Table A-125
Revetment 10
Estuarine Receptor Hazard Quotient
(Page 1 of 4)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 40000

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Antimony	8.0E-01	U	2.8E+00	2.8E-01	5.0E+00	1.6E-01	2.0E+00	4.0E-01	*	*	*	*
Cadmium	3.8E-01	U	2.6E+01	1.5E-02	4.0E+00	9.5E-02	6.8E-01	5.6E-01	6.3E+00	4.8E-03	2.1E+00	3.4E-02
Copper	3.6E+01	U	4.2E+00	8.6E+00	1.0E+02	3.6E-01	1.9E+01	1.9E+00	1.8E+01	1.6E-01	5.8E+00	1.2E+00
Selenium	3.3E-01	U	2.8E+01	1.2E-02	1.0E+00	3.3E-01	2.2E-02	1.5E+01	7.0E-01	3.7E-02	2.3E-01	2.7E-01
Petroleum Hydrocarbons												
TPH - Diesel range	6.9E+00	U	2.8E+04	2.5E-04	*	*	1.4E+02	4.8E-02	4.6E+03	1.2E-04	1.5E+03	8.5E-04
Polychlorinated Biphenyl Compounds, Dioxins, and Furans												
1,2,3,6,7,8-HexaCDD	4.9E-09	U	2.4E-03	2.1E-06	*	*	*	*	3.5E-02	1.1E-08	1.2E-02	8.0E-08
1,2,3,4,6,7,8-HeptaCDD	2.4E-08	U	2.4E-02	9.9E-07	*	*	*	*	4.8E-01	4.0E-09	1.6E-01	2.8E-08
OctaCDD	1.0E-07	U	2.4E+00	4.2E-08	*	*	*	*	6.8E+00	1.2E-09	2.3E+00	8.4E-09
1,2,3,4,6,7,8-HeptaCDF	4.1E-09	U	2.4E-02	1.7E-07	*	*	*	*	6.8E-02	4.7E-09	2.3E-02	3.3E-08
Total TCDD TEQ[c]				3.3E-06						2.1E-08		1.5E-07
Semivolatile Organic Compounds												
Benzo(b)fluoranthene	2.4E-02	U	1.5E+02	1.6E-04	*	*	1.8E+00	1.3E-02	*	*	*	*
Bis(2-ethylhexyl)phthalate	6.6E-01	U	2.3E+02	2.9E-03	*	*	1.8E-01	3.6E+00	8.8E+01	5.9E-04	2.9E+01	4.2E-03
Di-n-butyl phthalate	1.6E+00	U	3.5E+03	4.7E-04	2.0E+02	8.2E-03	3.5E+00	4.7E-01	2.2E-01	5.8E-01	7.3E-02	4.1E+00
Pyrene	2.3E-02	U	5.8E+03	4.0E-06	*	*	1.5E-01	1.5E-01	*	*	*	*
Volatile Organic Compounds												

Table A-125
Revetment 10
Estuarine Receptor Hazard Quotient
(Page 2 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Acetone	7.3E-01	U	2.2E+00	3.2E-01	*	*	2.6E-02	2.8E+01	5.7E-01	1.0E-01	1.9E-01	7.1E-01
Methyl ethyl ketone	1.3E-01	U	3.8E+01	3.4E-03	*	*	1.1E-01	1.2E+00	*	*	*	*
Methylene chloride	1.9E+00	U	2.0E+02	9.2E-03	*	*	1.3E+00	1.4E+00	*	*	*	*
Toluene	4.8E-02	U	2.5E+03	1.9E-05	2.0E+02	2.4E-04	5.7E-01	8.3E-02	*	*	*	*
Trichlorofluoromethane	2.1E-02	U	2.2E+02	9.6E-05	*	*	*	*	*	*	*	*
Hazard Index				9.3		0.96		53		0.89		6.3

Table A-125
Revetment 10
Estuarine Receptor Hazard Quotient
(Page 3 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Antimony	8.0E-01	U	*	*	*	*	*	*	*	*	*	*
Cadmium	3.8E-01	U	5.6E+00	6.8E-02	5.6E+00	2.9E-03	1.7E+02	9.5E-05	8.0E+02	4.4E-07	5.6E+00	6.8E-02
Copper	3.6E+01	U	7.6E+01	4.7E-01	7.6E+01	2.0E-02	2.3E+03	6.6E-04	2.8E+03	1.2E-05	7.6E+01	4.7E-01
Selenium	3.3E-01	U	1.0E+00	3.2E-01	1.0E+00	1.4E-02	3.1E+01	4.6E-04	4.1E+00	7.5E-05	1.0E+00	3.2E-01
Petroleum Hydrocarbons												
TPH - Diesel range	6.9E+00	U	8.1E+03	8.6E-04	8.1E+03	3.6E-05	2.4E+05	1.2E-06	3.1E+04	2.1E-07	8.1E+03	8.6E-04
Polychlorinated Biphenyl Compounds, Dioxins, and Furans												
1,2,3,6,7,8-HexaCDD	4.9E-09	U	*	*	*	*	*	*	1.1E+00	4.3E-12	*	*
1,2,3,4,6,7,8-HeptaCDD	2.4E-08	U	*	*	*	*	*	*	1.4E+01	1.6E-12	*	*
OctaCDD	1.0E-07	U	*	*	*	*	*	*	1.5E+02	6.2E-13	*	*
1,2,3,4,6,7,8-HeptaCDF	4.1E-09	U	*	*	*	*	*	*	1.5E+00	2.5E-12	*	*
Total TCDD TEQ[c]										9.0E-12		
Semivolatile Organic Compounds												
Benzo(b)fluoranthene	2.4E-02	U	*	*	*	*	*	*	*	*	*	*
Bis(2-ethylhexyl)phthalate	6.6E-01	U	*	*	*	*	*	*	1.8E+03	3.5E-07	*	*
Di-n-butyl phthalate	1.6E+00	U	1.2E+01	1.4E-01	1.2E+01	6.0E-03	3.5E+02	2.0E-04	3.9E+00	3.9E-04	1.2E+01	1.4E-01
Pyrene	2.3E-02	U	*	*	*	*	*	*	*	*	*	*

Table A-125
Revetment 10
Estuarine Receptor Hazard Quotient
(Page 4 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Volatile Organic Compounds												
Acetone	7.3E-01	U	1.2E+00	6.0E-01	3.6E+00	8.5E-03	1.1E+02	2.8E-04	1.1E+01	6.2E-05	1.4E+00	5.0E-01
Methyl ethyl ketone	1.3E-01	U	3.7E+00	3.5E-02	7.6E-01	7.2E-03	2.3E+01	2.4E-04	*	*	2.3E+01	5.7E-03
Methylene chloride	1.9E+00	U	4.3E+00	4.3E-01	4.3E+00	1.8E-02	1.3E+02	6.1E-04	*	*	4.3E+00	4.3E-01
Toluene	4.8E-02	U	1.9E+00	2.5E-02	1.9E+00	1.1E-03	5.7E+01	3.5E-05	*	*	1.9E+00	2.5E-02
Trichlorofluoromethane	2.1E-02	U	*	*	*	*	*	*	*	*	*	*
Hazard Index				2.1		0.077		0.0026		0.00054		2.0

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

[c] TEQ = toxicity equivalency; this row represents a summation of the hazard quotient of the dioxin congeners, this value is not included in the hazard index.

