

APPENDIX L
FATE AND TRANSPORT MODELING RESULTS

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Table L-1. Physical and Chemical Properties of Metal SRCs at Load Line 2

Chemicals of Interest	K _d (L/kg)	Reference	H' (atm-m ³ /mol)	Reference	C _w (mg/L)	C _w Reference	Generic SSL (DF=1)	Reference
Aluminum	1.50E+03	b	NA		3.65E+01	PRG9	5.48E+04	
Antimony	4.50E+01	a	NA		6.00E-03	MCL	3.00E-01	a
Arsenic	2.90E+01	a	NA		1.00E-02	MCL	2.90E-01	a
Barium	4.10E+01	a	NA		2.00E+00	MCL	8.20E+01	a
Beryllium	7.90E+02	a	NA		4.00E-03	MCL	3.00E+00	a
Cadmium	7.50E+01	a	NA		5.00E-03	MCL	4.00E-01	a
Chromium (total)	1.90E+01	a	NA		1.00E-01	MCL	2.00E+00	a
Cobalt	1.30E+03	c	NA		7.30E-01	PRG9	9.49E+02	
Copper	3.50E+01	b	NA		1.30E+00	MCL	4.58E+01	
Cyanide (amenable)	9.90E+00	a	NA		7.30E-01	PRG9	2.00E+00	a
Lead	1.60E+04	c	NA		1.50E-02	MCL	2.40E+02	a
Manganese	7.50E+02	c	NA		8.76E-01	PRG9	6.57E+02	
Mercury	5.20E+01	a	1.14E-02	a	2.00E-03	MCL	1.00E-01	
Nickel	6.50E+01	a	NA		7.30E-01	PRG9	7.00E+00	a
Selenium	5.00E+00	a	NA		5.00E-02	MCL	3.00E-01	a
Silver	8.30E+00	a	NA		1.83E-01	PRG9	2.00E+00	a
Thallium	7.10E+01	a	NA		2.00E-03	MCL	4.00E-02	a
Zinc	6.20E+01	a	NA		1.10E+01	PRG9	6.20E+02	a

References:

- a. EPA Soil Screening Guidance: Technical Background Document, May 1996.
 - b. Baes and Sharp 1983.
 - c. Sheppard and Thibault 1990.
 - d. RREL = Risk Reduction Engineering Laboratory (EPA 1994).
- C_w = Target groundwater concentration (either MCL or PRG9).
 DF = Dilution factor.
 H' = Henry's Law constant.
 K_d = Distribution coefficient.
 MCL = Clean Water Act drinking water maximum contaminant level.
 NA = Not applicable.
 PRG9 = Environmental Protection Agency (EPA) Region 9 preliminary remedial goal.
 SRC = Site-related contaminant.
 SSL = Soil screening level.

Table L-2. Physical and Chemical Properties of Organic SRCs at Load Line 2

Chemicals of Interest	K _{oc} (L/kg)		H' (atm·m ³ /mol)		C _w (mg/L)	C _w Reference
<i>Volatile Organic Compounds</i>						
2-Butanone (MEK)	1.15E+00	d	6.61E-07	d	1.90E+00	PRG9
Acetone	5.75E-01	a	3.88E-05	a	6.08E-01	PRG9
Carbon Disulfide	4.57E+01	a	3.03E-02	a	1.04E+00	PRG9
Chloroform	5.25E+01	a	3.67E-03	a	8.00E-02	MCL
Toluene	1.40E+02	a	6.64E-03	a	1.00E+00	MCL
<i>Semivolatile Organic Compounds</i>						
2-Methylnaphthalene	7.50E+03	e	5.18E-04	e		
Acenaphthene	4.90E+03	a	1.55E-04	a	3.70E-01	PRG9
Acenaphthylene	7.40E+03	d	1.14E-04	d	3.70E-01	PRG9
Anthracene	2.35E+04	a	6.50E-05	a	1.80E+00	PRG9
Benzo(a)anthracene	3.58E+05	a	3.35E-06	a	9.20E-05	PRG9
Benzo(a)pyrene	9.69E+05	a	1.13E-06	a	2.00E-04	MCL
Benzo(b)fluoranthene	1.23E+06	a	1.11E-04	a	9.20E-05	PRG9
Benzo(g,h,i)perylene	1.07E+07	d	1.40E-07	d	NA	
Benzo(k)fluoranthene	1.23E+06	a	8.29E-07	a	9.20E-04	PRG9
Benzoic Acid			1.54E-06	a	1.46E+02	PRG9
Bis(2-ethylhexyl) phthalate	1.11E+05	a	1.02E-07	a	6.00E-03	MCL
Butyl benzyl phthalate	1.37E+04	a	1.26E-06	a	7.30E+00	PRG9
Carbazole	3.39E+03	a	1.53E-08	a	3.36E-03	PRG9
Chrysene	3.98E+05	a	9.46E-05		9.20E-03	PRG9
Dibenz(a,h)anthracene	1.79E+06	a	1.47E-08		9.20E-06	PRG9
Dibenzofuran	8.31E+03	d	1.26E-05	e	2.43E-02	PRG9
Di-n-butyl phthalate	1.57E+03	a	9.38E-10	a	3.60E+00	PRG9
Fluoranthene	4.91E+04	a	1.61E-05	a	1.50E+00	PRG9
Fluorene	7.71E+03	a	6.36E-05	a	2.40E-01	PRG9
Indeno(1,2,3-cd)pyrene	3.47E+06	a	1.60E-06	a	9.20E-05	PRG9
Naphthalene	1.19E+03	a	4.83E-04	a	6.20E-03	PRG9
Pentachlorophenol	6.45E+04	d	2.44E-08	a	5.60E-04	PRG9
Phenanthrene	1.82E+04	d	3.93E-05	d	1.10E+00	g
Pyrene	6.80E+04	a	1.10E-05	a	1.80E-01	PRG9
<i>Pesticides and PCBs</i>						
Aldrin	4.87E+04	a	1.70E-04	a	3.95E-06	PRG9
PCB 1260	3.09E+05	a	3.36E-04	d	4.30E-05	PRG9
beta-BHC	2.14E+03	a	7.43E-07	a	3.70E-05	PRG9
delta-BHC	8.70E+03	d	3.59E-04	d	3.70E-05	PRG9
alpha-Chlordane	5.13E+04	a	4.86E-05	a	1.92E-04	PRG9
gamma-Chlordane	5.13E+04	a	4.86E-05	a	1.92E-04	PRG9
DDE	8.64E+04	a	2.10E-05	a	1.98E-04	PRG9
DDT	6.78E+05	a	8.10E-06	a	1.98E-04	PRG9
Dieldrin	2.55E+04	a	1.51E-05	a	4.20E-06	PRG9
Endrin Aldehyde	1.08E+04	a	7.52E-06	a	1.09E-02	PRG9
PCB-1254	3.09E+05	a	8.37E-03	d	4.30E-05	PRG9
<i>Explosives</i>						
2-Amino-4,6-dinitrotoluene	NF		NF		NA	
4-Amino-2,6-dinitrotoluene	NF		NF		NA	
1,3-Dinitrobenzene	1.95E+01	h	NF		3.65E-03	PRG9
2,4-Dinitrotoluene	9.55E+01	a	9.26E-08	a	7.30E-02	PRG9
2,6-Dinitrotoluene	6.92E+01	a	7.47E-07	a	3.60E-02	PRG9
HMX	NF		NF		1.80E+00	PRG9
Nitrocellulose	NF		NF		NA	

Table L-2. Physical and Chemical Properties of Organic SRCs at Load Line 2

Chemicals of Interest	K _{oc} (L/kg)		H' (atm·m ³ /mol)		C _w (mg/L)	C _w Reference
RDX	4.67E+00	g	NF		6.10E-04	PRG9
1,3,5-Trinitrobenzene	9.98E+00	h	NF		1.09E+00	PRG9
2,4,6-Trinitrotoluene	2.13E+05	h	NF		2.24E-03	PRG9

References:

- a. EPA Soil Screening Guidance: Technical Background Document, May 1996.
- b. Baes and Sharp 1983.
- c. Sheppard and Thibault 1990.
- d. RREL = Risk Reduction Engineering Laboratory (EPA 1994).
- e. RBCA = Risk-based corrective action manual and protocol (SAIC 1999).
- f. Calculated from EPA Superfund Office of Emergency and Remedial Response Soil Screening Guidance.
<http://risk.lsd.ornl.gov>
- BHC = Benzene hexachloride.
- C_w = Target groundwater concentration (either MCL or PRG9).
- DDE = Dichlorodiphenyldichloroethylene.
- DDT = Dichlorodiphenyltrichloroethane.
- H' = Henry's Law constant.
- HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.
- K_d = Distribution coefficient.
- K_{oc} = Octanol-water coefficient.
- MCL = Clean Water Act drinking water maximum contaminant level.
- NA = Not available.
- NF = Not found.
- PCB = Polychlorinated biphenyl.
- PRG9 = Environmental Protection Agency (EPA) Region 9 preliminary remedial goals.
- RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
- SRC = Site-related contaminant.

