



64941

Contract No. 68-W9-0024
US EPA Contract No. 68-W9-0024

ARCS II

PLANNING ACTIVITIES AT SELECTED
HAZARDOUS SUBSTANCE

**REMEDIAL PLANNING ACTIVITIES AT SELECTED
UNCONTROLLED HAZARDOUS SUBSTANCE
DISPOSAL SITES WITHIN EPA REGION II
(NY, NJ, PR, VI)**

TUT 006 2441

CDM Federal Programs Corporation

426

**FINAL ENDANGERMENT ASSESSMENT
TUTU WELLS SITE
ST. THOMAS, VIRGIN ISLANDS
VOLUME II OF IV**

**Prepared for
U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

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APPENDIX A

95 PERCENT UPPER CONFIDENCE LIMIT CALCULATIONS

TILLET GARDENS AND ART CENTER - SURFACE SOIL

PCB:		AROCOR 1242			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/2
				Average:	60.15
				Average log:	1.77
				UCL:	3.50E+107 *
				Maximum:	120.00
SS-5-AVS	NA			Sample Std. Dev.	84.65
eTT-14s	0.29 W		-1.2	Sample Std. Dev.	4.26
eTT-15s	120 J		4.8	(log value)	

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND ART CENTER - SURFACE SOIL

INORGANIC:		ANTIMONY				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	5.05	Sample Std. Dev. -
				Average log:	1.62	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	5.05	
SS-5-AVS	5.05	BNJ	1.6			
eTT-14s	NA					
eTT-15s	NA					

TILLET GARDENS AND ART CEN. LR - SURFACE SOIL

INORGANIC:		ARSENIC				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	10.00	Sample Std. Dev. -
				Average log:	2.30	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	10.00	
SS-5-AVS	10		2.3			
eTT-14s	NA					
eTT-15s	NA					

TILLET GARDENS AND ART CENTER - SURFACE SOIL

INORGANIC:		BARIUM			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	70.50
				Average log:	4.26
				UCL:	-
				Maximum:	70.50
SS-5-AVS	70.5		4.3		Sample Std. Dev. -
eTT-14s	NA				Sample Std. Dev. -
eTT-15s	NA				(log value)

TILLET GARDENS AND ART CENTER - SURFACE SOIL

INORGANIC:		HEXAVALENT CHROMIUM **				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	3.60	Sample Std. Dev. -
				Average log:	1.28	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	3.60	
SS-5-AVS	3.6	NJ	1.3			
eTT-14s	NA					
eTT-15s	NA					

** - One-seventh of the detected total chromium concentration was assumed to be hexavalent per IRIS (1994).

TILLET GARDENS AND ART CENTER - SURFACE SOIL

INORGANIC:		MANGANESE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	869.00	Sample Std. Dev. -
				Average log:	6.77	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	869.00	
SS-5-AVS	869		6.8			
eTT-14s	NA					
eTT-15s	NA					

TILLET GARDENS AND ART CE. - SURFACE SOIL

INORGANIC:		VANADIUM				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	95.90	Sample Std. Dev. -
				Average log:	4.56	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	95.90	
SS-5-AVS	95.9 NJ		4.6			
eTT-14s	NA					
eTT-15s	NA					

FIRE DEPARTMENT/TEXACO GAS STATION/ ANTILLES AUTO PARTS/ RAMSAY MOTOR CO. - SURFACE SOIL

SVOC:		BENZO(B)FLUORANTHENE					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 2		
				Average:	0.79	Sample Std. Dev.	0.12
				Average log:	-0.25	Sample Std. Dev.	0.15
				UCL:	1.26 *	(log value)	
				Maximum:	0.87		
B-2	0.7 U		-0.4				
eC-09s	NA						
eC-10s	NA						
eR-07s	NA						
eR-08s	NA						
eR-02-02s	0.87 J		-0.1				

* - 95% UCL exceeds the maximum concentration detected in the samples.

FIRE DEPARTMENT/TEXACO GAS STATION/ AN...LES AUTO PARTS/ RAMSAY MOTOR CO. - SURFACE SOIL

SVOC:		BENZO(A)PYRENE					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2		
				Average:	0.52	Sample Std. Dev.	0.35
				Average log:	-0.79	Sample Std. Dev.	0.74
				UCL:	838.86 *	(log value)	
				Maximum:	0.77		
B-2	0.27 J		-1.3				
eC-09s	NA						
eC-10s	NA						
eR-07s	NA						
eR-08s	NA						
eR-02-02s	0.77 J		-0.3				

* - 95% UCL exceeds the maximum concentration detected in the samples.

