TABLE 8.59.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-106U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	9.4E-01	µg/L	9.4E-01	µg/L	M	1.8E-06	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	2.7E-06
	Manganese	1.7E+02	µg/L	1.7E+02	µg/L	M	3.2E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										2.7E-06
										Total Risk Across All Exposure Routes/Pathways	3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.60.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107R
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	3.4E-06	µg/L	3.4E-06	µg/L	M	3.2E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	4.8E-06
	Arsenic	8.9E+00	µg/L	8.9E+00	µg/L	M	8.4E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.3E-04
	Manganese	1.6E+03	µg/L	1.6E+03	µg/L	M	1.5E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										1.3E-04

Total Risk Across All Exposure Routes/Pathways 1E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-04

TABLE 8.60.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107R
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	3.4E-06	µg/L	3.4E-06	µg/L	M	6.5E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	9.8E-07
	Arsenic	6.2E+00	µg/L	6.2E+00	µg/L	M	1.2E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.8E-05
	Manganese	1.1E+03	µg/L	1.1E+03	µg/L	M	2.2E-03	mg/kg-day	N/A	N/A	N/A
	(Total)	-									1.9E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-05

TABLE 8.61.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	1.6E+00	µg/L	1.6E+00	µg/L	M	1.5E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	3.6E+00	µg/L	3.6E+00	µg/L	M	3.3E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.0E-05
	Manganese	3.6E+03	µg/L	3.6E+03	µg/L	M	3.4E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										5.0E-05
										Total Risk Across All Exposure Routes/Pathways	5E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.61.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	8.0E-01	µg/L	8.0E-01	µg/L	M	1.5E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	3.1E+00	µg/L	3.1E+00	µg/L	M	5.8E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.8E-06
	Manganese	2.7E+03	µg/L	2.7E+03	µg/L	M	5.2E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										8.8E-06
										Total Risk Across All Exposure Routes/Pathways	9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.62.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-109U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Carbon tetrachloride	1.0E+00	µg/L	1.0E+00	µg/L	M	9.4E-06	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.2E-06
	Heptachlor epoxide	1.3E-02	µg/L	1.3E-02	µg/L	M	1.2E-07	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	1.1E-06
	Arsenic	2.3E+01	µg/L	2.3E+01	µg/L	M	2.2E-04	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.2E-04
	Manganese	4.2E+03	µg/L	4.2E+03	µg/L	M	4.0E-02	mg/kg-day	N/A	N/A	N/A
	Thallium	7.5E+00	µg/L	7.5E+00	µg/L	M	7.0E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										3.3E-04
										Total Risk Across All Exposure Routes/Pathways	3E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.62.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-109U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Carbon tetrachloride	6.7E-01	µg/L	6.7E-01	µg/L	M	1.3E-06	mg/kg-day	1.3E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-07
	Heptachlor epoxide	1.3E-02	µg/L	1.3E-02	µg/L	M	2.5E-08	mg/kg-day	9.1E+00	$(mg/kg\text{-}day)^{-1}$	2.3E-07
	Arsenic	1.8E+01	µg/L	1.8E+01	µg/L	M	3.5E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	5.2E-05
	Manganese	3.9E+03	µg/L	3.9E+03	µg/L	M	7.4E-03	mg/kg-day	N/A	N/A	N/A
	Thallium	2.7E+00	µg/L	2.7E+00	µg/L	M	5.1E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										5.2E-05
										Total Risk Across All Exposure Routes/Pathways	5E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.63.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110R
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	5.4E+00	µg/L	5.4E+00	µg/L	M	5.1E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.6E-05
	Manganese	1.8E+03	µg/L	1.8E+03	µg/L	M	1.7E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										7.6E-05
										Total Risk Across All Exposure Routes/Pathways	8E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.63.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110R
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	4.9E+00	µg/L	4.9E+00	µg/L	M	9.3E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-05
	Manganese	1.6E+03	µg/L	1.6E+03	µg/L	M	3.0E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										1.4E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.64.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	1.5E+01	µg/L	1.5E+01	µg/L	M	1.4E-04	mg/kg-day	7.5E-03	$(mg/kg\text{-}day)^{-1}$	1.1E-06
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	9.4E-06	mg/kg-day	1.2E-01	$(mg/kg\text{-}day)^{-1}$	1.1E-06
	Antimony	1.6E+00	µg/L	1.6E+00	µg/L	M	1.5E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	2.3E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3.4E-05
	Manganese	1.5E+03	µg/L	1.5E+03	µg/L	M	1.4E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										3.6E-05
										Total Risk Across All Exposure Routes/Pathways	4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.64.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	6.8E+00	µg/L	6.8E+00	µg/L	M	1.3E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	9.8E-08
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	1.9E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.3E-07
	Antimony	1.3E+00	µg/L	1.3E+00	µg/L	M	2.5E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.5E+00	µg/L	1.5E+00	µg/L	M	2.9E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.3E-06
	Manganese	9.6E+02	µg/L	9.6E+02	µg/L	M	1.8E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										4.6E-06
										Total Risk Across All Exposure Routes/Pathways	5E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.65.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-111U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	2.0E+00	µg/L	2.0E+00	µg/L	M	1.9E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.5E-01	µg/L	6.5E-01	µg/L	M	6.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.2E-06
	Manganese	6.9E+02	µg/L	6.9E+02	µg/L	M	6.5E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										9.2E-06
										Total Risk Across All Exposure Routes/Pathways	9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.65.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-111U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	8.8E-01	µg/L	8.8E-01	µg/L	M	1.7E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.5E-01	µg/L	6.5E-01	µg/L	M	1.2E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.9E-06
	Manganese	4.4E+02	µg/L	4.4E+02	µg/L	M	8.4E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										1.9E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.66.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-112U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	3.3E+00	µg/L	3.3E+00	µg/L	M	3.1E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	9.8E-01	µg/L	9.8E-01	µg/L	M	9.2E-06	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.4E-05
	(Total)										1.4E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.66.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-112U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	2.0E+00	µg/L	2.0E+00	µg/L	M	3.8E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.8E-01	µg/L	6.8E-01	µg/L	M	1.3E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.9E-06
	(Total)										1.9E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.67.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-113R
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	5.8E+01	µg/L	5.8E+01	µg/L	M	5.5E-04	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	8.2E-04
	Manganese	1.3E+03	µg/L	1.3E+03	µg/L	M	1.2E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										8.2E-04
										Total Risk Across All Exposure Routes/Pathways	8E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.67.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-113R
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	5.8E+01	µg/L	5.8E+01	µg/L	M	1.1E-04	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.7E-04
	Manganese	1.3E+03	µg/L	1.3E+03	µg/L	M	2.5E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										1.7E-04
										Total Risk Across All Exposure Routes/Pathways	2E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.68.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-114U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	6.9E-01	µg/L	6.9E-01	µg/L	M	6.5E-06	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	7.9E+00	µg/L	7.9E+00	µg/L	M	7.4E-05	mg/kg-day	2.4E-02	$(mg/kg\text{-}day)^{-1}$	1.8E-06
	Chlorobenzene	3.6E+01	µg/L	3.6E+01	µg/L	M	3.4E-04	mg/kg-day	N/A	N/A	N/A
	Tetrachloroethylene	7.8E+01	µg/L	7.8E+01	µg/L	M	7.3E-04	mg/kg-day	5.2E-02	$(mg/kg\text{-}day)^{-1}$	3.8E-05
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	2.3E-05	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3.4E-05
	Chromium	1.3E+01	µg/L	1.3E+01	µg/L	M	1.2E-04	mg/kg-day	N/A	N/A	N/A
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	9.2E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										7.4E-05
										Total Risk Across All Exposure Routes/Pathways	7E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.68.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-114U
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	6.9E-01	µg/L	6.9E-01	µg/L	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	7.9E+00	µg/L	7.9E+00	µg/L	M	1.5E-05	mg/kg-day	2.4E-02	$(mg/kg\text{-}day)^{-1}$	3.6E-07
	Chlorobenzene	3.6E+01	µg/L	3.6E+01	µg/L	M	6.9E-05	mg/kg-day	N/A	N/A	N/A
	Tetrachloroethylene	7.8E+01	µg/L	7.8E+01	µg/L	M	1.5E-04	mg/kg-day	5.2E-02	$(mg/kg\text{-}day)^{-1}$	7.8E-06
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	4.6E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	6.9E-06
	Chromium	1.3E+01	µg/L	1.3E+01	µg/L	M	2.5E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	1.9E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										1.5E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.69.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-B-7
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	1.9E+04	µg/L	1.9E+04	µg/L	M	1.8E-01	mg/kg-day	7.5E-03	(mg/kg-day)$^{-1}$	1.3E-03
	(Total)										1.3E-03
										Total Risk Across All Exposure Routes/Pathways	1E-03