Table L-3. Physical and Chemical Properties of Initial CMCOPCs at Load Line 2 Required for SESOIL Modeling

Site-Related Chemicals	Molecular Weight	Solubility (mg/L)	Kd or Koc (L/kg)	Diffusion Coefficient in Air (cm ² /s)	Biodegradation Rate (1/day)
<i>Metals</i>					
Antimony	122.0	3.85E+04	4.50E+01	NA	NA
Arsenic	74.9	3.02E+04	2.90E+01	NA	NA
Cadmium	112.0	2.98E+04	7.50E+01	NA	NA
Chromium	52.0	1.20E+04	1.90E+01	NA	NA
Mercury	201.0	3.50E-01	5.20E+01	NA	NA
Thallium	204.0	5.00E+04	7.10E+01	NA	NA
<i>Pesticides</i>					
beta-BHC	290.8	2.40E-01	2.14E+03	1.40E-02	2.80E-03
<i>Explosives</i>					
1,3-Dinitrobenzene	168.1	4.69E+02	1.95E+01	2.80E-01	1.90E-03
2,4-Dinitrotoluene	182.1	2.70E+02	9.55E+01	2.03E-01	1.90E-03
2,6-Dinitrotoluene	182.1	1.82E+02	6.92E+01	3.27E-02	1.90E-03
RDX	222.3	6.00E+01	4.67E+00	1.00E-02	NF

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration constituent of potential concern.

Kd = Distribution coefficient.

Koc = Organic carbon partition coefficient.

NA = Not applicable.

NF = Not found.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

SESOIL = Seasonal Soil Compartment (groundwater model).

**Table L-4. Climatic Data Used in HELP Model for the Load Line 2, Ravenna
(Station: Youngstown WSO AP, Ohio)^a**

Month	Air Temp (°C)	Cloud Cover	Humidity	ALBEDO	Evapotranspiration^b (cm/d)	Precipitation (cm)	Duration (days)	Storms per Month	Model Days in Month
October	12	0.60	0.70	0.17	0	6.46	0.42	5.33	30.4
November	5.22	0.70	0.75	0.24	0	7.4	0.53	6.67	30.4
December	-1.06	0.80	0.75	0.31	0	7.06	0.57	6.14	30.4
January	-2.94	0.80	0.80	0.3	0	7.06	0.61	5.69	30.4
February	-2.33	0.70	0.75	0.32	0	5.76	0.53	5.09	30.4
March	2.33	0.70	0.70	0.29	0	8.26	0.55	7.14	30.4
April	9.11	0.70	0.70	0.19	0	8.83	0.48	7.4	30.4
May	14.61	0.60	0.70	0.16	0	8.46	0.45	7.15	30.4
June	19.89	0.60	0.70	0.16	0	9.07	0.36	6.57	30.4
July	21.89	0.50	0.70	0.16	0	9.8	0.3	6.06	30.4
August	21.11	0.55	0.70	0.16	0	8.14	0.3	6.06	30.4
September	17.67	0.55	0.70	0.16	0	7.85	0.4	5.44	30.4

^a 1996 data from Youngstown, Ohio, Weather Service Office - Airport Station.

^b Data calculated in SESOIL model. 0.00 indicates evapotranspiration is calculated from other climatic data.

Table L-5. Development of CMCOPCs Based on Comparison of the SRCs Exposure Concentration with its Generic GSSL with DAF=1

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Change Houses Aggregate	Metals	ANTIMONY	mg/kg	1.20E+00	3.00E-01	Yes
Soil	Change Houses Aggregate	Metals	CADMIUM	mg/kg	1.50E+00	4.00E-01	Yes
Soil	Change Houses Aggregate	Metals	CHROMIUM	mg/kg	1.99E+01	2.00E+00	Yes
Soil	Change Houses Aggregate	Metals	COBALT	mg/kg	1.12E+01	9.49E+02	
Soil	Change Houses Aggregate	Metals	COPPER	mg/kg	2.46E+01	4.58E+01	
Soil	Change Houses Aggregate	Metals	LEAD	mg/kg	9.47E+01	2.40E+02	
Soil	Change Houses Aggregate	Metals	NICKEL	mg/kg	2.73E+01	7.00E+00	Yes
Soil	Change Houses Aggregate	Metals	ZINC	mg/kg	2.64E+02	6.20E+02	
Soil	Explosives Handling Areas Aggregate	Metals	ALUMINUM	mg/kg	9.32E+03	5.48E+04	
Soil	Explosives Handling Areas Aggregate	Metals	ANTIMONY	mg/kg	6.21E+00	3.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	ARSENIC	mg/kg	1.21E+01	2.90E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	BARIUM	mg/kg	8.29E+01	8.20E+01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	BERYLLIUM	mg/kg	7.12E-01	3.00E+00	
Soil	Explosives Handling Areas Aggregate	Metals	CADMIUM	mg/kg	1.56E+00	4.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	CHROMIUM	mg/kg	2.01E+01	2.00E+00	Yes
Soil	Explosives Handling Areas Aggregate	Metals	COBALT	mg/kg	8.47E+00	9.49E+02	
Soil	Explosives Handling Areas Aggregate	Metals	COPPER	mg/kg	2.44E+01	4.58E+01	
Soil	Explosives Handling Areas Aggregate	Metals	CYANIDE	mg/kg	1.02E+00	2.00E+00	
Soil	Explosives Handling Areas Aggregate	Metals	LEAD	mg/kg	1.21E+02	2.40E+02	
Soil	Explosives Handling Areas Aggregate	Metals	MANGANESE	mg/kg	6.49E+02	6.57E+02	
Soil	Explosives Handling Areas Aggregate	Metals	MERCURY	mg/kg	2.07E-01	1.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	NICKEL	mg/kg	2.16E+01	7.00E+00	Yes
Soil	Explosives Handling Areas Aggregate	Metals	SELENIUM	mg/kg	9.78E-01	3.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	SILVER	mg/kg	3.06E-01	2.00E+00	
Soil	Explosives Handling Areas Aggregate	Metals	THALLIUM	mg/kg	7.25E-01	4.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Metals	ZINC	mg/kg	1.65E+02	6.20E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	6.66E+00	2.50E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	1,3-DINITROBENZENE	mg/kg	1.30E-01	9.60E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	8.62E+02	5.70E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	6.98E-01	4.00E-05	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	1.00E-01	4.20E-05	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2-AMINO-4,6-DINITROTOLUENE	mg/kg	9.80E+00		
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	4-AMINO-2,6-DINITROTOLUENE	mg/kg	4.80E+00		
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	HMX	mg/kg	5.16E+01	3.60E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	NITROCELLULOSE	mg/kg	9.35E+01		
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	RDX	mg/kg	3.31E+02	1.28E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDE	mg/kg	8.10E-02	3.00E+00	
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDT	mg/kg	1.13E-01	2.00E+00	
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ALDRIN	mg/kg	2.40E-02	2.00E-02	Yes

Table L-5. Development of CMCOPCs Based on Comparison of the SRCs Exposure Concentration with its Generic GSSL with DAF=1

