APPENDIX J

FATE AND TRANSPORT MODELING RESULTS

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Table J-1. Physical and Chemical Properties of Metal SRCs at Erie Burning Grounds

Analyte	K_d (L/kg)	Reference	H' (atm-m^3/mol)	Reference	C_w (mg/L)	Cw Reference	Generic SSL (DAF = 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	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	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	
Manganese	7.50E+02	c	NA		8.76E-01	PRG9	6.57E+02	
Mercury	5.20E+01	a	1.14E-02	d	2.00E-03	MCL	1.00E-01	a
Nickel	6.50E+01	a	NA		7.30E-01	PRG9	7.00E+00	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
Vanadium	1.00E+03	a	NA		2.56E-01	PRG9	3.00E+02	a
Zinc	6.20E+01	a	NA		1.10E+01	PRG9	6.20E+02	a

Cw = Target groundwater concentration (either MCL or PRG9).
DAF = Dilution attenuation factor.
H' = Henry's Law Constant.
Kd = Distribution doefficient.
MCL = Clean Water Act drinking water maximum contaminant level.
NA = Not applicable.
PRG9 = EPA Region 9 preliminary remedial goal.
SRC = Site-related contaminant.
SSL = Soil screening level.
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).

Table J-2. Physical and Chemical Properties of Organic SRCs at Erie Burning Grounds

Analyte	K_{oc} (L/kg)	Reference	H' (atm-m^3/mol)	Reference	C_w (mg/L)	Reference
Explosives						
1,3,5-Trinitrobenzene	9.98E+00	d	NF		1.09E+00	PRG9
2,4,6-Trinitrotoluene	2.13E+05	d	2.00E-07	d	2.24E-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
2-Amino-4,6-dinitrotoluene	NF		NF		NF	
3-Nitrotoluene	2.59E+02	n	9.30E-06	o	6.10E-02	PRG9
4-Nitrotoluene	1.48E+02	g	4.10E-05	d	6.10E-02	PRG9
4-Amino-2,6-dinitrotoluene	NF		NF		NF	
HMX	4.20E+00	o	8.67E-10	o	1.80E+00	PRG9
Nitrocellulose	NF		NF		NF	
RDX	4.67E+00	g	NF		6.10E-04	PRG9
Organics-Semivolatile						
Benz(*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	NF	
Benzo(*k*)fluoranthene	1.23E+06	a	8.29E-07	a	9.20E-04	PRG9
Bis(2-ethylhexyl)phthalate	1.11E+05	a	1.02E-07	a	6.00E-03	MCL
Chrysene	3.98E+05	a	9.46E-05		9.20E-03	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
Phenanthrene	1.82E+04	d	3.93E-05	d	NF	
Pyrene	6.80E+04	a	1.10E-05	a	1.80E-01	PRG9
Organics-Volatile						
Acetone	5.75E-01	a	3.88E-05	a	6.08E-01	PRG9
Methylene Chloride	1.00E+01	a	2.19E-03	a	5.00E-03	MCL
Toluene	1.40E+02	a	6.64E-03	a	1.00E+00	MCL

Cw = Target groundwater concentration (either MCL or PRG9).
H' = Henry's Law Constant.
HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.
Kd = Distribution coefficient.
Koc = Octanol-water coefficient.
MCL = Clean Water Act drinking water maximum contaminant level.
NF = Not found.
PRG9 = EPA Region 9 preliminary remedial goal.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
SRC = Site-related contaminant.
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).

Table J-2. Physical and Chemical Properties of Organic SRCs at Erie Burning Grounds (continued)

f. Calculated from EPA Superfund Office of Emergency and Remedial Response Soil Screening Guidance http://risk.lsd.ornl.gov.
l. Estimated Koc for tetryl.
- log Kow = 1.64, Koc = 0.63 Kow where Sw = Solubility in water (umol/L).
- Obtained Sw =1800 mg/L from EPA Risk Reduction Engineering Laboratory Treatability Data Base (EPA 1994).
- Noted MW = 227.10 g/mol implying Sw = 7926 umol/L

m. Estimated Koc for 2-Nitrotoluene.
- Obtained Sw =650 mg/L from Syracuse Research Corporation (2004).
- Noted MW = 137.14 g/mol implying Sw = 4740 umol/L

n. Estimated Koc for 3-nitrotoluene.
- Obtained Sw =500 mg/L from Syracuse Research Corporation (2004).

o. Syracuse Research Corporation, 2004. http://www.syrres.com/esc/physdemo.htm, August 03.
p. Estimated Kh for Nitroglucerine.
- Kh = (Vp/760)/(Sw/Mw)
- Obtained Vp =2.6E-4 tor, Sw =1.8E+3 mg/L, and MW = 227.10 g/mol from RREL.