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.69.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-B-7
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	6.3E+03	µg/L	6.3E+03	µg/L	M	1.2E-02	mg/kg-day	7.5E-03	(mg/kg-day)$^{-1}$	9.1E-05
	(Total)										9.1E-05
										Total Risk Across All Exposure Routes/Pathways	9E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.70.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-3
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,4-Dichlorobenzene	5.6E-01	µg/L	5.6E-01	µg/L	M	5.3E-06	mg/kg-day	2.4E-02	(mg/kg-day)$^{-1}$	1.3E-07
	Hexavalent Chromium	2.9E+01	µg/L	2.9E+01	µg/L	M	2.7E-04	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.8E+01	µg/L	1.8E+01	µg/L	M	1.7E-04	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	2.5E-04
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	9.2E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										2.5E-04
										Total Risk Across All Exposure Routes/Pathways	3E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.70.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-3
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,4-Dichlorobenzene	5.2E-01	µg/L	5.2E-01	µg/L	M	1.0E-06	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	2.4E-08
	Hexavalent Chromium	2.9E+01	µg/L	2.9E+01	µg/L	M	5.6E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.3E+01	µg/L	1.3E+01	µg/L	M	2.5E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.7E-05
	Manganese	7.9E+03	µg/L	7.9E+03	µg/L	M	1.5E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										3.7E-05
										Total Risk Across All Exposure Routes/Pathways	4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.71.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-4
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	5.9E+02	µg/L	5.9E+02	µg/L	M	5.5E-03	mg/kg-day	7.5E-03	(mg/kg-day)$^{-1}$	4.2E-05
	(Total)										4.2E-05
										Total Risk Across All Exposure Routes/Pathways	4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 6.71.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-4
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Methylene chloride	2.0E+02	µg/L	2.0E+02	µg/L	M	3.8E-04	mg/kg-day	7.5E-03	(mg/kg-day)$^{-1}$	2.8E-06
	(Total)										2.8E-06
										Total Risk Across All Exposure Routes/Pathways	3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.72.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-5
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	6.3E-01	µg/L	6.3E-01	µg/L	M	5.9E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	8.9E-06
	Thallium	8.0E-01	µg/L	8.0E-01	µg/L	M	7.5E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										8.9E-06
										Total Risk Across All Exposure Routes/Pathways	9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.72.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-5
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	4.3E-01	µg/L	4.3E-01	µg/L	M	8.2E-07	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.2E-06
	Thallium	4.9E-01	µg/L	4.9E-01	µg/L	M	9.4E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-06
										Total Risk Across All Exposure Routes/Pathways	1E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.73.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-7
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	5.4E+00	µg/L	5.4E+00	µg/L	M	5.1E-05	mg/kg-day	7.5E-03	$(mg/kg\text{-}day)^{-1}$	3.8E-07
	Arsenic	8.6E-01	µg/L	8.6E-01	µg/L	M	8.1E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-05
	Manganese	8.9E+01	µg/L	8.9E+01	µg/L	M	8.4E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.73.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-7
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	2.8E+00	µg/L	2.8E+00	µg/L	M	5.4E-06	mg/kg-day	7.5E-03	$(mg/kg\text{-}day)^{-1}$	4.0E-08
	Arsenic	7.6E-01	µg/L	7.6E-01	µg/L	M	1.5E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-06
	Manganese	4.4E+01	µg/L	4.4E+01	µg/L	M	8.5E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.74.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-9
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	1.0E+01	µg/L	1.0E+01	µg/L	M	9.4E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	7.0E-07
	Cyanide	2.2E+00	µg/L	2.2E+00	µg/L	M	2.1E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										7.0E-07
										Total Risk Across All Exposure Routes/Pathways	7E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.74.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-9
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	4.3E+00	µg/L	4.3E+00	µg/L	M	8.3E-06	mg/kg-day	7.5E-03	(mg/kg-day)$^{-1}$	6.2E-08
	Cyanide	2.2E+00	µg/L	2.2E+00	µg/L	M	4.2E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										6.2E-08
										Total Risk Across All Exposure Routes/Pathways	6E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.75.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-10
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	9.3E+00	µg/L	9.3E+00	µg/L	M	8.7E-05	mg/kg-day	7.5E-03	$(mg/kg\text{-}day)^{-1}$	6.5E-07
	Arsenic	8.6E-01	µg/L	8.6E-01	µg/L	M	8.1E-06	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-05
	Manganese	2.9E+03	µg/L	2.9E+03	µg/L	M	2.7E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										1.3E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.75.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-10
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	4.1E+00	µg/L	4.1E+00	µg/L	M	7.8E-06	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	5.9E-08
	Arsenic	8.6E-01	µg/L	8.6E-01	µg/L	M	1.6E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.5E-06
	Manganese	1.7E+03	µg/L	1.7E+03	µg/L	M	3.3E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										2.5E-06
										Total Risk Across All Exposure Routes/Pathways	3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.76.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-11
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Atrazine	7.0E+00	µg/L	7.0E+00	µg/L	M	6.6E-05	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	1.5E-05
	(Total)										1.5E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.76.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-11
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Atrazine	3.5E+00	µg/L	3.5E+00	µg/L	M	6.7E-06	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	1.5E-06
	(Total)										1.5E-06
										Total Risk Across All Exposure Routes/Pathways	1E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.77.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: All On-Site Monitoring Wells
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	6.9E-01	µg/L	6.9E-01	µg/L	M	6.5E-06	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	7.9E+00	µg/L	7.9E+00	µg/L	M	7.4E-05	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	1.8E-06
	Carbon tetrachloride	1.0E+00	µg/L	1.0E+00	µg/L	M	9.4E-06	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.2E-06
	Chlorobenzene	3.6E+01	µg/L	3.6E+01	µg/L	M	3.4E-04	mg/kg-day	N/A	N/A	N/A
	Methylene chloride	1.9E+04	µg/L	1.9E+04	µg/L	M	1.8E-01	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	1.3E-03
	Tetrachloroethylene	7.8E+01	µg/L	7.8E+01	µg/L	M	7.3E-04	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	3.8E-05
	Atrazine	7.0E+00	µg/L	7.0E+00	µg/L	M	6.6E-05	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	1.5E-05
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	9.4E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.1E-06
	Heptachlor epoxide	1.3E-02	µg/L	1.3E-02	µg/L	M	1.2E-07	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	1.1E-06
	Dioxin TEQ	3.4E-06	µg/L	3.4E-06	µg/L	M	3.2E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	4.8E-06
	Hexavalent Chromium	2.9E+01	µg/L	2.9E+01	µg/L	M	2.7E-04	mg/kg-day	N/A	N/A	N/A
	Antimony	3.3E+00	µg/L	3.3E+00	µg/L	M	3.1E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	5.8E+01	µg/L	5.8E+01	µg/L	M	5.5E-04	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.2E-04
	Chromium	1.3E+01	µg/L	1.3E+01	µg/L	M	1.2E-04	mg/kg-day	N/A	N/A	N/A
	Cyanide	2.2E+00	µg/L	2.2E+00	µg/L	M	2.1E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	9.2E-02	mg/kg-day	N/A	N/A	N/A
	Thallium	7.5E+00	µg/L	7.5E+00	µg/L	M	7.0E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-03
										Total Risk Across All Exposure Routes/Pathways	2E-03

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.77.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: All On-Site Monitoring Wells
Receptor Population: Resident
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	5.0E-01	µg/L	5.0E-01	µg/L	M	9.6E-07	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	6.1E-01	µg/L	6.1E-01	µg/L	M	1.2E-06	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	2.8E-08
	Carbon tetrachloride	5.1E-01	µg/L	5.1E-01	µg/L	M	9.7E-07	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.3E-07
	Chlorobenzene	1.0E+00	µg/L	1.0E+00	µg/L	M	2.0E-06	mg/kg-day	N/A	N/A	N/A
	Methylene chloride	2.9E+02	µg/L	2.9E+02	µg/L	M	5.6E-04	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	4.2E-06
	Tetrachloroethylene	1.6E+00	µg/L	1.6E+00	µg/L	M	3.1E-06	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	1.6E-07
	Atrazine	1.6E+00	µg/L	1.6E+00	µg/L	M	3.0E-06	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	6.7E-07
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	1.9E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.3E-07
	Heptachlor epoxide	5.4E-03	µg/L	5.4E-03	µg/L	M	1.0E-08	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	9.4E-08
	Dioxin TEQ	1.0E-07	µg/L	1.0E-07	µg/L	M	1.9E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.9E-08
	Hexavalent Chromium	6.4E+00	µg/L	6.4E+00	µg/L	M	1.2E-05	mg/kg-day	N/A	N/A	N/A
	Antimony	7.4E-01	µg/L	7.4E-01	µg/L	M	1.4E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	3.4E+00	µg/L	3.4E+00	µg/L	M	6.6E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.8E-06
	Chromium	1.6E+00	µg/L	1.6E+00	µg/L	M	3.1E-06	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.8E+00	µg/L	1.8E+00	µg/L	M	3.5E-06	mg/kg-day	N/A	N/A	N/A
	Manganese	1.1E+03	µg/L	1.1E+03	µg/L	M	2.1E-03	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E-01	µg/L	6.0E-01	µg/L	M	1.1E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										1.5E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.78.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil
Exposure Point: Warehouse Area
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Acetophenone	9.8E-02	mg/kg	9.8E-02	mg/kg	M	4.6E-08	mg/kg-day	N/A	N/A	N/A
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.0E-07	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	7.5E-08
	Benzo(a)pyrene	2.6E-01	mg/kg	2.6E-01	mg/kg	M	1.2E-07	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	8.9E-07
	Benzo(b)fluoranthene	5.8E-01	mg/kg	5.8E-01	mg/kg	M	2.7E-07	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	2.0E-07
	Dibenz(a,h)anthracene	1.8E-01	mg/kg	1.8E-01	mg/kg	M	8.2E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	6.0E-07
	Indeno(1,2,3-cd)pyrene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	8.9E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	6.5E-08
	Dioxin TEQ	9.6E-06	mg/kg	9.6E-06	mg/kg	M	4.5E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	6.8E-07
	Arsenic	7.0E+00	mg/kg	7.0E+00	mg/kg	M	3.3E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.9E-06
	Chromium	3.2E+01	mg/kg	3.2E+01	mg/kg	M	1.5E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	6.8E+02	mg/kg	6.8E+02	mg/kg	M	3.2E-04	mg/kg-day	N/A	N/A	N/A
	Mercury	1.1E-01	mg/kg	1.1E-01	mg/kg	M	5.2E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E+00	mg/kg	6.0E+00	mg/kg	M	2.8E-06	mg/kg-day	N/A	N/A	N/A
	Vanadium	1.3E+01	mg/kg	1.3E+01	mg/kg	M	6.0E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										7.4E-06
Dermal											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.8E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	4.3E-08
	Benzo(a)pyrene	2.6E-01	mg/kg	2.6E-01	mg/kg	M	6.9E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.0E-07
	Benzo(b)fluoranthene	5.8E-01	mg/kg	5.8E-01	mg/kg	M	1.5E-07	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.1E-07
	Dibenz(a,h)anthracene	1.8E-01	mg/kg	1.8E-01	mg/kg	M	4.6E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	3.4E-07
	Indeno(1,2,3-cd)pyrene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	5.0E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.7E-08
	Dioxin TEQ	9.6E-06	mg/kg	9.6E-06	mg/kg	M	5.9E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.8E-06
	Arsenic	7.0E+00	mg/kg	7.0E+00	mg/kg	M	4.3E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.4E-07
	(Total)										1.8E-06

Total Risk Across All Exposure Routes/Pathways: 9E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to: 1E-05

TABLE 8.7B.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil
Exposure Point: Warehouse Area
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Acetophenone	9.8E-02	mg/kg	9.8E-02	mg/kg	M	7.7E-09	mg/kg-day	N/A	N/A	N/A
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.7E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.3E-08
	Benzo(a)pyrene	2.6E-01	mg/kg	2.6E-01	mg/kg	M	2.0E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.5E-07
	Benzo(b)fluoranthene	5.8E-01	mg/kg	5.8E-01	mg/kg	M	4.5E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.3E-08
	Dibenz(a,h)anthracene	1.8E-01	mg/kg	1.8E-01	mg/kg	M	1.4E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.0E-07
	Indeno(1,2,3-cd)pyrene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	1.5E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.1E-08
	Dioxin TEQ	9.4E-06	mg/kg	9.4E-06	mg/kg	M	7.3E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.1E-07
	Arsenic	7.0E+00	mg/kg	7.0E+00	mg/kg	M	5.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.2E-07
	Chromium	3.2E+01	mg/kg	3.2E+01	mg/kg	M	2.5E-06	mg/kg-day	N/A	N/A	N/A
	Manganese	6.8E+02	mg/kg	6.8E+02	mg/kg	M	5.3E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	1.1E-01	mg/kg	1.1E-01	mg/kg	M	8.6E-09	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E+00	mg/kg	6.0E+00	mg/kg	M	4.7E-07	mg/kg-day	N/A	N/A	N/A
	Vanadium	1.3E+01	mg/kg	1.3E+01	mg/kg	M	1.0E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-06
Dermal											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.9E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.4E-08
	Benzo(a)pyrene	2.6E-01	mg/kg	2.6E-01	mg/kg	M	2.3E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.7E-07
	Benzo(b)fluoranthene	5.8E-01	mg/kg	5.8E-01	mg/kg	M	5.1E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.7E-08
	Dibenz(a,h)anthracene	1.8E-01	mg/kg	1.8E-01	mg/kg	M	1.5E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.1E-07
	Indeno(1,2,3-cd)pyrene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	1.7E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.2E-08
	Dioxin TEQ	9.4E-06	mg/kg	9.4E-06	mg/kg	M	1.9E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.9E-08
	Arsenic	7.0E+00	mg/kg	7.0E+00	mg/kg	M	1.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.1E-07
	(Total)										5.9E-07

Total Risk Across All Exposure Routes/Pathways: 2E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 3E-06