Checked by/Date: _____

Approved by/Date: _____

Table A-126
Revetment 10
Human Carcinogenic Risk Characterization

Carcinogenic Risk = (95% UCL/Target Concentrations) x 10^{-6}

Where

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration[b]	Risk	Target Concentration	Risk	Target Concentration	Risk
Metals								
Cadmium	3.8E-01	U	1.4E+03	2.7E-10	*	*	*	*
Polychlorinated Biphenyl Compounds, Dioxins, and Furans								
1,2,3,6,7,8-HexaCDD	4.9E-09	U	2.0E-04	2.5E-11	2.0E-04	2.5E-11	9.2E-03	5.4E-13
1,2,3,4,6,7,8-HeptaCDD	2.4E-08	U	2.0E-03	1.2E-11	2.0E-03	1.2E-11	4.6E-01	5.2E-14
OctaCDD	1.0E-07	U	2.0E-02	5.2E-12	2.0E-02	5.2E-12	5.8E+01	1.8E-15
1,2,3,4,6,7,8-HeptaCDF	4.1E-09	U	2.0E-03	2.1E-12	2.0E-03	2.1E-12	1.5E+00	2.8E-15
Semivolatile Organic Compounds								
Benzo(b)fluoranthene	2.4E-02	U	1.7E+00	1.4E-08	1.7E+00	1.4E-08	7.0E+01	3.4E-10
Bis(2-ethylhexyl)phthalate	6.6E-01	U	1.4E+02	4.5E-09	1.4E+02	4.6E-09	1.0E+05	6.6E-12
Volatile Organic Compounds								
Methylene Chloride	1.9E+00	U	1.6E+02	1.2E-08	1.6E+02	1.2E-08	5.3E+01	3.6E-08
Pathway Cumulative Risk				3.1E-08		3.1E-08		3.6E-08

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" Data not available.

Checked by/Date: _____

Approved by/Date: _____

Table A-127
Revetment 10
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Antimony	8.0E-01	U	1.6E+02	4.9E-03	1.6E+02	5.0E-03	*	*
Cadmium	3.8E-01	U	2.1E+02	1.8E-03	2.1E+02	1.8E-03	2.2E+02	1.7E-03
Copper	3.6E+01	U	1.5E+04	2.4E-03	1.5E+04	2.5E-03	1.8E+04	2.1E-03
Selenium	3.3E-01	U	2.0E+03	1.6E-04	2.0E+03	1.6E-04	1.0E+03	3.3E-04
Petroleum Hydrocarbons								
TPH - Diesel range	6.9E+00	U	1.0E+05	6.9E-05	1.0E+05	6.9E-05	*	*
Semivolatile Organic Compounds								
Bis(2-ethylhexyl)phthalat	6.6E-01	U	6.1E+03	1.1E-04	6.1E+03	1.1E-04	1.0E+05	6.6E-06
Di-n-butyl phthalate	1.6E+00	U	3.2E+04	5.1E-05	3.1E+04	5.3E-05	6.1E+04	2.7E-05
Pyrene	2.3E-02	U	9.2E+03	2.5E-06	1.2E+04	1.9E-06	4.6E+04	5.1E-07
Volatile Organic Compounds								
Acetone	7.3E-01	U	3.2E+04	2.3E-05	2.1E+01	3.4E-02	1.8E+01	4.0E-02
Methyl ethyl ketone	1.3E-01	U	1.0E+05	1.3E-06	1.0E+05	1.3E-06	3.4E+04	3.8E-06
Methylene chloride	1.9E+00	U	1.9E+04	9.7E-05	1.9E+04	9.9E-05	1.9E+04	9.9E-05
Toluene	4.8E-02	U	6.2E+04	7.7E-07	7.2E+04	6.6E-07	3.1E+03	1.5E-05
Trichlorofluoromethane	2.1E-02	U	9.0E+04	2.4E-07	1.0E+05	2.1E-07	*	*
Cumulative Pathway Hazard Index				0.0096		0.044		0.045

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-128
Revetment 11
Estuarine Receptor Hazard Quotient
(Page 1 of 2)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Beryllium	8.0E-01	U	9.9E+02	8.1E-04	1.0E+01	8.0E-02	3.6E-01	2.2E+00	*	*	*	*
Cadmium	1.1E+00	U	2.6E+01	4.3E-02	4.0E+00	2.8E-01	6.8E-01	1.6E+00	6.3E+00	7.9E-03	2.1E+00	5.6E-02
Copper	7.4E+01	U	4.2E+00	1.8E+01	1.0E+02	7.4E-01	1.9E+01	4.0E+00	1.8E+01	1.9E-01	5.8E+00	1.3E+00
Lead	3.4E+01	U	2.0E+03	1.7E-02	5.0E+01	6.9E-01	3.0E+01	1.1E+00	6.8E+00	2.3E-01	2.3E+00	1.6E+00
Zinc	1.0E+02	U	4.1E+02	2.4E-01	5.0E+01	2.0E+00	1.2E+02	8.1E-01	1.3E+02	3.6E-02	4.2E+01	2.5E-01
Petroleum Hydrocarbons												
TPH - Diesel range	6.1E+00	U	2.8E+04	2.2E-04	*	*	1.4E+02	4.2E-02	4.6E+03	6.0E-05	1.5E+03	4.2E-04
Hazard Index				18		3.8		9.8		0.46		3.2

Table A-128
Revetment 11
Estuarine Receptor Hazard Quotient
(Page 2 of 2)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Beryllium	8.0E-01	U	*	*	1.3E+01	1.5E-03	3.9E+02	4.9E-05	*	*	*	*
Cadmium	1.1E+00	U	5.6E+00	2.0E-01	5.6E+00	4.7E-03	1.7E+02	1.6E-04	8.0E+02	7.2E-07	5.6E+00	2.0E-01
Copper	7.4E+01	U	7.6E+01	9.7E-01	7.6E+01	2.3E-02	2.3E+03	7.7E-04	2.8E+03	1.4E-05	7.6E+01	9.7E-01
Lead	3.4E+01	U	2.3E+03	1.5E-02	2.3E+03	3.6E-04	6.9E+04	1.2E-05	3.1E+02	5.9E-05	2.3E+03	1.5E-02
Zinc	1.0E+02	U	3.8E+03	2.7E-02	3.8E+03	6.3E-04	1.1E+05	2.1E-05	1.4E+04	3.9E-06	3.8E+03	2.7E-02
Petroleum Hydrocarbons												
TPH - Diesel range	6.1E+00	U	8.1E+03	7.6E-04	8.1E+03	1.8E-05	2.4E+05	6.0E-07	3.1E+04	1.0E-07	8.1E+03	7.6E-04
Hazard Index				1.2		0.030		0.0010		0.000078		1.2

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-129
Revetment 11
Human Carcinogenic Risk Characterization

Carcinogenic Risk = (95% UCL/Target Concentrations) x 10^{-6}

Where

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration[b]	Risk	Target Concentration	Risk	Target Concentration	Risk
Metals								
Beryllium	8.0E-01	U	2.5E+03	3.2E-10	*	*	*	*
Cadmium	1.1E+00	U	1.4E+03	7.8E-10	*	*	*	*
Pathway Cumulative Risk				1.1E-09		*		*

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" Data not available.