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	4.70E-03	1.00E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	2.70E-02	2.00E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ENDRIN ALDEHYDE	mg/kg	1.20E-01	5.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	GAMMA-CHLORDANE	mg/kg	2.86E-02	5.00E-01	
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	1.70E+00	2.66E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	4.43E-01	2.66E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	2-METHYLNAPHTHALENE	mg/kg	1.70E-01		
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	ANTHRACENE	mg/kg	1.14E+00	5.90E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZ(A)ANTHRACENE	mg/kg	1.81E+00	8.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(A)PYRENE	mg/kg	1.36E+00	4.10E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	6.60E-01	2.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(G,H,I)PERYLENE	mg/kg	6.35E-01		
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(K)FLUORANTHENE	mg/kg	5.69E-01	2.00E+00	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZOIC ACID	mg/kg	2.40E-01	2.00E+01	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BIS(2-ETHYLHEXYL)PHTHALAT	mg/kg	1.90E-01	1.80E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BUTYL BENZYL PHTHALATE	mg/kg	4.22E-01	8.10E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	CHRYSENE	mg/kg	9.26E-01	8.00E+00	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	DI-N-BUTYL PHTHALATE	mg/kg	1.10E-01	2.70E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	DIBENZ(A,H)ANTHRACENE	mg/kg	7.20E-01	8.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	FLUORANTHENE	mg/kg	2.06E+00	2.10E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	INDENO(1,2,3-CD)PYRENE	mg/kg	1.30E+00	7.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	NAPHTHALENE	mg/kg	2.70E-01	4.00E+00	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	PHENANTHRENE	mg/kg	1.63E+00	4.03E+01	
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	PYRENE	mg/kg	1.57E+00	2.30E+02	
Soil	Explosives Handling Areas Aggregate	Organics-Volatile	CHLOROFORM	mg/kg	3.00E-03	3.00E-02	
Soil	Explosives Handling Areas Aggregate	Organics-Volatile	TOLUENE	mg/kg	4.26E-01	6.00E-01	
Soil	North Ditches Aggregate	Metals	ANTIMONY	mg/kg	4.80E+00	3.00E-01	Yes
Soil	North Ditches Aggregate	Metals	CADMIUM	mg/kg	4.80E-01	4.00E-01	Yes
Soil	North Ditches Aggregate	Metals	MERCURY	mg/kg	5.80E-02	1.00E-01	
Soil	North Ditches Aggregate	Metals	NICKEL	mg/kg	2.21E+01	7.00E+00	Yes
Soil	North Ditches Aggregate	Metals	THALLIUM	mg/kg	3.40E-01	4.00E-02	Yes
Soil	North Ditches Aggregate	Metals	ZINC	mg/kg	9.54E+01	6.20E+02	
Soil	North Ditches Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	5.10E-02	5.70E-04	Yes
Soil	North Ditches Aggregate	Organics-Volatile	ACETONE	mg/kg	2.00E-02	8.00E-01	
Soil	Packaging and Shipping Areas Aggregate	Metals	ALUMINUM	mg/kg	1.30E+04	5.48E+04	
Soil	Packaging and Shipping Areas Aggregate	Metals	ANTIMONY	mg/kg	7.77E+00	3.00E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	ARSENIC	mg/kg	1.63E+01	2.90E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	BARIIUM	mg/kg	1.67E+02	8.20E+01	Yes

Table L-5. Development of CMCOPCs Based on Comparison of the SRCs Exposure Concentration with its Generic GSSL with DAF=1

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Packaging and Shipping Areas Aggregate	Metals	BERYLLIUM	mg/kg	1.15E+00	3.00E+00	
Soil	Packaging and Shipping Areas Aggregate	Metals	CADMIUM	mg/kg	2.51E+00	4.00E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	CHROMIUM	mg/kg	4.32E+01	2.00E+00	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	COBALT	mg/kg	8.37E+00	9.49E+02	
Soil	Packaging and Shipping Areas Aggregate	Metals	COPPER	mg/kg	3.81E+01	4.58E+01	
Soil	Packaging and Shipping Areas Aggregate	Metals	LEAD	mg/kg	2.61E+02	2.40E+02	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	MANGANESE	mg/kg	1.47E+03	6.57E+02	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	MERCURY	mg/kg	6.84E-02	1.00E-01	
Soil	Packaging and Shipping Areas Aggregate	Metals	NICKEL	mg/kg	1.99E+01	7.00E+00	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	SILVER	mg/kg	3.47E+00	2.00E+00	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	THALLIUM	mg/kg	4.70E-01	4.00E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	ZINC	mg/kg	2.10E+02	6.20E+02	
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	2.60E+00	5.70E-04	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	2-AMINO-4,6-DINITROTOLUENE	mg/kg	1.60E-01		
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	4-AMINO-2,6-DINITROTOLUENE	mg/kg	2.16E-01		
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	HMX	mg/kg	6.50E-01	3.60E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	RDX	mg/kg	2.34E-01	1.28E-04	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	1.25E+00	2.66E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	1.30E-01	2.66E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	ACENAPHTHENE	mg/kg	5.77E-01	2.90E+01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	ANTHRACENE	mg/kg	3.87E-01	5.90E+02	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZO(A)ANTHRACENE	mg/kg	3.97E-01	8.00E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZO(A)PYRENE	mg/kg	3.43E-01	4.10E-01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	6.10E-01	2.00E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZO(G,H,I)PERYLENE	mg/kg	1.70E-01		
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZO(K)FLUORANTHENE	mg/kg	3.40E-01	2.00E+00	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZOIC ACID	mg/kg	2.40E-01	2.00E+01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	CARBAZOLE	mg/kg	2.67E-01	3.00E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	CHRYSENE	mg/kg	4.88E-01	8.00E+00	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	DI-N-BUTYL PHTHALATE	mg/kg	1.60E-01	2.70E+02	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	DIBENZ(A,H)ANTHRACENE	mg/kg	6.60E-02	8.00E-02	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	DIBENZOFURAN	mg/kg	3.80E-01	4.09E-01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	FLUORANTHENE	mg/kg	4.20E+00	2.10E+02	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	FLUORENE	mg/kg	6.43E-01	2.80E+01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	INDENO(1,2,3-CD)PYRENE	mg/kg	1.70E-01	7.00E-01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	PHENANTHRENE	mg/kg	1.78E+00	4.03E+01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	PYRENE	mg/kg	3.30E+00	2.30E+02	
Soil	Packaging and Shipping Areas Aggregate	Organics-Volatile	2-BUTANONE	mg/kg	3.60E-03	4.40E+00	
Soil	Packaging and Shipping Areas Aggregate	Organics-Volatile	ACETONE	mg/kg	1.08E-02	8.00E-01	
Soil	Packaging and Shipping Areas Aggregate	Organics-Volatile	TOLUENE	mg/kg	3.05E-03	6.00E-01	

Table L-5. Development of CMCOPCs Based on Comparison of the SRCs Exposure Concentration with its Generic GSSL with DAF=1

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Perimeter Area Aggregate	Metals	ALUMINUM	mg/kg	1.17E+04	5.48E+04	
Soil	Perimeter Area Aggregate	Metals	ANTIMONY	mg/kg	7.57E+02	3.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	ARSENIC	mg/kg	1.29E+01	2.90E-01	Yes
Soil	Perimeter Area Aggregate	Metals	BARIUM	mg/kg	1.48E+02	8.20E+01	Yes
Soil	Perimeter Area Aggregate	Metals	BERYLLIUM	mg/kg	8.58E-01	3.00E+00	
Soil	Perimeter Area Aggregate	Metals	CADMIUM	mg/kg	7.10E-01	4.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	CHROMIUM	mg/kg	3.11E+02	2.00E+00	Yes
Soil	Perimeter Area Aggregate	Metals	COBALT	mg/kg	1.94E+01	9.49E+02	
Soil	Perimeter Area Aggregate	Metals	COPPER	mg/kg	8.26E+01	4.58E+01	Yes
Soil	Perimeter Area Aggregate	Metals	LEAD	mg/kg	1.87E+03	2.40E+02	Yes
Soil	Perimeter Area Aggregate	Metals	MANGANESE	mg/kg	9.29E+02	6.57E+02	Yes
Soil	Perimeter Area Aggregate	Metals	MERCURY	mg/kg	2.46E-01	1.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	NICKEL	mg/kg	1.90E+01	7.00E+00	Yes
Soil	Perimeter Area Aggregate	Metals	SELENIUM	mg/kg	1.31E+00	3.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	THALLIUM	mg/kg	4.21E-01	4.00E-02	Yes
Soil	Perimeter Area Aggregate	Metals	ZINC	mg/kg	1.25E+02	6.20E+02	
Soil	Perimeter Area Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	6.70E+00	2.50E-01	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	9.60E+02	5.70E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	1.33E+00	4.00E-05	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	2.90E-01	4.20E-05	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2-AMINO-4,6-DINITROTOLUENE	mg/kg	5.80E-01		
Soil	Perimeter Area Aggregate	Organics-Explosives	NITROCELLULOSE	mg/kg	4.19E+03		
Soil	Perimeter Area Aggregate	Organics-Explosives	RDX	mg/kg	8.36E-01	1.28E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	4,4'-DDE	mg/kg	3.30E-03	3.00E+00	
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	ALPHA-CHLORDANE	mg/kg	8.30E-03	5.00E-01	
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	4.00E-03	1.00E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	3.20E-03	2.00E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	1.42E+00	2.66E-02	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	1.84E-01	2.66E-02	Yes
Soil	Perimeter Area Aggregate	Organics-Semivolatle	BENZOIC ACID	mg/kg	1.50E-01	2.00E+01	
Soil	Perimeter Area Aggregate	Organics-Semivolatle	FLUORANTHENE	mg/kg	6.80E-02	2.10E+02	
Soil	Preparation and Receiving Areas Aggregate	General	CHROMIUM, HEXAVALENT	mg/kg	1.81E+01		
Soil	Preparation and Receiving Areas Aggregate	Metals	ALUMINUM	mg/kg	9.93E+03	5.48E+04	
Soil	Preparation and Receiving Areas Aggregate	Metals	ANTIMONY	mg/kg	5.61E+01	3.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	ARSENIC	mg/kg	1.37E+01	2.90E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	BARIUM	mg/kg	1.63E+02	8.20E+01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	BERYLLIUM	mg/kg	9.48E-01	3.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Metals	CADMIUM	mg/kg	8.03E+00	4.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	CHROMIUM	mg/kg	2.03E+02	2.00E+00	Yes