TABLE 8.79.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-101U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	2.6E+01	µg/L	2.6E+01	µg/L	M	2.1E-04	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	1.6E-06
	Antimony	1.7E+00	µg/L	1.7E+00	µg/L	M	1.4E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.5E+00	µg/L	1.5E+00	µg/L	M	1.2E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.8E-05
	Chromium	1.1E+01	µg/L	1.1E+01	µg/L	M	9.3E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	2.1E+02	µg/L	2.1E+02	µg/L	M	1.8E-03	mg/kg-day	N/A	N/A	N/A
	Thallium	8.5E-01	µg/L	8.5E-01	µg/L	M	7.0E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										2.0E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.79.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-101U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	9.8E+00	µg/L	9.8E+00	µg/L	M	1.6E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	1.2E-07
	Antimony	8.5E-01	µg/L	8.5E-01	µg/L	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.1E-01	µg/L	6.1E-01	µg/L	M	9.7E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.5E-06
	Chromium	4.3E+00	µg/L	4.3E+00	µg/L	M	6.8E-06	mg/kg-day	N/A	N/A	N/A
	Manganese	8.6E+01	µg/L	8.6E+01	µg/L	M	1.4E-04	mg/kg-day	N/A	N/A	N/A
	Thallium	7.6E-01	µg/L	7.6E-01	µg/L	M	1.2E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										1.6E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.80.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-102U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	2.6E-01	µg/L	2.6E-01	µg/L	M	2.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.2E-06
	(Total)										3.2E-06
										Total Risk Across All Exposure Routes/Pathways	3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.80.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-102U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	2.6E-01	µg/L	2.6E-01	µg/L	M	4.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.2E-07
	(Total)										6.2E-07
										Total Risk Across All Exposure Routes/Pathways	6E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.81.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-103R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	2.1E+00	µg/L	2.1E+00	µg/L	M	1.7E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.9E+00	µg/L	1.9E+00	µg/L	M	1.6E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.3E-05
	Manganese	1.3E+02	µg/L	1.3E+02	µg/L	M	1.1E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										2.3E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.81.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-103R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	1.2E+00	µg/L	1.2E+00	µg/L	M	1.8E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.5E+00	µg/L	1.5E+00	µg/L	M	2.3E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.5E-06
	Manganese	1.0E+02	µg/L	1.0E+02	µg/L	M	1.7E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										3.5E-06
										Total Risk Across All Exposure Routes/Pathways	3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.82.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-103U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	8.1E-01	µg/L	8.1E-01	µg/L	M	6.7E-06	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.0E-05
	(Total)										1.0E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.82.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-103U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic (Total)	4.9E-01	µg/L	4.9E-01	µg/L	M	7.8E-07	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.2E-06 1.2E-06
										Total Risk Across All Exposure Routes/Pathways	1E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.83.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-104U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	2.2E+00	µg/L	2.2E+00	µg/L	M	1.8E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.7E-05
	Manganese	1.1E+03	µg/L	1.1E+03	µg/L	M	9.1E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										2.7E-05
										Total Risk Across All Exposure Routes/Pathways	3E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.83.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-104U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	2.0E+00	µg/L	2.0E+00	µg/L	M	3.2E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.8E-06
	Manganese	7.4E+02	µg/L	7.4E+02	µg/L	M	1.2E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										4.8E-06
										Total Risk Across All Exposure Routes/Pathways	5E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.84.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-106U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	1.8E+00	µg/L	1.8E+00	µg/L	M	1.5E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.2E-05
	Manganese	4.4E+02	µg/L	4.4E+02	µg/L	M	3.6E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.84.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-106U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	9.4E-01	µg/L	9.4E-01	µg/L	M	1.5E-06	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	2.2E-06
	Manganese	1.7E+02	µg/L	1.7E+02	µg/L	M	2.6E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.85.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	3.4E-06	µg/L	3.4E-06	µg/L	M	2.8E-11	mg/kg-day	1.5E+05	(mg/kg-day)$^{-1}$	4.2E-06
	Arsenic	8.9E+00	µg/L	8.9E+00	µg/L	M	7.3E-05	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.1E-04
	Manganese	1.6E+03	µg/L	1.6E+03	µg/L	M	1.3E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										1.1E-04

Total Risk Across All Exposure Routes/Pathways: 1E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 1E-04

TABLE 8.85.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	3.4E-06	µg/L	3.4E-06	µg/L	M	5.4E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.1E-07
	Arsenic	6.2E+00	µg/L	6.2E+00	µg/L	M	9.9E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.5E-05
	Manganese	1.1E+03	µg/L	1.1E+03	µg/L	M	1.8E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										1.6E-05
										Total Risk Across All Exposure Routes/Pathways	2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-05

TABLE 8.86.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	1.6E+00	µg/L	1.6E+00	µg/L	M	1.3E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	3.6E+00	µg/L	3.6E+00	µg/L	M	2.9E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.4E-05
	Manganese	3.6E+03	µg/L	3.6E+03	µg/L	M	3.0E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										4.4E-05
										Total Risk Across All Exposure Routes/Pathways	4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.86.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-107U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	8.0E-01	µg/L	8.0E-01	µg/L	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	3.1E+00	µg/L	3.1E+00	µg/L	M	4.8E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.3E-06
	Manganese	2.7E+03	µg/L	2.7E+03	µg/L	M	4.3E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										7.3E-06
										Total Risk Across All Exposure Routes/Pathways	7E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.87.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-109U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Carbon tetrachloride	1.0E+00	µg/L	1.0E+00	µg/L	M	8.2E-06	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.1E-06
	Heptachlor epoxide	1.3E-02	µg/L	1.3E-02	µg/L	M	1.1E-07	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	9.7E-07
	Arsenic	2.3E+01	µg/L	2.3E+01	µg/L	M	1.9E-04	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.8E-04
	Manganese	4.2E+03	µg/L	4.2E+03	µg/L	M	3.5E-02	mg/kg-day	N/A	N/A	N/A
	Thallium	7.5E+00	µg/L	7.5E+00	µg/L	M	6.2E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										2.9E-04
										Total Risk Across All Exposure Routes/Pathways	3E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.87.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-109U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor.Units	Cancer Risk
Ingestion											
	Carbon tetrachloride	6.7E-01	µg/L	6.7E-01	µg/L	M	1.1E-06	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.4E-07
	Heptachlor epoxide	1.3E-02	µg/L	1.3E-02	µg/L	M	2.1E-08	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	1.9E-07
	Arsenic	1.8E+01	µg/L	1.8E+01	µg/L	M	2.9E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.3E-05
	Manganese	3.9E+03	µg/L	3.9E+03	µg/L	M	6.1E-03	mg/kg-day	N/A	N/A	N/A
	Thallium	2.7E+00	µg/L	2.7E+00	µg/L	M	4.3E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										4.3E-05
										Total Risk Across All Exposure Routes/Pathways	4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.88.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	5.4E+00	µg/L	5.4E+00	µg/L	M	4.4E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.7E-05
	Manganese	1.8E+03	µg/L	1.8E+03	µg/L	M	1.5E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										6.7E-05
										Total Risk Across All Exposure Routes/Pathways	7E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.88.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	4.9E+00	µg/L	4.9E+00	µg/L	M	7.7E-06	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.2E-05
	Manganese	1.6E+03	µg/L	1.6E+03	µg/L	M	2.5E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.89.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	1.5E+01	µg/L	1.5E+01	µg/L	M	1.2E-04	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	9.2E-07
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	8.2E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	9.9E-07
	Antimony	1.6E+00	µg/L	1.6E+00	µg/L	M	1.3E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	2.0E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-05
	Manganese	1.5E+03	µg/L	1.5E+03	µg/L	M	1.2E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										3.2E-05
										Total Risk Across All Exposure Routes/Pathways	3E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.89.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-110U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	6.8E+00	µg/L	6.8E+00	µg/L	M	1.1E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	8.1E-08
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	1.6E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.9E-07
	Antimony	1.3E+00	µg/L	1.3E+00	µg/L	M	2.1E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.5E+00	µg/L	1.5E+00	µg/L	M	2.4E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.5E-06
	Manganese	9.6E+02	µg/L	9.6E+02	µg/L	M	1.5E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										3.8E-06
										Total Risk Across All Exposure Routes/Pathways	4E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.90.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-111U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	2.0E+00	µg/L	2.0E+00	µg/L	M	1.6E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.5E-01	µg/L	6.5E-01	µg/L	M	5.3E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.0E-06
	Manganese	6.9E+02	µg/L	6.9E+02	µg/L	M	5.7E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										8.0E-06
										Total Risk Across All Exposure Routes/Pathways	8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.90.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-111U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	8.8E-01	µg/L	8.8E-01	µg/L	M	1.4E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.5E-01	µg/L	6.5E-01	µg/L	M	1.0E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.5E-06
	Manganese	4.4E+02	µg/L	4.4E+02	µg/L	M	7.0E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										1.5E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.91.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-112U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	3.3E+00	µg/L	3.3E+00	µg/L	M	2.7E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	9.8E-01	µg/L	9.8E-01	µg/L	M	8.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.2E-05
	(Total)										1.2E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.91.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-112U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Antimony	2.0E+00	µg/L	2.0E+00	µg/L	M	3.2E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	6.8E-01	µg/L	6.8E-01	µg/L	M	1.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-06
	(Total)										1.6E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.92.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-113R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	5.8E+01	µg/L	5.8E+01	µg/L	M	4.8E-04	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	7.2E-04
	Manganese	1.3E+03	µg/L	1.3E+03	µg/L	M	1.1E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										7.2E-04
										Total Risk Across All Exposure Routes/Pathways	7E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.92.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-113R
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	5.8E+01	µg/L	5.8E+01	µg/L	M	9.3E-05	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.4E-04
	Manganese	1.3E+03	µg/L	1.3E+03	µg/L	M	2.1E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										1.4E-04
										Total Risk Across All Exposure Routes/Pathways	1E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.93.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-114U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	6.9E-01	µg/L	6.9E-01	µg/L	M	5.7E-06	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	7.9E+00	µg/L	7.9E+00	µg/L	M	6.5E-05	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	1.6E-06
	Chlorobenzene	3.6E+01	µg/L	3.6E+01	µg/L	M	3.0E-04	mg/kg-day	N/A	N/A	N/A
	Tetrachloroethylene	7.8E+01	µg/L	7.8E+01	µg/L	M	6.4E-04	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	3.3E-05
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	2.0E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-05
	Chromium	1.3E+01	µg/L	1.3E+01	µg/L	M	1.1E-04	mg/kg-day	N/A	N/A	N/A
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	8.1E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										6.4E-05
										Total Risk Across All Exposure Routes/Pathways	6E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.93.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-114U
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	6.9E-01	µg/L	6.9E-01	µg/L	M	1.1E-06	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	7.9E+00	µg/L	7.9E+00	µg/L	M	1.3E-05	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	3.0E-07
	Chlorobenzene	3.6E+01	µg/L	3.6E+01	µg/L	M	5.7E-05	mg/kg-day	N/A	N/A	N/A
	Tetrachloroethylene	7.8E+01	µg/L	7.8E+01	µg/L	M	1.2E-04	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	6.4E-06
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	3.8E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.7E-06
	Chromium	1.3E+01	µg/L	1.3E+01	µg/L	M	2.0E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	1.6E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.94.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-B-7
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Methylene chloride (Total)	1.9E+04	µg/L	1.9E+04	µg/L	M	1.6E-01	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	1.2E-03 1.2E-03
										Total Risk Across All Exposure Routes/Pathways	1E-03