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANTILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		ANTIMONY				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/1	
				Average:	5.90	Sample Std. Dev. -
				Average log:	1.77	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	5.90	
B-2	5.9 BJ		1.8			
eC-09s	NA					
eC-10s	NA					
eR-07s	NA					
eR-08s	NA					
eR-02-02s	NA					

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANTONILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		BARIUM				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	67.20	Sample Std. Dev. -
				Average log:	4.21	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	67.20	
B-2	67.2		4.2			
eC-09s	NA					
eC-10s	NA					
eR-07s	NA					
eR-08s	NA					
eR-02-02s	NA					

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		BERYLLIUM			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/1
				Average:	0.26
				Average log:	-1.35
				UCL:	-
				Maximum:	0.26
B-2	0.26 B		-1.3	Sample Std. Dev.	-
eC-09s	NA			Sample Std. Dev.	-
eC-10s	NA			(log value)	
eR-07s	NA				
eR-08s	NA				
eR-02-02s	NA				

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		HEXAVALENT CHROMIUM **			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	1 / 1
				Average log:	4.53
				UCL:	Sample Std. Dev. -
				Maximum:	Sample Std. Dev. -
					(log value)
B-2	4.53		1.5		
eC-09s	NA				
eC-10s	NA				
eR-07s	NA				
eR-08s	NA				
eR-02-02s	NA				

** - One-seventh of the detected total chromium concentration was assumed to be hexavalent per IRIS (1994).

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANTI LLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		MANGANESE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	834.00	Sample Std. Dev. -
				Average log:	6.73	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	834.00	
B-2	834		6.7			
eC-09s	NA					
eC-10s	NA					
eR-07s	NA					
eR-08s	NA					
eR-02-02s	NA					

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		NICKEL				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/1	
				Average:	17.50	Sample Std. Dev. -
				Average log:	2.86	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	17.50	
B-2	17.5		2.9			
eC-09s	NA					
eC-10s	NA					
eR-07s	NA					
eR-08s	NA					
eR-02-02s	NA					

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		SILVER				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	2.20	Sample Std. Dev. -
				Average log:	0.79	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	2.20	
B-2	2.2 J		0.8			
eC-09s	NA					
eC-10s	NA					
eR-07s	NA					
eR-08s	NA					
eR-02-02s	NA					

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO.- SURFACE SOIL

INORGANIC:		VANADIUM				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1 / 1	
				Average:	119.00	Sample Std. Dev. -
				Average log:	4.78	Sample Std. Dev. -
				UCL:	-	(log value)
				Maximum:	119.00	
B-2	119		4.8			
eC-09s	NA					
eC-10s	NA					
eR-07s	NA					
eR-08s	NA					
eR-02-02s	NA					

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

SVOC:		2-METHYLPHENOL			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	1/8
				Average log:	41.08
				UCL:	Sample Std. Dev. 112.72
				Maximum:	Sample Std. Dev. 2.64
SS-3-AVS	R				(log value)
SS-4-AVS	5.5 U		1.7		
B-14	0.185 U		-1.7		
B-15	0.195 U		-1.6		
B-16	0.185 U		-1.7		
eL-02-01s	320		5.8		
eL-02-02s	1.95 U		0.7		
eL-02-03s	0.425 U		-0.9		
MWS-16-AVD	0.175 U		-1.7		

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

SVOC:	4-METHYLPHENOL				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	163.58
				Average log:	0.24
				UCL:	1.56E+07 *
				Maximum:	1300.00
SS-3-AVS	R			Sample Std. Dev.	459.19
SS-4-AVS	5.5 U	1.7		Sample Std. Dev.	3.08
B-14	0.185 U	-1.7		(log value)	
B-15	0.195 U	-1.6			
B-16	0.185 U	-1.7			
eL-02-01s	1300 J	7.2			
eL-02-02s	1.95 U	0.7			
eL-02-03s	0.425 U	-0.9			
MWS-16-AVD	0.175 U	-1.7			

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

INORGANIC:		ANTIMONY					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	5/6		
				Average:	5.29	Sample Std. Dev.	1.84
				Average log:	1.61	Sample Std. Dev.	0.40
				UCL:	8.67 *	(log value)	
				Maximum:	7.30		
SS-3-AVS	4.63 BNJ		1.5				
SS-4-AVS	4.08 BNJ		1.4				
B-14	7.3 BNJ		2.0				
B-15	6.4 BNJ		1.9				
B-16	6.8 BNJ		1.9				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	2.55 WJ		0.9				