Table J-3. Climatic Data from SESOIL for Erie Burning Grounds (Station: Youngstown WSO AP, Ohio)[a]

Month	Air Temp (^{o}C)	Cloud Cover	Humidity	ALBEDO	Evapotranspiration[b] (cm/day)	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 J-4. Initial CMCOPCs Based on Comparison of the SRC Exposure Concentration with its GSSL with DAF = 10

Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC? (DAF = 10)
Explosives				
1,3,5-Trinitrobenzene	mg/kg	1.38E-01	2.50E+00	
2,4,6-Trinitrotoluene	mg/kg	3.82E-01	5.70E-03	Yes
2,4-Dinitrotoluene	mg/kg	1.31E-01	4.00E-04	Yes
2,6-Dinitrotoluene	mg/kg	1.00E-01	4.20E-04	Yes
2-Amino-4,6-dinitrotoluene	mg/kg	9.32E-02	NA	
3-Nitrotoluene	mg/kg	1.26E-01	4.38E-01	
4-Amino-2,6-dinitrotoluene	mg/kg	1.00E-01	NA	
4-Amino-2,6-dinitrotoluene	mg/kg	1.70E-01	NA	
4-Nitrotoluene	mg/kg	1.26E-01	3.03E-01	
HMX	mg/kg	2.00E-01	3.75E+00	
Nitrocellulose	mg/kg	2.36E+00	NA	
RDX	mg/kg	2.58E-01	1.28E-03	Yes
Metals				
Aluminum	mg/kg	1.24E+04	5.48E+05	
Antimony	mg/kg	6.04E+00	3.00E+00	Yes
Arsenic	mg/kg	9.56E+00	2.90E+00	Yes
Barium	mg/kg	1.96E+02	8.20E+02	
Beryllium	mg/kg	6.41E-01	3.00E+01	
Cadmium	mg/kg	1.28E+00	4.00E+00	
Chromium	mg/kg	1.98E+01	2.00E+01	
Cobalt	mg/kg	6.90E+00	9.49E+03	
Copper	mg/kg	6.12E+01	4.58E+02	
Cyanide	mg/kg	1.15E+00	2.00E+01	
Lead	mg/kg	1.12E+02	2.40E+03	
Manganese	mg/kg	6.03E+02	6.57E+03	
Mercury	mg/kg	4.52E-02	1.00E+00	
Nickel	mg/kg	2.24E+01	7.00E+01	
Silver	mg/kg	9.72E-01	2.00E+01	
Thallium	mg/kg	3.35E-01	4.00E-01	
Vanadium	mg/kg	2.02E+01	3.00E+03	
Zinc	mg/kg	3.91E+02	6.20E+03	
Organics-Semivolatile				
Benz(*a*)anthracene	mg/kg	2.78E-01	8.00E-01	
Benzo(*a*)pyrene	mg/kg	2.79E-01	4.10E+00	
Benzo(*b*)fluoranthene	mg/kg	3.38E-01	2.00E+00	
Benzo(*g*,*h*,*i*)perylene	mg/kg	2.64E-01	NA	
Benzo(*k*)fluoranthene	mg/kg	2.73E-01	2.00E+01	
Bis(2-ethylhexyl)phthalate	mg/kg	3.78E-01	1.80E+03	
Chrysene	mg/kg	2.95E-01	8.00E+01	
Fluoranthene	mg/kg	2.77E-01	2.10E+03	

Table J-4. Initial CMCOPCs Based on Comparison of the SRC Exposure Concentration with its GSSL with DAF = 10 (continued)

Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC? (DAF = 10)
Indeno(1,2,3-*cd*)pyrene	mg/kg	2.69E-01	7.00E+00	
Phenanthrene	mg/kg	2.60E-01	NA	
Pyrene	mg/kg	2.79E-01	2.30E+03	
Organics-Volatile				
Acetone	mg/kg	1.27E-02	8.00E+00	
Methylene Chloride	mg/kg	3.80E-03	1.00E-02	
Toluene	mg/kg	9.50E-03	6.00E+00	

CMCOPC = Contaminant migration contaminant of potential concern.
GSSL * DAF = Generic soil screening level multiplied by a dilution attenutation factor of 10.
HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
SRC = Site-related contaminant.