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.94.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-B-7
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Methylene chloride	6.3E+03	µg/L	6.3E+03	µg/L	M	1.0E-02	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	7.5E-05
	(Total)										7.5E-05
										Total Risk Across All Exposure Routes/Pathways	8E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.95.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-3
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,4-Dichlorobenzene	5.6E-01	µg/L	5.6E-01	µg/L	M	4.6E-06	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	1.1E-07
	Hexavalent Chromium	2.9E+01	µg/L	2.9E+01	µg/L	M	2.4E-04	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.8E+01	µg/L	1.8E+01	µg/L	M	1.5E-04	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.2E-04
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	8.0E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-04
										Total Risk Across All Exposure Routes/Pathways	2E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.95.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-3
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,4-Dichlorobenzene	5.2E-01	µg/L	5.2E-01	µg/L	M	8.3E-07	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	2.0E-08
	Hexavalent Chromium	2.9E+01	µg/L	2.9E+01	µg/L	M	4.6E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	1.3E+01	µg/L	1.3E+01	µg/L	M	2.1E-05	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.1E-05
	Manganese	7.9E+03	µg/L	7.9E+03	µg/L	M	1.3E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										3.1E-05
										Total Risk Across All Exposure Routes/Pathways	3E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.96.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-4
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Methylene chloride	5.9E+02	µg/L	5.9E+02	µg/L	M	4.8E-03	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	3.6E-05
	(Total)										3.6E-05
										Total Risk Across All Exposure Routes/Pathways	4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.96.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-4
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Methylene chloride	2.0E+02	µg/L	2.0E+02	µg/L	M	3.1E-04	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	2.4E-06
	(Total)										2.4E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.97.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-5
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	6.3E-01	µg/L	6.3E-01	µg/L	M	5.2E-06	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	7.8E-06
	Thallium	8.0E-01	µg/L	8.0E-01	µg/L	M	6.6E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										7.8E-06
										Total Risk Across All Exposure Routes/Pathways	8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.97.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-5
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Arsenic	4.3E-01	µg/L	4.3E-01	µg/L	M	6.8E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.0E-06
	Thallium	4.9E-01	µg/L	4.9E-01	µg/L	M	7.8E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.0E-06
										Total Risk Across All Exposure Routes/Pathways	1E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.98.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-7
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	5.4E+00	µg/L	5.4E+00	µg/L	M	4.4E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	3.3E-07
	Arsenic	8.6E-01	µg/L	8.6E-01	µg/L	M	7.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.1E-05
	Manganese	8.9E+01	µg/L	8.9E+01	µg/L	M	7.3E-04	mg/kg-day	N/A	N/A	N/A
	(Total)										1.1E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.98.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-7
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	2.8E+00	µg/L	2.8E+00	µg/L	M	4.4E-06	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	3.3E-08
	Arsenic	7.6E-01	µg/L	7.6E-01	µg/L	M	1.2E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.8E-06
	Manganese	4.4E+01	µg/L	4.4E+01	µg/L	M	7.1E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										1.8E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.99.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-9
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	1.0E+01	µg/L	1.0E+01	µg/L	M	8.2E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	6.2E-07
	Cyanide	2.2E+00	µg/L	2.2E+00	µg/L	M	1.8E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										6.2E-07
										Total Risk Across All Exposure Routes/Pathways	6E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.99.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-9
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	4.3E+00	µg/L	4.3E+00	µg/L	M	6.9E-06	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	5.2E-08
	Cyanide (Total)	2.2E+00	µg/L	2.2E+00	µg/L	M	3.5E-06	mg/kg-day	N/A	N/A	N/A
											5.2E-08
										Total Risk Across All Exposure Routes/Pathways	5E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.100.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-10
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	9.3E+00	µg/L	9.3E+00	µg/L	M	7.6E-05	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	5.7E-07
	Arsenic	8.6E-01	µg/L	8.6E-01	µg/L	M	7.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.1E-05
	Manganese	2.9E+03	µg/L	2.9E+03	µg/L	M	2.4E-02	mg/kg-day	N/A	N/A	N/A
	(Total)										1.1E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.100.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-10
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Methylene chloride	4.1E+00	µg/L	4.1E+00	µg/L	M	6.5E-06	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	4.9E-08
	Arsenic	8.6E-01	µg/L	8.6E-01	µg/L	M	1.4E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.0E-06
	Manganese	1.7E+03	µg/L	1.7E+03	µg/L	M	2.7E-03	mg/kg-day	N/A	N/A	N/A
	(Total)										2.1E-06
										Total Risk Across All Exposure Routes/Pathways	2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.101.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-11
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Atrazine	7.0E+00	µg/L	7.0E+00	µg/L	M	5.8E-05	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	1.3E-05
	(Total)										1.3E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.101.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: On-Site Monitoring Well - MW-L-11
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Atrazine	3.5E+00	µg/L	3.5E+00	µg/L	M	5.6E-06	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	1.2E-06
	(Total)										1.2E-06
										Total Risk Across All Exposure Routes/Pathways	1E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 6.102.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: All On-Site Monitoring Wells
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	6.9E-01	µg/L	6.9E-01	µg/L	M	5.7E-06	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	7.9E+00	µg/L	7.9E+00	µg/L	M	6.5E-05	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	1.6E-06
	Carbon tetrachloride	1.0E+00	µg/L	1.0E+00	µg/L	M	8.2E-06	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.1E-06
	Chlorobenzene	3.6E+01	µg/L	3.6E+01	µg/L	M	3.0E-04	mg/kg-day	N/A	N/A	N/A
	Methylene chloride	1.9E+04	µg/L	1.9E+04	µg/L	M	1.6E-01	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	1.2E-03
	Tetrachloroethylene	7.8E+01	µg/L	7.8E+01	µg/L	M	6.4E-04	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	3.3E-05
	Atrazine	7.0E+00	µg/L	7.0E+00	µg/L	M	5.8E-05	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	1.3E-05
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	8.2E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	9.9E-07
	Heptachlor epoxide	1.3E-02	µg/L	1.3E-02	µg/L	M	1.1E-07	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	9.7E-07
	Dioxin TEQ	3.4E-06	µg/L	3.4E-06	µg/L	M	2.8E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	4.2E-06
	Hexavalent Chromium	2.9E+01	µg/L	2.9E+01	µg/L	M	2.4E-04	mg/kg-day	N/A	N/A	N/A
	Antimony	3.3E+00	µg/L	3.3E+00	µg/L	M	2.7E-05	mg/kg-day	N/A	N/A	N/A
	Arsenic	5.8E+01	µg/L	5.8E+01	µg/L	M	4.8E-04	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.2E-04
	Chromium	1.3E+01	µg/L	1.3E+01	µg/L	M	1.1E-04	mg/kg-day	N/A	N/A	N/A
	Cyanide	2.2E+00	µg/L	2.2E+00	µg/L	M	1.8E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	9.8E+03	µg/L	9.8E+03	µg/L	M	8.1E-02	mg/kg-day	N/A	N/A	N/A
	Thallium	7.5E+00	µg/L	7.5E+00	µg/L	M	6.2E-05	mg/kg-day	N/A	N/A	N/A
	(Total)										1.9E-03
										Total Risk Across All Exposure Routes/Pathways	2E-03

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.102.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: All On-Site Monitoring Wells
Receptor Population: Resident
Receptor Age: Young Child (Ages 1-6)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,3-Dichlorobenzene	5.0E-01	µg/L	5.0E-01	µg/L	M	8.0E-07	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	6.1E-01	µg/L	6.1E-01	µg/L	M	9.7E-07	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	2.3E-08
	Carbon tetrachloride	5.1E-01	µg/L	5.1E-01	µg/L	M	8.1E-07	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.0E-07
	Chlorobenzene	1.0E+00	µg/L	1.0E+00	µg/L	M	1.6E-06	mg/kg-day	N/A	N/A	N/A
	Methylene chloride	2.9E+02	µg/L	2.9E+02	µg/L	M	4.6E-04	mg/kg-day	7.5E-03	(mg/kg-day) $^{-1}$	3.5E-06
	Tetrachloroethylene	1.6E+00	µg/L	1.6E+00	µg/L	M	2.6E-06	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	1.4E-07
	Atrazine	1.6E+00	µg/L	1.6E+00	µg/L	M	2.5E-06	mg/kg-day	2.2E-01	(mg/kg-day) $^{-1}$	5.6E-07
	Pentachlorophenol	1.0E+00	µg/L	1.0E+00	µg/L	M	1.6E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.9E-07
	Heptachlor epoxide	5.4E-03	µg/L	5.4E-03	µg/L	M	8.5E-09	mg/kg-day	9.1E+00	(mg/kg-day) $^{-1}$	7.8E-08
	Dioxin TEQ	1.0E-07	µg/L	1.0E-07	µg/L	M	1.6E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.4E-08
	Hexavalent Chromium	6.4E+00	µg/L	6.4E+00	µg/L	M	1.0E-05	mg/kg-day	N/A	N/A	N/A
	Antimony	7.4E-01	µg/L	7.4E-01	µg/L	M	1.2E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	3.4E+00	µg/L	3.4E+00	µg/L	M	5.4E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.1E-06
	Chromium	1.6E+00	µg/L	1.6E+00	µg/L	M	2.6E-06	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.8E+00	µg/L	1.8E+00	µg/L	M	2.9E-06	mg/kg-day	N/A	N/A	N/A
	Manganese	1.1E+03	µg/L	1.1E+03	µg/L	M	1.8E-03	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E-01	µg/L	6.0E-01	µg/L	M	9.5E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.3E-05
										Total Risk Across All Exposure Routes/Pathways	1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.103.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 1
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,2-Dichlorobenzene	4.0E+00	mg/kg	4.0E+00	mg/kg	M	1.4E-06	mg/kg-day	N/A	N/A	N/A
	1,2-Dichloroethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.0E-07	mg/kg-day	9.1E-02	(mg/kg-day) $^{-1}$	9.1E-09
	1,3-Dichlorobenzene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	6.6E-08	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	3.4E-01	mg/kg	3.4E-01	mg/kg	M	1.2E-07	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	2.9E-09
	Benzene	2.1E-01	mg/kg	2.1E-01	mg/kg	M	7.3E-08	mg/kg-day	5.5E-02	(mg/kg-day) $^{-1}$	4.0E-09
	Bromodichloromethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.0E-07	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	6.2E-09
	Carbon tetrachloride	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.0E-07	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	1.3E-08
	Chlorobenzene	3.3E-01	mg/kg	3.3E-01	mg/kg	M	1.2E-07	mg/kg-day	N/A	N/A	N/A
	Chloroform	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.0E-07	mg/kg-day	6.1E-03	(mg/kg-day) $^{-1}$	6.1E-10
	Tetrachloroethylene	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.0E-07	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	5.2E-09
	Trichloroethene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	6.6E-08	mg/kg-day	1.1E-02	(mg/kg-day) $^{-1}$	7.3E-10
	Xylene (total)	2.4E+01	mg/kg	2.4E+01	mg/kg	M	8.4E-06	mg/kg-day	N/A	N/A	N/A
	2-Methylnaphthalene	7.3E+00	mg/kg	7.3E+00	mg/kg	M	2.6E-06	mg/kg-day	N/A	N/A	N/A
	4-Methylphenol	6.5E+00	mg/kg	6.5E+00	mg/kg	M	2.3E-06	mg/kg-day	N/A	N/A	N/A
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	7.0E-07	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.1E-07
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	7.0E-07	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.1E-06
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	8.0E-06	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	1.0E-05	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.3E-06
	Dieldrin	5.9E-03	mg/kg	5.9E-03	mg/kg	M	2.1E-09	mg/kg-day	1.6E+01	(mg/kg-day) $^{-1}$	3.3E-08
	Dioxin TEQ	1.2E-02	mg/kg	1.2E-02	mg/kg	M	4.0E-09	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	6.1E-04
	Antimony	3.4E+00	mg/kg	3.4E+00	mg/kg	M	1.2E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	2.9E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.4E-06
	Barium	4.1E+02	mg/kg	4.1E+02	mg/kg	M	1.4E-04	mg/kg-day	N/A	N/A	N/A
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	7.6E-06	mg/kg-day	N/A	N/A	N/A
	Chromium	3.1E+04	mg/kg	3.1E+04	mg/kg	M	1.1E-02	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.1E+00	mg/kg	1.1E+00	mg/kg	M	4.0E-07	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	1.8E-04	mg/kg-day	N/A	N/A	N/A
	Mercury	8.5E+01	mg/kg	8.5E+01	mg/kg	M	3.0E-05	mg/kg-day	N/A	N/A	N/A
	Thallium	9.4E+00	mg/kg	9.4E+00	mg/kg	M	3.3E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										6.2E-04
Dermal											
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	2.1E-07	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.5E-07
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	2.1E-07	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.5E-06
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	2.4E-06	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	6.1E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	7.3E-07
	Dioxin TEQ	1.2E-02	mg/kg	1.2E-02	mg/kg	M	2.8E-10	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	4.2E-05
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	2.0E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.1E-07
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	1.8E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										4.5E-05