Checked by/Date: _____

Approved by/Date: _____

Table A-130
Revetment 11
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Beryllium	8.0E-01	U	8.0E+02	1.0E-03	8.2E+02	9.8E-04	4.0E+03	2.0E-04
Cadmium	1.1E+00	U	2.1E+02	5.3E-03	2.1E+02	5.3E-03	2.2E+02	5.1E-03
Copper	7.4E+01	U	1.5E+04	4.9E-03	1.5E+04	5.0E-03	1.8E+04	4.2E-03
Lead	3.4E+01	U	6.6E+02	5.2E-02	6.6E+02	5.2E-02	*	*
Zinc	1.0E+02	U	1.0E+05	1.0E-03	9.2E+04	1.1E-03	1.0E+05	1.0E-03
Petroleum Hydrocarbons								
TPH - Diesel range	6.1E+00	U	1.0E+05	6.1E-05	1.0E+05	6.1E-05	*	*
Cumulative Pathway Hazard Index				0.064		0.064		0.011

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-131
Revetment 12
Estuarine Receptor Hazard Quotient
(Page 1 of 2)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Cadmium	4.2E-01	U	2.6E+01	1.6E-02	4.0E+00	1.0E-01	6.8E-01	6.2E-01	6.3E+00	3.0E-03	2.1E+00	2.1E-02
Copper	9.0E+01	U	4.2E+00	2.1E+01	1.0E+02	9.0E-01	1.9E+01	4.8E+00	1.8E+01	2.3E-01	5.8E+00	1.6E+00
Zinc	7.8E+01	U	4.1E+02	1.9E-01	5.0E+01	1.6E+00	1.2E+02	6.3E-01	1.3E+02	2.7E-02	4.2E+01	1.9E-01
Hazard Index				22		2.6		6.1		0.26		1.8

Table A-131
Revetment 12
Estuarine Receptor Hazard Quotient
(Page 2 of 2)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Cadmium	4.2E-01	U	5.6E+00	7.5E-02	5.6E+00	1.8E-03	1.7E+02	5.9E-05	8.0E+02	2.7E-07	5.6E+00	7.5E-02
Copper	9.0E+01	U	7.6E+01	1.2E+00	7.6E+01	2.8E-02	2.3E+03	9.3E-04	2.8E+03	1.7E-05	7.6E+01	1.2E+00
Zinc	7.8E+01	U	3.8E+03	2.1E-02	3.8E+03	4.9E-04	1.1E+05	1.6E-05	1.4E+04	3.0E-06	3.8E+03	2.1E-02
Hazard Index				1.3		0.030		0.0010		0.000020		1.3

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

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Table A-132
Revetment 12
Human Carcinogenic Risk Characterization

Carcinogenic Risk = (95% UCL/Target Concentrations) x 10^{-6}

Where

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration[b]	Risk	Target Concentration	Risk	Target Concentration	Risk
Metals								
Cadmium	4.2E-01	U	1.4E+03	2.9E-10	*	*	*	*
Pathway Cumulative Risk				2.9E-10		*		*

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" Data not available.

Checked by/Date: _____

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Table A-133
Revetment 12
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Metals								
Cadmium	4.2E-01	U	2.1E+02	2.0E-03	2.1E+02	2.0E-03	2.2E+02	1.9E-03
Copper	9.0E+01	U	1.5E+04	6.0E-03	1.5E+04	6.1E-03	1.8E+04	5.1E-03
Zinc	7.8E+01	U	1.0E+05	7.8E-04	9.2E+04	8.5E-04	1.0E+05	7.8E-04
Cumulative Pathway Hazard Index				0.0087		0.0090		0.0078

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

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Table A-134
Revetment 13
Estuarine Receptor Hazard Quotient
(Page 1 of 4)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless
UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight
Target Concentration = Target Concentration, mg/kg, dry weight
A = Area of Site, square feet (ft^2) = 22500
HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Cadmium	3.7E+00	U	2.6E+01	1.4E-01	4.0E+00	9.2E-01	6.8E-01	5.5E+00	6.3E+00	2.6E-02	2.1E+00	1.9E-01
Lead	9.6E+01	U	2.0E+03	4.7E-02	5.0E+01	1.9E+00	3.0E+01	3.2E+00	6.8E+00	6.3E-01	2.3E+00	4.5E+00
Petroleum Hydrocarbons												
TPH - Diesel range	2.0E+01	U	2.8E+04	7.3E-04	*	*	1.4E+02	1.4E-01	4.6E+03	2.0E-04	1.5E+03	1.4E-03
TPH - Gasoline range	4.5E+00	U	9.5E+03	4.7E-04	*	*	1.2E+01	3.7E-01	*	*	*	*
Semivolatile Organic Compounds												
Acenaphthene	3.7E-02	U	3.9E+03	9.5E-06	6.3E-01	5.9E-02	6.7E-03	5.5E+00	6.7E+03	2.4E-07	2.2E+03	1.7E-06
Anthracene	8.7E-02	U	4.9E+04	1.8E-06	*	*	4.7E-02	1.9E+00	*	*	*	*
Benzo(a)anthracene	6.8E-01	M	1.2E+02	5.8E-03	*	*	7.5E-02	9.1E+00	*	*	*	*
Benzo(a)pyrene	7.4E-01	M	1.5E+02	5.0E-03	1.0E-02	7.4E+01	8.9E-02	8.3E+00	*	*	*	*
Benzo(b)fluoranthene	1.0E+00	M	1.5E+02	6.6E-03	*	*	1.8E+00	5.6E-01	*	*	*	*
Benzo(k)fluoranthene	5.1E-01	M	1.8E+02	2.8E-03	*	*	1.8E+00	2.8E-01	*	*	*	*
Chrysene	7.0E-01	M	1.2E+02	6.0E-03	*	*	1.1E-01	6.5E+00	*	*	*	*
Dibenz(a,h)anthracene	1.8E-01	M	1.8E+02	1.0E-03	*	*	6.2E-03	2.9E+01	*	*	*	*
Fluoranthene	1.1E+00	M	9.6E+03	1.1E-04	*	*	1.1E-01	9.8E+00	*	*	*	*
Fluorene	3.5E-02	U	3.9E+03	8.9E-06	*	*	1.9E-02	1.8E+00	4.6E+03	3.4E-07	1.5E+03	2.4E-06
Indeno(1,2,3-cd)pyrene	3.5E-01	M	1.7E+02	2.0E-03	*	*	6.9E-01	5.1E-01	*	*	*	*
Phenanthrene	4.4E-01	M	4.9E+01	9.0E-03	*	*	8.7E-02	5.1E+00	*	*	*	*