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

INORGANIC:		ARSENIC					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	5/6		
				Average:	3.17	Sample Std. Dev.	4.20
				Average log:	0.53	Sample Std. Dev.	1.26
				UCL:	71 *	(log value)	
				Maximum:	11.60		
SS-3-AVS	2.3 B		0.8				
SS-4-AVS	1.46 BWJ		0.4				
B-14	0.23 U		-1.5				
B-15	1.3 B		0.3				
B-16	11.6		2.5				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	2.1		0.7				

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

INORGANIC:		BERYLLIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/6		
				Average:	0.15	Sample Std. Dev.	0.07
				Average log:	-1.99	Sample Std. Dev.	0.41
				UCL:	0.24	(log value)	
				Maximum:	0.27		
SS-3-AVS	0.19 B		-1.7				
SS-4-AVS	0.09 U		-2.4				
B-14	0.115 U		-2.2				
B-15	0.115 U		-2.2				
B-16	0.11 U		-2.2				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	0.27 B		-1.3				

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

INORGANIC:		MANGANESE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	6/6	
				Average:	762.92	Sample Std. Dev. 108.28
				Average log:	6.63	Sample Std. Dev. 0.15
				UCL:	874 *	(log value)
				Maximum:	872.50	
SS-3-AVS	863.5		6.8			
SS-4-AVS	676.5		6.5			
B-14	757		6.6			
B-15	809		6.7			
B-16	599		6.4			
eL-02-01s	NA					
eL-02-02s	NA					
eL-02-03s	NA					
MWS-16-AVD	872.5		6.8			

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - PRESENT - SURFACE SOIL

INORGANIC:		VANADIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	6/6		
				Average:	96.74	Sample Std. Dev.	11.08
				Average log:	4.57	Sample Std. Dev.	0.12
				UCL:	107	(log value)	
				Maximum:	114.50		
SS-3-AVS	95.15 NJ		4.6				
SS-4-AVS	96.5 NJ		4.6				
B-14	95.8 NJ		4.6				
B-15	98.8 NJ		4.6				
B-16	79.7 NJ		4.4				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	114.5		4.7				

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

SVOC: 2-METHYLPHENOL

Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/5	
				Average:	65.61	Sample Std. Dev. 142.22
				Average log:	1.11	Sample Std. Dev. 2.93
				UCL:	1.65E+11 *	(log value)
				Maximum:	320.00	
SS-3-AVS	R					
SS-4-AVS	5.5 U		1.7			
eL-02-01s	320		5.8			
eL-02-02s	1.95 U		0.7			
eL-02-03s	0.425 U		-0.9			
MWS-16-AVD	0.175 U		-1.7			

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

SVOC:		4-METHYLPHENOL				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/5	
				Average:	261.61	Sample Std. Dev. 580.48
				Average log:	1.39	Sample Std. Dev. 3.50
				UCL:	4.05E+15 *	(log value)
				Maximum:	1300.00	
SS-3-AVS	R					
SS-4-AVS	5.5 U		1.7			
eL-02-01s	1300 J		7.2			
eL-02-02s	1.95 U		0.7			
eL-02-03s	0.425 U		-0.9			
MWS-16-AVD	0.175 U		-1.7			

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

INORGANIC:		ANTIMONY					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/3		
				Average:	3.75	Sample Std. Dev.	1.08
				Average log:	1.29	Sample Std. Dev.	0.31
				UCL:	9.52 *	(log value)	
				Maximum:	4.63		
SS-3-AVS	4.63 BNJ		1.5				
SS-4-AVS	4.08 BNJ		1.4				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	2.55 WJ		0.9				

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

INORGANIC:		ARSENIC					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	3/3		
				Average:	1.95	Sample Std. Dev.	0.44
				Average log:	0.65	Sample Std. Dev.	0.24
				UCL:	3.70 *	(log value)	
				Maximum:	2.30		
SS-3-AVS	2.3 B		0.8				
SS-4-AVS	1.46 BWJ		0.4				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	2.1		0.7				

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

INORGANIC:		BERYLLIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/3		
				Average:	0.18	Sample Std. Dev.	0.09
				Average log:	-1.79	Sample Std. Dev.	0.56
				UCL:	3.33 *	(log value)	
				Maximum:	0.27		
SS-3-AVS	0.19 B		-1.7				
SS-4-AVS	0.09 U		-2.4				
eL-02-01s	NA						
eL-02-02s	NA						
eL-02-03s	NA						
MWS-16-AVD	0.27 B		-1.3				

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

INORGANIC:		MANGANESE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	3/3	
				Average:	804.17	Sample Std. Dev. 110.65
				Average log:	6.68	Sample Std. Dev. 0.14
				UCL:	1097.23 *	(log value)
				Maximum:	872.50	
SS-3-AVS	863.5		6.8			
SS-4-AVS	676.5		6.5			
eL-02-01s	NA					
eL-02-02s	NA					
eL-02-03s	NA					
MWS-16-AVD	872.5		6.8			

* - 95% UCL exceeds the maximum concentration detected in the samples.