Total Risk Across All Exposure Routes/Pathways: 7E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to: 4E-03

TABLE 8.103.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 1
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,2-Dichlorobenzene	4.0E+00	mg/kg	4.0E+00	mg/kg	M	2.2E-07	mg/kg-day	N/A	N/A	N/A
	1,2-Dichloroethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.6E-08	mg/kg-day	9.1E-02	(mg/kg-day) $^{-1}$	1.4E-09
	1,3-Dichlorobenzene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	1.0E-08	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	3.4E-01	mg/kg	3.4E-01	mg/kg	M	1.9E-08	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	4.5E-10
	Benzene	2.1E-01	mg/kg	2.1E-01	mg/kg	M	1.2E-08	mg/kg-day	5.5E-02	(mg/kg-day) $^{-1}$	6.4E-10
	Bromodichloromethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.6E-08	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	9.7E-10
	Carbon tetrachloride	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.6E-08	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	2.0E-09
	Chlorobenzene	3.3E-01	mg/kg	3.3E-01	mg/kg	M	1.8E-08	mg/kg-day	N/A	N/A	N/A
	Chloroform	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.6E-08	mg/kg-day	6.1E-03	(mg/kg-day) $^{-1}$	9.6E-11
	Tetrachloroethylene	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.6E-08	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	8.2E-10
	Trichloroethene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	1.0E-08	mg/kg-day	1.1E-02	(mg/kg-day) $^{-1}$	1.2E-10
	Xylene (total)	2.4E+01	mg/kg	2.4E+01	mg/kg	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	2-Methylnaphthalene	7.3E+00	mg/kg	7.3E+00	mg/kg	M	4.0E-07	mg/kg-day	N/A	N/A	N/A
	4-Methylphenol	6.5E+00	mg/kg	6.5E+00	mg/kg	M	3.6E-07	mg/kg-day	N/A	N/A	N/A
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	1.1E-07	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	8.0E-08
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	1.1E-07	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	8.0E-07
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	1.7E-06	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.0E-07
	Dieldrin	5.9E-03	mg/kg	5.9E-03	mg/kg	M	3.3E-10	mg/kg-day	1.6E+01	(mg/kg-day) $^{-1}$	5.2E-09
	Dioxin TEQ	1.8E-03	mg/kg	1.8E-03	mg/kg	M	1.0E-10	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.5E-05
	Antimony	3.4E+00	mg/kg	3.4E+00	mg/kg	M	1.9E-07	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	4.6E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.0E-07
	Barium	4.1E+02	mg/kg	4.1E+02	mg/kg	M	2.3E-05	mg/kg-day	N/A	N/A	N/A
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	1.2E-06	mg/kg-day	N/A	N/A	N/A
	Chromium	3.1E+04	mg/kg	3.1E+04	mg/kg	M	1.7E-03	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.1E+00	mg/kg	1.1E+00	mg/kg	M	6.2E-08	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	2.8E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	9.5E+00	mg/kg	9.5E+00	mg/kg	M	5.2E-07	mg/kg-day	N/A	N/A	N/A
	Thallium	9.4E+00	mg/kg	9.4E+00	mg/kg	M	5.2E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.7E-05
Dermal											
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	6.6E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	4.8E-08
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	6.6E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	4.8E-07
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	7.6E-07	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	1.9E-05	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.3E-07
	Dioxin TEQ	1.8E-03	mg/kg	1.8E-03	mg/kg	M	1.4E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.1E-06
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	6.4E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.6E-08
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	5.5E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										2.9E-06

Total Risk Across All Exposure Routes/Pathways: 2E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 1E-04

TABLE 8.104.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 2
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Acetophenone	7.7E-02	mg/kg	7.7E-02	mg/kg	M	2.7E-08	mg/kg-day	N/A	N/A	N/A
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	5.4E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.2E-06
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	1.5E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.3E-06
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	7.7E-07	mg/kg-day	N/A	N/A	N/A
	Chromium	5.6E+02	mg/kg	5.6E+02	mg/kg	M	1.9E-04	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.8E+00	mg/kg	1.8E+00	mg/kg	M	6.3E-07	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	5.8E-04	mg/kg-day	N/A	N/A	N/A
	Mercury	3.8E-01	mg/kg	3.8E-01	mg/kg	M	1.3E-07	mg/kg-day	N/A	N/A	N/A
	Thallium	1.8E+00	mg/kg	1.8E+00	mg/kg	M	6.3E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.0E-05
Dermal											
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	3.8E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.7E-07
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	1.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-07
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	1.8E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										7.3E-07

Total Risk Across All Exposure Routes/Pathways: 1E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to: 6E-05

TABLE 8.104.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 2
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Acetophenone	7.7E-02	mg/kg	7.7E-02	mg/kg	M	4.2E-09	mg/kg-day	N/A	N/A	N/A
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	8.6E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.3E-06
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	2.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.6E-07
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	1.2E-07	mg/kg-day	N/A	N/A	N/A
	Chromium	5.6E+02	mg/kg	5.6E+02	mg/kg	M	3.1E-05	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.9E-08	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	9.2E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	3.8E-01	mg/kg	3.8E-01	mg/kg	M	2.1E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.9E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										1.6E-06
Dermal											
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	1.2E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.8E-07
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	3.4E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.0E-08
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	5.6E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										2.3E-07

Total Risk Across All Exposure Routes/Pathways: 2E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 9E-06

TABLE 8.105.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 3
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	2.6E-03	mg/kg	2.6E-03	mg/kg	M	8.9E-10	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.3E-04
	Antimony	3.0E+00	mg/kg	3.0E+00	mg/kg	M	1.0E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	2.9E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.3E-06
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	1.5E-05	mg/kg-day	N/A	N/A	N/A
	Chromium	1.8E+04	mg/kg	1.8E+04	mg/kg	M	6.3E-03	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	6.1E-04	mg/kg-day	N/A	N/A	N/A
	Mercury	1.1E+01	mg/kg	1.1E+01	mg/kg	M	3.8E-06	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E-01	mg/kg	6.0E-01	mg/kg	M	2.1E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.4E-04
Dermal											
	Dioxin TEQ	2.6E-03	mg/kg	2.6E-03	mg/kg	M	6.2E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	9.3E-06
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	2.0E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-07
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	3.4E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										9.6E-06

Total Risk Across All Exposure Routes/Pathways: 1E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 9E-04

TABLE 8.105.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 3
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	2.4E-04	mg/kg	2.4E-04	mg/kg	M	1.3E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.0E-06
	Antimony	3.0E+00	mg/kg	3.0E+00	mg/kg	M	1.7E-07	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	4.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.8E-07
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	2.3E-06	mg/kg-day	N/A	N/A	N/A
	Chromium	4.9E+03	mg/kg	4.9E+03	mg/kg	M	2.7E-04	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	9.6E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	1.1E+01	mg/kg	1.1E+01	mg/kg	M	6.0E-07	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E-01	mg/kg	6.0E-01	mg/kg	M	3.3E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										2.7E-06
Dermal											
	Dioxin TEQ	2.4E-04	mg/kg	2.4E-04	mg/kg	M	1.8E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.8E-07
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	6.3E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.5E-08
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	1.1E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										3.7E-07

Total Risk Across All Exposure Routes/Pathways: 3E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 1E-05

TABLE 8.106.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 4
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.5E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.5E-08
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.5E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.5E-07
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.5E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.5E-08
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.5E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.5E-07
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.5E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.5E-08
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.5E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	1.9E-07	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.3E-08
	Dioxin TEQ	7.7E-04	mg/kg	7.7E-04	mg/kg	M	2.7E-10	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	4.0E-05
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	1.6E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.4E-06
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	8.0E-08	mg/kg-day	N/A	N/A	N/A
	Chromium	7.6E+01	mg/kg	7.6E+01	mg/kg	M	2.7E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	1.8E-04	mg/kg-day	N/A	N/A	N/A
	Mercury	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.7E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	2.1E+00	mg/kg	2.1E+00	mg/kg	M	7.3E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										4.4E-05
Dermal											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.6E-08
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.6E-07
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.6E-08
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.6E-07
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.6E-08
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	1.1E-07	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.3E-08
	Dioxin TEQ	7.7E-04	mg/kg	7.7E-04	mg/kg	M	1.9E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.8E-06
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	1.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.7E-07
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	1.9E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										3.3E-06

Total Risk Across All Exposure Routes/Pathways: 5E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 3E-04

TABLE 8.106.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 4
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	8.6E-09
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	8.6E-08
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	8.6E-09
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	8.6E-08
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	8.6E-09
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	3.0E-08	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	3.6E-09
	Dioxin TEQ	1.4E-04	mg/kg	1.4E-04	mg/kg	M	7.6E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.1E-06
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	2.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.8E-07
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	1.3E-08	mg/kg-day	N/A	N/A	N/A
	Chromium	7.6E+01	mg/kg	7.6E+01	mg/kg	M	4.2E-06	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	2.8E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	2.1E+00	mg/kg	2.1E+00	mg/kg	M	1.2E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.7E-06
Dermal											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.2E-09
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.2E-08
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.2E-09
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.2E-08
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.2E-09
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	3.5E-08	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	4.2E-09
	Dioxin TEQ	1.4E-04	mg/kg	1.4E-04	mg/kg	M	1.0E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.6E-07
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	3.5E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.3E-08
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	5.9E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										3.3E-07

Total Risk Across All Exposure Routes/Pathways: 2E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 9E-06

TABLE 6.107.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 5
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)pyrene	3.1E-01	mg/kg	3.1E-01	mg/kg	M	1.1E-07	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	7.9E-07
	bis(2-Chloroethoxy)methane	6.2E-01	mg/kg	6.2E-01	mg/kg	M	2.2E-07	mg/kg-day	N/A	N/A	N/A
	Bis(2-chloroethyl)ether	3.2E-01	mg/kg	3.2E-01	mg/kg	M	1.1E-07	mg/kg-day	1.1E+00	(mg/kg-day) $^{-1}$	1.2E-07
	N-Nitroso-di-n-propylamine	4.9E-01	mg/kg	4.9E-01	mg/kg	M	1.7E-07	mg/kg-day	7.0E+00	(mg/kg-day) $^{-1}$	1.2E-06
	Nitrobenzene	2.3E-01	mg/kg	2.3E-01	mg/kg	M	8.0E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	2.1E-07	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.6E-08
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	2.1E-08	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	4.2E-08
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	6.7E-10	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.0E-04
	Antimony	8.0E+00	mg/kg	8.0E+00	mg/kg	M	2.8E-06	mg/kg-day	N/A	N/A	N/A
	Arsenic	5.0E+00	mg/kg	5.0E+00	mg/kg	M	1.7E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.6E-06
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	3.5E-06	mg/kg-day	N/A	N/A	N/A
	Chromium	8.1E+03	mg/kg	8.1E+03	mg/kg	M	2.8E-03	mg/kg-day	N/A	N/A	N/A
	Manganese	1.1E+03	mg/kg	1.1E+03	mg/kg	M	3.9E-04	mg/kg-day	N/A	N/A	N/A
	Mercury	4.7E+00	mg/kg	4.7E+00	mg/kg	M	1.6E-06	mg/kg-day	N/A	N/A	N/A
	Thallium	1.3E+01	mg/kg	1.3E+01	mg/kg	M	4.6E-06	mg/kg-day	N/A	N/A	N/A
	(Total)										1.1E-04
Dermal											
	Benzo(a)pyrene	3.1E-01	mg/kg	3.1E-01	mg/kg	M	3.3E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	2.4E-07
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	1.2E-07	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.5E-08
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	6.8E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	1.4E-08
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	4.7E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	7.0E-06
	Arsenic	5.0E+00	mg/kg	5.0E+00	mg/kg	M	1.2E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.8E-07
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	8.2E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										7.4E-06