Table A-134
Revetment 13
Estuarine Receptor Hazard Quotient
(Page 2 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Pyrene	9.6E-01	M	5.8E+03	1.7E-04	*	*	1.5E-01	6.3E+00	*	*	*	*
Volatile Organic Compounds												
Acetone	2.7E-02	U	2.2E+00	1.2E-02	*	*	2.6E-02	1.1E+00	5.7E-01	2.1E-03	1.9E-01	1.5E-02
Methylene chloride	4.5E-03	U	2.0E+02	2.2E-05	*	*	1.3E+00	3.5E-03	*	*	*	*
Hazard Index				0.24		77		95		0.66		4.7

Table A-134
Revetment 13
Estuarine Receptor Hazard Quotient
(Page 3 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Cadmium	3.7E+00	U	5.6E+00	6.6E-01	5.6E+00	1.6E-02	1.7E+02	5.2E-04	8.0E+02	2.4E-06	5.6E+00	6.6E-01
Lead	9.6E+01	U	2.3E+03	4.2E-02	2.3E+03	9.9E-04	6.9E+04	3.3E-05	3.1E+02	1.6E-04	2.3E+03	4.2E-02
Petroleum Hydrocarbons												
TPH - Diesel range	2.0E+01	U	8.1E+03	2.5E-03	8.1E+03	6.0E-05	2.4E+05	2.0E-06	3.1E+04	3.5E-07	8.1E+03	2.5E-03
TPH - Gasoline range	4.5E+00	U	4.4E+02	1.0E-02	4.4E+02	2.4E-04	1.3E+04	8.1E-06	*	*	4.4E+02	1.0E-02
Semivolatile Organic Compounds												
Acenaphthene	3.7E-02	U	6.9E+00	5.3E-03	6.9E+00	1.3E-04	2.1E+02	4.2E-06	3.6E+03	5.4E-09	6.9E+00	5.3E-03
Anthracene	8.7E-02	U	*	*	*	*	*	*	*	*	*	*
Benzo(a)anthracene	6.8E-01	M	*	*	*	*	*	*	*	*	*	*
Benzo(a)pyrene	7.4E-01	M	*	*	*	*	*	*	*	*	*	*
Benzo(b)fluoranthene	1.0E+00	M	*	*	*	*	*	*	*	*	*	*
Benzo(k)fluoranthene	5.1E-01	M	*	*	*	*	*	*	*	*	*	*
Chrysene	7.0E-01	M	*	*	*	*	*	*	*	*	*	*
Dibenz(a,h)anthracene	1.8E-01	M	*	*	*	*	*	*	*	*	*	*
Fluoranthene	1.1E+00	M	1.8E+01	6.3E-02	1.8E+01	1.5E-03	5.3E+02	5.0E-05	*	*	1.8E+01	6.3E-02
Fluorene	3.5E-02	U	*	*	*	*	*	*	3.1E+03	5.9E-09	*	*
Indeno(1,2,3-cd)pyrene	3.5E-01	M	*	*	*	*	*	*	*	*	*	*
Phenanthrene	4.4E-01	M	*	*	*	*	*	*	*	*	*	*
Pyrene	9.6E-01	M	*	*	*	*	*	*	*	*	*	*

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Revetment 13
Estuarine Receptor Hazard Quotient
(Page 4 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Volatile Organic Compounds												
Acetone	2.7E-02	U	1.2E+00	2.3E-02	3.6E+00	1.8E-04	1.1E+02	6.0E-06	1.1E+01	1.3E-06	1.4E+00	1.9E-02
Methylene chloride	4.5E-03	U	4.3E+00	1.0E-03	4.3E+00	2.5E-05	1.3E+02	8.2E-07	*	*	4.3E+00	1.0E-03
Hazard Index				0.81		0.019		0.00063		0.00017		0.81

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-135
Revetment 13
Human Carcinogenic Risk Characterization

Carcinogic Risk = (95% UCL/Target Concentrations) x 10^{-6}

Where

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration[b]	Risk	Target Concentration	Risk	Target Concentration	Risk
Metals								
Cadmium	3.7E+00	U	1.4E+03	2.6E-09	*	*	*	*
Semivolatile Organic Compounds								
Benzo(a)anthracene	6.8E-01	M	1.7E+00	4.0E-07	1.7E+00	4.0E-07	2.9E+01	2.3E-08
Benzo(a)pyrene	7.4E-01	M	1.7E-01	4.4E-06	1.7E-01	4.4E-06	5.8E+00	1.3E-07
Benzo(b)fluoranthene	1.0E+00	M	1.7E+00	5.9E-07	1.7E+00	5.9E-07	7.0E+01	1.4E-08
Benzo(k)fluoranthene	5.1E-01	M	1.7E+00	3.0E-07	1.7E+00	3.0E-07	5.7E+01	9.0E-09
Chrysene	7.0E-01	M	1.7E+01	4.1E-08	1.7E+01	4.1E-08	4.7E+03	1.5E-10
Dibenz(a,h)anthracene	1.8E-01	M	4.9E-01	3.6E-07	4.9E-01	3.6E-07	6.5E+01	2.8E-09
Indeno(1,2,3-cd)pyrene	3.5E-01	M	1.7E+00	2.1E-07	1.7E+00	2.1E-07	2.0E+02	1.8E-09
Volatile Organic Compounds								
Methylene Chloride	4.5E-03	U	1.6E+02	2.8E-11	1.6E+02	2.8E-11	5.3E+01	8.5E-11
Pathway Cumulative Risk				6.3E-06		6.3E-06		1.8E-07

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" Data not available.

Checked by/Date: _____

Approved by/Date: _____

Table A-136
Revetment 13
Human Noncarcinogenic Health Hazard Characterization
(Page 1 of 2)

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Cadmium	3.7E+00	U	2.1E+02	1.8E-02	2.1E+02	1.8E-02	2.2E+02	1.7E-02
Lead	9.6E+01	U	6.6E+02	1.5E-01	6.6E+02	1.5E-01	*	*
Petroleum Hydrocarbons								
TPH - Diesel range	2.0E+01	U	1.0E+05	2.0E-04	1.0E+05	2.0E-04	*	*
TPH - Gasoline range	4.5E+00	U	1.0E+05	4.5E-05	1.0E+05	4.5E-05	*	*
Semivolatile Organic Compounds								
Acenaphthene	3.7E-02	U	1.8E+04	2.0E-06	1.8E+04	2.0E-06	3.0E+04	1.2E-06
Anthracene	8.7E-02	U	8.5E+04	1.0E-06	7.8E+04	1.1E-06	1.0E+05	8.7E-07
Fluoranthene	1.1E+00	M	1.2E+04	9.0E-05	1.2E+04	9.1E-05	7.7E+04	1.4E-05
Fluorene	3.5E-02	U	1.2E+04	2.9E-06	1.2E+04	2.9E-06	1.8E+04	2.0E-06
Phenanthrene	4.4E-01	M	9.8E+03	4.5E-05	1.2E+04	3.6E-05	1.0E+05	4.4E-06
Pyrene	9.6E-01	M	9.2E+03	1.0E-04	1.2E+04	7.8E-05	4.6E+04	2.1E-05

Table A-136
Revetment 13
Human Noncarcinogenic Health Hazard Characterization
(Page 2 of 2)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Volatile Organic Compounds								
Acetone	2.7E-02	U	3.2E+04	8.6E-07	2.1E+01	1.3E-03	1.8E+01	1.5E-03
Methylene chloride	4.5E-03	U	1.9E+04	2.3E-07	1.9E+04	2.4E-07	1.9E+04	2.4E-07
Cumulative Pathway Hazard Index[c]				0.16		0.16		0.019

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

[c] Lead is a special case metal (i.e., the target concentration was calculated using the California Department of Toxic Substances Control LEADSPREAD model), however for calculation of the cumulative pathway hazard index, lead is assumed to be a non-carcinogen.