Table L-5. Development of CMCOPCs Based on Comparison of the SRCs Exposure Concentration with its Generic GSSL with DAF=1

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Preparation and Receiving Areas Aggregate	Metals	COBALT	mg/kg	1.19E+01	9.49E+02	
Soil	Preparation and Receiving Areas Aggregate	Metals	COPPER	mg/kg	3.67E+02	4.58E+01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	CYANIDE	mg/kg	3.84E-01	2.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Metals	LEAD	mg/kg	8.54E+02	2.40E+02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	MANGANESE	mg/kg	8.16E+02	6.57E+02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	MERCURY	mg/kg	3.67E-01	1.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	NICKEL	mg/kg	3.63E+01	7.00E+00	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	SELENIUM	mg/kg	1.72E+00	3.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	SILVER	mg/kg	5.27E-01	2.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Metals	THALLIUM	mg/kg	8.95E-01	4.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	ZINC	mg/kg	9.13E+02	6.20E+02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	3.86E-01	5.70E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Explosives	2-AMINO-4,6-DINITROTOLUENE	mg/kg	1.76E-01		
Soil	Preparation and Receiving Areas Aggregate	Organics-Explosives	4-AMINO-2,6-DINITROTOLUENE	mg/kg	2.25E-01		
Soil	Preparation and Receiving Areas Aggregate	Organics-Explosives	NITROCELLULOSE	mg/kg	7.20E+00		
Soil	Preparation and Receiving Areas Aggregate	Organics-Miscellaneous	TOTAL ORGANIC CARBON	mg/kg	3.23E+04		
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDE	mg/kg	8.80E-01	3.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDT	mg/kg	1.21E-01	2.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	1.19E-01	1.00E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	DELTA-BHC	mg/kg	2.20E-03	6.51E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	9.53E-02	2.00E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	ENDRIN ALDEHYDE	mg/kg	2.10E-01	5.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	GAMMA-CHLORDANE	mg/kg	1.49E-01	5.00E-01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	7.46E+00	2.66E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	5.20E-01	2.66E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	2-METHYLNAPHTHALENE	mg/kg	8.47E-01		
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	ACENAPHTHENE	mg/kg	4.99E-01	2.90E+01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	ACENAPHTHYLENE	mg/kg	1.80E-01	5.55E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	ANTHRACENE	mg/kg	1.28E+00	5.90E+02	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZ(A)ANTHRACENE	mg/kg	4.01E+00	8.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(A)PYRENE	mg/kg	3.37E+00	4.10E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	4.94E+00	2.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(G,H,I)PERYLENE	mg/kg	2.11E+00		
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(K)FLUORANTHENE	mg/kg	3.99E+00	2.00E+00	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZOIC ACID	mg/kg	5.00E-01	2.00E+01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BUTYL BENZYL PHTHALATE	mg/kg	1.30E-01	8.10E+02	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	CARBAZOLE	mg/kg	5.13E-01	3.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	CHRYSENE	mg/kg	5.61E+00	8.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	DI-N-BUTYL PHTHALATE	mg/kg	2.70E-01	2.70E+02	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	DIBENZ(A,H)ANTHRACENE	mg/kg	8.93E-01	8.00E-02	Yes

Table L-5. Development of CMCOPCs Based on Comparison of the SRCs Exposure Concentration with its Generic GSSL with DAF=1

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	DIBENZOFURAN	mg/kg	3.68E-01	4.09E-01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	FLUORANTHENE	mg/kg	1.05E+01	2.10E+02	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	FLUORENE	mg/kg	7.30E-01	2.80E+01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	INDENO(1,2,3-CD)PYRENE	mg/kg	2.65E+00	7.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	NAPHTHALENE	mg/kg	5.64E-01	4.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	PENTACHLOROPHENOL	mg/kg	3.50E-01	1.00E-03	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	PHENANTHRENE	mg/kg	7.10E+00	4.03E+01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	PYRENE	mg/kg	4.56E+00	2.30E+02	
Soil	Preparation and Receiving Areas Aggregate	Organics-Volatile	2-BUTANONE	mg/kg	1.20E-02	4.40E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Volatile	ACETONE	mg/kg	1.82E-02	8.00E-01	
Soil	Preparation and Receiving Areas Aggregate	Organics-Volatile	CARBON DISULFIDE	mg/kg	4.37E-03	2.00E+00	
Soil	Preparation and Receiving Areas Aggregate	Organics-Volatile	TOLUENE	mg/kg	1.81E-02	6.00E-01	

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration contaminant of potential concern.

DDE = Dichlorodiphenyldichloroethylene.

DDT = Dichlorodiphenyltrichloroethane.

GSSL * DAF = Generic soil screening level multiplied by a dilution attenuation factor of 1.

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.

PCB = Polychlorinated biphenyl.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

SRC = Site-related contaminant.

Table L-6. List of Preliminary CMCOPCs (Extracted from Table L-5)

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAI	Preliminary CMCOPC ?
Soil	Change Houses Aggregate	Metals	ANTIMONY	mg/kg	1.20E+00	3.00E-01	Yes
Soil	Change Houses Aggregate	Metals	CADMIUM	mg/kg	1.50E+00	4.00E-01	Yes
Soil	Change Houses Aggregate	Metals	CHROMIUM	mg/kg	1.99E+01	2.00E+00	Yes
Soil	Change Houses Aggregate	Metals	NICKEL	mg/kg	2.73E+01	7.00E+00	Yes
Soil	Explosives Handling Areas Aggregate	Metals	ANTIMONY	mg/kg	6.21E+00	3.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	ARSENIC	mg/kg	1.21E+01	2.90E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	BARIUM	mg/kg	8.29E+01	8.20E+01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	CADMIUM	mg/kg	1.56E+00	4.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	CHROMIUM	mg/kg	2.01E+01	2.00E+00	Yes
Soil	Explosives Handling Areas Aggregate	Metals	MERCURY	mg/kg	2.07E-01	1.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	NICKEL	mg/kg	2.16E+01	7.00E+00	Yes
Soil	Explosives Handling Areas Aggregate	Metals	SELENIUM	mg/kg	9.78E-01	3.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Metals	THALLIUM	mg/kg	7.25E-01	4.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	6.66E+00	2.50E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	1,3-DINITROBENZENE	mg/kg	1.30E-01	9.60E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	8.62E+02	5.70E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	6.98E-01	4.00E-05	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	1.00E-01	4.20E-05	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	HMX	mg/kg	5.16E+01	3.60E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Explosives	RDX	mg/kg	3.31E+02	1.28E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ALDRIN	mg/kg	2.40E-02	2.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	4.70E-03	1.00E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	2.70E-02	2.00E-04	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ENDRIN ALDEHYDE	mg/kg	1.20E-01	5.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	1.70E+00	2.66E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	4.43E-01	2.66E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZ(A)ANTHRACENE	mg/kg	1.81E+00	8.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(A)PYRENE	mg/kg	1.36E+00	4.10E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	6.60E-01	2.00E-01	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	DIBENZ(A,H)ANTHRACENE	mg/kg	7.20E-01	8.00E-02	Yes
Soil	Explosives Handling Areas Aggregate	Organics-Semivolatile	INDENO(1,2,3-CD)PYRENE	mg/kg	1.30E+00	7.00E-01	Yes
Soil	North Ditches Aggregate	Metals	ANTIMONY	mg/kg	4.80E+00	3.00E-01	Yes
Soil	North Ditches Aggregate	Metals	CADMIUM	mg/kg	4.80E-01	4.00E-01	Yes