CURRICULUM CENTER BUILDING - FUTURE - SURFACE SOIL

INORGANIC:		VANADIUM			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	3/3
				Average:	102.05
				Average log:	4.62
				UCL:	124.84 *
				Maximum:	114.50
SS-3-AVS	95.15 NJ		4.6		Sample Std. Dev. 10.80
SS-4-AVS	96.5 NJ		4.6		Sample Std. Dev. 0.10
eL-02-01s	NA				(log value)
eL-02-02s	NA				
eL-02-03s	NA				
MWS-16-AVD	114.5		4.7		

* - 95% UCL exceeds the maximum concentration detected in the samples.

O'HENRY DRY CLEANERS AND LIQUOR BARN - SURFACE SOIL

VOC:		TETRACHLOROETHENE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	5/6	
				Average:	131.68	Sample Std. Dev. 173.70
				Average log:	0.71	Sample Std. Dev. 5.28
				UCL:	4.83E+26 *	(log value)
				Maximum:	440.00	
SS-6-AVS	0.0059 U		-5.1			
B-13A	0.015		-4.2			
e-01	440		6.1			
e0-02-01	170		5.1			
e0-02-02	180 D		5.2			
e0-02-03	0.058 J		-2.8			

* - 95% UCL exceeds the maximum concentration detected in the samples.

O'HENRY DRY CLEANERS AND LIQUOR BARN - SURFACE SOIL

INORGANIC:		ANTIMONY					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/2		
				Average:	4.25	Sample Std. Dev.	2.97
				Average log:	1.31	Sample Std. Dev.	0.77
				UCL:	8820.26 *	(log value)	
				Maximum:	6.35		
SS-6-AVS	6.35 BNJ		1.8				
B-13A	2.15 UNJ		0.8				
e-01	NA						
e0-02-01	NA						
e0-02-02	NA						
e0-02-03	NA						

* - 95% UCL exceeds the maximum concentration detected in the samples.

O'HENRY DRY CLEANERS AND LIQUOR BARN - SURFACE SOIL

INORGANIC:		ARSENIC					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2		
				Average:	16.18	Sample Std. Dev.	3.50
				Average log:	2.77	Sample Std. Dev.	0.22
				UCL:	33.57 *	(log value)	
				Maximum:	18.65		
SS-6-AVS	18.65 J		2.9				
B-13A	13.7		2.6				
e-01	NA						
e0-02-01	NA						
e0-02-02	NA						
e0-02-03	NA						

* - 95% UCL exceeds the maximum concentration detected in the samples.

O'HENRY DRY CLEANER AND LIQUOR BARN - SURFACE SOIL

INORGANIC:		MANGANESE			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	2/2
				Average log:	769.75
				UCL:	Sample Std. Dev. 141.77
				Maximum:	Sample Std. Dev. 0.19
SS-6-AVS	669.5 J		6.5		(log value)
B-13A	870		6.8		
e-01	NA				
e0-02-01	NA				
e0-02-02	NA				
e0-02-03	NA				

* - 95% UCL exceeds the maximum concentration detected in the samples.

OHENRY DRY CLEANERS AND LIQUOR BARN - SURFACE SOIL

INORGANIC:		VANADIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2	Sample Std. Dev.	7.39
				Average:	77.88	Sample Std. Dev.	0.10
				Average log:	4.35	(log value)	
				UCL:	101.31 *		
				Maximum:	83.10		
SS-6-AVS	72.65	NJ	4.3				
B-13A	83.1		4.4				
e-01	NA						
e0-02-01	NA						
e0-02-02	NA						
e0-02-03	NA						

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND ART CENTER - SUBSURFACE SOIL

SVOC:		BENZO(A)PYRENE					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/2		
				Average:	0.18	Sample Std. Dev.	0.01
				Average log:	-1.72	Sample Std. Dev.	0.06
				UCL:	0.20 *	(log value)	
				Maximum:	0.19		
B-8-AVD	0.1875 J		-1.7				
MWS-5-AVS	0.1725 W		-1.8				