Table J-5. Initial CMCOPCs (Extracted from Table J-4)

Analyte	Units	Exposure Concentration	GSSL*DAF	Preliminary CMCOPC (DAF=10)
Explosives				
2,4,6-Trinitrotoluene	mg/kg	3.82E-01	5.70E-03	Yes
2,4-Dinitrotoluene	mg/kg	1.31E-01	4.00E-04	Yes
2,6-Dinitrotoluene	mg/kg	1.00E-01	4.20E-04	Yes
RDX	mg/kg	2.58E-01	1.28E-03	Yes
Metals				
Antimony	mg/kg	6.04E+00	3.00E+00	Yes
Arsenic	mg/kg	9.56E+00	2.90E+00	Yes

CMCOPC = Contaminant migration contaminant of potential concern.
GSSL * DAF = Generic soil screening level multiplied by a dilution attenutation factor of 10.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table J-6. Initial CMCOPCs Reaching the Groundwater Table (based on Arrival Time <= 1,500 years)

$$R = 1 + \frac{\rho_b K_d}{\theta_w} \qquad T = L_z \theta_w R / q$$

Parameter	Symbol	Value		Units		Notes		
Percolation rate	q	0.3100		ft/year		0.1 * (SESOIL Recharge)		
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}	0.0069		unitless				
Water filled soil porosity	q_w	0.3200		unitless		Site-specific (Moisture Content by Weight=18.2%)		
Bulk density (dry)	r_b	1.9700		gm/cm^3		Site-specific		
Leaching zone	Lz	6.0000		ft				
Retardation factor	R	constituent-specific		unitless		Calculated		
Arrival time	T	constituent-specific		year		Calculated		
Analyte		**K_{oc} (L/kg)**	**Reference**	**K_d (L/kg)**	**Reference**	**R**	**T (yr)**	**T < 1500?**
Explosives								
2,4-Dinitrotoluene		9.55E+01	a	6.59E-01		5.06E+00	3.13E+01	Yes
2,6-Dinitrotoluene		6.92E+01	a	4.77E-01		3.94E+00	2.44E+01	Yes
2,4,6-Trinitrotoluene		2.13E+05	d	1.47E+03		9.05E+03	5.60E+04	
RDX		4.67E+00	d	3.22E-02		1.20E+00	7.42E+00	Yes
Metals								
Antimony				4.50E+01	a	2.78E+02	1.72E+03	
Arsenic				2.90E+01	a	1.80E+02	1.11E+03	Yes

CMCOPC = Contaminant migration contaminant of potential concern
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
Reference:
a. EPA Soil Screening Guidance: Technical Background Document, May 1996.
d. RREL.

Table J-7. Initial CMCOPCs for Leachate Modeling (based on Table J-6)

Analyte	Leachate Modeling?
Explosives	
2,4-Dinitrotoluene	Yes
2,6-Dinitrotoluene	Yes
RDX	Yes
Metals	
Arsenic	Yes

CMCOPC = Contaminant migration contaminant of potential concern.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table J-8. Physical and Chemical Properties of Initial CMCOPCs Selected for Leachate Modeling

Initial CMCOPC	Molecular Weight	Solubility (mg/L)	Kd or Koc (L/kg)	Diffusion Coefficient in Air (cm^2/s)	Biodegradation Rate (1/day)
Explosives					
2,4-Dinitrotoluene	182.0	2.70E-01	9.55E+01	2.00E-01	1.90E-03
2,6-Dinitrotoluene	182.0	1.82E-01	6.92E+01	2.00E-01	1.90E-03
RDX	222.0	6.00E-02	4.67E+00	NF	NF
Metals					
Arsenic	74.9	1.00E+05	2.90E+01	NA	NA

