APPENDIX 8.4

Chronic Daily Intakes and Risk Estimates by Chemical and Receptor Population

TABLE 8.4.1
COMMERCIAL WORKER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)						Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Inhalation of Indoor Air (Volatiles Only)[1]	Total CDI	
Organics in Near-Surface Soil Vapor (µg/m³)								
1,2-Dichlorobenzene	2.19E+02	NA	NA	NA	NA	JE Modeling[1]	NA	3.53E-04
1,4-Dichlorobenzene	1.33E+03	NA	NA	NA	NA	JE Modeling[1]	NA	5.36E-04
2-Butanone (MEK)	3.09E+02	NA	NA	NA	NA	JE Modeling[1]	NA	2.08E-05
Acetone	1.04E+03	NA	NA	NA	NA	JE Modeling[1]	NA	1.17E-03
Bromodichloromethane	8.87E+01	NA	NA	NA	NA	JE Modeling[1]	NA	3.38E-04
Chlorobenzene	1.87E+02	NA	NA	NA	NA	JE Modeling[1]	NA	6.13E-05
Chlorodifluoromethane	6.46E+02	NA	NA	NA	NA	JE Modeling[1]	NA	4.68E-06
Chloroform	4.32E+02	NA	NA	NA	NA	JE Modeling[1]	NA	5.27E-04
Dichlorodifluoromethane	1.80E+03	NA	NA	NA	NA	JE Modeling[1]	NA	2.87E-03
Dichlorofluoromethane	4.43E+03	NA	NA	NA	NA	JE Modeling[1]	NA	7.09E-03
Ethylbenzene	1.91E+03	NA	NA	NA	NA	JE Modeling[1]	NA	6.29E-04
Trichloroethene	8.32E+01	NA	NA	NA	NA	JE Modeling[1]	NA	4.64E-05
Vinyl chloride	1.46E+02	NA	NA	NA	NA	JE Modeling[1]	NA	5.36E-04
Total Xylenes	6.22E+03	NA	NA	NA	NA	JE Modeling[1]	NA	2.06E-02
Organics in Landfill Gas (µg/m³)								
Hydrogen Sulfide	9.45E-01	NA	NA	NA	1.85E-04	NA	1.85E-04	3.24E-01
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	4.00E-03	NA	4.00E-03	NA
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	1.16E-06	NA	1.16E-06	2.03E-05
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	6.37E-06	NA	6.37E-06	2.78E-05
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	7.82E-07	NA	7.82E-07	5.47E-07
Acetone	9.66E-03	NA	NA	NA	1.89E-06	NA	1.89E-06	2.10E-06
Chlorobenzene	5.61E-03	NA	NA	NA	1.10E-06	NA	1.10E-06	3.84E-06
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	5.39E-06	NA	5.39E-06	3.77E-07
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	1.49E-07	NA	1.49E-07	1.73E-08
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	6.23E-06	NA	6.23E-06	1.09E-04
Dichlorofluoromethane (Freon 21)[1]	1.57E-03	NA	NA	NA	3.07E-07	NA	3.07E-07	2.15E-08
Ethylbenzene	1.19E-01	NA	NA	NA	2.33E-05	NA	2.33E-05	4.08E-05
n-Butane[2]	3.86E-01	NA	NA	NA	7.56E-05	NA	7.56E-05	3.78E-05
n-Hexane	5.61E-02	NA	NA	NA	1.10E-05	NA	1.10E-05	5.49E-06
Pentane[2]	1.50E-01	NA	NA	NA	2.93E-05	NA	2.93E-05	1.47E-05
Propane[2]	6.72E-01	NA	NA	NA	1.31E-04	NA	1.31E-04	6.57E-05
Trichloroethene	1.66E-03	NA	NA	NA	3.24E-07	NA	3.24E-07	1.89E-06

TABLE 8.4.1
COMMERCIAL WORKER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)						Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Inhalation of Indoor Air (Volatiles Only)[1]	Total CDI	
Vinyl chloride	5.19E-03	NA	NA	NA	1.02E-06	NA	1.02E-06	3.50E-05
Total Xylenes	2.15E-02	NA	NA	NA	4.20E-06	NA	4.20E-06	2.10E-05
Organics in Soil (mg/kg)								
1,4-Dichlorobenzene	3.14E-01	1.54E-07	1.23E-07	4.66E-11	NA	NA	2.76E-07	9.21E-06
2-Methylnaphthalene	1.93E-01	9.43E-08	1.13E-07	2.86E-11	NA	NA	2.07E-07	NA
Anthracene	4.30E-03	2.10E-09	2.52E-09	6.37E-13	NA	NA	4.62E-09	1.54E-08
Benzo(a)anthracene	1.03E-01	5.02E-08	6.01E-08	1.52E-11	NA	NA	1.10E-07	3.68E-07
Benzo(a)pyrene	3.70E-02	1.81E-08	2.17E-08	5.49E-12	NA	NA	3.98E-08	1.33E-06
Benzo(b)fluoranthene	9.51E-02	4.65E-08	5.57E-08	1.41E-11	NA	NA	1.02E-07	2.56E-06
Benzo(ghi)perylene	3.64E-02	1.78E-08	2.13E-08	5.40E-12	NA	NA	3.91E-08	1.30E-06
Benzo(k)fluoranthene	1.30E-01	6.34E-08	7.59E-08	1.92E-11	NA	NA	1.39E-07	3.49E-06
Bis(2-ethylhexyl)phthalate	4.56E-01	2.23E-07	1.78E-07	6.75E-11	NA	NA	4.01E-07	2.00E-05
Butyl Benzyl Phthalate	2.17E+00	1.06E-06	8.49E-07	3.22E-10	NA	NA	1.91E-06	9.56E-06
Chrysene	1.98E-01	9.70E-08	1.16E-07	2.94E-11	NA	NA	2.13E-07	7.10E-06
Dibenzo(a,h)anthracene	1.13E-02	5.53E-09	6.62E-09	1.68E-12	NA	NA	1.22E-08	4.05E-08
Dibutylphthalate	1.11E-01	5.41E-08	4.32E-08	1.64E-11	NA	NA	9.73E-08	9.73E-07
Dioctylphthalate	1.29E-01	6.31E-08	5.04E-08	1.91E-11	NA	NA	1.14E-07	5.68E-06
Diphenylamine	1.24E+00	6.07E-07	4.84E-07	1.84E-10	NA	NA	1.09E-06	4.36E-05
Fluorene	3.41E-01	1.67E-07	2.00E-07	5.05E-11	NA	NA	3.67E-07	9.16E-06
Fluoranthene	8.12E-02	3.97E-08	4.76E-08	1.20E-11	NA	NA	8.73E-08	2.18E-06
Phenanthrene	3.01E-01	1.47E-07	1.76E-07	4.46E-11	NA	NA	3.23E-07	1.08E-06
Pyrene	7.88E-02	3.86E-08	4.62E-08	1.17E-11	NA	NA	8.47E-08	2.82E-06
4,4-DDD	1.03E-02	5.02E-09	4.01E-09	1.52E-12	NA	NA	9.03E-09	NA
4,4-DDE	1.52E-02	7.45E-09	5.94E-09	2.26E-12	NA	NA	1.34E-08	NA
Aldrin	3.28E-02	1.60E-08	1.28E-08	4.86E-12	NA	NA	2.89E-08	9.62E-04
alpha-BHC	1.18E-02	5.76E-09	4.59E-09	1.74E-12	NA	NA	1.04E-08	NA
alpha-Endosulfan I	3.23E-02	1.58E-08	1.26E-08	4.79E-12	NA	NA	2.84E-08	4.74E-06
Beta-Endosulfan	7.02E-03	3.43E-09	2.74E-09	1.04E-12	NA	NA	6.17E-09	1.03E-06
Dieldrin	3.52E-02	1.72E-08	1.37E-08	5.22E-12	NA	NA	3.10E-08	6.20E-04
Heptachlor	2.78E-02	1.36E-08	1.08E-08	4.12E-12	NA	NA	2.44E-08	4.89E-05
Inorganics in Soil (mg/kg)								
Antimony	1.11E+00	5.41E-07	4.32E-08	1.64E-10	NA	NA	5.84E-07	1.46E-03
Arsenic	9.97E+00	4.88E-06	3.89E-07	1.48E-09	NA	NA	5.27E-06	1.77E-02
Barium	1.41E+02	6.89E-05	5.50E-06	2.09E-08	NA	NA	7.44E-05	1.21E-03
Beryllium	3.21E-01	1.57E-07	1.26E-08	4.77E-11	NA	NA	1.70E-07	1.09E-04

