27E-13	1.78E-12	100.0%		

**Table L-95. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Arsenic	2.00E+01	8.55E-05	3.36E-06	2.56E-04	3.13E-05	2.85E-01	8.52E-01	99.7%	skin	3	5.04E-06	4.70E-05	100.0%	[A]
Lead	1.64E+02	7.01E-04	2.75E-05	2.10E-03	2.57E-04				CNS, blood	--				[B2]
Silver	9.29E-01	3.97E-06	1.56E-07	1.19E-05	1.45E-06	7.94E-04	2.38E-03	0.3%	skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	1.30E-03	5.56E-09	2.18E-10	1.66E-08	2.04E-09	2.78E-08	8.31E-08	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	9.70E-03	4.15E-08	1.63E-09	1.24E-07	1.52E-08	1.38E-07	4.13E-07	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.86E-01	8.55E-01	100.0%						
Excess lifetime cancer risk:										5.04E-06	4.70E-05	100.0%		

**Table L-96. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Arsenic	2.00E+01	8.98E-06	8.06E-07	7.71E-05	2.30E-05	2.99E-02	2.57E-01	100.0%	skin	3	1.21E-06	3.44E-05	100.0%	[A]
Lead	1.64E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--				[B2]
Silver	9.29E-01	No ABS	No ABS	No ABS	No ABS				skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	1.30E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000				[D]
Trichlorofluoromethane	9.70E-03	No ABS	No ABS	No ABS	No ABS				whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.99E-02	2.57E-01	100.0%						
Excess lifetime cancer risk:										1.21E-06	3.44E-05	100.0%		

**Table L-97. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Arsenic	2.32E-08	9.92E-09	7.08E-10	1.48E-08	3.45E-09				skin	3	1.07E-08	5.19E-08	100.0%	[A]
Lead	1.90E-07	8.13E-08	5.80E-09	1.22E-07	2.83E-08				CNS, blood	--				[B2]
Silver	1.08E-09	4.61E-10	3.29E-11	6.89E-10	1.60E-10				skin	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	1.51E-12	6.45E-13	4.60E-14	9.64E-13	2.24E-13	5.64E-12	8.44E-12	19.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.13E-11	4.81E-12	3.44E-13	7.19E-12	1.67E-12	2.40E-11	3.60E-11	81.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.97E-11	4.44E-11	100.0%						
Excess lifetime cancer risk:										1.07E-08	5.19E-08	100.0%		

**Table L-98. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Toluene	3.61E-08	1.54E-08	1.10E-09	2.31E-08	5.37E-09	1.35E-07	2.02E-07	6.0%	liver, kidney	1000			[D]
Trichlorofluoromethane	9.97E-07	4.26E-07	3.05E-08	6.38E-07	1.48E-07	2.13E-06	3.19E-06	94.0%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						2.27E-06	3.39E-06	100.0%					
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%

**Table L-99. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	HQ Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<i>INORGANICS (mg/kg)</i>															
Arsenic	2.00E+01	9.16E-06	3.36E-06	2.74E-05	3.13E-05	3.05E-02	9.13E-02	99.7%	skin	3	5.04E-06	4.70E-05	100.0%	[A]	
Lead	1.64E+02	7.51E-05	2.75E-05	2.25E-04	2.57E-04				CNS, blood	--				[B2]	
Silver	9.29E-01	4.25E-07	1.56E-07	1.27E-06	1.45E-06	8.51E-05	2.55E-04	0.3%	skin	3				[D]	
<i>ORGANICS (mg/kg)</i>															
Toluene	1.30E-03	5.95E-10	2.18E-10	1.78E-09	2.04E-09	2.98E-09	8.90E-09	0.0%	liver, kidney	1000				[D]	
Trichlorofluoromethane	9.70E-03	4.44E-09	1.63E-09	1.33E-08	1.52E-08	1.48E-08	4.43E-08	0.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						3.06E-02	9.16E-02	100.0%							
Excess lifetime cancer risk:											5.04E-06	4.70E-05	100.0%		

**Table L-100. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>														
Arsenic	2.00E+01	5.50E-06	8.06E-07	4.77E-05	2.30E-05	1.83E-02	1.59E-01	100.0%	skin	3	1.21E-06	3.44E-05	100.0%	[A]
Lead	1.64E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--				[B2]
Silver	9.29E-01	No ABS	No ABS	No ABS	No ABS				skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	1.30E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000				[D]
Trichlorofluoromethane	9.70E-03	No ABS	No ABS	No ABS	No ABS				whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.83E-02   1.59E-01   100.0%								
Excess lifetime cancer risk:										1.21E-06   3.44E-05   100.0%				



**Table L-101. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Narcarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RFI) (CTE)	Percent of Total (RME)	Percent of Total (RME)			(CTE)	(RME)			
<i>INORGANICS (mg/m<sup>3</sup>)</i>															
Arsenic	2.32E-08	4.25E-09	7.08E-10	6.36E-09	3.45E-09				skin	3	1.07E-08	5.19E-08	100.0%	[A]	
Lead	1.90E-07	3.48E-08	5.80E-09	5.21E-08	2.83E-08				CNS, blood	--				[B2]	
Silver	1.08E-09	1.97E-10	3.29E-11	2.95E-10	1.60E-10				skin	3				[D]	
<i>ORGANICS (mg/m<sup>3</sup>)</i>															
Toluene	1.51E-12	2.76E-13	4.60E-14	4.13E-13	2.24E-13	2.42E-12	3.62E-12	19.0%	liver, kidney	1000				[D]	
Trichlorofluoromethane	1.13E-11	2.06E-12	3.44E-13	3.08E-12	1.67E-12	1.03E-11	1.54E-11	81.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						1.27E-11	1.90E-11	100.0%							
Excess lifetime cancer risk:											1.07E-08	5.19E-08	100.0%		

**Table L-102. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
						Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)						
<b>ORGANICS (mg/m<sup>3</sup>)</b>													
Toluene	3.61E-08	6.61E-09	1.10E-09	9.89E-09	5.37E-09	5.79E-08	8.65E-08	6.0%	liver, kidney	1000			[D]
Trichlorofluoromethane	9.97E-07	1.83E-07	3.05E-08	2.73E-07	1.48E-07	9.14E-07	1.37E-06	94.0%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						9.71E-07	1.45E-06	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-103. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Arsenic	2.00E+01	1.13E-05	3.22E-07	1.88E-05	1.34E-06	3.76E-02	6.26E-02	99.7%	skin	3	4.83E-07	2.01E-06	100.0%	[A]
Lead	1.64E+02	9.24E-05	2.64E-06	1.54E-04	1.10E-05	--	--	--	CNS, blood	--	--	--	--	[B2]
Silver	9.29E-01	5.24E-07	1.50E-08	8.73E-07	6.23E-08	1.05E-04	1.75E-04	0.3%	skin	3	--	--	--	[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	1.30E-03	7.33E-10	2.09E-11	1.22E-09	8.72E-11	3.66E-10	6.11E-10	0.0%	liver, kidney	1000	--	--	--	[D]
Trichlorofluoromethane	9.70E-03	5.47E-09	1.56E-10	9.11E-09	6.51E-10	7.81E-09	1.30E-08	0.0%	whole body	1000	--	--	--	--
Chemical hazards combined exposure:														
Hazard index (HI):						3.77E-02	6.28E-02	100.0%						
Excess lifetime cancer risk:											4.83E-07	2.01E-06	100.0%	

**Table L-104. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Risk estimates					
	EPC Conc. in Soil	Non Ca	Ca	Non Ca	Ca	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Effects (CTE)	Effects (CTE)	Effects (RME)	Effects (RME)	(CTE)	(RME)				(CTE)	(RME)			
<i>INORGANICS (mg/kg)</i>															
Arsenic	2.00E+01	7.05E-07	2.01E-08	6.81E-06	4.86E-07	2.35E-03	2.27E-02	100.0%	skin	3	3.02E-08	7.30E-07	100.0%	[A]	
Lead	1.64E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--				[B2]	
Silver	9.29E-01	No ABS	No ABS	No ABS	No ABS				skin	3				[D]	
<i>ORGANICS (mg/kg)</i>															
Toluene	1.30E-03	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000				[D]	
Trichlorofluoromethane	9.70E-03	No ABS	No ABS	No ABS	No ABS				whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						2.35E-03	2.27E-02	100.0%							
Excess lifetime cancer risk:											3.02E-08	7.30E-07	100.0%		

**Table L-105. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Arsenic	2.32E-08	6.54E-10	1.87E-11	1.09E-09	7.78E-11				skin	3	2.81E-10	1.17E-09	100.0%	[A]
Lead	1.90E-07	5.36E-09	1.53E-10	9.93E-09	6.38E-10				CNS, blood	--				[B2]
Silver	1.08E-09	3.04E-11	8.68E-13	5.06E-11	3.62E-12				skin	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Toluene	1.51E-12	4.25E-14	1.21E-15	7.08E-14	5.06E-15	3.72E-13	6.20E-13	70.1%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.13E-11	3.17E-13	9.06E-15	5.29E-13	3.78E-14	1.59E-13	2.64E-13	29.9%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						5.30E-13	8.84E-13	100.0%						
Excess lifetime cancer risk:										2.81E-10	1.17E-09	100.0%		

**Table L-106. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ				
						(CTE)	(RME)						
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Toluene	3.61E-08	1.02E-09	2.91E-11	1.70E-09	1.21E-10	8.90E-09	1.48E-08	38.8%	liver, kidney	1000			[D]
Trichlorofluoromethane	9.97E-07	2.81E-08	8.03E-10	4.68E-08	3.35E-09	1.41E-08	2.34E-08	61.2%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						2.30E-08    3.83E-08    100.0%							
Excess lifetime cancer risk:									0.00E+00    0.00E+00    0.0%				

Table L-107. Risk Characterization for Groundwater: Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (µg/L)</i>														
Calcium	5.27E+01	2.25E-03	1.32E-04	3.37E-03	7.84E-04			--		--			--	
Magnesium	3.38E+01	1.44E-03	8.46E-05	2.16E-03	5.03E-04			--		--			--	
<i>ORGANICS (µg/L)</i>														
1,3-Dinitrobenzene	7.30E-01	3.12E-05	1.83E-06	4.67E-05	1.09E-05	3.12E-01	4.67E-01	89.6%	spleen	3000			[D]	
Chloroform	5.33E-01	2.28E-05	1.34E-06	3.41E-05	7.93E-06	2.28E-03	3.41E-03	0.7%	liver	1000	8.14E-09	4.84E-08	2.5%	[B2]
Dimethyl Phthalate	2.25E+02	9.64E-03	5.64E-04	1.44E-02	3.35E-03			--	--	--				[D]
Toluene	8.44E-01	3.61E-05	2.11E-06	5.40E-05	1.26E-05	1.80E-04	2.70E-04	0.1%	liver, kidney	1000				[D]
bis(2-Ethylhexyl)phthalate	9.11E+00	3.89E-04	2.28E-05	5.82E-04	1.35E-04	1.95E-02	2.91E-02	5.6%	liver	1000	3.19E-07	1.90E-06	97.5%	[B2]
di-N-Octyl Phthalate	6.63E+00	2.83E-04	1.66E-05	4.24E-04	9.85E-05	1.42E-02	2.12E-02	4.1%	kidney, liver	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						3.48E-01	5.21E-01	100.0%						
Excess lifetime cancer risk:										3.27E-07	1.95E-06	100.0%		

**Table L-108. Risk Characterization for Groundwater: Residential Children - Dermal Contact Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates					
	EPC Conc. in GW	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)	
<i>INORGANICS (µg/L)</i>														
Calcium	5.27E+01	2.67E-06	2.40E-07	6.75E-06	2.00E-06				--	--				--
Magnesium	3.38E+01	1.71E-06	1.54E-07	4.33E-06	1.28E-06				--	--				--
<i>ORGANICS (µg/L)</i>														
1,3-Dinitrobenzene	7.30E-01	7.60E-08	6.84E-09	1.92E-07	5.69E-08	7.60E-04	1.92E-03	0.2%	spleen	3000				[D]
Chloroform	5.33E-01	2.41E-07	2.17E-08	6.08E-07	1.80E-07	2.41E-05	6.08E-05	0.0%	liver	1000	1.32E-10	1.10E-09	0.7%	[B2]
Dimethyl Phthalate	2.25E+02	1.83E-05	1.65E-06	4.62E-05	1.37E-05				--	--				[D]
Toluene	8.44E-01	1.93E-06	1.73E-07	4.87E-06	1.44E-06	9.63E-06	2.43E-05	0.0%	liver, kidney	1000				[D]
bis(2-Ethylhexyl)phthalate	9.11E+00	1.52E-05	1.37E-06	3.85E-05	1.14E-05	7.62E-04	1.93E-03	0.2%	liver	1000	1.92E-08	1.60E-07	99.3%	[B2]
di-N-Octyl Phthalate	6.63E+00	9.03E-03	8.13E-04	2.28E-02	6.77E-03	4.52E-01	1.14E+00	99.7%	kidney, liver	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						4.53E-01   1.15E+00   100.0%								
Excess lifetime cancer risk:										1.93E-08   1.61E-07   100.0%				



**Table L-109. Risk Characterization for Groundwater: Residential Children - Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(RME)			(CTE)	(RME)			
<i>ORGANICS (µg/m<sup>3</sup>)</i>															
1,3-Dinitrobenzene	3.65E-01	1.46E-05	7.31E-07	4.38E-05	6.96E-06				spleen	3000				[D]	
Chloroform	2.67E-01	1.07E-05	5.34E-07	3.20E-05	5.09E-06	1.24E-01	3.72E-01	99.9%	liver	1000	4.30E-08	4.10E-07	100.0%	[B2]	
Toluene	4.22E-01	1.69E-05	8.46E-07	5.06E-05	8.05E-06	1.48E-04	4.43E-04	0.1%	liver, kidney	1000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						1.24E-01	3.72E-01	100.0%							
Excess lifetime cancer risk:											4.30E-08	4.10E-07	100.0%		

**Table L-110. Risk Characterization for Groundwater: Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Risk estimates				
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>INORGANICS (µg/L)</b>														
Calcium	5.27E+01	6.76E-04	1.32E-04	1.44E-03	7.84E-04			--		--			--	
Magnesium	3.38E+01	4.33E-04	8.46E-05	9.26E-04	5.03E-04			--		--			--	
<b>ORGANICS (µg/L)</b>														
1,3-Dinitrobenzene	7.30E-01	9.36E-06	1.83E-06	2.00E-05	1.09E-05	9.36E-02	2.00E-01	89.6%	spleen	3000			[D]	
Chloroform	5.33E-01	6.84E-06	1.34E-06	1.46E-05	7.93E-06	6.84E-04	1.46E-03	0.7%	liver	1000	8.14E-09	4.84E-08	2.5%	[B2]
Dimethyl Phthalate	2.25E+02	2.89E-03	5.64E-04	6.18E-03	3.35E-03			--	--					[D]
Toluene	8.44E-01	1.08E-05	2.11E-06	2.31E-05	1.26E-05	5.41E-05	1.16E-04	0.1%	liver, kidney	1000				[D]
bis(2-Ethylhexyl)phthalate	9.11E+00	1.17E-04	2.28E-05	2.50E-04	1.35E-04	5.84E-03	1.25E-02	5.6%	liver	1000	3.19E-07	1.90E-06	97.5%	[B2]
di-N-Octyl Phthalate	6.63E+00	8.49E-05	1.66E-05	1.82E-04	9.85E-05	4.25E-03	9.08E-03	4.1%	kidney, liver	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.04E-01	2.23E-01	100.0%						
Excess lifetime cancer risk:										3.27E-07	1.95E-06	100.0%		

**Table L-111. Risk Characterization for Groundwater: Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in GW	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (µg/L)</i>													
Calcium	5.27E+01	1.64E-06	2.40E-07	4.15E-06	2.00E-06				--	--		--	
Magnesium	3.38E+01	1.05E-06	1.54E-07	2.66E-06	1.28E-06				--	--		--	
<i>ORGANICS (µg/L)</i>													
1,3-Dinitrobenzene	7.30E-01	4.67E-08	6.84E-09	1.18E-07	5.69E-08	4.67E-04	1.18E-03	0.2%	spleen	3000		[D]	
Chloroform	5.33E-01	1.48E-07	2.17E-08	3.74E-07	1.80E-07	1.48E-05	3.74E-05	0.0%	liver	1000	1.32E-10	1.10E-09	0.7% [B2]
Dimethyl Phthalate	2.25E+02	1.12E-05	1.65E-06	2.84E-05	1.37E-05				--	--		[D]	
Toluene	8.44E-01	1.18E-06	1.73E-07	2.99E-06	1.44E-06	5.91E-06	1.50E-05	0.0%	liver, kidney	1000			[D]
bia[2-Ethylhexyl]phthalate	9.11E+00	9.36E-06	1.37E-06	2.37E-05	1.14E-05	4.68E-04	1.18E-03	0.2%	liver	1000	1.92E-08	1.60E-07	99.3% [B2]
di-N-Octyl Phthalate	6.63E+00	5.55E-03	8.13E-04	1.40E-02	6.77E-03	2.77E-01	7.01E-01	99.7%	kidney, liver	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						2.78E-01	7.04E-01	100.0%					
Excess lifetime cancer risk:										1.93E-08	1.61E-07	100.0%	

**Table L-112. Risk Characterization for Groundwater: Residential Adults - Inhalation Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF)	Percent of Total Ca Risk (RME)		
						(CTE)	(RME)							
<b>ORGANICS (<math>\mu\text{g}/\text{m}^3</math>)</b>														
1,3-Dinitrobenzene	3.65E-01	3.13E-06	7.31E-07	9.38E-06	6.96E-06				spleen	3000				[D]
Chloroform	2.67E-01	2.29E-06	5.34E-07	6.85E-06	5.09E-06	2.66E-02	7.96E-02	99.9%	liver	1000	4.30E-08	4.10E-07	100.0%	[B2]
Toluene	4.22E-01	3.62E-06	8.46E-07	1.08E-05	8.05E-06	3.17E-05	9.49E-05	0.1%	liver, kidney	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.67E-02	7.97E-02	100.0%						
Excess lifetime cancer risk:											4.30E-08	4.10E-07	100.0%	

**Table L-113. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			(RME)			
<i>ORGANICS (mg/kg)</i>														
Toluene	9.94E-08	4.78E-11	2.89E-12	1.14E-10	2.23E-11	2.39E-10	5.72E-10	3.9%	liver, kidney	1000				[D]
Trichloroethylene	7.32E-08	3.52E-11	2.13E-12	8.42E-11	1.64E-11	5.86E-09	1.40E-08	96.1%	--	3000	2.34E-14	1.81E-13	100.0%	--
Trichlorofluoromethane	5.89E-10	2.83E-13	1.71E-14	6.78E-13	1.32E-13	9.44E-13	2.26E-12	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						6.10E-09	1.46E-08	100.0%						
Excess lifetime cancer risk:										2.34E-14	1.81E-13	100.0%		

**Table L-114. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			(RME)				
<b>ORGANICS (mg/kg)</b>															
Toluene	9.54E-04	7.44E-07	4.53E-08	1.78E-06	3.50E-07	3.72E-06	8.90E-06	2.5%	liver, kidney	1000				[D]	
Trichloroethylene	1.06E-03	8.25E-07	5.02E-08	1.97E-06	3.88E-07	1.37E-04	3.29E-04	91.3%	--	3000	5.52E-10	4.27E-09	100.0%	--	
Trichlorofluoromethane	3.62E-03	2.83E-06	1.72E-07	6.76E-06	1.33E-06	9.42E-06	2.25E-05	6.3%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						1.51E-04	3.60E-04	100.0%							
Excess lifetime cancer risk:											5.52E-10	4.27E-09	100.0%		

**Table L-115. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)								Risk estimates					
	EPC	Non Ca		Ca		HQ		HQ	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent	EPA WOE
	Conc. Plant Tissue	Effects (CTE)	Effects (CTE)	Effects (RME)	Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CDI x CSF) (CTE)			(RME)	of Total Ca Risk (RME)		
<i>ORGANICS (mg/kg)</i>														
Toluene	9.41E-04	7.48E-07	4.55E-08	1.68E-06	3.29E-07	3.74E-06	8.39E-06	3.3%	liver, kidney	1000				[D]
Trichloroethylene	8.23E-04	6.54E-07	3.98E-08	1.47E-06	2.88E-07	1.09E-04	2.45E-04	95.7%	--	3000	4.38E-10	3.17E-09	100.0%	--
Trichlorofluoromethane	4.27E-04	3.39E-07	2.06E-08	7.61E-07	1.49E-07	1.13E-06	2.54E-06	1.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.14E-04	2.55E-04	100.0%						
Excess lifetime cancer risk:										4.38E-10	3.17E-09	100.0%		

**Table L-116. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)			
<i>ORGANICS (mg/kg)</i>														
Toluene	9.94E-08	1.52E-11	2.89E-12	3.65E-11	2.23E-11	7.62E-11	1.82E-10	3.9%	liver, kidney	1000				[D]
Trichloroethylene	7.32E-08	1.12E-11	2.13E-12	2.69E-11	1.64E-11	1.87E-09	4.48E-09	96.1%	--	3000	2.34E-14	1.81E-13	100.0%	--
Trichlorofluoromethane	5.89E-10	9.04E-14	1.71E-14	2.16E-13	1.32E-13	3.01E-13	7.21E-13	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.95E-09	4.66E-09	100.0%						
Excess lifetime cancer risk:										2.34E-14	1.81E-13	100.0%		



**Table L-117. Risk Characterization for Tuberos Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
Toluene	9.54E-04	2.40E-07	4.53E-08	5.75E-07	3.50E-07	1.20E-06	2.87E-06	2.5%	liver, kidney	1000			[D]	
Trichloroethylene	1.06E-03	2.66E-07	5.02E-08	6.37E-07	3.88E-07	4.44E-05	1.06E-04	91.3%	--	3000	5.52E-10	4.27E-09	100.0%	--
Trichlorofluoromethane	3.62E-03	9.12E-07	1.72E-07	2.18E-06	1.33E-06	3.04E-06	7.28E-06	6.3%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						4.86E-05	1.16E-04	100.0%						
Excess lifetime cancer risk:											5.52E-10	4.27E-09	100.0%	

**Table L-118. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/kg)</i>														
Toluene	9.41E-04	2.41E-07	4.55E-08	5.41E-07	3.29E-07	1.21E-06	2.71E-06	3.3%	liver, kidney	1000				[D]
Trichloroethylene	8.23E-04	2.11E-07	3.98E-08	4.73E-07	2.88E-07	3.52E-05	7.89E-05	95.7%	--	3000	4.38E-10	3.17E-09	100.0%	--
Trichlorofluoromethane	4.27E-04	1.09E-07	2.06E-08	2.46E-07	1.49E-07	3.65E-07	8.19E-07	1.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						3.67E-05	8.24E-05	100.0%						
Excess lifetime cancer risk:										4.38E-10	3.17E-09	100.0%		

Table L-119. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates					
	EPC Conc. Plant Tissue	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE		
<i>INORGANICS (mg/kg)</i>														
Arsenic	7.20E-01	3.46E-04	2.09E-05	8.28E-04	1.62E-04	1.15E+00	2.76E+00	100.0%	skin	3	3.14E-05	2.42E-04	100.0%	[A]
Lead	9.51E-01	4.57E-04	2.76E-05	1.09E-03	2.13E-04				CNS, blood	--				[B2]
Silver	2.51E-04	1.21E-07	7.29E-09	2.89E-07	5.63E-08	2.41E-05	5.77E-05	0.0%	skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	6.21E-08	2.99E-11	1.81E-12	7.15E-11	1.39E-11	1.49E-10	3.57E-10	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	4.08E-10	1.96E-13	1.19E-14	4.70E-13	9.16E-14	6.54E-13	1.57E-12	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.15E+00	2.76E+00	100.0%						
Excess lifetime cancer risk:										3.14E-05	2.42E-04	100.0%		

Table L-120. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates					
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
		<b>INORGANICS (mg/kg)</b>													
Arsenic	1.60E-01	1.25E-04	7.60E-06	2.99E-04	5.87E-05	4.16E-01	9.96E-01	100.0%	skin	3	1.14E-05	8.80E-05	100.0%	[A]	
Lead	5.25E-01	4.09E-04	2.49E-05	9.79E-04	1.92E-04	1.88E-04	4.51E-04	0.0%	CNS, blood	--				[B2]	
Silver	1.21E-03	9.42E-07	5.73E-08	2.25E-06	4.43E-07				skin	3				[D]	
<b>ORGANICS (mg/kg)</b>															
Toluene	5.96E-04	4.65E-07	2.83E-08	1.11E-06	2.19E-07	2.33E-06	5.56E-06	0.0%		1000					
Trichlorofluoromethane	2.51E-03	1.96E-06	1.19E-07	4.68E-06	9.20E-07	6.53E-06	1.56E-05	0.0%	liver, kidney whole body	1000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):													4.16E-01	9.96E-01	100.0%
Excess lifetime cancer risk:													1.14E-05	8.80E-05	100.0%

**Table L-121. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Arsenic	4.00E-02	3.18E-05	1.93E-06	7.13E-05	1.40E-05	1.06E-01	2.38E-01	99.9%	skin	3	2.90E-06	2.10E-05	100.0%	[A]
Lead	1.48E+00	1.17E-03	7.13E-05	2.63E-03	5.17E-04				CNS, blood	--				[B2]
Silver	7.43E-04	5.91E-07	3.59E-08	1.33E-06	2.60E-07	1.18E-04	2.65E-04	0.1%	skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	5.88E-04	4.67E-07	2.84E-08	1.05E-06	2.06E-07	2.34E-06	5.24E-06	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	2.96E-04	2.35E-07	1.43E-08	5.28E-07	1.04E-07	7.84E-07	1.76E-06	0.0%	whole body	1000				--

Chemical hazards combined exposure:  
Hazard index (HI):

1.06E-01	2.38E-01	100.0%
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Excess lifetime cancer risk:

2.90E-06	2.10E-05	100.0%
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**Table L-122. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)			
<i>INORGANICS (mg/kg)</i>														
Arsenic	7.20E-01	1.10E-04	2.09E-05	2.64E-04	1.62E-04	3.68E-01	8.81E-01	100.0%	skin	3	3.14E-05	2.42E-04	100.0%	[A]
Lead	9.51E-01	1.46E-04	2.76E-05	3.49E-04	2.13E-04				CNS, blood	--				[B2]
Silver	2.51E-04	3.85E-08	7.29E-09	9.21E-08	5.63E-08	7.70E-06	1.84E-05	0.0%	skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	6.21E-08	9.53E-12	1.81E-12	2.28E-11	1.39E-11	4.76E-11	1.14E-10	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	4.08E-10	6.26E-14	1.19E-14	1.50E-13	9.16E-14	2.09E-13	5.00E-13	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						3.68E-01	8.81E-01	100.0%						
Excess lifetime cancer risk:											3.14E-05	2.42E-04	100.0%	

Table L-123. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc.	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)	Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Arsenic	1.60E-01	4.03E-05	7.60E-06	9.64E-05	5.87E-05	1.34E-01	3.21E-01	100.0%	skin	3	1.14E-05	8.80E-05	100.0%	[A]
Lead	5.25E-01	1.32E-04	2.49E-05	3.16E-04	1.92E-04				CNS, blood	--				[B2]
Silver	1.21E-03	3.04E-07	5.73E-08	7.28E-07	4.43E-07	6.08E-05	1.46E-04	0.0%	skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	5.96E-04	1.50E-07	2.83E-08	3.59E-07	2.19E-07	7.51E-07	1.80E-06	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	2.51E-03	6.32E-07	1.19E-07	1.51E-06	9.20E-07	2.11E-06	5.04E-06	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.34E-01	3.22E-01	100.0%						
Excess lifetime cancer risk:											1.14E-05	8.80E-05	100.0%	

**Table L-124. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Arsenic	4.00E-02	1.03E-05	1.93E-06	2.30E-05	1.40E-05	3.42E-02	7.67E-02	99.9%	skin	3	2.90E-06	2.10E-05	100.0%	[A]
Lead	1.48E+00	3.78E-04	7.13E-05	8.49E-04	5.17E-04				CNS, blood	--				[B2]
Silver	7.43E-04	1.91E-07	3.59E-08	4.28E-07	2.60E-07	3.81E-05	8.55E-05	0.1%	skin	3				[D]
<i>ORGANICS (mg/kg)</i>														
Toluene	5.88E-04	1.51E-07	2.84E-08	3.38E-07	2.06E-07	7.54E-07	1.69E-06	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	2.96E-04	7.59E-08	1.43E-08	1.70E-07	1.04E-07	2.53E-07	5.67E-07	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						3.42E-02	7.68E-02	100.0%						
Excess lifetime cancer risk:											2.90E-06	2.10E-05	100.0%	



**Table L-125. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ		HQ	Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
Toluene	7.54E-09	7.94E-12	5.30E-13	2.02E-11	4.39E-12	3.97E-11	1.01E-10	1.5%	liver, kidney	1000				[D]
Trichloroethylene	1.34E-08	1.42E-11	9.46E-13	3.61E-11	7.83E-12	2.36E-09	6.01E-09	92.1%	--	3000	1.04E-14	8.61E-14	100.0%	--
Trichlorofluoromethane	4.65E-08	4.89E-11	3.27E-12	1.25E-10	2.71E-11	1.63E-10	4.16E-10	6.4%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.56E-09	6.53E-09	100.0%						
Excess lifetime cancer risk:										1.04E-14	8.61E-14	100.0%		

**Table L-126. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 19 - Building 533 Foundation, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	HQ Percent of Total (RME)			(CTE)	(RME)			
<b>ORGANICS (mg/kg)</b>															
Toluene	7.54E-09	3.04E-12	5.30E-13	7.74E-12	4.39E-12	1.52E-11	3.87E-11	1.5%	liver, kidney	1000				[D]	
Trichloroethylene	1.34E-08	5.42E-12	9.46E-13	1.38E-11	7.83E-12	9.03E-10	2.30E-09	92.1%	--	3000	1.04E-14	8.61E-14	100.0%	--	
Trichlorofluoromethane	4.65E-08	1.87E-11	3.27E-12	4.77E-11	2.71E-11	6.24E-11	1.59E-10	6.4%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						9.80E-10	2.50E-09	100.0%							
Excess lifetime cancer risk:											1.04E-14	8.61E-14	100.0%		

**Table L-127. RME Risk Characterization Summary: SWMU 20 - Building 520/Structure 521 (Septic Tank)  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use		Future Land Use							
		Noncancer HI	Cancer Risk	Noncancer HI				Cancer Risk			
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker			
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA	NA	2E-03 B	2E-04 B	1E-04 B	4E-06 E	2E-07 B			
	Dermal Contact	NA	NA	2E-04 B	1E-04 B	2E-06 B	1E-05 E	3E-07 B			
	Inhalation (Dust)	NA	NA	0E+00 B	0E+00 B	0E+00 B	2E-10 B	4E-12 B			
	Inhalation (Volatiles)	NA	NA	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B			
<b>Subsurface Soil</b>											
<b>Combined Hazard Index (HI):</b>		NA		2E-03 B	3E-04 B	1E-04 B					
<b>Combined Cancer Risk:</b>			NA					2E-05 E	4E-07 B		

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-128. CTE Risk Characterization Summary: SWMU 20 - Building 520/Structure 521 (Septic Tank)  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use		Future Land Use									
		Noncancer HI	Cancer Risk	Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker					
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA	NA	7E-04	B	8E-05	B	7E-05	B	4E-07	B	4E-08	B
	Dermal Contact	NA	NA	2E-05	B	1E-05	B	2E-07	B	4E-07	B	1E-08	B
	Inhalation (Dust)	NA	NA	0E+00	B	0E+00	B	0E+00	B	4E-11	B	1E-12	B
	Inhalation (Volatiles)	NA	NA	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
<b>Subsurface Soil</b>													
<b>Combined Hazard Index (HI):</b>		NA		7E-04	B	9E-05	B	7E-05	B				
<b>Combined Cancer Risk:</b>								9E-07	B	5E-08	B		

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-129. RME Risk Characterization Summary for Produce: SWMU 20 - Building 520/Structure 521 (Septic Tank)  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	2E-01	B	5E-02	B	5E-10	B
	Tuberous Vegetable Ingestion	2E-01	B	6E-02	B	6E-05	E
	Fruit Ingestion	2E-02	B	6E-03	B	2E-11	B
<b>Produce (Subsurface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		4E-01 B		1E-01 B			
<b>Combined Cancer Risk:</b>						6E-05 E	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-130. CTE Risk Characterization Summary for Produce: SWMU 20 - Building 520/Structure 521 (Septic Tank)  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	7E-02	B	2E-02	B	7E-11	B
	Tuberous Vegetable Ingestion	8E-02	B	3E-02	B	8E-06	E
	Fruit Ingestion	8E-03	B	3E-03	B	2E-12	B
<b>Produce (Subsurface Soil)</b>							
<b>Combined Hazard Index (HI):</b>		2E-01	B	5E-02	B		
<b>Combined Cancer Risk:</b>						8E-06	E

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-131. Chemicals of Concern for RME Risks at SWMU 20 - Building 520/Structure 521 (Septic Tank)  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC*	% of Total Cancer HI	% of Total Cancer Risk	Current Land Use		Future Land Use					
					Noncancer	Cancer	Noncancer HI			Cancer Risk		
					HI: Depot Worker	Risk: Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker	
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	Benzo(a)anthracene		11%							5E-07	
		Benzo(a)pyrene		74%							3E-06	
	Dermal Contact	Benzo(a)anthracene		11%								1E-06
		Benzo(a)pyrene		75%								9E-06
	Inhalation (Dust)	Benzo(b)fluoranthene		9%								1E-06
	Inhalation (Volatiles)											

\* COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios

A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway

Integrated receptor combines both child and adult exposures

**Table L-132. Chemicals of Concern for Produce RME Risks at SWMU 20 - Building 520/Structure 521 (Septic Tank)  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		Cancer Risk
					Resident Child	Resident Adult	Resident Integrated
Produce (Subsurface Soil)	Leafy Vegetable Ingestion						
	Tuberous Vegetable Ingestion	Benzo(a)anthracene		17%			1E-05
		Benzo(a)pyrene		75%			5E-05
		Benzo(b)fluoranthene		5%			3E-06
		Benzo(k)fluoranthene		1%			7E-07
	Fruit Ingestion	Indeno(1,2,3-cd)pyrene		1%			9E-07

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures



Table L-133. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)			(CTE)	(RME)		
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.03E-01	1.72E-06	6.77E-08	5.16E-06	6.32E-07	4.31E-04	1.29E-03	60.7%	spleen	3000				--
Anthracene	1.52E-01	6.49E-07	2.55E-08	1.94E-06	2.38E-07	2.16E-06	6.47E-06	0.3%	none	3000				[D]
Benzo(a)anthracene	3.96E-02	1.69E-07	6.66E-09	5.07E-07	6.21E-08	5.65E-06	1.69E-05	0.8%	--	--	4.86E-08	4.53E-07	11.3%	[B2]
Benzo(a)pyrene	2.60E-01	1.11E-06	4.37E-08	3.33E-06	4.08E-07	3.71E-05	1.11E-04	5.2%	--	--	3.19E-07	2.98E-06	74.4%	[B2]
Benzo(b)fluoranthene	3.23E-02	1.38E-07	5.42E-09	4.13E-07	5.06E-08	4.60E-06	1.38E-05	0.6%	--	--	3.96E-08	3.69E-07	9.2%	[B2]
Benzo(g,h,i)perylene	1.59E-01	6.80E-07	2.67E-08	2.04E-06	2.49E-07	2.27E-05	6.78E-05	3.2%	--	--				[D]
Benzo(k)fluoranthene	1.61E-03	6.88E-09	2.70E-10	2.06E-08	2.52E-09	2.29E-07	6.86E-07	0.0%	--	--	1.97E-09	1.84E-08	0.5%	[B2]
Butyl Benzyl Phthalate	2.15E-01	9.19E-07	3.61E-08	2.75E-06	3.37E-07	4.60E-06	1.37E-05	0.6%	liver	1000				[C]
Chrysene	4.10E-04	1.75E-09	6.89E-11	5.25E-09	6.42E-10	5.85E-08	1.75E-07	0.0%	--	--	5.03E-10	4.69E-09	0.1%	[B2]
Fluoranthene	3.60E-01	1.54E-06	6.05E-08	4.61E-06	5.64E-07	3.85E-05	1.15E-04	5.4%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.51E-02	6.47E-08	2.54E-09	1.94E-07	2.37E-08	2.16E-06	6.45E-06	0.3%	--	--	1.86E-08	1.73E-07	4.3%	[B2]
Phenanthrene	2.46E-01	1.05E-06	4.14E-08	3.15E-06	3.86E-07	3.51E-05	1.05E-04	4.9%	--	--				[D]
Pyrene	3.28E-01	1.40E-06	5.50E-08	4.19E-06	5.13E-07	4.67E-05	1.40E-04	6.6%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.71E-01	1.58E-06	6.22E-08	4.74E-06	5.80E-07	7.92E-05	2.37E-04	11.2%	liver	1000	8.71E-10	8.12E-09	0.2%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						7.10E-04	2.12E-03	100.0%						
Excess lifetime cancer risk:											4.29E-07	4.00E-06	100.0%	

Table L-134. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.03E-01	No ABS	No ABS	No ABS	No ABS				spleen	3000		--		
Anthracene	1.52E-01	No ABS	No ABS	No ABS	No ABS				none	3000		[D]		
Benzo(a)anthracene	3.96E-02	7.71E-08	6.92E-09	6.62E-07	1.97E-07	2.57E-06	2.21E-05	11.3%		--	5.05E-08	1.44E-06	11.3%	[B2]
Benzo(a)pyrene	2.60E-01	5.06E-07	4.55E-08	4.35E-06	1.29E-06	1.69E-05	1.45E-04	74.5%		--	3.32E-07	9.45E-06	74.5%	[B2]
Benzo(b)fluoranthene	3.23E-02	6.28E-08	5.64E-09	5.40E-07	1.61E-07	2.09E-06	1.80E-05	9.2%		--	4.12E-08	1.17E-06	9.2%	[B2]
Benzo(g,h,i)perylene	1.59E-01	No ABS	No ABS	No ABS	No ABS					--				[D]
Benzo(k)fluoranthene	1.61E-03	3.13E-09	2.81E-10	2.69E-08	8.00E-09	1.04E-07	8.96E-07	0.5%		--	2.05E-09	5.84E-08	0.5%	[B2]
Butyl Benzyl Phthalate	2.15E-01	No ABS	No ABS	No ABS	No ABS				liver	1000				[C]
Chrysene	4.10E-04	7.98E-10	7.16E-11	6.85E-09	2.04E-09	2.66E-08	2.28E-07	0.1%		--	5.23E-10	1.49E-08	0.1%	[B2]
Fluoranthene	3.60E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.51E-02	2.95E-08	2.64E-09	2.53E-07	7.53E-08	9.82E-07	8.43E-06	4.3%		--	1.93E-08	5.50E-07	4.3%	[B2]
Phenanthrene	2.46E-01	No ABS	No ABS	No ABS	No ABS					--				[D]
Pyrene	3.28E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.71E-01	No ABS	No ABS	No ABS	No ABS				liver	1000				[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						2.27E-05	1.95E-04	100.0%						
Excess lifetime cancer risk:														
										4.46E-07	1.27E-05	100.0%		

Table L-135. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates					
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE		
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
4-Chloroaniline	4.68E-10	2.00E-10	1.43E-11	2.99E-10	6.96E-11			spleen	3000			--		
Anthracene	1.76E-10	7.53E-11	5.38E-12	1.13E-10	2.62E-11			none	3000			[D]		
Benzo(a)anthracene	4.60E-11	1.97E-11	1.40E-12	2.94E-11	6.84E-12			--	--	4.35E-12	2.12E-11	11.3% [B2]		
Benzo(a)pyrene	3.02E-10	1.29E-10	9.22E-12	1.93E-10	4.49E-11			--	--	2.86E-11	1.39E-10	74.5% [B2]		
Benzo(b)fluoranthene	3.75E-11	1.60E-11	1.14E-12	2.40E-11	5.57E-12			--	--	3.55E-12	1.73E-11	9.2% [B2]		
Benzo(g,h,i)perylene	1.85E-10	7.89E-11	5.64E-12	1.18E-10	2.75E-11			--	--			[D]		
Benzo(k)fluoranthene	1.87E-12	7.98E-13	5.70E-14	1.19E-12	2.78E-13			--	--	1.77E-13	8.61E-13	0.5% [B2]		
Butyl Benzyl Phthalate	2.49E-10	1.07E-10	7.62E-12	1.59E-10	3.71E-11			liver	1000			[C]		
Chrysene	4.76E-13	2.03E-13	1.45E-14	3.04E-13	7.08E-14			--	--	4.50E-14	2.19E-13	0.1% [B2]		
Fluoranthene	4.18E-10	1.79E-10	1.28E-11	2.67E-10	6.22E-11			kidney, liver, blood	3000			[D]		
Indeno(1,2,3-cd)pyrene	1.76E-11	7.51E-12	5.36E-13	1.12E-11	2.61E-12			--	--	1.66E-12	8.10E-12	4.3% [B2]		
Phenanthrene	2.86E-10	1.22E-10	8.73E-12	1.83E-10	4.25E-11			--	--			[D]		
Pyrene	3.80E-10	1.62E-10	1.16E-11	2.43E-10	5.65E-11			kidney	3000			[D]		
bis(2-Ethylhexyl)phthalate	4.30E-10	1.84E-10	1.31E-11	2.75E-10	6.40E-11			liver	1000			[B2]		
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00			0.00E+00				0.0%	
Excess lifetime cancer risk:						3.84E-11			1.87E-10				100.0%	

**Table L-136. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>												
Anthracene	6.82E-08	2.91E-08	2.08E-09	4.36E-08	1.01E-08			none	3000			[D]
Phenanthrene	2.60E-07	1.11E-07	7.95E-09	1.66E-07	3.87E-08			--	--			[D]
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

Table L-137. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.03E-01	1.85E-07	6.77E-08	5.53E-07	6.32E-07	4.62E-05	1.38E-04	60.7%	spleen	3000			--	
Anthracene	1.52E-01	6.95E-08	2.55E-08	2.08E-07	2.38E-07	2.32E-07	6.93E-07	0.3%	none	3000			[D]	
Benzo(a)anthracene	3.96E-02	1.82E-08	6.66E-09	5.43E-08	6.21E-08	6.05E-07	1.81E-06	0.8%	--	--	4.86E-08	4.53E-07	11.3%	[B2]
Benzo(a)pyrene	2.60E-01	1.19E-07	4.37E-08	3.57E-07	4.08E-07	3.97E-06	1.19E-05	5.2%	--	--	3.19E-07	2.98E-06	74.4%	[B2]
Benzo(b)fluoranthene	3.23E-02	1.48E-08	5.42E-09	4.43E-08	5.06E-08	4.93E-07	1.48E-06	0.6%	--	--	3.96E-08	3.69E-07	9.2%	[B2]
Benzo(g,h,i)perylene	1.59E-01	7.29E-08	2.67E-08	2.18E-07	2.49E-07	2.43E-06	7.27E-06	3.2%	--	--				[D]
Benzo(k)fluoranthene	1.61E-03	7.37E-10	2.70E-10	2.20E-09	2.52E-09	2.46E-08	7.35E-08	0.0%	--	--	1.97E-09	1.84E-08	0.5%	[B2]
Butyl Benzyl Phthalate	2.15E-01	9.85E-08	3.61E-08	2.95E-07	3.37E-07	4.92E-07	1.47E-06	0.6%	liver	1000				[C]
Chrysene	4.10E-04	1.88E-10	6.89E-11	5.62E-10	6.42E-10	6.26E-09	1.87E-08	0.0%	--	--	5.03E-10	4.69E-09	0.1%	[B2]
Fluoranthene	3.60E-01	1.65E-07	6.05E-08	4.93E-07	5.64E-07	4.12E-06	1.23E-05	5.4%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.51E-02	6.93E-09	2.54E-09	2.07E-08	2.37E-08	2.31E-07	6.92E-07	0.3%	--	--	1.86E-08	1.73E-07	4.3%	[B2]
Phenanthrene	2.46E-01	1.13E-07	4.14E-08	3.38E-07	3.86E-07	3.76E-06	1.13E-05	4.9%	--	--				[D]
Pyrene	3.28E-01	1.50E-07	5.50E-08	4.49E-07	5.13E-07	5.00E-06	1.50E-05	6.6%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.71E-01	1.70E-07	6.22E-08	5.08E-07	5.80E-07	8.49E-06	2.54E-05	11.2%	liver	1000	8.71E-10	8.12E-09	0.2%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						7.61E-05	2.28E-04	100.0%						
Excess lifetime cancer risk:											4.29E-07	4.00E-06	100.0%	

**Table L-138. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.03E-01	No ABS	No ABS	No ABS	No ABS				spleen	3000		--		
Anthracene	1.52E-01	No ABS	No ABS	No ABS	No ABS				none	3000		[D]		
Benzo(a)anthracene	3.96E-02	4.72E-08	6.92E-09	4.09E-07	1.97E-07	1.57E-06	1.36E-05	11.3%	--	--	5.05E-08	1.44E-06	11.3%	[B2]
Benzo(a)pyrene	2.60E-01	3.10E-07	4.55E-08	2.69E-06	1.29E-06	1.03E-05	8.97E-05	74.5%	--	--	3.32E-07	9.45E-06	74.5%	[B2]
Benzo(b)fluoranthene	3.23E-02	3.85E-08	5.64E-09	3.34E-07	1.61E-07	1.28E-06	1.11E-05	9.2%	--	--	4.12E-08	1.17E-06	9.2%	[B2]
Benzo(g,h,i)perylene	1.59E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Benzo(k)fluoranthene	1.61E-03	1.92E-09	2.81E-10	1.66E-08	8.00E-09	6.39E-08	5.54E-07	0.5%	--	--	2.05E-09	5.84E-08	0.5%	[B2]
Butyl Benzyl Phthalate	2.15E-01	No ABS	No ABS	No ABS	No ABS				liver	1000				[C]
Chrysene	4.10E-04	4.88E-10	7.16E-11	4.24E-09	2.04E-09	1.63E-08	1.41E-07	0.1%	--	--	5.23E-10	1.49E-08	0.1%	[B2]
Fluoranthene	3.60E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.51E-02	1.80E-08	2.64E-09	1.56E-07	7.53E-08	6.01E-07	5.21E-06	4.3%	--	--	1.93E-08	5.50E-07	4.3%	[B2]
Phenanthrene	2.46E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Pyrene	3.28E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.71E-01	No ABS	No ABS	No ABS	No ABS				liver	1000				[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						1.39E-05	1.20E-04	100.0%						
Excess lifetime cancer risk:										4.46E-07	1.27E-05	100.0%		

Table L-139. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CDI x CSF) (CTE)			(RME)						
<i>ORGANICS (mg/m<sup>3</sup>)</i>																	
4-Chloroaniline	4.68E-10	8.57E-11	1.43E-11	1.28E-10	6.96E-11			spleen	3000					--			
Anthracene	1.76E-10	3.23E-11	5.38E-12	4.82E-11	2.62E-11			none	3000					[D]			
Benzo(a)anthracene	4.60E-11	8.42E-12	1.40E-12	1.26E-11	6.84E-12			--	--	4.35E-12	2.12E-11	11.3%		[B2]			
Benzo(a)pyrene	3.02E-10	5.53E-11	9.22E-12	8.28E-11	4.49E-11			--	--	2.86E-11	1.39E-10	74.5%		[B2]			
Benzo(b)fluoranthene	3.75E-11	6.86E-12	1.14E-12	1.03E-11	5.57E-12			--	--	3.55E-12	1.73E-11	9.2%		[B2]			
Benzo(g,h,i)perylene	1.85E-10	3.38E-11	5.64E-12	5.06E-11	2.75E-11			--	--					[D]			
Benzo(k)fluoranthene	1.87E-12	3.42E-13	5.70E-14	5.11E-13	2.78E-13			--	--	1.77E-13	8.61E-13	0.5%		[B2]			
Butyl Benzyl Phthalate	2.49E-10	4.57E-11	7.62E-12	6.84E-11	3.71E-11			liver	1000					[C]			
Chrysene	4.76E-13	8.72E-14	1.45E-14	1.30E-13	7.08E-14			--	--	4.50E-14	2.19E-13	0.1%		[B2]			
Fluoranthene	4.18E-10	7.65E-11	1.28E-11	1.14E-10	6.22E-11			kidney, liver, blood	3000					[D]			
Indeno(1,2,3-cd)pyrene	1.76E-11	3.22E-12	5.36E-13	4.81E-12	2.61E-12			--	--	1.66E-12	8.10E-12	4.3%		[B2]			
Phenanthrene	2.86E-10	5.24E-11	8.73E-12	7.83E-11	4.25E-11			--	--					[D]			
Pyrene	3.80E-10	6.96E-11	1.16E-11	1.04E-10	5.65E-11			kidney	3000					[D]			
bis(2-Ethylhexyl)phthalate	4.30E-10	7.88E-11	1.31E-11	1.18E-10	6.40E-11			liver	1000					[B2]			
Chemical hazards combined exposure:																	
Hazard index (HI): <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>0.00E+00</td><td>0.00E+00</td><td>0.0%</td></tr></table>															0.00E+00	0.00E+00	0.0%
0.00E+00	0.00E+00	0.0%															
Excess lifetime cancer risk: <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>3.84E-11</td><td>1.87E-10</td><td>100.0%</td></tr></table>															3.84E-11	1.87E-10	100.0%
3.84E-11	1.87E-10	100.0%															

**Table L-140. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)  
SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>												
Anthracene	6.82E-08	1.25E-08	2.08E-09	1.87E-08	1.01E-08			none	3000			[D]
Phenanthrene	2.60E-07	4.77E-08	7.95E-09	7.13E-08	3.87E-08			--	--			[D]
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%



Table L-141. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)	EPA WOE
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.03E-01	2.27E-07	6.50E-09	3.79E-07	2.71E-08	5.69E-05	9.48E-05	81.3%	spleen	3000				
Anthracene	1.52E-01	8.55E-08	2.44E-09	1.43E-07	1.02E-08	2.85E-08	4.75E-08	0.0%	none	3000				[D]
Benzo(a)anthracene	3.96E-02	2.23E-08	6.38E-10	3.72E-08	2.66E-09	7.45E-08	1.24E-07	0.1%	--	--	4.66E-09	1.94E-08	11.3%	[B2]
Benzo(a)pyrene	2.60E-01	1.47E-07	4.19E-09	2.45E-07	1.75E-08	4.89E-07	8.15E-07	0.7%	--	--	3.06E-08	1.28E-07	74.4%	[B2]
Benzo(b)fluoranthene	3.23E-02	1.82E-08	5.20E-10	3.03E-08	2.17E-09	6.07E-08	1.01E-07	0.1%	--	--	3.80E-09	1.58E-08	9.2%	[B2]
Benzo(g,h,i)perylene	1.59E-01	8.97E-08	2.56E-09	1.50E-07	1.07E-08	2.99E-07	4.98E-07	0.4%	--	--				[D]
Benzo(k)fluoranthene	1.61E-03	9.07E-10	2.59E-11	1.51E-09	1.08E-10	3.02E-09	5.04E-09	0.0%	--	--	1.89E-10	7.88E-10	0.5%	[B2]
Butyl Benzyl Phthalate	2.15E-01	1.21E-07	3.46E-09	2.02E-07	1.44E-08	6.06E-08	1.01E-07	0.1%	liver	1000				[C]
Chrysene	4.10E-04	2.31E-10	6.61E-12	3.85E-10	2.75E-11	7.71E-10	1.28E-09	0.0%	--	--	4.82E-11	2.01E-10	0.1%	[B2]
Fluoranthene	3.60E-01	2.03E-07	5.80E-09	3.38E-07	2.42E-08	5.08E-07	8.46E-07	0.7%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.51E-02	8.54E-09	2.44E-10	1.42E-08	1.02E-09	2.85E-08	4.74E-08	0.0%	--	--	1.78E-09	7.42E-09	4.3%	[B2]
Phenanthrene	2.46E-01	1.39E-07	3.97E-09	2.32E-07	1.65E-08	4.63E-07	7.72E-07	0.7%	--	--				[D]
Pyrene	3.28E-01	1.85E-07	5.28E-09	3.08E-07	2.20E-08	6.16E-07	1.03E-06	0.9%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.71E-01	2.09E-07	5.97E-09	3.48E-07	2.49E-08	1.04E-05	1.74E-05	14.9%	liver	1000	8.36E-11	3.48E-10	0.2%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						6.99E-05	1.17E-04	100.0%						
Excess lifetime cancer risk:										4.12E-08	1.72E-07	100.0%		

Table L-142. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. in Soil	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)				
<b>ORGANICS (mg/kg)</b>															
4-Chloroaniline	4.03E-01	No ABS	No ABS	No ABS	No ABS				spleen	3000				--	
Anthracene	1.52E-01	No ABS	No ABS	No ABS	No ABS				none	3000				[D]	
Benzo(a)anthracene	3.96E-02	6.05E-09	1.73E-10	5.85E-08	4.18E-09	2.02E-08	1.95E-07	11.3%	--	--	1.26E-09	3.05E-08	11.3%	[B2]	
Benzo(a)pyrene	2.60E-01	3.97E-08	1.14E-09	3.84E-07	2.74E-08	1.32E-07	1.28E-06	74.5%	--	--	8.29E-09	2.00E-07	74.5%	[B2]	
Benzo(b)fluoranthene	3.23E-02	4.93E-09	1.41E-10	4.77E-08	3.40E-09	1.64E-08	1.59E-07	9.2%	--	--	1.03E-09	2.49E-08	9.2%	[B2]	
Benzo(g,h,i)perylene	1.59E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]	
Benzo(k)fluoranthene	1.61E-03	2.46E-10	7.02E-12	2.37E-09	1.70E-10	8.19E-10	7.91E-09	0.5%	--	--	5.12E-11	1.24E-09	0.5%	[B2]	
Butyl Benzyl Phthalate	2.15E-01	No ABS	No ABS	No ABS	No ABS				liver	1000				[C]	
Chrysene	4.10E-04	6.26E-11	1.79E-12	6.05E-10	4.32E-11	2.09E-10	2.02E-09	0.1%	--	--	1.31E-11	3.16E-10	0.1%	[B2]	
Fluoranthene	3.60E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000				[D]	
Indeno(1,2,3-cd)pyrene	1.51E-02	2.31E-09	6.60E-11	2.23E-08	1.60E-09	7.71E-09	7.45E-08	4.3%	--	--	4.82E-10	1.17E-08	4.3%	[B2]	
Phenanthrene	2.46E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]	
Pyrene	3.28E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000				[D]	
bis(2-Ethylhexyl)phthalate	3.71E-01	No ABS	No ABS	No ABS	No ABS				liver	1000				[B2]	
Chemical hazards combined exposure:															
Hazard index (HI):						1.78E-07	1.72E-06	100.0%							
Excess lifetime cancer risk:											1.11E-08	2.69E-07	100.0%		