CMCOPC = Contaminant migration contaminant of potential concern.
NA = Not applicable.
NF = Not found.
Kd = Distribution coefficient.
Koc = Organic-carbon partition coefficient.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table J-9. Layers Used in Leachate Model

Transect	Layer Number	Layer Thickness	Number of Sublayers	Purpose
Ramsdell Quarry Landfill	1	0.3 m (1 ft)	1	Contaminant Loading
	2	1.5 m (5 ft)	5	Leaching
	3	0.3 m (1 ft)	2	Leaching

Table J-10. Load Application Data for Leachate Model

Analyte	No. of Layers	Layer No.	Thickness of Layer (ft)	No. of Sublayers	Sublayer No.	Concentration (mg/kg)
2,4-Dinitrotoluene	3	1	1	1	1	1.31E-01
		2	5	5	1	0
					2	0
					3	0
					4	0
					5	0
		3	1	2	1	0
					2	0
2,6-Dinitrotoluene	3	1	1	1	1	1.00E-01
		2	5	5	1	0
					2	0
					3	0
					4	0
					5	0
		3	1	2	1	0
					2	0
RDX	3	1	1	1	1	2.58E-01
		2	5	5	1	0
					2	0
					3	0
					4	0
					5	0
		3	1	2	1	0
					2	0
Arsenic	3	1	1	1	1	9.56E+00
		2	5	5	1	0
					2	0
					3	0
					4	0
					5	0
		3	1	2	1	0
					2	0

Table J-11. Summary of Leachate Modeling Results

Initial CMCOPC	RME 0 to 1 ft (mg/kg)	Predicted $C_{leachate,max}$ Beneath the Source (mg/L)	Predicted $C_{leachate,max}$ Predicted Tmax (years)	Predicted $C_{gw,max}$ At the Source[a] (mg/L)	Observed $C_{gw,max}$ Downgradient of Source (mg/L)	MCL/RBC (mg/L)	Final CMCOPC[b]
Explosives							
2,4-Dinitrotoluene	1.31E-01	3.45E-06	14	3.45E-07	ND	7.30E-02	
2,6-Dinitrotoluene	1.00E-01	3.41E-05	11	3.41E-06	ND	3.60E-02	
RDX	2.58E-01	7.16E-01	4	7.16E-02	ND	6.10E-04	Yes
Metals							
Arsenic	9.56E+00	1.39E-01	6.14E+02	1.39E-02	2.86E-02	1.00E-02	Yes

[a] The concentration was calculated using dilution attentuation factor = 10.

[b] The final CMCOPC was identified comparing the predicted/observed concentration in groundwater to the MCL/RBC. A constituent is a final CMCOPC if its predicted/observed concentration in groundwater exceeds its MCL/RBC with 1,000 years.

CMCOPC = Contaminant migration contaminant of potential concern.
MCL = Maximum contaminant level.
ND = Not detected.
RBC = Risk-based concentration.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
RME = Reasonable maximum exposure.

Table J-12. Development of Additional Final CMCOPCs Based on Comparison of Observed Maximum Groundwater Concentration with its Target Groundwater Concentration

Analyte	Units	Maximum Concentration	MCL/RBC	Final CMCOPC?
Metals				
Antimony	mg/L	3.30E-03	6.00E-03	
Arsenic	mg/L	2.86E-02	1.00E-02	Yes
Barium	mg/L	2.44E-01	2.00E+00	
Cobalt	mg/L	4.00E-03	7.30E-01	
Copper	mg/L	6.80E-03	1.30E+00	
Lead	mg/L	3.40E-04	1.50E-02	
Nickel	mg/L	5.00E-03	7.30E-01	
Vanadium	mg/L	1.40E-03	2.56E-01	
Zinc	mg/L	1.39E-01	1.10E+01	
Organics-Pesticide/PCB				
4,4'-DDT	mg/L	4.00E-05	1.98E-04	
Organics-Semivolatile				
Bis(2-ethylhexyl)phthalate	mg/L	2.80E-03	6.00E-03	
Di-n-butyl phthalate	mg/L	7.80E-03	3.60E+00	
Organics-Volatile				
Carbon Disulfide	mg/L	0.00	1.042857143	

CMCOPC = Contaminant migration contaminant of potential concern.
DDT = Dichlorodiphenyltrichloroethene.
MCL = Maximum contaminant level.
PCB = Polychlorinated biphenyl.
RBC = Risk-based concentration.