TABLE 8.4.1
COMMERCIAL WORKER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)						Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Inhalation of Indoor Air (Volatiles Only)[1]	Total CDI	
Cadmium	4.55E-01	2.23E-07	1.78E-08	6.74E-11	NA	NA	2.40E-07	4.92E-04
Chromium	3.46E+01	1.69E-05	1.35E-06	5.13E-09	NA	NA	1.83E-05	NA
Hexavalent Chromium	3.85E-01	1.88E-07	1.50E-08	5.70E-11	NA	NA	2.03E-07	6.87E-05
Cobalt	1.25E+01	6.11E-06	4.88E-07	1.85E-09	NA	NA	6.60E-06	6.55E-04
Copper	4.67E+01	2.29E-05	1.82E-06	6.93E-09	NA	NA	2.47E-05	6.27E-04
Mercury	3.23E+02	1.58E-04	1.26E-05	4.79E-08	NA	NA	1.71E-04	5.71E-01
Molybdenum	1.06E+00	5.18E-07	4.14E-08	1.57E-10	NA	NA	5.60E-07	1.12E-04
Nickel	1.73E+01	8.46E-06	6.75E-07	2.56E-09	NA	NA	9.14E-06	6.36E-04
Silver	3.70E-01	1.81E-07	1.44E-08	5.48E-11	NA	NA	1.95E-07	3.91E-05
Vanadium	6.10E+01	2.99E-05	2.38E-06	9.05E-09	NA	NA	3.23E-05	3.22E-02
Zinc	2.13E+02	1.04E-04	8.33E-06	3.16E-08	NA	NA	1.13E-04	3.79E-04
Total Hazard Index								1

Notes:
NA = Not applicable.
[1]Risks via the inhalation of indoor air volatiles pathway were determined by JE modeling (Appendix D). The Hazard Quotient for individual near-surface soil vapor COPCs were added to the total risk.

TABLE 8.4.2
COMMERCIAL WORKER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)						Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Inhalation of Indoor Air (Volatiles Only)[1]	Total CDI	
Organics in Near-Surface Soil Vapor (µg/m³)								
1,2-Dichlorobenzene	2.19E+02	NA	NA	NA	NA	JE Modeling[1]	NA	NC
1,4-Dichlorobenzene	1.33E+03	NA	NA	NA	NA	JE Modeling[1]	NA	1.69E-06
2-Butanone (MEK)	3.09E+02	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Acetone	1.04E+03	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Bromodichloromethane	8.87E+01	NA	NA	NA	NA	JE Modeling[1]	NA	3.12E-07
Chlorobenzene	1.87E+02	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Chlorodifluoromethane	6.46E+02	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Chloroform	4.32E+02	NA	NA	NA	NA	JE Modeling[1]	NA	2.99E-07
Dichlorodifluoromethane	1.80E+03	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Dichlorofluoromethane	4.43E+03	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Ethylbenzene	1.91E+03	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Trichloroethene	8.32E+01	NA	NA	NA	NA	JE Modeling[1]	NA	1.99E-08
Vinyl chloride	1.46E+02	NA	NA	NA	NA	JE Modeling[1]	NA	1.49E-06
Total Xylenes	6.22E+03	NA	NA	NA	NA	JE Modeling[1]	NA	NC
Organics in Landfill Gas (µg/m³)								
Hydrogen Sulfide	9.45E-01	NA	NA	NA	6.60E-05	NA	6.60E-05	NC
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	1.43E-03	NA	1.43E-03	NC
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	4.13E-07	NA	4.13E-07	NC
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	2.28E-06	NA	2.28E-06	9.11E-08
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	2.79E-07	NA	2.79E-07	NC
Acetone	9.66E-03	NA	NA	NA	6.75E-07	NA	6.75E-07	NC
Chlorobenzene	5.61E-03	NA	NA	NA	3.92E-07	NA	3.92E-07	NC
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	1.93E-06	NA	1.93E-06	NC
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	5.31E-08	NA	5.31E-08	1.54E-10
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	2.22E-06	NA	2.22E-06	NC
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	1.10E-07	NA	1.10E-07	NC
Ethylbenzene	1.19E-01	NA	NA	NA	8.33E-06	NA	8.33E-06	NC
n-Butane	3.86E-01	NA	NA	NA	2.70E-05	NA	2.70E-05	NC
n-Hexane	5.61E-02	NA	NA	NA	3.92E-06	NA	3.92E-06	NC
Pentane	1.50E-01	NA	NA	NA	1.05E-05	NA	1.05E-05	NC
Propane	6.72E-01	NA	NA	NA	4.69E-05	NA	4.69E-05	NC
Trichloroethene	1.66E-03	NA	NA	NA	1.16E-07	NA	1.16E-07	8.10E-10

TABLE 8.4.2
COMMERCIAL WORKER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)						Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Inhalation of Indoor Air (Volatiles Only)[1]	Total CDI	
Vinyl chloride	5.19E-03	NA	NA	NA	3.63E-07	NA	3.63E-07	9.80E-08
Total Xylenes	2.15E-02	NA	NA	NA	1.50E-06	NA	1.50E-06	NC
Organics in Soil (mg/kg)								
1,4-Dichlorobenzene	3.14E-01	5.49E-08	4.38E-08	1.66E-11	NA	NA	9.87E-08	5.34E-10
2-Methylnaphthalene	1.93E-01	3.37E-08	4.03E-08	1.02E-11	NA	NA	7.40E-08	NA
Anthracene	4.30E-03	7.51E-10	8.99E-10	2.28E-13	NA	NA	1.65E-09	NC
Benzo(a)pyrene Equivalent	7.00E-02	1.22E-08	1.46E-08	3.71E-12	NA	NA	2.69E-08	3.23E-07
Benzo(ghi)perylene	3.64E-02	6.36E-09	7.61E-09	1.93E-12	NA	NA	1.40E-08	NC
Bis(2-ethylhexyl)phthalate	4.56E-01	7.96E-08	6.35E-08	2.41E-11	NA	NA	1.43E-07	NC
Butyl Benzyl Phthalate	2.17E+00	3.80E-07	3.03E-07	1.15E-10	NA	NA	6.83E-07	NA
Dibutylphthalate	1.11E-01	1.93E-08	1.54E-08	5.86E-12	NA	NA	3.48E-08	NC
Dioctylphthalate	1.29E-01	2.25E-08	1.80E-08	6.83E-12	NA	NA	4.05E-08	NC
Diphenylamine	1.24E+00	2.17E-07	1.73E-07	6.56E-11	NA	NA	3.90E-07	NC
Fluorene	3.41E-01	5.96E-08	7.13E-08	1.81E-11	NA	NA	1.31E-07	NC
Fluoranthene	8.12E-02	1.42E-08	1.70E-08	4.30E-12	NA	NA	3.12E-08	NC
Phenanthrene	3.01E-01	5.25E-08	6.29E-08	1.59E-11	NA	NA	1.15E-07	NC
Pyrene	7.88E-02	1.38E-08	1.65E-08	4.17E-12	NA	NA	3.03E-08	NC
4,4-DDD	1.03E-02	1.79E-09	1.43E-09	5.43E-13	NA	NA	3.22E-09	7.75E-10
4,4-DDE	1.52E-02	2.66E-09	2.12E-09	8.06E-13	NA	NA	4.78E-09	1.63E-09
Aldrin	3.28E-02	5.73E-09	4.57E-09	1.74E-12	NA	NA	1.03E-08	1.75E-07
alpha-BHC	1.18E-02	2.06E-09	1.64E-09	6.23E-13	NA	NA	3.70E-09	9.98E-09
alpha-Endosulfan I	3.23E-02	5.65E-09	4.51E-09	1.71E-12	NA	NA	1.02E-08	NA
Beta-Endosulfan	7.02E-03	1.23E-09	9.78E-10	3.71E-13	NA	NA	2.20E-09	NA
Dieldrin	3.52E-02	6.15E-09	4.91E-09	1.86E-12	NA	NA	1.11E-08	1.77E-07
Heptachlor	2.78E-02	4.85E-09	3.87E-09	1.47E-12	NA	NA	8.73E-09	3.58E-08
Inorganics in Soil (mg/kg)								
Antimony	1.11E+00	1.93E-07	1.54E-08	5.85E-11	NA	NA	2.09E-07	NC
Arsenic	9.97E+00	1.74E-06	1.39E-07	5.28E-10	NA	NA	1.88E-06	1.79E-05
Barium	1.41E+02	2.46E-05	1.96E-06	7.45E-09	NA	NA	2.66E-05	NC
Beryllium	3.21E-01	5.62E-08	4.48E-09	1.70E-11	NA	NA	6.07E-08	1.43E-10