Checked by/Date: _____

Approved by/Date: _____

Table A-137
Revetment 14
Estuarine Receptor Hazard Quotient
(Page 1 of 2)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Copper	5.7E+01	M	4.2E+00	1.3E+01	1.0E+02	5.7E-01	1.9E+01	3.0E+00	1.8E+01	1.4E-01	5.8E+00	1.0E+00
Molybdenum	1.2E+01	M	6.0E+00	1.9E+00	2.0E+00	5.9E+00	4.8E+00	2.4E+00	1.8E+02	2.9E-03	5.9E+01	2.1E-02
Petroleum Hydrocarbons												
TPH - Diesel range	1.6E+02	M	2.8E+04	5.7E-03	*	*	1.4E+02	1.1E+00	4.6E+03	1.6E-03	1.5E+03	1.1E-02
Volatile Organic Compounds												
Acetone	1.3E-02	M	2.2E+00	5.8E-03	*	*	2.6E-02	5.0E-01	5.7E-01	1.0E-03	1.9E-01	7.2E-03
Hazard Index				15		6.4		7.1		0.15		1.1

Table A-137
Revetment 14
Estuarine Receptor Hazard Quotient
(Page 2 of 2)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Copper	5.7E+01	M	7.6E+01	7.4E-01	7.6E+01	1.8E-02	2.3E+03	5.9E-04	2.8E+03	1.1E-05	7.6E+01	7.4E-01
Molybdenum	1.2E+01	M	1.7E+01	7.0E-01	4.9E-02	5.7E+00	1.5E+00	1.9E-01	4.8E+03	1.3E-06	1.7E+01	7.0E-01
Petroleum Hydrocarbons												
TPH - Diesel range	1.6E+02	M	8.1E+03	2.0E-02	8.1E+03	4.7E-04	2.4E+05	1.6E-05	3.1E+04	2.7E-06	8.1E+03	2.0E-02
Volatile Organic Compounds												
Acetone	1.3E-02	M	1.2E+00	1.1E-02	3.6E+00	8.6E-05	1.1E+02	2.9E-06	1.1E+01	6.3E-07	1.4E+00	9.0E-03
Hazard Index				1.5		5.7		0.19		0.000015		1.5

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-138
Revetment 14
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Copper	5.7E+01	M	1.5E+04	3.7E-03	1.5E+04	3.9E-03	1.8E+04	3.2E-03
Molybdenum	1.2E+01	M	2.0E+03	5.7E-03	2.0E+03	5.7E-03	*	*
Petroleum Hydrocarbons								
TPH - Diesel range	1.6E+02	M	1.0E+05	1.6E-03	1.0E+05	1.6E-03	*	*
Volatile Organic Compounds								
Acetone	1.3E-02	M	3.2E+04	4.1E-07	2.1E+01	6.1E-04	1.8E+01	7.2E-04
Cumulative Pathway Hazard Index				0.011		0.012		0.0040

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-139
Revetment 15
Estuarine Receptor Hazard Quotient
(Page 1 of 4)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Cadmium	1.4E+00	U	2.6E+01	5.4E-02	4.0E+00	3.5E-01	6.8E-01	2.1E+00	6.3E+00	1.0E-02	2.1E+00	7.1E-02
Lead	4.5E+01	U	2.0E+03	2.2E-02	5.0E+01	9.1E-01	3.0E+01	1.5E+00	6.8E+00	3.0E-01	2.3E+00	2.1E+00
Molybdenum	4.4E-01	U	6.0E+00	7.3E-02	2.0E+00	2.2E-01	4.8E+00	9.1E-02	1.8E+02	1.1E-04	5.9E+01	7.8E-04
Petroleum Hydrocarbons												
TPH - Diesel range	1.4E+01	M	2.8E+04	5.0E-04	*	*	1.4E+02	9.7E-02	4.6E+03	1.4E-04	1.5E+03	9.7E-04
Semivolatile Organic Compounds												
Benzo(a)anthracene	2.7E-02	U	1.2E+02	2.3E-04	*	*	7.5E-02	3.6E-01	*	*	*	*
Benzo(a)pyrene	2.9E-02	U	1.5E+02	1.9E-04	1.0E-02	2.9E+00	8.9E-02	3.2E-01	*	*	*	*
Benzo(b)fluoranthene	3.8E-02	U	1.5E+02	2.5E-04	*	*	1.8E+00	2.1E-02	*	*	*	*
Benzo(k)fluoranthene	2.5E-02	U	1.8E+02	1.4E-04	*	*	1.8E+00	1.4E-02	*	*	*	*
Chrysene	3.4E-02	U	1.2E+02	2.9E-04	*	*	1.1E-01	3.1E-01	*	*	*	*
Fluoranthene	6.1E-02	U	9.6E+03	6.3E-06	*	*	1.1E-01	5.4E-01	*	*	*	*
Phenanthrene	3.8E-02	U	4.9E+01	7.7E-04	*	*	8.7E-02	4.3E-01	*	*	*	*
Pyrene	5.4E-02	U	5.8E+03	9.3E-06	*	*	1.5E-01	3.5E-01	*	*	*	*

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Revetment 15
Estuarine Receptor Hazard Quotient
(Page 2 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Volatile Organic Compounds												
Acetone	2.8E-02	U	2.2E+00	1.2E-02	*	*	2.6E-02	1.1E+00	5.7E-01	2.2E-03	1.9E-01	1.5E-02
Toluene	6.0E-03	M	2.5E+03	2.4E-06	2.0E+02	3.0E-05	5.7E-01	1.1E-02	*	*	*	*
Hazard Index				0.16		4.3		7.2		0.31		2.2