Table J-13. Final CMCOPCs in Groundwater based on Leachate Modeling and Observed Groundwater Concentration

Initial CMCOPC	RME 0 to 1 ft (mg/kg)	Predicted $C_{leachate,max}$ Beneath the Source (mg/L)	Predicted $C_{leachate,max}$ Predicted Tmax (years)	Predicted $C_{gw,max}$ At the Source[a] (mg/L)	Observed $C_{gw,max}$ Downgradient of Source (mg/L)	MCL/RBC (mg/L)	Final CMCOPC[b]
Explosives							
2,4-Dinitrotoluene	1.31E-01	3.45E-06	14	3.45E-07	ND	7.30E-02	
2,6-Dinitrotoluene	1.00E-01	3.41E-05	11	3.41E-06	ND	3.60E-02	
RDX	2.58E-01	7.16E-01	4	7.16E-02	ND	6.10E-04	Yes
Metals							
Arsenic	9.56E+00	1.39E-01	6.14E+02	1.39E-02	2.86E-02	1.00E-02	Yes

[a] The concentration was calculated using dilution attentuation factor = 10.
[b] The final CMCOPC was identified comparing the predicted/observed concentration in groundwater to the MCL/RBC. A constituent is a final CMCOPC if its predicted/observed concentration in groundwater exceeds its MCL/RBC with 1,000 years.
CMCOPC = Contaminant migration contaminant of potential concern.
MCL = Maximum contaminant level.
ND = Not detected.
RBC = Risk-based concentration.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
RME = Reasonable maximum exposure.

Table J-14. Final CMCOPCs Reaching the Nearest Receptor (based on Arrival Time <= 1,500 years)

$$R = 1 + \frac{\rho_b K_d}{\theta_w} \qquad T = L_x \theta_{we} R / q$$

Parameter	Symbol	Value		Units		Notes
Darcy flux	q	25.8700		ft/year		Site-specific
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}	0.0069		unitless		
Effective porosity	q_{we}	0.2000		unitless		Site-specific
Bulk density (dry)	r_b	1.9700		gm/cm^3		Site-specific
Porosity	q_w	0.3200		unitless		Site-specific
Distance to nearest receptor	Lx	0.0000		ft		
Retardation factor	R	constituent-specific		unitless		Calculated
Arrival time	T	constituent-specific		year		Calculated

Analyte		K_{oc} (L/kg)	Reference	K_d (L/kg)	Reference	R	T (year)	T < 1500?
Explosives								
RDX		4.67	d	3.22E-02		1.20E+00	0.00E+00	Yes
Metals								
Arsenic				2.90E+01	a	1.80E+02	0.00E+00	Yes

CMCOPC = Contaminant migration contaminant of potential concern
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.
References:
a. EPA Soil Screening Guidance: Technical Background Document, May 1996
d. RREL

Table J-15. Physical and Chemical Properties of Final CMCOPCs Selected for Groundwater Modeling

Analyte	Distribution Coefficient, Kd (L/kg)	Retardation factor, Rd [a]	Diffusion Coefficient in Water (cm^2/s)	Biodegradation Rate (1/day)
Explosives				
RDX	3.22E-02	1.20E+00	1.00E-06	NF
Metals				
Arsenic	2.90E+01	1.80E+02	1.00E-06	NA

[a] Calculated value.
CMCOPC = Contaminant migration contaminant of potential concern.
NA = Not applicable.
NF = Not found.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Table J-16. Summary of Groundwater Modeling Results

Final CMCOPC	Source/Receptor Concentration (mg/L)	Reference	Observed $C_{gw,max}$ (mg/L)	MCL/RBC (mg/L)	CMCOC[b]
Explosives					
RDX	2.32E-02	a	ND	6.10E-04	Yes
Metals					
Arsenic	2.86E-02	b	2.86E-02	1.00E-02	Yes

[a] The concentration was re-calculated using SESOIL and AT123D model.
[b] The concentration was observed in groundwater.
CMCOC = Contaminant migration contaminat of concern.
CMCOPC = Contaminant migration contaminant of potential concern.
MCL = Maximum contaminant level.
ND = Not detected.
RBC = Risk-based concentration.
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.