Total Risk Across All Exposure Routes/Pathways: 1E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 7E-04

TABLE 8.107.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 5
Receptor Population: Commercial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.2E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	8.7E-08
	bis(2-Chloroethoxy)methane	6.2E-01	mg/kg	6.2E-01	mg/kg	M	3.4E-08	mg/kg-day	N/A	N/A	N/A
	Bis(2-chloroethyl)ether	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.5E-08	mg/kg-day	1.1E+00	(mg/kg-day) $^{-1}$	1.7E-08
	N-Nitroso-di-n-propylamine	2.9E-01	mg/kg	2.9E-01	mg/kg	M	1.6E-08	mg/kg-day	7.0E+00	(mg/kg-day) $^{-1}$	1.1E-07
	Nitrobenzene	2.3E-01	mg/kg	2.3E-01	mg/kg	M	1.3E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	3.4E-08	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	4.0E-09
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	3.3E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	6.6E-09
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	1.1E-10	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.6E-05
	Antimony	8.0E+00	mg/kg	8.0E+00	mg/kg	M	4.4E-07	mg/kg-day	N/A	N/A	N/A
	Arsenic	2.3E+00	mg/kg	2.3E+00	mg/kg	M	1.2E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.9E-07
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	5.6E-07	mg/kg-day	N/A	N/A	N/A
	Chromium	8.1E+03	mg/kg	8.1E+03	mg/kg	M	4.5E-04	mg/kg-day	N/A	N/A	N/A
	Manganese	1.1E+03	mg/kg	1.1E+03	mg/kg	M	6.1E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	1.5E+00	mg/kg	1.5E+00	mg/kg	M	8.3E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	1.3E+01	mg/kg	1.3E+01	mg/kg	M	7.2E-07	mg/kg-day	N/A	N/A	N/A
	(Total)										1.6E-05
Dermal											
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	7.1E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.2E-08
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	3.9E-08	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	4.7E-09
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	2.1E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	4.3E-09
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	1.5E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.2E-06
	Arsenic	2.3E+00	mg/kg	2.3E+00	mg/kg	M	1.7E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.6E-08
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	2.6E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										2.3E-06

Total Risk Across All Exposure Routes/Pathways: 2E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 1E-04

TABLE 8.108 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 1
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,2-Dichlorobenzene	4.0E+00	mg/kg	4.0E+00	mg/kg	M	2.9E-08	mg/kg-day	N/A	N/A	N/A
	1,2-Dichloroethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	2.1E-09	mg/kg-day	9.1E-02	(mg/kg-day) $^{-1}$	1.9E-10
	1,3-Dichlorobenzene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	1.4E-09	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	3.4E-01	mg/kg	3.4E-01	mg/kg	M	2.5E-09	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	6.0E-11
	Benzene	2.1E-01	mg/kg	2.1E-01	mg/kg	M	1.5E-09	mg/kg-day	5.5E-02	(mg/kg-day) $^{-1}$	8.5E-11
	Bromodichloromethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	2.1E-09	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	1.3E-10
	Carbon tetrachloride	2.9E-01	mg/kg	2.9E-01	mg/kg	M	2.1E-09	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	2.7E-10
	Chlorobenzene	3.3E-01	mg/kg	3.3E-01	mg/kg	M	2.4E-09	mg/kg-day	N/A	N/A	N/A
	Chloroform	2.9E-01	mg/kg	2.9E-01	mg/kg	M	2.1E-09	mg/kg-day	6.1E-03	(mg/kg-day) $^{-1}$	1.3E-11
	Tetrachloroethylene	2.9E-01	mg/kg	2.9E-01	mg/kg	M	2.1E-09	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	1.1E-10
	Trichloroethene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	1.4E-09	mg/kg-day	1.1E-02	(mg/kg-day) $^{-1}$	1.5E-11
	Xylene (total)	2.4E+01	mg/kg	2.4E+01	mg/kg	M	1.8E-07	mg/kg-day	N/A	N/A	N/A
	2-Methylnaphthalene	7.3E+00	mg/kg	7.3E+00	mg/kg	M	5.4E-08	mg/kg-day	N/A	N/A	N/A
	4-Methylphenol	6.5E+00	mg/kg	6.5E+00	mg/kg	M	4.8E-08	mg/kg-day	N/A	N/A	N/A
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	1.5E-08	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.1E-08
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	1.5E-08	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.1E-07
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	1.7E-07	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	2.2E-07	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.7E-08
	Dieldrin	5.9E-03	mg/kg	5.9E-03	mg/kg	M	4.4E-11	mg/kg-day	1.6E+01	(mg/kg-day) $^{-1}$	7.0E-10
	Dioxin TEQ	1.2E-02	mg/kg	1.2E-02	mg/kg	M	8.5E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.3E-05
	Antimony	3.4E+00	mg/kg	3.4E+00	mg/kg	M	2.5E-08	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	6.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.3E-08
	Barium	4.1E+02	mg/kg	4.1E+02	mg/kg	M	3.0E-06	mg/kg-day	N/A	N/A	N/A
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	1.6E-07	mg/kg-day	N/A	N/A	N/A
	Chromium	3.1E+04	mg/kg	3.1E+04	mg/kg	M	2.3E-04	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.1E+00	mg/kg	1.1E+00	mg/kg	M	8.4E-09	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	3.8E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	8.5E+01	mg/kg	8.5E+01	mg/kg	M	6.3E-07	mg/kg-day	N/A	N/A	N/A
	Thallium	9.4E+00	mg/kg	9.4E+00	mg/kg	M	6.9E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										1.3E-05
Dermal											
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	6.3E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	4.6E-09
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	6.3E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	4.6E-08
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	7.3E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	1.6E-07	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	2.2E-08
	Dioxin TEQ	1.2E-02	mg/kg	1.2E-02	mg/kg	M	8.4E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	1.3E-06
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	6.1E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.2E-09
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	5.3E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										1.3E-06

Total Risk Across All Exposure Routes/Pathways: 1E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to: 9E-05

TABLE 8.108.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 1
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	1,2-Dichlorobenzene	4.0E+00	mg/kg	4.0E+00	mg/kg	M	9.7E-09	mg/kg-day	N/A	N/A	N/A
	1,2-Dichloroethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	7.0E-10	mg/kg-day	9.1E-02	(mg/kg-day) $^{-1}$	6.4E-11
	1,3-Dichlorobenzene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	4.7E-10	mg/kg-day	N/A	N/A	N/A
	1,4-Dichlorobenzene	3.4E-01	mg/kg	3.4E-01	mg/kg	M	8.4E-10	mg/kg-day	2.4E-02	(mg/kg-day) $^{-1}$	2.0E-11
	Benzene	2.1E-01	mg/kg	2.1E-01	mg/kg	M	5.2E-10	mg/kg-day	5.5E-02	(mg/kg-day) $^{-1}$	2.8E-11
	Bromodichloromethane	2.9E-01	mg/kg	2.9E-01	mg/kg	M	7.0E-10	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	4.3E-11
	Carbon tetrachloride	2.9E-01	mg/kg	2.9E-01	mg/kg	M	7.0E-10	mg/kg-day	1.3E-01	(mg/kg-day) $^{-1}$	9.1E-11
	Chlorobenzene	3.3E-01	mg/kg	3.3E-01	mg/kg	M	8.1E-10	mg/kg-day	N/A	N/A	N/A
	Chloroform	2.9E-01	mg/kg	2.9E-01	mg/kg	M	7.0E-10	mg/kg-day	6.1E-03	(mg/kg-day) $^{-1}$	4.3E-12
	Tetrachloroethylene	2.9E-01	mg/kg	2.9E-01	mg/kg	M	7.0E-10	mg/kg-day	5.2E-02	(mg/kg-day) $^{-1}$	3.6E-11
	Trichloroethene	1.9E-01	mg/kg	1.9E-01	mg/kg	M	4.7E-10	mg/kg-day	1.1E-02	(mg/kg-day) $^{-1}$	5.1E-12
	Xylene (total)	2.4E+01	mg/kg	2.4E+01	mg/kg	M	5.9E-08	mg/kg-day	N/A	N/A	N/A
	2-Methylnaphthalene	7.3E+00	mg/kg	7.3E+00	mg/kg	M	1.8E-08	mg/kg-day	N/A	N/A	N/A
	4-Methylphenol	8.5E+00	mg/kg	8.5E+00	mg/kg	M	1.8E-08	mg/kg-day	N/A	N/A	N/A
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	4.9E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.6E-09
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	4.9E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	3.6E-08
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	5.7E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	7.4E-08	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	8.9E-09
	Dieldrin	5.9E-03	mg/kg	5.9E-03	mg/kg	M	1.5E-11	mg/kg-day	1.6E+01	(mg/kg-day) $^{-1}$	2.3E-10
	Dioxin TEQ	1.8E-03	mg/kg	1.8E-03	mg/kg	M	4.5E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	6.7E-07
	Antimony	3.4E+00	mg/kg	3.4E+00	mg/kg	M	8.4E-09	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	2.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.1E-08
	Barium	4.1E+02	mg/kg	4.1E+02	mg/kg	M	1.0E-06	mg/kg-day	N/A	N/A	N/A
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	5.3E-08	mg/kg-day	N/A	N/A	N/A
	Chromium	3.1E+04	mg/kg	3.1E+04	mg/kg	M	7.6E-05	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.1E+00	mg/kg	1.1E+00	mg/kg	M	2.8E-09	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	9.5E+00	mg/kg	9.5E+00	mg/kg	M	2.3E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	9.4E+00	mg/kg	9.4E+00	mg/kg	M	2.3E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										7.5E-07
Dermal											
	Benzo(a)anthracene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	2.1E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.5E-09
	Benzo(a)pyrene	2.0E+00	mg/kg	2.0E+00	mg/kg	M	2.1E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.5E-08
	Naphthalene	2.3E+01	mg/kg	2.3E+01	mg/kg	M	2.4E-08	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	3.0E+01	mg/kg	3.0E+01	mg/kg	M	6.1E-08	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	7.3E-09
	Dioxin TEQ	1.8E-03	mg/kg	1.8E-03	mg/kg	M	4.4E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	6.6E-08
	Arsenic	8.4E+00	mg/kg	8.4E+00	mg/kg	M	2.0E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.1E-09
	Cadmium	2.2E+01	mg/kg	2.2E+01	mg/kg	M	1.8E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										9.4E-08