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Revetment 15
Estuarine Receptor Hazard Quotient
(Page 3 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Cadmium	1.4E+00	U	5.6E+00	2.5E-01	5.6E+00	6.0E-03	1.7E+02	2.0E-04	8.0E+02	9.1E-07	5.6E+00	2.5E-01
Lead	4.5E+01	U	2.3E+03	2.0E-02	2.3E+03	4.7E-04	6.9E+04	1.6E-05	3.1E+02	7.8E-05	2.3E+03	2.0E-02
Molybdenum	4.4E-01	U	1.7E+01	2.6E-02	4.9E-02	2.1E-01	1.5E+00	7.1E-03	4.8E+03	4.8E-08	1.7E+01	2.6E-02
Petroleum Hydrocarbons												
TPH - Diesel range	1.4E+01	M	8.1E+03	1.7E-03	8.1E+03	4.1E-05	2.4E+05	1.4E-06	3.1E+04	2.4E-07	8.1E+03	1.7E-03
Semivolatile Organic Compounds												
Benzo(a)anthracene	2.7E-02	U	*	*	*	*	*	*	*	*	*	*
Benzo(a)pyrene	2.9E-02	U	*	*	*	*	*	*	*	*	*	*
Benzo(b)fluoranthene	3.8E-02	U	*	*	*	*	*	*	*	*	*	*
Benzo(k)fluoranthene	2.5E-02	U	*	*	*	*	*	*	*	*	*	*
Chrysene	3.4E-02	U	*	*	*	*	*	*	*	*	*	*
Fluoranthene	6.1E-02	U	1.8E+01	3.5E-03	1.8E+01	8.2E-05	5.3E+02	2.7E-06	*	*	1.8E+01	3.5E-03
Phenanthrene	3.8E-02	U	*	*	*	*	*	*	*	*	*	*
Pyrene	5.4E-02	U	*	*	*	*	*	*	*	*	*	*

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Revetment 15
Estuarine Receptor Hazard Quotient
(Page 4 of 4)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Volatile Organic Compounds												
Acetone	2.8E-02	U	1.2E+00	2.3E-02	3.6E+00	1.9E-04	1.1E+02	6.2E-06	1.1E+01	1.4E-06	1.4E+00	1.9E-02
Toluene	6.0E-03	M	1.9E+00	3.2E-03	1.9E+00	7.5E-05	5.7E+01	2.5E-06	*	*	1.9E+00	3.2E-03
Hazard Index				0.33		0.22		0.0073		0.000080		0.33

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-140
Revetment 15
Human Carcinogenic Risk Characterization

Carcinogenic Risk = (95% UCL/Target Concentrations) x 10^{-6}

Where

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration[b]	Risk	Target Concentration	Risk	Target Concentration	Risk
Metals								
Cadmium	1.4E+00	U	1.4E+03	9.9E-10	*	*	*	*
Semivolatile Organic Compounds								
Benzo(a)anthracene	2.7E-02	U	1.7E+00	1.6E-08	1.7E+00	1.6E-08	2.9E+01	9.2E-10
Benzo(a)pyrene	2.9E-02	U	1.7E-01	1.7E-07	1.7E-01	1.7E-07	5.8E+00	4.9E-09
Benzo(b)fluoranthene	3.8E-02	U	1.7E+00	2.2E-08	1.7E+00	2.2E-08	7.0E+01	5.4E-10
Benzo(k)fluoranthene	2.5E-02	U	1.7E+00	1.5E-08	1.7E+00	1.5E-08	5.7E+01	4.4E-10
Chrysene	3.4E-02	U	1.7E+01	2.0E-09	1.7E+01	2.0E-09	4.7E+03	7.1E-12
Pathway Cumulative Risk				2.2E-07		2.2E-07		6.8E-09

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" Data not available.

Checked by/Date: _____

Approved by/Date: _____

Table A-141
Revetment 15
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Cadmium	1.4E+00	U	2.1E+02	6.7E-03	2.1E+02	6.7E-03	2.2E+02	6.4E-03
Lead	4.5E+01	U	6.6E+02	6.9E-02	6.6E+02	6.9E-02	*	*
Molybdenum	4.4E-01	U	2.0E+03	2.1E-04	2.0E+03	2.1E-04	*	*
Petroleum Hydrocarbons								
TPH - Diesel range	1.4E+01	M	1.0E+05	1.4E-04	1.0E+05	1.4E-04	*	*
Semivolatile Organic Compounds								
Fluoranthene	6.1E-02	U	1.2E+04	5.0E-06	1.2E+04	5.0E-06	7.7E+04	7.9E-07
Phenanthrene	3.8E-02	U	9.8E+03	3.8E-06	1.2E+04	3.0E-06	1.0E+05	3.8E-07
Pyrene	5.4E-02	U	9.2E+03	5.8E-06	1.2E+04	4.3E-06	4.6E+04	1.2E-06
Volatile Organic Compounds								
Acetone	2.8E-02	U	3.2E+04	8.8E-07	2.1E+01	1.3E-03	1.8E+01	1.6E-03
Toluene	6.0E-03	M	6.2E+04	9.7E-08	7.2E+04	8.3E-08	3.1E+03	1.9E-06
Cumulative Pathway Hazard Index[c]				0.076		0.077		0.0080

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

[c] Lead is a special case metal (i.e., the target concentration was calculated using the California Department of Toxic Substances Control LEADSPREAD model), however for calculation of the cumulative pathway hazard index, lead is assumed to be a non-carcinogen.

Checked by/Date: _____

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Table A-142
Revetment 16
Estuarine Receptor Hazard Quotient
(Page 1 of 2)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22,500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Barium	4.1E+02	M	8.8E+01	4.6E+00	5.0E+02	8.1E-01	1.4E+00	3.0E+02	4.3E+02	4.2E-02	1.4E+02	3.0E-01
Copper	6.3E+01	M	4.2E+00	1.5E+01	1.0E+02	6.3E-01	1.9E+01	3.4E+00	1.8E+01	1.6E-01	5.8E+00	1.1E+00
Molybdenum	7.3E-01	M	6.0E+00	1.2E-01	2.0E+00	3.7E-01	4.8E+00	1.5E-01	1.8E+02	1.8E-04	5.9E+01	1.3E-03
Volatile Organic Compounds												
Acetone	1.9E-02	M	2.2E+00	8.5E-03	*	*	2.6E-02	7.3E-01	5.7E-01	1.5E-03	1.9E-01	1.0E-02
Hazard Index				20		1.8		302		0.20		1.4

Table A-142
Revetment 16
Estuarine Receptor Hazard Quotient
(Page 2 of 2)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Barium	4.1E+02	M	5.8E+03	7.0E-02	5.8E+03	1.6E-03	1.8E+05	5.5E-05	4.3E+04	5.0E-06	3.1E+02	1.3E+00
Copper	6.3E+01	M	7.6E+01	8.3E-01	7.6E+01	2.0E-02	2.3E+03	6.5E-04	2.8E+03	1.2E-05	7.6E+01	8.3E-01
Molybdenum	7.3E-01	M	1.7E+01	4.4E-02	4.9E-02	3.6E-01	1.5E+00	1.2E-02	4.8E+03	8.0E-08	1.7E+01	4.4E-02
Volatile Organic Compounds												
Acetone	1.9E-02	M	1.2E+00	1.6E-02	3.6E+00	1.3E-04	1.1E+02	4.2E-06	1.1E+01	9.2E-07	1.4E+00	1.3E-02
Hazard Index				0.96		0.38		0.013		0.000018		2.2