Table L-143. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates			EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ	HQ	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)					
						Noncarcinogenic Effects (CDI/RfD)	Percent of Total (RME)									
<b>ORGANICS (mg/m<sup>3</sup>)</b>																
4-Chloroaniline	4.68E-10	1.32E-11	3.77E-13	2.20E-11	1.57E-12			spleen			3000			--		
Anthracene	1.76E-10	4.96E-12	1.42E-13	8.27E-12	5.91E-13			none			3000			[D]		
Benzo(a)anthracene	4.60E-11	1.30E-12	3.70E-14	2.16E-12	1.54E-13			--			--	1.15E-13	4.78E-13	11.3% [B2]		
Benzo(a)pyrene	3.02E-10	8.51E-12	2.43E-13	1.42E-11	1.01E-12			--			--	7.54E-13	3.14E-12	74.5% [B2]		
Benzo(b)fluoranthene	3.75E-11	1.06E-12	3.02E-14	1.76E-12	1.26E-13			--			--	9.35E-14	3.90E-13	9.2% [B2]		
Benzo(g,h,i)perylene	1.85E-10	5.20E-12	1.49E-13	8.67E-12	6.20E-13			--			--			[D]		
Benzo(k)fluoranthene	1.87E-12	5.26E-14	1.50E-15	8.77E-14	6.26E-15			--			--	4.66E-15	1.94E-14	0.5% [B2]		
Butyl Benzyl Phthalate	2.49E-10	7.03E-12	2.01E-13	1.17E-11	8.37E-13			liver			1000			[C]		
Chrysene	4.76E-13	1.34E-14	3.83E-16	2.24E-14	1.60E-15			--			--	1.19E-15	4.95E-15	0.1% [B2]		
Fluoranthene	4.18E-10	1.18E-11	3.36E-13	1.96E-11	1.40E-12			kidney, liver, blood			3000			[D]		
Indeno(1,2,3-cd)pyrene	1.76E-11	4.95E-13	1.41E-14	8.25E-13	5.89E-14			--			--	4.39E-14	1.83E-13	4.3% [B2]		
Phenanthrene	2.86E-10	8.06E-12	2.30E-13	1.34E-11	9.59E-13			--			--			[D]		
Pyrene	3.80E-10	1.07E-11	3.06E-13	1.79E-11	1.28E-12			kidney			3000			[D]		
bis(2-Ethylhexyl)phthalate	4.30E-10	1.21E-11	3.46E-13	2.02E-11	1.44E-12			liver			1000			[B2]		
Chemical hazards combined exposure:																
Hazard index (HI):																
<table border="1" style="display: inline-table; margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px;">0.00E+00</td> <td style="padding: 2px;">0.00E+00</td> <td style="padding: 2px;">0.0%</td> </tr> </table>														0.00E+00	0.00E+00	0.0%
0.00E+00	0.00E+00	0.0%														
Excess lifetime cancer risk:																
<table border="1" style="display: inline-table; margin-right: auto;"> <tr> <td style="padding: 2px;">1.01E-12</td> <td style="padding: 2px;">4.22E-12</td> <td style="padding: 2px;">100.0%</td> </tr> </table>														1.01E-12	4.22E-12	100.0%
1.01E-12	4.22E-12	100.0%														

**Table L-144. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)  
SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CDI x CSF) (CTE)			(RME)			
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Anthracene	6.82E-08	1.92E-09	5.49E-11	3.20E-09	2.29E-10			none	3000					[D]
Phenanthrene	2.60E-07	7.34E-09	2.10E-10	1.22E-08	8.73E-10			--	--					[D]
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00	0.00E+00	0.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-145. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. Plant Tissue	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	5.86E-01	2.82E-04	1.70E-05	6.74E-04	1.32E-04	7.05E-02	1.69E-01	100.0%	spleen	3000				--
Anthracene	2.50E-04	1.20E-07	7.28E-09	2.88E-07	5.62E-08	4.01E-07	9.61E-07	0.0%	none	3000				[D]
Benzo(a)anthracene	1.97E-08	9.47E-12	5.73E-13	2.27E-11	4.42E-12	3.16E-10	7.55E-10	0.0%	--	--	4.18E-12	3.23E-11	5.9%	[B2]
Benzo(a)pyrene	1.94E-08	9.33E-12	5.64E-13	2.23E-11	4.36E-12	3.11E-10	7.44E-10	0.0%	--	--	4.12E-12	3.18E-11	5.8%	[B2]
Benzo(b)fluoranthene	7.54E-11	3.62E-14	2.19E-15	8.67E-14	1.69E-14	1.21E-12	2.89E-12	0.0%	--	--	1.60E-14	1.24E-13	0.0%	[B2]
Benzo(g,h,i)perylene	7.16E-12	3.44E-15	2.08E-16	8.24E-15	1.61E-15	1.15E-13	2.75E-13	0.0%	--	--				[D]
Benzo(k)fluoranthene	3.81E-13	1.83E-16	1.11E-17	4.38E-16	8.55E-17	6.11E-15	1.46E-14	0.0%	--	--	8.09E-17	6.24E-16	0.0%	[B2]
Butyl Benzyl Phthalate	1.30E-04	6.27E-08	3.79E-09	1.50E-07	2.93E-08	3.14E-07	7.50E-07	0.0%	liver	1000				[C]
Chrysene	3.97E-10	1.91E-13	1.15E-14	4.56E-13	8.90E-14	6.36E-12	1.52E-11	0.0%	--	--	8.42E-14	6.50E-13	0.1%	[B2]
Fluoranthene	4.56E-08	2.19E-11	1.33E-12	5.25E-11	1.02E-11	5.48E-10	1.31E-09	0.0%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	5.01E-12	2.41E-15	1.46E-16	5.77E-15	1.13E-15	8.04E-14	1.92E-13	0.0%	--	--	1.06E-15	8.22E-15	0.0%	[B2]
Phenanthrene	9.10E-05	4.38E-08	2.65E-09	1.05E-07	2.04E-08	1.46E-06	3.49E-06	0.0%	--	--				[D]
Pyrene	1.13E-05	5.45E-09	3.30E-10	1.30E-08	2.55E-09	1.82E-07	4.35E-07	0.0%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	1.53E-04	7.38E-08	4.46E-09	1.77E-07	3.44E-08	3.69E-06	8.83E-06	0.0%	liver	1000	6.25E-11	4.82E-10	88.1%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						7.05E-02	1.69E-01	100.0%						
Excess lifetime cancer risk:										7.09E-11	5.47E-10	100.0%		

**Table L-146. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)		
						(CTE)	(RME)	(RME)						
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	3.69E-01	2.87E-04	1.75E-05	6.88E-04	1.35E-04	7.19E-02	1.72E-01	88.7%	spleen	3000				--
Anthracene	3.54E-02	2.76E-05	1.68E-06	6.61E-05	1.30E-05	9.21E-05	2.20E-04	0.1%	none	3000				[D]
Benzo(a)anthracene	4.04E-03	3.15E-06	1.92E-07	7.55E-06	1.48E-06	1.05E-04	2.52E-04	0.1%	--	--	1.40E-06	1.08E-05	16.8%	[B2]
Benzo(a)pyrene	1.80E-02	1.40E-05	8.53E-07	3.36E-05	6.59E-06	4.67E-04	1.12E-03	0.6%	--	--	6.23E-06	4.81E-05	74.5%	[B2]
Benzo(b)fluoranthene	1.29E-03	1.00E-06	6.11E-08	2.40E-06	4.72E-07	3.35E-05	8.01E-05	0.0%	--	--	4.46E-07	3.44E-06	5.3%	[B2]
Benzo(g,h,i)perylene	2.36E-03	1.84E-06	1.12E-07	4.41E-06	8.66E-07	6.14E-05	1.47E-04	0.1%	--	--				[D]
Benzo(k)fluoranthene	2.77E-04	2.16E-07	1.32E-08	5.17E-07	1.02E-07	7.20E-06	1.72E-05	0.0%	--	--	9.60E-08	7.42E-07	1.1%	[B2]
Butyl Benzyl Phthalate	4.58E-02	3.57E-05	2.18E-06	8.55E-05	1.68E-05	1.79E-04	4.28E-04	0.2%	liver	1000				[C]
Chrysene	4.51E-05	3.52E-08	2.14E-09	8.42E-08	1.65E-08	1.17E-06	2.81E-06	0.0%	--	--	1.56E-08	1.21E-07	0.2%	[B2]
Fluoranthene	9.89E-02	7.71E-05	4.69E-06	1.85E-04	3.63E-05	1.93E-03	4.62E-03	2.4%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	3.36E-04	2.62E-07	1.59E-08	6.27E-07	1.23E-07	8.74E-06	2.09E-05	0.0%	--	--	1.16E-07	8.99E-07	1.4%	[B2]
Phenanthrene	6.04E-02	4.71E-05	2.87E-06	1.13E-04	2.21E-05	1.57E-03	3.76E-03	1.9%	--	--				[D]
Pyrene	6.13E-02	4.78E-05	2.91E-06	1.14E-04	2.25E-05	1.59E-03	3.81E-03	2.0%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	7.86E-02	6.13E-05	3.73E-06	1.47E-04	2.88E-05	3.06E-03	7.33E-03	3.8%	liver	1000	5.22E-08	4.03E-07	0.6%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI): <span style="border: 1px solid black; padding: 2px;">8.10E-02</span> <span style="border: 1px solid black; padding: 2px;">1.94E-01</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>														
Excess lifetime cancer risk: <span style="border: 1px solid black; padding: 2px;">8.36E-06</span> <span style="border: 1px solid black; padding: 2px;">6.45E-05</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>														

Table L-147. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ				Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)	EPA WOE	
						(CTE)	(RME)							
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.08E-02	3.24E-05	1.97E-06	7.28E-05	1.43E-05	8.11E-03	1.82E-02	100.0%	spleen	3000				
Anthracene	4.05E-06	3.22E-09	1.96E-10	7.22E-09	1.42E-09	1.07E-08	2.41E-08	0.0%	none	3000			[D]	
Benzo(a)anthracene	2.99E-10	2.38E-13	1.45E-14	5.34E-13	1.05E-13	7.93E-12	1.78E-11	0.0%	--	--	1.06E-13	7.65E-13	4.6%	[B2]
Benzo(a)pyrene	2.83E-10	2.25E-13	1.37E-14	5.05E-13	9.92E-14	7.51E-12	1.68E-11	0.0%	--	--	1.00E-13	7.24E-13	4.4%	[B2]
Benzo(b)fluoranthene	1.18E-12	9.42E-16	5.73E-17	2.11E-15	4.15E-16	3.14E-14	7.04E-14	0.0%	--	--	4.18E-16	3.03E-15	0.0%	[B2]
Benzo(g,h,i)perylene	1.06E-13	8.44E-17	5.13E-18	1.89E-16	3.72E-17	2.81E-15	6.31E-15	0.0%	--	--				[D]
Benzo(k)fluoranthene	7.25E-15	5.76E-18	3.50E-19	1.29E-17	2.54E-18	1.92E-16	4.31E-16	0.0%	--	--	2.56E-18	1.85E-17	0.0%	[B2]
Butyl Benzyl Phthalate	2.08E-06	1.65E-09	1.01E-10	3.71E-09	7.29E-10	8.27E-09	1.86E-08	0.0%	liver	1000				[C]
Chrysene	6.02E-12	4.78E-15	2.91E-16	1.07E-14	2.11E-15	1.59E-13	3.58E-13	0.0%	--	--	2.12E-15	1.54E-14	0.1%	[B2]
Fluoranthene	1.17E-07	9.29E-11	5.65E-12	2.08E-10	4.09E-11	2.32E-09	5.21E-09	0.0%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	7.37E-14	5.86E-17	3.56E-18	1.31E-16	2.58E-17	1.95E-15	4.38E-15	0.0%	--	--	2.60E-17	1.88E-16	0.0%	[B2]
Phenanthrene	6.20E-06	4.93E-09	3.00E-10	1.11E-08	2.17E-09	1.64E-07	3.69E-07	0.0%	--	--				[D]
Pyrene	1.95E-07	1.55E-10	9.45E-12	3.48E-10	6.84E-11	5.18E-09	1.16E-08	0.0%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.05E-06	2.42E-09	1.48E-10	5.44E-09	1.07E-09	1.21E-07	2.72E-07	0.0%	liver	1000	2.07E-12	1.50E-11	90.8%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						8.11E-03	1.82E-02	100.0%						
Excess lifetime cancer risk:											2.27E-12	1.65E-11	100.0%	

**Table L-148. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
						Noncarcinogenic Effects (CDI/RfD)	Percent of Total (RME)								
<i>ORGANICS (mg/kg)</i>															
4-Chloroaniline	5.86E-01	8.99E-05	1.70E-05	2.15E-04	1.32E-04	2.25E-02	5.38E-02	100.0%	spleen	3000				--	
Anthracene	2.50E-04	3.84E-08	7.28E-09	9.19E-08	5.62E-08	1.28E-07	3.06E-07	0.0%	none	3000				[D]	
Benzo(a)anthracene	1.97E-08	3.02E-12	5.73E-13	7.23E-12	4.42E-12	1.01E-10	2.41E-10	0.0%	--	--	4.18E-12	3.23E-11	5.9%	[B2]	
Benzo(a)pyrene	1.94E-08	2.98E-12	5.64E-13	7.12E-12	4.36E-12	9.92E-11	2.37E-10	0.0%	--	--	4.12E-12	3.18E-11	5.8%	[B2]	
Benzo(b)fluoranthene	7.54E-11	1.16E-14	2.19E-15	2.77E-14	1.69E-14	3.85E-13	9.22E-13	0.0%	--	--	1.60E-14	1.24E-13	0.0%	[B2]	
Benzo(g,h,i)perylene	7.16E-12	1.10E-15	2.08E-16	2.63E-15	1.61E-15	3.66E-14	8.77E-14	0.0%	--	--				[D]	
Benzo(k)fluoranthene	3.81E-13	5.84E-17	1.11E-17	1.40E-16	8.55E-17	1.95E-15	4.66E-15	0.0%	--	--	8.09E-17	6.24E-16	0.0%	[B2]	
Butyl Benzyl Phthalate	1.30E-04	2.00E-08	3.79E-09	4.79E-08	2.93E-08	1.00E-07	2.39E-07	0.0%	liver	1000				[C]	
Chrysene	3.97E-10	6.08E-14	1.15E-14	1.46E-13	8.90E-14	2.03E-12	4.85E-12	0.0%	--	--	8.42E-14	6.50E-13	0.1%	[B2]	
Fluoranthene	4.56E-08	7.00E-12	1.33E-12	1.67E-11	1.02E-11	1.75E-10	4.19E-10	0.0%	kidney, liver, blood	3000				[D]	
Indeno(1,2,3-cd)pyrene	5.01E-12	7.69E-16	1.46E-16	1.84E-15	1.13E-15	2.56E-14	6.14E-14	0.0%	--	--	1.06E-15	8.22E-15	0.0%	[B2]	
Phenanthrene	9.10E-05	1.40E-08	2.65E-09	3.34E-08	2.04E-08	4.65E-07	1.11E-06	0.0%	--	--				[D]	
Pyrene	1.13E-05	1.74E-09	3.30E-10	4.16E-09	2.55E-09	5.80E-08	1.39E-07	0.0%	kidney	3000				[D]	
bis(2-Ethylhexyl)phthalate	1.53E-04	2.35E-08	4.46E-09	5.63E-08	3.44E-08	1.18E-06	2.82E-06	0.0%	liver	1000	6.25E-11	4.82E-10	88.1%	[B2]	
Chemical hazards combined exposure:															
Hazard index (HI):						2.25E-02	5.38E-02	100.0%							
Excess lifetime cancer risk:											7.09E-11	5.47E-10	100.0%		



Table L-149. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDD)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates					
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE		
<b>ORGANICS (mg/kg)</b>															
4-Chloroaniline	3.69E-01	9.28E-05	1.75E-05	2.22E-04	1.35E-04	2.32E-02	5.55E-02	88.7%	spleen	3000					
Anthracene	3.54E-02	8.92E-06	1.68E-06	2.13E-05	1.30E-05	2.97E-05	7.11E-05	0.1%	none	3000					[D]
Benzo(a)anthracene	4.04E-03	1.02E-06	1.92E-07	2.44E-06	1.48E-06	3.39E-05	8.12E-05	0.1%	--	--	1.40E-06	1.08E-05	16.8%		[B2]
Benzo(a)pyrene	1.80E-02	4.53E-06	8.53E-07	1.08E-05	6.59E-06	1.51E-04	3.61E-04	0.6%	--	--	6.23E-06	4.81E-05	74.5%		[B2]
Benzo(b)fluoranthene	1.29E-03	3.24E-07	6.11E-08	7.76E-07	4.72E-07	1.08E-05	2.59E-05	0.0%	--	--	4.46E-07	3.44E-06	5.3%		[B2]
Benzo(g,h,i)perylene	2.36E-03	5.95E-07	1.12E-07	1.42E-06	8.66E-07	1.98E-05	4.74E-05	0.1%	--	--					[D]
Benzo(k)fluoranthene	2.77E-04	6.98E-08	1.32E-08	1.67E-07	1.02E-07	2.33E-06	5.57E-06	0.0%	--	--	9.60E-08	7.42E-07	1.1%		[B2]
Butyl Benzyl Phthalate	4.58E-02	1.15E-05	2.18E-06	2.76E-05	1.68E-05	5.77E-05	1.38E-04	0.2%	liver	1000					[C]
Chrysene	4.51E-05	1.14E-08	2.14E-09	2.72E-08	1.65E-08	3.79E-07	9.07E-07	0.0%	--	--	1.56E-08	1.21E-07	0.2%		[B2]
Fluoranthene	9.89E-02	2.49E-05	4.69E-06	5.96E-05	3.63E-05	6.23E-04	1.49E-03	2.4%	kidney, liver, blood	3000					[D]
Indeno(1,2,3-cd)pyrene	3.36E-04	8.46E-08	1.59E-08	2.03E-07	1.23E-07	2.82E-06	6.75E-06	0.0%	--	--	1.16E-07	8.99E-07	1.4%		[B2]
Phenanthrene	6.04E-02	1.52E-05	2.87E-06	3.64E-05	2.21E-05	5.07E-04	1.21E-03	1.9%	--	--					[D]
Pyrene	6.13E-02	1.54E-05	2.91E-06	3.70E-05	2.25E-05	5.15E-04	1.23E-03	2.0%	kidney	3000					[D]
bis(2-Ethylhexyl)phthalate	7.86E-02	1.98E-05	3.73E-06	4.73E-05	2.88E-05	9.89E-04	2.37E-03	3.8%	liver	1000	5.22E-08	4.03E-07	0.6%		[B2]
Chemical hazards combined exposure:															
Hazard index (HI):						2.61E-02	6.26E-02	100.0%							
Excess lifetime cancer risk:										8.36E-06	6.45E-05	100.0%			

**Table L-150. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 20 - Building 520/Structure 521 (Septic Tank), Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. Plant Tissue	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RID) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
4-Chloroaniline	4.08E-02	1.05E-05	1.97E-06	2.35E-05	1.43E-05	2.62E-03	5.87E-03	100.0%	spleen	3000			--	
Anthracene	4.05E-06	1.04E-09	1.96E-10	2.33E-09	1.42E-09	3.46E-09	7.76E-09	0.0%	none	3000			[D]	
Benzo(a)anthracene	2.99E-10	7.68E-14	1.45E-14	1.72E-13	1.05E-13	2.56E-12	5.74E-12	0.0%	--	--	1.06E-13	7.65E-13	4.6%	[B2]
Benzo(a)pyrene	2.83E-10	7.26E-14	1.37E-14	1.63E-13	9.92E-14	2.42E-12	5.43E-12	0.0%	--	--	1.00E-13	7.24E-13	4.4%	[B2]
Benzo(b)fluoranthene	1.18E-12	3.04E-16	5.73E-17	6.82E-16	4.15E-16	1.01E-14	2.27E-14	0.0%	--	--	4.18E-16	3.03E-15	0.0%	[B2]
Benzo(g,h,i)perylene	1.06E-13	2.72E-17	5.13E-18	6.11E-17	3.72E-17	9.07E-16	2.04E-15	0.0%	--	--				[D]
Benzo(k)fluoranthene	7.25E-15	1.86E-18	3.50E-19	4.17E-18	2.54E-18	6.19E-17	1.39E-16	0.0%	--	--	2.56E-18	1.85E-17	0.0%	[B2]
Butyl Benzyl Phthalate	2.08E-06	5.34E-10	1.01E-10	1.20E-09	7.29E-10	2.67E-09	5.99E-09	0.0%	liver	1000				[C]
Chrysene	6.02E-12	1.54E-15	2.91E-16	3.46E-15	2.11E-15	5.14E-14	1.15E-13	0.0%	--	--	2.12E-15	1.54E-14	0.1%	[B2]
Fluoranthene	1.17E-07	3.00E-11	5.65E-12	6.72E-11	4.09E-11	7.49E-10	1.68E-09	0.0%	kidney, liver, blood	3000				[D]
Indeno(1,2,3-cd)pyrene	7.37E-14	1.89E-17	3.56E-18	4.24E-17	2.58E-17	6.30E-16	1.41E-15	0.0%	--	--	2.60E-17	1.88E-16	0.0%	[B2]
Phenanthrene	6.20E-06	1.59E-09	3.00E-10	3.57E-09	2.17E-09	5.30E-08	1.19E-07	0.0%	--	--				[D]
Pyrene	1.95E-07	5.01E-11	9.45E-12	1.12E-10	6.84E-11	1.67E-09	3.75E-09	0.0%	kidney	3000				[D]
bis(2-Ethylhexyl)phthalate	3.05E-06	7.82E-10	1.48E-10	1.75E-09	1.07E-09	3.91E-08	8.77E-08	0.0%	liver	1000	2.07E-12	1.50E-11	90.8%	[B2]
Chemical hazards combined exposure:														
Hazard index (HI):						2.62E-03	5.87E-03	100.0%						
Excess lifetime cancer risk:										2.27E-12	1.65E-11	100.0%		

**Table L-151. RME Risk Characterization Summary: SWMU 33A - Inside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use											
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk							
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker									
Surface Soil (0 to 0.5 ft BLS)	Ingestion	7E-02	B	0E+00	B	1E+00	B	1E-01	B	7E-02	B	0E+00	B	0E+00	B		
	Dermal Contact	4E-03	B	0E+00	B	9E-03	B	6E-03	B	8E-04	B	0E+00	B	0E+00	B		
	Inhalation (Dust)	9E-06	B	1E-09	B	3E-05	B	1E-05	B	2E-06	B	2E-09	B	5E-11	B		
	Inhalation (Volatiles)	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B		
Subsurface Soil (> 0.5 to 15 ft BLS)	Ingestion	NA		NA		2E-01	B	2E-02	B	1E-02	B	0E+00	B	0E+00	B		
	Dermal Contact	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B		
	Inhalation (Dust)	NA		NA		1E-04	B	5E-05	B	8E-06	B	3E-08	B	7E-10	B		
	Inhalation (Volatiles)	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B		
<b>Surface Soil</b>																	
<b>Combined Hazard Index (HI):</b>		8E-02 B				1E+00 B		1E-01 B		7E-02 B							
<b>Combined Cancer Risk:</b>				1E-09 B										2E-09 B		5E-11 B	
<b>Subsurface Soil</b>																	
<b>Combined Hazard Index (HI):</b>		NA				2E-01 B		2E-02 B		1E-02 B							
<b>Combined Cancer Risk:</b>				NA										3E-08 B		7E-10 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-152. CTE Risk Characterization Summary: SWMU 33A - Inside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI						Cancer Risk			
		Depot Worker		Depot Worker		Resident Child	Resident Adult	Construction Worker		Resident Integrated	Construction Worker				
Surface Soil (0 to 0.5 ft BLS)	Ingestion	3E-02	B	0E+00	B	3E-01	B	3E-02	B	4E-02	B	0E+00	B	0E+00	B
	Dermal Contact	6E-04	B	0E+00	B	1E-03	B	7E-04	B	8E-05	B	0E+00	B	0E+00	B
	Inhalation (Dust)	8E-06	B	2E-10	B	2E-05	B	8E-06	B	1E-06	B	5E-10	B	1E-11	B
	Inhalation (Volatiles)	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		6E-02	B	6E-03	B	7E-03	B	0E+00	B	0E+00	B
	Dermal Contact	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	NA		NA		7E-05	B	3E-05	B	5E-06	B	6E-09	B	2E-10	B
	Inhalation (Volatiles)	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
<b>Surface Soil</b>															
<b>Combined Hazard Index (HI):</b>		3E-02 B				3E-01 B		4E-02 B		4E-02 B					
<b>Combined Cancer Risk:</b>				2E-10 B								5E-10 B		1E-11 B	
<b>Subsurface Soil</b>															
<b>Combined Hazard Index (HI):</b>		NA				6E-02 B		6E-03 B		7E-03 B					
<b>Combined Cancer Risk:</b>				NA								6E-09 B		2E-10 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-153. RME Risk Characterization Summary for Produce and Beef: SWMU 33A - Inside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	2E+02	E	7E+01	E	0E+00	B
	Tuberous Vegetable Ingestion	2E+02	E	8E+01	E	0E+00	B
	Fruit Ingestion	9E+00	E	3E+00	E	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	5E-01	B	2E-01	B	0E+00	B
	Tuberous Vegetable Ingestion	6E-01	B	2E-01	B	0E+00	B
	Fruit Ingestion	9E-02	B	3E-02	B	0E+00	B
Beef	Ingestion	1E-01	B	5E-02	B	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		5E+02	E	2E+02	E		
<b>Combined Cancer Risk:</b>						0E+00	B
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		1E+00	B	4E-01	B		
<b>Combined Cancer Risk:</b>						0E+00	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-154. CTE Risk Characterization Summary for Produce and Beef: SWMU 33A - Inside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	1E+02	E	3E+01	E	0E+00	B
	Tuberous Vegetable Ingestion	1E+02	E	3E+01	E	0E+00	B
	Fruit Ingestion	4E+00	E	1E+00	B	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	2E-01	B	7E-02	B	0E+00	B
	Tuberous Vegetable Ingestion	2E-01	B	8E-02	B	0E+00	B
	Fruit Ingestion	4E-02	B	1E-02	B	0E+00	B
Beef	Ingestion	5E-02	B	2E-02	B	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		2E+02	E	6E+01	E		
<b>Combined Cancer Risk:</b>						0E+00	B
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		6E-01	B	2E-01	B		
<b>Combined Cancer Risk:</b>						0E+00	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-155. Chemicals of Concern for Produce and Beef RME Risks at SWMU 33A - Inside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		Cancer Risk
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion	Cadmium	0%		9E-01	3E-01	
		Isopropyl methylphosphonate	78%		2E+02	6E+01	
		Methylphosphonic acid	22%		5E+01	2E+01	
	Tuberous Vegetable Ingestion	Cadmium	0%		3E-01	8E-02	
		Isopropyl methylphosphonate	45%		1E+02	3E+01	
		Methylphosphonic acid	55%		1E+02	4E+01	
	Fruit Ingestion	Cadmium	4%		3E-01	1E-01	
		Isopropyl methylphosphonate	76%		7E+00	2E+00	
		Methylphosphonic acid	20%		2E+00	6E-01	
Produce (Subsurface Soil)	Leafy Vegetable Ingestion						
	Tuberous Vegetable Ingestion						
	Fruit Ingestion						
Beef	Ingestion						

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-156. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current/Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)			EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)					(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>															
Antimony	1.06E+01	4.56E-06	3.26E-07	1.04E-05	3.72E-06	1.14E-02	2.60E-02	34.9%	blood/circulatory system	1000			--		
Cadmium	2.15E+00	9.21E-07	6.58E-08	2.10E-06	7.51E-07	9.21E-04	2.10E-03	2.8%	kidney	10			[B1]		
Calcium	1.58E+05	6.78E-02	4.84E-03	1.55E-01	5.53E-02				--	--			--		
Cyanide	4.23E-01	1.81E-07	1.30E-08	4.14E-07	1.48E-07	9.07E-06	2.07E-05	0.0%	thyroid, nerve	100			[D]		
Lead	1.83E+02	7.86E-05	5.62E-06	1.80E-04	6.41E-05				CNS, blood	--			[B2]		
Mercury	1.09E-01	4.67E-08	3.33E-09	1.07E-07	3.80E-08	1.56E-04	3.55E-04	0.5%	kidney	--			[D]		
<i>ORGANICS (mg/kg)</i>															
Isopropyl methylphosphonate	2.30E+03	9.86E-04	7.04E-05	2.25E-03	8.04E-04	9.86E-03	2.25E-02	30.1%	none	3000			[D]		
Methylphosphonic acid	4.83E+02	2.07E-04	1.48E-05	4.73E-04	1.69E-04	1.04E-02	2.36E-02	31.7%	--	--			--		
Thiodiglycol	4.46E+00	1.91E-06	1.37E-07	4.36E-06	1.56E-06				--	--			--		
Chemical hazards combined exposure:															
Hazard index (HI):						3.27E-02	7.47E-02	100.0%							
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%			



Table L-157. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current/Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates							
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)					
<b>INORGANICS (mg/kg)</b>																	
Antimony	1.06E+01	No ABS	No ABS	No ABS	No ABS					blood/circulatory system	1000			--			
Cadmium	2.15E+00	1.84E-08	1.32E-09	1.22E-07	4.35E-08	6.14E-04	4.06E-03	100.0%		kidney	10			[B1]			
Calcium	1.58E+05	No ABS	No ABS	No ABS	No ABS					--	--			--			
Cyanide	4.23E-01	No ABS	No ABS	No ABS	No ABS					thyroid, nerve	100			[D]			
Lead	1.83E+02	No ABS	No ABS	No ABS	No ABS					CNS, blood	--			[B2]			
Mercury	1.09E-01	No ABS	No ABS	No ABS	No ABS					kidney	--			[D]			
<b>ORGANICS (mg/kg)</b>																	
Isopropyl methylphosphonate	2.30E+03	No ABS	No ABS	No ABS	No ABS					none	3000			[D]			
Methylphosphonic acid	4.83E+02	No ABS	No ABS	No ABS	No ABS					--	--			--			
Thiodiglycol	4.46E+00	No ABS	No ABS	No ABS	No ABS					--	--			--			
Chemical hazards combined exposure:																	
Hazard index (HI):						6.14E-04			4.06E-03		100.0%						
Excess lifetime cancer risk:											0.00E+00			0.00E+00		0.0%	

**Table L-158. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Current/Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Antimony	1.23E-08	2.12E-09	1.51E-10	2.42E-09	8.63E-10				blood/circulatory system	1000			--
Cadmium	2.49E-09	4.27E-10	3.05E-11	4.88E-10	1.74E-10	7.49E-06	8.56E-06	96.7%	kidney	10	1.92E-10	1.10E-09	100.0% [B1]
Calcium	1.83E-04	3.15E-05	2.25E-06	3.59E-05	1.28E-05				--	--			--
Cyanide	4.91E-10	8.42E-11	6.01E-12	9.61E-11	3.43E-11				thyroid, nerve	100			[D]
Lead	2.13E-07	3.65E-08	2.61E-09	4.17E-08	1.49E-08				CNS, blood	--			[B2]
Mercury	1.26E-10	2.17E-11	1.55E-12	2.47E-11	8.83E-12	2.53E-07	2.88E-07	3.3%	kidney	--			[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Isopropyl methylphosphonate	2.67E-06	4.57E-07	3.27E-08	5.22E-07	1.86E-07				none	3000			[D]
Methylphosphonic acid	5.60E-07	9.61E-08	6.86E-09	1.10E-07	3.92E-08				--	--			--
Thiodiglycol	5.17E-09	8.87E-10	6.34E-11	1.01E-09	3.62E-10				--	--			--
Chemical hazards combined exposure:													
Hazard index (HI):						7.75E-06	8.84E-06	100.0%					
Excess lifetime cancer risk:										1.92E-10	1.10E-09	100.0%	

Table L-159. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)			
<b>INORGANICS (mg/kg)</b>														
Antimony	1.06E+01	4.55E-05	1.79E-06	1.36E-04	1.67E-05	1.14E-01	3.40E-01	34.9%	blood/circulatory system	1000	--	--	--	
Cadmium	2.15E+00	9.18E-06	3.61E-07	2.75E-05	3.36E-06	9.18E-03	2.75E-02	2.8%	kidney	10	--	--	[B1]	
Calcium	1.58E+05	6.76E-01	2.66E-02	2.02E+00	2.48E-01	--	--	--	--	--	--	--	--	
Cyanide	4.23E-01	1.81E-06	7.11E-08	5.41E-06	6.63E-07	9.05E-05	2.71E-04	0.0%	thyroid, nerve	100	--	--	[D]	
Lead	1.83E+02	7.84E-04	3.08E-05	2.35E-03	2.87E-04	--	--	--	CNS, blood	--	--	--	[B2]	
Mercury	1.09E-01	4.65E-07	1.83E-08	1.39E-06	1.70E-07	1.55E-03	4.64E-03	0.5%	kidney	--	--	--	[D]	
<b>ORGANICS (mg/kg)</b>														
Isopropyl methylphosphonate	2.30E+03	9.83E-03	3.86E-04	2.94E-02	3.60E-03	9.83E-02	2.94E-01	30.1%	none	3000	--	--	[D]	
Methylphosphonic acid	4.83E+02	2.06E-03	8.11E-05	6.18E-03	7.56E-04	1.03E-01	3.09E-01	31.7%	--	--	--	--	--	
Thiodiglycol	4.46E+00	1.91E-05	7.49E-07	5.70E-05	6.98E-06	--	--	--	--	--	--	--	--	
Chemical hazards combined exposure:														
Hazard index (HI):						3.26E-01	9.75E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-160. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	1.06E+01	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Cadmium	2.15E+00	3.21E-08	2.89E-09	2.76E-07	8.22E-08	1.07E-03	9.20E-03	100.0%	kidney	10		[B1]	
Calcium	1.58E+05	No ABS	No ABS	No ABS	No ABS				--	--		--	
Cyanide	4.23E-01	No ABS	No ABS	No ABS	No ABS				thyroid, nerve	100		[D]	
Lead	1.83E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Mercury	1.09E-01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]	
<i>ORGANICS (mg/kg)</i>													
Isopropyl methylphosphonate	2.30E+03	No ABS	No ABS	No ABS	No ABS				none	3000		[D]	
Methylphosphonic acid	4.83E+02	No ABS	No ABS	No ABS	No ABS				--	--		--	
Thiodiglycol	4.46E+00	No ABS	No ABS	No ABS	No ABS				--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						1.07E-03	9.20E-03	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-161. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	1.23E-08	5.28E-09	3.77E-10	7.89E-09	1.84E-09			blood/circulatory system	1000				--	
Cadmium	2.49E-09	1.07E-09	7.61E-11	1.59E-09	3.71E-10	1.87E-05	2.79E-05	96.7%	kidney	10	4.79E-10	2.33E-09	100.0%	[B1]
Calcium	1.83E-04	7.84E-05	5.60E-06	1.17E-04	2.73E-05			--	--	--	--	--	--	--
Cyanide	4.91E-10	2.10E-10	1.50E-11	3.14E-10	7.30E-11			thyroid, nerve	100					[D]
Lead	2.13E-07	9.10E-08	6.50E-09	1.36E-07	3.17E-08			CNS, blood	--					[B2]
Mercury	1.26E-10	5.40E-11	3.86E-12	8.07E-11	1.88E-11	6.30E-07	9.42E-07	3.3%	kidney	--				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Isopropyl methylphosphonate	2.67E-06	1.14E-06	8.15E-08	1.71E-06	3.97E-07			none	3000					[D]
Methylphosphonic acid	5.60E-07	2.40E-07	1.71E-08	3.58E-07	8.33E-08			--	--	--	--	--	--	--
Thiodiglycol	5.17E-09	2.21E-09	1.58E-10	3.31E-09	7.70E-10			--	--	--	--	--	--	--
Chemical hazards combined exposure:														
Hazard index (HI):						1.93E-05	2.89E-05	100.0%						
Excess lifetime cancer risk:										4.79E-10	2.33E-09	100.0%		

**Table L-162. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Antimony	1.06E+01	4.87E-06	1.79E-06	1.46E-05	1.67E-05	1.22E-02	3.65E-02	34.9%	blood/circulatory system	1000			--	
Cadmium	2.15E+00	9.84E-07	3.61E-07	2.94E-06	3.36E-06	9.84E-04	2.94E-03	2.8%	kidney	10			[B1]	
Calcium	1.58E+05	7.24E-02	2.66E-02	2.17E-01	2.48E-01				--	--			--	
Cyanide	4.23E-01	1.94E-07	7.11E-08	5.80E-07	6.63E-07	9.69E-06	2.90E-05	0.0%	thyroid, nerve	100			[D]	
Lead	1.83E+02	8.40E-05	3.08E-05	2.51E-04	2.87E-04				CNS, blood	--			[B2]	
Mercury	1.09E-01	4.99E-08	1.83E-08	1.49E-07	1.70E-07	1.66E-04	4.97E-04	0.5%	kidney	--			[D]	
<i>ORGANICS (mg/kg)</i>														
Isopropyl methylphosphonate	2.30E+03	1.05E-03	3.86E-04	3.15E-03	3.60E-03	1.05E-02	3.15E-02	30.1%	none	3000			[D]	
Methylphosphonic acid	4.83E+02	2.21E-04	8.11E-05	6.62E-04	7.56E-04	1.11E-02	3.31E-02	31.7%	--	--			--	
Thiodiglycol	4.46E+00	2.04E-06	7.49E-07	6.11E-06	6.98E-06				--	--			--	
Chemical hazards combined exposure:														
Hazard Index (HI):						3.49E-02	1.05E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-163. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	1.06E+01	No ABS	No ABS	No ABS	No ABS	6.56E-04	5.69E-03	100.0%	blood/circulatory system	1000		--
Cadmium	2.15E+00	1.97E-08	2.89E-09	1.71E-07	8.22E-08				kidney	10		[B1]
Calcium	1.58E+05	No ABS	No ABS	No ABS	No ABS				--			--
Cyanide	4.23E-01	No ABS	No ABS	No ABS	No ABS				thyroid, nerve	100		[D]
Lead	1.83E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]
Mercury	1.09E-01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	2.30E+03	No ABS	No ABS	No ABS	No ABS			none	3000			[D]
Methylphosphonic acid	4.83E+02	No ABS	No ABS	No ABS	No ABS			--	--			--
Thiodiglycol	4.46E+00	No ABS	No ABS	No ABS	No ABS			--	--			--
Chemical hazards combined exposure:												
Hazard index (HI):						6.56E-04	5.69E-03	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-164. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			(CDI x CSF) (CTE)	(RME)		
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	1.23E-08	2.26E-09	3.77E-10	3.38E-09	1.84E-09				blood/circulatory system	1000				--
Cadmium	2.49E-09	4.56E-10	7.61E-11	6.83E-10	3.71E-10	8.01E-06	1.20E-05	96.7%	kidney	10	4.79E-10	2.33E-09	100.0%	[B1]
Calcium	1.83E-04	3.36E-05	5.60E-06	5.03E-05	2.73E-05				--	--				--
Cyanide	4.91E-10	9.00E-11	1.50E-11	1.35E-10	7.30E-11				thyroid, nerve	100				[D]
Lead	2.13E-07	3.90E-08	6.50E-09	5.83E-08	3.17E-08				CNS, blood	--				[B2]
Mercury	1.26E-10	2.31E-11	3.86E-12	3.46E-11	1.88E-11	2.70E-07	4.04E-07	3.3%	kidney	--				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Isopropyl methylphosphonate	2.67E-06	4.89E-07	8.15E-08	7.31E-07	3.97E-07				none	3000				[D]
Methylphosphonic acid	5.60E-07	1.03E-07	1.71E-08	1.54E-07	8.33E-08				--	--				--
Thiodiglycol	5.17E-09	9.48E-10	1.58E-10	1.42E-09	7.70E-10				--	--				--
Chemical hazards combined exposure:														
Hazard index (HI):						8.28E-06	1.24E-05	100.0%						
Excess lifetime cancer risk:										4.79E-10	2.33E-09	100.0%		



Table L-165. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<b>INORGANICS (mg/kg)</b>														
Antimony	1.06E+01	6.00E-06	1.71E-07	1.00E-05	7.14E-07	1.50E-02	2.50E-02	34.9%	blood/circulatory system	1000			--	
Cadmium	2.15E+00	1.21E-06	3.46E-08	2.02E-06	1.44E-07	1.21E-03	2.02E-03	2.8%	kidney	10			[B1]	
Calcium	1.58E+05	8.91E-02	2.55E-03	1.49E-01	1.06E-02				--	--			--	
Cyanide	4.23E-01	2.39E-07	6.82E-09	3.98E-07	2.84E-08	1.19E-05	1.99E-05	0.0%	thyroid, nerve	100			[D]	
Lead	1.83E+02	1.03E-04	2.95E-06	1.72E-04	1.23E-05				CNS, blood	--			[B2]	
Mercury	1.09E-01	6.14E-08	1.75E-09	1.02E-07	7.30E-09	2.05E-04	3.41E-04	0.5%	kidney	--			[D]	
<b>ORGANICS (mg/kg)</b>														
Isopropyl methylphosphonate	2.30E+03	1.30E-03	3.70E-05	2.16E-03	1.54E-04	1.30E-02	2.16E-02	30.1%	none	3000			[D]	
Methylphosphonic acid	4.83E+02	2.72E-04	7.78E-06	4.54E-04	3.24E-05	1.36E-02	2.27E-02	31.7%	--	--			--	
Thiodiglycol	4.46E+00	2.51E-06	7.18E-08	4.19E-06	2.99E-07				--	--			--	
Chemical hazards combined exposure:														
Hazard index (HI):						4.30E-02	7.17E-02	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-166. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	1.06E+01	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--
Cadmium	2.15E+00	2.52E-09	7.21E-11	2.44E-08	1.74E-09	8.41E-05	8.13E-04	100.0%	kidney	10		[B1]
Calcium	1.58E+05	No ABS	No ABS	No ABS	No ABS				--	--		--
Cyanide	4.23E-01	No ABS	No ABS	No ABS	No ABS				thyroid, nerve	100		[D]
Lead	1.83E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]
Mercury	1.09E-01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	2.30E+03	No ABS	No ABS	No ABS	No ABS				none	3000		[D]
Methylphosphonic acid	4.83E+02	No ABS	No ABS	No ABS	No ABS				--	--		--
Thiodiglycol	4.46E+00	No ABS	No ABS	No ABS	No ABS				--	--		--
Chemical hazards combined exposure:												
Hazard index (HI):						8.41E-05   8.13E-04   100.0%						
Excess lifetime cancer risk:										0.00E+00   0.00E+00   0.0%		

Table L-167. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	1.23E-08	3.48E-10	9.94E-12	5.80E-10	4.14E-11				blood/circulatory system	1000			--	
Cadmium	2.49E-09	7.02E-11	2.01E-12	1.17E-10	8.36E-12	1.23E-06	2.05E-06	96.7%	kidney	10	1.26E-11	5.27E-11	100.0%	[B1]
Calcium	1.83E-04	5.17E-06	1.48E-07	8.62E-06	6.16E-07				--	--			--	
Cyanide	4.91E-10	1.38E-11	3.95E-13	2.31E-11	1.65E-12				thyroid, nerve	100				[D]
Lead	2.13E-07	6.00E-09	1.71E-10	1.00E-08	7.14E-10				CNS, blood	--				[B2]
Mercury	1.26E-10	3.56E-12	1.02E-13	5.93E-12	4.24E-13	4.15E-08	6.92E-08	3.3%	kidney	--				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Isopropyl methylphosphonate	2.67E-06	7.52E-08	2.15E-09	1.25E-07	8.95E-09				none	3000				[D]
Methylphosphonic acid	5.60E-07	1.58E-08	4.51E-10	2.63E-08	1.88E-09				--	--				--
Thiodiglycol	5.17E-09	1.46E-10	4.17E-12	2.43E-10	1.74E-11				--	--				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.27E-06	2.12E-06	100.0%						
Excess lifetime cancer risk:										1.26E-11	5.27E-11	100.0%		

**Table L-168. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
						Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)						
<b>INORGANICS (mg/kg)</b>													
Antimony	3.67E+00	1.57E-05	6.17E-07	4.70E-05	5.75E-06	3.92E-02	1.17E-01	69.8%	blood/circulatory system	1000		--	
Beryllium	8.89E-01	3.80E-06	1.49E-07	1.14E-05	1.39E-06	1.90E-03	5.68E-03	3.4%	GI system	300		[B1]	
Calcium	1.24E+05	5.32E-01	2.09E-02	1.59E+00	1.95E-01				--	--		--	
Chromium (III)	2.53E+01	1.08E-04	4.24E-06	3.23E-04	3.95E-05	7.20E-05	2.15E-04	0.1%	none	100		[D]	
Chromium (VI)	4.21E+00	1.80E-05	7.07E-07	5.38E-05	6.59E-06	6.00E-03	1.79E-02	10.7%	none	300		[A]	
Cyanide	2.93E-01	1.25E-06	4.92E-08	3.75E-06	4.59E-07	6.26E-05	1.87E-04	0.1%	thyroid, nerve	100		[D]	
Lead	4.79E+01	2.05E-04	8.04E-06	6.12E-04	7.50E-05				CNS, blood	--		[B2]	
Mercury	1.13E-01	4.83E-07	1.90E-08	1.44E-06	1.77E-07	1.61E-03	4.81E-03	2.9%	kidney	--		[D]	
Nickel	2.18E+01	9.30E-05	3.65E-06	2.78E-04	3.41E-05	4.65E-03	1.39E-02	8.3%	whole body	300		--	
Silver	9.09E-01	3.88E-06	1.53E-07	1.16E-05	1.42E-06	7.77E-04	2.32E-03	1.4%	skin	3		[D]	
Zinc	1.10E+02	4.69E-04	1.84E-05	1.40E-03	1.72E-04	1.56E-03	4.68E-03	2.8%	blood	3		[D]	
<b>ORGANICS (mg/kg)</b>													
Isopropyl methylphosphonate	3.21E+00	1.37E-05	5.39E-07	4.11E-05	5.03E-06	1.37E-04	4.11E-04	0.2%	none	3000		[D]	
Methylphosphonic acid	1.07E+00	4.55E-06	1.79E-07	1.36E-05	1.67E-06	2.28E-04	6.81E-04	0.4%	--	--		--	
<b>Chemical hazards combined exposure:</b>													
Hazard index (HI):						5.62E-02	1.68E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-169. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/kg)</b>													
Antimony	3.67E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Beryllium	8.89E-01	No ABS	No ABS	No ABS	No ABS				GI system	300		[B1]	
Calcium	1.24E+05	No ABS	No ABS	No ABS	No ABS				--	--		--	
Chromium (III)	2.53E+01	No ABS	No ABS	No ABS	No ABS				none	100		[D]	
Chromium (VI)	4.21E+00	No ABS	No ABS	No ABS	No ABS				none	300		[A]	
Cyanide	2.93E-01	No ABS	No ABS	No ABS	No ABS				thyroid, nerve	100		[D]	
Lead	4.79E+01	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Mercury	1.13E-01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]	
Nickel	2.18E+01	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Silver	9.09E-01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Zinc	1.10E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<b>ORGANICS (mg/kg)</b>													
Isopropyl methylphosphonate	3.21E+00	No ABS	No ABS	No ABS	No ABS				none	3000		[D]	
Methylphosphonic acid	1.07E+00	No ABS	No ABS	No ABS	No ABS				--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00	0.00E+00	0.0%					
Excess lifetime cancer risk:						0.00E+00						0.00E+00	0.0%

**Table L-170. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)				(CTE)	(RME)		
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	4.26E-09	1.82E-09	1.30E-10	2.72E-09	6.34E-10				blood/circulatory system	1000				--
Beryllium	1.03E-09	4.41E-10	3.15E-11	6.59E-10	1.53E-10	7.71E-08	1.15E-07	0.1%	GI system	300	2.64E-10	1.29E-09	4.1%	[B1]
Calcium	1.44E-04	6.17E-05	4.41E-06	9.23E-05	2.15E-05				--	--				--
Chromium (III)	2.93E-08	1.25E-08	8.95E-10	1.87E-08	4.36E-09				none	100				[D]
Chromium (VI)	4.88E-09	2.09E-09	1.49E-10	3.12E-09	7.26E-10	7.31E-05	1.09E-04	99.0%	none	300	6.11E-09	2.98E-08	95.9%	[A]
Cyanide	3.40E-10	1.45E-10	1.04E-11	2.17E-10	5.06E-11				thyroid, nerve	100				[D]
Lead	5.56E-08	2.37E-08	1.70E-09	3.55E-08	8.26E-09				CNS, blood	--				[B2]
Mercury	1.31E-10	5.60E-11	4.00E-12	8.37E-11	1.95E-11	6.53E-07	9.77E-07	0.9%	kidney	--				[D]
Nickel	2.52E-08	1.08E-08	7.70E-10	1.61E-08	3.75E-09				whole body	300				--
Silver	1.05E-09	4.51E-10	3.22E-11	6.74E-10	1.57E-10				skin	3				[D]
Zinc	1.27E-07	5.44E-08	3.89E-09	8.14E-08	1.89E-08				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Isopropyl methylphosphonate	3.73E-09	1.59E-09	1.14E-10	2.38E-09	5.54E-10				none	3000				[D]
Methylphosphonic acid	1.24E-09	5.28E-10	3.77E-11	7.90E-10	1.84E-10				--	--				--
Chemical hazards combined exposure:														
Hazard index (HI):						7.38E-05	1.10E-04	100.0%						
Excess lifetime cancer risk:										6.38E-09	3.11E-08	100.0%		

Table L-171. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS (mg/kg)</i>													
Antimony	3.67E+00	1.68E-06	6.17E-07	5.03E-06	5.75E-06	4.20E-03	1.26E-02	69.8%	blood/circulatory system	1000		--	
Beryllium	8.89E-01	4.07E-07	1.49E-07	1.22E-06	1.39E-06	2.03E-04	6.09E-04	3.4%	GI system	300		[B1]	
Calcium	1.24E+05	5.70E-02	2.09E-02	1.70E-01	1.95E-01				--	--		--	
Chromium (III)	2.53E+01	1.16E-05	4.24E-06	3.46E-05	3.95E-05	7.71E-06	2.31E-05	0.1%	none	100		[D]	
Chromium (VI)	4.21E+00	1.93E-06	7.07E-07	5.77E-06	6.59E-06	6.43E-04	1.92E-03	10.7%	none	300		[A]	
Cyanide	2.93E-01	1.34E-07	4.92E-08	4.01E-07	4.59E-07	6.71E-06	2.01E-05	0.1%	thyroid, nerve	100		[D]	
Lead	4.79E+01	2.19E-05	8.04E-06	6.56E-05	7.50E-05				CNS, blood	--		[B2]	
Mercury	1.13E-01	5.17E-08	1.90E-08	1.55E-07	1.77E-07	1.72E-04	5.15E-04	2.9%	kidney	--		[D]	
Nickel	2.18E+01	9.96E-06	3.65E-06	2.98E-05	3.41E-05	4.98E-04	1.49E-03	8.3%	whole body	300		--	
Silver	9.09E-01	4.16E-07	1.53E-07	1.24E-06	1.42E-06	8.32E-05	2.49E-04	1.4%	skin	3		[D]	
Zinc	1.10E+02	5.03E-05	1.84E-05	1.50E-04	1.72E-04	1.68E-04	5.01E-04	2.8%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Isopropyl methylphosphonate	3.21E+00	1.47E-06	5.39E-07	4.40E-06	5.03E-06	1.47E-05	4.40E-05	0.2%	none	3000		[D]	
Methylphosphonic acid	1.07E+00	4.88E-07	1.79E-07	1.46E-06	1.67E-06	2.44E-05	7.30E-05	0.4%	--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						6.03E-03	1.80E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-172. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates					
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Effects (RME)	Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Antimony	3.67E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000			--	
Beryllium	8.89E-01	No ABS	No ABS	No ABS	No ABS				GI system	300			[B1]	
Calcium	1.24E+05	No ABS	No ABS	No ABS	No ABS				--	--			--	
Chromium (III)	2.53E+01	No ABS	No ABS	No ABS	No ABS				none	100			[D]	
Chromium (VI)	4.21E+00	No ABS	No ABS	No ABS	No ABS				none	300			[A]	
Cyanide	2.93E-01	No ABS	No ABS	No ABS	No ABS				thyroid, nerve	100			[D]	
Lead	4.79E+01	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[B2]	
Mercury	1.13E-01	No ABS	No ABS	No ABS	No ABS				kidney	--			[D]	
Nickel	2.18E+01	No ABS	No ABS	No ABS	No ABS				whole body	300			--	
Silver	9.09E-01	No ABS	No ABS	No ABS	No ABS				skin	3			[D]	
Zinc	1.10E+02	No ABS	No ABS	No ABS	No ABS				blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
Isopropyl methylphosphonate	3.21E+00	No ABS	No ABS	No ABS	No ABS				none	3000			[D]	
Methylphosphonic acid	1.07E+00	No ABS	No ABS	No ABS	No ABS				--	--			--	
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00	0.00E+00	0.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		



Table L-173. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates								
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE					
<i>INORGANICS (mg/m<sup>3</sup>)</i>																		
Antimony	4.26E-09	7.80E-10	1.30E-10	1.17E-09	6.34E-10				blood/circulatory system	1000			--					
Beryllium	1.03E-09	1.89E-10	3.15E-11	2.82E-10	1.53E-10	3.30E-08	4.94E-08	0.1%	GI system	300	2.64E-10	1.29E-09	4.1% [B1]					
Calcium	1.44E-04	2.64E-05	4.41E-06	3.95E-05	2.15E-05				--	--			--					
Chromium (III)	2.93E-08	5.37E-09	8.95E-10	8.03E-09	4.36E-09				none	100			[D]					
Chromium (VI)	4.88E-09	8.95E-10	1.49E-10	1.34E-09	7.26E-10	3.13E-05	4.68E-05	99.0%	none	300	6.11E-09	2.98E-08	95.9% [A]					
Cyanide	3.40E-10	6.23E-11	1.04E-11	9.31E-11	5.06E-11				thyroid, nerve	100			[D]					
Lead	5.56E-08	1.02E-08	1.70E-09	1.52E-08	8.26E-09				CNS, blood	--			[B2]					
Mercury	1.31E-10	2.40E-11	4.00E-12	3.59E-11	1.95E-11	2.80E-07	4.19E-07	0.9%	kidney	--			[D]					
Nickel	2.52E-08	4.62E-09	7.70E-10	6.91E-09	3.75E-09				whole body	300			--					
Silver	1.05E-09	1.93E-10	3.22E-11	2.89E-10	1.57E-10				skin	3			[D]					
Zinc	1.27E-07	2.33E-08	3.89E-09	3.49E-08	1.89E-08				blood	3			[D]					
<i>ORGANICS (mg/m<sup>3</sup>)</i>																		
Isopropyl methylphosphonate	3.73E-09	6.83E-10	1.14E-10	1.02E-09	5.54E-10				none	3000			[D]					
Methylphosphonic acid	1.24E-09	2.26E-10	3.77E-11	3.39E-10	1.84E-10				--	--			--					
Chemical hazards combined exposure:																		
Hazard index (HI):						3.16E-05			4.73E-05			100.0%						
Excess lifetime cancer risk:										6.38E-09			3.11E-08			100.0%		