Table L-6. List of Preliminary CMCOPCs (Extracted from Table L-5)

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAI	Preliminary CMCOPC ?
Soil	North Ditches Aggregate	Metals	NICKEL	mg/kg	2.21E+01	7.00E+00	Yes
Soil	North Ditches Aggregate	Metals	THALLIUM	mg/kg	3.40E-01	4.00E-02	Yes
Soil	North Ditches Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	5.10E-02	5.70E-04	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	ANTIMONY	mg/kg	7.77E+00	3.00E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	ARSENIC	mg/kg	1.63E+01	2.90E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	BARIUM	mg/kg	1.67E+02	8.20E+01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	CADMIUM	mg/kg	2.51E+00	4.00E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	CHROMIUM	mg/kg	4.32E+01	2.00E+00	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	LEAD	mg/kg	2.61E+02	2.40E+02	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	MANGANESE	mg/kg	1.47E+03	6.57E+02	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	NICKEL	mg/kg	1.99E+01	7.00E+00	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	SILVER	mg/kg	3.47E+00	2.00E+00	Yes
Soil	Packaging and Shipping Areas Aggregate	Metals	THALLIUM	mg/kg	4.70E-01	4.00E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	2.60E+00	5.70E-04	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	HMX	mg/kg	6.50E-01	3.60E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Explosives	RDX	mg/kg	2.34E-01	1.28E-04	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	1.25E+00	2.66E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	1.30E-01	2.66E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZ(A)ANTHRACENE	mg/kg	3.97E-01	8.00E-02	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	6.10E-01	2.00E-01	Yes
Soil	Packaging and Shipping Areas Aggregate	Organics-Semivolatile	CARBAZOLE	mg/kg	2.67E-01	3.00E-02	Yes
Soil	Perimeter Area Aggregate	Metals	ANTIMONY	mg/kg	7.57E+02	3.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	ARSENIC	mg/kg	1.29E+01	2.90E-01	Yes
Soil	Perimeter Area Aggregate	Metals	BARIUM	mg/kg	1.48E+02	8.20E+01	Yes
Soil	Perimeter Area Aggregate	Metals	CADMIUM	mg/kg	7.10E-01	4.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	CHROMIUM	mg/kg	3.11E+02	2.00E+00	Yes
Soil	Perimeter Area Aggregate	Metals	COPPER	mg/kg	8.26E+01	4.58E+01	Yes
Soil	Perimeter Area Aggregate	Metals	LEAD	mg/kg	1.87E+03	2.40E+02	Yes
Soil	Perimeter Area Aggregate	Metals	MANGANESE	mg/kg	9.29E+02	6.57E+02	Yes
Soil	Perimeter Area Aggregate	Metals	MERCURY	mg/kg	2.46E-01	1.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	NICKEL	mg/kg	1.90E+01	7.00E+00	Yes
Soil	Perimeter Area Aggregate	Metals	SELENIUM	mg/kg	1.31E+00	3.00E-01	Yes
Soil	Perimeter Area Aggregate	Metals	THALLIUM	mg/kg	4.21E-01	4.00E-02	Yes

Table L-6. List of Preliminary CMCOPCs (Extracted from Table L-5)

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAI	Preliminary CMCOPC ?
Soil	Perimeter Area Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	6.70E+00	2.50E-01	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	9.60E+02	5.70E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	1.33E+00	4.00E-05	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	2.90E-01	4.20E-05	Yes
Soil	Perimeter Area Aggregate	Organics-Explosives	RDX	mg/kg	8.36E-01	1.28E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	4.00E-03	1.00E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	3.20E-03	2.00E-04	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	1.42E+00	2.66E-02	Yes
Soil	Perimeter Area Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	1.84E-01	2.66E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	ANTIMONY	mg/kg	5.61E+01	3.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	ARSENIC	mg/kg	1.37E+01	2.90E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	BARIUM	mg/kg	1.63E+02	8.20E+01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	CADMIUM	mg/kg	8.03E+00	4.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	CHROMIUM	mg/kg	2.03E+02	2.00E+00	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	COPPER	mg/kg	3.67E+02	4.58E+01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	LEAD	mg/kg	8.54E+02	2.40E+02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	MANGANESE	mg/kg	8.16E+02	6.57E+02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	MERCURY	mg/kg	3.67E-01	1.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	NICKEL	mg/kg	3.63E+01	7.00E+00	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	SELENIUM	mg/kg	1.72E+00	3.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	THALLIUM	mg/kg	8.95E-01	4.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Metals	ZINC	mg/kg	9.13E+02	6.20E+02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	3.86E-01	5.70E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	1.19E-01	1.00E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	DELTA-BHC	mg/kg	2.20E-03	6.51E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	9.53E-02	2.00E-04	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	ENDRIN ALDEHYDE	mg/kg	2.10E-01	5.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	7.46E+00	2.66E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	5.20E-01	2.66E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZ(A)ANTHRACENE	mg/kg	4.01E+00	8.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(A)PYRENE	mg/kg	3.37E+00	4.10E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	4.94E+00	2.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	BENZO(K)FLUORANTHENE	mg/kg	3.99E+00	2.00E+00	Yes

Table L-6. List of Preliminary CMCOPCs (Extracted from Table L-5)

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	CARBAZOLE	mg/kg	5.13E-01	3.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	DIBENZ(A,H)ANTHRACENE	mg/kg	8.93E-01	8.00E-02	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	INDENO(1,2,3-CD)PYRENE	mg/kg	2.65E+00	7.00E-01	Yes
Soil	Preparation and Receiving Areas Aggregate	Organics-Semivolatile	PENTACHLOROPHENOL	mg/kg	3.50E-01	1.00E-03	Yes

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration contaminant of potential concern.

GSSL * DAF = Generic soil screening level multiplied by a dilution attenuation factor of 1.

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.

PCB = Polychlorinated biphenyl.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table L-7. Development of Preliminary CMCOPCs Based on Comparison of the SRC Exposure Concentration with its Generic GSSL with DAF=4 Exclusively for Explosive Handling Area Aggregate

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	ALUMINUM	mg/kg	1.07E+04	2.19E+05	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	ANTIMONY	mg/kg	2.54E+00	1.20E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	ARSENIC	mg/kg	1.31E+01	1.16E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	BARIUM	mg/kg	1.10E+02	3.28E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	BERYLLIUM	mg/kg	9.45E-01	1.20E+01	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	CADMIUM	mg/kg	3.58E+00	1.60E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	CHROMIUM	mg/kg	2.43E+01	8.00E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	COBALT	mg/kg	9.76E+00	3.80E+03	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	COPPER	mg/kg	2.25E+01	1.83E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	CYANIDE	mg/kg	1.00E-01	8.00E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	LEAD	mg/kg	1.31E+02	9.60E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	MANGANESE	mg/kg	7.81E+02	2.63E+03	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	MERCURY	mg/kg	6.32E-01	4.00E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	NICKEL	mg/kg	2.46E+01	2.80E+01	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	SELENIUM	mg/kg	1.10E+00	1.20E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	SILVER	mg/kg	3.40E-01	8.00E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	THALLIUM	mg/kg	5.71E-01	1.60E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	ZINC	mg/kg	1.95E+02	2.48E+03	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	3.43E-01	1.00E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	1,3-DINITROBENZENE	mg/kg	1.30E-01	3.84E-03	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	2.70E+02	2.28E-03	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	2.88E-01	1.60E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	3.54E-01	1.68E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2-AMINO-4,6-DINITROTOLUENE	mg/kg	9.40E+00		
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	4-AMINO-2,6-DINITROTOLUENE	mg/kg	4.42E+00		
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	HMX	mg/kg	7.51E-01	1.44E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	NITROCELLULOSE	mg/kg	6.69E+01		
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	RDX	mg/kg	2.90E-01	5.12E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDE	mg/kg	5.50E-02	1.20E+01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDT	mg/kg	3.30E-02	8.00E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ALDRIN	mg/kg	1.26E+00	8.00E-02	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	6.59E-01	4.00E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	1.15E+00	8.00E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ENDRIN ALDEHYDE	mg/kg	1.20E-01	2.00E-01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	GAMMA-CHLORDANE	mg/kg	7.50E-03	2.00E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	5.20E+00	1.06E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	1.96E-01	1.06E-01	Yes