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-143
Revetment 16
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Barium	4.1E+02	M	2.8E+04	1.5E-02	2.7E+04	1.5E-02	*	*
Copper	6.3E+01	M	1.5E+04	4.2E-03	1.5E+04	4.3E-03	1.8E+04	3.6E-03
Molybdenum	7.3E-01	M	2.0E+03	3.6E-04	2.0E+03	3.6E-04	*	*
Volatile Organic Compounds								
Acetone	1.9E-02	M	3.2E+04	6.0E-07	2.1E+01	8.9E-04	1.8E+01	1.1E-03
Cumulative Pathway Hazard Index				0.019		0.021		0.0047

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-144
Revetment 17
Estuarine Receptor Hazard Quotient
(Page 1 of 2)

HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22,500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Copper	5.1E+01	M	4.2E+00	1.2E+01	1.0E+02	5.1E-01	1.9E+01	2.7E+00	1.8E+01	1.3E-01	5.8E+00	9.1E-01
Molybdenum	7.2E-01	M	6.0E+00	1.2E-01	2.0E+00	3.6E-01	4.8E+00	1.5E-01	1.8E+02	1.8E-04	5.9E+01	1.3E-03
Petroleum Hydrocarbons												
TPH - Diesel range	1.7E+01	M	2.8E+04	6.1E-04	*	*	1.4E+02	1.2E-01	4.6E+03	1.7E-04	1.5E+03	1.2E-03
TPH - Gasoline range	4.4E+00	M	9.5E+03	4.6E-04	*	*	1.2E+01	3.7E-01	*	*	*	*
Hazard Index				12		0.87		3.3		0.13		0.91

Table A-144
Revetment 17
Estuarine Receptor Hazard Quotient
(Page 2 of 2)

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Copper	5.1E+01	M	7.6E+01	6.6E-01	7.6E+01	1.6E-02	2.3E+03	5.2E-04	2.8E+03	9.5E-06	7.6E+01	6.6E-01
Molybdenum	7.2E-01	M	1.7E+01	4.3E-02	4.9E-02	3.5E-01	1.5E+00	1.2E-02	4.8E+03	7.9E-08	1.7E+01	4.3E-02
Petroleum Hydrocarbons												
TPH - Diesel range	1.7E+01	M	8.1E+03	2.1E-03	8.1E+03	5.0E-05	2.4E+05	1.7E-06	3.1E+04	2.9E-07	8.1E+03	2.1E-03
TPH - Gasoline range	4.4E+00	M	4.4E+02	1.0E-02	4.4E+02	2.4E-04	1.3E+04	7.9E-06	*	*	4.4E+02	1.0E-02
Hazard Index				0.72		0.37		0.012		0.0000098		0.72

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-145
Revetment 17
Human Noncarcinogenic Health Hazard Characterization

HQ = (95% UCL/Target Concentration)

Where

HQ = Noncarcinogenic Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean Concentration, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Grassland Recreation		Marsh Recreation		Recreational Fishing	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration[b]	Hazard Quotient
Metals								
Copper	5.1E+01	M	1.5E+04	3.3E-03	1.5E+04	3.4E-03	1.8E+04	2.9E-03
Molybdenum	7.2E-01	M	2.0E+03	3.5E-04	2.0E+03	3.5E-04	*	*
Petroleum Hydrocarbons								
TPH - Diesel range	1.7E+01	M	1.0E+05	1.7E-04	1.0E+05	1.7E-04	*	*
TPH - Gasoline range	4.4E+00	M	1.0E+05	4.4E-05	1.0E+05	4.4E-05	*	*
Cumulative Pathway Hazard Index				0.0039		0.0040		0.0029

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____

Table A-146
Revetment 19
Estuarine Receptor Hazard Quotient
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HQ = (95% UCL/Target Concentration) x A/HR (if A/HR exceeds 1, value of 1 is used)

Where

HQ = Hazard Quotient, unitless

UCL = Upper Confidence Limit on the Mean, milligrams per kilogram (mg/kg), dry weight

Target Concentration = Target Concentration, mg/kg, dry weight

A = Area of Site, square feet (ft^2) = 22500

HR = Home Range, ft^2, if blank, home range assumed equal to area of site

Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)			15,000						505,000		215,000	
Metals												
Barium	3.5E+02	U	8.8E+01	4.0E+00	5.0E+02	6.9E-01	1.4E+00	2.5E+02	4.3E+02	3.6E-02	1.4E+02	2.6E-01
Cadmium	1.7E+00	M	2.6E+01	6.6E-02	4.0E+00	4.3E-01	6.8E-01	2.5E+00	6.3E+00	1.2E-02	2.1E+00	8.6E-02
Copper	7.5E+01	U	4.2E+00	1.8E+01	1.0E+02	7.5E-01	1.9E+01	4.0E+00	1.8E+01	1.9E-01	5.8E+00	1.3E+00
Lead	7.8E+01	U	2.0E+03	3.9E-02	5.0E+01	1.6E+00	3.0E+01	2.6E+00	6.8E+00	5.1E-01	2.3E+00	3.6E+00
Molybdenum	1.4E+00	U	6.0E+00	2.3E-01	2.0E+00	6.8E-01	4.8E+00	2.9E-01	1.8E+02	3.4E-04	5.9E+01	2.4E-03
Petroleum Hydrocarbons												
TPH - Diesel range	2.3E+02	U	2.8E+04	8.2E-03	*	*	1.4E+02	1.6E+00	4.6E+03	2.2E-03	1.5E+03	1.6E-02
TPH - Gasoline range	4.9E+02	U	9.5E+03	5.1E-02	*	*	1.2E+01	4.1E+01	*	*	*	*
Semivolatile Organic Compounds												
2-Methylnaphthalene	1.1E-01	U	2.0E+03	5.4E-05	*	*	2.0E-02	5.2E+00	*	*	*	*
Acenaphthene	2.9E-01	U	3.9E+03	7.4E-05	6.3E-01	4.6E-01	6.7E-03	4.3E+01	6.7E+03	1.9E-06	2.2E+03	1.3E-05
Anthracene	2.0E-01	U	4.9E+04	4.1E-06	*	*	4.7E-02	4.3E+00	*	*	*	*
Benzo(a)anthracene	8.5E-01	U	1.2E+02	7.2E-03	*	*	7.5E-02	1.1E+01	*	*	*	*
Benzo(a)pyrene	7.6E-01	U	1.5E+02	5.1E-03	1.0E-02	7.6E+01	8.9E-02	8.5E+00	*	*	*	*
Benzo(b)fluoranthene	9.3E-01	U	1.5E+02	6.1E-03	*	*	1.8E+00	5.2E-01	*	*	*	*
Benzo(k)fluoranthene	6.5E-01	U	1.8E+02	3.5E-03	*	*	1.8E+00	3.6E-01	*	*	*	*
Chrysene	9.3E-01	U	1.2E+02	7.9E-03	*	*	1.1E-01	8.7E+00	*	*	*	*
Dibenz(a,h)anthracene	1.7E-01	U	1.8E+02	9.7E-04	*	*	6.2E-03	2.7E+01	*	*	*	*
Fluoranthene	1.9E+00	U	9.6E+03	2.0E-04	*	*	1.1E-01	1.7E+01	*	*	*	*