TABLE 8.4.2
COMMERCIAL WORKER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)						Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Inhalation of Indoor Air (Volatiles Only)[1]	Total CDI	
Cadmium	4.55E-01	7.95E-08	6.34E-09	2.41E-11	NA	NA	8.59E-08	3.30E-08
Chromium	3.46E+01	6.05E-06	4.83E-07	1.83E-09	NA	NA	6.54E-06	7.70E-08
Hexavalent Chromium	3.85E-01	6.72E-08	5.36E-09	2.04E-11	NA	NA	7.26E-08	1.04E-08
Cobalt	1.25E+01	2.18E-06	1.74E-07	6.61E-10	NA	NA	2.36E-06	6.48E-09
Copper	4.67E+01	8.16E-06	6.52E-07	2.47E-09	NA	NA	8.82E-06	3.53E-07
Mercury	3.23E+02	5.65E-05	4.51E-06	1.71E-08	NA	NA	6.10E-05	NC
Molybdenum	1.06E+00	1.85E-07	1.48E-08	5.61E-11	NA	NA	2.00E-07	NC
Nickel	1.73E+01	3.02E-06	2.41E-07	9.16E-10	NA	NA	3.27E-06	8.34E-10
Silver	3.70E-01	6.46E-08	5.15E-09	1.96E-11	NA	NA	6.98E-08	NC
Vanadium	6.10E+01	1.07E-05	8.51E-07	3.23E-09	NA	NA	1.15E-05	NC
Zinc	2.13E+02	3.73E-05	2.98E-06	1.13E-08	NA	NA	4.03E-05	NC
Total Cancer Risk								**2.31E-05**

Notes:
NA = Not applicable.
NC = Non-carcinogenic
[1]Risks via the inhalation of indoor air volatiles pathway were determined by JE modeling (Appendix D). The cancer risk for individual near-surface soil vapor COPCs were added to the total cancer risk.

TABLE 8.4.3
CONSTRUCTION WORKER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m³)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	1.85E-04	1.85E-04	3.24E-01
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	4.00E-03	4.00E-03	NA
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	1.16E-06	1.16E-06	2.03E-05
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	6.37E-06	6.37E-06	2.78E-05
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	7.82E-07	7.82E-07	5.47E-07
Acetone	9.66E-03	NA	NA	NA	1.89E-06	1.89E-06	2.10E-06
Chlorobenzene	5.61E-03	NA	NA	NA	1.10E-06	1.10E-06	3.84E-06
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	5.39E-06	5.39E-06	3.77E-07
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	1.49E-07	1.49E-07	1.73E-08
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	6.23E-06	6.23E-06	1.09E-04
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	3.07E-07	3.07E-07	2.15E-08
Ethylbenzene	1.19E-01	NA	NA	NA	2.33E-05	2.33E-05	4.08E-05
n-Butane	3.86E-01	NA	NA	NA	7.56E-05	7.56E-05	3.78E-05
n-Hexane	5.61E-02	NA	NA	NA	1.10E-05	1.10E-05	5.49E-06
Pentane	1.50E-01	NA	NA	NA	2.93E-05	2.93E-05	1.47E-05
Propane	6.72E-01	NA	NA	NA	1.31E-04	1.31E-04	6.57E-05
Trichloroethene	1.66E-03	NA	NA	NA	3.24E-07	3.24E-07	1.89E-06
Vinyl chloride	5.19E-03	NA	NA	NA	1.02E-06	1.02E-06	3.50E-05
Total Xylenes	2.15E-02	NA	NA	NA	4.20E-06	4.20E-06	2.10E-05
Organics in Soil (mg/kg)							
1,4-Dichlorobenzene	3.14E-01	1.01E-06	1.40E-06	4.66E-11	NA	2.42E-06	8.06E-05
2-Methylnaphthalene	1.93E-01	6.22E-07	1.29E-06	2.86E-11	NA	1.91E-06	NA
Anthracene	4.30E-03	1.39E-08	2.88E-08	6.37E-13	NA	4.27E-08	1.42E-07
Benzo(a)anthracene	1.03E-01	3.31E-07	6.87E-07	1.52E-11	NA	1.02E-06	3.39E-06
Benzo(a)pyrene	3.70E-02	1.19E-07	2.48E-07	5.49E-12	NA	3.67E-07	1.22E-05
Benzo(b)fluoranthene	9.51E-02	3.07E-07	6.36E-07	1.41E-11	NA	9.43E-07	2.36E-05
Benzo(ghi)perylene	3.64E-02	1.18E-07	2.44E-07	5.40E-12	NA	3.61E-07	1.20E-05
Benzo(k)fluoranthene	1.30E-01	4.19E-07	8.68E-07	1.92E-11	NA	1.29E-06	3.22E-05
Bis(2-ethylhexyl)phthalate	4.56E-01	1.47E-06	2.03E-06	6.75E-11	NA	3.50E-06	1.75E-04
Butyl Benzyl Phthalate	2.17E+00	7.02E-06	9.70E-06	3.22E-10	NA	1.67E-05	8.36E-05
Chrysene	1.98E-01	6.40E-07	1.33E-06	2.94E-11	NA	1.97E-06	6.56E-05
Dibenzo(a,h)anthracene	1.13E-02	3.65E-08	7.57E-08	1.68E-12	NA	1.12E-07	3.74E-07
Dibutylphthalate	1.11E-01	3.57E-07	4.94E-07	1.64E-11	NA	8.51E-07	8.51E-06
Dioctylphthalate	1.29E-01	4.17E-07	5.76E-07	1.91E-11	NA	9.93E-07	4.96E-05