**Table L-174. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	3.67E+00	2.07E-06	5.91E-08	3.45E-06	2.46E-07	5.17E-03	8.62E-03	78.4%	blood/circulatory system	1000		--
Beryllium	8.89E-01	5.01E-07	1.43E-08	8.35E-07	5.96E-08	1.00E-04	1.67E-04	1.5%	GI system	300		[B1]
Calcium	1.24E+05	7.01E-02	2.00E-03	1.17E-01	8.35E-03				--	--		--
Chromium (III)	2.53E+01	1.42E-05	4.07E-07	2.37E-05	1.69E-06	1.42E-05	2.37E-05	0.2%	none	100		[D]
Chromium (VI)	4.21E+00	2.37E-06	6.78E-08	3.95E-06	2.82E-07	1.19E-04	1.98E-04	1.8%	none	300		[A]
Cyanide	2.93E-01	1.65E-07	4.72E-09	2.75E-07	1.97E-08	8.26E-06	1.38E-05	0.1%	thyroid, nerve	100		[D]
Lead	4.79E+01	2.70E-05	7.71E-07	4.50E-05	3.21E-06				CNS, blood	--		[B2]
Mercury	1.13E-01	6.36E-08	1.82E-09	1.06E-07	7.57E-09	2.12E-04	3.53E-04	3.2%	kidney	--		[D]
Nickel	2.18E+01	1.23E-05	3.50E-07	2.04E-05	1.46E-06	6.13E-04	1.02E-03	9.3%	whole body	300		--
Silver	9.09E-01	5.12E-07	1.46E-08	8.54E-07	6.10E-08	1.02E-04	1.71E-04	1.6%	skin	3		[D]
Zinc	1.10E+02	6.19E-05	1.77E-06	1.03E-04	7.36E-06	2.06E-04	3.44E-04	3.1%	blood	3		[D]
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	3.21E+00	1.81E-06	5.17E-08	3.02E-06	2.16E-07	1.81E-05	3.02E-05	0.3%	none	3000		[D]
Methylphosphonic acid	1.07E+00	6.00E-07	1.72E-08	1.00E-06	7.15E-08	3.00E-05	5.00E-05	0.5%	--	--		--
Chemical hazards combined exposure:												
Hazard index (HI):						6.60E-03	1.10E-02	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

Table L-175. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)		
<b>INORGANICS (mg/kg)</b>													
Antimony	3.67E+00	No ABS	No ABS	No ABS	No ABS			blood/circulatory system	1000				--
Beryllium	8.89E-01	No ABS	No ABS	No ABS	No ABS			GI system	300				[B1]
Calcium	1.24E+05	No ABS	No ABS	No ABS	No ABS			--	--				--
Chromium (III)	2.53E+01	No ABS	No ABS	No ABS	No ABS			none	100				[D]
Chromium (VI)	4.21E+00	No ABS	No ABS	No ABS	No ABS			none	300				[A]
Cyanide	2.93E-01	No ABS	No ABS	No ABS	No ABS			thyroid, nerve	100				[D]
Lead	4.79E+01	No ABS	No ABS	No ABS	No ABS			CNS, blood	--				[B2]
Mercury	1.13E-01	No ABS	No ABS	No ABS	No ABS			kidney	--				[D]
Nickel	2.18E+01	No ABS	No ABS	No ABS	No ABS			whole body	300				--
Silver	9.09E-01	No ABS	No ABS	No ABS	No ABS			skin	3				[D]
Zinc	1.10E+02	No ABS	No ABS	No ABS	No ABS			blood	3				[D]
<b>ORGANICS (mg/kg)</b>													
Isopropyl methylphosphonate	3.21E+00	No ABS	No ABS	No ABS	No ABS			none	3000				[D]
Methylphosphonic acid	1.07E+00	No ABS	No ABS	No ABS	No ABS			--	--				--
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00   0.00E+00   0.0%							
Excess lifetime cancer risk:										0.00E+00   0.00E+00   0.0%			

**Table L-176. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE		
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ	Percent of Total (RME)		(CTE)	(RME)				
						Noncarcinogenic Effects (CDI/RfD)	Percent of Total									
<i>INORGANICS (mg/m<sup>3</sup>)</i>																
Antimony	4.26E-09	1.20E-10	3.43E-12	2.00E-10	1.43E-11						blood/circulatory system	1000			--	
Beryllium	1.03E-09	2.91E-11	8.30E-13	4.84E-11	3.46E-12	5.08E-09	8.47E-09	0.1%			GI system	300	6.97E-12	2.91E-11	4.1%	[B1]
Calcium	1.44E-04	4.07E-06	1.16E-07	6.78E-06	4.84E-07						--	--			--	
Chromium (III)	2.93E-08	8.26E-10	2.36E-11	1.38E-09	9.83E-11						none	100				[D]
Chromium (VI)	4.88E-09	1.38E-10	3.93E-12	2.29E-10	1.64E-11	4.82E-06	8.03E-06	99.0%			none	300	1.61E-10	6.72E-10	95.9%	[A]
Cyanide	3.40E-10	9.58E-12	2.74E-13	1.60E-11	1.14E-12						thyroid, nerve	100				[D]
Lead	5.56E-08	1.57E-09	4.47E-11	2.61E-09	1.86E-10						CNS, blood	--				[B2]
Mercury	1.31E-10	3.69E-12	1.05E-13	6.15E-12	4.39E-13	4.31E-08	7.18E-08	0.9%			kidney	--				[D]
Nickel	2.52E-08	7.11E-10	2.03E-11	1.19E-09	8.47E-11						whole body	300				--
Silver	1.05E-09	2.97E-11	8.49E-13	4.95E-11	3.54E-12						skin	3				[D]
Zinc	1.27E-07	3.59E-09	1.03E-10	5.98E-09	4.27E-10						blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>																
Isopropyl methylphosphonate	3.73E-09	1.05E-10	3.00E-12	1.75E-10	1.25E-11						none	3000				[D]
Methylphosphonic acid	1.24E-09	3.48E-11	9.95E-13	5.80E-11	4.15E-12						--	--				--
Chemical hazards combined exposure:																
Hazard index (HI):						4.87E-06	8.11E-06	100.0%								
Excess lifetime cancer risk:											1.68E-10	7.01E-10	100.0%			

Table L-177. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<b>INORGANICS (mg/kg)</b>													
Antimony	1.38E-03	6.65E-07	4.02E-08	1.59E-06	3.11E-07	1.66E-03	3.98E-03	0.0%	blood/circulatory system	1000	--	--	
Cadmium	7.82E-01	3.76E-04	2.27E-05	9.00E-04	1.76E-04	3.76E-01	9.00E-01	0.4%	kidney	10	--	[B1]	
Calcium	5.54E+05	2.66E+02	1.61E+01	6.37E+02	1.24E+02	--	--	--	--	--	--	--	
Cyanide	7.77E-07	3.74E-10	2.26E-11	8.94E-10	1.74E-10	1.87E-08	4.47E-08	0.0%	thyroid, nerve	100	--	[D]	
Lead	1.06E+00	5.12E-04	3.09E-05	1.22E-03	2.39E-04	--	--	--	CNS, blood	--	--	[B2]	
Mercury	8.71E-04	4.19E-07	2.53E-08	1.00E-06	1.96E-07	1.40E-03	3.34E-03	0.0%	kidney	--	--	[D]	
<b>ORGANICS (mg/kg)</b>													
Isopropyl methylphosphonate	1.58E+04	7.61E+00	4.60E-01	1.82E+01	3.55E+00	7.61E+01	1.82E+02	77.5%	none	3000	--	[D]	
Methylphosphonic acid	9.01E+02	4.33E-01	2.62E-02	1.04E+00	2.02E-01	2.17E+01	5.18E+01	22.1%	--	--	--	--	
Thiodiglycol	9.17E+00	4.41E-03	2.67E-04	1.06E-02	2.06E-03	--	--	--	--	--	--	--	
Chemical hazards combined exposure:													
Hazard index (HI):						9.81E+01	2.35E+02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-178. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/kg)</i>													
Antimony	5.96E-03	4.65E-06	2.83E-07	1.11E-05	2.19E-06	1.16E-02	2.78E-02	0.0%	blood/circulatory system	1000		--	
Cadmium	1.37E-01	1.07E-04	6.53E-06	2.57E-04	5.04E-05	1.07E-01	2.57E-01	0.1%	kidney	10		[B1]	
Calcium	5.54E+04	4.32E+01	2.63E+00	1.03E+02	2.03E+01				--	--		--	
Cyanide	6.04E-01	4.71E-04	2.87E-05	1.13E-03	2.22E-04	2.36E-02	5.64E-02	0.0%	thyroid, nerve	100		[D]	
Lead	5.87E-01	4.58E-04	2.79E-05	1.10E-03	2.15E-04				CNS, blood	--		[B2]	
Mercury	1.52E-03	1.19E-06	7.24E-08	2.85E-06	5.59E-07	3.96E-03	9.48E-03	0.0%	kidney	--		[D]	
<i>ORGANICS (mg/kg)</i>													
Isopropyl methylphosphonate	5.76E+03	4.49E+00	2.74E-01	1.08E+01	2.11E+00	4.49E+01	1.08E+02	45.1%	none	3000		[D]	
Methylphosphonic acid	1.40E+03	1.09E+00	6.65E-02	2.61E+00	5.13E-01	5.46E+01	1.31E+02	54.8%	--	--		--	
Thiodiglycol	1.29E+01	1.01E-02	6.13E-04	2.41E-02	4.73E-03				--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						9.97E+01	2.39E+02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-179. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			(RME)			
<i>INORGANICS (mg/kg)</i>														
Antimony	8.52E-04	6.77E-07	4.12E-08	1.52E-06	2.98E-07	1.69E-03	3.80E-03	0.0%	blood/circulatory system	1000			--	
Cadmium	1.93E-01	1.54E-04	9.35E-06	3.45E-04	6.77E-05	1.54E-01	3.45E-01	3.9%	kidney	10			[B1]	
Calcium	5.54E+04	4.40E+01	2.68E+00	9.87E+01	1.94E+01				--	--			--	
Cyanide	2.63E-01	2.09E-04	1.27E-05	4.68E-04	9.19E-05	1.04E-02	2.34E-02	0.3%	thyroid, nerve	100			[D]	
Lead	1.65E+00	1.31E-03	7.99E-05	2.95E-03	5.78E-04				CNS, blood	--			[B2]	
Mercury	1.09E-03	8.65E-07	5.26E-08	1.94E-06	3.81E-07	2.88E-03	6.47E-03	0.1%	kidney	--			[D]	
<i>ORGANICS (mg/kg)</i>														
Isopropyl methylphosphonate	3.76E+02	2.99E-01	1.82E-02	6.70E-01	1.31E-01	2.99E+00	6.70E+00	75.9%	none	3000			[D]	
Methylphosphonic acid	1.97E+01	1.56E-02	9.50E-04	3.51E-02	6.88E-03	7.81E-01	1.75E+00	19.8%	--	--			--	
Thiodiglycol	2.05E-01	1.63E-04	9.93E-06	3.66E-04	7.19E-05				--	--			--	
Chemical hazards combined exposure:														
Hazard index (HI):						3.94E+00	8.83E+00	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-180. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	1.38E-03	2.12E-07	4.02E-08	5.08E-07	3.11E-07	5.31E-04	1.27E-03	0.0%	blood/circulatory system	1000		--
Cadmium	7.82E-01	1.20E-04	2.27E-05	2.87E-04	1.76E-04	1.20E-01	2.87E-01	0.4%	kidney	10		[B1]
Calcium	5.54E+05	8.49E+01	1.61E+01	2.03E+02	1.24E+02				--	--		--
Cyanide	7.77E-07	1.19E-10	2.26E-11	2.85E-10	1.74E-10	5.96E-09	1.43E-08	0.0%	thyroid, nerve	100		[D]
Lead	1.06E+00	1.63E-04	3.09E-05	3.91E-04	2.39E-04				CNS, blood	--		[B2]
Mercury	8.71E-04	1.34E-07	2.53E-08	3.20E-07	1.96E-07	4.45E-04	1.07E-03	0.0%	kidney	--		[D]
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	1.58E+04	2.43E+00	4.60E-01	5.81E+00	3.55E+00	2.43E+01	5.81E+01	77.5%	none	3000		[D]
Methylphosphonic acid	9.01E+02	1.38E-01	2.62E-02	3.31E-01	2.02E-01	6.91E+00	1.65E+01	22.1%	--	--		--
Thiodiglycol	9.17E+00	1.41E-03	2.67E-04	3.37E-03	2.06E-03				--	--		--
Chemical hazards combined exposure:												
Hazard index (HI):						3.13E+01	7.49E+01	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%



Table L-181. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>													
Antimony	5.96E-03	1.50E-06	2.83E-07	3.59E-06	2.19E-06	3.75E-03	8.98E-03	0.0%	blood/circulatory system	1000	--	--	
Cadmium	1.37E-01	3.46E-05	6.53E-06	8.29E-05	5.04E-05	3.46E-02	8.29E-02	0.1%	kidney	10	--	[B1]	
Calcium	5.54E+04	1.39E+01	2.63E+00	3.34E+01	2.03E+01	--	--	--	--	--	--	--	
Cyanide	6.04E-01	1.52E-04	2.87E-05	3.64E-04	2.22E-04	7.61E-03	1.82E-02	0.0%	thyroid, nerve	100	--	[D]	
Lead	5.87E-01	1.48E-04	2.79E-05	3.54E-04	2.15E-04	--	--	--	CNS, blood	--	--	[B2]	
Mercury	1.52E-03	3.84E-07	7.24E-08	9.19E-07	5.59E-07	1.28E-03	3.06E-03	0.0%	kidney	--	--	[D]	
<i>ORGANICS (mg/kg)</i>													
Isopropyl methylphosphonate	5.76E+03	1.45E+00	2.74E-01	3.47E+00	2.11E+00	1.45E+01	3.47E+01	45.1%	none	3000	--	[D]	
Methylphosphonic acid	1.40E+03	3.53E-01	6.65E-02	8.44E-01	5.13E-01	1.76E+01	4.22E+01	54.8%	--	--	--	--	
Thiodiglycol	1.29E+01	3.25E-03	6.13E-04	7.78E-03	4.73E-03	--	--	--	--	--	--	--	
Chemical hazards combined exposure:													
Hazard index (HI):						3.22E+01	7.70E+01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-182. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	8.52E-04	2.18E-07	4.12E-08	4.90E-07	2.98E-07	5.46E-04	1.22E-03	0.0%	blood/circulatory system	1000		--	
Cadmium	1.93E-01	4.96E-05	9.35E-06	1.11E-04	6.77E-05	4.96E-02	1.11E-01	3.9%	kidney			[B1]	
Calcium	5.54E+04	1.42E+01	2.68E+00	3.18E+01	1.94E+01				--			--	
Cyanide	2.63E-01	6.73E-05	1.27E-05	1.51E-04	9.19E-05	3.37E-03	7.55E-03	0.3%	thyroid, nerve	100		[D]	
Lead	1.65E+00	4.23E-04	7.99E-05	9.50E-04	5.78E-04				CNS, blood	--		[B2]	
Mercury	1.09E-03	2.79E-07	5.26E-08	6.26E-07	3.81E-07	9.31E-04	2.09E-03	0.1%	kidney	--		[D]	
<i>ORGANICS (mg/kg)</i>													
Isopropyl methylphosphonate	3.76E+02	9.63E-02	1.82E-02	2.16E-01	1.31E-01	9.63E-01	2.16E+00	75.9%	none	3000		[D]	
Methylphosphonic acid	1.97E+01	5.04E-03	9.50E-04	1.13E-02	6.88E-03	2.52E-01	5.65E-01	19.8%	--	--		--	
Thiodiglycol	2.05E-01	5.26E-05	9.93E-06	1.18E-04	7.19E-05				--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						1.27E+00	2.85E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-183. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	
						(CTE)	(RME)						
<b>INORGANICS (mg/kg)</b>													
Antimony	4.77E-04	2.30E-07	1.39E-08	5.49E-07	1.07E-07	5.74E-04	1.37E-03	0.3%	blood/circulatory system	1000		--	
Beryllium	8.89E-03	4.27E-06	2.58E-07	1.02E-05	2.00E-06	2.14E-03	5.11E-03	1.0%	GI system	300		[B1]	
Calcium	4.35E+05	2.09E+02	1.27E+01	5.01E+02	9.77E+01				--	--		--	
Chromium (III)	1.89E-01	9.11E-05	5.51E-06	2.18E-04	4.25E-05	6.07E-05	1.45E-04	0.0%	none	100		[D]	
Chromium (VI)	3.16E-02	1.52E-05	9.18E-07	3.63E-05	7.09E-06	5.06E-03	1.21E-02	2.3%	none	300		[A]	
Cyanide	5.38E-07	2.59E-10	1.56E-11	6.19E-10	1.21E-10	1.29E-08	3.10E-08	0.0%	thyroid, nerve	100		[D]	
Lead	2.78E-01	1.34E-04	8.08E-06	3.20E-04	6.24E-05				CNS, blood	--		[B2]	
Mercury	9.03E-04	4.34E-07	2.63E-08	1.04E-06	2.03E-07	1.45E-03	3.46E-03	0.6%	kidney	--		[D]	
Nickel	6.96E-01	3.35E-04	2.02E-05	8.01E-04	1.56E-04	1.67E-02	4.01E-02	7.5%	whole body	300		--	
Silver	2.45E-04	1.18E-07	7.13E-09	2.82E-07	5.51E-08	2.36E-05	5.65E-05	0.0%	skin	3		[D]	
Zinc	2.74E+01	1.32E-02	7.98E-04	3.16E-02	6.16E-03	4.40E-02	1.05E-01	19.6%	blood	3		[D]	
<b>ORGANICS (mg/kg)</b>													
Isopropyl methylphosphonate	2.21E+01	1.06E-02	6.42E-04	2.54E-02	4.96E-03	1.06E-01	2.54E-01	47.4%	none	3000		[D]	
Methylphosphonic acid	1.99E+00	9.55E-04	5.78E-05	2.29E-03	4.46E-04	4.78E-02	1.14E-01	21.3%	--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						2.24E-01	5.36E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-184. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
		Noncarcinogenic Effects (CDI/RfD) (CTE)		HQ Percent of Total (RME)									
<b>INORGANICS (mg/kg)</b>													
Antimony	2.06E-03	1.60E-06	9.76E-08	3.84E-06	7.54E-07	4.01E-03	9.60E-03	1.7%	blood/circulatory system	1000		--	
Beryllium	1.33E-03	1.04E-06	6.33E-08	2.49E-06	4.89E-07	5.20E-04	1.24E-03	0.2%	GI system	300		[B1]	
Calcium	4.35E+04	3.40E+01	2.07E+00	8.13E+01	1.60E+01				--	--		--	
Chromium (III)	1.14E-01	8.87E-05	5.40E-06	2.12E-04	4.17E-05	5.91E-05	1.41E-04	0.0%	none	100		[D]	
Chromium (VI)	1.89E-02	1.48E-05	8.99E-07	3.54E-05	6.95E-06	4.93E-03	1.18E-02	2.1%	none	300		[A]	
Cyanide	4.18E-01	3.26E-04	1.99E-05	7.81E-04	1.53E-04	1.63E-02	3.90E-02	7.0%	thyroid, nerve	100		[D]	
Lead	1.53E-01	1.20E-04	7.28E-06	2.86E-04	5.62E-05				CNS, blood	--		[B2]	
Mercury	1.58E-03	1.23E-06	7.50E-08	2.95E-06	5.79E-07	4.11E-03	9.83E-03	1.8%	kidney	--		[D]	
Nickel	1.74E-01	1.36E-04	8.26E-06	3.25E-04	6.38E-05	6.79E-03	1.62E-02	2.9%	whole body	300		--	
Silver	1.18E-03	9.21E-07	5.61E-08	2.21E-06	4.33E-07	1.84E-04	4.41E-04	0.1%	skin	3		[D]	
Zinc	4.83E+00	3.77E-03	2.29E-04	9.01E-03	1.77E-03	1.26E-02	3.00E-02	5.4%	blood	3		[D]	
<b>ORGANICS (mg/kg)</b>													
Isopropyl methylphosphonate	8.05E+00	6.28E-03	3.82E-04	1.50E-02	2.95E-03	6.28E-02	1.50E-01	27.0%	none	3000		[D]	
Methylphosphonic acid	3.09E+00	2.41E-03	1.47E-04	5.76E-03	1.13E-03	1.20E-01	2.88E-01	51.8%	--	--		--	
Chemical hazards combined exposure:													
Hazard index (HI):						2.33E-01	5.57E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-185. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	2.94E-04	2.34E-07	1.42E-08	5.24E-07	1.03E-07	5.84E-04	1.31E-03	1.4%	blood/circulatory system	1000		--
Beryllium	1.33E-03	1.06E-06	6.45E-08	2.38E-06	4.67E-07	5.30E-04	1.19E-03	1.3%	GI system	300		[B1]
Calcium	4.35E+04	3.46E+01	2.11E+00	7.77E+01	1.52E+01				--	--		--
Chromium (III)	1.14E-01	9.04E-05	5.50E-06	2.03E-04	3.98E-05	6.02E-05	1.35E-04	0.1%	none	100		[D]
Chromium (VI)	1.89E-02	1.51E-05	9.16E-07	3.38E-05	6.63E-06	5.02E-03	1.13E-02	12.2%	none	300		[A]
Cyanide	1.82E-01	1.45E-04	8.79E-06	3.24E-04	6.36E-05	7.23E-03	1.62E-02	17.6%	thyroid, nerve	100		[D]
Lead	4.31E-01	3.43E-04	2.08E-05	7.69E-04	1.51E-04				CNS, blood	--		[B2]
Mercury	1.13E-03	8.97E-07	5.46E-08	2.01E-06	3.95E-07	2.99E-03	6.71E-03	7.3%	kidney	--		[D]
Nickel	1.31E-01	1.04E-04	6.31E-06	2.33E-04	4.57E-05	5.19E-03	1.16E-02	12.7%	whole body	300		--
Silver	7.27E-04	5.78E-07	3.52E-08	1.30E-06	2.55E-07	1.16E-04	2.59E-04	0.3%	skin	3		[D]
Zinc	5.05E+00	4.01E-03	2.44E-04	9.01E-03	1.77E-03	1.34E-02	3.00E-02	32.6%	blood	3		[D]
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	5.25E-01	4.17E-04	2.54E-05	9.35E-04	1.84E-04	4.17E-03	9.35E-03	10.2%	none	3000		[D]
Methylphosphonic acid	4.33E-02	3.45E-05	2.10E-06	7.73E-05	1.52E-05	1.72E-03	3.87E-03	4.2%	--	--		--
Chemical hazards combined exposure:												
Hazard index (HI):						4.10E-02	9.20E-02	100.0%				
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%	

Table L-186. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDD)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RFD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	4.77E-04	7.32E-08	1.39E-08	1.75E-07	1.07E-07	1.83E-04	4.38E-04	0.3%	blood/circulatory system	1000		--
Beryllium	8.89E-03	1.36E-06	2.58E-07	3.26E-06	2.00E-06	6.82E-04	1.63E-03	1.0%	GI system	300		[B1]
Calcium	4.35E+05	6.68E+01	1.27E+01	1.60E+02	9.77E+01				--	--		--
Chromium (III)	1.89E-01	2.91E-05	5.51E-06	6.96E-05	4.25E-05	1.94E-05	4.64E-05	0.0%	none	100		[D]
Chromium (VI)	3.16E-02	4.84E-06	9.18E-07	1.16E-05	7.09E-06	1.61E-03	3.86E-03	2.3%	none	300		[A]
Cyanide	5.38E-07	8.25E-11	1.56E-11	1.98E-10	1.21E-10	4.13E-09	9.88E-09	0.0%	thyroid, nerve	100		[D]
Lead	2.78E-01	4.26E-05	8.08E-06	1.02E-04	6.24E-05				CNS, blood	--		[B2]
Mercury	9.03E-04	1.39E-07	2.63E-08	3.32E-07	2.03E-07	4.62E-04	1.11E-03	0.6%	kidney	--		[D]
Nickel	6.96E-01	1.07E-04	2.02E-05	2.56E-04	1.56E-04	5.34E-03	1.28E-02	7.5%	whole body	300		--
Silver	2.45E-04	3.76E-08	7.13E-09	9.01E-08	5.51E-08	7.53E-06	1.80E-05	0.0%	skin	3		[D]
Zinc	2.74E+01	4.21E-03	7.98E-04	1.01E-02	6.16E-03	1.40E-02	3.36E-02	19.6%	blood	3		[D]
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	2.21E+01	3.39E-03	6.42E-04	8.11E-03	4.96E-03	3.39E-02	8.11E-02	47.4%	none	3000		[D]
Methylphosphonic acid	1.99E+00	3.05E-04	5.78E-05	7.29E-04	4.46E-04	1.52E-02	3.65E-02	21.3%	--	--		--
Chemical hazards combined exposure:												
Hazard index (HI):						7.15E-02	1.71E-01	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-187. Risk Characterization for Tuberos Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	2.06E-03	5.18E-07	9.76E-08	1.24E-06	7.54E-07	1.29E-03	3.10E-03	1.7%	blood/circulatory system	1000	--	--	
Beryllium	1.33E-03	3.36E-07	6.33E-08	8.04E-07	4.89E-07	1.68E-04	4.02E-04	0.2%	GI system	300	[B1]	--	
Calcium	4.35E+04	1.10E+01	2.07E+00	2.62E+01	1.60E+01	--	--	--	--	--	--	--	
Chromium (III)	1.14E-01	2.86E-05	5.40E-06	6.85E-05	4.17E-05	1.91E-05	4.57E-05	0.0%	none	100	[D]	--	
Chromium (VI)	1.89E-02	4.77E-06	8.99E-07	1.14E-05	6.95E-06	1.59E-03	3.81E-03	2.1%	none	300	[A]	--	
Cyanide	4.18E-01	1.05E-04	1.99E-05	2.52E-04	1.53E-04	5.27E-03	1.26E-02	7.0%	thyroid, nerve	100	[D]	--	
Lead	1.53E-01	3.86E-05	7.28E-06	9.24E-05	5.62E-05	--	--	--	CNS, blood	--	[B2]	--	
Mercury	1.58E-03	3.98E-07	7.50E-08	9.53E-07	5.79E-07	1.33E-03	3.18E-03	1.8%	kidney	--	[D]	--	
Nickel	1.74E-01	4.38E-05	8.26E-06	1.05E-04	6.38E-05	2.19E-03	5.24E-03	2.9%	whole body	300	--	--	
Silver	1.18E-03	2.98E-07	5.61E-08	7.12E-07	4.33E-07	5.95E-05	1.42E-04	0.1%	skin	3	[D]	--	
Zinc	4.83E+00	1.22E-03	2.29E-04	2.91E-03	1.77E-03	4.05E-03	9.70E-03	5.4%	blood	3	[D]	--	
<i>ORGANICS (mg/kg)</i>													
Isopropyl methylphosphonate	8.05E+00	2.03E-03	3.82E-04	4.85E-03	2.95E-03	2.03E-02	4.85E-02	27.0%	none	3000	[D]	--	
Methylphosphonic acid	3.09E+00	7.78E-04	1.47E-04	1.86E-03	1.13E-03	3.89E-02	9.31E-02	51.8%	--	--	--	--	
Chemical hazards combined exposure:													
Hazard index (HI):						7.51E-02	1.80E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-188. Risk Characterization for Fruits (Subsurface Soils ->0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)	HQ						
<b>INORGANICS (mg/kg)</b>														
Antimony	2.94E-04	7.53E-08	1.42E-08	1.69E-07	1.03E-07	1.88E-04	4.23E-04	1.4%	blood/circulatory system	1000			--	
Beryllium	1.33E-03	3.42E-07	6.45E-08	7.67E-07	4.67E-07	1.71E-04	3.83E-04	1.3%	GI system	300			[B1]	
Calcium	4.35E+04	1.12E+01	2.11E+00	2.51E+01	1.52E+01				--	--			--	
Chromium (III)	1.14E-01	2.92E-05	5.50E-06	6.54E-05	3.98E-05	1.94E-05	4.36E-05	0.1%	none	100			[D]	
Chromium (VI)	1.89E-02	4.86E-06	9.16E-07	1.09E-05	6.63E-06	1.62E-03	3.63E-03	12.2%	none	300			[A]	
Cyanide	1.82E-01	4.66E-05	8.79E-06	1.05E-04	6.36E-05	2.33E-03	5.23E-03	17.6%	thyroid, nerve	100			[D]	
Lead	4.31E-01	1.11E-04	2.08E-05	2.48E-04	1.51E-04				CNS, blood	--			[B2]	
Mercury	1.13E-03	2.90E-07	5.46E-08	6.50E-07	3.95E-07	9.65E-04	2.17E-03	7.3%	kidney	--			[D]	
Nickel	1.31E-01	3.35E-05	6.31E-06	7.51E-05	4.57E-05	1.67E-03	3.75E-03	12.7%	whole body	300			--	
Silver	7.27E-04	1.86E-07	3.52E-08	4.18E-07	2.55E-07	3.73E-05	8.37E-05	0.3%	skin	3			[D]	
Zinc	5.05E+00	1.29E-03	2.44E-04	2.90E-03	1.77E-03	4.32E-03	9.68E-03	32.6%	blood	3			[D]	
<b>ORGANICS (mg/kg)</b>														
Isopropyl methylphosphonate	5.25E-01	1.35E-04	2.54E-05	3.02E-04	1.84E-04	1.35E-03	3.02E-03	10.2%	none	3000			[D]	
Methylphosphonic acid	4.33E-02	1.11E-05	2.10E-06	2.49E-05	1.52E-05	5.56E-04	1.25E-03	4.2%	--	--			--	
<b>Chemical hazards combined exposure:</b>														
Hazard index (HI):						1.32E-02	2.97E-02	100.0%						
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%	



Table L-189. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	4.16E-03	4.38E-06	2.93E-07	1.12E-05	2.42E-06	1.09E-02	2.79E-02	20.6%	blood/circulatory system	1000		--
Cadmium	2.01E-03	2.12E-06	1.41E-07	5.39E-06	1.17E-06	2.12E-03	5.39E-03	4.0%	kidney	10		(B1)
Calcium	1.44E+03	1.51E+00	1.01E-01	3.86E+00	8.38E-01				--	--		--
Cyanide	4.15E-08	4.37E-11	2.92E-12	1.11E-10	2.42E-11	2.18E-09	5.57E-09	0.0%	thyroid, nerve	100		(D)
Lead	2.26E-02	2.38E-05	1.59E-06	6.07E-05	1.32E-05				CNS, blood	--		(B2)
Mercury	1.14E-02	1.20E-05	8.02E-07	3.06E-05	6.64E-06	4.00E-02	1.02E-01	75.4%	kidney	--		(D)
<i>ORGANICS (mg/kg)</i>												
Isopropyl methylphosphonate	2.71E-03	2.85E-06	1.90E-07	7.26E-06	1.58E-06	2.85E-05	7.26E-05	0.1%	none	3000		(D)
Methylphosphonic acid	1.72E-05	1.81E-08	1.21E-09	4.62E-08	1.00E-08	9.06E-07	2.31E-06	0.0%	--	--		--
Thiodiglycol	2.05E-07	2.15E-10	1.44E-11	5.49E-10	1.19E-10				--	--		--
Chemical hazards combined exposure:												
Hazard index (HI):						5.31E-02	1.35E-01	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-190. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33A - Inside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>INORGANICS (mg/kg)</b>												
Antimony	4.16E-03	1.68E-06	2.93E-07	4.27E-06	2.42E-06	4.19E-03	1.07E-02	20.6%	blood/circulatory system	1000	--	--
Cadmium	2.01E-03	8.10E-07	1.41E-07	2.06E-06	1.17E-06	8.10E-04	2.06E-03	4.0%	kidney	10	--	[B1]
Calcium	1.44E+03	5.80E-01	1.01E-01	1.48E+00	8.38E-01	--	--	--	--	--	--	--
Cyanide	4.15E-08	1.67E-11	2.92E-12	4.26E-11	2.42E-11	8.36E-10	2.13E-09	0.0%	thyroid, nerve	100	--	[D]
Lead	2.26E-02	9.11E-06	1.59E-06	2.32E-05	1.32E-05	--	--	--	CNS, blood	--	--	[B2]
Mercury	1.14E-02	4.59E-06	8.02E-07	1.17E-05	6.64E-06	1.53E-02	3.90E-02	75.4%	kidney	--	--	[D]
<b>ORGANICS (mg/kg)</b>												
Isopropyl methylphosphonate	2.71E-03	1.09E-06	1.90E-07	2.78E-06	1.58E-06	1.09E-05	2.78E-05	0.1%	none	3000	--	[D]
Methylphosphonic acid	1.72E-05	6.93E-09	1.21E-09	1.77E-08	1.00E-08	3.47E-07	8.83E-07	0.0%	--	--	--	--
Thiodiglycol	2.05E-07	8.24E-11	1.44E-11	2.10E-10	1.19E-10	--	--	--	--	--	--	--
<b>Chemical hazards combined exposure:</b>												
Hazard index (HI):						2.03E-02	5.18E-02	100.0%				
Excess lifetime cancer risk:						0.00E+00	0.00E+00	0.0%				

**Table L-191. RME Risk Characterization Summary: SWMU 33B - Outside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	3E-01 B	0E+00 B	4E+00 E	4E-01 B	1E-01 B	0E+00 B	0E+00 B							
	Dermal Contact	2E-02 B	0E+00 B	3E-02 B	2E-02 B	3E-03 B	0E+00 B	0E+00 B							
	Inhalation (Dust)	1E-04 B	4E-09 B	3E-04 B	1E-04 B	3E-05 B	9E-09 B	2E-10 B							
	Inhalation (Volatiles)	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B							
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA	NA	4E-01 B	5E-02 B	3E-02 B	0E+00 B	0E+00 B							
	Dermal Contact	NA	NA	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B							
	Inhalation (Dust)	NA	NA	4E-02 B	2E-02 B	3E-03 B	2E-09 B	4E-11 B							
	Inhalation (Volatiles)	NA	NA	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B							
<b>Surface Soil</b>															
<b>Combined Hazard Index (HI):</b>		3E-01 B		4E+00 E				4E-01 B		1E-01 B					
<b>Combined Cancer Risk:</b>						4E-09 B						9E-09 B		2E-10 B	
<b>Subsurface Soil</b>															
<b>Combined Hazard Index (HI):</b>		NA		5E-01 B				7E-02 B		4E-02 B					
<b>Combined Cancer Risk:</b>						NA						2E-09 B		4E-11 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-192. CTE Risk Characterization Summary: SWMU 33B - Outside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	1E-01	B	0E+00	B	1E+00	B	1E-01	B	8E-02	B	0E+00	B	0E+00	B
	Dermal Contact	2E-03	B	0E+00	B	4E-03	B	2E-03	B	3E-04	B	0E+00	B	0E+00	B
	Inhalation (Dust)	9E-05	B	7E-10	B	2E-04	B	1E-04	B	2E-05	B	2E-09	B	5E-11	B
	Inhalation (Volatiles)	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		2E-01	B	2E-02	B	2E-02	B	0E+00	B	0E+00	B
	Dermal Contact	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
	Inhalation (Dust)	NA		NA		3E-02	B	1E-02	B	2E-03	B	4E-10	B	1E-11	B
	Inhalation (Volatiles)	NA		NA		0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
<b>Surface Soil</b>															
<b>Combined Hazard Index (HI):</b>		1E-01 B				1E+00 B		1E-01 B		8E-02 B					
<b>Combined Cancer Risk:</b>				7E-10 B						2E-09 B		5E-11 B			
<b>Subsurface Soil</b>															
<b>Combined Hazard Index (HI):</b>		NA				2E-01 B		3E-02 B		2E-02 B					
<b>Combined Cancer Risk:</b>				NA						4E-10 B		1E-11 B			

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-193. RME Risk Characterization Summary for Produce and Beef: SWMU 33B - Outside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	9E+00	E	3E+00	E	0E+00	B
	Tuberous Vegetable Ingestion	7E+00	E	2E+00	E	0E+00	B
	Fruit Ingestion	7E+00	E	2E+00	E	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	2E+01	E	7E+00	E	0E+00	B
	Tuberous Vegetable Ingestion	9E+00	E	3E+00	E	0E+00	B
	Fruit Ingestion	3E+00	E	1E+00	B	0E+00	B
Beef	Ingestion	3E+01	E	1E+01	E	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		6E+01	E	2E+01	E		
<b>Combined Cancer Risk:</b>						0E+00	B
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		7E+01	E	2E+01	E		
<b>Combined Cancer Risk:</b>						0E+00	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-194. CTE Risk Characterization Summary for Produce and Beef: SWMU 33B - Outside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	4E+00	E	1E+00	B	0E+00	B
	Tuberous Vegetable Ingestion	3E+00	E	1E+00	B	0E+00	B
	Fruit Ingestion	3E+00	E	1E+00	B	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	9E+00	E	3E+00	E	0E+00	B
	Tuberous Vegetable Ingestion	4E+00	E	1E+00	B	0E+00	B
	Fruit Ingestion	1E+00	B	4E-01	B	0E+00	B
Beef	Ingestion	1E+01	E	5E+00	E	0E+00	B
<b>Produce (Surface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		2E+01	E	8E+00	E		
<b>Combined Cancer Risk:</b>						0E+00	B
<b>Produce (Subsurface Soil) and Beef</b>							
<b>Combined Hazard Index (HI):</b>		3E+01	E	1E+01	E		
<b>Combined Cancer Risk:</b>						0E+00	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-195. Chemicals of Concern for RME Risks at SWMU 33B - Outside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC*	% of Total HI	% of Total Cancer Risk	Current Land Use		Future Land Use				
					Noncancer	Cancer	Noncancer HI			Cancer Risk	
					HI: Depot Worker	Risk: Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker
Surface Soil (0 to 0.5 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)	Thallium	56%				2E+00	2E-01			
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)										

\* COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-196. Chemicals of Concern for Produce and Beef RME Risks at SWMU 33B - Outside Building 536  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		Cancer Risk
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion	Cadmium	37%		3E+00	1E+00	
		Copper	41%		4E+00	1E+00	
		Mercury	10%		9E-01	3E-01	
	Tuberous Vegetable Ingestion	Cadmium	13%		1E+00	3E-01	
		Copper	50%		4E+00	1E+00	
		Mercury	33%		2E+00	8E-01	
	Fruit Ingestion	Cadmium	19%		1E+00	4E-01	
		Copper	53%		4E+00	1E+00	
		Mercury	25%		2E+00	5E-01	
Produce (Subsurface Soil)	Leafy Vegetable Ingestion	Manganese	98%		2E+01	7E+00	
	Tuberous Vegetable Ingestion	Manganese	99%		9E+00	3E+00	
	Fruit Ingestion	Manganese	96%		3E+00	9E-01	
Beef	Ingestion	Mercury	76%		3E+01	1E+01	
		Thallium	21%		7E+00	3E+00	

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures



**Table L-197. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current/Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	
<i>INORGANICS (mg/kg)</i>													
Antimony	7.46E+00	3.20E-06	2.28E-07	7.30E-06	2.61E-06	7.99E-03	1.82E-02	6.2%	blood/circulatory system	1000		--	
Cadmium	8.03E+00	3.44E-06	2.46E-07	7.85E-06	2.81E-06	3.44E-03	7.85E-03	2.7%	kidney	10		[B1]	
Copper	3.20E+02	1.37E-04	9.79E-06	3.13E-04	1.12E-04	3.43E-03	7.82E-03	2.7%	gastrointestinal system	--		[D]	
Lead	6.22E+02	2.47E-04	1.90E-05	6.08E-04	2.17E-04				CNS, blood	--		[B2]	
Mercury	2.81E+01	1.20E-05	8.59E-07	2.75E-05	9.81E-06	4.01E-02	9.15E-02	31.2%	kidney	--		[D]	
Silver	6.55E+00	2.81E-06	2.01E-07	6.41E-06	2.29E-06	5.61E-04	1.28E-03	0.4%	skin	3		[D]	
Thallium	1.35E+01	5.79E-06	4.14E-07	1.32E-05	4.72E-06	7.24E-02	1.65E-01	56.3%	liver, blood	3000		[D]	
Zinc	3.97E+02	1.70E-04	1.22E-05	3.88E-04	1.39E-04	5.67E-04	1.29E-03	0.4%	blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						1.28E-01	2.93E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-198. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current/Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)	
<i>INORGANICS (mg/kg)</i>														
Antimony	7.46E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000			--	
Cadmium	8.03E+00	6.88E-08	4.91E-09	4.56E-07	1.63E-07	2.29E-03	1.52E-02	100.0%	kidney	10			[B1]	
Copper	3.20E+02	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--			[D]	
Lead	6.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[D]	
Mercury	2.81E+01	No ABS	No ABS	No ABS	No ABS				kidney	--			[B2]	
Silver	6.55E+00	No ABS	No ABS	No ABS	No ABS				skin	--			[D]	
Thallium	1.35E+01	No ABS	No ABS	No ABS	No ABS				liver, blood	3			[D]	
Zinc	3.97E+02	No ABS	No ABS	No ABS	No ABS				blood	3000			[D]	
										3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						2.29E-03	1.52E-02	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-199. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Current/Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	8.65E-09	1.48E-09	1.06E-10	1.69E-09	6.05E-10				blood/circulatory system	1000			--	
Cadmium	9.31E-09	1.60E-09	1.14E-10	1.82E-09	6.51E-10	2.80E-05	3.20E-05	30.1%	kidney	10	7.18E-10	4.10E-09	100.0% [B1]	
Copper	3.71E-07	6.36E-08	4.54E-09	7.26E-08	2.59E-08				gastrointestinal system	--			[D]	
Lead	7.21E-07	1.24E-07	8.83E-09	1.41E-07	5.04E-08				CNS, blood	--			[B2]	
Mercury	3.26E-08	5.58E-09	3.99E-10	6.37E-09	2.28E-09	6.51E-05	7.43E-05	69.9%	kidney	--			[D]	
Silver	7.60E-09	1.30E-09	9.30E-11	1.49E-09	5.31E-10				skin	3			[D]	
Thallium	1.57E-08	2.69E-09	1.92E-10	3.07E-09	1.10E-09				liver, blood	3000			[D]	
Zinc	4.61E-07	7.90E-08	5.64E-09	9.01E-08	3.22E-08				blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						9.31E-05	1.06E-04	100.0%						
Excess lifetime cancer risk:										7.18E-10	4.10E-09	100.0%		

**Table L-200. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	7.46E+00	3.19E-05	1.25E-06	9.53E-05	1.17E-05	7.97E-02	2.38E-01	6.2%	blood/circulatory system	1000		--	
Cadmium	8.03E+00	3.43E-05	1.35E-06	1.03E-04	1.26E-05	3.43E-02	1.03E-01	2.7%	kidney	10		[B1]	
Copper	3.20E+02	1.37E-03	5.37E-05	4.09E-03	5.01E-04	3.42E-02	1.02E-01	2.7%	gastrointestinal system	--		[D]	
Lead	6.22E+02	2.66E-03	1.04E-04	7.95E-03	9.74E-04				CNS, blood	--		[B2]	
Mercury	2.81E+01	1.20E-04	4.71E-06	3.59E-04	4.39E-05	4.00E-01	1.20E+00	31.2%	kidney	--		[D]	
Silver	6.55E+00	2.80E-05	1.10E-06	8.37E-05	1.03E-05	5.60E-03	1.67E-02	0.4%	skin	3		[D]	
Thallium	1.35E+01	5.78E-05	2.27E-06	1.73E-04	2.12E-05	7.22E-01	2.16E+00	56.3%	liver, blood	3000		[D]	
Zinc	3.97E+02	1.70E-03	6.67E-05	5.08E-03	6.22E-04	5.66E-03	1.69E-02	0.4%	blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						1.28E+00	3.83E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-201. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tootle, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	7.46E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Cadmium	8.03E+00	1.20E-07	1.08E-08	1.03E-06	3.07E-07	4.00E-03	3.44E-02	100.0%	kidney	10		[B1]	
Copper	3.20E+02	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Lead	6.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Mercury	2.81E+01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]	
Silver	6.55E+00	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Thallium	1.35E+01	No ABS	No ABS	No ABS	No ABS				liver, blood	3000		[D]	
Zinc	3.97E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<b>Chemical hazards combined exposure:</b>													
Hazard index (HI):						4.00E-03	3.44E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-202. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	8.65E-09	3.70E-09	2.64E-10	5.53E-09	1.29E-09				blood/circulatory system	1000			--	
Cadmium	9.31E-09	3.98E-09	2.84E-10	5.95E-09	1.39E-09	6.98E-05	1.04E-04	30.1%	kidney	10	1.79E-09	8.73E-09	100.0% [B1]	
Copper	3.71E-07	1.59E-07	1.13E-08	2.37E-07	5.52E-08				gastrointestinal system	--			[D]	
Lead	7.21E-07	3.08E-07	2.20E-08	4.61E-07	1.07E-07				CNS, blood	--			[D]	
Mercury	3.26E-08	1.39E-08	9.94E-10	2.08E-08	4.84E-09	1.62E-04	2.43E-04	69.9%	kidney	--			[B2]	
Silver	7.60E-09	3.25E-09	2.32E-10	4.86E-09	1.13E-09				skin	3			[D]	
Thallium	1.57E-08	6.70E-09	4.79E-10	1.00E-08	2.33E-09				liver, blood	3000			[D]	
Zinc	4.61E-07	1.97E-07	1.41E-08	2.94E-07	6.85E-08				blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						2.32E-04	3.47E-04	100.0%						
Excess lifetime cancer risk:										1.79E-09	8.73E-09	100.0%		

Table L-203. Risk Characterization for Surface Soils (0 to 6.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Antimony	7.46E+00	3.41E-06	1.25E-06	1.02E-05	1.17E-05	8.54E-03	2.55E-02	6.2%	blood/circulatory system	1000			--	
Cadmium	8.03E+00	3.68E-06	1.35E-06	1.10E-05	1.26E-05	3.68E-03	1.10E-02	2.7%	kidney	10			[B1]	
Copper	3.20E+02	1.46E-04	5.37E-05	4.38E-04	5.01E-04	3.66E-03	1.10E-02	2.7%	gastrointestinal system	--			[D]	
Lead	6.22E+02	2.85E-04	1.04E-04	8.52E-04	9.74E-04				CNS, blood	--			[B2]	
Mercury	2.81E+01	1.29E-05	4.71E-06	3.84E-05	4.39E-05	4.28E-02	1.28E-01	31.2%	kidney	--			[D]	
Silver	6.55E+00	3.00E-06	1.10E-06	8.97E-06	1.03E-05	6.00E-04	1.79E-03	0.4%	skin	3			[D]	
Thallium	1.35E+01	6.19E-06	2.27E-06	1.85E-05	2.12E-05	7.74E-02	2.31E-01	56.3%	liver, blood	3000			[D]	
Zinc	3.97E+02	1.82E-04	6.67E-05	5.44E-04	6.22E-04	6.06E-04	1.81E-03	0.4%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						1.37E-01	4.11E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-204. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
	<i>INORGANICS (mg/kg)</i>												
Antimony	7.46E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Cadmium	8.03E+00	7.35E-08	1.08E-08	6.38E-07	3.07E-07	2.45E-03	2.13E-02	100.0%	kidney	10		[B1]	
Copper	3.20E+02	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Lead	6.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Mercury	2.81E+01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]	
Silver	6.55E+00	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Thallium	1.35E+01	No ABS	No ABS	No ABS	No ABS				liver, blood	3000		[D]	
Zinc	3.97E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						2.45E-03	2.13E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	



**Table L-205. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	8.65E-09	1.58E-09	2.64E-10	2.37E-09	1.29E-09				blood/circulatory system	1000			--	
Cadmium	9.31E-09	1.71E-09	2.84E-10	2.55E-09	1.39E-09	2.99E-05	4.48E-05	30.1%	kidney	10	1.79E-09	8.73E-09	100.0% [B1]	
Copper	3.71E-07	6.80E-08	1.13E-08	1.02E-07	5.52E-08				gastrointestinal system	--			[D]	
Lead	7.21E-07	1.32E-07	2.20E-08	1.98E-07	1.07E-07				CNS, blood	--			[B2]	
Mercury	3.26E-08	5.96E-09	9.94E-10	8.92E-09	4.84E-09	6.96E-05	1.04E-04	69.9%	kidney	--			[D]	
Silver	7.60E-09	1.39E-09	2.32E-10	2.08E-09	1.13E-09				skin	3			[D]	
Thallium	1.57E-08	2.87E-09	4.79E-10	4.30E-09	2.33E-09				liver, blood	3000			[D]	
Zinc	4.61E-07	8.44E-08	1.41E-08	1.26E-07	6.85E-08				blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						9.95E-05	1.49E-04	100.0%						
Excess lifetime cancer risk:										1.79E-09	8.73E-09	100.0%		

**Table L-206. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	7.46E+00	4.20E-06	1.20E-07	7.00E-06	5.00E-07	1.05E-02	1.75E-02	12.6%	blood/circulatory system	1000		
Cadmium	8.03E+00	4.52E-06	1.29E-07	7.54E-06	5.39E-07	4.52E-03	7.54E-03	5.4%	kidney	10		[B1]
Copper	3.20E+02	1.80E-04	5.15E-06	3.00E-04	2.15E-05	4.87E-03	8.12E-03	5.8%	gastrointestinal system	--		[D]
Lead	6.22E+02	3.50E-04	1.00E-05	5.84E-04	4.17E-05				CNS, blood	--		[B2]
Mercury	2.81E+01	1.58E-05	4.52E-07	2.64E-05	1.88E-06	5.27E-02	8.79E-02	63.0%	kidney	--		[D]
Silver	6.55E+00	3.69E-06	1.05E-07	6.15E-06	4.39E-07	7.38E-04	1.23E-03	0.9%	skin	3		[D]
Thallium	1.35E+01	7.62E-06	2.18E-07	1.27E-05	9.07E-07	9.52E-03	1.59E-02	11.4%	liver, blood	3000		[D]
Zinc	3.97E+02	2.24E-04	6.39E-06	3.73E-04	2.66E-05	7.46E-04	1.24E-03	0.9%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						8.36E-02	1.39E-01	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-207. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	7.46E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Cadmium	8.03E+00	9.43E-09	2.69E-10	9.11E-08	6.51E-09	3.14E-04	3.04E-03	100.0%	kidney	10		[B1]	
Copper	3.20E+02	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Lead	6.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Mercury	2.81E+01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]	
Silver	6.55E+00	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Thallium	1.35E+01	No ABS	No ABS	No ABS	No ABS				liver, blood	3000		[D]	
Zinc	3.97E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						3.14E-04	3.04E-03	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-208. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Antimony	8.65E-09	2.44E-10	6.97E-12	4.06E-10	2.90E-11				blood/circulatory system	1000			--
Cadmium	9.31E-09	2.62E-10	7.50E-12	4.37E-10	3.12E-11	4.60E-06	7.67E-06	30.1%	kidney	10	4.72E-11	1.97E-10	100.0% [B1]
Copper	3.71E-07	1.05E-08	2.99E-10	1.74E-08	1.24E-09				gastrointestinal system	--			[D]
Lead	7.21E-07	2.03E-08	5.81E-10	3.39E-08	2.42E-09				CNS, blood	--			[B2]
Mercury	3.26E-08	9.18E-10	2.62E-11	1.53E-09	1.09E-10	1.07E-05	1.78E-05	69.9%	kidney	--			[D]
Silver	7.60E-09	2.14E-10	6.12E-12	3.57E-10	2.55E-11				skin	3			[D]
Thallium	1.57E-08	4.42E-10	1.26E-11	7.36E-10	5.26E-11				liver, blood	3000			[D]
Zinc	4.61E-07	1.30E-08	3.71E-10	2.16E-08	1.55E-09				blood	3			[D]
Chemical hazards combined exposure:													
Hazard index (HI):						1.53E-05	2.55E-05	100.0%					
Excess lifetime cancer risk:										4.72E-11	1.97E-10	100.0%	

**Table L-209. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Beryllium	1.37E+00	5.86E-06	2.30E-07	1.75E-05	2.14E-06	2.93E-03	8.76E-03	2.0%	GI system	300			[B1]	
Lead	5.30E+02	2.27E-03	8.90E-05	6.78E-03	8.30E-04				CNS, blood	--			[B2]	
Manganese	7.65E+02	3.27E-03	1.28E-04	9.78E-03	1.20E-03	1.36E-01	4.08E-01	90.8%	CNS	1			[D]	
Mercury	1.01E-01	4.31E-07	1.69E-08	1.29E-06	1.58E-07	1.44E-03	4.30E-03	1.0%	kidney	--			[D]	
Silver	4.06E+00	1.74E-05	6.82E-07	5.19E-05	6.36E-06	3.47E-03	1.04E-02	2.3%	skin	3			[D]	
Zinc	4.24E+02	1.81E-03	7.12E-05	5.42E-03	6.64E-04	6.04E-03	1.81E-02	4.0%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						1.50E-01	4.49E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-210. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)				(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Beryllium	1.37E+00	No ABS	No ABS	No ABS	No ABS				GI system	300			[B1]	
Lead	5.30E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[B2]	
Manganese	7.65E+02	No ABS	No ABS	No ABS	No ABS				CNS	1			[D]	
Mercury	1.01E-01	No ABS	No ABS	No ABS	No ABS				kidney	--			[D]	
Silver	4.06E+00	No ABS	No ABS	No ABS	No ABS				skin	3			[D]	
Zinc	4.24E+02	No ABS	No ABS	No ABS	No ABS				blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00	0.00E+00	0.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-211. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Beryllium	1.59E-09	6.79E-10	4.85E-11	1.02E-09	2.36E-10	1.19E-07	1.78E-07	0.0%	GI system	300	4.08E-10	1.99E-09	100.0%	[B1]
Lead	6.15E-07	2.63E-07	1.88E-08	3.93E-07	9.14E-08				CNS, blood	--				[B2]
Manganese	8.87E-07	3.79E-07	2.71E-08	5.67E-07	1.32E-07	2.66E-02	3.97E-02	100.0%	CNS	1				[D]
Mercury	1.17E-10	5.00E-11	3.57E-12	7.48E-11	1.74E-11	5.84E-07	8.73E-07	0.0%	kidney	--				[D]
Silver	4.71E-09	2.01E-09	1.44E-10	3.01E-09	7.01E-10				skin	3				[D]
Zinc	4.92E-07	2.10E-07	1.50E-08	3.14E-07	7.32E-08				blood	3				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.66E-02	3.97E-02	100.0%						
Excess lifetime cancer risk:											4.08E-10	1.99E-09	100.0%	

**Table L-212. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Beryllium	1.37E+00	6.27E-07	2.30E-07	1.88E-06	2.14E-06	3.14E-04	9.38E-04	2.0%	GI system	300		[B1]	
Lead	5.30E+02	2.43E-04	8.90E-05	7.26E-04	8.30E-04				CNS, blood	--		[B2]	
Manganese	7.65E+02	3.50E-04	1.28E-04	1.05E-03	1.20E-03	1.46E-02	4.37E-02	90.8%	CNS	1		[D]	
Mercury	1.01E-01	4.62E-08	1.69E-08	1.38E-07	1.58E-07	1.54E-04	4.61E-04	1.0%	kidney	--		[D]	
Silver	4.06E+00	1.86E-06	6.82E-07	5.56E-06	6.36E-06	3.72E-04	1.11E-03	2.3%	skin	3		[D]	
Zinc	4.24E+02	1.94E-04	7.12E-05	5.81E-04	6.64E-04	6.47E-04	1.94E-03	4.0%	blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						1.61E-02	4.81E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	