Table L-7. Development of Preliminary CMCOPCs Based on Comparison of the SRC Exposure Concentration with its Generic GSSL with DAF=4 Exclusively for Explosive Handling Area Aggregate

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	2-METHYLNAPHTHALENE	mg/kg	1.20E-01		
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	ANTHRACENE	mg/kg	1.90E+00	2.36E+03	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZ(A)ANTHRACENE	mg/kg	2.90E+00	3.20E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(A)PYRENE	mg/kg	2.30E+00	1.64E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(B)FLUORANTHENE	mg/kg	6.60E-01	8.00E-01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(G,H,I)PERYLENE	mg/kg	1.10E+00		
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZO(K)FLUORANTHENE	mg/kg	3.20E+00	8.00E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BENZOIC ACID	mg/kg	9.69E+00	8.00E+01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BIS(2-ETHYLHEXYL)PHTHALAT	mg/kg	7.69E-01	7.20E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	BUTYL BENZYL PHTHALATE	mg/kg	8.10E-01	3.24E+03	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	CHRYSENE	mg/kg	2.70E+00	3.20E+01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	DI-N-BUTYL PHTHALATE	mg/kg	6.84E-01	1.08E+03	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	DIBENZ(A,H)ANTHRACENE	mg/kg	7.20E-01	3.20E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	FLUORANTHENE	mg/kg	7.70E+00	8.40E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	INDENO(1,2,3-CD)PYRENE	mg/kg	1.15E+00	2.80E+00	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	NAPHTHALENE	mg/kg	2.70E-01	1.60E+01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	PHENANTHRENE	mg/kg	5.42E+00	1.61E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatile	PYRENE	mg/kg	5.00E+00	9.20E+02	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Volatile	CHLOROFORM	mg/kg	5.31E-03	1.20E-01	
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Volatile	TOLUENE	mg/kg	1.60E-02	2.40E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	ALUMINUM	mg/kg	9.69E+03	2.19E+05	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	ANTIMONY	mg/kg	7.45E-01	1.20E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	ARSENIC	mg/kg	1.62E+01	1.16E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	BARIUM	mg/kg	8.32E+01	3.28E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	BERYLLIUM	mg/kg	6.91E-01	1.20E+01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	CADMIUM	mg/kg	4.39E+00	1.60E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	CHROMIUM	mg/kg	2.41E+01	8.00E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	COBALT	mg/kg	1.08E+01	3.80E+03	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	COPPER	mg/kg	3.36E+01	1.83E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	CYANIDE	mg/kg	3.39E-01	8.00E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	LEAD	mg/kg	1.70E+02	9.60E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	MANGANESE	mg/kg	4.86E+02	2.63E+03	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	MERCURY	mg/kg	7.14E-02	4.00E-01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	NICKEL	mg/kg	2.76E+01	2.80E+01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	SELENIUM	mg/kg	1.03E+00	1.20E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	SILVER	mg/kg	2.87E-01	8.00E+00	

Table L-7. Development of Preliminary CMCOPCs Based on Comparison of the SRC Exposure Concentration with its Generic GSSL with DAF=4 Exclusively for Explosive Handling Area Aggregate

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	THALLIUM	mg/kg	1.07E+00	1.60E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	ZINC	mg/kg	2.77E+02	2.48E+03	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	2.59E+01	1.00E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	1,3-DINITROBENZENE	mg/kg	1.53E+00	3.84E-03	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	1.71E+03	2.28E-03	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	4.80E-01	1.60E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	1.22E+00	1.68E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2-AMINO-4,6-DINITROTOLUENE	mg/kg	4.60E-01		
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	4-AMINO-2,6-DINITROTOLUENE	mg/kg	6.60E-01		
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	HMX	mg/kg	2.09E+02	1.44E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	NITROCELLULOSE	mg/kg	2.30E+00		
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	RDX	mg/kg	1.34E+03	5.12E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDE	mg/kg	4.30E-02	1.20E+01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	4,4'-DDT	mg/kg	2.20E-02	8.00E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ALDRIN	mg/kg	1.04E-02	8.00E-02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	4.70E-03	4.00E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	1.51E-02	8.00E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ENDRIN ALDEHYDE	mg/kg	3.81E-02	2.00E-01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	GAMMA-CHLORDANE	mg/kg	3.29E-02	2.00E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	6.74E-01	1.06E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	5.98E-01	1.06E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	2-METHYLNAPHTHALENE	mg/kg	1.70E-01		
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	ANTHRACENE	mg/kg	7.20E-02	2.36E+03	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZO(A)ANTHRACENE	mg/kg	1.90E-01	3.20E-01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZO(A)PYRENE	mg/kg	1.80E-01	1.64E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZO(B)FLUORANTHENE	mg/kg	2.08E-01	8.00E-01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZO(G,H,I)PERYLENE	mg/kg	1.10E-01		
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZO(K)FLUORANTHENE	mg/kg	1.30E-01	8.00E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZOIC ACID	mg/kg	7.62E-01	8.00E+01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	3.12E-01	7.20E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BUTYL BENZYL PHTHALATE	mg/kg	8.40E-02	3.24E+03	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	CHRYSENE	mg/kg	2.70E-01	3.20E+01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	DI-N-BUTYL PHTHALATE	mg/kg	3.28E-01	1.08E+03	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	DIBENZ(A,H)ANTHRACENE	mg/kg	4.08E-01	3.20E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	FLUORANTHENE	mg/kg	3.90E-01	8.40E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	INDENO(1,2,3-CD)PYRENE	mg/kg	9.70E-02	2.80E+00	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	NAPHTHALENE	mg/kg	1.30E-01	1.60E+01	

Table L-7. Development of Preliminary CMCOPCs Based on Comparison of the SRC Exposure Concentration with its Generic GSSL with DAF=4 Exclusively for Explosive Handling Area Aggregate

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatile	PHENANTHRENE	mg/kg	3.80E-01	1.61E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatile	PYRENE	mg/kg	2.97E-01	9.20E+02	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Volatile	CHLOROFORM	mg/kg	2.68E-03	1.20E-01	
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Volatile	TOLUENE	mg/kg	2.80E-02	2.40E+00	

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration contaminant of potential concern.

DDE = Dichlorodiphenyldichloroethylene.

DDT = Dichlorodiphenyltrichloroethane.

GSSL * DAF = Generic soil screening level multiplied by a dilution attenuation factor of 4.

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.

PCB = Polychlorinated biphenyl.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

SRC = Site-related contaminant.

Table L-8. List of Preliminary CMCOPCs (Extracted from Table L-7)