Total Risk Across All Exposure Routes/Pathways: 8E-07

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 5E-06

TABLE 8.109.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 2
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Acetophenone	7.7E-02	mg/kg	7.7E-02	mg/kg	M	5.7E-10	mg/kg-day	N/A	N/A	N/A
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	1.1E-12	mg/kg-day	1.5E+05	$(mg/kg\text{-}day)^{-1}$	1.7E-07
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	3.2E-08	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4.9E-08
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	1.6E-08	mg/kg-day	N/A	N/A	N/A
	Chromium	5.6E+02	mg/kg	5.6E+02	mg/kg	M	4.1E-06	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.8E+00	mg/kg	1.8E+00	mg/kg	M	1.3E-08	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	1.2E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	3.8E-01	mg/kg	3.8E-01	mg/kg	M	2.8E-09	mg/kg-day	N/A	N/A	N/A
	Thallium	1.8E+00	mg/kg	1.8E+00	mg/kg	M	1.3E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-07
Dermal											
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	1.1E-13	mg/kg-day	1.5E+05	$(mg/kg\text{-}day)^{-1}$	1.7E-08
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	3.2E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	4.8E-09
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	5.4E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-08

Total Risk Across All Exposure Routes/Pathways: 2E-07

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to: 1E-06

TABLE 8.109.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 2
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Acetophenone	7.7E-02	mg/kg	7.7E-02	mg/kg	M	1.9E-10	mg/kg-day	N/A	N/A	N/A
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	3.8E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.7E-08
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	1.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-08
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	5.4E-09	mg/kg-day	N/A	N/A	N/A
	Chromium	5.6E+02	mg/kg	5.6E+02	mg/kg	M	1.4E-06	mg/kg-day	N/A	N/A	N/A
	Cyanide	1.8E+00	mg/kg	1.8E+00	mg/kg	M	4.4E-09	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	4.1E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	3.8E-01	mg/kg	3.8E-01	mg/kg	M	9.3E-10	mg/kg-day	N/A	N/A	N/A
	Thallium	1.8E+00	mg/kg	1.8E+00	mg/kg	M	4.4E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										7.4E-08
Dermal											
	Dioxin TEQ	1.6E-04	mg/kg	1.6E-04	mg/kg	M	3.8E-14	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.7E-09
	Arsenic	4.4E+00	mg/kg	4.4E+00	mg/kg	M	1.1E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-09
	Cadmium	2.2E+00	mg/kg	2.2E+00	mg/kg	M	1.8E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										7.3E-09

Total Risk Across All Exposure Routes/Pathways 8E-08

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 4E-07

TABLE 8.110.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 3
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	2.6E-03	mg/kg	2.6E-03	mg/kg	M	1.9E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.8E-06
	Antimony	3.0E+00	mg/kg	3.0E+00	mg/kg	M	2.2E-08	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	6.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.1E-08
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	3.1E-07	mg/kg-day	N/A	N/A	N/A
	Chromium	1.8E+04	mg/kg	1.8E+04	mg/kg	M	1.3E-04	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	1.3E-05	mg/kg-day	N/A	N/A	N/A
	Mercury	1.1E+01	mg/kg	1.1E+01	mg/kg	M	8.0E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E-01	mg/kg	6.0E-01	mg/kg	M	4.4E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										2.9E-06
Dermal											
	Dioxin TEQ	2.6E-03	mg/kg	2.6E-03	mg/kg	M	1.9E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.8E-07
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	6.0E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.0E-09
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	1.0E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										2.9E-07

Total Risk Across All Exposure Routes/Pathways: 3E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-05

TABLE 8.110.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 3
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Dioxin TEQ	2.4E-04	mg/kg	2.4E-04	mg/kg	M	5.9E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.9E-08
	Antimony	3.0E+00	mg/kg	3.0E+00	mg/kg	M	7.4E-09	mg/kg-day	N/A	N/A	N/A
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	2.0E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-08
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	1.0E-07	mg/kg-day	N/A	N/A	N/A
	Chromium	4.9E+03	mg/kg	4.9E+03	mg/kg	M	1.2E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	1.7E+03	mg/kg	1.7E+03	mg/kg	M	4.3E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	1.1E+01	mg/kg	1.1E+01	mg/kg	M	2.7E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	6.0E-01	mg/kg	6.0E-01	mg/kg	M	1.5E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-07
Dermal											
	Dioxin TEQ	2.4E-04	mg/kg	2.4E-04	mg/kg	M	5.8E-14	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.8E-09
	Arsenic	8.3E+00	mg/kg	8.3E+00	mg/kg	M	2.0E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-09
	Cadmium	4.2E+01	mg/kg	4.2E+01	mg/kg	M	3.4E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										1.2E-08

Total Risk Across All Exposure Routes/Pathways: 1E-07

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 6E-07

TABLE 8.111.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 4
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.2E-09
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.2E-08
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.2E-09
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.2E-08
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.2E-09
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	4.1E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	4.9E-10
	Dioxin TEQ	7.7E-04	mg/kg	7.7E-04	mg/kg	M	5.7E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.5E-07
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	3.4E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.1E-08
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	1.7E-09	mg/kg-day	N/A	N/A	N/A
	Chromium	7.6E+01	mg/kg	7.6E+01	mg/kg	M	5.6E-07	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	3.8E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	2.2E-01	mg/kg	2.2E-01	mg/kg	M	1.6E-09	mg/kg-day	N/A	N/A	N/A
	Thallium	2.1E+00	mg/kg	2.1E+00	mg/kg	M	1.5E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										9.3E-07
Dermal											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	6.8E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.0E-10
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	6.8E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.0E-09
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	6.8E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.0E-10
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	6.8E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	5.0E-09
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	6.8E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	5.0E-10
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	6.8E-10	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	3.3E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	4.0E-10
	Dioxin TEQ	7.7E-04	mg/kg	7.7E-04	mg/kg	M	5.6E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	8.4E-08
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	3.4E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.0E-09
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	5.6E-12	mg/kg-day	N/A	N/A	N/A
	(Total)										1.0E-07
										Total Risk Across All Exposure Routes/Pathways	1E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 6E-06

TABLE 8.111.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 4
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.9E-10
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	3.9E-09
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.9E-10
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	3.9E-09
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	3.9E-10
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	1.4E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.6E-10
	Dioxin TEQ	1.4E-04	mg/kg	1.4E-04	mg/kg	M	3.4E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.1E-08
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	1.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.7E-08
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	5.7E-10	mg/kg-day	N/A	N/A	N/A
	Chromium	7.6E+01	mg/kg	7.6E+01	mg/kg	M	1.9E-07	mg/kg-day	N/A	N/A	N/A
	Manganese	5.1E+02	mg/kg	5.1E+02	mg/kg	M	1.3E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.4E-10	mg/kg-day	N/A	N/A	N/A
	Thallium	2.1E+00	mg/kg	2.1E+00	mg/kg	M	5.2E-09	mg/kg-day	N/A	N/A	N/A
	(Total)										7.7E-08
Dermal											
	Benzo(a)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.7E-10
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.7E-09
	Benzo(b)fluoranthene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.7E-10
	Dibenz(a,h)anthracene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.7E-09
	Indeno(1,2,3-cd)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	7.3E-01	(mg/kg-day) $^{-1}$	1.7E-10
	Naphthalene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	5.5E-01	mg/kg	5.5E-01	mg/kg	M	1.1E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.3E-10
	Dioxin TEQ	1.4E-04	mg/kg	1.4E-04	mg/kg	M	3.3E-14	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.0E-09
	Arsenic	4.6E+00	mg/kg	4.6E+00	mg/kg	M	1.1E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.7E-09
	Cadmium	2.3E-01	mg/kg	2.3E-01	mg/kg	M	1.9E-12	mg/kg-day	N/A	N/A	N/A
	(Total)										1.1E-08

Total Risk Across All Exposure Routes/Pathways: 9E-08

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 4E-07

TABLE 8.112.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 5
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)pyrene	3.1E-01	mg/kg	3.1E-01	mg/kg	M	2.3E-09	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.7E-08
	bis(2-Chloroethoxy)methane	6.2E-01	mg/kg	6.2E-01	mg/kg	M	4.6E-09	mg/kg-day	N/A	N/A	N/A
	Bis(2-chloroethyl)ether	3.2E-01	mg/kg	3.2E-01	mg/kg	M	2.4E-09	mg/kg-day	1.1E+00	(mg/kg-day) $^{-1}$	2.6E-09
	N-Nitroso-di-n-propylamine	4.9E-01	mg/kg	4.9E-01	mg/kg	M	3.6E-09	mg/kg-day	7.0E+00	(mg/kg-day) $^{-1}$	2.5E-08
	Nitrobenzene	2.3E-01	mg/kg	2.3E-01	mg/kg	M	1.7E-09	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	4.5E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	5.4E-10
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	4.4E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	8.9E-10
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	1.4E-11	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.1E-06
	Antimony	8.0E+00	mg/kg	8.0E+00	mg/kg	M	5.9E-08	mg/kg-day	N/A	N/A	N/A
	Arsenic	5.0E+00	mg/kg	5.0E+00	mg/kg	M	3.7E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.5E-08
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	7.5E-08	mg/kg-day	N/A	N/A	N/A
	Chromium	8.1E+03	mg/kg	8.1E+03	mg/kg	M	6.0E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	1.1E+03	mg/kg	1.1E+03	mg/kg	M	8.2E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	4.7E+00	mg/kg	4.7E+00	mg/kg	M	3.5E-08	mg/kg-day	N/A	N/A	N/A
	Thallium	1.3E+01	mg/kg	1.3E+01	mg/kg	M	9.7E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-06
Dermal											
	Benzo(a)pyrene	3.1E-01	mg/kg	3.1E-01	mg/kg	M	9.8E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	7.2E-09
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	3.7E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	4.5E-10
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	2.0E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	4.1E-10
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	1.4E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.1E-07
	Arsenic	5.0E+00	mg/kg	5.0E+00	mg/kg	M	3.7E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.5E-09
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	2.5E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										2.2E-07

Total Risk Across All Exposure Routes/Pathways: 2E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 1E-05

TABLE 8.112.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soils
Exposure Medium: Soil/Sludge
Exposure Point: Lagoon 5
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion											
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	5.3E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	3.9E-09
	bis(2-Chloroethoxy)methane	6.2E-01	mg/kg	6.2E-01	mg/kg	M	1.5E-09	mg/kg-day	N/A	N/A	N/A
	Bis(2-chloroethyl)ether	2.8E-01	mg/kg	2.8E-01	mg/kg	M	6.8E-10	mg/kg-day	1.1E+00	(mg/kg-day) $^{-1}$	7.5E-10
	N-Nitroso-di-n-propylamine	2.9E-01	mg/kg	2.9E-01	mg/kg	M	7.1E-10	mg/kg-day	7.0E+00	(mg/kg-day) $^{-1}$	5.0E-09
	Nitrobenzene	2.3E-01	mg/kg	2.3E-01	mg/kg	M	5.7E-10	mg/kg-day	N/A	N/A	N/A
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	1.5E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.8E-10
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	1.5E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	3.0E-10
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	4.7E-12	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	7.1E-07
	Antimony	8.0E+00	mg/kg	8.0E+00	mg/kg	M	2.0E-08	mg/kg-day	N/A	N/A	N/A
	Arsenic	2.3E+00	mg/kg	2.3E+00	mg/kg	M	5.6E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.4E-09
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	2.5E-08	mg/kg-day	N/A	N/A	N/A
	Chromium	8.1E+03	mg/kg	8.1E+03	mg/kg	M	2.0E-05	mg/kg-day	N/A	N/A	N/A
	Manganese	1.1E+03	mg/kg	1.1E+03	mg/kg	M	2.7E-06	mg/kg-day	N/A	N/A	N/A
	Mercury	1.5E+00	mg/kg	1.5E+00	mg/kg	M	3.7E-09	mg/kg-day	N/A	N/A	N/A
	Thallium	1.3E+01	mg/kg	1.3E+01	mg/kg	M	3.2E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										7.3E-07
Dermal											
	Benzo(a)pyrene	2.2E-01	mg/kg	2.2E-01	mg/kg	M	2.3E-10	mg/kg-day	7.3E+00	(mg/kg-day) $^{-1}$	1.7E-09
	Pentachlorophenol	6.1E-01	mg/kg	6.1E-01	mg/kg	M	1.2E-09	mg/kg-day	1.2E-01	(mg/kg-day) $^{-1}$	1.5E-10
	Aroclor 1248	6.0E-02	mg/kg	6.0E-02	mg/kg	M	6.8E-11	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	1.4E-10
	Dioxin TEQ	1.9E-03	mg/kg	1.9E-03	mg/kg	M	4.7E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	7.0E-08
	Arsenic	2.3E+00	mg/kg	2.3E+00	mg/kg	M	5.5E-10	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.3E-10
	Cadmium	1.0E+01	mg/kg	1.0E+01	mg/kg	M	8.2E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										7.3E-08