**Table L-213. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)				HQ			Risk estimates				
	EPC Conc. In Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>												
Beryllium	1.37E+00	No ABS	No ABS	No ABS	No ABS			GI system	300			[B1]
Lead	5.30E+02	No ABS	No ABS	No ABS	No ABS			CNS, blood	--			[B2]
Manganese	7.65E+02	No ABS	No ABS	No ABS	No ABS			CNS	1			[D]
Mercury	1.01E-01	No ABS	No ABS	No ABS	No ABS			kidney	--			[D]
Silver	4.06E+00	No ABS	No ABS	No ABS	No ABS			skin	3			[D]
Zinc	4.24E+02	No ABS	No ABS	No ABS	No ABS			blood	3			[D]
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%	

**Table L-214. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Beryllium	1.59E-09	2.91E-10	4.85E-11	4.35E-10	2.36E-10	5.09E-08	7.62E-08	0.0%	GI system	300	4.08E-10	1.99E-09	100.0%	[B1]
Lead	6.15E-07	1.13E-07	1.88E-08	1.68E-07	9.14E-08				CNS, blood	--				[B2]
Manganese	8.87E-07	1.63E-07	2.71E-08	2.43E-07	1.32E-07	1.14E-02	1.70E-02	100.0%	CNS	1				[D]
Mercury	1.17E-10	2.14E-11	3.57E-12	3.21E-11	1.74E-11	2.50E-07	3.74E-07	0.0%	kidney	--				[D]
Silver	4.71E-09	8.63E-10	1.44E-10	1.29E-09	7.01E-10				skin	3				[D]
Zinc	4.92E-07	9.01E-08	1.50E-08	1.35E-07	7.32E-08				blood	3				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.14E-02    1.70E-02    100.0%								
Excess lifetime cancer risk:										4.08E-10    1.99E-09    100.0%				

**Table L-215. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Beryllium	1.37E+00	7.72E-07	2.21E-08	1.29E-06	9.19E-08	1.54E-04	2.57E-04	0.8%	GI system	300			[B1]	
Lead	5.30E+02	2.99E-04	8.53E-06	4.98E-04	3.56E-05				CNS, blood	--			[B2]	
Manganese	7.65E+02	4.31E-04	1.23E-05	7.19E-04	5.13E-05	1.80E-02	2.99E-02	91.8%	CNS	1			[D]	
Mercury	1.01E-01	5.69E-08	1.62E-09	9.48E-08	6.77E-09	1.90E-04	3.16E-04	1.0%	kidney	--			[D]	
Silver	4.06E+00	2.29E-06	6.54E-08	3.81E-06	2.72E-07	4.58E-04	7.63E-04	2.3%	skin	3			[D]	
Zinc	4.24E+02	2.39E-04	6.83E-06	3.98E-04	2.84E-05	7.97E-04	1.33E-03	4.1%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						1.96E-02	3.26E-02	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-216. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>														
Beryllium	1.37E+00	No ABS	No ABS	No ABS	No ABS				GI system	300			[B1]	
Lead	5.30E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[B2]	
Manganese	7.65E+02	No ABS	No ABS	No ABS	No ABS				CNS	1			[D]	
Mercury	1.01E-01	No ABS	No ABS	No ABS	No ABS				kidney	--			[D]	
Silver	4.06E+00	No ABS	No ABS	No ABS	No ABS				skin	3			[D]	
Zinc	4.24E+02	No ABS	No ABS	No ABS	No ABS				blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00   0.00E+00   0.0%								
Excess lifetime cancer risk:										0.00E+00   0.00E+00   0.0%				

**Table L-217. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tootle, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Beryllium	1.59E-09	4.48E-11	1.28E-12	7.46E-11	5.33E-12	7.84E-09	1.31E-08	0.0%	GI system	300	1.07E-11	4.48E-11	100.0%	[B1]
Lead	6.15E-07	1.73E-08	4.95E-10	2.89E-08	2.06E-09				CNS, blood	--				[B2]
Manganese	8.87E-07	2.50E-08	7.15E-10	4.17E-08	2.98E-09	1.75E-03	2.92E-03	100.0%	CNS	1				[D]
Mercury	1.17E-10	3.30E-12	9.42E-14	5.50E-12	3.93E-13	3.85E-08	6.41E-08	0.0%	kidney	--				[D]
Silver	4.71E-09	1.33E-10	3.79E-12	2.21E-10	1.58E-11				skin	3				[D]
Zinc	4.92E-07	1.39E-08	3.96E-10	2.31E-08	1.65E-09				blood	3				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.75E-03	2.92E-03	100.0%						
Excess lifetime cancer risk:										1.07E-11	4.48E-11	100.0%		

**Table L-218. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA Ca Risk (RME)	EPA WOE
		Non Ca	Ca	Non Ca	Ca	Noncarcinogenic Effects (CDI/RfD)	Percent of Total	Excess Lifetime Cancer Risk (CDI x CSF)			Percent of Total Ca Risk			
		Effects (CTE)	Effects (CTE)	Effects (RME)	Effects (RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Antimony	9.69E-04	4.66E-07	2.82E-08	1.12E-06	2.18E-07	1.17E-03	2.79E-03	0.0%	blood/circulatory system	1000			--	
Cadmium	2.92E+00	1.40E-03	8.50E-05	3.36E-03	6.56E-04	1.40E+00	3.36E+00	37.1%	kidney	10			[B1]	
Copper	1.28E+02	6.15E-02	3.72E-03	1.47E-01	2.87E-02	1.54E+00	3.68E+00	40.6%	gastrointestinal system	--			[D]	
Lead	3.61E+00	1.73E-03	1.05E-04	4.15E-03	8.10E-04				CNS, blood	--			[B2]	
Mercury	2.25E-01	1.08E-04	6.53E-06	2.58E-04	5.04E-05	3.60E-01	8.61E-01	9.5%	kidney	--			[D]	
Silver	1.77E-03	8.50E-07	5.14E-08	2.03E-06	3.97E-07	1.70E-04	4.07E-04	0.0%	skin	3			[D]	
Thallium	5.41E-02	2.60E-05	1.57E-06	6.22E-05	1.21E-05	3.25E-01	7.78E-01	8.6%	liver, blood	3000			[D]	
Zinc	9.93E+01	4.77E-02	2.89E-03	1.14E-01	2.23E-02	1.59E-01	3.81E-01	4.2%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						3.79E+00	9.07E+00	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-219. Risk Characterization for Tuberos Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/kg)</i>													
Antimony	4.18E-03	3.26E-06	1.98E-07	7.80E-06	1.53E-06	8.14E-03	1.95E-02	0.3%	blood/circulatory system	1000		--	
Cadmium	5.14E-01	4.01E-04	2.44E-05	9.59E-04	1.88E-04	4.01E-01	9.59E-01	13.0%	kidney	10		[B1]	
Copper	8.00E+01	6.24E-02	3.80E-03	1.49E-01	2.93E-02	1.56E+00	3.73E+00	50.5%	gastrointestinal system	--		[D]	
Lead	1.99E+00	1.55E-03	9.45E-05	3.71E-03	7.30E-04				CNS, blood	--		[B2]	
Mercury	3.93E-01	3.06E-04	1.87E-05	7.34E-04	1.44E-04	1.02E+00	2.45E+00	33.1%	kidney	--		[D]	
Silver	8.52E-03	6.64E-06	4.04E-07	1.59E-05	3.12E-06	1.33E-03	3.18E-03	0.0%	skin	3		[D]	
Thallium	5.41E-03	4.22E-06	2.57E-07	1.01E-05	1.98E-06	5.27E-02	1.26E-01	1.7%	liver, blood	3000		[D]	
Zinc	1.75E+01	1.36E-02	8.29E-04	3.26E-02	6.41E-03	4.54E-02	1.09E-01	1.5%	blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						3.09E+00	7.39E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-220. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	5.97E-04	4.74E-07	2.88E-08	1.06E-06	2.09E-07	1.19E-03	2.66E-03	0.0%	blood/circulatory system	1000		--
Cadmium	7.22E-01	5.74E-04	3.49E-05	1.29E-03	2.53E-04	5.74E-01	1.29E+00	19.1%	kidney	10		[B1]
Copper	8.00E+01	6.36E-02	3.87E-03	1.43E-01	2.80E-02	1.59E+00	3.57E+00	52.8%	gastrointestinal system	--		[D]
Lead	5.60E+00	4.45E-03	2.71E-04	9.98E-03	1.96E-03				CNS, blood	--		[B2]
Mercury	2.81E-01	2.23E-04	1.36E-05	5.01E-04	9.83E-05	7.44E-01	1.67E+00	24.7%	kidney	--		[D]
Silver	5.24E-03	4.17E-06	2.53E-07	9.35E-06	1.83E-06	8.33E-04	1.87E-03	0.0%	skin	3		[D]
Thallium	5.41E-03	4.30E-06	2.61E-07	9.64E-06	1.89E-06	5.37E-02	1.21E-01	1.8%	liver, blood	3000		[D]
Zinc	1.83E+01	1.45E-02	8.83E-04	3.26E-02	6.39E-03	4.84E-02	1.09E-01	1.6%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						3.01E+00	6.76E+00	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%



Table L-221. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ				Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)	
<i>INORGANICS (mg/kg)</i>														
Antimony	9.69E-04	1.49E-07	2.82E-08	3.56E-07	2.18E-07	3.72E-04	8.90E-04	0.0%	blood/circulatory system	1000			--	
Cadmium	2.92E+00	4.48E-04	8.50E-05	1.07E-03	6.56E-04	4.48E-01	1.07E+00	37.1%	kidney	10			[B1]	
Copper	1.28E+02	1.96E-02	3.72E-03	4.70E-02	2.87E-02	4.91E-01	1.17E+00	40.6%	gastrointestinal system	--			[D]	
Lead	3.61E+00	5.53E-04	1.05E-04	1.32E-03	8.10E-04				CNS, blood	--			[B2]	
Mercury	2.25E-01	3.44E-05	6.53E-06	8.24E-05	5.04E-05	1.15E-01	2.75E-01	9.5%	kidney	--			[D]	
Silver	1.77E-03	2.71E-07	5.14E-08	6.49E-07	3.97E-07	5.43E-05	1.30E-04	0.0%	skin	3			[D]	
Thallium	5.41E-02	8.29E-06	1.57E-06	1.98E-05	1.21E-05	1.04E-01	2.48E-01	8.6%	liver, blood	3000			[D]	
Zinc	9.93E+01	1.52E-02	2.89E-03	3.64E-02	2.23E-02	5.08E-02	1.21E-01	4.2%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						1.21E+00	2.89E+00	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-222. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RFD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Antimony	4.18E-03	1.05E-06	1.98E-07	2.52E-06	1.53E-06	2.63E-03	6.29E-03	0.3%	blood/circulatory system	1000		--
Cadmium	5.14E-01	1.29E-04	2.44E-05	3.10E-04	1.88E-04	1.29E-01	3.10E-01	13.0%	kidney	10		[B1]
Copper	8.00E+01	2.01E-02	3.80E-03	4.82E-02	2.93E-02	5.04E-01	1.21E+00	50.5%	gastrointestinal system	--		[D]
Lead	1.99E+00	5.01E-04	9.45E-05	1.20E-03	7.30E-04				CNS, blood	--		[B2]
Mercury	3.93E-01	9.90E-05	1.87E-05	2.37E-04	1.44E-04	3.30E-01	7.89E-01	33.1%	kidney	--		[D]
Silver	8.52E-03	2.14E-06	4.04E-07	5.13E-06	3.12E-06	4.29E-04	1.03E-03	0.0%	skin	3		[D]
Thallium	5.41E-03	1.36E-06	2.57E-07	3.26E-06	1.98E-06	1.70E-02	4.07E-02	1.7%	liver, blood	3000		[D]
Zinc	1.75E+01	4.40E-03	8.29E-04	1.05E-02	6.41E-03	1.47E-02	3.51E-02	1.5%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						9.98E-01	2.39E+00	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

Table L-223. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>												
Antimony	5.97E-04	1.53E-07	2.88E-08	3.43E-07	2.09E-07	3.82E-04	8.58E-04	0.0%	blood/circulatory system	1000		--
Cadmium	7.22E-01	1.85E-04	3.49E-05	4.16E-04	2.53E-04	1.85E-01	4.16E-01	19.1%	kidney	10		[B1]
Copper	8.00E+01	2.05E-02	3.87E-03	4.60E-02	2.80E-02	5.13E-01	1.15E+00	52.8%	gastrointestinal system	--		[D]
Lead	5.60E+00	1.44E-03	2.71E-04	3.22E-03	1.96E-03				CNS, blood	--		[B2]
Mercury	2.81E-01	7.20E-05	1.36E-05	1.61E-04	9.83E-05	2.40E-01	5.38E-01	24.7%	kidney	--		[D]
Silver	5.24E-03	1.34E-06	2.53E-07	3.01E-06	1.83E-06	2.69E-04	6.03E-04	0.0%	skin	3		[D]
Thallium	5.41E-03	1.39E-06	2.61E-07	3.11E-06	1.89E-06	1.73E-02	3.89E-02	1.8%	liver, blood	3000		[D]
Zinc	1.83E+01	4.68E-03	8.83E-04	1.05E-02	6.39E-03	1.56E-02	3.50E-02	1.6%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						9.71E-01	2.18E+00	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-224. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Beryllium	1.37E-02	6.59E-06	3.98E-07	1.58E-05	3.08E-06	3.29E-03	7.88E-03	0.0%	GI system	300			[B1]
Lead	3.07E+00	1.48E-03	8.94E-05	3.54E-03	6.90E-04				CNS, blood	--			[B2]
Manganese	4.28E+02	2.06E-01	1.25E-02	4.93E-01	9.62E-02	8.58E+00	2.05E+01	98.0%	CNS	1			[D]
Mercury	8.07E-04	3.88E-07	2.35E-08	9.29E-07	1.81E-07	1.29E-03	3.10E-03	0.0%	kidney	--			[D]
Silver	1.10E-03	5.27E-07	3.19E-08	1.26E-06	2.46E-07	1.05E-04	2.52E-04	0.0%	skin	3			[D]
Zinc	1.06E+02	5.10E-02	3.08E-03	1.22E-01	2.38E-02	1.70E-01	4.07E-01	1.9%	blood	3			[D]
Chemical hazards combined exposure:													
Hazard index (HI):						8.76E+00	2.10E+01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-225. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	HQ Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>													
Beryllium	2.06E-03	1.60E-06	9.76E-08	3.84E-06	7.53E-07	8.01E-04	1.92E-03	0.0%	GI system	300		[B1]	
Lead	1.70E+00	1.32E-03	8.05E-05	3.17E-03	6.22E-04				CNS, blood	--		[B2]	
Manganese	1.15E+02	8.95E-02	5.45E-03	2.14E-01	4.21E-02	3.73E+00	8.93E+00	98.6%	CNS	1		[D]	
Mercury	1.41E-03	1.10E-06	6.71E-08	2.64E-06	5.18E-07	3.67E-03	8.79E-03	0.1%	kidney	--		[D]	
Silver	5.28E-03	4.12E-06	2.51E-07	9.85E-06	1.94E-06	8.23E-04	1.97E-03	0.0%	skin	3		[D]	
Zinc	1.87E+01	1.46E-02	8.86E-04	3.48E-02	6.84E-03	4.85E-02	1.16E-01	1.3%	blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						3.78E+00	9.05E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-226. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Beryllium	2.06E-03	1.63E-06	9.94E-08	3.67E-06	7.20E-07	8.17E-04	1.83E-03	0.1%	GI system	300		[B1]
Lead	4.77E+00	3.79E-03	2.31E-04	8.51E-03	1.67E-03				CNS, blood	--		[B2]
Manganese	3.83E+01	3.04E-02	1.85E-03	6.82E-02	1.34E-02	1.27E+00	2.84E+00	95.8%	CNS	1		[D]
Mercury	1.01E-03	8.02E-07	4.88E-08	1.80E-06	3.53E-07	2.67E-03	6.00E-03	0.2%	kidney	--		[D]
Silver	3.25E-03	2.58E-06	1.57E-07	5.79E-06	1.14E-06	5.16E-04	1.16E-03	0.0%	skin	3		[D]
Zinc	1.95E+01	1.55E-02	9.43E-04	3.48E-02	6.83E-03	5.17E-02	1.16E-01	3.9%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						1.32E+00	2.97E+00	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

Table L-227. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. Plant Tissue	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>												
Beryllium	1.37E-02	2.10E-06	3.98E-07	5.03E-06	3.08E-06	1.05E-03	2.51E-03	0.0%	GI system	300		[B1]
Lead	3.07E+00	4.72E-04	8.94E-05	1.13E-03	6.90E-04				CNS, blood	--		[B2]
Manganese	4.28E+02	6.57E-02	1.25E-02	1.57E-01	9.62E-02	2.74E+00	6.55E+00	98.0%	CNS	1		[D]
Mercury	8.07E-04	1.24E-07	2.35E-08	2.96E-07	1.81E-07	4.13E-04	9.88E-04	0.0%	kidney	--		[D]
Silver	1.10E-03	1.68E-07	3.19E-08	4.02E-07	2.46E-07	3.36E-05	8.05E-05	0.0%	skin	3		[D]
Zinc	1.06E+02	1.63E-02	3.08E-03	3.89E-02	2.38E-02	5.42E-02	1.30E-01	1.9%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						2.79E+00	6.69E+00	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-228. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Beryllium	2.06E-03	5.18E-07	9.76E-08	1.24E-06	7.53E-07	2.59E-04	6.19E-04	0.0%	GI system	300		[B1]
Lead	1.70E+00	4.27E-04	8.05E-05	1.02E-03	6.22E-04				CNS, blood	--		[B2]
Manganese	1.15E+02	2.89E-02	5.45E-03	6.92E-02	4.21E-02	1.20E+00	2.88E+00	98.6%	CNS	1		[D]
Mercury	1.41E-03	3.56E-07	6.71E-08	8.51E-07	5.18E-07	1.19E-03	2.84E-03	0.1%	kidney	--		[D]
Silver	5.28E-03	1.33E-06	2.51E-07	3.18E-06	1.94E-06	2.66E-04	6.36E-04	0.0%	skin	3		[D]
Zinc	1.87E+01	4.70E-03	8.86E-04	1.12E-02	6.84E-03	1.57E-02	3.75E-02	1.3%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						1.22E+00	2.92E+00	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%



**Table L-229. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>INORGANICS (mg/kg)</b>													
Beryllium	2.06E-03	5.27E-07	9.94E-08	1.18E-06	7.20E-07	2.63E-04	5.91E-04	0.1%	GI system	300		[B1]	
Lead	4.77E+00	1.22E-03	2.31E-04	2.74E-03	1.67E-03				CNS, blood	--		[B2]	
Manganese	3.83E+01	9.81E-03	1.85E-03	2.20E-02	1.34E-02	4.09E-01	9.17E-01	95.8%	CNS	1		[D]	
Mercury	1.01E-03	2.59E-07	4.88E-08	5.81E-07	3.53E-07	8.63E-04	1.94E-03	0.2%	kidney	--		[D]	
Silver	3.25E-03	8.33E-07	1.57E-07	1.87E-06	1.14E-06	1.67E-04	3.74E-04	0.0%	skin	3		[D]	
Zinc	1.95E+01	5.00E-03	9.43E-04	1.12E-02	6.83E-03	1.67E-02	3.74E-02	3.9%	blood	3		[D]	
<b>Chemical hazards combined exposure:</b>													
Hazard index (HI):						4.27E-01	9.57E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-230. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>													
Antimony	2.91E-03	3.07E-06	2.05E-07	7.82E-06	1.70E-06	7.67E-03	1.95E-02	0.1%	blood/circulatory system	1000			--
Cadmium	7.51E-03	7.91E-06	5.28E-07	2.02E-05	4.37E-06	7.91E-03	2.02E-02	0.1%	kidney	10			[B1]
Copper	5.85E+00	6.16E-03	4.12E-04	1.57E-02	3.41E-03	1.54E-01	3.93E-01	1.1%	gastrointestinal system	--			[D]
Lead	7.67E-02	8.07E-05	5.40E-06	2.06E-04	4.46E-05				CNS, blood	--			[B2]
Mercury	2.94E+00	3.09E-03	2.07E-04	7.89E-03	1.71E-03	1.03E+01	2.63E+01	76.2%	kidney	3			[D]
Silver	7.68E-03	8.09E-06	5.41E-07	2.06E-05	4.47E-06	1.62E-03	4.13E-03	0.0%	skin	3			[D]
Thallium	2.19E-01	2.30E-04	1.54E-05	5.87E-04	1.27E-04	2.88E+00	7.34E+00	21.2%	liver, blood	3000			[D]
Zinc	5.12E+01	5.39E-02	3.61E-03	1.38E-01	2.98E-02	1.80E-01	4.58E-01	1.3%	blood	3			[D]
Chemical hazards combined exposure:													
Hazard index (HI):						1.35E+01    3.45E+01    100.0%							
Excess lifetime cancer risk:										0.00E+00    0.00E+00    0.0%			

Table L-231. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33B - Outside Building 536, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CTE)	Noncarcinogenic Effects (RME)				Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	
<i>INORGANICS (mg/kg)</i>													
Antimony	2.91E-03	1.17E-06	2.05E-07	2.99E-06	1.70E-06	2.93E-03	7.48E-03	0.1%	blood/circulatory system	1000	--	--	
Cadmium	7.51E-03	3.03E-06	5.28E-07	7.71E-06	4.37E-06	3.03E-03	7.71E-03	0.1%	kidney	10	[B1]	[D]	
Copper	5.85E+00	2.36E-03	4.12E-04	6.01E-03	3.41E-03	5.90E-02	1.50E-01	1.1%	gastrointestinal system	--	[D]	[D]	
Lead	7.67E-02	3.09E-05	5.40E-06	7.88E-05	4.46E-05				CNS, blood	--	[B2]	[D]	
Mercury	2.94E+00	1.18E-03	2.07E-04	3.02E-03	1.71E-03	3.95E+00	1.01E+01	76.2%	kidney	--	[D]	[D]	
Silver	7.68E-03	3.10E-06	5.41E-07	7.89E-06	4.47E-06	6.19E-04	1.58E-03	0.0%	skin	3	[D]	[D]	
Thallium	2.19E-01	8.81E-05	1.54E-05	2.25E-04	1.27E-04	1.10E+00	2.81E+00	21.2%	liver, blood	3000	[D]	[D]	
Zinc	5.12E+01	2.06E-02	3.61E-03	5.26E-02	2.98E-02	6.88E-02	1.75E-01	1.3%	blood	3	[D]	[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						5.18E+00	1.32E+01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-232. RME Risk Characterization Summary: SWMU 33C - Drainage Swale  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk					
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	5E-03	B	0E+00	B	7E-02	B	8E-03	B	5E-03	B	0E+00	B	0E+00	B
	Dermal Contact	7E-03	B	0E+00	B	1E-02	B	9E-03	B	1E-03	B	0E+00	B	0E+00	B
	Inhalation (Dust)	1E-05	B	2E-09	B	4E-05	B	2E-05	B	3E-06	B	4E-09	B	8E-11	B
	Inhalation (Volatiles)	3E-05	B	0E+00	B	1E-04	B	4E-05	B	7E-06	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		1E-01	B	1E-02	B	8E-03	B	8E-11	B	4E-12	B
	Dermal Contact	NA		NA		2E-02	B	1E-02	B	2E-03	B	0E+00	B	0E+00	B
	Inhalation (Dust)	NA		NA		7E-05	B	3E-05	B	5E-06	B	5E-09	B	1E-10	B
	Inhalation (Volatiles)	NA		NA		4E-04	B	2E-04	B	3E-05	B	4E-10	B	9E-12	B
<b>Surface Soil</b>															
<b>Combined Hazard Index (HI):</b>		1E-02 B				9E-02 B		2E-02 B		7E-03 B					
<b>Combined Cancer Risk:</b>				2E-09 B						4E-09 B		8E-11 B			
<b>Subsurface Soil</b>															
<b>Combined Hazard Index (HI):</b>		NA				1E-01 B		2E-02 B		1E-02 B					
<b>Combined Cancer Risk:</b>				NA						6E-09 B		1E-10 B			

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-233. CTE Risk Characterization Summary: SWMU 33C - Drainage Swale  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current/Future Land Use				Future Land Use											
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk							
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Construction Worker	Resident Integrated	Construction Worker	Resident Integrated	Construction Worker							
Surface Soil (0 to 0.5 ft BLS)	Ingestion	2E-03	B	0E+00	B	2E-02	B	3E-03	B	3E-03	B	0E+00	B	0E+00	B		
	Dermal Contact	1E-03	B	0E+00	B	2E-03	B	1E-03	B	1E-04	B	0E+00	B	0E+00	B		
	Inhalation (Dust)	1E-05	B	3E-10	B	3E-05	B	1E-05	B	2E-06	B	8E-10	B	2E-11	B		
	Inhalation (Volatiles)	3E-05	B	0E+00	B	7E-05	B	3E-05	B	4E-06	B	0E+00	B	0E+00	B		
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		3E-02	B	4E-03	B	5E-03	B	9E-12	B	9E-13	B		
	Dermal Contact	NA		NA		3E-03	B	2E-03	B	2E-04	B	0E+00	B	0E+00	B		
	Inhalation (Dust)	NA		NA		4E-05	B	2E-05	B	3E-06	B	1E-09	B	3E-11	B		
	Inhalation (Volatiles)	NA		NA		3E-04	B	1E-04	B	2E-05	B	8E-11	B	2E-12	B		
<b>Surface Soil</b>																	
<b>Combined Hazard Index (HI):</b>		3E-03 B				3E-02 B		4E-03 B		3E-03 B							
<b>Combined Cancer Risk:</b>				3E-10 B										8E-10 B		2E-11 B	
<b>Subsurface Soil</b>																	
<b>Combined Hazard Index (HI):</b>		NA				4E-02 B		5E-03 B		5E-03 B							
<b>Combined Cancer Risk:</b>				NA										1E-09 B		3E-11 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-234. RME Risk Characterization Summary for Produce and Beef: SWMU 33C - Drainage Swale  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	2E+00	E	7E-01	B	0E+00	B
	Tuberous Vegetable Ingestion	1E+00	B	4E-01	B	0E+00	B
	Fruit Ingestion	1E+00	B	4E-01	B	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	3E+00	E	1E+00	B	7E-13	B
	Tuberous Vegetable Ingestion	2E+00	E	5E-01	B	1E-08	B
	Fruit Ingestion	2E+00	E	6E-01	B	2E-08	B
Beef	Ingestion	3E-01	B	1E-01	B	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		5E+00	E	2E+00	E		
<b>Combined Cancer Risk:</b>						0E+00	B
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		7E+00	E	2E+00	E		
<b>Combined Cancer Risk:</b>						4E-08	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-235. CTE Risk Characterization Summary for Produce and Beef: SWMU 33C - Drainage Swale  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	9E-01	B	3E-01	B	0E+00	B
	Tuberous Vegetable Ingestion	5E-01	B	2E-01	B	0E+00	B
	Fruit Ingestion	5E-01	B	2E-01	B	0E+00	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	1E+00	B	4E-01	B	1E-13	B
	Tuberous Vegetable Ingestion	7E-01	B	2E-01	B	2E-09	B
	Fruit Ingestion	8E-01	B	3E-01	B	3E-09	B
Beef	Ingestion	1E-01	B	4E-02	B	0E+00	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		2E+00 E		7E-01 B		0E+00 B	
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		3E+00 E		9E-01 B		5E-09 B	
<b>Combined Cancer Risk:</b>							

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-236. Chemicals of Concern for Produce and Beef RME Risks at SWMU 33C - Drainage Swale  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		Cancer Risk
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion	Cadmium	64%		1E+00	5E-01	
		Copper	28%		6E-01	2E-01	
	Tuberous Vegetable Ingestion	Cadmium	37%		4E-01	1E-01	
		Copper	58%		7E-01	2E-01	
	Fruit Ingestion	Cadmium	45%		6E-01	2E-01	
		Copper	51%		6E-01	2E-01	
Produce (Subsurface Soil)	Leafy Vegetable Ingestion	Cadmium	66%		2E+00	7E-01	
		Copper	28%		9E-01	3E-01	
	Tuberous Vegetable Ingestion	Cadmium	38%		6E-01	2E-01	
		Copper	57%		9E-01	3E-01	
	Fruit Ingestion	Cadmium	47%		8E-01	3E-01	
		Copper	50%		9E-01	3E-01	
Beef	Ingestion						

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures



Table L-237. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current/Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>INORGANICS (mg/kg)</b>												
Cadmium	3.44E+00	1.48E-06	1.05E-07	3.37E-06	1.20E-06	1.48E-03	3.37E-03	62.8%	kidney	10		[B1]
Copper	5.60E+01	2.40E-05	1.71E-06	5.48E-05	1.96E-05	6.00E-04	1.37E-03	25.5%	gastrointestinal system	--		[D]
Lead	2.02E+02	8.66E-05	6.19E-06	1.98E-04	7.06E-05				CNS, blood	--		[B2]
Zinc	1.92E+02	8.24E-05	5.88E-06	1.88E-04	6.72E-05	2.75E-04	6.27E-04	11.7%	blood	3		[D]
<b>ORGANICS (mg/kg)</b>												
Naphthalene	5.20E-02	2.23E-08	1.59E-09	5.09E-08	1.82E-08	1.11E-06	2.54E-06	0.0%	whole body	3000		[C]
Trichlorofluoromethane	1.50E-02	6.43E-09	4.59E-10	1.47E-08	5.24E-09	2.14E-08	4.89E-08	0.0%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						2.35E-03	5.37E-03	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-238. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current/Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
	<i>INORGANICS (mg/kg)</i>												
Cadmium	3.44E+00	2.95E-08	2.11E-09	1.95E-07	6.98E-08	9.84E-04	6.52E-03	100.0%	kidney	10		[B1]	
Copper	5.60E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Lead	2.02E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Zinc	1.92E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	5.20E-02	No ABS	No ABS	No ABS	No ABS				whole body	3000		[C]	
Trichlorofluoromethane	1.50E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						9.84E-04	6.52E-03	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-239. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Current/Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)		Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Cadmium	4.00E-09	6.85E-10	4.89E-11	7.82E-10	2.79E-10	1.20E-05	1.37E-05	99.9%	kidney	10	3.08E-10	1.76E-09	100.0%	[B1]
Copper	6.50E-08	1.11E-08	7.96E-10	1.27E-08	4.54E-09				gastrointestinal system	--				[D]
Lead	2.34E-07	4.02E-08	2.87E-09	4.59E-08	1.64E-08				CNS, blood	--				[B2]
Zinc	2.23E-07	3.82E-08	2.73E-09	4.36E-08	1.56E-08				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Naphthalene	6.03E-11	1.03E-11	7.39E-13	1.18E-11	4.22E-12	1.21E-08	1.38E-08	0.1%	whole body	3000				[C]
Trichlorofluoromethane	1.74E-11	2.98E-12	2.13E-13	3.41E-12	1.22E-12	1.49E-11	1.70E-11	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.20E-05	1.37E-05	100.0%						
Excess lifetime cancer risk:											3.08E-10	1.76E-09	100.0%	

Table L-240. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Volatile Inhalation Exposure (Current/Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
						Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)						
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Naphthalene	1.32E-07	2.27E-08	1.62E-09	2.59E-08	9.25E-09	2.65E-05	3.02E-05	95.2%	whole body	3000			[C]
Trichlorofluoromethane	1.54E-06	2.64E-07	1.89E-08	3.02E-07	1.08E-07	1.32E-06	1.51E-06	4.8%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						2.78E-05 3.17E-05 100.0%							
Excess lifetime cancer risk:									0.00E+00 0.00E+00 0.0%				

Table L-241. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<b>INORGANICS (mg/kg)</b>												
Cadmium	3.44E+00	1.47E-05	5.78E-07	4.40E-05	5.39E-06	1.47E-02	4.40E-02	62.8%	kidney	10		[B1]
Copper	5.60E+01	2.39E-04	9.41E-06	7.16E-04	8.77E-05	5.99E-03	1.79E-02	25.5%	gastrointestinal system	--		[D]
Lead	2.02E+02	8.64E-04	3.39E-05	2.58E-03	3.16E-04				CNS, blood	--		[B2]
Zinc	1.92E+02	8.22E-04	3.23E-05	2.46E-03	3.01E-04	2.74E-03	8.19E-03	11.7%	blood	3		[D]
<b>ORGANICS (mg/kg)</b>												
Naphthalene	5.20E-02	2.22E-07	8.73E-09	6.65E-07	8.14E-08	1.11E-05	3.32E-05	0.0%	whole body	3000		[C]
Trichlorofluoromethane	1.50E-02	6.41E-08	2.52E-09	1.92E-07	2.35E-08	2.14E-07	6.39E-07	0.0%	whole body	1000		--
Chemical hazards combined exposure:												
Hazard index (HI):						2.35E-02	7.02E-02	100.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

**Table L-242. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/kg)</i>												
Cadmium	3.44E+00	5.15E-08	4.63E-09	4.43E-07	1.32E-07	1.72E-03	1.48E-02	100.0%	kidney	10		[B1]
Copper	5.60E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]
Lead	2.02E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]
Zinc	1.92E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]
<i>ORGANICS (mg/kg)</i>												
Naphthalene	5.20E-02	No ABS	No ABS	No ABS	No ABS				whole body	3000		[C]
Trichlorofluoromethane	1.50E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000		--
Chemical hazards combined exposure:						1.72E-03   1.48E-02   100.0%						
Hazard index (HI):						1.72E-03   1.48E-02   100.0%						
Excess lifetime cancer risk:									0.00E+00   0.00E+00   0.0%			

**Table L-243. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE		
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ							
<i>INORGANICS (mg/m<sup>3</sup>)</i>															
Cadmium	4.00E-09	1.71E-09	1.22E-10	2.55E-09	5.94E-10	3.00E-05	4.48E-05	99.9%	kidney	10	7.69E-10	3.74E-09	100.0%	[B1]	
Copper	6.50E-08	2.78E-08	1.98E-09	4.15E-08	9.66E-09				gastrointestinal system	--				[D]	
Lead	2.34E-07	1.00E-07	7.16E-09	1.50E-07	3.49E-08				CNS, blood	--				[B2]	
Zinc	2.23E-07	9.53E-08	6.81E-09	1.43E-07	3.32E-08				blood	3				[D]	
<i>ORGANICS (mg/m<sup>3</sup>)</i>															
Naphthalene	6.03E-11	2.58E-11	1.84E-12	3.86E-11	8.97E-12	3.01E-08	4.50E-08	0.1%	whole body	3000				[C]	
Trichlorofluoromethane	1.74E-11	7.44E-12	5.31E-13	1.11E-11	2.59E-12	3.72E-11	5.56E-11	0.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						3.00E-05			4.49E-05			100.0%			
Excess lifetime cancer risk:											7.69E-10		3.74E-09		100.0%

**Table L-244. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFL, DCD, Tooele, Utah**

Chemical	EPC Conc. in Air	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/m<sup>3</sup>)</b>													
Naphthalene	1.32E-07	5.66E-08	4.04E-09	8.46E-08	1.97E-08	6.60E-05	9.87E-05	95.2%	whole body	3000		[C]	
Trichlorofluoromethane	1.54E-06	6.59E-07	4.71E-08	9.86E-07	2.29E-07	3.30E-06	4.93E-06	4.8%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						6.93E-05	1.04E-04	100.0%					
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%		



**Table L-245. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/kg)</b>														
Cadmium	3.44E+00	1.58E-06	5.78E-07	4.72E-06	5.39E-06	1.58E-03	4.72E-03	62.8%	kidney	10			[B1]	
Copper	5.60E+01	2.57E-05	9.41E-06	7.67E-05	8.77E-05	6.41E-04	1.92E-03	25.5%	gastrointestinal system	--			[D]	
Lead	2.02E+02	9.25E-05	3.39E-05	2.77E-04	3.16E-04				CNS, blood	--			[B2]	
Zinc	1.92E+02	8.80E-05	3.23E-05	2.63E-04	3.01E-04	2.93E-04	8.78E-04	11.7%	blood	3			[D]	
<b>ORGANICS (mg/kg)</b>														
Naphthalene	5.20E-02	2.38E-08	8.73E-09	7.12E-08	8.14E-08	1.19E-06	3.56E-06	0.0%	whole body	3000			[C]	
Trichlorofluoromethane	1.50E-02	6.87E-09	2.52E-09	2.05E-08	2.35E-08	2.29E-08	6.85E-08	0.0%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						2.51E-03	7.52E-03	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-246. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Cadmium	3.44E+00	3.15E-08	4.63E-09	2.74E-07	1.32E-07	1.05E-03	9.12E-03	100.0%	kidney	10		[B1]	
Copper	5.60E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Lead	2.02E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Zinc	1.92E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	5.20E-02	No ABS	No ABS	No ABS	No ABS				whole body	3000		[C]	
Trichlorofluoromethane	1.50E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						1.05E-03	9.12E-03	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-247. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)		Percent of Total Ca Risk (RME)
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Cadmium	4.00E-09	7.32E-10	1.22E-10	1.09E-09	5.94E-10	1.28E-05	1.92E-05	99.9%	kidney	10	7.69E-10	3.74E-09	100.0%	[B1]
Copper	6.50E-08	1.19E-08	1.98E-09	1.78E-08	9.66E-09				gastrointestinal system	--				[D]
Lead	2.34E-07	4.29E-08	7.16E-09	6.42E-08	3.49E-08				CNS, blood	--				[B2]
Zinc	2.23E-07	4.08E-08	6.81E-09	6.11E-08	3.32E-08				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Naphthalene	6.03E-11	1.10E-11	1.84E-12	1.65E-11	8.97E-12	1.29E-08	1.93E-08	0.1%	whole body	3000				[C]
Trichlorofluoromethane	1.74E-11	3.19E-12	5.31E-13	4.77E-12	2.59E-12	1.59E-11	2.38E-11	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.29E-05	1.92E-05	100.0%						
Excess lifetime cancer risk:										7.69E-10	3.74E-09	100.0%		

**Table L-248. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Naphthalene	1.32E-07	2.42E-08	4.04E-09	3.63E-08	1.97E-08	2.83E-05	4.23E-05	95.2%	whole body	3000			[C]	
Trichlorofluoromethane	1.54E-06	2.83E-07	4.71E-08	4.23E-07	2.29E-07	1.41E-06	2.11E-06	4.8%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						2.97E-05	4.44E-05	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-249. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. in Soil	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	
<i>INORGANICS (mg/kg)</i>													
Cadmium	3.44E+00	1.94E-06	5.55E-08	3.24E-06	2.31E-07	1.94E-03	3.24E-03	61.5%	kidney	10		[B1]	
Copper	5.60E+01	3.16E-05	9.02E-07	5.26E-05	3.76E-06	8.53E-04	1.42E-03	27.0%	gastrointestinal system	--		[D]	
Lead	2.02E+02	1.14E-04	3.25E-06	1.90E-04	1.36E-05				CNS, blood	--		[B2]	
Zinc	1.92E+02	1.08E-04	3.10E-06	1.61E-04	1.29E-05	3.61E-04	6.02E-04	11.4%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	5.20E-02	2.93E-08	8.37E-10	4.88E-08	3.49E-09	1.47E-06	2.44E-06	0.0%	whole body	3000		[C]	
Trichlorofluoromethane	1.50E-02	8.45E-09	2.42E-10	1.41E-08	1.01E-09	1.21E-08	2.01E-08	0.0%	whole body	1000		--	

Chemical hazards combined exposure:

Hazard index (HI):

3.16E-03	5.26E-03	100.0%
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Excess lifetime cancer risk:

0.00E+00	0.00E+00	0.0%
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**Table L-250. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/kg)</i>														
Cadmium	3.44E+00	4.04E-09	1.16E-10	3.91E-08	2.79E-09	1.35E-04	1.30E-03	100.0%	kidney	10			(B1)	
Copper	5.60E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--			(D)	
Lead	2.02E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			(B2)	
Zinc	1.92E+02	No ABS	No ABS	No ABS	No ABS				blood	3			(D)	
<i>ORGANICS (mg/kg)</i>														
Naphthalene	5.20E-02	No ABS	No ABS	No ABS	No ABS				whole body	3000			(C)	
Trichlorofluoromethane	1.50E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						1.35E-04	1.30E-03	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-251. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<i>INORGANICS (mg/m<sup>3</sup>)</i>															
Cadmium	4.00E-09	1.13E-10	3.22E-12	1.88E-10	1.34E-11	1.98E-06	3.29E-06	99.9%	kidney	10	2.03E-11	8.45E-11	100.0%	[B1]	
Copper	6.50E-08	1.83E-09	5.23E-11	3.05E-09	2.18E-10				gastrointestinal system	--				[D]	
Lead	2.34E-07	6.61E-09	1.89E-10	1.10E-08	7.86E-10				CNS, blood	--				[B2]	
Zinc	2.23E-07	6.28E-09	1.80E-10	1.05E-08	7.48E-10				blood	3				[D]	
<i>ORGANICS (mg/m<sup>3</sup>)</i>															
Naphthalene	6.03E-11	1.70E-12	4.86E-14	2.83E-12	2.02E-13	1.98E-09	3.31E-09	0.1%	whole body	3000				[C]	
Trichlorofluoromethane	1.74E-11	4.90E-13	1.40E-14	8.17E-13	5.84E-14	2.45E-13	4.09E-13	0.0%	whole body	1000				--	
Chemical hazards combined exposure:															
Hazard index (HI):						1.98E-06	3.30E-06	100.0%							
Excess lifetime cancer risk:											2.03E-11	8.45E-11	100.0%		

**Table L-252. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ				
						(CTE)	(RME)						
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Naphthalene	1.32E-07	3.73E-09	1.07E-10	6.22E-09	4.44E-10	4.35E-06	7.25E-06	99.5%	whole body	3000			[C]
Trichlorofluoromethane	1.54E-06	4.35E-08	1.24E-09	7.24E-08	5.17E-09	2.17E-08	3.62E-08	0.5%	whole body	1000			--
Chemical hazards combined exposure:													
Hazard index (HI):						4.37E-06	7.29E-06	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	



Table L-253. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDD)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)	HQ									
<b>INORGANICS (mg/kg)</b>																	
Cadmium	5.05E+00	2.16E-05	8.48E-07	6.46E-05	7.91E-06	2.16E-02	6.46E-02	61.8%	kidney	10							[B1]
Copper	7.79E+01	3.33E-04	1.31E-05	9.96E-04	1.22E-04	8.32E-03	2.49E-02	23.8%	gastrointestinal system	--							[D]
Lead	3.22E+02	1.38E-03	5.41E-05	4.12E-03	5.05E-04				CNS, blood	--							[B2]
Mercury	1.52E-01	6.49E-07	2.55E-08	1.94E-06	2.38E-07	2.16E-03	6.47E-03	6.2%	kidney	--							[D]
Nickel	2.53E-02	1.08E-07	4.25E-09	3.24E-07	3.96E-08	5.41E-06	1.62E-05	0.0%	whole body	300							--
Zinc	1.96E+02	8.37E-04	3.29E-05	2.50E-03	3.07E-04	2.79E-03	8.35E-03	8.0%	blood	3							[D]
<b>ORGANICS (mg/kg)</b>																	
2-Methylnaphthalene	1.63E-01	6.98E-07	2.74E-08	2.09E-06	2.55E-07	2.33E-05	6.96E-05	0.1%	skin	--							--
Benzene	9.31E-04	3.98E-09	1.56E-10	1.19E-08	1.46E-09	1.33E-06	3.97E-06	0.0%	--	3000	8.60E-12	8.02E-11	94.5%				[A]
Chloroform	4.93E-04	2.11E-09	8.28E-11	6.31E-09	7.72E-10	2.11E-07	6.31E-07	0.0%	liver	1000	5.05E-13	4.71E-12	5.5%				[B2]
Naphthalene	1.13E-01	4.83E-07	1.90E-08	1.45E-06	1.77E-07	2.42E-05	7.23E-05	0.1%	whole body	3000							[C]
Phenanthrene	6.80E-02	2.91E-07	1.14E-08	8.69E-07	1.06E-07	9.69E-06	2.90E-05	0.0%	--	--							[D]
Toluene	6.74E-04	2.88E-09	1.13E-10	8.61E-09	1.05E-09	1.44E-08	4.31E-08	0.0%	liver, kidney	1000							[D]
Trichlorofluoromethane	1.82E-02	7.78E-08	3.06E-09	2.33E-07	2.85E-08	2.59E-07	7.76E-07	0.0%	whole body	1000							--
di-N-Butyl Phthalate	2.15E-01	9.19E-07	3.61E-08	2.75E-06	3.37E-07	9.19E-06	2.75E-05	0.0%	--	1000							[D]
<b>Chemical hazards combined exposure:</b>																	
Hazard index (HI): <span style="border: 1px solid black; padding: 2px;">3.49E-02</span> <span style="border: 1px solid black; padding: 2px;">1.05E-01</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>																	
Excess lifetime cancer risk: <span style="border: 1px solid black; padding: 2px;">9.10E-12</span> <span style="border: 1px solid black; padding: 2px;">8.49E-11</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>																	

Table L-254. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ					
						Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)						
<i>INORGANICS (mg/kg)</i>													
Cadmium	5.05E+00	7.56E-08	6.79E-09	6.49E-07	1.93E-07	2.52E-03	2.16E-02	100.0%	kidney	10		[B1]	
Copper	7.79E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Lead	3.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Mercury	1.52E-01	No ABS	No ABS	No ABS	No ABS				kidney	--		[D]	
Nickel	2.53E-02	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Zinc	1.96E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
2-Methylnaphthalene	1.63E-01	No ABS	No ABS	No ABS	No ABS				skin	--		--	
Benzene	9.31E-04	No ABS	No ABS	No ABS	No ABS				--	3000		[A]	
Chloroform	4.93E-04	No ABS	No ABS	No ABS	No ABS				liver	1000		[B2]	
Naphthalene	1.13E-01	No ABS	No ABS	No ABS	No ABS				whole body	3000		[C]	
Phenanthrene	6.80E-02	No ABS	No ABS	No ABS	No ABS				--	--		[D]	
Toluene	6.74E-04	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000		[D]	
Trichlorofluoromethane	1.82E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000		--	
di-N-Butyl Phthalate	2.15E-01	No ABS	No ABS	No ABS	No ABS				--	1000		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						2.52E-03	2.16E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-255. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/R(D) (CTE)	(RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/m<sup>3</sup>)</b>														
Cadmium	5.86E-09	2.50E-09	1.79E-10	3.75E-09	8.72E-10	4.39E-05	6.57E-05	97.9%	kidney	10	1.13E-09	5.49E-09	100.0%	[B1]
Copper	9.03E-08	3.86E-08	2.76E-09	5.78E-08	1.34E-08				gastrointestinal system	--				[D]
Lead	3.74E-07	1.60E-07	1.14E-08	2.39E-07	5.56E-08				CNS, blood	--				[B2]
Mercury	1.76E-10	7.53E-11	5.38E-12	1.13E-10	2.62E-11	8.79E-07	1.31E-06	2.0%	kidney	--				[D]
Nickel	2.94E-11	1.26E-11	8.97E-13	1.88E-11	4.37E-12				whole body	300				--
Zinc	2.27E-07	9.71E-08	6.94E-09	1.45E-07	3.38E-08				blood	3				[D]
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
2-Methylnaphthalene	1.89E-10	8.09E-11	5.78E-12	1.21E-10	2.82E-11				skin	--				--
Benzene	1.08E-12	4.62E-13	3.30E-14	6.91E-13	1.61E-13	2.72E-10	4.06E-10	0.0%	--	3000	9.00E-16	4.39E-15	0.0%	[A]
Chloroform	5.72E-13	2.45E-13	1.75E-14	3.66E-13	8.51E-14	2.84E-09	4.25E-09	0.0%	liver	1000	1.41E-15	6.85E-15	0.0%	[B2]
Naphthalene	1.31E-10	5.61E-11	4.00E-12	8.39E-11	1.95E-11	6.54E-08	9.78E-08	0.1%	whole body	3000				[C]
Phenanthrene	7.89E-11	3.37E-11	2.41E-12	5.04E-11	1.17E-11				--	--				[D]
Toluene	7.82E-13	3.34E-13	2.39E-14	5.00E-13	1.16E-13	2.92E-12	4.37E-12	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	2.11E-11	9.03E-12	6.45E-13	1.35E-11	3.14E-12	4.52E-11	6.75E-11	0.0%	whole body	1000				--
di-N-Butyl Phthalate	2.50E-10	1.07E-10	7.62E-12	1.60E-10	3.71E-11				--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						4.49E-05	6.71E-05	100.0%						
Excess lifetime cancer risk:										1.13E-09	5.49E-09	100.0%		

**Table L-256. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2-Methylnaphthalene	2.70E-07	1.15E-07	8.24E-09	1.73E-07	4.01E-08				skin	--				--
Benzene	3.65E-08	1.56E-08	1.11E-09	2.33E-08	5.42E-09	9.17E-06	1.37E-05	3.6%	--	3000	3.04E-11	1.48E-10	39.0%	[A]
Chloroform	1.93E-08	8.26E-09	5.90E-10	1.24E-08	2.87E-09	9.60E-05	1.44E-04	38.0%	liver	1000	4.75E-11	2.31E-10	61.0%	[B2]
Naphthalene	2.88E-07	1.23E-07	8.79E-09	1.84E-07	4.28E-08	1.44E-04	2.15E-04	56.8%	whole body	3000				[C]
Phenanthrene	7.18E-08	3.07E-08	2.19E-09	4.59E-08	1.07E-08				--	--				[D]
Toluene	1.87E-08	8.00E-09	5.71E-10	1.20E-08	2.78E-09	7.00E-08	1.05E-07	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.87E-06	8.00E-07	5.72E-08	1.20E-06	2.79E-07	4.00E-06	5.99E-06	1.6%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						2.53E-04	3.78E-04	100.0%						
Excess lifetime cancer risk:										7.79E-11	3.79E-10	100.0%		

Table L-257. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/kg)</b>														
Cadmium	5.05E+00	2.31E-06	8.48E-07	6.92E-06	7.91E-06	2.31E-03	6.92E-03	61.8%	kidney	10				[B1]
Copper	7.79E+01	3.57E-05	1.31E-05	1.07E-04	1.22E-04	8.91E-04	2.67E-03	23.8%	gastrointestinal system	--				[D]
Lead	3.22E+02	1.48E-04	5.41E-05	4.42E-04	5.05E-04				CNS, blood	--				[B2]
Mercury	1.52E-01	6.96E-08	2.55E-08	2.08E-07	2.38E-07	2.32E-04	6.94E-04	6.2%	kidney	--				[D]
Nickel	2.53E-02	1.16E-08	4.25E-09	3.47E-08	3.96E-08	5.80E-07	1.73E-06	0.0%	whole body	300				--
Zinc	1.96E+02	8.97E-05	3.29E-05	2.68E-04	3.07E-04	2.99E-04	8.94E-04	8.0%	blood	3				[D]
<b>ORGANICS (mg/kg)</b>														
2-Methylnaphthalene	1.63E-01	7.47E-08	2.74E-08	2.24E-07	2.55E-07	2.49E-06	7.45E-06	0.1%	skin	--				--
Benzene	9.31E-04	4.26E-10	1.56E-10	1.28E-09	1.46E-09	1.42E-07	4.25E-07	0.0%	--	3000	8.60E-12	8.02E-11	94.5%	[A]
Chloroform	4.93E-04	2.26E-10	8.28E-11	6.76E-10	7.72E-10	2.26E-08	6.76E-08	0.0%	liver	1000	5.05E-13	4.71E-12	5.5%	[B2]
Naphthalene	1.13E-01	5.18E-08	1.90E-08	1.55E-07	1.77E-07	2.59E-06	7.75E-06	0.1%	whole body	3000				[C]
Phenanthrene	6.80E-02	3.11E-08	1.14E-08	9.32E-08	1.06E-07	1.04E-06	3.11E-06	0.0%	--	--				[D]
Toluene	6.74E-04	3.09E-10	1.13E-10	9.23E-10	1.05E-09	1.54E-09	4.61E-09	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.82E-02	8.34E-09	3.06E-09	2.49E-08	2.85E-08	2.78E-08	8.32E-08	0.0%	whole body	1000				--
di-N-Butyl Phthalate	2.15E-01	9.85E-08	3.61E-08	2.95E-07	3.37E-07	9.85E-07	2.95E-06	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						3.74E-03	1.12E-02	100.0%						
Excess lifetime cancer risk:										9.10E-12	8.49E-11	100.0%		

Table L-258. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Risk estimates			(CTE)	(RME)		
<b>INORGANICS (mg/kg)</b>														
Cadmium	5.05E+00	4.63E-08	6.79E-09	4.01E-07	1.93E-07	1.54E-03	1.34E-02	100.0%	kidney	10				[B1]
Copper	7.79E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--				[D]
Lead	3.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--				[B2]
Mercury	1.52E-01	No ABS	No ABS	No ABS	No ABS				kidney	--				[D]
Nickel	2.53E-02	No ABS	No ABS	No ABS	No ABS				whole body	300				--
Zinc	1.96E+02	No ABS	No ABS	No ABS	No ABS				blood	3				[D]
<b>ORGANICS (mg/kg)</b>														
2-Methylnaphthalene	1.63E-01	No ABS	No ABS	No ABS	No ABS				skin	--				--
Benzene	9.31E-04	No ABS	No ABS	No ABS	No ABS				--	3000				[A]
Chloroform	4.93E-04	No ABS	No ABS	No ABS	No ABS				liver	1000				[B2]
Naphthalene	1.13E-01	No ABS	No ABS	No ABS	No ABS				whole body	3000				[C]
Phenanthrene	6.80E-02	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Toluene	6.74E-04	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000				[D]
Trichlorofluoromethane	1.82E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000				--
di-N-Butyl Phthalate	2.15E-01	No ABS	No ABS	No ABS	No ABS				--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.54E-03	1.34E-02	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-259. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Cadmium	5.86E-09	1.07E-09	1.79E-10	1.61E-09	8.72E-10	1.88E-05	2.82E-05	97.9%	kidney	10	1.13E-09	5.49E-09	100.0%	[B1]
Copper	9.03E-08	1.65E-08	2.76E-09	2.48E-08	1.34E-08				gastrointestinal system	--				[D]
Lead	3.74E-07	6.85E-08	1.14E-08	1.02E-07	5.56E-08				CNS, blood	--				[B2]
Mercury	1.76E-10	3.23E-11	5.38E-12	4.83E-11	2.62E-11	3.77E-07	5.63E-07	2.0%	kidney	--				[D]
Nickel	2.94E-11	5.38E-12	8.97E-13	8.05E-12	4.37E-12				whole body	300				--
Zinc	2.27E-07	4.16E-08	6.94E-09	6.22E-08	3.38E-08				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2-Methylnaphthalene	1.89E-10	3.47E-11	5.78E-12	5.19E-11	2.82E-11				skin	--				--
Benzene	1.08E-12	1.98E-13	3.30E-14	2.96E-13	1.61E-13	1.16E-10	1.74E-10	0.0%	--	3000	9.00E-16	4.39E-15	0.0%	[A]
Chloroform	5.72E-13	1.05E-13	1.75E-14	1.57E-13	8.51E-14	1.22E-09	1.82E-09	0.0%	liver	1000	1.41E-15	6.85E-15	0.0%	[B2]
Naphthalene	1.31E-10	2.40E-11	4.00E-12	3.59E-11	1.95E-11	2.80E-08	4.19E-08	0.1%	whole body	3000				[C]
Phenanthrene	7.89E-11	1.44E-11	2.41E-12	2.16E-11	1.17E-11				--	--				[D]
Toluene	7.82E-13	1.43E-13	2.39E-14	2.14E-13	1.16E-13	1.25E-12	1.87E-12	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	2.11E-11	3.87E-12	6.45E-13	5.79E-12	3.14E-12	1.94E-11	2.89E-11	0.0%	whole body	1000				--
di-N-Butyl Phthalate	2.50E-10	4.57E-11	7.62E-12	6.84E-11	3.71E-11				--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.92E-05	2.88E-05	100.0%						
Excess lifetime cancer risk:										1.13E-09	5.49E-09	100.0%		