TABLE 8.4.3
CONSTRUCTION WORKER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Diphenylamine	1.24E+00	4.00E-06	5.53E-06	1.84E-10	NA	9.54E-06	3.81E-04
Fluorene	3.41E-01	1.10E-06	2.28E-06	5.05E-11	NA	3.38E-06	8.46E-05
Fluoranthene	8.12E-02	2.62E-07	5.44E-07	1.20E-11	NA	8.06E-07	2.01E-05
Phenanthrene	3.01E-01	9.71E-07	2.01E-06	4.46E-11	NA	2.98E-06	9.95E-06
Pyrene	7.88E-02	2.55E-07	5.28E-07	1.17E-11	NA	7.82E-07	2.61E-05
4,4-DDD	1.03E-02	3.31E-08	4.58E-08	1.52E-12	NA	7.89E-08	NA
4,4-DDE	1.52E-02	4.91E-08	6.79E-08	2.26E-12	NA	1.17E-07	NA
Aldrin	3.28E-02	1.06E-07	1.46E-07	4.86E-12	NA	2.52E-07	8.41E-03
alpha-BHC	1.18E-02	3.80E-08	5.25E-08	1.74E-12	NA	9.05E-08	NA
alpha-Endosulfan I	3.23E-02	1.04E-07	1.44E-07	4.79E-12	NA	2.49E-07	4.14E-05
Beta-Endosulfan	7.02E-03	2.27E-08	3.13E-08	1.04E-12	NA	5.40E-08	8.99E-06
Dieldrin	3.52E-02	1.14E-07	1.57E-07	5.22E-12	NA	2.71E-07	5.42E-03
Heptachlor	2.78E-02	8.97E-08	1.24E-07	4.12E-12	NA	2.14E-07	4.27E-04
Inorganics in Soil (mg/kg)							
Antimony	1.11E+00	3.57E-06	4.93E-07	1.64E-10	NA	4.06E-06	1.36E-02
Arsenic	9.97E+00	3.22E-05	4.45E-06	1.48E-09	NA	3.66E-05	5.34E-04
Barium	1.41E+02	4.55E-04	6.28E-05	2.09E-08	NA	5.17E-04	7.54E-03
Beryllium	3.21E-01	1.04E-06	1.43E-07	4.77E-11	NA	1.18E-06	2.37E-03
Cadmium	4.55E-01	1.47E-06	2.03E-07	6.74E-11	NA	1.67E-06	3.36E-03
Chromium	3.46E+01	1.12E-04	1.55E-05	5.13E-09	NA	1.27E-04	NA
Hexavalent Chromium	3.85E-01	1.24E-06	1.72E-07	5.70E-11	NA	1.41E-06	3.96E-04
Cobalt	1.25E+01	4.03E-05	5.57E-06	1.85E-09	NA	4.59E-05	1.16E-03
Copper	4.67E+01	1.51E-04	2.08E-05	6.93E-09	NA	1.72E-04	4.30E-03
Mercury	3.23E+02	1.04E-03	1.44E-04	4.79E-08	NA	1.19E-03	3.96E+00
Molybdenum	1.06E+00	3.42E-06	4.73E-07	1.57E-10	NA	3.89E-06	7.79E-04
Nickel	1.73E+01	5.59E-05	7.72E-06	2.56E-09	NA	6.36E-05	3.36E-03
Silver	3.70E-01	1.19E-06	1.65E-07	5.48E-11	NA	1.36E-06	2.72E-04
Vanadium	6.10E+01	1.97E-04	2.72E-05	9.05E-09	NA	2.24E-04	2.24E-01
Zinc	2.13E+02	6.89E-04	9.52E-05	3.16E-08	NA	7.85E-04	2.62E-03
Total Hazard Index							4

Notes:
NA = Not applicable.

TABLE 8.4.4
CONSTRUCTION WORKER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m³)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	1.85E-04	1.85E-04	NC
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	4.00E-03	4.00E-03	NC
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	1.16E-06	1.16E-06	NC
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	6.37E-06	6.37E-06	2.55E-07
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	7.82E-07	7.82E-07	NC
Acetone	9.66E-03	NA	NA	NA	1.89E-06	1.89E-06	NC
Chlorobenzene	5.61E-03	NA	NA	NA	1.10E-06	1.10E-06	NC
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	5.39E-06	5.39E-06	NC
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	1.49E-07	1.49E-07	4.31E-10
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	6.23E-06	6.23E-06	NC
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	3.07E-07	3.07E-07	NC
Ethylbenzene	1.19E-01	NA	NA	NA	2.33E-05	2.33E-05	NC
n-Butane	3.86E-01	NA	NA	NA	7.56E-05	7.56E-05	NC
n-Hexane	5.61E-02	NA	NA	NA	1.10E-05	1.10E-05	NC
Pentane	1.50E-01	NA	NA	NA	2.93E-05	2.93E-05	NC
Propane	6.72E-01	NA	NA	NA	1.31E-04	1.31E-04	NC
Trichloroethene	1.66E-03	NA	NA	NA	3.24E-07	3.24E-07	2.27E-09
Vinyl chloride	5.19E-03	NA	NA	NA	1.02E-06	1.02E-06	2.74E-07
Total Xylenes	2.15E-02	NA	NA	NA	4.20E-06	4.20E-06	NC
Organics in Soil (mg/kg)							
1,4-Dichlorobenzene	3.14E-01	1.45E-08	2.00E-08	6.66E-13	NA	3.45E-08	1.86E-10
2-Methylnaphthalene	1.93E-01	8.89E-09	1.84E-08	4.08E-13	NA	2.73E-08	NA
Anthracene	4.30E-03	1.98E-10	4.11E-10	9.11E-15	NA	6.09E-10	NC
Benzo(a)pyrene Equivalent	7.00E-02	3.23E-09	6.69E-09	1.48E-13	NA	9.92E-09	1.19E-07
Benzo(ghi)perylene	3.64E-02	1.68E-09	3.48E-09	7.71E-14	NA	5.16E-09	NC
Bis(2-ethylhexyl)phthalate	4.56E-01	2.10E-08	2.90E-08	9.65E-13	NA	5.01E-08	NC
Butyl Benzyl Phthalate	2.17E+00	1.00E-07	1.39E-07	4.60E-12	NA	2.39E-07	NA
Dibutylphthalate	1.11E-01	5.10E-09	7.05E-09	2.34E-13	NA	1.22E-08	NC
Dioctylphthalate	1.29E-01	5.95E-09	8.23E-09	2.73E-13	NA	1.42E-08	NC

TABLE 8.4.4
CONSTRUCTION WORKER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Diphenylamine	1.24E+00	5.72E-08	7.90E-08	2.63E-12	NA	1.36E-07	NC
Fluorene	3.41E-01	1.57E-08	3.26E-08	7.22E-13	NA	4.83E-08	NC
Fluoranthene	8.12E-02	3.75E-09	7.77E-09	1.72E-13	NA	1.15E-08	NC
Phenanthrene	3.01E-01	1.39E-08	2.88E-08	6.37E-13	NA	4.26E-08	NC
Pyrene	7.88E-02	3.64E-09	7.54E-09	1.67E-13	NA	1.12E-08	NC
4,4-DDD	1.03E-02	4.73E-10	6.54E-10	2.17E-14	NA	1.13E-09	2.71E-10
4,4-DDE	1.52E-02	7.02E-10	9.70E-10	3.22E-14	NA	1.67E-09	5.69E-10
Aldrin	3.28E-02	1.51E-09	2.09E-09	6.95E-14	NA	3.60E-09	6.13E-08
alpha-BHC	1.18E-02	5.43E-10	7.50E-10	2.49E-14	NA	1.29E-09	3.49E-09
alpha-Endosulfan I	3.23E-02	1.49E-09	2.06E-09	6.85E-14	NA	3.55E-09	NA
Beta-Endosulfan	7.02E-03	3.24E-10	4.47E-10	1.49E-14	NA	7.71E-10	NA
Dieldrin	3.52E-02	1.62E-09	2.24E-09	7.46E-14	NA	3.87E-09	6.19E-08
Heptachlor	2.78E-02	1.28E-09	1.77E-09	5.88E-14	NA	3.05E-09	1.25E-08
Inorganics in Soil (mg/kg)							
Antimony	1.11E+00	5.10E-08	7.05E-09	2.34E-12	NA	5.81E-08	NC
Arsenic	9.97E+00	4.60E-07	6.35E-08	2.11E-11	NA	5.23E-07	4.97E-06
Barium	1.41E+02	6.49E-06	8.97E-07	2.98E-10	NA	7.39E-06	NC
Beryllium	3.21E-01	1.48E-08	2.05E-09	6.81E-13	NA	1.69E-08	2.50E-09
Cadmium	4.55E-01	2.10E-08	2.90E-09	9.63E-13	NA	2.39E-08	9.12E-09
Chromium	3.46E+01	1.60E-06	2.21E-07	7.33E-11	NA	1.82E-06	3.08E-09
Hexavalent Chromium	3.85E-01	1.77E-08	2.45E-09	8.15E-13	NA	2.02E-08	4.16E-10
Cobalt	1.25E+01	5.76E-07	7.96E-08	2.65E-11	NA	6.56E-07	2.59E-10
Copper	4.67E+01	2.16E-06	2.98E-07	9.90E-11	NA	2.45E-06	NA
Mercury	3.23E+02	1.49E-05	2.06E-06	6.84E-10	NA	1.70E-05	6.23E-10
Molybdenum	1.06E+00	4.89E-08	6.75E-09	2.24E-12	NA	5.56E-08	NC
Nickel	1.73E+01	7.98E-07	1.10E-07	3.66E-11	NA	9.08E-07	NC
Silver	3.70E-01	1.71E-08	2.36E-09	7.83E-13	NA	1.94E-08	NC
Vanadium	6.10E+01	2.82E-06	3.89E-07	1.29E-10	NA	3.20E-06	NC
Zinc	2.13E+02	9.85E-06	1.36E-06	4.52E-10	NA	1.12E-05	NC
Total Cancer Risk							**5.78E-06**