Media	Group	Analysis Type	Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC ?
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	ANTIMONY	mg/kg	2.54E+00	1.20E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	ARSENIC	mg/kg	1.31E+01	1.16E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	CADMIUM	mg/kg	3.58E+00	1.60E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	CHROMIUM	mg/kg	2.43E+01	8.00E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	MERCURY	mg/kg	6.32E-01	4.00E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Metals	THALLIUM	mg/kg	5.71E-01	1.60E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	1,3-DINITROBENZENE	mg/kg	1.30E-01	3.84E-03	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	2.70E+02	2.28E-03	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	2.88E-01	1.60E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	3.54E-01	1.68E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Explosives	RDX	mg/kg	2.90E-01	5.12E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	ALDRIN	mg/kg	1.26E+00	8.00E-02	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	6.59E-01	4.00E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	1.15E+00	8.00E-04	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	5.20E+00	1.06E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	1.96E-01	1.06E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZ(A)ANTHRACENE	mg/kg	2.90E+00	3.20E-01	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatiles	BENZO(A)PYRENE	mg/kg	2.30E+00	1.64E+00	Yes
Soil	DB-4: Explosives Handling Areas Aggregate	Organics-Semivolatiles	DIBENZ(A,H)ANTHRACENE	mg/kg	7.20E-01	3.20E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	ARSENIC	mg/kg	1.62E+01	1.16E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	CADMIUM	mg/kg	4.39E+00	1.60E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	CHROMIUM	mg/kg	2.41E+01	8.00E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Metals	THALLIUM	mg/kg	1.07E+00	1.60E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	1,3,5-TRINITROBENZENE	mg/kg	2.59E+01	1.00E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	1,3-DINITROBENZENE	mg/kg	1.53E+00	3.84E-03	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2,4,6-TRINITROTOLUENE	mg/kg	1.71E+03	2.28E-03	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2,4-DINITROTOLUENE	mg/kg	4.80E-01	1.60E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	2,6-DINITROTOLUENE	mg/kg	1.22E+00	1.68E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	HMX	mg/kg	2.09E+02	1.44E+00	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Explosives	RDX	mg/kg	1.34E+03	5.12E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	BETA-BHC	mg/kg	4.70E-03	4.00E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	DIELDRIN	mg/kg	1.51E-02	8.00E-04	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1254	mg/kg	6.74E-01	1.06E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Pesticide/PCB	PCB-1260	mg/kg	5.98E-01	1.06E-01	Yes
Soil	DB-4A: Explosives Handling Areas Aggregate	Organics-Semivolatiles	DIBENZ(A,H)ANTHRACENE	mg/kg	4.08E-01	3.20E-01	Yes

BHC = Benzene hexachloride.
 CMCOPC = Contaminant migration contaminant of potential concern.
 GSSL * DAF = Generic soil screening level multiplied by a dilution attenuation factor of 4.
 HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.
 PCB = Polychlorinated biphenyl.
 RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table L-9. Development of Final CMCOPCs Based on Arrival Time ≤ 1,000 years

$$R = 1 + \frac{\rho_b K_d}{\theta_w}$$

$$T = L_z \theta_w R / q$$

Parameter	Symbol	Value	Units	Notes				
Percolation rate	q	0.4900	ft/year	HELP Model run				
Soil-water distribution coefficient	K _d	Constituent-specific	L/kg	Literature				
Organic carbon distribution coefficient	K _{oc}	Constituent-specific	L/kg	Literature				
Fraction organic carbon	f _{oc}	0.0179	unitless					
Water-filled soil porosity	q _w	0.3340	unitless	Site-specific (Moisture Content by Weight=18.5%)				
Bulk density (dry)	r _b	1.8000	gm/cm ³	Site-specific				
Leaching zone	L _z	2.5000	ft					
Retardation factor	R	Constituent-specific	unitless	Calculated				
Arrival time	T	Constituent-specific	year	Calculated				
		K _{oc}	K _d	R	T	T < 1000?		
Chemicals of Interest		(L/kg)	(L/kg)		(year)			
Metals and Inorganic Compounds								
Antimony			4.50E+01	a	2.44E+02	4.15E+02	Yes	
Arsenic			2.90E+01	a	1.57E+02	2.68E+02	Yes	
Cadmium			7.50E+01	a	4.05E+02	6.90E+02	Yes	
Chromium (total)			1.90E+01	a	1.03E+02	1.76E+02	Yes	
Mercury			5.20E+01	a	2.81E+02	4.79E+02	Yes	
Thallium			7.10E+01	a	3.84E+02	6.54E+02	Yes	
Semivolatile Organic Compounds								
Benzo(a)anthracene		3.58E+05	a	6.41E+03	3.45E+04	5.89E+04		
Benzo(a)pyrene		9.69E+05	a	1.73E+04	9.35E+04	1.59E+05		
Dibenz(a,h)anthracene		1.79E+06	a	3.20E+04	1.73E+05	2.94E+05		
Pesticides and PCBs								
Aldrin		4.87E+04	a	8.72E+02	4.70E+03	8.01E+03		
beta-BHC		2.14E+03	a	3.83E+01	2.07E+02	3.53E+02	Yes	
Dieldrin		2.55E+04	a	4.56E+02	2.46E+03	4.19E+03		
PCB-1254		3.09E+05	a	5.53E+03	2.98E+04	5.08E+04		
Aroclor 1260		3.09E+05	a	5.53E+03	2.98E+04	5.08E+04		

Table L-9. Development of Final CMCOPCs Based on Arrival Time \leq 1,000 years

		K_{oc}		K_d		R	T	T < 1000?
Chemicals of Interest		(L/kg)		(L/kg)			(year)	
<i>Explosives</i>								
1,3-Dinitrobenzene		1.95E+01		3.49E-01		2.88E+00	4.91E+00	Yes
2,4-Dinitrotoluene		9.55E+01	a	1.71E+00		1.02E+01	1.74E+01	Yes
2,6-Dinitrotoluene		6.92E+01	a	1.24E+00		7.68E+00	1.31E+01	Yes
RDX		4.67E+00	f	8.36E-02		1.45E+00	2.47E+00	Yes
2,4,6-Trinitrotoluene		2.13E+05		3.81E+03		2.05E+04	3.50E+04	

References:

- a. EPA Soil Screening Guidance: Technical Background Document, May 1996.
 - b. Baes and Sharp 1983.
 - c. Sheppard and Thibault 1990.
 - d. RREL = Risk Reduction Engineering Laboratory (EPA 1994).
 - f. Calculated from Environmental Protection Agency (EPA) Superfund Office of Emergency and Remedial Response Soil Screening Guidance <http://risk.lsd.ornl.gov>.
- BHC = Benzene hexachloride.
 CMCOPC = Contaminant migration contaminant of potential concern.
 PCB = Polychlorinated biphenyl.
 RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table L-10. Revised List of CMCOPCs for SESOIL Modeling (Extracted from Table L-9)

Chemicals of Interest		Koc (L/kg)		Kd (L/kg)		R	T (yr)	T < 1000?
<i>Metals and Inorganic Compounds</i>								
Antimony				4.50E+01	a	2.44E+02	4.15E+02	Yes
Arsenic				2.90E+01	a	1.57E+02	2.68E+02	Yes
Cadmium				7.50E+01	a	4.05E+02	6.90E+02	Yes
Chromium (total)				1.90E+01	a	1.03E+02	1.76E+02	Yes
Mercury				5.20E+01	a	2.81E+02	4.79E+02	Yes
Thallium				7.10E+01	a	3.84E+02	6.54E+02	Yes
<i>Pesticides and PCBs</i>								
beta-BHC		2.14E+03	a	3.83E+01		2.07E+02	3.53E+02	Yes
<i>Explosives</i>								
1,3-Dinitrobenzene		1.95E+01		3.49E-01		2.88E+00	4.91E+00	Yes
2,4-Dinitrotoluene		9.55E+01	a	1.71E+00		1.02E+01	1.74E+01	Yes
2,6-Dinitrotoluene		6.92E+01	a	1.24E+00		7.68E+00	1.31E+01	Yes
RDX		4.67E+00	f	8.36E-02		1.45E+00	2.47E+00	Yes

References:

a. Environmental Protection Agency (EPA) Soil Screening Guidance: Technical Background Document, May 1996.

f. Calculated from EPA Superfund Office of Emergency and Remedial Response Soil Screening Guidance

<http://risk.lsd.ornl.gov>.

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration contaminant of potential concern.

Kd = Soil-water distribution coefficient.

Koc = Organic carbon distribution coefficient.

PCB = Polychlorinated biphenyl.

R = Retardation factor.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

SESOIL = Seasonal Soil Compartment (groundwater model).

T = Arrival time.

Table L-11. Layers Used in SESOIL Model

Transect	Layer Number	Layer Thickness	Number of Sublayers	Purpose
Explosive Handling Area	1	0.6 m (2 ft)	1	Contaminant Loading
	2	0.3 m (1 ft)	1	Contaminant Loading
	3	1.2 m (4 ft)	2	Leaching
	4	0.15 m (0.5 ft)	1	Determine Leachate Concentration

SESOIL = Seasonal Soil Compartment (groundwater model).