**Table L-260. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
2-Methylnaphthalene	2.70E-07	4.94E-08	8.24E-09	7.39E-08	4.01E-08				skin	--			--	
Benzene	3.65E-08	6.68E-09	1.11E-09	9.99E-09	5.42E-09	3.93E-06	5.88E-06	3.6%	--	3000	3.04E-11	1.48E-10	39.0% [A]	
Chloroform	1.93E-08	3.54E-09	5.90E-10	5.29E-09	2.87E-09	4.11E-05	6.15E-05	38.0%	liver	1000	4.75E-11	2.31E-10	61.0% [B2]	
Naphthalene	2.88E-07	5.27E-08	8.79E-09	7.88E-08	4.28E-08	6.15E-05	9.20E-05	56.8%	whole body	3000			[C]	
Phenanthrene	7.18E-08	1.32E-08	2.19E-09	1.97E-08	1.07E-08				--	--			[D]	
Toluene	1.87E-08	3.43E-09	5.71E-10	5.13E-09	2.78E-09	3.00E-08	4.48E-08	0.0%	liver, kidney	1000			[D]	
Trichlorofluoromethane	1.87E-06	3.43E-07	5.72E-08	5.13E-07	2.79E-07	1.72E-06	2.57E-06	1.6%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						1.08E-04	1.62E-04	100.0%						
Excess lifetime cancer risk:										7.79E-11	3.79E-10	100.0%		



Table L-261. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>INORGANICS (mg/kg)</b>														
Cadmium	5.05E+00	2.85E-06	8.13E-08	4.74E-06	3.39E-07	2.85E-03	4.74E-03	60.7%	kidney	10			[B1]	
Copper	7.79E+01	4.39E-05	1.25E-06	7.31E-05	5.22E-06	1.19E-03	1.98E-03	25.3%	gastrointestinal system	--			[D]	
Lead	3.22E+02	1.82E-04	5.19E-06	3.03E-04	2.16E-05				CNS, blood	--			[B2]	
Mercury	1.52E-01	8.56E-08	2.45E-09	1.43E-07	1.02E-08	2.85E-04	4.76E-04	6.1%	kidney	--			[D]	
Nickel	2.53E-02	1.43E-08	4.08E-10	2.38E-08	1.70E-09	7.13E-07	1.19E-06	0.0%	whole body	300			--	
Zinc	1.96E+02	1.10E-04	3.15E-06	1.84E-04	1.31E-05	3.68E-04	6.13E-04	7.8%	blood	3			[D]	
<b>ORGANICS (mg/kg)</b>														
2-Methylnaphthalene	1.63E-01	9.20E-08	2.63E-09	1.53E-07	1.09E-08	3.07E-07	5.11E-07	0.0%	skin	--			--	
Benzene	9.31E-04	5.25E-10	1.50E-11	8.75E-10	6.25E-11	1.75E-07	2.92E-07	0.0%	--	3000	8.25E-13	3.44E-12	94.5%	[A]
Chloroform	4.93E-04	2.78E-10	7.94E-12	4.63E-10	3.31E-11	2.78E-08	4.63E-08	0.0%	liver	1000	4.85E-14	2.02E-13	5.5%	[B2]
Naphthalene	1.13E-01	6.37E-08	1.82E-09	1.06E-07	7.59E-09	3.19E-06	5.31E-06	0.1%	whole body	3000				[C]
Phenanthrene	6.80E-02	3.83E-08	1.09E-09	6.39E-08	4.56E-09	1.28E-07	2.13E-07	0.0%	--	--				[D]
Toluene	6.74E-04	3.80E-10	1.08E-11	6.33E-10	4.52E-11	1.90E-10	3.16E-10	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.82E-02	1.03E-08	2.93E-10	1.71E-08	1.22E-09	1.47E-08	2.44E-08	0.0%	whole body	1000				--
di-N-Butyl Phthalate	2.15E-01	1.21E-07	3.46E-09	2.02E-07	1.44E-08	1.21E-07	2.02E-07	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						4.69E-03	7.82E-03	100.0%						
Excess lifetime cancer risk:										8.73E-13	3.64E-12	100.0%		

**Table L-262. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Cadmium	5.05E+00	5.93E-09	1.69E-10	5.73E-08	4.10E-09	1.98E-04	1.91E-03	100.0%	kidney	10			[B1]	
Copper	7.79E+01	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--			[D]	
Lead	3.22E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[B2]	
Mercury	1.52E-01	No ABS	No ABS	No ABS	No ABS				kidney	--			[D]	
Nickel	2.53E-02	No ABS	No ABS	No ABS	No ABS				whole body	300			--	
Zinc	1.96E+02	No ABS	No ABS	No ABS	No ABS				blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
2-Methylnaphthalene	1.63E-01	No ABS	No ABS	No ABS	No ABS				skin	--			--	
Benzene	9.31E-04	No ABS	No ABS	No ABS	No ABS				--	3000			[A]	
Chloroform	4.93E-04	No ABS	No ABS	No ABS	No ABS				liver	1000			[B2]	
Naphthalene	1.13E-01	No ABS	No ABS	No ABS	No ABS				whole body	3000			[C]	
Phenanthrene	6.80E-02	No ABS	No ABS	No ABS	No ABS				--	--			[D]	
Toluene	6.74E-04	No ABS	No ABS	No ABS	No ABS				liver, kidney	1000			[D]	
Trichlorofluoromethane	1.82E-02	No ABS	No ABS	No ABS	No ABS				whole body	1000			--	
di-N-Butyl Phthalate	2.15E-01	No ABS	No ABS	No ABS	No ABS				--	1000			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						1.98E-04	1.91E-03	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-263. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFL, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Cadmium	5.86E-09	1.65E-10	4.72E-12	2.75E-10	1.97E-11	2.90E-06	4.83E-06	97.9%	kidney	10	2.97E-11	1.24E-10	100.0%	[B1]
Copper	9.03E-08	2.55E-09	7.27E-11	4.24E-09	3.03E-10				gastrointestinal system	--				[D]
Lead	3.74E-07	1.05E-08	3.01E-10	1.76E-08	1.25E-09				CNS, blood	--				[B2]
Mercury	1.76E-10	4.97E-12	1.42E-13	8.28E-12	5.91E-13	5.79E-08	9.66E-08	2.0%	kidney	--				[D]
Nickel	2.94E-11	8.28E-13	2.36E-14	1.38E-12	9.85E-14				whole body	300				--
Zinc	2.27E-07	6.40E-09	1.83E-10	1.07E-08	7.62E-10				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2-Methylnaphthalene	1.89E-10	5.34E-12	1.52E-13	8.89E-12	6.35E-13				skin	--				--
Benzene	1.08E-12	3.04E-14	8.70E-16	5.07E-14	3.62E-15	1.79E-11	2.98E-11	0.0%	--	3000	2.37E-17	9.89E-17	0.0%	[A]
Chloroform	5.72E-13	1.61E-14	4.61E-16	2.69E-14	1.92E-15	1.88E-10	3.13E-10	0.0%	liver	1000	3.71E-17	1.55E-16	0.0%	[B2]
Naphthalene	1.31E-10	3.70E-12	1.06E-13	6.16E-12	4.40E-13	4.31E-09	7.19E-09	0.1%	whole body	3000				[C]
Phenanthrene	7.89E-11	2.22E-12	6.35E-14	3.71E-12	2.65E-13				--	--				[D]
Toluene	7.82E-13	2.20E-14	6.29E-16	3.67E-14	2.62E-15	1.93E-13	3.21E-13	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	2.11E-11	5.95E-13	1.70E-14	9.92E-13	7.09E-14	2.98E-13	4.96E-13	0.0%	whole body	1000				--
di-N-Butyl Phthalate	2.50E-10	7.03E-12	2.01E-13	1.17E-11	8.37E-13				--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.96E-06	4.93E-06	100.0%						
Excess lifetime cancer risk:										2.97E-11	1.24E-10	100.0%		

**Table L-264. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ				Risk estimates				
	EPC Conc. in Air	Non Ca	Ca	Non Ca	Ca	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Effects (CTE)	Effects (CTE)	Effects (RME)	Effects (RME)	(CTE)	(RME)				(CTE)	(RME)		
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2-Methylnaphthalene	2.70E-07	7.60E-09	2.17E-10	1.27E-08	9.05E-10				skin	--				--
Benzene	3.65E-08	1.03E-09	2.94E-11	1.71E-09	1.22E-10	6.05E-07	1.01E-06	3.7%	--	3000	8.02E-13	3.34E-12	39.0%	[A]
Chloroform	1.93E-08	5.44E-10	1.56E-11	9.07E-10	6.48E-11	6.33E-06	1.06E-05	38.5%	liver	1000	1.25E-12	5.22E-12	61.0%	[B2]
Naphthalene	2.88E-07	8.11E-09	2.32E-10	1.35E-08	9.65E-10	9.46E-06	1.58E-05	57.6%	whole body	3000				[C]
Phenanthrene	7.18E-08	2.02E-09	5.78E-11	3.37E-09	2.41E-10				--	--				[D]
Toluene	1.87E-08	5.27E-10	1.51E-11	8.79E-10	6.28E-11	4.61E-09	7.69E-09	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	1.87E-06	5.28E-08	1.51E-09	8.80E-08	6.28E-09	2.64E-08	4.40E-08	0.2%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.64E-05	2.74E-05	100.0%						
Excess lifetime cancer risk:										2.05E-12	8.56E-12	100.0%		

Table L-265. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Cadmium	1.25E+00	6.03E-04	3.65E-05	1.44E-03	2.81E-04	6.03E-01	1.44E+00	63.5%	kidney	10		[B1]	
Copper	2.24E+01	1.08E-02	6.52E-04	2.58E-02	5.03E-03	2.69E-01	6.45E-01	28.4%	gastrointestinal system	--		[D]	
Lead	1.17E+00	5.63E-04	3.41E-05	1.35E-03	2.63E-04				CNS, blood	--		[B2]	
Zinc	4.81E+01	2.31E-02	1.40E-03	5.53E-02	1.08E-02	7.70E-02	1.84E-01	8.1%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	6.80E-06	3.27E-09	1.98E-10	7.82E-09	1.53E-09	1.63E-07	3.91E-07	0.0%	whole body	3000		[C]	
Trichlorofluoromethane	6.31E-10	3.04E-13	1.84E-14	7.26E-13	1.42E-13	1.01E-12	2.42E-12	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						9.49E-01	2.27E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-266. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RID) (CTE)	HQ Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/kg)</i>													
Cadmium	2.20E-01	1.72E-04	1.05E-05	4.12E-04	8.08E-05	1.72E-01	4.12E-01	36.8%	kidney	10		[B1]	
Copper	1.40E+01	1.09E-02	6.65E-04	2.61E-02	5.13E-03	2.73E-01	6.53E-01	58.4%	gastrointestinal system	--		[D]	
Lead	6.47E-01	5.04E-04	3.07E-05	1.21E-03	2.37E-04				CNS, blood	--		[B2]	
Zinc	8.46E+00	6.60E-03	4.02E-04	1.58E-02	3.10E-03	2.20E-02	5.26E-02	4.7%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	1.52E-02	1.19E-05	7.22E-07	2.84E-05	5.57E-06	5.93E-04	1.42E-03	0.1%	whole body	3000		[C]	
Trichlorofluoromethane	3.88E-03	3.03E-06	1.84E-07	7.24E-06	1.42E-06	1.01E-05	2.41E-05	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						4.68E-01	1.12E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-267. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CTE)	Noncarcinogenic Effects (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/kg)</i>													
Cadmium	3.10E-01	2.46E-04	1.50E-05	5.53E-04	1.09E-04	2.46E-01	5.53E-01	45.0%	kidney	10		[B1]	
Copper	1.40E+01	1.11E-02	6.77E-04	2.50E-02	4.90E-03	2.78E-01	6.24E-01	50.8%	gastrointestinal system	--		[D]	
Lead	1.82E+00	1.45E-03	8.79E-05	3.24E-03	6.37E-04				CNS, blood	--		[B2]	
Zinc	8.84E+00	7.03E-03	4.28E-04	1.58E-02	3.10E-03	2.34E-02	5.26E-02	4.3%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	7.20E-04	5.72E-07	3.48E-08	1.28E-06	2.52E-07	2.86E-05	6.42E-05	0.0%	whole body	3000		[C]	
Trichlorofluoromethane	4.57E-04	3.64E-07	2.21E-08	8.16E-07	1.60E-07	1.21E-06	2.72E-06	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						5.48E-01	1.23E+00	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-268. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		<i>INORGANICS (mg/kg)</i>												
Cadmium	1.25E+00	1.92E-04	3.65E-05	4.60E-04	2.81E-04	1.92E-01	4.60E-01	63.5%	kidney	10			[B1]	
Copper	2.24E+01	3.44E-03	6.52E-04	8.23E-03	5.03E-03	8.59E-02	2.06E-01	28.4%	gastrointestinal system	--			[D]	
Lead	1.17E+00	1.80E-04	3.41E-05	4.30E-04	2.63E-04				CNS, blood	--			[B2]	
Zinc	4.81E+01	7.37E-03	1.40E-03	1.76E-02	1.08E-02	2.46E-02	5.88E-02	8.1%	blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
Naphthalene	6.80E-06	1.04E-09	1.98E-10	2.50E-09	1.53E-09	5.22E-08	1.25E-07	0.0%	whole body	3000			[C]	
Trichlorofluoromethane	6.31E-10	9.68E-14	1.84E-14	2.32E-13	1.42E-13	3.23E-13	7.72E-13	0.0%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						3.03E-01	7.25E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		



**Table L-269. Risk Characterization for Tuberos Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Risk estimates			(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Cadmium	2.20E-01	5.55E-05	1.05E-05	1.33E-04	8.08E-05	5.55E-02	1.33E-01	36.8%	kidney	10			[B1]	
Copper	1.40E+01	3.53E-03	6.65E-04	8.44E-03	5.13E-03	8.82E-02	2.11E-01	58.4%	gastrointestinal system	--			[D]	
Lead	6.47E-01	1.63E-04	3.07E-05	3.90E-04	2.37E-04				CNS, blood	--			[B2]	
Zinc	8.46E+00	2.13E-03	4.02E-04	5.10E-03	3.10E-03	7.10E-03	1.70E-02	4.7%	blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
Naphthalene	1.52E-02	3.83E-06	7.22E-07	9.16E-06	5.57E-06	1.91E-04	4.58E-04	0.1%	whole body	3000			[C]	
Trichlorofluoromethane	3.88E-03	9.77E-07	1.84E-07	2.34E-06	1.42E-06	3.26E-06	7.80E-06	0.0%	whole body	1000			--	
Chemical hazards combined exposure:														
Hazard index (HI):						1.51E-01	3.61E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

**Table L-270. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. Plant Tissue	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDU/RFD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)			
<i>INORGANICS (mg/kg)</i>														
Cadmium	3.10E-01	7.95E-05	1.50E-05	1.78E-04	1.09E-04	7.95E-02	1.78E-01	45.0%	kidney	10				[B1]
Copper	1.40E+01	3.59E-03	6.77E-04	8.06E-03	4.90E-03	8.98E-02	2.01E-01	50.8%	gastrointestinal system	--				[D]
Lead	1.82E+00	4.66E-04	8.79E-05	1.05E-03	6.37E-04				CNS, blood	--				[B2]
Zinc	8.84E+00	2.27E-03	4.28E-04	5.09E-03	3.10E-03	7.56E-03	1.70E-02	4.3%	blood	3				[D]
<i>ORGANICS (mg/kg)</i>														
Naphthalene	7.20E-04	1.85E-07	3.48E-08	4.14E-07	2.52E-07	9.23E-06	2.07E-05	0.0%	whole body	3000				[C]
Trichlorofluoromethane	4.57E-04	1.17E-07	2.21E-08	2.63E-07	1.60E-07	3.91E-07	8.77E-07	0.0%	whole body	1000				--
Chemical hazards combined exposure:														
Hazard index (HI):						1.77E-01	3.97E-01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-271. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>INORGANICS (mg/kg)</b>														
Cadmium	1.84E+00	8.84E-04	5.35E-05	2.12E-03	4.13E-04	8.84E-01	2.12E+00	66.0%	kidney	10				[B1]
Copper	3.11E+01	1.50E-02	9.06E-04	3.58E-02	6.99E-03	3.74E-01	8.96E-01	28.0%	gastrointestinal system	--				[D]
Lead	1.87E+00	8.99E-04	5.44E-05	2.15E-03	4.20E-04				CNS, blood	--				[B2]
Mercury	1.22E-03	5.84E-07	3.53E-08	1.40E-06	2.73E-07	1.95E-03	4.66E-03	0.1%	kidney	--				[D]
Nickel	8.10E-04	3.90E-07	2.36E-08	9.32E-07	1.82E-07	1.95E-05	4.66E-05	0.0%	whole body	300				--
Zinc	4.90E+01	2.35E-02	1.42E-03	5.63E-02	1.10E-02	7.85E-02	1.88E-01	5.9%	blood	3				[D]
<b>ORGANICS (mg/kg)</b>														
2-Methylnaphthalene	2.19E-04	1.05E-07	6.36E-09	2.52E-07	4.91E-08	3.50E-06	8.38E-06	0.0%	skin	--				--
Benzene	5.99E-08	2.88E-11	1.74E-12	6.89E-11	1.34E-11	9.60E-09	2.30E-08	0.0%	--	3000	9.58E-14	7.40E-13	100.0%	[A]
Chloroform	1.17E-10	5.61E-14	3.39E-15	1.34E-13	2.62E-14	5.61E-12	1.34E-11	0.0%	liver	1000	2.07E-17	1.60E-16	0.0%	[B2]
Naphthalene	1.48E-05	7.11E-09	4.30E-10	1.70E-08	3.32E-09	3.56E-07	8.51E-07	0.0%	whole body	3000				[C]
Phenanthrene	2.51E-05	1.21E-08	7.30E-10	2.89E-08	5.64E-09	4.02E-07	9.63E-07	0.0%	--	--				[D]
Toluene	3.22E-08	1.55E-11	9.36E-13	3.70E-11	7.23E-12	7.74E-11	1.85E-10	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	7.66E-10	3.69E-13	2.23E-14	8.82E-13	1.72E-13	1.23E-12	2.94E-12	0.0%	whole body	1000				[D]
di-N-Butyl Phthalate	4.81E-05	2.31E-08	1.40E-09	5.53E-08	1.08E-08	2.31E-07	5.53E-07	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.34E+00	3.20E+00	100.0%						
Excess lifetime cancer risk:										9.58E-14	7.40E-13	100.0%		

Table L-272. Risk Characterization for Tuberos Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Toeole, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RID) (CTE)	Percent of Total (RME)	(CTE)			(RME)						
<i>INORGANICS (mg/kg)</i>																	
Cadmium	3.23E-01	2.52E-04	1.53E-05	6.03E-04	1.19E-04	2.52E-01	6.03E-01	38.0%	kidney	10				[B1]			
Copper	1.95E+01	1.52E-02	9.24E-04	3.63E-02	7.14E-03	3.80E-01	9.09E-01	57.2%	gastrointestinal system	--				[D]			
Lead	1.03E+00	8.05E-04	4.90E-05	1.93E-03	3.78E-04				CNS, blood	--				[B2]			
Mercury	2.13E-03	1.66E-06	1.01E-07	3.97E-06	7.80E-07	5.53E-03	1.32E-02	0.8%	kidney	--				[D]			
Nickel	2.03E-04	1.58E-07	9.61E-09	3.78E-07	7.43E-08	7.90E-06	1.89E-05	0.0%	whole body	300				--			
Zinc	8.62E+00	6.72E-03	4.09E-04	1.61E-02	3.16E-03	2.24E-02	5.36E-02	3.4%	blood	3				[D]			
<i>ORGANICS (mg/kg)</i>																	
2-Methylnaphthalene	4.21E-02	3.28E-05	2.00E-06	7.86E-05	1.54E-05	1.09E-03	2.62E-03	0.2%	skin	--				--			
Benzene	7.12E-04	5.55E-07	3.38E-08	1.33E-06	2.61E-07	1.85E-04	4.43E-04	0.0%	--	3000	1.86E-09	1.44E-08	100.0%	[A]			
Chloroform	6.13E-07	4.78E-10	2.91E-11	1.14E-09	2.25E-10	4.78E-08	1.14E-07	0.0%	liver	1000	1.78E-13	1.37E-12	0.0%	[B2]			
Naphthalene	3.31E-02	2.58E-05	1.57E-06	6.17E-05	1.21E-05	1.29E-03	3.09E-03	0.2%	whole body	3000				[C]			
Phenanthrene	1.67E-02	1.30E-05	7.91E-07	3.11E-05	6.11E-06	4.33E-04	1.04E-03	0.1%	--	--				[D]			
Toluene	3.09E-04	2.41E-07	1.47E-08	5.77E-07	1.13E-07	1.20E-06	2.88E-06	0.0%	liver, kidney	1000				[D]			
Trichlorofluoromethane	4.71E-03	3.68E-06	2.24E-07	8.80E-06	1.73E-06	1.23E-05	2.93E-05	0.0%	whole body	1000				--			
di-N-Butyl Phthalate	5.20E-02	4.06E-05	2.47E-06	9.70E-05	1.91E-05	4.06E-04	9.70E-04	0.1%	--	1000				[D]			
Chemical hazards combined exposure:																	
Hazard index (HI):																	
<table border="1" style="display: inline-table;"> <tr> <td>6.63E-01</td> <td>1.59E+00</td> <td>100.0%</td> </tr> </table>															6.63E-01	1.59E+00	100.0%
6.63E-01	1.59E+00	100.0%															
Excess lifetime cancer risk:																	
<table border="1" style="display: inline-table;"> <tr> <td>1.86E-09</td> <td>1.44E-08</td> <td>100.0%</td> </tr> </table>															1.86E-09	1.44E-08	100.0%
1.86E-09	1.44E-08	100.0%															

Table L-273. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>INORGANICS (mg/kg)</b>														
Cadmium	4.55E-01	3.61E-04	2.20E-05	8.11E-04	1.59E-04	3.61E-01	8.11E-01	46.5%	kidney	10				[B1]
Copper	1.95E+01	1.55E-02	9.41E-04	3.47E-02	6.82E-03	3.87E-01	8.68E-01	49.8%	gastrointestinal system	--				[D]
Lead	2.90E+00	2.31E-03	1.40E-04	5.18E-03	1.02E-03				CNS, blood	--				[B2]
Mercury	1.52E-03	1.21E-06	7.35E-08	2.71E-06	5.32E-07	4.03E-03	9.03E-03	0.5%	kidney	--				[D]
Nickel	1.52E-04	1.21E-07	7.35E-09	2.71E-07	5.32E-08	6.04E-06	1.35E-05	0.0%	whole body	300				--
Zinc	9.01E+00	7.16E-03	4.36E-04	1.61E-02	3.15E-03	2.39E-02	5.36E-02	3.1%	blood	3				[D]
<b>ORGANICS (mg/kg)</b>														
2-Methylnaphthalene	3.67E-05	2.91E-08	1.77E-09	6.54E-08	1.28E-08	9.71E-07	2.18E-06	0.0%	skin	--				--
Benzene	1.23E-03	9.81E-07	5.97E-08	2.20E-06	4.32E-07	3.27E-04	7.33E-04	0.0%	--	3000	3.28E-09	2.38E-08	100.0%	[A]
Chloroform	1.08E-06	8.61E-10	5.24E-11	1.93E-09	3.79E-10	8.61E-08	1.93E-07	0.0%	liver	1000	3.19E-13	2.31E-12	0.0%	[B2]
Naphthalene	1.57E-03	1.24E-06	7.57E-08	2.79E-06	5.48E-07	6.22E-05	1.40E-04	0.0%	whole body	3000				[C]
Phenanthrene	1.71E-06	1.36E-09	8.28E-11	3.05E-09	5.99E-10	4.53E-08	1.02E-07	0.0%	--	--				[D]
Toluene	3.05E-04	2.42E-07	1.47E-08	5.43E-07	1.07E-07	1.21E-06	2.72E-06	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	5.55E-04	4.42E-07	2.69E-08	9.91E-07	1.94E-07	1.47E-06	3.30E-06	0.0%	whole body	1000				--
di-N-Butyl Phthalate	3.05E-06	2.42E-09	1.47E-10	5.44E-09	1.07E-09	2.42E-08	5.44E-08	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):														
7.77E-01   1.74E+00   100.0%														
Excess lifetime cancer risk:														
3.28E-09   2.38E-08   100.0%														

**Table L-274. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CDI x CSF) (CTE)			(RME)			
<i>INORGANICS (mg/kg)</i>														
Cadmium	1.84E+00	2.82E-04	5.35E-05	6.75E-04	4.13E-04	2.82E-01	6.75E-01	66.0%	kidney	10				[B1]
Copper	3.11E+01	4.78E-03	9.06E-04	1.14E-02	6.99E-03	1.19E-01	2.86E-01	28.0%	gastrointestinal system	--				[D]
Lead	1.87E+00	2.87E-04	5.44E-05	6.87E-04	4.20E-04				CNS, blood	--				[B2]
Mercury	1.22E-03	1.86E-07	3.53E-08	4.46E-07	2.73E-07	6.21E-04	1.49E-03	0.1%	kidney	--				[D]
Nickel	8.10E-04	1.24E-07	2.36E-08	2.97E-07	1.82E-07	6.21E-06	1.49E-05	0.0%	whole body	300				--
Zinc	4.90E+01	7.51E-03	1.42E-03	1.80E-02	1.10E-02	2.50E-02	5.99E-02	5.9%	blood	3				[D]
<i>ORGANICS (mg/kg)</i>														
2-Methylnaphthalene	2.19E-04	3.35E-08	6.36E-09	8.03E-08	4.91E-08	1.12E-06	2.68E-06	0.0%	skin	--				--
Benzene	5.99E-08	9.19E-12	1.74E-12	2.20E-11	1.34E-11	3.06E-09	7.33E-09	0.0%	--	3000	9.58E-14	7.40E-13	100.0%	[A]
Chloroform	1.17E-10	1.79E-14	3.39E-15	4.29E-14	2.62E-14	1.79E-12	4.29E-12	0.0%	liver	1000	2.07E-17	1.60E-16	0.0%	[B2]
Naphthalene	1.48E-05	2.27E-09	4.30E-10	5.43E-09	3.32E-09	1.13E-07	2.71E-07	0.0%	whole body	3000				[C]
Phenanthrene	2.51E-05	3.85E-09	7.30E-10	9.22E-09	5.64E-09	1.28E-07	3.07E-07	0.0%	--	--				[D]
Toluene	3.22E-08	4.94E-12	9.36E-13	1.18E-11	7.23E-12	2.47E-11	5.91E-11	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	7.66E-10	1.18E-13	2.23E-14	2.81E-13	1.72E-13	3.92E-13	9.38E-13	0.0%	whole body	1000				--
di-N-Butyl Phthalate	4.81E-05	7.37E-09	1.40E-09	1.76E-08	1.08E-08	7.37E-08	1.76E-07	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						4.27E-01	1.02E+00	100.0%						
Excess lifetime cancer risk:											9.58E-14	7.40E-13	100.0%	

Table L-275. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)			
<b>INORGANICS (mg/kg)</b>														
Cadmium	3.23E-01	8.14E-05	1.53E-05	1.95E-04	1.19E-04	8.14E-02	1.95E-01	38.0%	kidney	10				[B1]
Copper	1.95E+01	4.90E-03	9.24E-04	1.17E-02	7.14E-03	1.23E-01	2.93E-01	57.2%	gastrointestinal system	--				[D]
Lead	1.03E+00	2.60E-04	4.90E-05	6.22E-04	3.78E-04				CNS, blood	--				[B2]
Mercury	2.13E-03	5.36E-07	1.01E-07	1.28E-06	7.80E-07	1.79E-03	4.27E-03	0.8%	kidney	--				[D]
Nickel	2.03E-04	5.10E-08	9.61E-09	1.22E-07	7.43E-08	2.55E-06	6.10E-06	0.0%	whole body	300				--
Zinc	8.62E+00	2.17E-03	4.09E-04	5.19E-03	3.16E-03	7.23E-03	1.73E-02	3.4%	blood	3				[D]
<b>ORGANICS (mg/kg)</b>														
2-Methylnaphthalene	4.21E-02	1.06E-05	2.00E-06	2.54E-05	1.54E-05	3.53E-04	8.46E-04	0.2%	skin	--				--
Benzene	7.12E-04	1.79E-07	3.38E-08	4.29E-07	2.61E-07	5.98E-05	1.43E-04	0.0%	--	3000	1.86E-09	1.44E-08	100.0%	[A]
Chloroform	6.13E-07	1.54E-10	2.91E-11	3.70E-10	2.25E-10	1.54E-08	3.70E-08	0.0%	liver	1000	1.78E-13	1.37E-12	0.0%	[B2]
Naphthalene	3.31E-02	8.33E-06	1.57E-06	1.99E-05	1.21E-05	4.16E-04	9.96E-04	0.2%	whole body	3000				[C]
Phenanthrene	1.67E-02	4.20E-06	7.91E-07	1.00E-05	6.11E-06	1.40E-04	3.35E-04	0.1%	--	--				[D]
Toluene	3.09E-04	7.78E-08	1.47E-08	1.86E-07	1.13E-07	3.89E-07	9.31E-07	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	4.71E-03	1.19E-06	2.24E-07	2.84E-06	1.73E-06	3.96E-06	9.47E-06	0.0%	whole body	1000				--
di-N-Butyl Phthalate	5.20E-02	1.31E-05	2.47E-06	3.13E-05	1.91E-05	1.31E-04	3.13E-04	0.1%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.14E-01	5.12E-01	100.0%						
Excess lifetime cancer risk:											1.86E-09	1.44E-08	100.0%	

**Table L-276. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Cadmium	4.55E-01	1.17E-04	2.20E-05	2.62E-04	1.59E-04	1.17E-01	2.62E-01	46.5%	kidney	10				
Copper	1.95E+01	4.99E-03	9.41E-04	1.12E-02	6.82E-03	1.25E-01	2.80E-01	49.8%	gastrointestinal system	--				[B1]
Lead	2.90E+00	7.44E-04	1.40E-04	1.67E-03	1.02E-03				CNS, blood	--				[D]
Mercury	1.52E-03	3.90E-07	7.35E-08	8.74E-07	5.32E-07	1.30E-03	2.91E-03	0.5%	kidney	--				[B2]
Nickel	1.52E-04	3.90E-08	7.35E-09	8.74E-08	5.32E-08	1.95E-06	4.37E-06	0.0%	whole body	300				[D]
Zinc	9.01E+00	2.31E-03	4.36E-04	5.18E-03	3.15E-03	7.70E-03	1.73E-02	3.1%	blood	3				[D]
<i>ORGANICS (mg/kg)</i>														
2-Methylnaphthalene	3.67E-05	9.40E-09	1.77E-09	2.11E-08	1.28E-08	3.13E-07	7.03E-07	0.0%	skin	--				--
Benzene	1.23E-03	3.16E-07	5.97E-08	7.10E-07	4.32E-07	1.05E-04	2.37E-04	0.0%	--	3000	3.28E-09	2.38E-08	100.0%	[A]
Chloroform	1.08E-06	2.78E-10	5.24E-11	6.23E-10	3.79E-10	2.78E-08	6.23E-08	0.0%	liver	1000	3.19E-13	2.31E-12	0.0%	[B2]
Naphthalene	1.57E-03	4.02E-07	7.57E-08	9.01E-07	5.48E-07	2.01E-05	4.50E-05	0.0%	whole body	3000				[C]
Phenanthrene	1.71E-06	4.39E-10	8.28E-11	9.85E-10	5.99E-10	1.46E-08	3.28E-08	0.0%	--	--				[D]
Toluene	3.05E-04	7.81E-08	1.47E-08	1.75E-07	1.07E-07	3.91E-07	8.76E-07	0.0%	liver, kidney	1000				[D]
Trichlorofluoromethane	5.55E-04	1.42E-07	2.69E-08	3.20E-07	1.94E-07	4.75E-07	1.07E-06	0.0%	whole body	1000				[D]
di-N-Butyl Phthalate	3.05E-06	7.82E-10	1.47E-10	1.75E-09	1.07E-09	7.82E-09	1.75E-08	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.51E-01	5.62E-01	100.0%						
Excess lifetime cancer risk:										3.28E-09	2.38E-08	100.0%		



Table L-277. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS (mg/kg)</i>													
Cadmium	3.22E-03	3.39E-06	2.27E-07	8.65E-06	1.88E-06	3.39E-03	8.65E-03	2.9%	kidney	10		[B1]	
Copper	1.03E+00	1.08E-03	7.21E-05	2.75E-03	5.97E-04	2.70E-02	6.88E-02	23.0%	gastrointestinal system	--		[D]	
Lead	2.49E-02	2.62E-05	1.75E-06	6.69E-05	1.45E-05				CNS, blood	--		[B2]	
Zinc	2.48E+01	2.61E-02	1.75E-03	6.66E-02	1.44E-02	8.70E-02	2.22E-01	74.1%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	1.31E-06	1.38E-09	9.23E-11	3.52E-09	7.63E-10	6.90E-08	1.76E-07	0.0%	whole body	3000		[C]	
Trichlorofluoromethane	4.98E-08	5.24E-11	3.50E-12	1.34E-10	2.90E-11	1.75E-10	4.46E-10	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						1.17E-01	2.99E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-278. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 33C - Drainage Swale, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				Risk estimates			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)						
<i>INORGANICS (mg/kg)</i>													
Cadmium	3.22E-03	1.30E-06	2.27E-07	3.31E-06	1.88E-06	1.30E-03	3.31E-03	2.9%	kidney	10		[B1]	
Copper	1.03E+00	4.13E-04	7.21E-05	1.05E-03	5.97E-04	1.03E-02	2.63E-02	23.0%	gastrointestinal system	--		[D]	
Lead	2.49E-02	1.00E-05	1.75E-06	2.56E-05	1.45E-05				CNS, blood	--		[B2]	
Zinc	2.48E+01	9.99E-03	1.75E-03	2.55E-02	1.44E-02	3.33E-02	8.49E-02	74.1%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
Naphthalene	1.31E-06	5.28E-10	9.23E-11	1.35E-09	7.63E-10	2.64E-08	6.73E-08	0.0%	whole body	3000		[C]	
Trichlorofluoromethane	4.98E-08	2.01E-11	3.50E-12	5.12E-11	2.90E-11	6.69E-11	1.71E-10	0.0%	whole body	1000		--	
Chemical hazards combined exposure:													
Hazard index (HI):						4.49E-02	1.15E-01	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-279. RME Risk Characterization Summary: SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current Land Use		Future Land Use															
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk									
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Depot Worker	Construction Worker	Resident Integrated	Depot Worker	Construction Worker									
Surface Soil (0 to 0.5 ft BLS)	Ingestion	2E-06	B	2E-08	B	1E-03	B	1E-04	B	9E-05	B	2E-05	B	5E-06	E	1E-06	B	2E-07	B
	Dermal Contact	2E-06	B	2E-07	B	2E-04	B	1E-04	B	1E-04	B	2E-06	B	2E-05	E	8E-06	B	3E-07	B
	Inhalation (Dust)	0E+00	B	2E-12	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	2E-10	B	1E-10	B	5E-12	B
	Inhalation (Volatiles)	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		9E-01	B	9E-02	B	NA		6E-02	B	5E-05	E	NA		2E-06	B
	Dermal Contact	NA		NA		3E-01	B	2E-01	B	NA		2E-02	B	4E-05	E	NA		8E-07	B
	Inhalation (Dust)	NA		NA		0E+00	B	0E+00	B	NA		0E+00	B	5E-08	B	NA		1E-09	B
	Inhalation (Volatiles)	NA		NA		0E+00	B	0E+00	B	NA		0E+00	B	0E+00	B	NA		0E+00	B
<b>Surface Soil</b>																			
<b>Combined Hazard Index (HI):</b>		4E-06 B		1E-03 B		3E-04 B		2E-04 B		2E-05 B									
<b>Combined Cancer Risk:</b>				2E-07 B								2E-05 E		9E-06 B		5E-07 B			
<b>Subsurface Soil</b>																			
<b>Combined Hazard Index (HI):</b>		NA		1E+00 B		3E-01 B		NA		9E-02 B									
<b>Combined Cancer Risk:</b>				NA								8E-05 E		NA		3E-06 B			

NA - pathway not evaluated  
 0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values  
 B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios  
 E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios  
 Integrated receptor combines both child and adult exposures

**Table L-280. CTE Risk Characterization Summary: SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current Land Use		Future Land Use															
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk									
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Depot Worker	Construction Worker	Resident Integrated	Depot Worker	Construction Worker									
Surface Soil (0 to 0.5 ft BLS)	Ingestion	9E-07	B	2E-09	B	4E-04	B	4E-05	B	4E-05	B	1E-05	B	5E-07	B	1E-07	B	5E-08	B
	Dermal Contact	4E-07	B	6E-09	B	3E-05	B	2E-05	B	2E-05	B	2E-07	B	5E-07	B	3E-07	B	1E-08	B
	Inhalation (Dust)	0E+00	B	4E-13	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	5E-11	B	2E-11	B	1E-12	B
	Inhalation (Volatiles)	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B	0E+00	B
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA		NA		3E-01	B	3E-02	B	NA		4E-02	B	5E-06	E	NA		5E-07	B
	Dermal Contact	NA		NA		3E-02	B	2E-02	B	NA		2E-03	B	1E-06	B	NA		3E-08	B
	Inhalation (Dust)	NA		NA		0E+00	B	0E+00	B	NA		0E+00	B	1E-08	B	NA		3E-10	B
	Inhalation (Volatiles)	NA		NA		0E+00	B	0E+00	B	NA		0E+00	B	0E+00	B	NA		0E+00	B
<b>Surface Soil</b>																			
<b>Combined Hazard Index (HI):</b>		1E-06 B		4E-04 B		6E-05 B		6E-05 B		1E-05 B									
<b>Combined Cancer Risk:</b>				8E-09 B						1E-06 B		3E-07 B		6E-08 B					
<b>Subsurface Soil</b>																			
<b>Combined Hazard Index (HI):</b>		NA		3E-01 B		5E-02 B		NA		4E-02 B									
<b>Combined Cancer Risk:</b>				NA						6E-06 E		NA		5E-07 B					

NA - pathway not evaluated  
 0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values  
 B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios  
 E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios  
 Integrated receptor combines both child and adult exposures

**Table L-281. RME Risk Characterization Summary for Produce and Beef: SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Child	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	2E-05	B	7E-06	B	7E-11	B
	Tuberous Vegetable Ingestion	3E-02	B	1E-02	B	8E-05	E
	Fruit Ingestion	4E-03	B	1E-03	B	2E-12	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	3E+00	E	9E-01	B	3E-04	E
	Tuberous Vegetable Ingestion	1E+00	B	3E-01	B	9E-05	E
	Fruit Ingestion	2E-01	B	8E-02	B	2E-05	E
Beef	Ingestion	4E-03	B	1E-03	B	3E-05	E
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		4E-02 B		1E-02 B		1E-04 E	
		<b>Combined Cancer Risk:</b>					
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		4E+00 E		1E+00 B		4E-04 E	
		<b>Combined Cancer Risk:</b>					

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-282. CTE Risk Characterization Summary for Produce and Beef: SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	9E-06	B	3E-06	B	9E-12	B
	Tuberous Vegetable Ingestion	1E-02	B	4E-03	B	1E-05	E
	Fruit Ingestion	2E-03	B	5E-04	B	2E-13	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	1E+00	B	4E-01	B	3E-05	E
	Tuberous Vegetable Ingestion	4E-01	B	1E-01	B	1E-05	E
	Fruit Ingestion	1E-01	B	4E-02	B	3E-06	E
Beef	Ingestion	2E-03	B	6E-04	B	4E-06	E
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		2E-02 B		5E-03 B		1E-05 E	
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		2E+00 E		6E-01 B		5E-05 E	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-283. Chemicals of Concern for RME Risks at SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Current Land Use		Future Land Use							
					Noncancer HI: Depot Worker	Cancer Risk: Depot Worker	Noncancer HI				Cancer Risk			
							Resident Child	Resident Adult	Depot Worker	Construction Worker	Resident Integrated	Depot Worker	Construction Worker	
Surface Soil (0 to 0.5 ft BLS)	Ingestion	Benzo(a)pyrene		77%								4E-06		
	Dermal Contact	Benzo(a)pyrene		77%								1E-05		
		Benzo(a)anthracene		8%								1E-06		
	Inhalation (Dust) Inhalation (Volatiles)	Benzo(b)fluoranthene		8%								1E-06		
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	Arsenic		100%								5E-05		
	Dermal Contact	Arsenic		100%								4E-05		
	Inhalation (Dust)													
	Inhalation (Volatiles)													

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios

A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway

Integrated receptor combines both child and adult exposures

**Table L-284. Chemicals of Concern for Produce and Beef RME Risks at SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion						
	Tuberous Vegetable Ingestion	Benzo(a)anthracene		12%			9E-06
		Benzo(a)pyrene		80%			6E-05
		Benzo(b)fluoranthene		5%			4E-06
	Fruit Ingestion	Indeno(1,2,3-cd)pyrene		2%			2E-06
Produce (Subsurface Soil)	Leafy Vegetable Ingestion	Arsenic	100%	100%	3E+00	9E-01	3E-04
	Tuberous Vegetable Ingestion	Arsenic	100%	100%	1E+00	3E-01	9E-05
	Fruit Ingestion	Arsenic		100%			2E-05
Beef	Ingestion	Benzo(a)pyrene		54%			2E-05
		Benzo(b)fluoranthene		17%			5E-06
		Indeno(1,2,3-cd)pyrene		24%			8E-06

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios

A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway

Integrated receptor combines both child and adult exposures



Table L-285. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ				Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)	(CTE)			(RME)				
<b>ORGANICS (mg/kg)</b>																
Acenaphthene	1.00E-01	9.82E-10	7.01E-11	1.96E-09	7.01E-10	1.64E-08	3.27E-08	1.7%	liver	3000						--
Anthracene	1.10E-01	1.07E-09	7.66E-11	2.14E-09	7.66E-10	3.57E-09	7.15E-09	0.4%	none	3000						[D]
Benzo(a)anthracene	3.35E-02	3.27E-10	2.34E-11	6.55E-10	2.34E-10	1.09E-08	2.18E-08	1.2%	--	--	1.71E-10	1.71E-09	7.8%			[B2]
Benzo(a)pyrene	3.34E-01	3.27E-09	2.34E-10	6.54E-09	2.34E-09	1.09E-07	2.18E-07	11.6%	--	--	1.70E-09	1.70E-08	77.5%			[B2]
Benzo(b)fluoranthene	3.51E-02	3.43E-10	2.45E-11	6.86E-10	2.45E-10	1.14E-08	2.29E-08	1.2%	--	--	1.79E-10	1.79E-09	8.1%			[B2]
Benzo(g,h,i)perylene	2.59E-01	2.54E-09	1.81E-10	5.08E-09	1.81E-09	8.46E-08	1.69E-07	9.0%	--	--						[D]
Benzo(k)fluoranthene	1.73E-03	1.69E-11	1.21E-12	3.38E-11	1.21E-11	5.63E-10	1.13E-09	0.1%	--	--	8.81E-12	8.81E-11	0.4%			[B2]
Chrysene	3.92E-04	3.83E-12	2.74E-13	7.66E-12	2.74E-12	1.28E-10	2.55E-10	0.0%	--	--	2.00E-12	2.00E-11	0.1%			[B2]
Dibenzofuran	4.98E-02	4.87E-10	3.48E-11	9.74E-10	3.48E-10	1.22E-07	2.43E-07	12.9%	--	--						[D]
Fluoranthene	6.71E-01	6.56E-09	4.69E-10	1.31E-08	4.69E-09	1.64E-07	3.28E-07	17.4%	kidney, liver, blood	3000						[D]
Fluorene	7.50E-02	7.34E-10	5.24E-11	1.47E-09	5.24E-10	1.83E-08	3.67E-08	1.9%	blood	3000						[D]
Indeno(1,2,3-cd)pyrene	2.66E-02	2.60E-10	1.86E-11	5.20E-10	1.86E-10	8.66E-09	1.73E-08	0.9%	--	--	1.36E-10	1.36E-09	6.2%			[B2]
Phenanthrene	4.35E-01	4.26E-09	3.04E-10	8.51E-09	3.04E-09	1.42E-07	2.84E-07	15.0%	--	--						[D]
Pyrene	7.71E-01	7.55E-09	5.39E-10	1.51E-08	5.39E-09	2.52E-07	5.03E-07	26.7%	kidney	3000						[D]
Chemical hazards combined exposure:																
Hazard index (HI):						9.43E-07	1.89E-06	100.0%								
Excess lifetime cancer risk:											2.20E-09	2.20E-08	100.0%			

**Table L-286. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.00E-01	No ABS	No ABS	No ABS	No ABS					liver	3000			--
Anthracene	1.10E-01	No ABS	No ABS	No ABS	No ABS					none	3000			[D]
Benzo(a)anthracene	3.35E-02	8.51E-10	6.08E-11	4.94E-09	1.76E-09	2.84E-08	1.65E-07	7.8%	--		--	4.44E-10	1.29E-08	7.8% [B2]
Benzo(a)pyrene	3.34E-01	8.50E-09	6.07E-10	4.93E-08	1.76E-08	2.83E-07	1.64E-06	77.5%	--		--	4.43E-09	1.29E-07	77.5% [B2]
Benzo(b)fluoranthene	3.51E-02	8.92E-10	6.37E-11	5.17E-09	1.85E-09	2.97E-08	1.72E-07	8.1%	--		--	4.65E-10	1.35E-08	8.1% [B2]
Benzo(g,h,i)perylene	2.59E-01	No ABS	No ABS	No ABS	No ABS				--		--			[D]
Benzo(k)fluoranthene	1.73E-03	4.39E-11	3.14E-12	2.55E-10	9.10E-11	1.46E-09	8.50E-09	0.4%	--		--	2.29E-11	6.64E-10	0.4% [B2]
Chrysene	3.92E-04	9.96E-12	7.11E-13	5.78E-11	2.06E-11	3.32E-10	1.93E-09	0.1%	--		--	5.19E-12	1.51E-10	0.1% [B2]
Dibenzofuran	4.98E-02	No ABS	No ABS	No ABS	No ABS				--		--			[D]
Fluoranthene	6.71E-01	No ABS	No ABS	No ABS	No ABS				--	kidney, liver, blood	3000			[D]
Fluorene	7.50E-02	No ABS	No ABS	No ABS	No ABS				3000	blood	3000			[D]
Indeno(1,2,3-cd)pyrene	2.66E-02	6.76E-10	4.83E-11	3.92E-09	1.40E-09	2.25E-08	1.31E-07	6.2%	--		--	3.52E-10	1.02E-08	6.2% [B2]
Phenanthrene	4.35E-01	No ABS	No ABS	No ABS	No ABS				--		--			[D]
Pyrene	7.71E-01	No ABS	No ABS	No ABS	No ABS				3000	kidney	3000			[D]
Chemical hazards combined exposure:														
Hazard index (HI):						3.66E-07	2.12E-06	100.0%						
Excess lifetime cancer risk:											5.72E-09	1.66E-07	100.0%	

Table L-287. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Current Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates									
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE		
						Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)			(CTE)	(RME)				
<i>ORGANICS (mg/m<sup>3</sup>)</i>															
Acenaphthene	1.16E-10	4.56E-13	3.25E-14	4.56E-13	1.63E-13			liver	3000				--		
Anthracene	1.27E-10	4.97E-13	3.55E-14	4.97E-13	1.78E-13			none	3000				[D]		
Benzo(a)anthracene	3.88E-11	1.52E-13	1.08E-14	1.52E-13	5.42E-14				--	3.36E-14	1.68E-13	7.8%	[B2]		
Benzo(a)pyrene	3.88E-10	1.52E-12	1.08E-13	1.52E-12	5.42E-13				--	3.36E-13	1.68E-12	77.5%	[B2]		
Benzo(b)fluoranthene	4.07E-11	1.59E-13	1.14E-14	1.59E-13	5.69E-14				--	3.53E-14	1.76E-13	8.1%	[B2]		
Benzo(g,h,i)perylene	3.01E-10	1.18E-12	8.41E-14	1.18E-12	4.21E-13				--				[D]		
Benzo(k)fluoranthene	2.00E-12	7.84E-15	5.60E-16	7.84E-15	2.80E-15				--	1.74E-15	8.68E-15	0.4%	[B2]		
Chrysenes	4.54E-13	1.78E-15	1.27E-16	1.78E-15	6.35E-16				--	3.94E-16	1.97E-15	0.1%	[B2]		
Dibenzofuran	5.77E-11	2.26E-13	1.61E-14	2.26E-13	8.07E-14				--				[D]		
Fluoranthene	7.78E-10	3.05E-12	2.18E-13	3.05E-12	1.09E-12			kidney, liver, blood	3000				[D]		
Fluorene	8.70E-11	3.41E-13	2.43E-14	3.41E-13	1.22E-13			blood	3000				[D]		
Indeno(1,2,3-cd)pyrene	3.08E-11	1.21E-13	8.61E-15	1.21E-13	4.31E-14				--	2.67E-14	1.34E-13	6.2%	[B2]		
Phenanthrene	5.05E-10	1.98E-12	1.41E-13	1.98E-12	7.05E-13				--				[D]		
Pyrene	8.95E-10	3.50E-12	2.50E-13	3.50E-12	1.25E-12			kidney	3000				[D]		
Chemical hazards combined exposure:															
Hazard index (HI):						0.00E+00			0.00E+00			0.0%			
Excess lifetime cancer risk:										4.34E-13		2.17E-12		100.0%	

**Table L-288. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Volatile Inhalation Exposure (Current Land Use)**  
**SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<b>ORGANICS (mg/m<sup>3</sup>)</b>													
Acenaphthene	1.01E-07	3.94E-10	2.81E-11	3.94E-10	1.41E-10			liver	3000		--		
Anthracene	4.92E-08	1.93E-10	1.38E-11	1.93E-10	6.88E-11			none	3000		[D]		
Dibenzofuran	4.75E-08	1.86E-10	1.33E-11	1.86E-10	6.64E-11			--	--		[D]		
Fluorene	4.98E-08	1.95E-10	1.39E-11	1.95E-10	6.97E-11			blood	3000		[D]		
Phenanthrene	4.60E-07	1.80E-09	1.28E-10	1.80E-09	6.42E-10			--	--		[D]		
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00	0.00E+00	0.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-289. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<b>ORGANICS (mg/kg)</b>															
Acenaphthene	1.00E-01	4.30E-08	3.07E-09	9.82E-08	3.51E-08	7.17E-07	1.64E-06	1.7%	liver	3000				--	
Anthracene	1.10E-01	4.70E-08	3.35E-09	1.07E-07	3.83E-08	1.57E-07	3.57E-07	0.4%	none	3000				[D]	
Benzo(a)anthracene	3.35E-02	1.43E-08	1.02E-09	3.27E-08	1.17E-08	4.78E-07	1.09E-06	1.2%	--	--	7.48E-09	8.53E-08	7.8%	[B2]	
Benzo(a)pyrene	3.34E-01	1.43E-07	1.02E-08	3.27E-07	1.17E-07	4.77E-06	1.09E-05	11.6%	--	--	7.47E-08	8.52E-07	77.5%	[B2]	
Benzo(b)fluoranthene	3.51E-02	1.50E-08	1.07E-09	3.43E-08	1.23E-08	5.01E-07	1.14E-06	1.2%	--	--	7.84E-09	8.95E-08	8.1%	[B2]	
Benzo(g,h,i)perylene	2.59E-01	1.11E-07	7.94E-09	2.54E-07	9.06E-08	3.71E-06	8.46E-06	9.0%	--	--				[D]	
Benzo(k)fluoranthene	1.73E-03	7.40E-10	5.29E-11	1.69E-09	6.04E-10	2.47E-08	5.63E-08	0.1%	--	--	3.86E-10	4.41E-09	0.4%	[B2]	
Chrysene	3.92E-04	1.68E-10	1.20E-11	3.83E-10	1.37E-10	5.59E-09	1.28E-08	0.0%	--	--	8.75E-11	9.99E-10	0.1%	[B2]	
Dibenzofuran	4.98E-02	2.13E-08	1.52E-09	4.87E-08	1.74E-08	5.33E-06	1.22E-05	12.9%	--	--				[D]	
Fluoranthene	6.71E-01	2.88E-07	2.05E-08	6.56E-07	2.34E-07	7.19E-06	1.64E-05	17.4%	kidney, liver, blood	3000				[D]	
Fluorene	7.50E-02	3.21E-08	2.30E-09	7.34E-08	2.62E-08	8.04E-07	1.83E-06	1.9%	blood	3000				[D]	
Indeno(1,2,3-cd)pyrene	2.66E-02	1.14E-08	8.13E-10	2.60E-08	9.28E-09	3.79E-07	8.66E-07	0.9%	--	--	5.94E-09	6.78E-08	6.2%	[B2]	
Phenanthrene	4.35E-01	1.86E-07	1.33E-08	4.26E-07	1.52E-07	6.21E-06	1.42E-05	15.0%	--	--				[D]	
Pyrene	7.71E-01	3.31E-07	2.36E-08	7.55E-07	2.69E-07	1.10E-05	2.52E-05	26.7%	kidney	3000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						4.13E-05	9.43E-05	100.0%							
Excess lifetime cancer risk:											9.64E-08	1.10E-06	100.0%		