Notes:
NA = Not applicable.
NC = Non-carcinogenic

TABLE 8.4.5
ADULT RECREATIONAL USER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m³)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	1.73E-05	1.73E-05	3.03E-02
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	3.74E-04	3.74E-04	NA
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	1.08E-07	1.08E-07	1.90E-06
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	5.97E-07	5.97E-07	2.61E-06
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	7.32E-08	7.32E-08	5.12E-08
Acetone	9.66E-03	NA	NA	NA	1.77E-07	1.77E-07	1.97E-07
Chlorobenzene	5.61E-03	NA	NA	NA	1.03E-07	1.03E-07	3.60E-07
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	5.05E-07	5.05E-07	3.53E-08
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	1.39E-08	1.39E-08	1.62E-09
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	5.83E-07	5.83E-07	1.02E-05
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	2.87E-08	2.87E-08	2.01E-09
Ethylbenzene	1.19E-01	NA	NA	NA	2.18E-06	2.18E-06	3.82E-06
n-Butane	3.86E-01	NA	NA	NA	7.08E-06	7.08E-06	3.54E-06
n-Hexane	5.61E-02	NA	NA	NA	1.03E-06	1.03E-06	5.14E-07
Pentane	1.50E-01	NA	NA	NA	2.74E-06	2.74E-06	1.37E-06
Propane	6.72E-01	NA	NA	NA	1.23E-05	1.23E-05	6.15E-06
Trichloroethene	1.66E-03	NA	NA	NA	3.03E-08	3.03E-08	1.77E-07
Vinyl chloride	5.19E-03	NA	NA	NA	9.51E-08	9.51E-08	3.28E-06
Total Xylenes	2.15E-02	NA	NA	NA	3.93E-07	3.93E-07	1.97E-06
Organics in Soil (mg/kg)							
Anthracene	1.98E-03	1.21E-09	7.22E-10	2.74E-14	NA	1.93E-09	6.43E-09
Benzo(a)anthracene	7.68E-03	4.69E-09	2.81E-09	1.07E-13	NA	7.50E-09	2.50E-08
Benzo(a)pyrene	9.75E-03	5.95E-09	3.56E-09	1.35E-13	NA	9.52E-09	3.17E-07
Benzo(b)fluoranthene	8.15E-03	4.98E-09	2.98E-09	1.13E-13	NA	7.96E-09	1.99E-07
Benzo(ghi)perylene	1.34E-02	8.19E-09	4.90E-09	1.86E-13	NA	1.31E-08	4.36E-07
Benzo(k)fluoranthene	3.37E-03	2.06E-09	1.23E-09	4.67E-14	NA	3.29E-09	8.22E-08
Chrysene	7.68E-03	4.69E-09	2.81E-09	1.07E-13	NA	7.50E-09	2.50E-07
Dibenzo(a,h)anthracene	1.13E-02	6.91E-09	4.13E-09	1.57E-13	NA	1.10E-08	3.68E-08
Fluoranthene	1.21E-02	7.40E-09	4.43E-09	1.68E-13	NA	1.18E-08	2.96E-07
Phenanthrene	5.55E-03	3.39E-09	2.03E-09	7.70E-14	NA	5.42E-09	1.81E-08
Pyrene	1.51E-02	9.20E-09	5.50E-09	2.09E-13	NA	1.47E-08	4.90E-07

TABLE 8.4.5
ADULT RECREATIONAL USER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Inorganics in Soil (mg/kg)							
Antimony	7.64E-01	4.66E-07	1.86E-08	1.06E-11	NA	4.85E-07	1.21E-03
Arsenic	3.21E+00	1.96E-06	7.81E-08	4.45E-11	NA	2.04E-06	6.79E-03
Barium	1.45E+02	8.85E-05	3.53E-06	2.01E-09	NA	9.20E-05	1.33E-03
Chromium	2.01E+01	1.23E-05	4.90E-07	2.79E-10	NA	1.28E-05	NA
Hexavalent Chromium	4.30E-01	2.63E-07	1.05E-08	5.97E-12	NA	2.73E-07	9.12E-05
Cobalt	8.34E+00	5.09E-06	2.03E-07	1.16E-10	NA	5.29E-06	2.85E-04
Copper	1.93E+01	1.18E-05	4.71E-07	2.68E-10	NA	1.23E-05	3.07E-04
Molybdenum	7.28E-01	4.45E-07	1.77E-08	1.01E-11	NA	4.62E-07	9.25E-05
Nickel	9.56E+00	5.84E-06	2.33E-07	1.33E-10	NA	6.07E-06	3.13E-04
Vanadium	4.69E+01	2.86E-05	1.14E-06	6.50E-10	NA	2.98E-05	2.98E-02
Zinc	6.75E+01	4.12E-05	1.64E-06	9.37E-10	NA	4.29E-05	1.43E-04
Total Hazard Index							**0.001**

Notes:
NA = Not applicable.

TABLE 8.4.6
ADULT RECREATIONAL USER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m^3)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	5.93E-06	5.93E-06	NC
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	1.28E-04	1.28E-04	NC
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	3.71E-08	3.71E-08	NC
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	2.05E-07	2.05E-07	8.18E-09
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	2.51E-08	2.51E-08	NC
Acetone	9.66E-03	NA	NA	NA	6.06E-08	6.06E-08	NC
Chlorobenzene	5.61E-03	NA	NA	NA	3.53E-08	3.53E-08	NC
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	1.73E-07	1.73E-07	NC
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	4.77E-09	4.77E-09	1.38E-11
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	2.00E-07	2.00E-07	NC
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	9.84E-09	9.84E-09	NC
Ethylbenzene	1.19E-01	NA	NA	NA	7.48E-07	7.48E-07	NC
n-Butane	3.86E-01	NA	NA	NA	2.43E-06	2.43E-06	NC
n-Hexane	5.61E-02	NA	NA	NA	3.52E-07	3.52E-07	NC
Pentane	1.50E-01	NA	NA	NA	9.41E-07	9.41E-07	NC
Propane	6.72E-01	NA	NA	NA	4.22E-06	4.22E-06	NC
Trichloroethene	1.66E-03	NA	NA	NA	1.04E-08	1.04E-08	7.28E-11
Vinyl chloride	5.19E-03	NA	NA	NA	3.26E-08	3.26E-08	8.81E-09
Total Xylenes	2.15E-02	NA	NA	NA	1.35E-07	1.35E-07	NC
Organics in Soil (mg/kg)							
Anthracene	1.98E-03	4.14E-10	2.48E-10	9.41E-15	NA	6.62E-10	NC
Benzo(a)pyrene Equivalent	1.16E-02	2.42E-09	1.45E-09	5.50E-14	NA	3.87E-09	4.64E-08
Benzo(ghi)perylene	1.34E-02	2.81E-09	1.68E-09	6.38E-14	NA	4.49E-09	NC
Fluoranthene	1.21E-02	2.54E-09	1.52E-09	5.77E-14	NA	4.06E-09	NC
Phenanthrene	5.55E-03	1.16E-09	6.96E-10	2.64E-14	NA	1.86E-09	NC
Pyrene	1.51E-02	3.15E-09	1.89E-09	7.17E-14	NA	5.04E-09	NC

TABLE 8.4.6
ADULT RECREATIONAL USER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Inorganics in Soil (mg/kg)							
Antimony	7.64E-01	1.60E-07	6.38E-09	3.63E-12	NA	1.66E-07	NC
Arsenic	3.21E+00	6.71E-07	2.68E-08	1.53E-11	NA	6.98E-07	6.63E-06
Barium	1.45E+02	3.03E-05	1.21E-06	6.90E-10	NA	3.15E-05	NC
Chromium	2.01E+01	4.21E-06	1.68E-07	9.56E-11	NA	4.38E-06	4.02E-09
Hexavalent Chromium	4.30E-01	9.01E-08	3.60E-09	2.05E-12	NA	9.37E-08	1.04E-09
Cobalt	8.34E+00	1.75E-06	6.96E-08	3.97E-11	NA	1.81E-06	NC
Copper	1.93E+01	4.05E-06	1.61E-07	9.20E-11	NA	4.21E-06	1.68E-07
Molybdenum	7.28E-01	1.52E-07	6.08E-09	3.46E-12	NA	1.59E-07	NC
Nickel	9.56E+00	2.00E-06	7.98E-08	4.55E-11	NA	2.08E-06	4.14E-11
Vanadium	4.69E+01	9.81E-06	3.91E-07	2.23E-10	NA	1.02E-05	NC
Zinc	6.75E+01	1.41E-05	5.64E-07	3.21E-10	NA	1.47E-05	NC
Total Cancer Risk							**6.85E-06**