Table L-12. SESOIL Application Data, Explosive Handling Area

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (ft)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
Antimony	4	1	2	1	1	0.66
		2	1	1	1	10
		3	4	2	1	1.1
					2	0
		4	0.5	1	1	0
Arsenic	4	1	2	1	1	13
		2	1	1	1	15
		3	4	2	1	18
					2	0
		4	0.5	1	1	0
Cadmium	4	1	2	1	1	6.6
		2	1	1	1	3.3
		3	4	2	1	0.34
					2	0
		4	0.5	1	1	0
Chromium	4	1	2	1	1	20
		2	1	1	1	61
		3	4	2	1	16
					2	0
		4	0.5	1	1	0
Mercury	4	1	2	1	1	0.18
		2	1	1	1	3.6
		3	4	2	1	0.017
					2	0
		4	0.5	1	1	0

Table L-12. SESOIL Application Data, Explosive Handling Area

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (ft)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
Thallium	4	1	2	1	1	0.66
		2	1	1	1	0.5
		3	4	2	1	0.36
					2	0
		4	0.5	1	1	0
1,3-Dinitrobenzene	4	1	2	1	1	0.13
		2	1	1	1	0.054
		3	4	2	1	0
					2	0
		4	0.5	1	1	0
2,4-Dinitrotoluene	4	1	2	1	1	0.28
		2	1	1	1	0.39
		3	4	2	1	0
					2	0
		4	0.5	1	1	0
2,6-Dinitrotoluene	4	1	2	1	1	0.25
		2	1	1	1	0.76
		3	4	2	1	0
					2	0
		4	0.5	1	1	0
RDX	4	1	2	1	1	0.19
		2	1	1	1	0.29
		3	4	2	1	0.24
					2	0
		4	0.5	1	1	0

Table L-12. SESOIL Application Data, Explosive Handling Area

CMCOPCs	No. of Layers	Layer No.	Thickness of Layer (ft)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
beta-BHC	4	1	2	1	1	0.034
		2	1	1	1	0
		3	4	2	1	0
					2	0
		4	0.5	1	1	0

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration contaminant of potential concern.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

SESOIL = Seasonal Soil Compartment (groundwater model).

Table L-13. Identification of CMCOPCs Based on Comparison of Predicted or Observed Maximum Concentration with its Target Groundwater Concentration

Media	Analysis Type	Analyte	Maximum Observed Concentration (mg/L)	Maximum Predicted Concentration (mg/L)	Target Groundwater Concentration (mg/L)	CMCOPC based on Observed Groundwater Concentration ?	CMCOPC based on Leachate Modeling ?
Groundwater	Metals	Antimony	8.00E-03	9.98E-03	6.00E-03	Yes	Yes
Groundwater	Metals	Arsenic	1.00E-01	8.76E-02	1.00E-02	Yes	Yes
Groundwater	Metals	Barium	1.10E-01		2.00E+00		
Groundwater	Metals	Calcium	6.66E+01				
Groundwater	Metals	Cadmium	ND	6.50E-03	5.00E-03		Yes
Groundwater	Metals	Chromium	ND	2.28E-01	1.00E-01		Yes
Groundwater	Metals	Cobalt	7.30E-02		7.30E-01		
Groundwater	Metals	Iron	2.90E+00		1.10E+01		
Groundwater	Metals	Magnesium	2.76E+01				
Groundwater	Metals	Manganese	1.90E+00		8.76E-01	Yes	
Groundwater	Metals	Mercury	ND	2.47E-03	2.00E-03	Yes	Yes
Groundwater	Metals	Nickel	3.00E-01		7.30E-01		
Groundwater	Metals	Potassium	5.80E+00				
Groundwater	Metals	Sodium	1.64E+01				
Groundwater	Organics-Explosives	1,3-Dinitrobenzene	ND	1.28E-04	3.65E-03		
Groundwater	Organics-Explosives	1,3,5-Trinitrobenzene	4.80E-03		1.09E+00		
Groundwater	Organics-Explosives	2,4-Dinitrotoluene	3.30E-04	0.00E+00	7.30E-02		
Groundwater	Organics-Explosives	2,6-Dinitrotoluene	ND	5.28E-07	3.60E-02		
Groundwater	Organics-Explosives	2-Amino-4,6-Dinitrotoluene	1.10E-03				
Groundwater	Organics-Explosives	4-Amino-2,6-Dinitrotoluene	8.70E-04				
Groundwater	Organics-Explosives	HMX	3.30E-04		1.80E+00		
Groundwater	Organics-Explosives	RDX	1.80E-04	1.67E-01	6.10E-04		Yes
Groundwater	Organics-Pesticide/PCB	beta-BHC	ND	0.00E+00	3.70E-05		
Groundwater	Organics-Pesticide/PCB	Heptachlor Epoxide	3.40E-04		7.39E-06	Yes	
Groundwater	Organics-Pesticide/PCB	PCB-1242	8.50E-04		4.30E-05	Yes	
Groundwater	Organics-Volatile	2-Butanone	1.20E-03		1.90E+00		
Groundwater	Organics-Volatile	Benzene	4.90E-04		5.00E-03		
Groundwater	Organics-Volatile	Carbon Disulfide	3.10E-04		1.04E+00		

Table L-13. Identification of CMCOPCs Based on Comparison of Predicted or Observed Maximum Concentration with its Target Groundwater Concentration

Media	Analysis Type	Analyte	Maximum Observed Concentration (mg/L)	Maximum Predicted Concentration (mg/L)	Target Groundwater Concentration (mg/L)	CMCOPC based on Observed Groundwater Concentration ?	CMCOPC based on Leachate Modeling ?
Groundwater	Organics-Volatile	Chloromethane	3.70E-04		1.50E-03		

BHC = Benzene hexachloride.

CMCOPC = Contaminant migration contaminant of potential concern.

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.

ND = Not detected.

PCB = Polychlorinated biphenyl.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table L-14. List of CMCOPCs (Extracted from Table L-13) for AT123D modeling

Media	Analysis Type	Analyte	Units	Source Term Concentration ^a	Target Groundwater Concentration	CMCOPC for At123D Modeling?
Groundwater	Metals	Antimony	mg/L	8.00E-03	6.00E-03	Yes
Groundwater	Metals	Arsenic	mg/L	1.00E-01	1.00E-02	Yes
Groundwater	Metals	Cadmium	mg/L	6.50E-03	5.00E-03	Yes
Groundwater	Metals	Chromium	mg/L	2.28E-01	1.00E-01	Yes
Groundwater	Metals	Manganese	mg/L	1.90E+00	8.76E-01	Yes
Groundwater	Metals	Mercury	mg/L	2.47E-03	2.00E-03	Yes
Groundwater	Organics-Explosives	RDX	mg/L	1.67E-01	6.10E-04	Yes
Groundwater	Organics-Pesticide/PCB	Heptachlor Epoxide	mg/L	3.40E-04	7.39E-06	Yes
Groundwater	Organics-Pesticide/PCB	PCB-1242	mg/L	8.50E-04	4.30E-05	Yes

^a Source term concentration represents the maximum of either the observed or predicted groundwater concentration.

AT123D = Analytical Transient, 1-, 2-, 3-Dimensional (model).

CMCOPC = Contaminant migration contaminant of potential concern.

PCB = Polychlorinated biphenyl.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table L-15. Physical and Chemical Properties of Initial CMCOPCs at Load Line 2 Required for AT123D Modeling

CMCOPC	Distribution Coefficient, Kd (L/kg)	Retardation factor, Rd ^a	Diffusion Coefficient in Water (cm ² /s)	Biodegradation Rate ^b (1/day)
<i>Metals</i>				
ANTIMONY	4.50E+01	2.44E+02	1.00E-06	NA
ARSENIC	2.90E+01	1.57E+02	1.00E-06	NA
CADMIUM	7.50E+01	4.05E+02	1.00E-06	NA
CHROMIUM	1.90E+01	1.03E+02	1.00E-06	NA
MERCURY	5.20E+01	2.81E+02	6.30E-06	NA
MANGANESE	7.50E+02	6.75E+03	1.00E-06	NA
<i>Pesticides</i>				
HEPTACHLOR EPOXIDE	1.49E+03	1.34E+04	4.23E-06	NF
PCB-1242	5.53E+03	4.98E+04	5.00E-06	4.72E-03
<i>Explosives</i>				
RDX	8.36E-02	1.75E+00	NF ^c	NF

NA = Not applicable.

NF = Not found.

^a Calculated value.

^b Howard et al., 1991.

^c Assumed a molecular diffusion coefficient of 1E-06 cm²/s.

AT123D = Analytical Transient 1-, 2-, 3-Dimensional (model).

CMCOPC = Contaminant migration contaminant of potential concern.

PCB = Polychlorinated biphenyl.

RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

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