Table L-291. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		EPA UF	CTE			RME		
						(CTE)	(RME)										
<b>ORGANICS (mg/m<sup>3</sup>)</b>																	
Acenaphthene	1.16E-10	2.00E-11	1.43E-12	2.28E-11	8.14E-12				liver	3000				--			
Anthracene	1.27E-10	2.18E-11	1.56E-12	2.49E-11	8.88E-12				none	3000				[D]			
Benzo(a)anthracene	3.88E-11	6.65E-12	4.75E-13	7.59E-12	2.71E-12				--	--	1.47E-12	8.41E-12	7.8%	[B2]			
Benzo(a)pyrene	3.88E-10	6.65E-11	4.75E-12	7.59E-11	2.71E-11				--	--	1.47E-11	8.40E-11	77.5%	[B2]			
Benzo(b)fluoranthene	4.07E-11	6.97E-12	4.98E-13	7.96E-12	2.84E-12				--	--	1.54E-12	8.81E-12	8.1%	[B2]			
Benzo(g,h,i)perylene	3.01E-10	5.16E-11	3.68E-12	5.89E-11	2.10E-11				--	--				[D]			
Benzo(k)fluoranthene	2.00E-12	3.44E-13	2.45E-14	3.92E-13	1.40E-13				--	--	7.61E-14	4.34E-13	0.4%	[B2]			
Chrysene	4.54E-13	7.79E-14	5.56E-15	8.89E-14	3.17E-14				--	--	1.72E-14	9.84E-14	0.1%	[B2]			
Dibenzofuran	5.77E-11	9.90E-12	7.07E-13	1.13E-11	4.03E-12				--	--				[D]			
Fluoranthene	7.78E-10	1.33E-10	9.53E-12	1.52E-10	5.44E-11				kidney, liver, blood	3000				[D]			
Fluorene	8.70E-11	1.49E-11	1.07E-12	1.70E-11	6.08E-12				blood	3000				[D]			
Indeno(1,2,3-cd)pyrene	3.08E-11	5.28E-12	3.77E-13	6.03E-12	2.15E-12				--	--	1.17E-12	6.68E-12	6.2%	[B2]			
Phenanthrene	5.05E-10	8.65E-11	6.18E-12	9.88E-11	3.53E-11				--	--				[D]			
Pyrene	8.95E-10	1.53E-10	1.10E-11	1.75E-10	6.25E-11				kidney	3000				[D]			
Chemical hazards combined exposure:																	
Hazard index (HI):																	
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>0.00E+00</td> <td>0.00E+00</td> <td>0.0%</td> </tr> </table>															0.00E+00	0.00E+00	0.0%
0.00E+00	0.00E+00	0.0%															
Excess lifetime cancer risk:																	
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1.90E-11</td> <td>1.08E-10</td> <td>100.0%</td> </tr> </table>															1.90E-11	1.08E-10	100.0%
1.90E-11	1.08E-10	100.0%															

Table L-292. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Volatile Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<b>ORGANICS (mg/m<sup>3</sup>)</b>												
Acenaphthene	1.01E-07	1.73E-08	1.23E-09	1.97E-08	7.04E-09			liver	3000			--
Anthracene	4.92E-08	8.43E-09	6.02E-10	9.63E-09	3.44E-09			none	3000			[D]
Dibenzofuran	4.75E-08	8.15E-09	5.82E-10	9.30E-09	3.32E-09			--	--			[D]
Fluorene	4.98E-08	8.55E-09	6.10E-10	9.75E-09	3.48E-09			blood	3000			[D]
Phenanthrene	4.60E-07	7.88E-08	5.63E-09	8.99E-08	3.21E-08			--	--			[D]
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%



Table L-293. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ				Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)	(CTE)			(RME)				
<b>ORGANICS (mg/kg)</b>																
Acenaphthene	1.00E-01	4.29E-07	1.69E-08	1.28E-06	1.57E-07	7.15E-06	2.14E-05	1.7%	liver	3000					--	
Anthracene	1.10E-01	4.68E-07	1.84E-08	1.40E-06	1.72E-07	1.56E-06	4.67E-06	0.4%	none	3000					[D]	
Benzo(a)anthracene	3.35E-02	1.43E-07	5.62E-09	4.28E-07	5.24E-08	4.77E-06	1.43E-05	1.2%	--	--	4.10E-08	3.82E-07	7.8%		[B2]	
Benzo(a)pyrene	3.34E-01	1.43E-06	5.61E-08	4.27E-06	5.23E-07	4.76E-05	1.42E-04	11.6%	--	--	4.10E-07	3.82E-06	77.5%		[B2]	
Benzo(b)fluoranthene	3.51E-02	1.50E-07	5.89E-09	4.48E-07	5.49E-08	5.00E-06	1.49E-05	1.2%	--	--	4.30E-08	4.01E-07	8.1%		[B2]	
Benzo(g,h,i)perylene	2.59E-01	1.11E-06	4.36E-08	3.32E-06	4.06E-07	3.70E-05	1.11E-04	9.0%	--	--					[D]	
Benzo(k)fluoranthene	1.73E-03	7.38E-09	2.90E-10	2.21E-08	2.70E-09	2.46E-07	7.36E-07	0.1%	--	--	2.12E-09	1.97E-08	0.4%		[B2]	
Chrysene	3.92E-04	1.67E-09	6.57E-11	5.01E-09	6.13E-10	5.58E-08	1.67E-07	0.0%	--	--	4.80E-10	4.47E-09	0.1%		[B2]	
Dibenzofuran	4.98E-02	2.13E-07	8.35E-09	6.36E-07	7.79E-08	5.32E-05	1.59E-04	12.9%	--	--					[D]	
Fluoranthene	6.71E-01	2.87E-06	1.13E-07	8.58E-06	1.05E-06	7.17E-05	2.14E-04	17.4%	kidney, liver, blood	3000					[D]	
Fluorene	7.50E-02	3.21E-07	1.26E-08	9.59E-07	1.17E-07	8.01E-06	2.40E-05	1.9%	blood	3000					[D]	
Indeno(1,2,3-cd)pyrene	2.66E-02	1.14E-07	4.46E-09	3.40E-07	4.16E-08	3.78E-06	1.13E-05	0.9%	--	--	3.26E-08	3.04E-07	6.2%		[B2]	
Phenanthrene	4.35E-01	1.86E-06	7.30E-08	5.56E-06	6.81E-07	6.20E-05	1.85E-04	15.0%	--	--					[D]	
Pyrene	7.71E-01	3.30E-06	1.29E-07	9.86E-06	1.21E-06	1.10E-04	3.29E-04	26.7%	kidney	3000					[D]	
Chemical hazards combined exposure:																
Hazard index (HI):						4.12E-04	1.23E-03	100.0%								
Excess lifetime cancer risk:											5.29E-07	4.93E-06	100.0%			

Table L-294. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.00E-01	No ABS	No ABS	No ABS	No ABS				liver	3000		--		
Anthracene	1.10E-01	No ABS	No ABS	No ABS	No ABS				none	3000		[D]		
Benzo(a)anthracene	3.35E-02	6.50E-08	5.84E-09	5.59E-07	1.66E-07	2.17E-06	1.86E-05	7.8%	--	--	4.26E-08	1.21E-06	7.8%	[B2]
Benzo(a)pyrene	3.34E-01	6.50E-07	5.84E-08	5.58E-06	1.66E-06	2.17E-05	1.86E-04	77.5%	--	--	4.26E-07	1.21E-05	77.5%	[B2]
Benzo(b)fluoranthene	3.51E-02	6.82E-08	6.12E-09	5.86E-07	1.74E-07	2.27E-06	1.95E-05	8.1%	--	--	4.47E-08	1.27E-06	8.1%	[B2]
Benzo(g,h,i)perylene	2.59E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Benzo(k)fluoranthene	1.73E-03	3.36E-09	3.02E-10	2.89E-08	8.59E-09	1.12E-07	9.62E-07	0.4%	--	--	2.20E-09	6.27E-08	0.4%	[B2]
Chrysene	3.92E-04	7.61E-10	6.84E-11	6.54E-09	1.95E-09	2.54E-08	2.18E-07	0.1%	--	--	4.99E-10	1.42E-08	0.1%	[B2]
Dibenzofuran	4.98E-02	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Fluoranthene	6.71E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000		--		
Fluorene	7.50E-02	No ABS	No ABS	No ABS	No ABS				blood	3000		[D]		
Indeno(1,2,3-cd)pyrene	2.66E-02	5.16E-08	4.64E-09	4.44E-07	1.32E-07	1.72E-06	1.48E-05	6.2%	--	--	3.39E-08	9.64E-07	6.2%	[B2]
Phenanthrene	4.35E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Pyrene	7.71E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000		[D]		
Chemical hazards combined exposure:														
Hazard index (HI):						2.80E-05	2.40E-04	100.0%						
Excess lifetime cancer risk:										5.50E-07	1.57E-05	100.0%		

**Table L-295. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)**  
**SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Acenaphthene	1.16E-10	4.98E-11	3.55E-12	7.44E-11	1.73E-11			liver		3000			--	
Anthracene	1.27E-10	5.43E-11	3.88E-12	8.13E-11	1.89E-11			none		3000			[D]	
Benzo(a)anthracene	3.88E-11	1.66E-11	1.18E-12	2.48E-11	5.77E-12			--	3.67E-12	1.79E-11	7.8%	[B2]		
Benzo(a)pyrene	3.88E-10	1.66E-10	1.18E-11	2.48E-10	5.77E-11			--	3.67E-11	1.79E-10	77.5%	[B2]		
Benzo(b)fluoranthene	4.07E-11	1.74E-11	1.24E-12	2.60E-11	6.05E-12			--	3.85E-12	1.88E-11	8.1%	[B2]		
Benzo(g,h,i)perylene	3.01E-10	1.29E-10	9.19E-12	1.92E-10	4.48E-11			--				[D]		
Benzo(k)fluoranthene	2.00E-12	8.56E-13	6.12E-14	1.28E-12	2.98E-13			--	1.90E-13	9.24E-13	0.4%	[B2]		
Chrysenes	4.54E-13	1.94E-13	1.39E-14	2.90E-13	6.76E-14			--	4.30E-14	2.09E-13	0.1%	[B2]		
Dibenzofuran	5.77E-11	2.47E-11	1.76E-12	3.69E-11	8.58E-12			--				[D]		
Fluoranthene	7.78E-10	3.33E-10	2.38E-11	4.98E-10	1.16E-10			kidney, liver, blood		3000		[D]		
Fluorene	8.70E-11	3.72E-11	2.66E-12	5.56E-11	1.29E-11			blood		3000		[D]		
Indeno(1,2,3-cd)pyrene	3.08E-11	1.32E-11	9.41E-13	1.97E-11	4.58E-12			--	2.92E-12	1.42E-11	6.2%	[B2]		
Phenanthrene	5.05E-10	2.16E-10	1.54E-11	3.23E-10	7.51E-11			--				[D]		
Pyrene	8.95E-10	3.82E-10	2.73E-11	5.72E-10	1.33E-10			kidney		3000		[D]		
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00	0.00E+00	0.0%						
Excess lifetime cancer risk:										4.74E-11	2.31E-10	100.0%		

**Table L-296. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates						
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>												
Acenaphthene	1.01E-07	4.30E-08	3.07E-09	6.44E-08	1.50E-08			liver	3000			--
Anthracene	4.92E-08	2.10E-08	1.50E-09	3.15E-08	7.32E-09			none	3000			[D]
Dibenzofuran	4.75E-08	2.03E-08	1.45E-09	3.04E-08	7.07E-09			--	--			[D]
Fluorene	4.98E-08	2.13E-08	1.52E-09	3.19E-08	7.41E-09			blood	3000			[D]
Phenanthrene	4.60E-07	1.96E-07	1.40E-08	2.94E-07	6.83E-08			--	--			[D]
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%

Table L-297. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<i>ORGANICS (mg/kg)</i>															
Acenaphthene	1.00E-01	4.60E-08	1.69E-08	1.37E-07	1.57E-07	7.66E-07	2.29E-06	1.7%	liver	3000				--	
Anthracene	1.10E-01	5.02E-08	1.84E-08	1.50E-07	1.72E-07	1.67E-07	5.00E-07	0.4%	none	3000				[D]	
Benzo(a)anthracene	3.35E-02	1.53E-08	5.62E-09	4.58E-08	5.24E-08	5.11E-07	1.53E-06	1.2%	--	--	4.10E-08	3.82E-07	7.8%	[B2]	
Benzo(a)pyrene	3.34E-01	1.53E-07	5.61E-08	4.58E-07	5.23E-07	5.10E-06	1.53E-05	11.6%	--	--	4.10E-07	3.82E-06	77.5%	[B2]	
Benzo(b)fluoranthene	3.51E-02	1.61E-08	5.89E-09	4.80E-08	5.49E-08	5.35E-07	1.60E-06	1.2%	--	--	4.30E-08	4.01E-07	8.1%	[B2]	
Benzo(g,h,i)perylene	2.59E-01	1.19E-07	4.36E-08	3.55E-07	4.06E-07	3.96E-06	1.18E-05	9.0%	--	--				[D]	
Benzo(k)fluoranthene	1.73E-03	7.91E-10	2.90E-10	2.37E-09	2.70E-09	2.64E-08	7.89E-08	0.1%	--	--	2.12E-09	1.97E-08	0.4%	[B2]	
Chrysene	3.92E-04	1.79E-10	6.57E-11	5.36E-10	6.13E-10	5.98E-09	1.79E-08	0.0%	--	--	4.80E-10	4.47E-09	0.1%	[B2]	
Dibenzofuran	4.98E-02	2.28E-08	8.35E-09	6.82E-08	7.79E-08	5.70E-06	1.70E-05	12.9%	--	--				[D]	
Fluoranthene	6.71E-01	3.07E-07	1.13E-07	9.19E-07	1.05E-06	7.68E-06	2.30E-05	17.4%	kidney, liver, blood	3000				[D]	
Fluorene	7.50E-02	3.43E-08	1.26E-08	1.03E-07	1.17E-07	8.59E-07	2.57E-06	1.9%	blood	3000				[D]	
Indeno(1,2,3-cd)pyrene	2.66E-02	1.22E-08	4.46E-09	3.64E-08	4.16E-08	4.05E-07	1.21E-06	0.9%	--	--	3.26E-08	3.04E-07	6.2%	[B2]	
Phenanthrene	4.35E-01	1.99E-07	7.30E-08	5.96E-07	6.81E-07	6.64E-06	1.99E-05	15.0%	--	--				[D]	
Pyrene	7.71E-01	3.53E-07	1.29E-07	1.06E-06	1.21E-06	1.18E-05	3.52E-05	26.7%	kidney	3000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						4.41E-05	1.32E-04	100.0%							
Excess lifetime cancer risk:											5.29E-07	4.93E-06	100.0%		

Table L-298. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.00E-01	No ABS	No ABS	No ABS	No ABS				liver	3000		--		
Anthracene	1.10E-01	No ABS	No ABS	No ABS	No ABS				none	3000		[D]		
Benzo(a)anthracene	3.35E-02	3.98E-08	5.84E-09	3.46E-07	1.66E-07	1.33E-06	1.15E-05	7.8%	--	--	4.26E-08	1.21E-06	7.8%	[B2]
Benzo(a)pyrene	3.34E-01	3.98E-07	5.84E-08	3.45E-06	1.66E-06	1.33E-05	1.15E-04	77.5%	--	--	4.26E-07	1.21E-05	77.5%	[B2]
Benzo(b)fluoranthene	3.51E-02	4.17E-08	6.12E-09	3.62E-07	1.74E-07	1.39E-06	1.21E-05	8.1%	--	--	4.47E-08	1.27E-06	8.1%	[B2]
Benzo(g,h,i)perylene	2.59E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Benzo(k)fluoranthene	1.73E-03	2.06E-09	3.02E-10	1.78E-08	8.59E-09	6.86E-08	5.95E-07	0.4%	--	--	2.20E-09	6.27E-08	0.4%	[B2]
Chrysene	3.92E-04	4.66E-10	6.84E-11	4.04E-09	1.95E-09	1.55E-08	1.35E-07	0.1%	--	--	4.99E-10	1.42E-08	0.1%	[B2]
Dibenzofuran	4.98E-02	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Fluoranthene	6.71E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000		[D]		
Fluorene	7.50E-02	No ABS	No ABS	No ABS	No ABS				blood	3000		[D]		
Indeno(1,2,3-cd)pyrene	2.66E-02	3.16E-08	4.64E-09	2.74E-07	1.32E-07	1.05E-06	9.14E-06	6.2%	--	--	3.39E-08	9.64E-07	6.2%	[B2]
Phenanthrene	4.35E-01	No ABS	No ABS	No ABS	No ABS				--	--				[D]
Pyrene	7.71E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000		[D]		
Chemical hazards combined exposure:														
Hazard index (HI):						1.71E-05	1.49E-04	100.0%						
Excess lifetime cancer risk:										5.50E-07	1.57E-05	100.0%		

Table L-299. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates			EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)			
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
Acenaphthene	1.16E-10	2.13E-11	3.55E-12	3.19E-11	1.73E-11			liver	3000				--	
Anthracene	1.27E-10	2.33E-11	3.88E-12	3.48E-11	1.89E-11			none	3000				[D]	
Benzo(a)anthracene	3.88E-11	7.11E-12	1.18E-12	1.06E-11	5.77E-12				--	3.67E-12	1.79E-11	7.8%	[B2]	
Benzo(a)pyrene	3.88E-10	7.10E-11	1.18E-11	1.06E-10	5.77E-11				--	3.67E-11	1.79E-10	77.5%	[B2]	
Benzo(b)fluoranthene	4.07E-11	7.45E-12	1.24E-12	1.11E-11	6.05E-12				--	3.85E-12	1.88E-11	8.1%	[B2]	
Benzo(g,h,i)perylene	3.01E-10	5.51E-11	9.19E-12	8.24E-11	4.48E-11				--				[D]	
Benzo(k)fluoranthene	2.00E-12	3.67E-13	6.12E-14	5.49E-13	2.98E-13				--				[D]	
Chrysene	4.54E-13	8.32E-14	1.39E-14	1.24E-13	6.76E-14				--	1.90E-13	9.24E-13	0.4%	[B2]	
Dibenzofuran	5.77E-11	1.06E-11	1.76E-12	1.58E-11	8.58E-12				--	4.30E-14	2.09E-13	0.1%	[B2]	
Fluoranthene	7.78E-10	1.43E-10	2.38E-11	2.13E-10	1.16E-10			kidney, liver, blood	3000				[D]	
Fluorene	8.70E-11	1.59E-11	2.66E-12	2.38E-11	1.29E-11			blood	3000				[D]	
Indeno(1,2,3-cd)pyrene	3.08E-11	5.64E-12	9.41E-13	8.44E-12	4.58E-12				--	2.92E-12	1.42E-11	6.2%	[B2]	
Phenanthrene	5.05E-10	9.24E-11	1.54E-11	1.38E-10	7.51E-11				--				[D]	
Pyrene	8.95E-10	1.64E-10	2.73E-11	2.45E-10	1.33E-10			kidney	3000				[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00   0.00E+00   0.0%								
Excess lifetime cancer risk:										4.74E-11   2.31E-10   100.0%				

**Table L-300. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates					
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
Acenaphthene	1.01E-07	1.84E-08	3.07E-09	2.76E-08	1.50E-08				liver	3000				--
Anthracene	4.92E-08	9.01E-09	1.50E-09	1.35E-08	7.32E-09				none	3000				[D]
Dibenzofuran	4.75E-08	8.71E-09	1.45E-09	1.30E-08	7.07E-09				--	--				[D]
Fluorene	4.98E-08	9.13E-09	1.52E-09	1.37E-08	7.41E-09				blood	3000				[D]
Phenanthrene	4.60E-07	8.42E-08	1.40E-08	1.26E-07	6.83E-08				--	--				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						0.00E+00   0.00E+00   0.0%								
Excess lifetime cancer risk:										0.00E+00   0.00E+00   0.0%				



Table L-301. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.00E-01	5.66E-08	1.62E-09	9.43E-08	6.73E-09	9.43E-08	1.57E-07	0.8%	liver	3000		--		
Anthracene	1.10E-01	6.17E-08	1.76E-09	1.03E-07	7.35E-09	2.06E-08	3.43E-08	0.2%	none	3000		[D]		
Benzo(a)anthracene	3.35E-02	1.89E-08	5.39E-10	3.14E-08	2.24E-09	6.28E-08	1.05E-07	0.5%	--	--	3.93E-09	1.64E-08	7.8%	[B2]
Benzo(a)pyrene	3.34E-01	1.88E-07	5.38E-09	3.14E-07	2.24E-08	6.28E-07	1.05E-06	5.3%	--	--	3.93E-08	1.64E-07	77.5%	[B2]
Benzo(b)fluoranthene	3.51E-02	1.98E-08	5.65E-10	3.29E-08	2.35E-09	6.59E-08	1.10E-07	0.6%	--	--	4.12E-09	1.72E-08	8.1%	[B2]
Benzo(g,h,i)perylene	2.59E-01	1.46E-07	4.18E-09	2.44E-07	1.74E-08	4.87E-07	8.12E-07	4.2%	--	--				[D]
Benzo(k)fluoranthene	1.73E-03	9.73E-10	2.78E-11	1.62E-09	1.16E-10	3.24E-09	5.41E-09	0.0%	--	--	2.03E-10	8.46E-10	0.4%	[B2]
Chrysene	3.92E-04	2.21E-10	6.30E-12	3.68E-10	2.63E-11	7.36E-10	1.23E-09	0.0%	--	--	4.60E-11	1.92E-10	0.1%	[B2]
Dibenzofuran	4.98E-02	2.80E-08	8.01E-10	4.67E-08	3.34E-09	7.01E-06	1.17E-05	59.7%	--	--				[D]
Fluoranthene	6.71E-01	3.78E-07	1.08E-08	6.30E-07	4.50E-08	9.45E-07	1.58E-06	8.1%	kidney, liver, blood	3000				[D]
Fluorene	7.50E-02	4.23E-08	1.21E-09	7.05E-08	5.03E-09	1.06E-07	1.76E-07	0.9%	blood	3000				[D]
Indeno(1,2,3-cd)pyrene	2.66E-02	1.50E-08	4.28E-10	2.49E-08	1.78E-09	4.99E-08	8.32E-08	0.4%	--	--	3.12E-09	1.30E-08	6.2%	[B2]
Phenanthrene	4.35E-01	2.45E-07	7.01E-09	4.09E-07	2.92E-08	8.17E-07	1.36E-06	7.0%	--	--				[D]
Pyrene	7.71E-01	4.35E-07	1.24E-08	7.24E-07	5.17E-08	1.45E-06	2.41E-06	12.3%	kidney	3000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.17E-05	1.96E-05	100.0%						
Excess lifetime cancer risk:										5.07E-08	2.11E-07	100.0%		

Table L-302. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)	
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.00E-01	No ABS	No ABS	No ABS	No ABS				liver	3000			--	
Anthracene	1.10E-01	No ABS	No ABS	No ABS	No ABS				none	3000			[D]	
Benzo(a)anthracene	3.35E-02	5.11E-09	1.46E-10	4.94E-08	3.53E-09	1.70E-08	1.65E-07	7.8%	--	--	1.06E-09	2.57E-08	7.8%	[B2]
Benzo(a)pyrene	3.34E-01	5.10E-08	1.46E-09	4.93E-07	3.52E-08	1.70E-07	1.64E-06	77.5%	--	--	1.06E-08	2.57E-07	77.5%	[B2]
Benzo(b)fluoranthene	3.51E-02	5.35E-09	1.53E-10	5.17E-08	3.70E-09	1.78E-08	1.72E-07	8.1%	--	--	1.12E-09	2.70E-08	8.1%	[B2]
Benzo(g,h,i)perylene	2.59E-01	No ABS	No ABS	No ABS	No ABS				--	--			[D]	
Benzo(k)fluoranthene	1.73E-03	2.64E-10	7.53E-12	2.55E-09	1.82E-10	8.79E-10	8.50E-09	0.4%	--	--	5.50E-11	1.33E-09	0.4%	[B2]
Chrysene	3.92E-04	5.98E-11	1.71E-12	5.78E-10	4.13E-11	1.99E-10	1.93E-09	0.1%	--	--	1.25E-11	3.01E-10	0.1%	[B2]
Dibenzofuran	4.98E-02	No ABS	No ABS	No ABS	No ABS				--	--			[D]	
Fluoranthene	6.71E-01	No ABS	No ABS	No ABS	No ABS				kidney, liver, blood	3000			[D]	
Fluorene	7.50E-02	No ABS	No ABS	No ABS	No ABS				blood	3000			[D]	
Indeno(1,2,3-cd)pyrene	2.66E-02	4.05E-09	1.16E-10	3.92E-08	2.80E-09	1.35E-08	1.31E-07	6.2%	--	--	8.46E-10	2.04E-08	6.2%	[B2]
Phenanthrene	4.35E-01	No ABS	No ABS	No ABS	No ABS				--	--			[D]	
Pyrene	7.71E-01	No ABS	No ABS	No ABS	No ABS				kidney	3000			[D]	

Chemical hazards combined exposure:

Hazard index (HI):

2.19E-07	2.12E-06	100.0%
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Excess lifetime cancer risk:

1.37E-08	3.32E-07	100.0%
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Table L-303. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ								
<i>ORGANICS (mg/m<sup>3</sup>)</i>																
Acenaphthene	1.16E-10	3.28E-12	9.37E-14	5.47E-12	3.91E-13			liver		3000			--			
Anthracene	1.27E-10	3.58E-12	1.02E-13	5.97E-12	4.26E-13			none		3000			[D]			
Benzo(a)anthracene	3.88E-11	1.09E-12	3.12E-14	1.82E-12	1.30E-13			--		--	9.69E-14	4.04E-13	7.8%	[B2]		
Benzo(a)pyrene	3.88E-10	1.09E-11	3.12E-13	1.82E-11	1.30E-12			--		--	9.68E-13	4.03E-12	77.5%	[B2]		
Benzo(b)fluoranthene	4.07E-11	1.15E-12	3.28E-14	1.91E-12	1.36E-13			--		--	1.02E-13	4.23E-13	8.1%	[B2]		
Benzo(g,h,i)perylene	3.01E-10	8.48E-12	2.42E-13	1.41E-11	1.01E-12			--		--				[D]		
Benzo(k)fluoranthene	2.00E-12	5.65E-14	1.61E-15	9.41E-14	6.72E-15			--		--	5.00E-15	2.08E-14	0.4%	[B2]		
Chrysene	4.54E-13	1.28E-14	3.66E-16	2.13E-14	1.52E-15			--		--	1.13E-15	4.72E-15	0.1%	[B2]		
Dibenzofuran	5.77E-11	1.63E-12	4.65E-14	2.71E-12	1.94E-13			--		--				[D]		
Fluoranthene	7.78E-10	2.19E-11	6.27E-13	3.66E-11	2.61E-12			kidney, liver, blood		3000				[D]		
Fluorene	8.70E-11	2.45E-12	7.01E-14	4.09E-12	2.92E-13			blood		3000				[D]		
Indeno(1,2,3-cd)pyrene	3.08E-11	8.68E-13	2.48E-14	1.45E-12	1.03E-13			--		--	7.69E-14	3.20E-13	6.2%	[B2]		
Phenanthrene	5.05E-10	1.42E-11	4.06E-13	2.37E-11	1.69E-12			--		--				[D]		
Pyrene	8.95E-10	2.52E-11	7.20E-13	4.20E-11	3.00E-12			kidney		3000				[D]		
Chemical hazards combined exposure:																
Hazard index (HI):																
<table border="1" style="display: inline-table;"> <tr> <td>0.00E+00</td> <td>0.00E+00</td> <td>0.0%</td> </tr> </table>														0.00E+00	0.00E+00	0.0%
0.00E+00	0.00E+00	0.0%														
Excess lifetime cancer risk:																
<table border="1" style="display: inline-table;"> <tr> <td>1.25E-12</td> <td>5.20E-12</td> <td>100.0%</td> </tr> </table>														1.25E-12	5.20E-12	100.0%
1.25E-12	5.20E-12	100.0%														

**Table L-304. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)						
<b>ORGANICS (mg/m<sup>3</sup>)</b>													
Acenaphthene	1.01E-07	2.84E-09	8.11E-11	4.73E-09	3.38E-10				liver	3000	--	--	
Anthracene	4.92E-08	1.39E-09	3.96E-11	2.31E-09	1.65E-10				none	3000	[D]	[D]	
Dibenzofuran	4.75E-08	1.34E-09	3.83E-11	2.23E-09	1.59E-10				--	--	[D]	[D]	
Fluorene	4.98E-08	1.40E-09	4.01E-11	2.34E-09	1.67E-10				blood	3000	[D]	[D]	
Phenanthrene	4.60E-07	1.29E-08	3.70E-10	2.16E-08	1.54E-09				--	--	[D]	[D]	
<b>Chemical hazards combined exposure:</b>													
Hazard index (HI):						0.00E+00	0.00E+00	0.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-305. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)**  
**SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<i>INORGANICS (mg/kg)</i>															
Arsenic	2.07E+01	8.84E-05	3.47E-06	2.65E-04	3.24E-05	2.95E-01	8.82E-01	100.0%	skin	3	5.21E-06	4.86E-05	100.0%	[A]	
Calcium	1.89E+05	8.07E-01	3.17E-02	2.42E+00	2.96E-01				--	--				--	
<i>ORGANICS (mg/kg)</i>															
Pyrene	2.18E-02	9.32E-08	3.66E-09	2.79E-07	3.41E-08	3.11E-06	9.29E-06	0.0%	kidney	3000				[D]	
di-N-Butyl Phthalate	3.90E-02	1.67E-07	6.55E-09	4.99E-07	6.11E-08	1.67E-06	4.99E-06	0.0%	--	1000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						2.95E-01	8.82E-01	100.0%							
Excess lifetime cancer risk:											5.21E-06	4.86E-05	100.0%		

**Table L-306. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/kg)</b>														
Arsenic	2.07E+01	9.28E-06	8.34E-07	7.98E-05	2.37E-05	3.09E-02	2.66E-01	100.0%	skin	3	1.25E-06	3.56E-05	100.0%	[A]
Calcium	1.89E+05	No ABS	No ABS	No ABS	No ABS				--	--				--
<b>ORGANICS (mg/kg)</b>														
Pyrene	2.18E-02	No ABS	No ABS	No ABS	No ABS				kidney	3000				[D]
di-N-Butyl Phthalate	3.90E-02	No ABS	No ABS	No ABS	No ABS				--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						3.09E-02   2.66E-01   100.0%								
Excess lifetime cancer risk:									1.25E-06   3.56E-05   100.0%					

Table L-307. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE		
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ							
<i>INORGANICS (mg/m<sup>3</sup>)</i>															
Arsenic	2.40E-08	1.03E-08	7.33E-10	1.53E-08	3.57E-09			skin	3	1.10E-08	5.37E-08	100.0%	[A]		
Calcium	2.19E-04	9.37E-05	6.69E-06	1.40E-04	3.26E-05			--	--				--		
<i>ORGANICS (mg/m<sup>3</sup>)</i>															
Pyrene	2.53E-11	1.08E-11	7.72E-13	1.62E-11	3.76E-12			kidney	3000				[D]		
di-N-Butyl Phthalate	4.53E-11	1.93E-11	1.38E-12	2.89E-11	6.73E-12			--	1000				[D]		
Chemical hazards combined exposure:															
Hazard index (HI):						0.00E+00			0.00E+00			0.0%			
Excess lifetime cancer risk:									1.10E-08			5.37E-08		100.0%	

**Table L-308. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Volatile Inhalation Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates					
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Excess Lifetime Cancer Risk (RME)	Percent of Total Ca Risk (RME)	EPA WOF
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
Pyrene	4.80E-09	2.05E-09	1.47E-10	3.07E-09	7.15E-10				kidney	3000				[D]
di-N-Butyl Phthalate	1.56E-08	6.68E-09	4.77E-10	9.99E-09	2.32E-09				--	1000				[D]
<b>Chemical hazards combined exposure:</b>														
Hazard index (HI):						0.00E+00	0.00E+00	0.0%						
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%	



Table L-309. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)			
<b>INORGANICS (mg/kg)</b>														
Arsenic	2.07E+01	9.47E-06	3.47E-06	2.83E-05	3.24E-05	3.16E-02	9.45E-02	100.0%	skin	3	5.21E-06	4.86E-05	100.0%	[A]
Calcium	1.89E+05	8.65E-02	3.17E-02	2.59E-01	2.96E-01				--	--				--
<b>ORGANICS (mg/kg)</b>														
Pyrene	2.18E-02	9.98E-09	3.66E-09	2.99E-08	3.41E-08	3.33E-07	9.95E-07	0.0%	kidney	3000				[D]
di-N-Butyl Phthalate	3.90E-02	1.79E-08	6.55E-09	5.34E-08	6.11E-08	1.79E-07	5.34E-07	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						3.16E-02	9.45E-02	100.0%						
Excess lifetime cancer risk:										5.21E-06	4.86E-05	100.0%		

**Table L-310. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates					EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ							
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)									
<i>INORGANICS (mg/kg)</i>																
Arsenic	2.07E+01	5.68E-06	8.34E-07	4.93E-05	2.37E-05	1.89E-02	1.64E-01	100.0%	skin		3	1.25E-06	3.56E-05	100.0%	[A]	
Calcium	1.89E+05	No ABS	No ABS	No ABS	No ABS				--		--				--	
<i>ORGANICS (mg/kg)</i>																
Pyrene	2.18E-02	No ABS	No ABS	No ABS	No ABS				kidney		3000				[D]	
di-N-Butyl Phthalate	3.90E-02	No ABS	No ABS	No ABS	No ABS				--		1000				[D]	
Chemical hazards combined exposure:																
Hazard index (HI):						1.89E-02	1.64E-01	100.0%								
Excess lifetime cancer risk:											1.25E-06	3.56E-05	100.0%			

Table L-311. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	HQ Noncarcinogenic Target Tissue/Organ					
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Arsenic	2.40E-08	4.40E-09	7.33E-10	6.58E-09	3.57E-09			skin	3	1.10E-08	5.37E-08	100.0%	[A]
Calcium	2.19E-04	4.01E-05	6.69E-06	6.00E-05	3.26E-05			--	--				--
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Pyrene	2.53E-11	4.63E-12	7.72E-13	6.93E-12	3.76E-12			kidney	3000				[D]
di-N-Butyl Phthalate	4.53E-11	8.29E-12	1.38E-12	1.24E-11	6.73E-12			--	1000				[D]
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00			0.00E+00			0.0%	
Excess lifetime cancer risk:						1.10E-08			5.37E-08			100.0%	

**Table L-312. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Volatile Inhalation Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Pyrene	4.80E-09	8.80E-10	1.47E-10	1.32E-09	7.15E-10				kidney	3000			[D]
di-N-Butyl Phthalate	1.56E-08	2.86E-09	4.77E-10	4.28E-09	2.32E-09				--	1000			[D]
Chemical hazards combined exposure:													
Hazard index (HI):						0.00E+00	0.00E+00	0.0%					
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%

Table L-313. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<b>INORGANICS (mg/kg)</b>															
Arsenic	2.07E+01	1.17E-05	3.33E-07	1.94E-05	1.39E-06	3.89E-02	6.48E-02	100.0%	skin	3	5.00E-07	2.08E-06	100.0%	[A]	
Calcium	1.89E+05	1.06E-01	3.04E-03	1.77E-01	1.27E-02				--	--				--	
<b>ORGANICS (mg/kg)</b>															
Pyrene	2.18E-02	1.23E-08	3.51E-10	2.05E-08	1.46E-09	4.10E-08	6.83E-08	0.0%	kidney	3000				[D]	
di-N-Butyl Phthalate	3.90E-02	2.20E-08	6.28E-10	3.66E-08	2.62E-09	2.20E-08	3.66E-08	0.0%	--	1000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						3.89E-02	6.48E-02	100.0%							
Excess lifetime cancer risk:											5.00E-07	2.08E-06	100.0%		

**Table L-314. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ						
						Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	Percent of Total (RME)							
<i>INORGANICS (mg/kg)</i>														
Arsenic	2.07E+01	7.29E-07	2.08E-08	7.04E-06	5.03E-07	2.43E-03	2.35E-02	100.0%	skin	3	3.12E-08	7.55E-07	100.0%	[A]
Calcium	1.89E+05	No ABS	No ABS	No ABS	No ABS				--	--				--
<i>ORGANICS (mg/kg)</i>														
Pyrene	2.18E-02	No ABS	No ABS	No ABS	No ABS				kidney	3000				[D]
di-N-Butyl Phthalate	3.90E-02	No ABS	No ABS	No ABS	No ABS				--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						2.43E-03	2.35E-02	100.0%						
Excess lifetime cancer risk:											3.12E-08	7.55E-07	100.0%	

Table L-315. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates						
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/m<sup>3</sup>)</b>												
Arsenic	2.40E-08	6.76E-10	1.93E-11	1.13E-09	8.05E-11			skin	3	2.91E-10	1.21E-09	100.0% [A]
Calcium	2.19E-04	6.18E-06	1.76E-07	1.03E-05	7.35E-07			--	--			--
<b>ORGANICS (mg/m<sup>3</sup>)</b>												
Pyrene	2.53E-11	7.13E-13	2.04E-14	1.19E-12	8.48E-14			kidney	3000			[D]
di-N-Butyl Phthalate	4.53E-11	1.28E-12	3.64E-14	2.13E-12	1.52E-13			--	1000			[D]
Chemical hazards combined exposure:												
Hazard index (HI):						0.00E+00	0.00E+00	0.0%				
Excess lifetime cancer risk:										2.91E-10	1.21E-09	100.0%

**Table L-316. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Volatile Inhalation Exposure (Future Land Use)**  
**SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>ORGANICS (mg/m<sup>3</sup>)</i>													
Pyrene	4.80E-09	1.35E-10	3.87E-12	2.26E-10	1.61E-11				kidney	3000			[D]
di-N-Butyl Phthalate	1.56E-08	4.40E-10	1.26E-11	7.34E-10	5.24E-11				--	1000			[D]
Chemical hazards combined exposure:						0.00E+00   0.00E+00   0.0%							
Hazard index (HI):													
Excess lifetime cancer risk:									0.00E+00   0.00E+00   0.0%				



Table L-317. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)			
<i>ORGANICS (mg/kg)</i>														
Acenaphthene	5.34E-06	2.57E-09	1.55E-10	6.15E-09	1.20E-09	4.28E-08	1.02E-07	0.5%	liver	3000		--		
Anthracene	1.81E-04	8.69E-08	5.26E-09	2.08E-07	4.06E-08	2.90E-07	6.93E-07	3.3%	none	3000		[D]		
Benzo(a)anthracene	1.66E-08	7.99E-12	4.83E-13	1.91E-11	3.73E-12	2.66E-10	6.37E-10	0.0%	--	--	3.53E-12	2.72E-11	39.6%	[B2]
Benzo(a)pyrene	2.49E-08	1.20E-11	7.24E-13	2.86E-11	5.59E-12	3.99E-10	9.55E-10	0.0%	--	--	5.28E-12	4.08E-11	59.3%	[B2]
Benzo(b)fluoranthene	8.18E-11	3.93E-14	2.38E-15	9.41E-14	1.84E-14	1.31E-12	3.14E-12	0.0%	--	--	1.74E-14	1.34E-13	0.2%	[B2]
Benzo(g,h,i)perylene	1.17E-11	5.61E-15	3.39E-16	1.34E-14	2.62E-15	1.87E-13	4.48E-13	0.0%	--	--				[D]
Benzo(k)fluoranthene	4.09E-13	1.97E-16	1.19E-17	4.71E-16	9.18E-17	6.55E-15	1.57E-14	0.0%	--	--	8.68E-17	6.70E-16	0.0%	[B2]
Chrysene	3.78E-10	1.82E-13	1.10E-14	4.36E-13	8.50E-14	6.07E-12	1.45E-11	0.0%	--	--	8.03E-14	6.20E-13	0.9%	[B2]
Dibenzofuran	3.45E-08	1.66E-11	1.00E-12	3.97E-11	7.75E-12	4.15E-09	9.93E-09	0.0%	--	--				[D]
Fluoranthene	8.49E-08	4.08E-11	2.47E-12	9.77E-11	1.91E-11	1.02E-09	2.44E-09	0.0%	kidney, liver, blood	3000				[D]
Fluorene	4.42E-04	2.13E-07	1.29E-08	5.09E-07	9.93E-08	5.31E-06	1.27E-05	61.4%	blood	3000				[D]
Indeno(1,2,3-cd)pyrene	8.79E-12	4.23E-15	2.56E-16	1.01E-14	1.97E-15	1.41E-13	3.37E-13	0.0%	--	--	1.87E-15	1.44E-14	0.0%	[B2]
Phenanthrene	1.61E-04	7.72E-08	4.67E-09	1.85E-07	3.61E-08	2.57E-06	6.16E-06	29.7%	--	--				[D]
Pyrene	2.67E-05	1.28E-08	7.76E-10	3.07E-08	5.99E-09	4.28E-07	1.02E-06	4.9%	kidney	3000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						8.65E-06	2.07E-05	100.0%						
Excess lifetime cancer risk:											8.91E-12	6.88E-11	100.0%	

Table L-318. Risk Characterization for Tuberos Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)			
						(CTE)	(RME)								
<b>ORGANICS (mg/kg)</b>															
Acenaphthene	2.62E-02	2.04E-05	1.24E-06	4.89E-05	9.61E-06	3.41E-04	8.16E-04	2.5%	liver	3000				--	
Anthracene	2.56E-02	1.99E-05	1.21E-06	4.77E-05	9.37E-06	6.65E-05	1.59E-04	0.5%	none	3000				[D]	
Benzo(a)anthracene	3.41E-03	2.66E-06	1.62E-07	6.37E-06	1.25E-06	8.87E-05	2.12E-04	0.7%	--	--	1.18E-06	9.13E-06	11.8%	[B2]	
Benzo(a)pyrene	2.31E-02	1.80E-05	1.10E-06	4.31E-05	8.46E-06	6.00E-04	1.44E-03	4.4%	--	--	7.99E-06	6.17E-05	80.1%	[B2]	
Benzo(b)fluoranthene	1.40E-03	1.09E-06	6.63E-08	2.61E-06	5.12E-07	3.63E-05	8.69E-05	0.3%	--	--	4.84E-07	3.74E-06	4.8%	[B2]	
Benzo(g,h,i)perylene	3.85E-03	3.00E-06	1.83E-07	7.18E-06	1.41E-06	1.00E-04	2.39E-04	0.7%	--	--				[D]	
Benzo(k)fluoranthene	2.97E-04	2.32E-07	1.41E-08	5.55E-07	1.09E-07	7.73E-06	1.85E-05	0.1%	--	--	1.03E-07	7.96E-07	1.0%	[B2]	
Chrysene	4.31E-05	3.36E-08	2.04E-09	8.04E-08	1.58E-08	1.12E-06	2.68E-06	0.0%	--	--	1.49E-08	1.15E-07	0.1%	[B2]	
Dibenzofuran	9.56E-03	7.45E-06	4.54E-07	1.78E-05	3.50E-06	1.86E-03	4.46E-03	13.7%	--	--				[D]	
Fluoranthene	1.84E-01	1.44E-04	8.74E-06	3.44E-04	6.75E-05	3.59E-03	8.60E-03	26.4%	kidney, liver, blood	3000				[D]	
Fluorene	1.90E-02	1.48E-05	9.02E-07	3.55E-05	6.97E-06	3.71E-04	8.87E-04	2.7%	blood	3000				[D]	
Indeno(1,2,3-cd)pyrene	5.89E-04	4.60E-07	2.80E-08	1.10E-06	2.16E-07	1.53E-05	3.67E-05	0.1%	--	--				[D]	
Phenanthrene	1.07E-01	8.31E-05	5.06E-06	1.99E-04	3.91E-05	2.77E-03	6.63E-03	20.4%	--	--	2.04E-07	1.58E-06	2.0%	[B2]	
Pyrene	1.44E-01	1.13E-04	6.85E-06	2.69E-04	5.29E-05	3.75E-03	8.98E-03	27.6%	kidney	3000				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						1.36E-02	3.26E-02	100.0%							
Excess lifetime cancer risk:											9.98E-06	7.71E-05	100.0%		

Table L-319. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			(CTE)	(RME)		
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.19E-05	9.43E-09	5.73E-10	2.11E-08	4.15E-09	1.57E-07	3.52E-07	0.0%	liver	3000				--
Anthracene	2.92E-06	2.32E-09	1.41E-10	5.21E-09	1.02E-09	7.74E-09	1.74E-08	0.0%	none	3000				[D]
Benzo(a)anthracene	2.53E-10	2.01E-13	1.22E-14	4.50E-13	8.84E-14	6.69E-12	1.50E-11	0.0%	--	--	8.92E-14	6.46E-13	40.5%	[B2]
Benzo(a)pyrene	3.63E-10	2.89E-13	1.76E-14	6.48E-13	1.27E-13	9.63E-12	2.16E-11	0.0%	--	--	1.28E-13	9.29E-13	58.3%	[B2]
Benzo(b)fluoranthene	1.29E-12	1.02E-15	6.22E-17	2.29E-15	4.50E-16	3.41E-14	7.64E-14	0.0%	--	--	4.54E-16	3.29E-15	0.2%	[B2]
Benzo(g,h,i)perylene	1.73E-13	1.37E-16	8.36E-18	3.08E-16	6.05E-17	4.58E-15	1.03E-14	0.0%	--	--				[D]
Benzo(k)fluoranthene	7.78E-15	6.18E-18	3.76E-19	1.39E-17	2.72E-18	2.06E-16	4.62E-16	0.0%	--	--	2.75E-18	1.99E-17	0.0%	[B2]
Chrysene	5.74E-12	4.57E-15	2.78E-16	1.02E-14	2.01E-15	1.52E-13	3.41E-13	0.0%	--	--	2.03E-15	1.47E-14	0.9%	[B2]
Dibenzofuran	7.94E-03	6.31E-06	3.84E-07	1.42E-05	2.78E-06	1.58E-03	3.54E-03	100.0%	--	--				[D]
Fluoranthene	2.18E-07	1.73E-10	1.05E-11	3.88E-10	7.62E-11	4.33E-09	9.71E-09	0.0%	kidney, liver, blood	3000				[D]
Fluorene	5.64E-06	4.48E-09	2.73E-10	1.01E-08	1.97E-09	1.12E-07	2.51E-07	0.0%	blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.29E-13	1.03E-16	6.25E-18	2.31E-16	4.53E-17	3.43E-15	7.69E-15	0.0%	--	--	4.56E-17	3.30E-16	0.0%	[B2]
Phenanthrene	1.09E-05	8.70E-09	5.29E-10	1.95E-08	3.83E-09	2.90E-07	6.51E-07	0.0%	--	--				[D]
Pyrene	4.60E-07	3.65E-10	2.22E-11	8.20E-10	1.61E-10	1.22E-08	2.73E-08	0.0%	kidney	3000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.58E-03	3.54E-03	100.0%						
Excess lifetime cancer risk:										2.20E-13	1.59E-12	100.0%		

Table L-320. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)						
<b>ORGANICS (mg/kg)</b>																	
Acenaphthene	5.34E-06	8.20E-10	1.55E-10	1.96E-09	1.20E-09	1.37E-08	3.27E-08	0.5%	liver	3000				--			
Anthracene	1.81E-04	2.77E-08	5.26E-09	6.64E-08	4.06E-08	9.24E-08	2.21E-07	3.3%	none	3000				[D]			
Benzo(a)anthracene	1.66E-08	2.55E-12	4.83E-13	6.10E-12	3.73E-12	8.50E-11	2.03E-10	0.0%	--	--	3.53E-12	2.72E-11	39.6%	[B2]			
Benzo(a)pyrene	2.49E-08	3.82E-12	7.24E-13	9.14E-12	5.59E-12	1.27E-10	3.05E-10	0.0%	--	--	5.28E-12	4.08E-11	59.3%	[B2]			
Benzo(b)fluoranthene	8.18E-11	1.26E-14	2.38E-15	3.00E-14	1.84E-14	4.18E-13	1.00E-12	0.0%	--	--	1.74E-14	1.34E-13	0.2%	[B2]			
Benzo(g,h,i)perylene	1.17E-11	1.79E-15	3.39E-16	4.29E-15	2.62E-15	5.97E-14	1.43E-13	0.0%	--	--				[D]			
Benzo(k)fluoranthene	4.09E-13	6.27E-17	1.19E-17	1.50E-16	9.18E-17	2.09E-15	5.00E-15	0.0%	--	--				[D]			
Chrysene	3.78E-10	5.81E-14	1.10E-14	1.39E-13	8.50E-14	1.94E-12	4.63E-12	0.0%	--	--	8.68E-17	6.70E-16	0.0%	[B2]			
Dibenzofuran	3.45E-08	5.30E-12	1.00E-12	1.27E-11	7.75E-12	1.32E-09	3.17E-09	0.0%	--	--	8.03E-14	6.20E-13	0.9%	[B2]			
Fluoranthene	8.49E-08	1.30E-11	2.47E-12	3.12E-11	1.91E-11	3.26E-10	7.80E-10	0.0%	kidney, liver, blood	3000				[D]			
Fluorene	4.42E-04	6.78E-08	1.29E-08	1.62E-07	9.93E-08	1.70E-06	4.06E-06	61.4%	blood	3000				[D]			
Indeno(1,2,3-cd)pyrene	8.79E-12	1.35E-15	2.56E-16	3.23E-15	1.97E-15	4.50E-14	1.08E-13	0.0%	--	--				[D]			
Phenanthrene	1.61E-04	2.46E-08	4.67E-09	5.90E-08	3.61E-08	8.21E-07	1.97E-06	29.7%	--	--	1.87E-15	1.44E-14	0.0%	[B2]			
Pyrene	2.67E-05	4.09E-09	7.76E-10	9.80E-09	5.99E-09	1.36E-07	3.27E-07	4.9%	kidney	3000				[D]			
Chemical hazards combined exposure:																	
Hazard index (HI):																	
<table border="1" style="display: inline-table;"> <tr> <td>2.76E-06</td> <td>6.61E-06</td> <td>100.0%</td> </tr> </table>															2.76E-06	6.61E-06	100.0%
2.76E-06	6.61E-06	100.0%															
Excess lifetime cancer risk:																	
<table border="1" style="display: inline-table;"> <tr> <td>8.91E-12</td> <td>6.88E-11</td> <td>100.0%</td> </tr> </table>															8.91E-12	6.88E-11	100.0%
8.91E-12	6.88E-11	100.0%															

Table L-321. Risk Characterization for Tuberos Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates							
		Non Ca	Ca	Non Ca	Ca	Noncarcinogenic Effects	HQ	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF)	Percent of Total Ca Risk (RME)	EPA WEO					
		Effects (CTE)	Effects (CTE)	Effects (RME)	Effects (RME)	(CDI/RfD) (CTE)	(RME)											
<i>ORGANICS (mg/kg)</i>																		
Acenaphthene	2.62E-02	6.60E-06	1.24E-06	1.58E-05	9.61E-06	1.10E-04	2.63E-04	2.5%	liver	3000								
Anthracene	2.56E-02	6.44E-06	1.21E-06	1.54E-05	9.37E-06	2.15E-05	5.14E-05	0.5%	none	3000								
Benzo(a)anthracene	3.41E-03	8.59E-07	1.62E-07	2.06E-06	1.25E-06	2.86E-05	6.86E-05	0.7%	--	--	1.18E-06	9.13E-06	11.8%					
Benzo(a)pyrene	2.31E-02	5.81E-06	1.10E-06	1.39E-05	8.46E-06	1.94E-04	4.64E-04	4.4%	--	--	7.99E-06	6.17E-05	80.1%					
Benzo(b)fluoranthene	1.40E-03	3.52E-07	6.63E-08	8.42E-07	5.12E-07	1.17E-05	2.81E-05	0.3%	--	--	4.84E-07	3.74E-06	4.8%					
Benzo(g,h,i)perylene	3.85E-03	9.69E-07	1.83E-07	2.32E-06	1.41E-06	3.23E-05	7.73E-05	0.7%	--	--								
Benzo(k)fluoranthene	2.97E-04	7.49E-08	1.41E-08	1.79E-07	1.09E-07	2.50E-06	5.98E-06	0.1%	--	--	1.03E-07	7.96E-07	1.0%					
Chrysene	4.31E-05	1.08E-08	2.04E-09	2.60E-08	1.58E-08	3.62E-07	8.65E-07	0.0%	--	--	1.49E-08	1.15E-07	0.1%					
Dibenzofuran	9.56E-03	2.41E-06	4.54E-07	5.76E-06	3.50E-06	6.02E-04	1.44E-03	13.7%	--	--								
Fluoranthene	1.84E-01	4.64E-05	8.74E-06	1.11E-04	6.75E-05	1.16E-03	2.78E-03	26.4%	kidney, liver, blood	3000								
Fluorene	1.90E-02	4.79E-06	9.02E-07	1.15E-05	6.97E-06	1.20E-04	2.86E-04	2.7%	blood	3000								
Indeno(1,2,3-cd)pyrene	5.89E-04	1.48E-07	2.80E-08	3.55E-07	2.16E-07	4.95E-06	1.18E-05	0.1%	--	--	2.04E-07	1.58E-06	2.0%					
Phenanthrene	1.07E-01	2.68E-05	5.06E-06	6.42E-05	3.91E-05	8.95E-04	2.14E-03	20.4%	--	--								
Pyrene	1.44E-01	3.63E-05	6.85E-06	8.70E-05	5.29E-05	1.21E-03	2.90E-03	27.6%	kidney	3000								
Chemical hazards combined exposure:																		
Hazard index (HI):						4.39E-03			1.05E-02			100.0%						
Excess lifetime cancer risk:										9.98E-06			7.71E-05			100.0%		

**Table L-322. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Narcarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)			(CTE)	(RME)		
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.19E-05	3.04E-09	5.73E-10	6.82E-09	4.15E-09	5.07E-08	1.14E-07	0.0%	liver	3000				--
Anthracene	2.92E-06	7.49E-10	1.41E-10	1.68E-09	1.02E-09	2.50E-09	5.60E-09	0.0%	none	3000				[D]
Benzo(a)anthracene	2.33E-10	6.48E-14	1.22E-14	1.45E-13	8.84E-14	2.16E-12	4.84E-12	0.0%	--	--	8.92E-14	6.46E-13	40.5%	[B2]
Benzo(a)pyrene	3.63E-10	9.32E-14	1.76E-14	2.09E-13	1.27E-13	3.11E-12	6.97E-12	0.0%	--	--	1.28E-13	9.29E-13	58.3%	[B2]
Benzo(b)fluoranthene	1.29E-12	3.30E-16	6.22E-17	7.40E-16	4.50E-16	1.10E-14	2.47E-14	0.0%	--	--	4.54E-16	3.29E-15	0.2%	[B2]
Benzo(g,h,i)perylene	1.73E-13	4.43E-17	8.36E-18	9.95E-17	6.05E-17	1.48E-15	3.32E-15	0.0%	--	--				[D]
Benzo(k)fluoranthene	7.78E-15	1.99E-18	3.76E-19	4.48E-18	2.72E-18	6.65E-17	1.49E-16	0.0%	--	--				[D]
Chrysene	5.74E-12	1.47E-15	2.78E-16	3.30E-15	2.01E-15	4.91E-14	1.10E-13	0.0%	--	--	2.75E-18	1.99E-17	0.0%	[B2]
Dibenzofuran	7.94E-03	2.04E-06	3.84E-07	4.57E-06	2.78E-06	5.09E-04	1.14E-03	100.0%	--	--	2.03E-15	1.47E-14	0.9%	[B2]
Fluoranthene	2.18E-07	5.58E-11	1.05E-11	1.25E-10	7.62E-11	1.40E-09	3.13E-09	0.0%	kidney, liver, blood	3000				[D]
Fluorene	5.64E-06	1.45E-09	2.73E-10	3.24E-09	1.97E-09	3.61E-08	8.11E-08	0.0%	blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.29E-13	3.32E-17	6.25E-18	7.44E-17	4.53E-17	1.11E-15	2.48E-15	0.0%	--	--				[D]
Phenanthrene	1.09E-05	2.81E-09	5.29E-10	6.30E-09	3.83E-09	9.36E-08	2.10E-07	0.0%	--	--	4.56E-17	3.30E-16	0.0%	[B2]
Pyrene	4.60E-07	1.18E-10	2.22E-11	2.64E-10	1.61E-10	3.93E-09	8.82E-09	0.0%	kidney	3000				[D]
Chemical hazards combined exposure:														
Hazard Index (HI):						5.09E-04	1.14E-03	100.0%						
Excess lifetime cancer risk:														
											2.20E-13	1.59E-12	100.0%	