Notes:
NA = Not applicable.
NC = Non-carcinogenic

TABLE 8.4.7
CHILD RECREATIONAL USER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m³)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	5.38E-05	5.38E-05	9.43E-02
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	1.16E-03	1.16E-03	NA
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	3.36E-07	3.36E-07	5.90E-06
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	1.86E-06	1.86E-06	8.11E-06
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	2.28E-07	2.28E-07	1.59E-07
Acetone	9.66E-03	NA	NA	NA	5.50E-07	5.50E-07	6.11E-07
Chlorobenzene	5.61E-03	NA	NA	NA	3.20E-07	3.20E-07	1.12E-06
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	1.57E-06	1.57E-06	1.10E-07
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	4.33E-08	4.33E-08	5.05E-09
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	1.81E-06	1.81E-06	3.18E-05
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	8.93E-08	8.93E-08	6.25E-09
Ethylbenzene	1.19E-01	NA	NA	NA	6.79E-06	6.79E-06	1.19E-05
n-Butane	3.86E-01	NA	NA	NA	2.20E-05	2.20E-05	1.10E-05
n-Hexane	5.61E-02	NA	NA	NA	3.20E-06	3.20E-06	1.60E-06
Pentane	1.50E-01	NA	NA	NA	8.54E-06	8.54E-06	4.27E-06
Propane	6.72E-01	NA	NA	NA	3.83E-05	3.83E-05	1.91E-05
Trichloroethene	1.66E-03	NA	NA	NA	9.44E-08	9.44E-08	5.52E-07
Vinyl chloride	5.19E-03	NA	NA	NA	2.96E-07	2.96E-07	1.02E-05
Total Xylenes	2.15E-02	NA	NA	NA	1.22E-06	1.22E-06	6.12E-06
Organics in Soil (mg/kg)							
Anthracene	1.98E-03	1.13E-08	7.10E-08	8.53E-14	NA	8.22E-08	2.74E-07
Benzo(a)anthracene	7.68E-03	4.38E-08	2.76E-07	3.32E-13	NA	3.19E-07	1.06E-06
Benzo(a)pyrene	9.75E-03	5.56E-08	3.50E-07	4.21E-13	NA	4.06E-07	1.35E-05
Benzo(b)fluoranthene	8.15E-03	4.65E-08	2.93E-07	3.52E-13	NA	3.39E-07	8.48E-06
Benzo(ghi)perylene	1.34E-02	7.65E-08	4.82E-07	5.79E-13	NA	5.58E-07	1.86E-05
Benzo(k)fluoranthene	3.37E-03	1.92E-08	1.21E-07	1.45E-13	NA	1.40E-07	3.50E-06
Chrysene	7.68E-03	4.38E-08	2.76E-07	3.32E-13	NA	3.19E-07	1.06E-05
Dibenzo(a,h)anthracene	1.13E-02	6.45E-08	4.06E-07	4.88E-13	NA	4.71E-07	1.57E-06
Fluoranthene	1.21E-02	6.91E-08	4.35E-07	5.23E-13	NA	5.04E-07	1.26E-05
Phenanthrene	5.55E-03	3.16E-08	1.99E-07	2.40E-13	NA	2.31E-07	7.70E-07
Pyrene	1.51E-02	8.58E-08	5.41E-07	6.50E-13	NA	6.27E-07	2.09E-05

TABLE 8.4.7
CHILD RECREATIONAL USER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Inorganics							
Antimony	7.64E-01	4.35E-06	1.83E-06	3.30E-11	NA	6.18E-06	1.55E-02
Arsenic	3.21E+00	1.83E-05	7.67E-06	1.38E-10	NA	2.59E-05	8.65E-02
Barium	1.45E+02	8.26E-04	3.47E-04	6.26E-09	NA	1.17E-03	1.68E-02
Chromium	2.01E+01	1.15E-04	4.81E-05	8.68E-10	NA	1.63E-04	NA
Hexavalent Chromium	4.30E-01	2.45E-06	1.03E-06	1.86E-11	NA	3.48E-06	1.16E-03
Cobalt	8.34E+00	4.75E-05	2.00E-05	3.60E-10	NA	6.75E-05	3.44E-03
Copper	1.93E+01	1.10E-04	4.63E-05	8.35E-10	NA	1.56E-04	3.91E-03
Molybdenum	7.28E-01	4.15E-06	1.74E-06	3.14E-11	NA	5.89E-06	1.18E-03
Nickel	9.56E+00	5.45E-05	2.29E-05	4.13E-10	NA	7.73E-05	3.90E-03
Vanadium	4.69E+01	2.67E-04	1.12E-04	2.02E-09	NA	3.79E-04	3.79E-01
Zinc	6.75E+01	3.85E-04	1.08E-05	2.91E-09	NA	3.95E-04	1.32E-03
Total Hazard Index							**0.6**

Notes:
NA = Not applicable.

TABLE 8.4.8
CHILD RECREATIONAL USER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m³)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	4.61E-06	4.61E-06	NC
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	9.98E-05	9.98E-05	NC
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	2.88E-08	2.88E-08	NC
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	1.59E-07	1.59E-07	6.36E-09
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	1.95E-08	1.95E-08	NC
Acetone	9.66E-03	NA	NA	NA	4.72E-08	4.72E-08	NC
Chlorobenzene	5.61E-03	NA	NA	NA	2.74E-08	2.74E-08	NC
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	1.35E-07	1.35E-07	NC
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	3.71E-09	3.71E-09	1.08E-11
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	1.55E-07	1.55E-07	NC
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	7.66E-09	7.66E-09	NC
Ethylbenzene	1.19E-01	NA	NA	NA	5.82E-07	5.82E-07	NC
n-Butane	3.86E-01	NA	NA	NA	1.89E-06	1.89E-06	NC
n-Hexane	5.61E-02	NA	NA	NA	2.74E-07	2.74E-07	NC
Pentane	1.50E-01	NA	NA	NA	7.32E-07	7.32E-07	NC
Propane	6.72E-01	NA	NA	NA	3.28E-06	3.28E-06	NC
Trichloroethene	1.66E-03	NA	NA	NA	8.09E-09	8.09E-09	5.66E-11
Vinyl chloride	5.19E-03	NA	NA	NA	2.54E-08	2.54E-08	6.85E-09
Total Xylenes	2.15E-02	NA	NA	NA	1.05E-07	1.05E-07	NC
Organics in Soil (mg/kg)							
Anthracene	1.98E-03	9.66E-10	6.08E-09	7.32E-15	NA	7.05E-09	NC
Benzo(a)pyrene Equivalent	1.16E-02	5.64E-09	3.56E-08	4.28E-14	NA	4.12E-08	4.94E-07
Benzo(ghi)perylene	1.34E-02	6.55E-09	4.13E-08	4.96E-14	NA	4.78E-08	NC
Fluoranthene	1.21E-02	5.92E-09	3.73E-08	4.49E-14	NA	4.32E-08	NC
Phenanthrene	5.55E-03	2.71E-09	1.71E-08	2.05E-14	NA	1.98E-08	NC
Pyrene	1.51E-02	7.36E-09	4.64E-08	5.57E-14	NA	5.37E-08	NC