Total Risk Across All Exposure Routes/Pathways: 8E-07

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 5E-06

TABLE 8.113.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 1
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	2.9E-10	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.4E-10
	Manganese	1.0E+03	µg/L	1.0E+03	µg/L	M	1.3E-07	mg/kg-day	N/A	N/A	N/A
	Mercury	3.5E-01	µg/L	3.5E-01	µg/L	M	4.3E-11	mg/kg-day	N/A	N/A	N/A
	Thallium	1.6E+00	µg/L	1.6E+00	µg/L	M	1.9E-10	mg/kg-day	N/A	N/A	N/A
	(Total)										4.4E-10
										Total Risk Across All Exposure Routes/Pathways	4E-10

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.113.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 1
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Arsenic	2.4E+00	µg/L	2.4E+00	µg/L	M	4.9E-11	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	7.3E-11
	Manganese	1.0E+03	µg/L	1.0E+03	µg/L	M	2.1E-08	mg/kg-day	N/A	N/A	N/A
	Mercury	3.5E-01	µg/L	3.5E-01	µg/L	M	7.1E-12	mg/kg-day	N/A	N/A	N/A
	Thalllum	1.6E+00	µg/L	1.6E+00	µg/L	M	3.2E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										7.3E-11
										Total Risk Across All Exposure Routes/Pathways	7E-11

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.114.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 2
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Dioxin TEQ	5.0E-07	µg/L	5.0E-07	µg/L	M	2.0E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.9E-08
	Manganese	7.4E+02	µg/L	7.4E+02	µg/L	M	9.0E-08	mg/kg-day	N/A	N/A	N/A
	(Total)										2.9E-08
										Total Risk Across All Exposure Routes/Pathways	3E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-07

TABLE 8.114.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 2
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Dioxin TEQ	5.0E-07	µg/L	5.0E-07	µg/L	M	4.6E-14	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	6.9E-09
	Manganese (Total)	7.4E+02	µg/L	7.4E+02	µg/L	M	1.5E-08	mg/kg-day	N/A	N/A	N/A
											6.9E-09
										Total Risk Across All Exposure Routes/Pathways	7E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 4E-08

TABLE 8.115.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 4
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Dioxin TEQ	4.3E-08	µg/L	4.3E-08	µg/L	M	1.7E-14	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.5E-09
	Manganese	1.1E+03	µg/L	1.1E+03	µg/L	M	1.4E-07	mg/kg-day	N/A	N/A	N/A
	Mercury	2.0E-01	µg/L	2.0E-01	µg/L	M	2.4E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										2.5E-09
										Total Risk Across All Exposure Routes/Pathways	3E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-08

TABLE 8.115.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 4
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Dioxin TEQ	4.3E-08	µg/L	4.3E-08	µg/L	M	4.0E-15	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.9E-10
	Manganese	4.7E+02	µg/L	4.7E+02	µg/L	M	9.4E-09	mg/kg-day	N/A	N/A	N/A
	Mercury	1.0E-01	µg/L	1.0E-01	µg/L	M	2.0E-12	mg/kg-day	N/A	N/A	N/A
	(Total)										5.9E-10
										Total Risk Across All Exposure Routes/Pathways	6E-10

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 4E-09

TABLE 8.116.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 5
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Dioxin TEQ	4.2E-07	µg/L	4.2E-07	µg/L	M	1.6E-13	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	2.5E-08
	Chromium	1.2E+01	µg/L	1.2E+01	µg/L	M	3.0E-09	mg/kg-day	N/A	N/A	N/A
	Manganese	2.6E+02	µg/L	2.6E+02	µg/L	M	3.1E-08	mg/kg-day	N/A	N/A	N/A
	Mercury	2.1E-01	µg/L	2.1E-01	µg/L	M	2.6E-11	mg/kg-day	N/A	N/A	N/A
	(Total)										2.5E-08

Total Risk Across All Exposure Routes/Pathways: 2E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 2E-07

TABLE 8.116.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Lagoon 5
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal											
	Dioxin TEQ	4.2E-07	µg/L	4.2E-07	µg/L	M	3.9E-14	mg/kg-day	1.5E+05	(mg/kg-day) $^{-1}$	5.8E-09
	Chromium	1.2E+01	µg/L	1.2E+01	µg/L	M	5.0E-10	mg/kg-day	N/A	N/A	N/A
	Manganese	2.6E+02	µg/L	2.6E+02	µg/L	M	5.2E-09	mg/kg-day	N/A	N/A	N/A
	Mercury	2.1E-01	µg/L	2.1E-01	µg/L	M	4.3E-12	mg/kg-day	N/A	N/A	N/A
	(Total)										5.8E-09
										Total Risk Across All Exposure Routes/Pathways	6E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

Should the dioxin slope factor be revised as proposed, the risk for this receptor would increase to 4E-08

TABLE 8.117.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soil/Groundwater
Exposure Medium: Air
Exposure Point: Lagoons (1 through 5)
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Unit Risk	Cancer Unit Risk Units	Cancer Risk
Inhalation											
	1,2-Dichlorobenzene	1.1E-01	ug/m^3	1.1E-01	ug/m^3	M	9.4E-05	ug/m^3	N/A	N/A	N/A
	1,2-Dichloroethane	8.6E-03	ug/m^3	8.6E-03	ug/m^3	M	7.4E-06	ug/m^3	2.6E-05	ug/m3 $^{-1}$	1.9E-10
	1,3-Dichlorobenzene	9.4E-03	ug/m^3	9.4E-03	ug/m^3	M	8.1E-06	ug/m^3	N/A	N/A	N/A
	1,4-Dichlorobenzene	2.8E-02	ug/m^3	2.8E-02	ug/m^3	M	2.4E-05	ug/m^3	N/A	N/A	N/A
	Benzene	9.6E-03	ug/m^3	9.6E-03	ug/m^3	M	8.3E-06	ug/m^3	7.8E-06	ug/m3 $^{-1}$	6.5E-11
	Bromodichloromethane	2.1E-02	ug/m^3	2.1E-02	ug/m^3	M	1.8E-05	ug/m^3	N/A	N/A	N/A
	Carbon tetrachloride	6.9E-02	ug/m^3	6.9E-02	ug/m^3	M	6.0E-05	ug/m^3	1.5E-05	ug/m3 $^{-1}$	9.0E-10
	Chlorobenzene	1.6E-02	ug/m^3	1.6E-02	ug/m^3	M	1.4E-05	ug/m^3	N/A	N/A	N/A
	Chloroform	7.1E-02	ug/m^3	7.1E-02	ug/m^3	M	6.1E-05	ug/m^3	2.3E-05	ug/m3 $^{-1}$	1.4E-09
	Methylene chloride	1.9E-04	ug/m^3	1.9E-04	ug/m^3	M	1.7E-07	ug/m^3	4.7E-07	ug/m3 $^{-1}$	7.9E-14
	Tetrachloroethylene	3.2E-02	ug/m^3	3.2E-02	ug/m^3	M	2.8E-05	ug/m^3	9.5E-07	ug/m3 $^{-1}$	2.6E-11
	Trichloroethene	3.3E-02	ug/m^3	3.3E-02	ug/m^3	M	2.8E-05	ug/m^3	1.7E-06	ug/m3 $^{-1}$	4.8E-11
	Xylene (total)	7.3E-02	ug/m^3	7.3E-02	ug/m^3	M	6.3E-05	ug/m^3	N/A	N/A	N/A
	(Total)										2.6E-09
										Total Risk Across All Exposure Routes/Pathways	3E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor

TABLE 8.117.CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY

POWNAL TANNERY

Scenario Timeframe: Future
Medium: Soil/Groundwater
Exposure Medium: Air
Exposure Point: Lagoons (1 through 5)
Receptor Population: Utility Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Inhalation											
	1,2-Dichlorobenzene	1.1E-01	ug/m^3	1.1E-01	ug/m^3	M	3.1E-05	ug/m^3	N/A	N/A	N/A
	1,2-Dichloroethane	8.6E-03	ug/m^3	8.6E-03	ug/m^3	M	2.5E-06	ug/m^3	2.6E-05	ug/m3 $^{-1}$	6.5E-11
	1,3-Dichlorobenzene	9.4E-03	ug/m^3	9.4E-03	ug/m^3	M	2.7E-06	ug/m^3	N/A	N/A	N/A
	1,4-Dichlorobenzene	2.8E-02	ug/m^3	2.8E-02	ug/m^3	M	8.0E-06	ug/m^3	N/A	N/A	N/A
	Benzene	9.6E-03	ug/m^3	9.6E-03	ug/m^3	M	2.8E-06	ug/m^3	7.8E-06	ug/m3 $^{-1}$	2.2E-11
	Bromodichloromethane	2.1E-02	ug/m^3	2.1E-02	ug/m^3	M	5.9E-06	ug/m^3	N/A	N/A	N/A
	Carbon tetrachloride	6.9E-02	ug/m^3	6.9E-02	ug/m^3	M	2.0E-05	ug/m^3	1.5E-05	ug/m3 $^{-1}$	3.0E-10
	Chlorobenzene	1.6E-02	ug/m^3	1.6E-02	ug/m^3	M	4.7E-06	ug/m^3	N/A	N/A	N/A
	Chloroform	7.1E-02	ug/m^3	7.1E-02	ug/m^3	M	2.0E-05	ug/m^3	2.3E-05	ug/m3 $^{-1}$	4.7E-10
	Methylene chloride	1.9E-04	ug/m^3	1.9E-04	ug/m^3	M	5.6E-08	ug/m^3	4.7E-07	ug/m3 $^{-1}$	2.6E-14
	Tetrachloroethylene	3.2E-02	ug/m^3	3.2E-02	ug/m^3	M	9.3E-06	ug/m^3	9.5E-07	ug/m3 $^{-1}$	8.8E-12
	Trichloroethene	3.3E-02	ug/m^3	3.3E-02	ug/m^3	M	9.4E-06	ug/m^3	1.7E-06	ug/m3 $^{-1}$	1.6E-11
	Xylene (total)	7.3E-02	ug/m^3	7.3E-02	ug/m^3	M	2.1E-05	ug/m^3	N/A	N/A	N/A
	(Total)										8.8E-10
										Total Risk Across All Exposure Routes/Pathways	9E-10

(1) Medium-Specific (M) EPC selected for risk calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Cancer Risk = Cancer Intake x Cancer Slope Factor