Table L-323. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Arsenic	7.45E-01	3.58E-04	2.17E-05	8.57E-04	1.67E-04	1.19E+00	2.86E+00	100.0%	skin	3	3.25E-05	2.51E-04	100.0%	[A]
Calcium	6.61E+05	3.18E+02	1.92E+01	7.61E+02	1.48E+02				--	--				--
<i>ORGANICS (mg/kg)</i>														
Pyrene	7.54E-07	3.63E-10	2.19E-11	8.68E-10	1.69E-10	1.21E-08	2.89E-08	0.0%	kidney	3000				[D]
di-N-Butyl Phthalate	8.72E-06	4.19E-09	2.54E-10	1.00E-08	1.96E-09	4.19E-08	1.00E-07	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.19E+00	2.86E+00	100.0%						
Excess lifetime cancer risk:										3.25E-05	2.51E-04	100.0%		

**Table L-324. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE		
<i>INORGANICS (mg/kg)</i>														
Arsenic	1.66E-01	1.29E-04	7.86E-06	3.09E-04	6.07E-05	4.30E-01	1.03E+00	100.0%	skin	3	1.18E-05	9.10E-05	100.0%	[A]
Calcium	6.61E+04	5.16E+01	3.14E+00	1.23E+02	2.42E+01				--	--				--
<i>ORGANICS (mg/kg)</i>														
Pyrene	4.08E-03	3.18E-06	1.94E-07	7.61E-06	1.50E-06	1.06E-04	2.54E-04	0.0%	kidney	3000				[D]
di-N-Butyl Phthalate	9.43E-03	7.35E-06	4.48E-07	1.76E-05	3.46E-06	7.35E-05	1.76E-04	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						4.31E-01	1.03E+00	100.0%						
Excess lifetime cancer risk:											1.18E-05	9.10E-05	100.0%	



Table L-325. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc.	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE) (RME)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ						
<i>INORGANICS (mg/kg)</i>														
Arsenic	4.14E-02	3.29E-05	2.00E-06	7.38E-05	1.45E-05	1.10E-01	2.46E-01	100.0%	skin	3	3.00E-06	2.17E-05	100.0%	[A]
Calcium	6.61E+04	5.26E+01	3.20E+00	1.18E+02	2.31E+01	--	--	--	--	--	--	--	--	--
<i>ORGANICS (mg/kg)</i>														
Pyrene	1.30E-08	1.03E-11	6.28E-13	2.32E-11	4.55E-12	3.44E-10	7.72E-10	0.0%	kidney	3000	--	--	--	[D]
di-N-Butyl Phthalate	5.53E-07	4.39E-10	2.67E-11	9.86E-10	1.94E-10	4.39E-09	9.86E-09	0.0%	--	1000	--	--	--	[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.10E-01	2.46E-01	100.0%						
Excess lifetime cancer risk:											3.00E-06	2.17E-05	100.0%	

**Table L-326. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)			
<i>INORGANICS (mg/kg)</i>														
Arsenic	7.45E-01	1.14E-04	2.17E-05	2.73E-04	1.67E-04	3.81E-01	9.11E-01	100.0%	skin	3	3.25E-05	2.51E-04	100.0%	[A]
Calcium	6.61E+05	1.01E+02	1.92E+01	2.43E+02	1.48E+02				--	--				--
<i>ORGANICS (mg/kg)</i>														
Pyrene	7.54E-07	1.16E-10	2.19E-11	2.77E-10	1.69E-10	3.86E-09	9.23E-09	0.0%	kidney	3000				[D]
di-N-Butyl Phthalate	8.72E-06	1.34E-09	2.54E-10	3.20E-09	1.96E-09	1.34E-08	3.20E-08	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						3.81E-01	9.11E-01	100.0%						
Excess lifetime cancer risk:											3.25E-05	2.51E-04	100.0%	

Table L-327. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Arsenic	1.66E-01	4.17E-05	7.86E-06	9.98E-05	6.07E-05	1.39E-01	3.33E-01	100.0%	skin	3	1.18E-05	9.10E-05	100.0%	[A]
Calcium	6.61E+04	1.67E+01	3.14E+00	3.99E+01	2.42E+01				--	--				--
<i>ORGANICS (mg/kg)</i>														
Pyrene	4.08E-03	1.03E-06	1.94E-07	2.46E-06	1.50E-06	3.42E-05	8.19E-05	0.0%	kidney	3000				[D]
di-N-Butyl Phthalate	9.43E-03	2.37E-06	4.48E-07	5.68E-06	3.46E-06	2.37E-05	5.68E-05	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.39E-01	3.33E-01	100.0%						
Excess lifetime cancer risk:										1.18E-05	9.10E-05	100.0%		

**Table L-328. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE		
<i>INORGANICS (mg/kg)</i>														
Arsenic	4.14E-02	1.06E-05	2.00E-06	2.38E-05	1.45E-05	3.54E-02	7.94E-02	100.0%	skin	3	3.00E-06	2.17E-05	100.0%	[A]
Calcium	6.61E+04	1.70E+01	3.20E+00	3.80E+01	2.31E+01				--	--				--
<i>ORGANICS (mg/kg)</i>														
Pyrene	1.30E-08	3.33E-12	6.28E-13	7.48E-12	4.55E-12	1.11E-10	2.49E-10	0.0%	kidney	3000				[D]
di-N-Butyl Phthalate	5.53E-07	1.42E-10	2.67E-11	3.18E-10	1.94E-10	1.42E-09	3.18E-09	0.0%	--	1000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						3.54E-02	7.94E-02	100.0%						
Excess lifetime cancer risk:										3.00E-06	2.17E-05	100.0%		

Table L-329. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)			
<b>ORGANICS (mg/kg)</b>														
Acenaphthene	1.31E-05	1.38E-08	9.23E-10	3.52E-08	7.64E-09	2.30E-07	5.87E-07	0.0%	liver	3000				--
Anthracene	3.00E-05	3.16E-08	2.11E-09	8.06E-08	1.75E-08	1.05E-07	2.69E-07	0.0%	none	3000				[D]
Benzo(a)anthracene	2.10E-04	2.21E-07	1.48E-08	5.64E-07	1.22E-07	7.37E-06	1.88E-05	0.5%	--	--	1.08E-07	8.93E-07	2.8%	[B2]
Benzo(a)pyrene	3.98E-03	4.19E-06	2.80E-07	1.07E-05	2.32E-06	1.40E-04	3.56E-04	9.2%	--	--	2.05E-06	1.69E-05	54.0%	[B2]
Benzo(b)fluoranthene	1.28E-03	1.34E-06	8.98E-08	3.43E-06	7.43E-07	4.48E-05	1.14E-04	3.0%	--	--	6.56E-07	5.43E-06	17.3%	[B2]
Benzo(g,h,i)perylene	3.20E-02	3.37E-05	2.25E-06	8.59E-05	1.86E-05	1.12E-03	2.86E-03	74.2%	--	--				[D]
Benzo(k)fluoranthene	1.20E-04	1.26E-07	8.43E-09	3.22E-07	6.98E-08	4.21E-06	1.07E-05	0.3%	--	--	6.16E-08	5.09E-07	1.6%	[B2]
Chrysene	1.95E-06	2.06E-09	1.37E-10	5.24E-09	1.14E-09	6.85E-08	1.75E-07	0.0%	--	--	1.00E-09	8.30E-09	0.0%	[B2]
Dibenzofuran	2.42E-04	2.55E-07	1.70E-08	6.50E-07	1.41E-07	6.37E-05	1.62E-04	4.2%	--	--				[D]
Fluoranthene	1.09E-03	1.15E-06	7.68E-08	2.93E-06	6.35E-07	2.87E-05	7.32E-05	1.9%	kidney, liver, blood	3000				[D]
Fluorene	1.31E-05	1.38E-08	9.19E-10	3.51E-08	7.60E-09	3.44E-07	8.76E-07	0.0%	blood	3000				[D]
Indeno(1,2,3-cd)pyrene	1.78E-03	1.87E-06	1.25E-07	4.78E-06	1.04E-06	6.25E-05	1.59E-04	4.1%	--	--	9.14E-07	7.57E-06	24.1%	[B2]
Phenanthrene	1.19E-04	1.25E-07	8.39E-09	3.20E-07	6.94E-08	4.18E-06	1.07E-05	0.3%	--	--				[D]
Pyrene	9.91E-04	1.04E-06	6.97E-08	2.66E-06	5.77E-07	3.48E-05	8.87E-05	2.3%	kidney	3000				[D]
Chemical hazards combined exposure:														
Hazard index (HI):						1.51E-03	3.86E-03	100.0%						
Excess lifetime cancer risk:										3.79E-06	3.13E-05	100.0%		

Table L-330. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Pit Floor, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)					
<b>ORGANICS (mg/kg)</b>																	
Acenaphthene	1.31E-05	5.29E-09	9.23E-10	1.35E-08	7.64E-09	8.81E-08	2.25E-07	0.0%	liver	3000				--			
Anthracene	3.00E-05	1.21E-08	2.11E-09	3.08E-08	1.75E-08	4.03E-08	1.03E-07	0.0%	none	3000				[D]			
Benzo(a)anthracene	2.10E-04	8.46E-08	1.48E-08	2.16E-07	1.22E-07	2.82E-06	7.19E-06	0.5%	--	--	1.08E-07	8.93E-07	2.8%	[B2]			
Benzo(a)pyrene	3.98E-03	1.60E-06	2.80E-07	4.09E-06	2.32E-06	5.35E-05	1.36E-04	9.2%	--	--	2.05E-06	1.69E-05	54.0%	[B2]			
Benzo(b)fluoranthene	1.28E-03	5.14E-07	8.98E-08	1.31E-06	7.43E-07	1.71E-05	4.37E-05	3.0%	--	--	6.56E-07	5.43E-06	17.3%	[B2]			
Benzo(g,h,i)perylene	3.20E-02	1.29E-05	2.25E-06	3.29E-05	1.86E-05	4.30E-04	1.10E-03	74.2%	--	--				[D]			
Benzo(k)fluoranthene	1.20E-04	4.83E-08	8.43E-09	1.23E-07	6.98E-08	1.61E-06	4.10E-06	0.3%	--	--	6.16E-08	5.09E-07	1.6%	[B2]			
Chrysene	1.95E-06	7.87E-10	1.37E-10	2.01E-09	1.14E-09	2.62E-08	6.69E-08	0.0%	--	--	1.00E-09	8.30E-09	0.0%	[B2]			
Dibenzofuran	2.42E-04	9.75E-08	1.70E-08	2.49E-07	1.41E-07	2.44E-05	6.22E-05	4.2%	--	--				[D]			
Fluoranthene	1.09E-03	4.40E-07	7.68E-08	1.12E-06	6.35E-07	1.10E-05	2.80E-05	1.9%	kidney, liver, blood	3000				[D]			
Fluorene	1.31E-05	5.26E-09	9.19E-10	1.34E-08	7.60E-09	1.32E-07	3.35E-07	0.0%	blood	3000				[D]			
Indeno(1,2,3-cd)pyrene	1.78E-03	7.17E-07	1.25E-07	1.83E-06	1.04E-06	2.39E-05	6.09E-05	4.1%	--	--	9.14E-07	7.57E-06	24.1%	[B2]			
Phenanthrene	1.19E-04	4.80E-08	8.39E-09	1.22E-07	6.94E-08	1.60E-06	4.08E-06	0.3%	--	--				[D]			
Pyrene	9.91E-04	3.99E-07	6.97E-08	1.02E-06	5.77E-07	1.33E-05	3.39E-05	2.3%	kidney	3000				[D]			
Chemical hazards combined exposure:																	
Hazard index (HI):																	
<table border="1" style="display: inline-table;"> <tr> <td>5.79E-04</td> <td>1.48E-03</td> <td>100.0%</td> </tr> </table>															5.79E-04	1.48E-03	100.0%
5.79E-04	1.48E-03	100.0%															
* Excess lifetime cancer risk:																	
<table border="1" style="display: inline-table;"> <tr> <td>3.79E-06</td> <td>3.13E-05</td> <td>100.0%</td> </tr> </table>															3.79E-06	3.13E-05	100.0%
3.79E-06	3.13E-05	100.0%															

**Table L-331. RME Risk Characterization Summary: SWMU 37 - Slope  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current Land Use		Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI					Cancer Risk		
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Depot Worker	Construction Worker	Resident Integrated	Depot Worker	Construction Worker			
Surface Soil (0 to 0.5 ft BLS)	Ingestion	1E-02 B	4E-11 B	7E+00 E	7E-01 B	5E-01 B	5E-01 B	9E-09 B	2E-09 B	4E-10 B			
	Dermal Contact	4E-04 B	0E+00 B	4E-02 B	3E-02 B	2E-02 B	4E-03 B	0E+00 B	0E+00 B	0E+00 B			
	Inhalation (Dust)	5E-04 B	6E-10 B	8E-02 B	3E-02 B	2E-02 B	4E-03 B	6E-08 B	3E-08 B	1E-09 B			
	Inhalation (Volatiles)	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B			
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA	NA	2E+01 E	2E+00 E	NA	1E+00 B	0E+00 B	NA	0E+00 B			
	Dermal Contact	NA	NA	4E-02 B	3E-02 B	NA	4E-03 B	0E+00 B	NA	0E+00 B			
	Inhalation (Dust)	NA	NA	1E-01 B	5E-02 B	NA	4E-03 B	1E-08 B	NA	2E-10 B			
	Inhalation (Volatiles)	NA	NA	0E+00 B	0E+00 B	NA	0E+00 B	0E+00 B	NA	0E+00 B			
<b>Surface Soil</b>													
<b>Combined Hazard Index (HI):</b>		1E-02 B		7E+00 E	8E-01 B	5E-01 B	5E-01 B						
<b>Combined Cancer Risk:</b>			6E-10 B					7E-08 B	3E-08 B	2E-09 B			
<b>Subsurface Soil</b>													
<b>Combined Hazard Index (HI):</b>		NA		2E+01 E	2E+00 E	NA	1E+00 B						
<b>Combined Cancer Risk:</b>			NA					1E-08 B	NA	2E-10 B			

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-332. CTE Risk Characterization Summary: SWMU 37 - Slope  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Current Land Use		Future Land Use									
		Noncancer HI		Cancer Risk		Noncancer HI				Cancer Risk			
		Depot Worker	Depot Worker	Resident Child	Resident Adult	Depot Worker	Construction Worker	Resident Integrated	Depot Worker	Construction Worker			
Surface Soil (0 to 0.5 ft BLS)	Ingestion	5E-03 B	4E-12 B	2E+00 E	2E-01 B	2E-01 B	3E-01 B	9E-10 B	2E-10 B	9E-11 B			
	Dermal Contact	6E-05 B	0E+00 B	5E-03 B	3E-03 B	3E-03 B	4E-04 B	0E+00 B	0E+00 B	0E+00 B			
	Inhalation (Dust)	5E-04 B	1E-10 B	5E-02 B	2E-02 B	2E-02 B	2E-03 B	1E-08 B	5E-09 B	3E-10 B			
	Inhalation (Volatiles)	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B	0E+00 B			
Subsurface Soil (>0.5 to 15 ft BLS)	Ingestion	NA	NA	6E+00 E	7E-01 B	NA	8E-01 B	0E+00 B	NA	0E+00 B			
	Dermal Contact	NA	NA	5E-03 B	3E-03 B	NA	4E-04 B	0E+00 B	NA	0E+00 B			
	Inhalation (Dust)	NA	NA	9E-02 B	4E-02 B	NA	2E-03 B	2E-09 B	NA	6E-11 B			
	Inhalation (Volatiles)	NA	NA	0E+00 B	0E+00 B	NA	0E+00 B	0E+00 B	NA	0E+00 B			
<b>Surface Soil</b>													
<b>Combined Hazard Index (HI):</b>	6E-03 B		2E+00 E	3E-01 B	2E-01 B	3E-01 B							
<b>Combined Cancer Risk:</b>		1E-10 B						1E-08 B	5E-09 B	4E-10 B			
<b>Subsurface Soil</b>													
<b>Combined Hazard Index (HI):</b>	NA		6E+00 E	7E-01 B	NA	8E-01 B							
<b>Combined Cancer Risk:</b>		NA						2E-09 B	NA	6E-11 B			

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures



**Table L-333. RME Risk Characterization Summary for Produce and Beef: SWMU 37 - Slope  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Child	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	6E+01	E	2E+01	E	8E-08	B
	Tuberous Vegetable Ingestion	3E+01	E	1E+01	E	2E-06	E
	Fruit Ingestion	2E+01	E	8E+00	E	2E-07	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	2E+02	E	7E+01	E	0E+00	B
	Tuberous Vegetable Ingestion	2E+02	E	5E+01	E	0E+00	B
	Fruit Ingestion	1E+02	E	5E+01	E	0E+00	B
Beef	Ingestion	9E+00	E	3E+00	E	2E-12	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		1E+02 E		4E+01 E		3E-06 E	
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		5E+02 E		2E+02 E		2E-12 B	

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-334. CTE Risk Characterization Summary for Produce and Beef: SWMU 37 - Slope  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	Future Land Use					
		Noncancer HI				Cancer Risk	
		Resident Child		Resident Adult		Resident Integrated	
Produce Surface Soil (0 to 0.5 ft BLS)	Leafy Vegetable Ingestion	2E+01	E	7E+00	E	1E-08	B
	Tuberous Vegetable Ingestion	1E+01	E	4E+00	E	3E-07	B
	Fruit Ingestion	1E+01	E	3E+00	E	3E-08	B
Produce Subsurface Soil (>0.5 to 15 ft BLS)	Leafy Vegetable Ingestion	9E+01	E	3E+01	E	0E+00	B
	Tuberous Vegetable Ingestion	7E+01	E	2E+01	E	0E+00	B
	Fruit Ingestion	6E+01	E	2E+01	E	0E+00	B
Beef	Ingestion	4E+00	E	1E+00	B	2E-13	B
<b>Produce (Surface Soil) and Beef Combined Hazard Index (HI):</b>		5E+01	E	2E+01	E		
<b>Combined Cancer Risk:</b>						3E-07	B
<b>Produce (Subsurface Soil) and Beef Combined Hazard Index (HI):</b>		2E+02	E	7E+01	E		
<b>Combined Cancer Risk:</b>						2E-13	B

NA - pathway not evaluated

0E+00 - pathway evaluated but no risks could be calculated due to lack of EPA-approved toxicity values

B - HI ≤ 1 or ELCR ≤ 10<sup>-6</sup> for the residential scenario; HI ≤ 1 or ELCR ≤ 10<sup>-4</sup> for the worker scenarios

E - HI > 1 or ELCR > 10<sup>-6</sup> for the residential scenario; HI > 1 or ELCR > 10<sup>-4</sup> for the worker scenarios

Integrated receptor combines both child and adult exposures

**Table L-335. Chemicals of Concern for RME Risks at SWMU 37 - Slope  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Current Land Use		Future Land Use							
					Noncancer HI: Depot Worker	Cancer Risk: Depot Worker	Noncancer HI			Cancer Risk				
							Resident Child	Resident Adult	Depot Worker	Construction Worker	Resident Integrated	Depot Worker	Construction Worker	
Surface Soil (0 to 0.5 ft BLS)	Ingestion Dermal Contact Inhalation (Dust) Inhalation (Volatiles)	Iron	58%				4E+00	4E-01						
Subsurface Soil (> 0.5 to 15 ft BLS)	Ingestion  Dermal Contact Inhalation (Dust) Inhalation (Volatiles)	Barium Copper Iron	15% 20% 58%				3E+00 4E+00 1E+01	3E-01 4E-01 1E+00						

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-4</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

**Table L-336. Chemicals of Concern for Produce and Beef RME Risks at SWMU 37 - Pit Floor  
Group 3 Phase II RFI, DCD, Tooele, Utah**

Medium	Exposure Route	COC <sup>a</sup>	% of Total HI	% of Total Cancer Risk	Future Land Use		
					Noncancer HI		
					Resident Child	Resident Adult	Resident Integrated
Produce (Surface Soil)	Leafy Vegetable Ingestion	Barium	25%	100%	1E+01	4E+00	
		Cadmium	7%		4E+00	1E+00	
		Copper	32%		2E+01	6E+00	
		Iron	2%		1E+00	4E-01	
		Manganese	32%		2E+01	6E+00	
	Tuberous Vegetable Ingestion	Barium	7%		2E+00	7E-01	
		Cadmium	4%		1E+00	4E-01	
		Copper	58%		2E+01	6E+00	
		Iron	2%		6E-01	2E-01	
		Manganese	25%		8E+00	2E+00	
	Fruit Ingestion	2,4,6-Trinitrotoluene	3%		8E-01	3E-01	2E-06
		Barium	9%		2E+00	7E-01	
		Cadmium	6%		2E+00	5E-01	
		Copper	71%		2E+01	6E+00	
		Iron	2%		5E-01	2E-01	
Produce (Subsurface Soil)	Leafy Vegetable Ingestion	Manganese	10%	2E+00	8E-01		
		Barium	19%	4E+01	1E+01		
		Cadmium	2%	4E+00	1E+00		
		Copper	65%	1E+02	4E+01		
		Iron	2%	4E+00	1E+00		
	Tuberous Vegetable Ingestion	Manganese	12%	2E+01	8E+00		
		Barium	4%	6E+00	2E+00		
		Cadmium	1%	1E+00	4E-01		
		Copper	87%	1E+02	4E+01		
		Iron	1%	2E+00	5E-01		
	Fruit Ingestion	Manganese	7%	1E+01	3E+00		
		Barium	4%	6E+00	2E+00		
		Cadmium	1%	2E+00	5E-01		
		Copper	91%	1E+02	4E+01		
		Iron	1%	2E+00	5E-01		
Beef	Ingestion	Manganese	2%	3E+00	1E+00		
		Copper	21%	2E+00	7E-01		
		Iron	72%	7E+00	2E+00		

<sup>a</sup> COCs are chemicals which contribute to a pathway with HI > 1 and ELCR > 10<sup>-6</sup> for the residential scenario and HI > 1 and ELCR > 10<sup>-4</sup> for the worker scenarios  
A blank space indicates a pathway not analyzed or an analyte which is not a COC for that pathway  
Integrated receptor combines both child and adult exposures

Table L-337. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Current Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ				Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)			
<b>INORGANICS (mg/kg)</b>															
Aluminum	2.35E+04	2.30E-04	1.64E-05	4.60E-04	1.64E-04	2.30E-04	4.60E-04	4.5%	CNS	100					--
Antimony	1.03E+01	1.00E-07	7.17E-09	2.01E-07	7.17E-08	2.51E-04	5.02E-04	4.9%	blood/circulatory system	1000					--
Barium	5.57E+03	5.45E-05	3.89E-06	1.09E-04	3.89E-05	7.79E-04	1.56E-03	15.3%	kidney	3					[D]
Cadmium	9.59E+00	9.39E-08	6.71E-09	1.88E-07	6.71E-08	9.39E-05	1.88E-04	1.8%	kidney	10					[B1]
Chromium (III)	4.41E+01	4.32E-07	3.08E-08	8.64E-07	3.08E-07	2.88E-07	5.76E-07	0.0%	none	100					[D]
Chromium (VI)	7.36E+00	7.20E-08	5.14E-09	1.44E-07	5.14E-08	2.40E-05	4.80E-05	0.5%	none	300					[A]
Cobalt	2.13E+01	2.08E-07	1.49E-08	4.17E-07	1.49E-07	3.47E-06	6.95E-06	0.1%	--	--					--
Copper	1.55E+03	1.52E-05	1.08E-06	3.03E-05	1.08E-05	3.79E-04	7.58E-04	7.5%	gastrointestinal system	--					[D]
Iron	9.01E+04	8.82E-04	6.30E-05	1.76E-03	6.30E-04	2.94E-03	5.88E-03	57.9%	--	1					--
Lead	6.51E+02	6.37E-06	4.55E-07	1.27E-05	4.55E-06	--	--	--	CNS, blood	--					[B2]
Magnesium	3.23E+04	3.16E-04	2.26E-05	6.32E-04	2.26E-04	--	--	--	--	--					--
Manganese	6.58E+02	6.44E-06	4.60E-07	1.29E-05	4.60E-06	2.68E-04	5.37E-04	5.3%	CNS	1					[D]
Nickel	8.32E+01	8.14E-07	5.81E-08	1.63E-06	5.81E-07	4.07E-05	8.14E-05	0.8%	whole body	300					--
Silver	2.63E+01	2.58E-07	1.84E-08	5.15E-07	1.84E-07	5.15E-05	1.03E-04	1.0%	skin	3					[D]
Zinc	3.35E+02	3.28E-06	2.34E-07	6.56E-06	2.34E-06	1.09E-05	2.19E-05	0.2%	blood	3					[D]
<b>ORGANICS (mg/kg)</b>															
2,4,6-Trinitrotoluene	1.87E-01	1.83E-09	1.31E-10	3.67E-09	1.31E-09	3.67E-06	7.34E-06	0.1%	liver	1000	3.93E-12	3.93E-11	100.0%		[C]
Chemical hazards combined exposure:															
Hazard index (HI):															
5.07E-03    1.01E-02    100.0%															
Excess lifetime cancer risk:															
3.93E-12    3.93E-11    100.0%															

Table L-338. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Current Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates							
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE			
						(CTE)	(RME)				(CTE)	(RME)					
<i>INORGANICS (mg/kg)</i>																	
Aluminum	2.35E+04	No ABS	No ABS	No ABS	No ABS				CNS	100			--				
Antimony	1.03E+01	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000			--				
Barium	5.57E+03	No ABS	No ABS	No ABS	No ABS				kidney	3			[D]				
Cadmium	9.59E+00	1.88E-09	1.34E-10	1.09E-08	3.89E-09	6.26E-05	3.63E-04	100.0%	kidney	10			[B1]				
Chromium (III)	4.41E+01	No ABS	No ABS	No ABS	No ABS				none	100			[D]				
Chromium (VI)	7.36E+00	No ABS	No ABS	No ABS	No ABS				none	300			[A]				
Cobalt	2.13E+01	No ABS	No ABS	No ABS	No ABS					--			--				
Copper	1.55E+03	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--			[D]				
Iron	9.01E+04	No ABS	No ABS	No ABS	No ABS					1			--				
Lead	6.51E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--			[B2]				
Magnesium	3.23E+04	No ABS	No ABS	No ABS	No ABS					--			--				
Manganese	6.58E+02	No ABS	No ABS	No ABS	No ABS				CNS	1			[D]				
Nickel	8.32E+01	No ABS	No ABS	No ABS	No ABS				whole body	300			--				
Silver	2.63E+01	No ABS	No ABS	No ABS	No ABS				skin	3			[D]				
Zinc	3.35E+02	No ABS	No ABS	No ABS	No ABS				blood	3			[D]				
<i>ORGANICS (mg/kg)</i>																	
2,4,6-Trinitrotoluene	1.87E-01	No ABS	No ABS	No ABS	No ABS				liver	1000			[C]				
Chemical hazards combined exposure:																	
Hazard index (HI):						6.26E-05			3.63E-04		100.0%						
Excess lifetime cancer risk:										0.00E+00				0.00E+00		0.0%	

Table L-339. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Current Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RI/D)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Aluminum	2.73E-05	1.07E-07	7.62E-09	1.07E-07	3.81E-08	7.62E-05	7.62E-05	16.4%	CNS	100				--
Antimony	1.19E-08	4.66E-11	3.33E-12	4.66E-11	1.66E-11				blood/circulatory system	1000				--
Barium	6.46E-06	2.53E-08	1.81E-09	2.53E-08	9.04E-09	1.77E-04	1.77E-04	38.1%	kidney	3				[D]
Cadmium	1.11E-08	4.36E-11	3.11E-12	4.36E-11	1.56E-11	7.64E-07	7.64E-07	0.2%	kidney	10	1.96E-11	9.80E-11	16.7%	[B1]
Chromium (III)	5.12E-08	2.00E-10	1.43E-11	2.00E-10	7.16E-11				none	100				[D]
Chromium (VI)	8.53E-09	3.34E-11	2.39E-12	3.34E-11	1.19E-11	1.17E-06	1.17E-06	0.3%	none	300	9.78E-11	4.89E-10	83.3%	[A]
Cobalt	2.47E-08	9.67E-11	6.91E-12	9.67E-11	3.45E-11				--	--				--
Copper	1.80E-06	7.03E-09	5.02E-10	7.03E-09	2.51E-09				gastrointestinal system	--				[D]
Iron	1.05E-04	4.09E-07	2.92E-08	4.09E-07	1.46E-07				--	1				--
Lead	7.56E-07	2.96E-09	2.11E-10	2.96E-09	1.06E-09				CNS, blood	--				[B2]
Magnesium	3.75E-05	1.47E-07	1.05E-08	1.47E-07	5.24E-08				--	--				--
Manganese	7.64E-07	2.99E-09	2.13E-10	2.99E-09	1.07E-09	2.09E-04	2.09E-04	45.0%	CNS	1				[D]
Nickel	9.65E-08	3.78E-10	2.70E-11	3.78E-10	1.35E-10				whole body	300				--
Silver	3.05E-08	1.20E-10	8.54E-12	1.20E-10	4.27E-11				skin	3				[D]
Zinc	3.89E-07	1.52E-09	1.09E-10	1.52E-09	5.43E-10				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2,4,6-Trinitrotoluene	2.18E-10	8.51E-13	6.08E-14	8.51E-13	3.04E-13				liver	1000				[C]
Chemical hazards combined exposure:														
Hazard index (HI): <span style="border: 1px solid black; padding: 2px;">4.64E-04</span> <span style="border: 1px solid black; padding: 2px;">4.64E-04</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>														
Excess lifetime cancer risk: <span style="border: 1px solid black; padding: 2px;">1.17E-10</span> <span style="border: 1px solid black; padding: 2px;">5.87E-10</span> <span style="border: 1px solid black; padding: 2px;">100.0%</span>														

**Table L-340. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)			
<i>INORGANICS (mg/kg)</i>															
Aluminum	2.35E+04	1.01E-02	7.19E-04	2.30E-02	8.21E-03	1.01E-02	2.30E-02	4.5%	CNS	100				--	
Antimony	1.03E+01	4.40E-06	3.14E-07	1.00E-05	3.59E-06	1.10E-02	2.51E-02	4.9%	blood/circulatory system	1000				--	
Barium	5.57E+03	2.39E-03	1.71E-04	5.45E-03	1.95E-03	3.41E-02	7.79E-02	15.3%	kidney	3				[D]	
Cadmium	9.59E+00	4.11E-06	2.94E-07	9.39E-06	3.35E-06	4.11E-03	9.39E-03	1.8%	kidney	10				[B1]	
Chromium (III)	4.41E+01	1.89E-05	1.35E-06	4.32E-05	1.54E-05	1.26E-05	2.88E-05	0.0%	none	100				[D]	
Chromium (VI)	7.36E+00	3.15E-06	2.25E-07	7.20E-06	2.57E-06	1.05E-03	2.40E-03	0.5%	none	300				[A]	
Cobalt	2.13E+01	9.13E-06	6.52E-07	2.08E-05	7.44E-06	1.52E-04	3.47E-04	0.1%	--	--				--	
Copper	1.55E+03	6.64E-04	4.74E-05	1.52E-03	5.41E-04	1.66E-02	3.79E-02	7.5%	gastrointestinal system	--				[D]	
Iron	9.01E+04	3.86E-02	2.76E-03	8.82E-02	3.15E-02	1.29E-01	2.94E-01	57.9%	--	1				--	
Lead	6.51E+02	2.79E-04	1.99E-05	6.37E-04	2.28E-04				CNS, blood	--				[B2]	
Magnesium	3.23E+04	1.39E-02	9.89E-04	3.16E-02	1.13E-02				--	--				--	
Manganese	6.58E+02	2.82E-04	2.01E-05	6.44E-04	2.30E-04	1.18E-02	2.68E-02	5.3%	CNS	1				[D]	
Nickel	8.32E+01	3.56E-05	2.55E-06	8.14E-05	2.91E-05	1.78E-03	4.07E-03	0.8%	whole body	300				--	
Silver	2.63E+01	1.13E-05	8.06E-07	2.58E-05	9.20E-06	2.26E-03	5.15E-03	1.0%	skin	3				[D]	
Zinc	3.35E+02	1.44E-04	1.03E-05	3.28E-04	1.17E-04	4.79E-04	1.09E-03	0.2%	blood	3				[D]	
<i>ORGANICS (mg/kg)</i>															
2,4,6-Trinitrotoluene	1.87E-01	8.04E-08	5.74E-09	1.83E-07	6.55E-08	1.61E-04	3.67E-04	0.1%	liver	1000	1.72E-10	1.97E-09	100.0%	[C]	
Chemical hazards combined exposure:															
Hazard index (HI):						2.22E-01	5.07E-01	100.0%							
Excess lifetime cancer risk:											1.72E-10	1.97E-09	100.0%		



Table L-341. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates									
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE						
<i>INORGANICS (mg/kg)</i>																		
Aluminum	2.35E+04	No ABS	No ABS	No ABS	No ABS				CNS	100		--						
Antimony	1.03E+01	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--						
Barium	5.57E+03	No ABS	No ABS	No ABS	No ABS				kidney	3		[D]						
Cadmium	9.59E+00	8.22E-08	5.87E-09	5.44E-07	1.94E-07	2.74E-03	1.81E-02	100.0%	kidney	10		[B1]						
Chromium (III)	4.41E+01	No ABS	No ABS	No ABS	No ABS				none	100		[D]						
Chromium (VI)	7.36E+00	No ABS	No ABS	No ABS	No ABS				none	300		[A]						
Cobalt	2.13E+01	No ABS	No ABS	No ABS	No ABS				--	--		--						
Copper	1.55E+03	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]						
Iron	9.01E+04	No ABS	No ABS	No ABS	No ABS				--	1		--						
Lead	6.51E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]						
Magnesium	3.23E+04	No ABS	No ABS	No ABS	No ABS				--	--		--						
Manganese	6.58E+02	No ABS	No ABS	No ABS	No ABS				CNS	1		[D]						
Nickel	8.32E+01	No ABS	No ABS	No ABS	No ABS				whole body	300		--						
Silver	2.63E+01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]						
Zinc	3.35E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]						
<i>ORGANICS (mg/kg)</i>																		
2,4,6-Trinitrotoluene	1.87E-01	No ABS	No ABS	No ABS	No ABS				liver	1000		[C]						
Chemical hazards combined exposure:																		
Hazard index (HI):						2.74E-03			1.81E-02			100.0%						
Excess lifetime cancer risk:										0.00E+00			0.00E+00			0.0%		

Table L-342. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Depot Workers - Inhalation Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Aluminum	2.73E-05	4.67E-06	3.34E-07	5.34E-06	1.91E-06	3.34E-03	3.81E-03	16.4%	CNS	100				
Antimony	1.19E-08	2.04E-09	1.46E-10	2.33E-09	8.32E-10				blood/circulatory system	1000			--	
Barium	6.46E-06	1.11E-06	7.92E-08	1.27E-06	4.52E-07	7.76E-03	8.86E-03	38.1%	kidney	3			--	
Cadmium	1.11E-08	1.91E-09	1.36E-10	2.18E-09	7.78E-10	3.35E-05	3.82E-05	0.2%	kidney	10	8.59E-10	4.90E-09	16.7%	[B1]
Chromium (III)	5.12E-08	8.78E-09	6.27E-10	1.00E-08	3.58E-09				none	100				[D]
Chromium (VI)	8.53E-09	1.46E-09	1.04E-10	1.67E-09	5.96E-10	5.12E-05	5.85E-05	0.3%	none	300	4.28E-09	2.45E-08	83.3%	[A]
Cobalt	2.47E-08	4.23E-09	3.02E-10	4.83E-09	1.73E-09				--	--				--
Copper	1.80E-06	3.08E-07	2.20E-08	3.52E-07	1.26E-07				gastrointestinal system	--				[D]
Iron	1.05E-04	1.79E-05	1.28E-06	2.05E-05	7.31E-06				--	1				--
Lead	7.56E-07	1.30E-07	9.25E-09	1.48E-07	5.28E-08				CNS, blood	--				[B2]
Magnesium	3.75E-05	6.43E-06	4.59E-07	7.34E-06	2.82E-06				--	--				--
Manganese	7.64E-07	1.31E-07	9.35E-09	1.49E-07	5.34E-08	9.16E-03	1.05E-02	45.0%	CNS	1				[D]
Nickel	9.65E-08	1.65E-08	1.18E-09	1.89E-08	6.74E-09				whole body	300				--
Silver	3.05E-08	5.23E-09	3.74E-10	5.98E-09	2.13E-09				skin	3				[D]
Zinc	3.89E-07	6.66E-08	4.76E-09	7.61E-08	2.72E-08				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2,4,6-Trinitrotoluene	2.18E-10	3.73E-11	2.66E-12	4.26E-11	1.52E-11				liver	1000				[C]
Chemical hazards combined exposure:														
Hazard index (HI):						2.03E-02	2.32E-02	100.0%						
Excess lifetime cancer risk:										5.14E-09	2.94E-08	100.0%		

Table L-343. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Aluminum	2.35E+04	1.00E-01	3.95E-03	3.00E-01	3.68E-02	1.00E-01	3.00E-01	4.5%	CNS	100		--	
Antimony	1.03E+01	4.39E-05	1.72E-06	1.31E-04	1.61E-05	1.10E-01	3.28E-01	4.9%	blood/circulatory system	1000		--	
Barium	5.57E+03	2.38E-02	9.36E-04	7.12E-02	8.72E-03	3.40E-01	1.02E+00	15.3%	kidney	3		[D]	
Cadmium	9.59E+00	4.10E-05	1.61E-06	1.23E-04	1.50E-05	4.10E-02	1.23E-01	1.8%	kidney	10		[B1]	
Chromium (III)	4.41E+01	1.89E-04	7.41E-06	5.64E-04	6.91E-05	1.26E-04	3.76E-04	0.0%	none	100		[D]	
Chromium (VI)	7.36E+00	3.14E-05	1.24E-06	9.41E-05	1.15E-05	1.05E-02	3.14E-02	0.5%	none	300		[A]	
Cobalt	2.13E+01	9.10E-05	3.58E-06	2.72E-04	3.33E-05	1.52E-03	4.54E-03	0.1%	--	--		--	
Copper	1.55E+03	6.62E-03	2.60E-04	1.98E-02	2.43E-03	1.66E-01	4.95E-01	7.5%	gastrointestinal system	--		[D]	
Iron	9.01E+04	3.85E-01	1.51E-02	1.15E+00	1.41E-01	1.28E+00	3.84E+00	57.9%	--	1		--	
Lead	6.51E+02	2.78E-03	1.09E-04	8.33E-03	1.02E-03				CNS, blood	--		[B2]	
Magnesium	3.23E+04	1.38E-01	5.43E-03	4.13E-01	5.06E-02				--	--		--	
Manganese	6.58E+02	2.81E-03	1.11E-04	8.42E-03	1.03E-03	1.17E-01	3.51E-01	5.3%	CNS	1		[D]	
Nickel	8.32E+01	3.55E-04	1.40E-05	1.06E-03	1.30E-04	1.78E-02	5.32E-02	0.8%	whole body	300		--	
Silver	2.63E+01	1.13E-04	4.42E-06	3.37E-04	4.12E-05	2.25E-02	6.73E-02	1.0%	skin	3		[D]	
Zinc	3.35E+02	1.43E-03	5.63E-05	4.28E-03	5.25E-04	4.77E-03	1.43E-02	0.2%	blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
2,4,6-Trinitrotoluene	1.87E-01	8.01E-07	3.15E-08	2.40E-06	2.94E-07	1.60E-03	4.79E-03	0.1%	liver	1000	9.44E-10	8.81E-09	100.0% [C]
Chemical hazards combined exposure:													
Hazard index (HI):						2.22E+00			6.63E+00			100.0%	
Excess lifetime cancer risk:									9.44E-10			8.81E-09	100.0%

**Table L-344. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)**  
**SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects	Ca Effects	Non Ca Effects	Ca Effects	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
		(CTE)	(CTE)	(RME)	(RME)	(CTE)	(RME)				(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Aluminum	2.35E+04	No ABS	No ABS	No ABS	No ABS					CNS	100			--
Antimony	1.03E+01	No ABS	No ABS	No ABS	No ABS					blood/circulatory system	1000			--
Barium	5.57E+03	No ABS	No ABS	No ABS	No ABS					kidney	3			[D]
Cadmium	9.59E+00	1.44E-07	1.29E-08	1.23E-06	3.67E-07	4.78E-03	4.11E-02	100.0%		kidney	10			[B1]
Chromium (III)	4.41E+01	No ABS	No ABS	No ABS	No ABS					none	100			[D]
Chromium (VI)	7.36E+00	No ABS	No ABS	No ABS	No ABS					none	300			[A]
Cobalt	2.13E+01	No ABS	No ABS	No ABS	No ABS					--	--			--
Copper	1.55E+03	No ABS	No ABS	No ABS	No ABS					gastrointestinal system	--			[D]
Iron	9.01E+04	No ABS	No ABS	No ABS	No ABS					--	1			--
Lead	6.51E+02	No ABS	No ABS	No ABS	No ABS					CNS, blood	--			[B2]
Magnesium	3.23E+04	No ABS	No ABS	No ABS	No ABS					--	--			--
Manganese	6.58E+02	No ABS	No ABS	No ABS	No ABS					CNS	1			[D]
Nickel	8.32E+01	No ABS	No ABS	No ABS	No ABS					whole body	300			--
Silver	2.63E+01	No ABS	No ABS	No ABS	No ABS					skin	3			[D]
Zinc	3.35E+02	No ABS	No ABS	No ABS	No ABS					blood	3			[D]
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	1.87E-01	No ABS	No ABS	No ABS	No ABS					liver	1000			[C]
Chemical hazards combined exposure:														
Hazard index (HI):						4.78E-03	4.11E-02	100.0%						
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%	

Table L-345. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	(RME)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/m<sup>3</sup>)</b>														
Aluminum	2.73E-05	1.17E-05	8.32E-07	1.74E-05	4.05E-06	8.32E-03	1.24E-02	16.4%	CNS	100			--	
Antimony	1.19E-08	5.09E-09	3.63E-10	7.61E-09	1.77E-09				blood/circulatory system	1000			--	
Barium	6.46E-06	2.76E-06	1.97E-07	4.13E-06	9.61E-07	1.93E-02	2.89E-02	38.1%	kidney	3			[D]	
Cadmium	1.11E-08	4.76E-09	3.40E-10	7.12E-09	1.66E-09	8.35E-05	1.25E-04	0.2%	kidney	10	2.14E-09	1.04E-08	16.7%	[B1]
Chromium (III)	5.12E-08	2.19E-08	1.56E-09	3.27E-08	7.62E-09				none	100				[D]
Chromium (VI)	8.53E-09	3.65E-09	2.61E-10	5.46E-09	1.27E-09	1.28E-04	1.91E-04	0.3%	none	300	1.07E-08	5.20E-08	83.3%	[A]
Cobalt	2.47E-08	1.06E-08	7.54E-10	1.58E-08	3.67E-09				--	--				--
Copper	1.80E-06	7.68E-07	5.49E-08	1.15E-06	2.67E-07				gastrointestinal system	--				[D]
Iron	1.05E-04	4.47E-05	3.19E-06	6.68E-05	1.55E-05				--	--				--
Lead	7.56E-07	3.23E-07	2.31E-08	4.83E-07	1.12E-07				CNS, blood	1				--
Magnesium	3.75E-05	1.60E-05	1.14E-06	2.40E-05	5.58E-06				--	--				[B2]
Manganese	7.64E-07	3.26E-07	2.33E-08	4.88E-07	1.14E-07	2.28E-02	3.42E-02	45.0%	CNS	--				--
Nickel	9.65E-08	4.12E-08	2.95E-09	6.17E-08	1.43E-08				whole body	1				[D]
Silver	3.05E-08	1.31E-08	9.32E-10	1.95E-08	4.54E-09				skin	300				--
Zinc	3.89E-07	1.66E-07	1.19E-08	2.48E-07	5.78E-08				blood	3				[D]
<b>ORGANICS (mg/m<sup>3</sup>)</b>														
2,4,6-Trinitrotoluene	2.18E-10	9.30E-11	6.64E-12	1.39E-10	3.23E-11				liver	1000				[C]
Chemical hazards combined exposure:														
Hazard index (HI):														
5.07E-02    7.59E-02    100.0%														
Excess lifetime cancer risk:														
1.28E-08    6.25E-08    100.0%														

Table L-346. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Aluminum	2.35E+04	1.08E-02	3.95E-03	3.22E-02	3.68E-02	1.08E-02	3.22E-02	4.5%	CNS	100			--	
Antimony	1.03E+01	4.70E-06	1.72E-06	1.41E-05	1.61E-05	1.17E-02	3.51E-02	4.9%	blood/circulatory system	1000			--	
Barium	5.57E+03	2.55E-03	9.36E-04	7.63E-03	8.72E-03	3.65E-02	1.09E-01	15.3%	kidney	3			[D]	
Cadmium	9.59E+00	4.39E-06	1.61E-06	1.31E-05	1.50E-05	4.39E-03	1.31E-02	1.8%	kidney	10			[B1]	
Chromium (III)	4.41E+01	2.02E-05	7.41E-06	6.05E-05	6.91E-05	1.35E-05	4.03E-05	0.0%	none	100			[D]	
Chromium (VI)	7.36E+00	3.37E-06	1.24E-06	1.01E-05	1.15E-05	1.12E-03	3.36E-03	0.5%	none	300			[A]	
Cobalt	2.13E+01	9.75E-06	3.58E-06	2.92E-05	3.33E-05	1.63E-04	4.86E-04	0.1%		--			--	
Copper	1.55E+03	7.09E-04	2.60E-04	2.12E-03	2.43E-03	1.77E-02	5.30E-02	7.5%	gastrointestinal system	--			[D]	
Iron	9.01E+04	4.13E-02	1.51E-02	1.23E-01	1.41E-01	1.38E-01	4.11E-01	57.9%		1			--	
Lead	6.51E+02	2.98E-04	1.09E-04	8.92E-04	1.02E-03				CNS, blood	--			[B2]	
Magnesium	3.23E+04	1.48E-02	5.43E-03	4.43E-02	5.06E-02				--	--			--	
Manganese	6.58E+02	3.01E-04	1.11E-04	9.02E-04	1.03E-03	1.26E-02	3.76E-02	5.3%	CNS	1			[D]	
Nickel	8.32E+01	3.81E-05	1.40E-05	1.14E-04	1.30E-04	1.90E-03	5.70E-03	0.8%	whole body	300			--	
Silver	2.63E+01	1.21E-05	4.42E-06	3.61E-05	4.12E-05	2.41E-03	7.21E-03	1.0%	skin	3			[D]	
Zinc	3.35E+02	1.53E-04	5.63E-05	4.59E-04	5.25E-04	5.11E-04	1.53E-03	0.2%	blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	1.87E-01	8.59E-08	3.15E-08	2.57E-07	2.94E-07	1.72E-04	5.14E-04	0.1%	liver	1000	9.44E-10	8.81E-09	100.0%	[C]
Chemical hazards combined exposure:														
Hazard index (HI):						2.37E-01	7.10E-01	100.0%						
Excess lifetime cancer risk:										9.44E-10	8.81E-09	100.0%		

Table L-347. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<b>INORGANICS (mg/kg)</b>													
Aluminum	2.35E+04	No ABS	No ABS	No ABS	No ABS				CNS	100		--	
Antimony	1.03E+01	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Barium	5.57E+03	No ABS	No ABS	No ABS	No ABS				kidney	3		[D]	
Cadmium	9.59E+00	8.79E-08	1.29E-08	7.62E-07	3.67E-07	2.93E-03	2.54E-02	100.0%	kidney	10		[B1]	
Chromium (III)	4.41E+01	No ABS	No ABS	No ABS	No ABS				none	100		[D]	
Chromium (VI)	7.36E+00	No ABS	No ABS	No ABS	No ABS				none	300		[A]	
Cobalt	2.13E+01	No ABS	No ABS	No ABS	No ABS				--	--		--	
Copper	1.55E+03	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Iron	9.01E+04	No ABS	No ABS	No ABS	No ABS				--	1		--	
Lead	6.51E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Magnesium	3.23E+04	No ABS	No ABS	No ABS	No ABS				--	--		--	
Manganese	6.58E+02	No ABS	No ABS	No ABS	No ABS				CNS	1		[D]	
Nickel	8.32E+01	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Silver	2.63E+01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Zinc	3.35E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<b>ORGANICS (mg/kg)</b>													
2,4,6-Trinitrotoluene	1.87E-01	No ABS	No ABS	No ABS	No ABS				liver	1000		[C]	
Chemical hazards combined exposure:													
Hazard index (HI):						2.93E-03	2.54E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-348. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tonole, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)		
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Aluminum	2.73E-05	4.99E-06	8.32E-07	7.47E-06	4.05E-06	3.57E-03	5.34E-03	16.4%	CNS	100				--
Antimony	1.19E-08	2.18E-09	3.63E-10	3.26E-09	1.77E-09				blood/circulatory system	1000				--
Barium	6.46E-06	1.18E-06	1.97E-07	1.77E-06	9.61E-07	8.29E-03	1.24E-02	38.1%	kidney	3				[D]
Cadmium	1.11E-08	2.04E-09	3.40E-10	3.05E-09	1.66E-09	3.58E-05	5.35E-05	0.2%	kidney	10	2.14E-09	1.04E-08	16.7%	[B1]
Chromium (III)	5.12E-08	9.38E-09	1.56E-09	1.40E-08	7.62E-09				none	100				[D]
Chromium (VI)	8.53E-09	1.56E-09	2.61E-10	2.34E-09	1.27E-09	5.47E-05	8.18E-05	0.3%	none	300	1.07E-08	5.20E-08	83.3%	[A]
Cobalt	2.47E-08	4.52E-09	7.54E-10	6.77E-09	3.67E-09				--	--				--
Copper	1.80E-06	3.29E-07	5.49E-08	4.92E-07	2.67E-07				gastrointestinal system	--				[D]
Iron	1.05E-04	1.91E-05	3.19E-06	2.86E-05	1.55E-05				--	1				--
Lead	7.56E-07	1.38E-07	2.31E-08	2.07E-07	1.12E-07				CNS, blood	--				[B2]
Magnesium	3.75E-05	6.87E-06	1.14E-06	1.03E-05	5.58E-06				--	--				--
Manganese	7.64E-07	1.40E-07	2.33E-08	2.09E-07	1.14E-07	9.79E-03	1.46E-02	45.0%	CNS	1				[D]
Nickel	9.65E-08	1.77E-08	2.95E-09	2.64E-08	1.43E-08				whole body	300				--
Silver	3.05E-08	5.59E-09	9.32E-10	8.37E-09	4.54E-09				skin	3				[D]
Zinc	3.89E-07	7.12E-08	1.19E-08	1.06E-07	5.78E-08				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2,4,6-Trinitrotoluene	2.18E-10	3.98E-11	6.64E-12	5.96E-11	3.23E-11				liver	1000				[C]
Chemical hazards combined exposure:														
Hazard index (HI):						2.17E-02	3.25E-02	100.0%						
Excess lifetime cancer risk:										1.28E-08	6.25E-08	100.0%		



Table L-349. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ				Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Aluminum	2.35E+04	1.32E-02	3.78E-04	2.21E-02	1.58E-03	1.32E-02	2.21E-02	4.5%	CNS	100		--		
Antimony	1.03E+01	5.78E-06	1.65E-07	9.64E-06	6.89E-07	1.45E-02	2.41E-02	4.9%	blood/circulatory system	1000		--		
Barium	5.57E+03	3.14E-03	8.97E-05	5.23E-03	3.74E-04	4.49E-02	7.48E-02	15.3%	kidney	3		[D]		
Cadmium	9.59E+00	5.41E-06	1.54E-07	9.01E-06	6.44E-07	5.41E-03	9.01E-03	1.8%	kidney	10		[B1]		
Chromium (III)	4.41E+01	2.49E-05	7.11E-07	4.15E-05	2.96E-06	2.49E-05	4.15E-05	0.0%	none	100		[D]		
Chromium (VI)	7.36E+00	4.15E-06	1.18E-07	6.91E-06	4.94E-07	2.07E-04	3.45E-04	0.1%	none	300		[A]		
Cobalt	2.13E+01	1.20E-05	3.43E-07	2.00E-05	1.43E-06	2.00E-04	3.33E-04	0.1%	--	--		--		
Copper	1.55E+03	8.73E-04	2.49E-05	1.46E-03	1.04E-04	2.36E-02	3.93E-02	8.1%	gastrointestinal system	--		--		
Iron	9.01E+04	5.08E-02	1.45E-03	8.46E-02	6.03E-03	1.69E-01	2.82E-01	57.8%	--	1		--		
Lead	6.51E+02	3.67E-04	1.05E-05	6.12E-04	4.37E-05				CNS, blood	--		[B2]		
Magnesium	3.23E+04	1.82E-02	5.20E-04	3.04E-02	2.17E-03				--	--		--		
Manganese	6.58E+02	3.71E-04	1.06E-05	6.18E-04	4.42E-05	1.55E-02	2.58E-02	5.3%	CNS	1		[D]		
Nickel	8.32E+01	4.69E-05	1.34E-06	7.81E-05	5.58E-06	2.34E-03	3.91E-03	0.8%	whole body	300		--		
Silver	2.63E+01	1.48E-05	4.24E-07	2.47E-05	1.77E-06	2.97E-03	4.95E-03	1.0%	skin	3		[D]		
Zinc	3.35E+02	1.89E-04	5.40E-06	3.15E-04	2.25E-05	6.29E-04	1.05E-03	0.2%	blood	3		[D]		
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	1.87E-01	1.06E-07	3.02E-09	1.76E-07	1.26E-08	2.11E-04	3.52E-04	0.1%	liver	1000	9.06E-11	3.77E-10	100.0% [C]	
Chemical hazards combined exposure:														
Hazard index (HI):						2.93E-01	4.88E-01	100.0%						
Excess lifetime cancer risk:										9.06E-11	3.77E-10	100.0%		