TABLE 8.4.8
CHILD RECREATIONAL USER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Inorganics in Soil (mg/kg)							
Antimony	7.64E-01	3.73E-07	1.57E-07	2.83E-12	NA	5.30E-07	NC
Arsenic	3.21E+00	1.57E-06	6.58E-07	1.19E-11	NA	2.22E-06	2.11E-05
Barium	1.45E+02	7.08E-05	2.97E-05	5.36E-10	NA	1.01E-04	NC
Chromium	2.01E+01	9.82E-06	4.12E-06	7.44E-11	NA	1.39E-05	3.12E-09
Hexavalent Chromium	4.30E-01	2.10E-07	8.83E-08	1.59E-12	NA	2.99E-07	8.12E-10
Cobalt	8.34E+00	4.07E-06	1.71E-06	3.09E-11	NA	5.78E-06	NC
Copper	1.93E+01	9.44E-06	3.97E-06	7.15E-11	NA	1.34E-05	5.36E-07
Molybdenum	7.28E-01	3.56E-07	1.49E-07	2.69E-12	NA	5.05E-07	NC
Nickel	9.56E+00	4.67E-06	1.96E-06	3.54E-11	NA	6.63E-06	3.22E-11
Vanadium	4.69E+01	2.29E-05	9.61E-06	1.73E-10	NA	3.25E-05	NC
Zinc	6.75E+01	3.30E-05	1.38E-05	2.50E-10	NA	4.68E-05	NC
Total Cancer Risk							**2.22E-05**

Notes:
NA = Not applicable.
NC = Non-carcinogenic

TABLE 8.4.9
SWIMMER
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)			Hazard Quotient
		Dermal Contact with Surface Water	Incidental Ingestion of Surface Water	Total CDI	
Organics (mg/L)					
1,2-Dichloropropane	2.32E-07	1.87E-10	5.44E-11	2.41E-10	2.19E-07
1,4-Dichlorobenzene	4.02E-07	1.74E-09	9.44E-11	1.84E-09	6.13E-08
Benzene	1.98E-07	3.07E-10	4.66E-11	3.54E-10	8.85E-08
cis-1,2-Dichloroethene	7.79E-07	6.20E-10	1.83E-10	8.03E-10	8.03E-08
Diethyl Ether	7.28E-07	1.73E-10	1.71E-10	3.44E-10	1.72E-09
Methylene Chloride	7.90E-07	2.86E-10	1.85E-10	4.71E-10	7.85E-09
Methyl Tert-Butyl Ether	8.26E-07	2.19E-10	1.94E-10	4.13E-10	1.80E-10
Toluene	3.64E-07	1.17E-09	8.56E-11	1.25E-09	6.26E-09
Vinyl Chloride	5.12E-07	2.96E-10	1.20E-10	4.17E-10	1.07E-07
Inorganics (mg/L)					
Antimony	1.00E-02	1.03E-06	2.35E-06	3.38E-06	8.45E-03
Arsenic	6.10E-03	6.30E-07	1.43E-06	2.06E-06	6.87E-03
Barium	1.06E+00	1.10E-04	2.49E-04	3.59E-04	5.13E-03
Beryllium	1.90E-05	1.96E-09	4.46E-09	6.43E-09	3.21E-06
Cadmium	1.59E-04	1.64E-08	3.73E-08	5.38E-08	1.08E-04
Chromium	1.46E-02	1.51E-06	3.43E-06	4.94E-06	NA
Cobalt	8.72E-03	3.60E-07	2.05E-06	2.41E-06	1.20E-04
Copper	6.64E-03	6.86E-07	1.56E-06	2.24E-06	9.51E-05
Iron	9.63E-01	9.95E-05	2.26E-04	3.25E-04	1.08E-02
Mercury	2.80E-05	2.89E-09	6.57E-09	9.46E-09	3.15E-05
Molybdenum	1.98E-01	2.05E-05	4.65E-05	6.70E-05	1.34E-02
Nickel	1.76E-02	3.63E-07	4.13E-06	4.49E-06	2.24E-04
Selenium	6.44E-03	6.65E-07	1.51E-06	2.18E-06	4.36E-04
Silver	7.98E-04	4.95E-08	1.87E-07	2.37E-07	4.74E-05
Vanadium	3.77E-02	3.90E-06	8.86E-06	1.28E-05	1.28E-02
Zinc	2.00E+00	1.24E-04	4.69E-04	5.92E-04	1.97E-03
Total Hazard Index					**0.1**

Notes:
NA = Not applicable.

TABLE 8.4.10
SWIMMER
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)			Cancer Risk
		Dermal Contact with Surface Water	Incidental Ingestion of Surface Water	Total CDI	
Organics (mg/L)					
1,2-Dichloropropane	2.32E-07	1.33E-11	3.89E-12	1.72E-11	6.20E-13
1,4-Dichlorobenzene	4.02E-07	1.25E-10	6.74E-12	1.31E-10	7.09E-13
Benzene	1.98E-07	2.19E-11	3.33E-12	2.53E-11	2.53E-12
cis-1,2-Dichloroethene	7.79E-07	4.43E-11	1.31E-11	5.73E-11	NC
Diethyl Ether	7.28E-07	1.24E-11	1.22E-11	2.46E-11	NA
Methylene Chloride	7.90E-07	2.04E-11	1.32E-11	3.36E-11	4.71E-13
Methyl Tert-Butyl Ether	8.26E-07	1.57E-11	1.39E-11	2.95E-11	5.32E-14
Toluene	3.64E-07	8.34E-11	6.11E-12	8.95E-11	NC
Vinyl Chloride	5.12E-07	2.12E-11	8.59E-12	2.98E-11	8.04E-12
Inorganics (mg/L)					
Antimony	1.00E-02	7.38E-08	1.68E-07	2.42E-07	NC
Arsenic	6.10E-03	4.50E-08	1.02E-07	1.47E-07	1.40E-06
Barium	1.06E+00	7.84E-06	1.78E-05	2.56E-05	NC
Beryllium	1.90E-05	1.40E-10	3.19E-10	4.59E-10	NC
Cadmium	1.59E-04	1.17E-09	2.67E-09	3.84E-09	1.46E-09
Chromium	1.46E-02	1.08E-07	2.45E-07	3.53E-07	NC
Cobalt	8.72E-03	2.57E-08	1.46E-07	1.72E-07	NC
Copper	6.64E-03	4.90E-08	1.11E-07	1.60E-07	6.41E-09
Iron	9.63E-01	7.10E-06	1.61E-05	2.32E-05	NC
Mercury	2.80E-05	2.06E-10	4.69E-10	6.76E-10	NC
Molybdenum	1.98E-01	1.46E-06	3.32E-06	4.79E-06	NC
Nickel	1.76E-02	2.59E-08	2.95E-07	3.21E-07	NC
Selenium	6.44E-03	4.75E-08	1.08E-07	1.56E-07	NC
Silver	7.98E-04	3.53E-09	1.34E-08	1.69E-08	NC
Vanadium	3.77E-02	2.78E-07	6.33E-07	9.11E-07	NC
Zinc	2.00E+00	8.83E-06	3.35E-05	4.23E-05	NC
Total Cancer Risk					**1.41E-06**