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Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		High Marsh				Intertidal Marsh					
			Salt Marsh Harvest Mouse		Pickleweed		Eohaustorius Estuarius (amphipod)		California Clapper Rail		Black Rail	
			Target Concentration[b]	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Fluorene	2.2E-01	U	3.9E+03	5.6E-05	*	*	1.9E-02	1.2E+01	4.6E+03	2.1E-06	1.5E+03	1.5E-05
Semivolatile Organic Compounds (continued)												
Indeno(1,2,3-cd)pyrene	2.8E-01	U	1.7E+02	1.6E-03	*	*	6.9E-01	4.0E-01	*	*	*	*
Naphthalene	3.2E-02	M	7.9E+02	4.0E-05	2.5E+00	1.3E-02	3.5E-02	9.3E-01	*	*	*	*
Phenanthrene	1.7E+00	U	4.9E+01	3.5E-02	*	*	8.7E-02	2.0E+01	*	*	*	*
Pyrene	1.6E+00	U	5.8E+03	2.8E-04	*	*	1.5E-01	1.1E+01	*	*	*	*
Volatile Organic Compounds												
Acetone	1.7E-01	U	2.2E+00	7.6E-02	*	*	2.6E-02	6.6E+00	5.7E-01	1.3E-02	1.9E-01	9.3E-02
Carbon disulfide	3.0E-03	M	*	*	*	*	1.1E-02	2.8E-01	*	*	*	*
Methyl ethyl ketone	2.1E-02	M	3.8E+01	5.5E-04	*	*	1.1E-01	1.9E-01	*	*	*	*
Methylene chloride	8.0E-03	M	2.0E+02	3.9E-05	*	*	1.3E+00	6.1E-03	*	*	*	*
Trichlorofluoromethane	2.0E-03	M	2.2E+02	9.1E-06	*	*	*	*	*	*	*	*
Hazard Index				22		80		482		0.77		5.4

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Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Home Range (ft^2)					950,000		950,000		43,100,000			
Metals												
Barium	3.5E+02	U	5.8E+03	5.9E-02	5.8E+03	1.4E-03	1.8E+05	4.7E-05	4.3E+04	4.3E-06	3.1E+02	1.1E+00
Cadmium	1.7E+00	M	5.6E+00	3.0E-01	5.6E+00	7.2E-03	1.7E+02	2.4E-04	8.0E+02	1.1E-06	5.6E+00	3.0E-01
Copper	7.5E+01	U	7.6E+01	9.8E-01	7.6E+01	2.3E-02	2.3E+03	7.7E-04	2.8E+03	1.4E-05	7.6E+01	9.8E-01
Lead	7.8E+01	U	2.3E+03	3.4E-02	2.3E+03	8.1E-04	6.9E+04	2.7E-05	3.1E+02	1.3E-04	2.3E+03	3.4E-02
Molybdenum	1.4E+00	U	1.7E+01	8.2E-02	4.9E-02	6.7E-01	1.5E+00	2.2E-02	4.8E+03	1.5E-07	1.7E+01	8.2E-02
Petroleum Hydrocarbons												
TPH - Diesel range	2.3E+02	U	8.1E+03	2.8E-02	8.1E+03	6.7E-04	2.4E+05	2.2E-05	3.1E+04	3.9E-06	8.1E+03	2.8E-02
TPH - Gasoline range	4.9E+02	U	4.4E+02	1.1E+00	4.4E+02	2.6E-02	1.3E+04	8.7E-04	*	*	4.4E+02	1.1E+00
Semivolatile Organic Compounds												
2-Methylnaphthalene	1.1E-01	U	*	*	*	*	*	*	*	*	*	*
Acenaphthene	2.9E-01	U	6.9E+00	4.2E-02	6.9E+00	9.8E-04	2.1E+02	3.3E-05	3.6E+03	4.2E-08	6.9E+00	4.2E-02
Anthracene	2.0E-01	U	*	*	*	*	*	*	*	*	*	*
Benzo(a)anthracene	8.5E-01	U	*	*	*	*	*	*	*	*	*	*
Benzo(a)pyrene	7.6E-01	U	*	*	*	*	*	*	*	*	*	*
Benzo(b)fluoranthene	9.3E-01	U	*	*	*	*	*	*	*	*	*	*
Benzo(k)fluoranthene	6.5E-01	U	*	*	*	*	*	*	*	*	*	*
Chrysene	9.3E-01	U	*	*	*	*	*	*	*	*	*	*
Dibenz(a,h)anthracene	1.7E-01	U	*	*	*	*	*	*	*	*	*	*
Fluoranthene	1.9E+00	U	1.8E+01	1.1E-01	1.8E+01	2.6E-03	5.3E+02	8.8E-05	*	*	1.8E+01	1.1E-01
Fluorene	2.2E-01	U	*	*	*	*	*	*	3.1E+03	3.7E-08	*	*
Indeno(1,2,3-cd)pyrene	2.8E-01	U	*	*	*	*	*	*	*	*	*	*
Naphthalene	3.2E-02	M	4.7E+00	6.8E-03	4.7E+00	1.6E-04	1.4E+02	5.4E-06	*	*	4.7E+00	6.8E-03
Phenanthrene	1.7E+00	U	*	*	*	*	*	*	*	*	*	*
Pyrene	1.6E+00	U	*	*	*	*	*	*	*	*	*	*
Volatile Organic Compounds												

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Estuarine Receptor Hazard Quotient
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Chemical	Soil/Sediment Concentration (Site 95% UCL or Maximum Concentration[a])		Subtidal Marsh									
			Bay Shrimp		Salmonid		Northern Anchovy		Double-Crested Cormorant		Algae	
			Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient	Target Concentration	Hazard Quotient
Acetone	1.7E-01	U	1.2E+00	1.4E-01	3.6E+00	1.1E-03	1.1E+02	3.7E-05	1.1E+01	8.2E-06	1.4E+00	1.2E-01
Carbon disulfide	3.0E-03	M	2.0E-02	1.5E-01	6.1E-01	1.2E-04	1.8E+01	3.9E-06	*	*	3.1E-02	9.5E-02
Methyl ethyl ketone	2.1E-02	M	3.7E+00	5.7E-03	7.6E-01	6.5E-04	2.3E+01	2.2E-05	*	*	2.3E+01	9.2E-04
Methylene chloride	8.0E-03	M	4.3E+00	1.8E-03	4.3E+00	4.4E-05	1.3E+02	1.5E-06	*	*	4.3E+00	1.8E-03
Trichlorofluoromethane	2.0E-03	M	*	*	*	*	*	*	*	*	*	*
Hazard Index				3.1		0.73		0.024		0.00017		4.0

[a] Site 95% UCL is indicated by "U"; maximum concentrations are indicated by "M".

[b] "*" data not available

Checked by/Date: _____

Approved by/Date: _____