**Table L-350. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)	Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)	(RME)			(CTE)	(RME)	(RME)
<i>INORGANICS (mg/kg)</i>													
Aluminum	2.35E+04	No ABS	No ABS	No ABS	No ABS				CNS	100		--	
Antimony	1.03E+01	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Barium	5.57E+03	No ABS	No ABS	No ABS	No ABS				kidney	3		[D]	
Cadmium	9.59E+00	1.13E-08	3.22E-10	1.09E-07	7.78E-09	3.76E-04	3.63E-03	100.0%	kidney	10		[B1]	
Chromium (III)	4.41E+01	No ABS	No ABS	No ABS	No ABS				none	100		[D]	
Chromium (VI)	7.36E+00	No ABS	No ABS	No ABS	No ABS				none	300		[A]	
Cobalt	2.13E+01	No ABS	No ABS	No ABS	No ABS				--	--		--	
Copper	1.55E+03	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Iron	9.01E+04	No ABS	No ABS	No ABS	No ABS				--	1		--	
Lead	6.51E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Magnesium	3.23E+04	No ABS	No ABS	No ABS	No ABS				--	--		--	
Manganese	6.58E+02	No ABS	No ABS	No ABS	No ABS				CNS	1		[D]	
Nickel	8.32E+01	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Silver	2.63E+01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Zinc	3.35E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
<i>ORGANICS (mg/kg)</i>													
2,4,6-Trinitrotoluene	1.87E-01	No ABS	No ABS	No ABS	No ABS				liver	1000		[C]	
Chemical hazards combined exposure:													
Hazard index (HI):						3.76E-04	3.63E-03	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-351. Risk Characterization for Surface Soils (0 to 0.5 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ				Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	(RME)	HQ Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Aluminum	2.73E-05	7.68E-07	2.20E-08	1.28E-06	9.15E-08	5.49E-04	9.15E-04	25.0%	CNS	100			--	
Antimony	1.19E-08	3.35E-10	9.59E-12	5.59E-10	3.99E-11				blood/circulatory system	1000			--	
Barium	6.46E-06	1.82E-07	5.20E-09	3.04E-07	2.17E-08	1.28E-04	2.13E-04	5.8%	kidney	3			[D]	
Cadmium	1.11E-08	3.14E-10	8.96E-12	5.23E-10	3.73E-11	5.50E-06	9.17E-06	0.3%	kidney	10	5.65E-11	2.35E-10	16.7%	[B1]
Chromium (III)	5.12E-08	1.44E-09	4.12E-11	2.40E-09	1.72E-10				none	100				[D]
Chromium (VI)	8.53E-09	2.40E-10	6.87E-12	4.01E-10	2.86E-11	8.42E-06	1.40E-05	0.4%	none	300	2.82E-10	1.17E-09	83.3%	[A]
Cobalt	2.47E-08	6.96E-10	1.99E-11	1.16E-09	8.29E-11				--	--				--
Copper	1.80E-06	5.06E-08	1.45E-09	8.44E-08	6.03E-09				gastrointestinal system	--				[D]
Iron	1.05E-04	2.95E-06	8.42E-08	4.91E-06	3.51E-07				--	--				--
Lead	7.56E-07	2.13E-08	6.08E-10	3.55E-08	2.54E-09				CNS, blood	1				[B2]
Magnesium	3.75E-05	1.06E-06	3.02E-08	1.76E-06	1.26E-07				--	--				--
Manganese	7.64E-07	2.15E-08	6.15E-10	3.59E-08	2.56E-09	1.51E-03	2.51E-03	68.6%	CNS	1				[D]
Nickel	9.65E-08	2.72E-09	7.77E-11	4.53E-09	3.24E-10				whole body	300				--
Silver	3.05E-08	8.61E-10	2.46E-11	1.43E-09	1.02E-10				skin	3				[D]
Zinc	3.89E-07	1.10E-08	3.13E-10	1.83E-08	1.30E-09				blood	3				[D]
<i>ORGANICS (mg/m<sup>3</sup>)</i>														
2,4,6-Trinitrotoluene	2.18E-10	6.13E-12	1.75E-13	1.02E-11	7.30E-13				liver	1000				[C]
Chemical hazards combined exposure:														
Hazard index (HI):						2.20E-03	3.66E-03	100.0%						
Excess lifetime cancer risk:										3.38E-10	1.41E-09	100.0%		

Table L-352. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE) (RME)	Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ		Noncarcinogenic Target Tissue/Organ						
						Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)							
<i>INORGANICS (mg/kg)</i>														
Antimony	6.37E+00	2.72E-05	1.07E-06	8.15E-05	9.98E-06	6.81E-02	2.04E-01	1.1%	blood/circulatory system	1000			--	
Barium	1.55E+04	6.61E-02	2.60E-03	1.98E-01	2.42E-02	9.44E-01	2.82E+00	15.2%	kidney	3			[D]	
Cadmium	9.65E+00	4.13E-05	1.62E-06	1.23E-04	1.51E-05	4.13E-02	1.23E-01	0.7%	kidney	10			[B1]	
Copper	1.16E+04	4.97E-02	1.95E-03	1.49E-01	1.82E-02	1.24E+00	3.72E+00	20.1%	gastrointestinal system	--			[D]	
Iron	2.54E+05	1.09E+00	4.27E-02	3.25E+00	3.98E-01	3.62E+00	1.08E+01	58.5%	--	1			--	
Lead	3.15E+02	1.35E-03	5.30E-05	4.03E-03	4.94E-04				CNS, blood	--			[B2]	
Magnesium	5.14E+04	2.20E-01	8.63E-03	6.57E-01	8.05E-02				--	--			--	
Manganese	9.10E+02	3.89E-03	1.53E-04	1.16E-02	1.42E-03	1.62E-01	4.85E-01	2.6%	CNS	1			[D]	
Nickel	1.84E+02	7.88E-04	3.10E-05	2.36E-03	2.89E-04	3.94E-02	1.18E-01	0.6%	whole body	300			--	
Silver	8.47E+01	3.62E-04	1.42E-05	1.08E-03	1.33E-04	7.24E-02	2.17E-01	1.2%	skin	3			[D]	
Zinc	3.25E+02	1.39E-03	5.46E-05	4.15E-03	5.09E-04	4.63E-03	1.38E-02	0.1%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						6.20E+00	1.85E+01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-353. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Dermal Contact Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	6.37E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Barium	1.55E+04	No ABS	No ABS	No ABS	No ABS				kidney	3		[D]	
Cadmium	9.65E+00	1.44E-07	1.30E-08	1.24E-06	3.69E-07	4.81E-03	4.13E-02	100.0%	kidney	10		[B1]	
Copper	1.16E+04	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Iron	2.54E+05	No ABS	No ABS	No ABS	No ABS				--	1		--	
Lead	3.15E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Magnesium	5.14E+04	No ABS	No ABS	No ABS	No ABS				--	--		--	
Manganese	9.10E+02	No ABS	No ABS	No ABS	No ABS				CNS	1		[D]	
Nickel	1.84E+02	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Silver	8.47E+01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Zinc	3.25E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						4.81E-03	4.13E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-354. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Children - Inhalation Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RI/D) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)				
<i>INORGANICS (mg/m<sup>3</sup>)</i>															
Antimony	7.39E-09	3.16E-09	2.26E-10	4.73E-09	1.10E-09				blood/circulatory system	1000				--	
Barium	1.79E-05	7.66E-06	5.47E-07	1.15E-05	2.67E-06	5.37E-02	8.03E-02	62.9%	kidney	3				[D]	
Cadmium	1.12E-08	4.79E-09	3.42E-10	7.16E-09	1.67E-09	8.40E-05	1.26E-04	0.1%	kidney	10	2.15E-09	1.05E-08	100.0%	[B1]	
Copper	1.35E-05	5.77E-06	4.12E-07	8.63E-06	2.01E-06				gastrointestinal system	--				[D]	
Iron	2.95E-04	1.26E-04	9.01E-06	1.89E-04	4.39E-05				--	1				--	
Lead	3.66E-07	1.56E-07	1.12E-08	2.34E-07	5.44E-08				CNS, blood	--				[B2]	
Magnesium	5.96E-05	2.55E-05	1.82E-06	3.81E-05	8.87E-06				--	--				--	
Manganese	1.06E-06	4.51E-07	3.22E-08	6.75E-07	1.57E-07	3.16E-02	4.72E-02	37.0%	CNS	1				[D]	
Nickel	2.14E-07	9.14E-08	6.53E-09	1.37E-07	3.18E-08				whole body	300				--	
Silver	9.83E-08	4.20E-08	3.00E-09	6.28E-08	1.46E-08				skin	3				[D]	
Zinc	3.77E-07	1.61E-07	1.15E-08	2.41E-07	5.61E-08				blood	3				[D]	
Chemical hazards combined exposure:															
Hazard index (HI):						8.53E-02	1.28E-01	100.0%							
Excess lifetime cancer risk:											2.15E-09	1.05E-08	100.0%		

Table L-355. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		EPA WOE
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)		
<i>INORGANICS</i> (mg/kg)													
Antimony	6.37E+00	2.92E-06	1.07E-06	8.73E-06	9.98E-06	7.30E-03	2.18E-02	1.1%	blood/circulatory system	1000	--	--	
Barium	1.55E+04	7.08E-03	2.60E-03	2.12E-02	2.42E-02	1.01E-01	3.03E-01	15.2%	kidney	3	[D]	[D]	
Cadmium	9.65E+00	4.42E-06	1.62E-06	1.32E-05	1.51E-05	4.42E-03	1.32E-02	0.7%	kidney	10	[B1]	[B1]	
Copper	1.16E+04	5.33E-03	1.95E-03	1.59E-02	1.82E-02	1.33E-01	3.98E-01	20.1%	gastrointestinal system	--	[D]	[D]	
Iron	2.54E+05	1.16E-01	4.27E-02	3.48E-01	3.98E-01	3.88E-01	1.16E+00	58.5%	--	1	--	--	
Lead	3.15E+02	1.44E-04	5.30E-05	4.32E-04	4.94E-04	--	--	--	CNS, blood	--	[B2]	[B2]	
Magnesium	5.14E+04	2.35E-02	8.63E-03	7.04E-02	8.05E-02	--	--	--	--	--	--	--	
Manganese	9.10E+02	4.17E-04	1.53E-04	1.25E-03	1.42E-03	1.74E-02	5.19E-02	2.6%	CNS	1	[D]	[D]	
Nickel	1.84E+02	8.45E-05	3.10E-05	2.53E-04	2.89E-04	4.22E-03	1.26E-02	0.6%	whole body	300	--	--	
Silver	8.47E+01	3.88E-05	1.42E-05	1.16E-04	1.33E-04	7.76E-03	2.32E-02	1.2%	skin	3	[D]	[D]	
Zinc	3.25E+02	1.49E-04	5.46E-05	4.45E-04	5.09E-04	4.96E-04	1.48E-03	0.1%	blood	3	[D]	[D]	

Chemical hazards combined exposure:

Hazard index (HI): 6.64E-01 | 1.99E+00 | 100.0%

Excess lifetime cancer risk:

0.00E+00 | 0.00E+00 | 0.0%

**Table L-356. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	6.37E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Barium	1.55E+04	No ABS	No ABS	No ABS	No ABS				kidney	3		[D]	
Cadmium	9.65E+00	8.84E-08	1.30E-08	7.67E-07	3.69E-07	2.95E-03	2.56E-02	100.0%	kidney	10		[B1]	
Copper	1.16E+04	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Iron	2.54E+05	No ABS	No ABS	No ABS	No ABS				--	1		--	
Lead	3.15E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Magnesium	5.14E+04	No ABS	No ABS	No ABS	No ABS				--	--		--	
Manganese	9.10E+02	No ABS	No ABS	No ABS	No ABS				CNS	1		[D]	
Nickel	1.84E+02	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Silver	8.47E+01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Zinc	3.25E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						2.95E-03	2.56E-02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	



**Table L-357. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Residential Adults - Inhalation Exposure (Future Land Use)**  
**SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/m<sup>3</sup>)</i>														
Antimony	7.39E-09	1.35E-09	2.26E-10	2.03E-09	1.10E-09				blood/circulatory system	1000		--		
Barium	1.79E-05	3.28E-06	5.47E-07	4.91E-06	2.67E-06	2.30E-02	3.44E-02	62.9%	kidney	3		[D]		
Cadmium	1.12E-08	2.05E-09	3.42E-10	3.07E-09	1.67E-09	3.60E-05	5.38E-05	0.1%	kidney	10	2.15E-09	1.05E-08	100.0%	[B1]
Copper	1.35E-05	2.47E-06	4.12E-07	3.70E-06	2.01E-06				gastrointestinal system	--		[D]		
Iron	2.95E-04	5.41E-05	9.01E-06	8.09E-05	4.39E-05				--	1		--		
Lead	3.66E-07	6.70E-08	1.12E-08	1.00E-07	5.44E-08				CNS, blood	--		[B2]		
Magnesium	5.96E-05	1.09E-05	1.82E-06	1.63E-05	8.87E-06				--	--		--		
Manganese	1.06E-06	1.93E-07	3.22E-08	2.89E-07	1.57E-07	1.35E-02	2.02E-02	37.0%	CNS	1		[D]		
Nickel	2.14E-07	3.92E-08	6.53E-09	5.86E-08	3.18E-08				whole body	300		--		
Silver	9.83E-08	1.80E-08	3.00E-09	2.69E-08	1.46E-08				skin	3		[D]		
Zinc	3.77E-07	6.91E-08	1.15E-08	1.03E-07	5.61E-08				blood	3		[D]		
Chemical hazards combined exposure:														
Hazard index (HI):						3.66E-02	5.47E-02	100.0%						
Excess lifetime cancer risk:										2.15E-09	1.05E-08	100.0%		

Table L-358. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD)		Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE
						(CTE)	(RME)				(CTE)	(RME)		
<i>INORGANICS (mg/kg)</i>														
Antimony	6.37E+00	3.59E-06	1.03E-07	5.99E-06	4.28E-07	8.98E-03	1.50E-02	1.1%	blood/circulatory system	1000	--	--	--	
Barium	1.55E+04	8.71E-03	2.49E-04	1.45E-02	1.04E-03	1.24E-01	2.07E-01	15.0%	kidney	3	--	--	[D]	
Cadmium	9.65E+00	5.44E-06	1.55E-07	9.07E-06	6.48E-07	5.44E-03	9.07E-03	0.7%	kidney	10	--	--	[B1]	
Copper	1.16E+04	6.56E-03	1.87E-04	1.09E-02	7.81E-04	1.77E-01	2.95E-01	21.3%	gastrointestinal system	--	--	--	[D]	
Iron	2.54E+05	1.43E-01	4.10E-03	2.39E-01	1.71E-02	4.78E-01	7.97E-01	57.5%	--	1	--	--	--	
Lead	3.15E+02	1.78E-04	5.08E-06	2.96E-04	2.12E-05	--	--	--	CNS, blood	--	--	--	[B2]	
Magnesium	5.14E+04	2.90E-02	8.28E-04	4.83E-02	3.45E-03	--	--	--	--	--	--	--	--	
Manganese	9.10E+02	5.13E-04	1.47E-05	8.55E-04	6.11E-05	2.14E-02	3.56E-02	2.6%	CNS	1	--	--	[D]	
Nickel	1.84E+02	1.04E-04	2.97E-06	1.73E-04	1.24E-05	5.20E-03	8.66E-03	0.6%	whole body	300	--	--	--	
Silver	8.47E+01	4.78E-05	1.36E-06	7.96E-05	5.68E-06	9.55E-03	1.59E-02	1.1%	skin	3	--	--	[D]	
Zinc	3.25E+02	1.83E-04	5.23E-06	3.05E-04	2.18E-05	6.10E-04	1.02E-03	0.1%	blood	3	--	--	[D]	

Chemical hazards combined exposure:

Hazard index (HI):

8.31E-01	1.38E+00	100.0%
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Excess lifetime cancer risk:

0.00E+00	0.00E+00	0.0%
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Table L-359. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Dermal Contact Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Soil	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>													
Antimony	6.37E+00	No ABS	No ABS	No ABS	No ABS				blood/circulatory system	1000		--	
Barium	1.55E+04	No ABS	No ABS	No ABS	No ABS				kidney	3		[D]	
Cadmium	9.65E+00	1.13E-08	3.24E-10	1.10E-07	7.83E-09	3.78E-04	3.65E-03	100.0%	kidney	10		[B1]	
Copper	1.16E+04	No ABS	No ABS	No ABS	No ABS				gastrointestinal system	--		[D]	
Iron	2.54E+05	No ABS	No ABS	No ABS	No ABS				--	1		--	
Lead	3.15E+02	No ABS	No ABS	No ABS	No ABS				CNS, blood	--		[B2]	
Magnesium	5.14E+04	No ABS	No ABS	No ABS	No ABS				--	--		--	
Manganese	9.10E+02	No ABS	No ABS	No ABS	No ABS				CNS	1		[D]	
Nickel	1.84E+02	No ABS	No ABS	No ABS	No ABS				whole body	300		--	
Silver	8.47E+01	No ABS	No ABS	No ABS	No ABS				skin	3		[D]	
Zinc	3.25E+02	No ABS	No ABS	No ABS	No ABS				blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						3.78E-04	3.65E-03	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

**Table L-360. Risk Characterization for Subsurface Soils (>0.5 to 15 ft BLS): Construction Workers - Inhalation Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
	EPC Conc. in Air	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/m<sup>3</sup>)</i>													
Antimony	7.39E-09	2.08E-10	5.95E-12	3.47E-10	2.48E-11				blood/circulatory system	1000			--
Barium	1.79E-05	5.05E-07	1.44E-08	8.42E-07	6.02E-08	3.54E-04	5.90E-04	14.5%	kidney	3			[D]
Cadmium	1.12E-08	3.16E-10	9.02E-12	5.26E-10	3.76E-11	5.54E-06	9.23E-06	0.2%	kidney	10	5.68E-11	2.37E-10	100.0%
Copper	1.35E-05	3.80E-07	1.09E-08	6.34E-07	4.53E-08				gastrointestinal system	--			[D]
Iron	2.95E-04	8.32E-06	2.38E-07	1.39E-05	9.90E-07				--	1			--
Lead	3.66E-07	1.03E-08	2.95E-10	1.72E-08	1.23E-09				CNS, blood	--			[B2]
Magnesium	5.96E-05	1.68E-06	4.80E-08	2.80E-06	2.00E-07				--	--			--
Manganese	1.06E-06	2.97E-08	8.50E-10	4.96E-08	3.54E-09	2.08E-03	3.47E-03	85.3%	CNS	1			[D]
Nickel	2.14E-07	6.03E-09	1.72E-10	1.00E-08	7.18E-10				whole body	300			--
Silver	9.83E-08	2.77E-09	7.91E-11	4.62E-09	3.30E-10				skin	3			[D]
Zinc	3.77E-07	1.06E-08	3.04E-10	1.77E-08	1.26E-09				blood	3			[D]
Chemical hazards combined exposure:													
Hazard index (HI):						2.44E-03	4.07E-03	100.0%					
Excess lifetime cancer risk:										5.68E-11	2.37E-10	100.0%	

Table L-361. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Narcarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Aluminum	9.40E+01	4.52E-02	2.73E-03	1.08E-01	2.11E-02	4.52E-02	1.08E-01	0.2%	CNS	100				--
Antimony	1.33E-03	6.41E-07	3.88E-08	1.54E-06	3.00E-07	1.60E-03	3.84E-03	0.0%	blood/circulatory system	1000				--
Barium	8.36E+02	4.02E-01	2.43E-02	9.62E-01	1.88E-01	5.74E+00	1.37E+01	24.8%	kidney	3				[D]
Cadmium	3.49E+00	1.68E-03	1.02E-04	4.02E-03	7.84E-04	1.68E+00	4.02E+00	7.3%	kidney	10				[B1]
Chromium (III)	3.31E-01	1.59E-04	9.63E-06	3.81E-04	7.43E-05	1.06E-04	2.54E-04	0.0%	none	100				[D]
Chromium (VI)	5.52E-02	2.65E-05	1.60E-06	6.35E-05	1.24E-05	8.84E-03	2.12E-02	0.0%	none	300				[A]
Cobalt	1.72E+00	8.29E-04	5.02E-05	1.98E-03	3.87E-04	1.38E-02	3.31E-02	0.1%	--	--				--
Copper	6.20E+02	2.98E-01	1.80E-02	7.13E-01	1.39E-01	7.45E+00	1.78E+01	32.2%	gastrointestinal system	--				[D]
Iron	3.60E+02	1.73E-01	1.05E-02	4.15E-01	8.09E-02	5.78E-01	1.38E+00	2.5%	--	1				--
Lead	3.78E+00	1.82E-03	1.10E-04	4.35E-03	8.48E-04	--	--	--	CNS, blood	--				[B2]
Magnesium	3.23E+04	1.55E+01	9.40E-01	3.72E+01	7.26E+00	--	--	--	--	--				--
Manganese	3.69E+02	1.77E-01	1.07E-02	4.24E-01	8.28E-02	7.38E+00	1.77E+01	32.0%	CNS	1				[D]
Nickel	2.66E+00	1.28E-03	7.74E-05	3.06E-03	5.97E-04	6.40E-02	1.53E-01	0.3%	whole body	300				--
Silver	7.11E-03	3.42E-06	2.07E-07	8.18E-06	1.60E-06	6.83E-04	1.64E-03	0.0%	skin	3				[D]
Zinc	8.38E+01	4.03E-02	2.44E-03	9.64E-02	1.88E-02	1.34E-01	3.21E-01	0.6%	blood	3				[D]
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	1.24E-02	5.95E-06	3.60E-07	1.42E-05	2.78E-06	1.19E-02	2.85E-02	0.1%	liver	1000	1.08E-08	8.34E-08	100.0%	[C]
Chemical hazards combined exposure:														
Hazard index (HI):						2.31E+01	5.53E+01	100.0%						
Excess lifetime cancer risk:											1.08E-08	8.34E-08	100.0%	

**Table L-362. Risk Characterization for Tuberous Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
		<i>INORGANICS (mg/kg)</i>												
Aluminum	9.40E+01	7.33E-02	4.46E-03	1.75E-01	3.45E-02	7.33E-02	1.75E-01	0.6%	CNS	100				--
Antimony	5.75E-03	4.48E-06	2.73E-07	1.07E-05	2.11E-06	1.12E-02	2.68E-02	0.1%	blood/circulatory system	1000				--
Barium	8.36E+01	6.52E-02	3.97E-03	1.56E-01	3.06E-02	9.31E-01	2.23E+00	7.2%	kidney	3				[D]
Cadmium	6.14E-01	4.79E-04	2.91E-05	1.15E-03	2.25E-04	4.79E-01	1.15E+00	3.7%	kidney	10				[B1]
Chromium (III)	1.99E-01	1.55E-04	9.43E-06	3.71E-04	7.28E-05	1.03E-04	2.47E-04	0.0%	none	100				[D]
Chromium (VI)	3.31E-02	2.58E-05	1.57E-06	6.18E-05	1.21E-05	8.61E-03	2.06E-02	0.1%	none	300				[A]
Cobalt	8.52E-01	6.64E-04	4.04E-05	1.59E-03	3.12E-04	1.11E-02	2.65E-02	0.1%	--	--				--
Copper	3.87E+02	3.02E-01	1.84E-02	7.23E-01	1.42E-01	7.55E+00	1.81E+01	58.5%	gastrointestinal system	--				[D]
Iron	9.01E+01	7.03E-02	4.28E-03	1.68E-01	3.30E-02	2.34E-01	5.61E-01	1.8%	--	1				[D]
Lead	2.08E+00	1.63E-03	9.90E-05	3.89E-03	7.64E-04	--	--	--	CNS, blood	--				--
Magnesium	1.78E+04	1.39E+01	8.44E-01	3.32E+01	6.52E+00	--	--	--	--	--				[B2]
Manganese	9.87E+01	7.70E-02	4.69E-03	1.84E-01	3.62E-02	3.21E+00	7.68E+00	24.9%	CNS	1				[D]
Nickel	6.65E-01	5.19E-04	3.16E-05	1.24E-03	2.44E-04	2.59E-02	6.21E-02	0.2%	whole body	300				--
Silver	3.42E-02	2.67E-05	1.62E-06	6.39E-05	1.25E-05	5.34E-03	1.28E-02	0.0%	skin	3				[D]
Zinc	1.47E+01	1.15E-02	7.00E-04	2.75E-02	5.41E-03	3.83E-02	9.17E-02	0.3%	blood	3				[D]
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	2.12E-01	1.66E-04	1.01E-05	3.97E-04	7.79E-05	3.31E-01	7.93E-01	2.6%	liver	1000	3.03E-07	2.34E-06	100.0%	[C]
Chemical hazards combined exposure:														
Hazard index (HI):						1.29E+01	3.09E+01	100.0%						
Excess lifetime cancer risk:										3.03E-07	2.34E-06	100.0%		

Table L-363. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD)		HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		(CTE)	(RME)			
						(CTE)	(RME)								
<b>INORGANICS (mg/kg)</b>															
Aluminum	9.40E+01	7.47E-02	4.55E-03	1.68E-01	3.29E-02	7.47E-02	1.68E-01	0.7%	CNS	100				--	
Antimony	8.21E-04	6.53E-07	3.97E-08	1.46E-06	2.87E-07	1.63E-03	3.66E-03	0.0%	blood/circulatory system	1000				--	
Barium	8.36E+01	6.64E-02	4.04E-03	1.49E-01	2.93E-02	9.49E-01	2.13E+00	8.7%	kidney	3				[D]	
Cadmium	8.63E-01	6.86E-04	4.18E-05	1.54E-03	3.02E-04	6.86E-01	1.54E+00	6.3%	kidney	10				[B1]	
Chromium (III)	1.99E-01	1.58E-04	9.60E-06	3.54E-04	6.95E-05	1.05E-04	2.36E-04	0.0%	none	100				[D]	
Chromium (VI)	3.31E-02	2.63E-05	1.60E-06	5.90E-05	1.16E-05	8.77E-03	1.97E-02	0.1%	none	300				[A]	
Cobalt	1.49E-01	1.18E-04	7.21E-06	2.66E-04	5.22E-05	1.97E-03	4.43E-03	0.0%	--	--				--	
Copper	3.87E+02	3.08E-01	1.87E-02	6.91E-01	1.36E-01	7.70E+00	1.73E+01	70.9%	gastrointestinal system	--				[D]	
Iron	9.01E+01	7.16E-02	4.36E-03	1.61E-01	3.16E-02	2.39E-01	5.36E-01	2.2%	--	1				--	
Lead	5.86E+00	4.66E-03	2.84E-04	1.05E-02	2.05E-03				CNS, blood	--				[B2]	
Magnesium	1.78E+04	1.41E+01	8.60E-01	3.17E+01	6.22E+00				--	--				--	
Manganese	3.29E+01	2.62E-02	1.59E-03	5.87E-02	1.15E-02	1.09E+00	2.45E+00	10.0%	CNS	1				[D]	
Nickel	4.99E-01	3.97E-04	2.41E-05	8.90E-04	1.75E-04	1.98E-02	4.45E-02	0.2%	whole body	300				--	
Silver	2.11E-02	1.67E-05	1.02E-06	3.76E-05	7.37E-06	3.35E-03	7.51E-03	0.0%	skin	3				[D]	
Zinc	1.54E+01	1.23E-02	7.45E-04	2.75E-02	5.40E-03	4.08E-02	9.16E-02	0.4%	blood	3				[D]	
<b>ORGANICS (mg/kg)</b>															
2,4,6-Trinitrotoluene	2.36E-02	1.88E-05	1.14E-06	4.22E-05	8.28E-06	3.76E-02	8.43E-02	0.3%	liver	1000	3.43E-08	2.48E-07	100.0%	[C]	
Chemical hazards combined exposure:															
Hazard index (HI):						1.08E+01	2.43E+01	100.0%							
Excess lifetime cancer risk:											3.43E-08	2.48E-07	100.0%		

Table L-364. Risk Characterization for Leafy Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Aluminum	9.40E+01	1.44E-02	2.73E-03	3.45E-02	2.11E-02	1.44E-02	3.45E-02	0.2%	CNS	100			--	
Antimony	1.33E-03	2.05E-07	3.88E-08	4.90E-07	3.00E-07	5.12E-04	1.22E-03	0.0%	blood/circulatory system	1000			--	
Barium	8.36E+02	1.28E-01	2.43E-02	3.07E-01	1.88E-01	1.83E+00	4.38E+00	24.8%	kidney	3			[D]	
Cadmium	3.49E+00	5.36E-04	1.02E-04	1.28E-03	7.84E-04	5.36E-01	1.28E+00	7.3%	kidney	10			[B1]	
Chromium (III)	3.31E-01	5.08E-05	9.63E-06	1.22E-04	7.43E-05	3.39E-05	8.10E-05	0.0%	none	100			[D]	
Chromium (VI)	5.52E-02	8.46E-06	1.60E-06	2.03E-05	1.24E-05	2.82E-03	6.75E-03	0.0%	none	300			[A]	
Cobalt	1.72E+00	2.65E-04	5.02E-05	6.33E-04	3.87E-04	4.41E-03	1.06E-02	0.1%	--	--			--	
Copper	6.20E+02	9.50E-02	1.80E-02	2.27E-01	1.39E-01	2.38E+00	5.69E+00	32.2%	gastrointestinal system	--			[D]	
Iron	3.60E+02	5.53E-02	1.05E-02	1.32E-01	8.09E-02	1.84E-01	4.41E-01	2.5%	--	1			--	
Lead	3.78E+00	5.80E-04	1.10E-04	1.39E-03	8.48E-04	--	--	--	CNS, blood	--			[B2]	
Magnesium	3.23E+04	4.96E+00	9.40E-01	1.19E+01	7.26E+00	--	--	--	--	--			--	
Manganese	3.69E+02	5.65E-02	1.07E-02	1.35E-01	8.28E-02	2.36E+00	5.64E+00	32.0%	CNS	1			[D]	
Nickel	2.66E+00	4.08E-04	7.74E-05	9.77E-04	5.97E-04	2.04E-02	4.89E-02	0.3%	whole body	300			--	
Silver	7.11E-03	1.09E-06	2.07E-07	2.61E-06	1.60E-06	2.18E-04	5.22E-04	0.0%	skin	3			[D]	
Zinc	8.38E+01	1.28E-02	2.44E-03	3.08E-02	1.88E-02	4.28E-02	1.03E-01	0.6%	blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	1.24E-02	1.90E-06	3.60E-07	4.54E-06	2.78E-06	3.80E-03	9.09E-03	0.1%	liver	1000	1.08E-08	8.34E-08	100.0%	[C]
Chemical hazards combined exposure:														
Hazard index (HI):						7.37E+00	1.76E+01	100.0%						
Excess lifetime cancer risk:										1.08E-08	8.34E-08	100.0%		



Table L-365. Risk Characterization for Tuberos Vegetables (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<b>INORGANICS (mg/kg)</b>														
Aluminum	9.40E+01	2.37E-02	4.46E-03	5.67E-02	3.45E-02	2.37E-02	5.67E-02	0.6%	CNS	100				
Antimony	5.75E-03	1.45E-06	2.73E-07	3.46E-06	2.11E-06	3.62E-03	8.66E-03	0.1%	blood/circulatory system	1000				
Barium	8.36E+01	2.11E-02	3.97E-03	5.04E-02	3.06E-02	3.01E-01	7.20E-01	7.2%	kidney	3			[D]	
Cadmium	6.14E-01	1.55E-04	2.91E-05	3.70E-04	2.25E-04	1.55E-01	3.70E-01	3.7%	kidney	100			[B1]	
Chromium (III)	1.99E-01	5.00E-05	9.43E-06	1.20E-04	7.28E-05	3.33E-05	7.98E-05	0.0%	none	100			[D]	
Chromium (VI)	3.31E-02	8.34E-06	1.57E-06	2.00E-05	1.21E-05	2.78E-03	6.65E-03	0.1%	none	300			[A]	
Cobalt	8.52E-01	2.15E-04	4.04E-05	5.13E-04	3.12E-04	3.58E-03	8.56E-03	0.1%	--	--			--	
Copper	3.87E+02	9.75E-02	1.84E-02	2.33E-01	1.42E-01	2.44E+00	5.84E+00	58.5%	gastrointestinal system	--			[D]	
Iron	9.01E+01	2.27E-02	4.28E-03	5.43E-02	3.30E-02	7.57E-02	1.81E-01	1.8%	--	1			--	
Lead	2.08E+00	5.25E-04	9.90E-05	1.26E-03	7.64E-04	--	--	--	CNS, blood	--			[B2]	
Magnesium	1.78E+04	4.48E+00	8.44E-01	1.07E+01	6.52E+00	--	--	--	--	--			--	
Manganese	9.87E+01	2.49E-02	4.69E-03	5.95E-02	3.62E-02	1.04E+00	2.48E+00	24.9%	CNS	1			[D]	
Nickel	6.65E-01	1.68E-04	3.16E-05	4.01E-04	2.44E-04	8.38E-03	2.01E-02	0.2%	whole body	300			--	
Silver	3.42E-02	8.62E-06	1.62E-06	2.06E-05	1.25E-05	1.72E-03	4.13E-03	0.0%	skin	3			[D]	
Zinc	1.47E+01	3.71E-03	7.00E-04	8.89E-03	5.41E-03	1.24E-02	2.96E-02	0.3%	blood	3			[D]	
<b>ORGANICS (mg/kg)</b>														
2,4,6-Trinitrotoluene	2.12E-01	5.35E-05	1.01E-05	1.28E-04	7.79E-05	1.07E-01	2.56E-01	2.6%	liver	1000	3.03E-07	2.34E-06	100.0%	[C]
Chemical hazards combined exposure:														
Hazard index (HI):						4.17E+00	9.98E+00	100.0%						
Excess lifetime cancer risk:									3.03E-07	2.34E-06	100.0%			

**Table L-366. Risk Characterization for Fruits (Surface Soils - 0 to 0.5 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)**  
**SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah**

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE	
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	(CDI x CSF) (CTE)			(RME)				
<b>INORGANICS (mg/kg)</b>															
Aluminum	9.40E+01	2.41E-02	4.55E-03	5.41E-02	3.29E-02	2.41E-02	5.41E-02	0.7%	CNS	100				--	
Antimony	8.21E-04	2.11E-07	3.97E-08	4.72E-07	2.87E-07	5.26E-04	1.18E-03	0.0%	blood/circulatory system	1000				--	
Barium	8.36E+01	2.14E-02	4.04E-03	4.81E-02	2.93E-02	3.06E-01	6.87E-01	8.7%	kidney	3				[D]	
Cadmium	8.63E-01	2.21E-04	4.18E-05	4.97E-04	3.02E-04	2.21E-01	4.97E-01	6.3%	kidney	10				[B1]	
Chromium (III)	1.99E-01	5.09E-05	9.60E-06	1.14E-04	6.95E-05	3.40E-05	7.62E-05	0.0%	none	100				[D]	
Chromium (VI)	3.31E-02	8.49E-06	1.60E-06	1.90E-05	1.16E-05	2.83E-03	6.35E-03	0.1%	none	300				[A]	
Cobalt	1.49E-01	3.82E-05	7.21E-06	8.58E-05	5.22E-05	6.37E-04	1.43E-03	0.0%	--	--				--	
Copper	3.87E+02	9.93E-02	1.87E-02	2.23E-01	1.36E-01	2.48E+00	5.57E+00	70.9%	gastrointestinal system	--				--	
Iron	9.01E+01	2.31E-02	4.36E-03	5.18E-02	3.16E-02	7.70E-02	1.73E-01	2.2%	--	--				[D]	
Lead	5.86E+00	1.50E-03	2.84E-04	3.37E-03	2.05E-03	--	--	--	CNS, blood	1				--	
Magnesium	1.78E+04	4.56E+00	8.60E-01	1.02E+01	6.22E+00	--	--	--	--	--				[B2]	
Manganese	3.29E+01	8.44E-03	1.59E-03	1.89E-02	1.15E-02	3.52E-01	7.89E-01	10.0%	CNS	1				--	
Nickel	4.99E-01	1.28E-04	2.41E-05	2.87E-04	1.75E-04	6.40E-03	1.44E-02	0.2%	whole body	300				[D]	
Silver	2.11E-02	5.40E-06	1.02E-06	1.21E-05	7.37E-06	1.08E-03	2.42E-03	0.0%	skin	3				--	
Zinc	1.54E+01	3.95E-03	7.45E-04	8.87E-03	5.40E-03	1.32E-02	2.96E-02	0.4%	blood	3				[D]	
<b>ORGANICS (mg/kg)</b>															
2,4,6-Trinitrotoluene	2.36E-02	6.06E-06	1.14E-06	1.36E-05	8.28E-06	1.21E-02	2.72E-02	0.3%	liver	1000	3.43E-08	2.48E-07	100.0%	[C]	
<b>Chemical hazards combined exposure:</b>															
Hazard index (HI):						3.50E+00	7.85E+00	100.0%							
Excess lifetime cancer risk:											3.43E-08	2.48E-07	100.0%		

Table L-367. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ				Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Percent of Total (RME)	Noncarcinogenic			Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
<i>INORGANICS (mg/kg)</i>														
Antimony	8.29E-04	3.98E-07	2.41E-08	9.54E-07	1.86E-07	9.96E-04	2.38E-03	0.0%	blood/circulatory system	1000			--	
Barium	2.32E+03	1.11E+00	6.74E-02	2.67E+00	5.21E-01	1.59E+01	3.81E+01	18.6%	kidney	3			[D]	
Cadmium	3.51E+00	1.69E-03	1.02E-04	4.04E-03	7.89E-04	1.69E+00	4.04E+00	2.0%	kidney	10			[B1]	
Copper	4.65E+03	2.24E+00	1.35E-01	5.36E+00	1.04E+00	5.59E+01	1.34E+02	65.3%	gastrointestinal system	--			[D]	
Iron	1.02E+03	4.89E-01	2.96E-02	1.17E+00	2.28E-01	1.63E+00	3.90E+00	1.9%	--	1			--	
Lead	1.83E+00	8.80E-04	5.32E-05	2.11E-03	4.11E-04				CNS, blood	--			[B2]	
Magnesium	5.14E+04	2.47E+01	1.49E+00	5.91E+01	1.15E+01				--	--			--	
Manganese	5.10E+02	2.45E-01	1.48E-02	5.86E-01	1.14E-01	1.02E+01	2.44E+01	11.9%	CNS	1			[D]	
Nickel	5.90E+00	2.84E-03	1.72E-04	6.79E-03	1.32E-03	1.42E-01	3.40E-01	0.2%	whole body	300			--	
Silver	2.29E-02	1.10E-05	6.65E-07	2.63E-05	5.14E-06	2.20E-03	5.26E-03	0.0%	skin	3			[D]	
Zinc	8.12E+01	3.91E-02	2.36E-03	9.35E-02	1.82E-02	1.30E-01	3.12E-01	0.2%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						8.57E+01	2.05E+02	100.0%						
Excess lifetime cancer risk:											0.00E+00	0.00E+00	0.0%	

Table L-368. Risk Characterization for Tuberos Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Risk estimates		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)			Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>													
Antimony	3.57E-03	2.78E-06	1.69E-07	6.66E-06	1.31E-06	6.96E-03	1.67E-02	0.0%	blood/circulatory system	1000		--	
Barium	2.32E+02	1.81E-01	1.10E-02	4.33E-01	8.50E-02	2.58E+00	6.18E+00	4.0%	kidney	3		[D]	
Cadmium	6.18E-01	4.82E-04	2.93E-05	1.15E-03	2.26E-04	4.82E-01	1.15E+00	0.7%	kidney	10		[B1]	
Copper	2.91E+03	2.27E+00	1.38E-01	5.43E+00	1.07E+00	5.67E+01	1.36E+02	87.3%	gastrointestinal system	--		[D]	
Iron	2.54E+02	1.98E-01	1.21E-02	4.75E-01	9.33E-02	6.61E-01	1.58E+00	1.0%	--	1		--	
Lead	1.01E+00	7.87E-04	4.79E-05	1.88E-03	3.70E-04	--	--	--	CNS, blood	--		[B2]	
Magnesium	2.83E+04	2.20E+01	1.34E+00	5.28E+01	1.04E+01	--	--	--	--	--		--	
Manganese	1.36E+02	1.06E-01	6.48E-03	2.55E-01	5.00E-02	4.44E+00	1.06E+01	6.8%	CNS	1		[D]	
Nickel	1.48E+00	1.15E-03	7.00E-05	2.75E-03	5.41E-04	5.75E-02	1.38E-01	0.1%	whole body	300		--	
Silver	1.10E-01	8.59E-05	5.23E-06	2.06E-04	4.04E-05	1.72E-02	4.11E-02	0.0%	skin	3		[D]	
Zinc	1.43E+01	1.12E-02	6.79E-04	2.67E-02	5.24E-03	3.72E-02	8.90E-02	0.1%	blood	3		[D]	
Chemical hazards combined exposure:													
Hazard index (HI):						6.50E+01	1.56E+02	100.0%					
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%	

Table L-369. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Children - Ingestion Exposure (Future Land Use)  
SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates			
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	EPA UF		Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>													
Antimony	5.10E-04	4.05E-07	2.47E-08	9.10E-07	1.79E-07	1.01E-03	2.27E-03	0.0%	blood/circulatory system	1000		--	
Barium	2.32E+02	1.84E-01	1.12E-02	4.14E-01	8.12E-02	2.63E+00	5.91E+00	4.2%	kidney	3		[D]	
Cadmium	8.69E-01	6.91E-04	4.20E-05	1.55E-03	3.04E-04	6.91E-01	1.55E+00	1.1%	kidney	10		[B1]	
Copper	2.91E+03	2.31E+00	1.41E-01	5.19E+00	1.02E+00	5.78E+01	1.30E+02	91.2%	gastrointestinal system	--		[D]	
Iron	2.54E+02	2.02E-01	1.23E-02	4.54E-01	8.91E-02	6.74E-01	1.51E+00	1.1%	--	1		--	
Lead	2.84E+00	2.26E-03	1.37E-04	5.06E-03	9.94E-04				CNS, blood	--		[B2]	
Magnesium	2.83E+04	2.25E+01	1.37E+00	5.04E+01	9.90E+00				--	--		--	
Manganese	4.55E+01	3.62E-02	2.20E-03	8.12E-02	1.59E-02	1.51E+00	3.38E+00	2.4%	CNS	1		[D]	
Nickel	1.11E+00	8.80E-04	5.35E-05	1.97E-03	3.87E-04	4.40E-02	9.87E-02	0.1%	whole body	300		--	
Silver	6.78E-02	5.39E-05	3.28E-06	1.21E-04	2.37E-05	1.08E-02	2.42E-02	0.0%	skin	3		[D]	
Zinc	1.49E+01	1.19E-02	7.23E-04	2.67E-02	5.23E-03	3.96E-02	8.89E-02	0.1%	blood	3		[D]	

Chemical hazards combined exposure:  
Hazard index (HI):

6.34E+01	1.42E+02	100.0%
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Excess lifetime cancer risk:

0.00E+00	0.00E+00	0.0%
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Table L-370. Risk Characterization for Leafy Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates		
	EPC Conc. Plant Tissue	Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	HQ (RME)		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)
<i>INORGANICS</i> (mg/kg)												
Antimony	8.29E-04	1.27E-07	2.41E-08	3.04E-07	1.86E-07	3.18E-04	7.61E-04	0.0%	blood/circulatory system	1000		--
Barium	2.32E+03	3.56E-01	6.74E-02	8.51E-01	5.21E-01	5.08E+00	1.22E+01	18.6%	kidney	3		[D]
Cadmium	3.51E+00	5.39E-04	1.02E-04	1.29E-03	7.89E-04	5.39E-01	1.29E+00	2.0%	kidney	10		[B1]
Copper	4.65E+03	7.14E-01	1.35E-01	1.71E+00	1.04E+00	1.78E+01	4.27E+01	65.3%	gastrointestinal system	--		[D]
Iron	1.02E+03	1.56E-01	2.96E-02	3.74E-01	2.28E-01	5.20E-01	1.25E+00	1.9%	--	1		--
Lead	1.83E+00	2.81E-04	5.32E-05	6.72E-04	4.11E-04				CNS, blood	--		[B2]
Magnesium	5.14E+04	7.88E+00	1.49E+00	1.89E+01	1.15E+01				--	--		--
Manganese	5.10E+02	7.82E-02	1.48E-02	1.87E-01	1.14E-01	3.26E+00	7.80E+00	11.9%	CNS	1		[D]
Nickel	5.90E+00	9.05E-04	1.72E-04	2.17E-03	1.32E-03	4.53E-02	1.08E-01	0.2%	whole body	300		--
Silver	2.29E-02	3.51E-06	6.65E-07	8.40E-06	5.14E-06	7.02E-04	1.68E-03	0.0%	skin	3		[D]
Zinc	8.12E+01	1.25E-02	2.36E-03	2.98E-02	1.82E-02	4.15E-02	9.94E-02	0.2%	blood	3		[D]
Chemical hazards combined exposure:												
Hazard index (HI):						2.73E+01	6.54E+01	100.0%				
Excess lifetime cancer risk:									0.00E+00	0.00E+00	0.0%	

Table L-371. Risk Characterization for Tuberous Vegetables (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk		Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Percent of Total (RME)	(CTE)			(RME)			
<i>INORGANICS (mg/kg)</i>														
Antimony	3.57E-03	8.99E-07	1.69E-07	2.15E-06	1.31E-06	2.25E-03	5.38E-03	0.0%	blood/circulatory system	1000			--	
Barium	2.32E+02	5.84E-02	1.10E-02	1.40E-01	8.50E-02	8.34E-01	2.00E+00	4.0%	kidney	3			[D]	
Cadmium	6.18E-01	1.56E-04	2.93E-05	3.72E-04	2.26E-04	1.56E-01	3.72E-01	0.7%	kidney	10			[B1]	
Copper	2.91E+03	7.33E-01	1.38E-01	1.75E+00	1.07E+00	1.83E+01	4.38E+01	87.3%	gastrointestinal system	--			[D]	
Iron	2.54E+02	6.41E-02	1.21E-02	1.53E-01	9.33E-02	2.14E-01	5.11E-01	1.0%	--	1			--	
Lead	1.01E+00	2.54E-04	4.79E-05	6.08E-04	3.70E-04				CNS, blood	--			[B2]	
Magnesium	2.83E+04	7.12E+00	1.34E+00	1.70E+01	1.04E+01				--	--			--	
Manganese	1.36E+02	3.44E-02	6.48E-03	8.23E-02	5.00E-02	1.43E+00	3.43E+00	6.8%	CNS	1			[D]	
Nickel	1.48E+00	3.72E-04	7.00E-05	8.89E-04	5.41E-04	1.86E-02	4.45E-02	0.1%	whole body	300			--	
Silver	1.10E-01	2.77E-05	5.23E-06	6.64E-05	4.04E-05	5.55E-03	1.33E-02	0.0%	skin	3			[D]	
Zinc	1.43E+01	3.60E-03	6.79E-04	8.62E-03	5.24E-03	1.20E-02	2.87E-02	0.1%	blood	3			[D]	
Chemical hazards combined exposure:														
Hazard index (HI):						2.10E+01	5.02E+01	100.0%						
Excess lifetime cancer risk:										0.00E+00	0.00E+00	0.0%		

Table L-372. Risk Characterization for Fruits (Subsurface Soils - >0.5 to 15 ft BLS): Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Plant Tissue	Chronic daily intake (CDI)					HQ			Noncarcinogenic Target Tissue/Organ	EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	Noncarcinogenic Effects (RME)	HQ Percent of Total (RME)						
<i>INORGANICS (mg/kg)</i>														
Antimony	5.10E-04	1.31E-07	2.47E-08	2.93E-07	1.79E-07	3.27E-04	7.34E-04	0.0%	blood/circulatory system	1000			--	[D]
Barium	2.32E+02	5.95E-02	1.12E-02	1.33E-01	8.12E-02	8.49E-01	1.91E+00	4.2%	kidney	10			[B1]	[D]
Cadmium	8.69E-01	2.23E-04	4.20E-05	5.00E-04	3.04E-04	2.23E-01	5.00E-01	1.1%	kidney	--			[D]	[D]
Copper	2.91E+03	7.46E-01	1.41E-01	1.67E+00	1.02E+00	1.86E+01	4.18E+01	91.2%	gastrointestinal system	1			--	[D]
Iron	2.54E+02	6.52E-02	1.23E-02	1.46E-01	8.91E-02	2.17E-01	4.88E-01	1.1%	--	--			[B2]	[D]
Lead	2.84E+00	7.28E-04	1.37E-04	1.63E-03	9.94E-04	--	--	--	CNS, blood	--			--	[D]
Magnesium	2.83E+04	7.25E+00	1.37E+00	1.63E+01	9.90E+00	--	--	--	--	1			--	[D]
Manganese	4.55E+01	1.17E-02	2.20E-03	2.62E-02	1.59E-02	4.86E-01	1.09E+00	2.4%	CNS	300			--	[D]
Nickel	1.11E+00	2.84E-04	5.35E-05	6.37E-04	3.87E-04	1.42E-02	3.18E-02	0.1%	whole body	3			--	[D]
Silver	6.78E-02	1.74E-05	3.28E-06	3.90E-05	2.37E-05	3.48E-03	7.80E-03	0.0%	skin	3			--	[D]
Zinc	1.49E+01	3.83E-03	7.23E-04	8.60E-03	5.23E-03	1.28E-02	2.87E-02	0.1%	blood	3			--	[D]

Chemical hazards combined exposure:

Hazard index (HI):

2.05E+01	4.59E+01	100.0%
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Excess lifetime cancer risk:

0.00E+00	0.00E+00	0.0%
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Table L-373. Risk Characterization for Beef: Residential Children - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				HQ			Noncarcinogenic Target Tissue/Organ	Risk estimates				
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ		EPA UF	Excess Lifetime Cancer Risk (CDI x CSF) (CTE)	Percent of Total Ca Risk (RME)	EPA WOE	
<i>INORGANICS (mg/kg)</i>														
Aluminum	1.43E+01	1.50E-02	1.00E-03	3.83E-02	8.30E-03	1.50E-02	3.83E-02	0.4%	CNS	100			--	
Antimony	4.01E-03	4.22E-06	2.82E-07	1.08E-05	2.33E-06	1.05E-02	2.69E-02	0.3%	blood/circulatory system	1000			--	
Barium	7.77E-01	8.19E-04	5.47E-05	2.09E-03	4.53E-04	1.17E-02	2.98E-02	0.3%	kidney	3			[D]	
Cadmium	8.97E-03	9.45E-06	6.32E-07	2.41E-05	5.23E-06	9.45E-03	2.41E-02	0.3%	kidney	10			[B1]	
Chromium (III)	1.01E-01	1.07E-04	7.13E-06	2.72E-04	5.90E-05	7.11E-05	1.81E-04	0.0%	none	100			[D]	
Chromium (VI)	1.69E-02	1.78E-05	1.19E-06	4.53E-05	9.83E-06	5.92E-03	1.51E-02	0.2%	none	300			[A]	
Cobalt	2.90E-01	3.06E-04	2.04E-05	7.79E-04	1.69E-04	5.09E-03	1.30E-02	0.1%	--	--			--	
Copper	2.83E+01	2.99E-02	2.00E-03	7.61E-02	1.65E-02	7.46E-01	1.90E+00	21.0%	gastrointestinal system	--			[D]	
Iron	7.29E+02	7.68E-01	5.13E-02	1.96E+00	4.24E-01	2.56E+00	6.52E+00	71.8%	--	--			--	
Lead	8.03E-02	8.46E-05	5.65E-06	2.16E-04	4.68E-05				CNS, blood	--			[B2]	
Magnesium	6.45E+02	6.79E-01	4.54E-02	1.73E+00	3.76E-01				--	--			--	
Manganese	6.33E-01	6.67E-04	4.46E-05	1.70E-03	3.69E-04	2.78E-02	7.09E-02	0.8%	CNS	1			[D]	
Nickel	2.52E-01	2.65E-04	1.77E-05	6.77E-04	1.47E-04	1.33E-02	3.38E-02	0.4%	whole body	300			--	
Silver	3.09E-02	3.25E-05	2.17E-06	8.29E-05	1.80E-05	6.50E-03	1.66E-02	0.2%	skin	3			[D]	
Zinc	4.32E+01	4.55E-02	3.04E-03	1.16E-01	2.52E-02	1.52E-01	3.87E-01	4.3%	blood	3			[D]	
<i>ORGANICS (mg/kg)</i>														
2,4,6-Trinitrotoluene	1.18E-07	1.24E-10	8.28E-12	3.16E-10	6.85E-11	2.48E-07	6.32E-07	0.0%	liver	1000	2.48E-13	2.06E-12	100.0%	[C]
Chemical hazards combined exposure:														
Hazard index (HI):						3.56E+00	9.08E+00	100.0%						
Excess lifetime cancer risk:											2.48E-13	2.06E-12	100.0%	

Table L-374. Risk Characterization for Beef: Residential Adults - Ingestion Exposure (Future Land Use)  
 SWMU 37 - Slope, Group 3 Phase II RFI, DCD, Tooele, Utah

Chemical	EPC Conc. Beef Tissue	Chronic daily intake (CDI)				Risk estimates				EPA UF	Excess Lifetime Cancer Risk (CDI x CSF)		Percent of Total Ca Risk (RME)	EPA WOE		
		Non Ca Effects (CTE)	Ca Effects (CTE)	Non Ca Effects (RME)	Ca Effects (RME)	HQ Noncarcinogenic Effects (CDI/RfD) (CTE)	HQ Percent of Total (RME)	Noncarcinogenic Target Tissue/Organ	(CTE)		(RME)					
<i>INORGANICS (mg/kg)</i>																
Aluminum	1.43E+01	5.74E-03	1.00E-03	1.46E-02	8.30E-03	5.74E-03	1.46E-02	0.4%	CNS	100				--		
Antimony	4.01E-03	1.61E-06	2.82E-07	4.12E-06	2.33E-06	4.04E-03	1.03E-02	0.3%	blood/circulatory system	1000				--		
Barium	7.77E-01	3.13E-04	5.47E-05	7.99E-04	4.53E-04	4.48E-03	1.14E-02	0.3%	kidney	3				[D]		
Cadmium	8.97E-03	3.62E-06	6.32E-07	9.22E-06	5.23E-06	3.62E-03	9.22E-03	0.3%	kidney	10				[B1]		
Chromium (III)	1.01E-01	4.08E-05	7.13E-06	1.04E-04	5.90E-05	2.72E-05	6.93E-05	0.0%	none	100				[D]		
Chromium (VI)	1.69E-02	6.80E-06	1.19E-06	1.73E-05	9.83E-06	2.27E-03	5.78E-03	0.2%	none	300				[A]		
Cobalt	2.90E-01	1.17E-04	2.04E-05	2.98E-04	1.69E-04	1.95E-03	4.97E-03	0.1%	--	--				--		
Copper	2.83E+01	1.14E-02	2.00E-03	2.91E-02	1.65E-02	2.86E-01	7.28E-01	21.0%	gastrointestinal system	--				[D]		
Iron	7.29E+02	2.94E-01	5.13E-02	7.49E-01	4.24E-01	9.79E-01	2.50E+00	71.8%	--	1				--		
Lead	8.03E-02	3.24E-05	5.65E-06	8.25E-05	4.68E-05				CNS, blood	--				[B2]		
Magnesium	6.45E+02	2.60E-01	4.54E-02	6.62E-01	3.76E-01				--	--				--		
Manganese	6.33E-01	2.55E-04	4.46E-05	6.51E-04	3.69E-04	1.06E-02	2.71E-02	0.8%	CNS	1				[D]		
Nickel	2.52E-01	1.02E-04	1.77E-05	2.59E-04	1.47E-04	5.08E-03	1.29E-02	0.4%	whole body	300				--		
Silver	3.09E-02	1.24E-05	2.17E-06	3.17E-05	1.80E-05	2.49E-03	6.34E-03	0.2%	skin	3				[D]		
Zinc	4.32E+01	1.74E-02	3.04E-03	4.44E-02	2.52E-02	5.81E-02	1.48E-01	4.3%	blood	3				[D]		
<i>ORGANICS (mg/kg)</i>																
2,4,6-Trinitrotoluene	1.18E-07	4.74E-11	8.28E-12	1.21E-10	6.85E-11	9.48E-08	2.42E-07	0.0%	liver	1000	2.48E-13	2.06E-12	100.0%	[C]		
Chemical hazards combined exposure:																
Hazard index (HI):						1.36E+00			3.47E+00			100.0%				
Excess lifetime cancer risk:																
											2.48E-13		2.06E-12		100.0%	