NA = Not applicable.
NC = Non-carcinogenic

TABLE 8.4.11
TRANSIENT
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m³)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	2.59E-04	2.59E-04	4.53E-01
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	5.60E-03	5.60E-03	NA
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	1.62E-06	1.62E-06	2.84E-05
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	8.92E-06	8.92E-06	3.90E-05
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	1.09E-06	1.09E-06	7.65E-07
Acetone	9.66E-03	NA	NA	NA	2.65E-06	2.65E-06	2.94E-06
Chlorobenzene	5.61E-03	NA	NA	NA	1.54E-06	1.54E-06	5.38E-06
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	7.55E-06	7.55E-06	5.28E-07
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	2.08E-07	2.08E-07	2.43E-08
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	8.72E-06	8.72E-06	1.53E-04
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	4.29E-07	4.29E-07	3.00E-08
Ethylbenzene	1.19E-01	NA	NA	NA	3.26E-05	3.26E-05	5.72E-05
n-Butane	3.86E-01	NA	NA	NA	1.06E-04	1.06E-04	5.29E-05
n-Hexane	5.61E-02	NA	NA	NA	1.54E-05	1.54E-05	7.69E-06
Pentane	1.50E-01	NA	NA	NA	4.10E-05	4.10E-05	2.05E-05
Propane	6.72E-01	NA	NA	NA	1.84E-04	1.84E-04	9.20E-05
Trichloroethene	1.66E-03	NA	NA	NA	4.54E-07	4.54E-07	2.65E-06
Vinyl chloride	5.19E-03	NA	NA	NA	1.42E-06	1.42E-06	4.91E-05
Total Xylenes	2.15E-02	NA	NA	NA	5.88E-06	5.88E-06	2.94E-05
Organics in Soil (mg/kg)							
Anthracene	1.98E-03	2.71E-09	1.85E-08	4.10E-13	NA	2.12E-08	7.08E-08
Benzo(a)anthracene	7.68E-03	1.05E-08	7.20E-08	1.59E-12	NA	8.25E-08	2.75E-07
Benzo(a)pyrene	9.75E-03	1.34E-08	9.14E-08	2.02E-12	NA	1.05E-07	3.49E-06
Benzo(b)fluoranthene	8.15E-03	1.12E-08	7.64E-08	1.69E-12	NA	8.75E-08	2.19E-06
Benzo(ghi)perylene	1.34E-02	1.84E-08	1.26E-07	2.78E-12	NA	1.44E-07	4.80E-06
Benzo(k)fluoranthene	3.37E-03	4.61E-09	3.16E-08	6.99E-13	NA	3.62E-08	9.04E-07
Chrysene	7.68E-03	1.05E-08	7.20E-08	1.59E-12	NA	8.25E-08	2.75E-06
Dibenzo(a,h)anthracene	1.13E-02	1.55E-08	1.06E-07	2.35E-12	NA	1.21E-07	4.05E-07
Fluoranthene	1.21E-02	1.66E-08	1.14E-07	2.52E-12	NA	1.30E-07	3.25E-06
Phenanthrene	5.55E-03	7.61E-09	5.20E-08	1.15E-12	NA	5.96E-08	1.99E-07
Pyrene	1.51E-02	2.06E-08	1.41E-07	3.13E-12	NA	1.62E-07	5.39E-06

TABLE 8.4.11
TRANSIENT
NON-CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Hazard Quotient
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Inorganics in Soil (mg/kg)							
Antimony	7.64E-01	1.05E-06	4.77E-07	1.59E-10	NA	1.52E-06	NC
Arsenic	3.21E+00	4.39E-06	2.00E-06	6.66E-10	NA	6.40E-06	6.08E-05
Barium	1.45E+02	1.99E-04	9.05E-05	3.01E-08	NA	2.89E-04	NC
Chromium	2.01E+01	2.75E-05	1.26E-05	4.17E-09	NA	4.01E-05	1.75E-07
Hexavalent Chromium	4.30E-01	5.90E-07	2.69E-07	8.93E-11	NA	8.59E-07	4.56E-08
Cobalt	8.34E+00	1.14E-05	5.21E-06	1.73E-09	NA	1.66E-05	NC
Copper	1.93E+01	2.65E-05	1.21E-05	4.01E-09	NA	3.86E-05	1.54E-06
Molybdenum	7.28E-01	9.98E-07	4.55E-07	1.51E-10	NA	1.45E-06	NC
Nickel	9.56E+00	1.31E-05	5.97E-06	1.98E-09	NA	1.91E-05	1.81E-09
Vanadium	4.69E+01	6.42E-05	2.93E-05	9.73E-09	NA	9.35E-05	NC
Zinc	6.75E+01	9.25E-05	4.22E-05	1.40E-08	NA	1.35E-04	NC
Total Hazard Index							**0.4538**

Notes:
NA = Not applicable.

TABLE 8.4.12
TRANSIENT
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Organics in Landfill Gas (µg/m^3)							
Hydrogen Sulfide	9.45E-01	NA	NA	NA	1.85E-05	1.85E-05	NC
Total Non-Methane Hydrocarbons as Methane	2.04E+01	NA	NA	NA	4.00E-04	4.00E-04	NC
1,2-Dichlorobenzene	5.90E-03	NA	NA	NA	1.16E-07	1.16E-07	NC
1,4-Dichlorobenzene	3.26E-02	NA	NA	NA	6.37E-07	6.37E-07	2.55E-08
2-Butanone (Methyl Ethyl Ketone)	3.99E-03	NA	NA	NA	7.82E-08	7.82E-08	NC
Acetone	9.66E-03	NA	NA	NA	1.89E-07	1.89E-07	NC
Chlorobenzene	5.61E-03	NA	NA	NA	1.10E-07	1.10E-07	NC
Chlorodifluoromethane (Freon 22)	2.76E-02	NA	NA	NA	5.39E-07	5.39E-07	NC
Chloroethane (Ethyl Chloride)	7.59E-04	NA	NA	NA	1.49E-08	1.49E-08	4.31E-11
Dichlorodifluoromethane (Freon 12)	3.18E-02	NA	NA	NA	6.23E-07	6.23E-07	NC
Dichlorofluoromethane (Freon 21)	1.57E-03	NA	NA	NA	3.07E-08	3.07E-08	NC
Ethylbenzene	1.19E-01	NA	NA	NA	2.33E-06	2.33E-06	NC
n-Butane	3.86E-01	NA	NA	NA	7.56E-06	7.56E-06	NC
n-Hexane	5.61E-02	NA	NA	NA	1.10E-06	1.10E-06	NC
Pentane	1.50E-01	NA	NA	NA	2.93E-06	2.93E-06	NC
Propane	6.72E-01	NA	NA	NA	1.31E-05	1.31E-05	NC
Trichloroethene	1.66E-03	NA	NA	NA	3.24E-08	3.24E-08	2.27E-10
Vinyl chloride	5.19E-03	NA	NA	NA	1.02E-07	1.02E-07	2.74E-08
Total Xylenes	2.15E-02	NA	NA	NA	4.20E-07	4.20E-07	NC
Organics in Soil (mg/kg)							
Anthracene	1.98E-03	1.93E-10	1.32E-09	2.93E-14	NA	1.52E-09	NC
Benzo(a)pyrene Equivalent	1.16E-02	1.13E-09	7.73E-09	1.71E-13	NA	8.86E-09	1.06E-07
Benzo(ghi)perylene	1.34E-02	1.31E-09	8.98E-09	1.99E-13	NA	1.03E-08	NC
Fluoranthene	1.21E-02	1.19E-09	8.11E-09	1.80E-13	NA	9.30E-09	NC
Phenanthrene	5.55E-03	5.43E-10	3.72E-09	8.23E-14	NA	4.26E-09	NC
Pyrene	1.51E-02	1.47E-09	1.01E-08	2.23E-13	NA	1.16E-08	NC

TABLE 8.4.12
TRANSIENT
CANCER RISKS
MISSION BAY LANDFILL
SEA WORLD DRIVE
SAN DIEGO, CALIFORNIA

COPC	EPC	CDI (mg/kg-day)					Cancer Risk
		Soil Ingestion	Dermal Contact with Soil	Inhalation of Particulate-Phase Chemicals in Outdoor Air	Inhalation of Chemicals in Landfill Gas in Outdoor Air	Total CDI	
Inorganics in Soil (mg/kg)							
Antimony	7.64E-01	7.47E-08	3.41E-08	1.13E-11	NA	1.09E-07	NC
Arsenic	3.21E+00	3.14E-07	1.43E-07	4.75E-11	NA	4.57E-07	4.34E-06
Barium	1.45E+02	1.42E-05	6.47E-06	2.15E-09	NA	2.06E-05	NC
Chromium	2.01E+01	1.97E-06	8.97E-07	2.98E-10	NA	2.86E-06	1.25E-08
Hexavalent Chromium	4.30E-01	4.21E-08	1.92E-08	6.38E-12	NA	6.13E-08	3.25E-09
Cobalt	8.34E+00	8.16E-07	3.72E-07	1.24E-10	NA	1.19E-06	NC
Copper	1.93E+01	1.89E-06	8.63E-07	2.87E-10	NA	2.75E-06	1.10E-07
Molybdenum	7.28E-01	7.13E-08	3.25E-08	1.08E-11	NA	1.04E-07	NC
Nickel	9.56E+00	9.35E-07	4.26E-07	1.42E-10	NA	1.36E-06	1.29E-10
Vanadium	4.69E+01	4.59E-06	2.09E-06	6.95E-10	NA	6.68E-06	NC
Zinc	6.75E+01	6.60E-06	3.01E-06	1.00E-09	NA	9.62E-06	NC
Total Cancer Risk							**4.63E-06**

Notes:
NA = Not applicable.
NC = Non-carcinogenic