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND ART CENTER - SUBSURFACE SOIL

INORGANIC:		ANTIMONY					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2		
				Average:	4.38	Sample Std. Dev.	1.03
				Average log:	1.46	Sample Std. Dev.	0.24
				UCL:	10.65 *	(log value)	
				Maximum:	5.10		
B-8-AVD	3.65 BNJ		1.3				
MWS-5-AVS	5.10 BNJ		1.6				

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND ART CENTER - SUBSURFACE SOIL

INORGANIC:		ARSENIC			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	24.96
				Average log:	1.82
				UCL:	5.37E+52 *
				Maximum:	49.15
B-8-AVD	49.15 J	3.9		Sample Std. Dev.	34.21
MWS-5-AVS	0.77 B	-0.3		Sample Std. Dev. (log value)	2.94

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND ART CENTER - SUBSURFACE SOIL

INORGANIC:		BERYLLIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2		
				Average:	0.41	Sample Std. Dev.	0.07
				Average log:	-0.90	Sample Std. Dev.	0.17
				UCL:	0.73 *	(log value)	
				Maximum:	0.46		
B-8-AVD	0.36 B		-1.0				
MWS-5-AVS	0.46 B		-0.8				

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND ART CENTER - SUBSURFACE SOIL

INORGANIC:		MANGANESE					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2		
				Average:	754.25	Sample Std. Dev.	12.37
				Average log:	6.63	Sample Std. Dev.	0.02
				UCL:	770.98 *	(log value)	
				Maximum:	763.00		
B-8-AVD	745.5		6.6				
MWS-5-AVS	763		6.6				

* - 95% UCL exceeds the maximum concentration detected in the samples.

TILLET GARDENS AND A... CENTER - SUBSURFACE SOIL

INORGANIC:		VANADIUM			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/2
				Average:	132.65
				Average log:	4.87
				UCL:	402.38 *
				Maximum:	157.30
B-8-AVD	157.3		5.1		Sample Std. Dev. 34.86
MWS-5-AVS	108		4.7		Sample Std. Dev. 0.27 (log value)

* - 95% UCL exceeds the maximum concentration detected in the samples.

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO. - SUBSURFACE SOIL

INORGANIC:	ARSENIC					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	5/7	
				Average:	0.83	Sample Std. Dev. 0.56
				Average log:	-0.43	Sample Std. Dev. 0.80
				UCL:	2.52 *	(log value)
				Maximum:	1.80	
B-7	1.0 B		0.0			
MWS-3	R					
B-4	0.54 BWJ		-0.6			
MWS-4	1.8 BJ		0.6			
MWS-4D	0.23 U		-1.5			
B-3	1.2 B		0.2			
B-5	0.23 U		-1.5			
eT-02s-AVD	NA					
MWS-15	0.82 B		-0.2			
MWS-17	NA					

* - 95% UCL exceeds the maximum concentration detected in the samples.

FIRE DEPARTMENT/TEXACO GAS STATION/ AN...LES AUTO PARTS/ RAMSAY MOTOR CO. - SUBSURFACE SOIL

INORGANIC:

BARIUM

Sample Location

Concentration
(mg/kg)

Q

Log of
Concentration
(mg/kg)

Frequency: 8/8
Average: 69.69
Average log: 4.10
UCL: 112.40
Maximum: 184.00

Sample Std. Dev. 48.39
Sample Std. Dev. 0.52
(log value)

B-7	36.9 B	3.6
MWS-3	59.8 J	4.1
B-4	42.9 BJ	3.8
MWS-4	55 J	4.0
MWS-4D	59.4 J	4.1
B-3	184	5.2
B-5	38.4 B	3.6
eT-02s-AVD	NA	
MWS-15	81.1	4.4
MWS-17	NA	

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO. - SUBSURFACE SOIL

INORGANIC:		BERYLLIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/8		
				Average:	0.20	Sample Std. Dev.	0.13
				Average log:	-1.76	Sample Std. Dev.	0.58
				UCL:	0.36	(log value)	
				Maximum:	0.42		
B-7	0.105 U		-2.3				
MWS-3	0.115 U		-2.2				
B-4	0.27 BJ		-1.3				
MWS-4	0.12 U		-2.1				
MWS-4D	0.115 U		-2.2				
B-3	0.42 B		-0.9				
B-5	0.115 U		-2.2				
eT-02s-AVD	NA						
MWS-15	0.34		-1.1				
MWS-17	NA						

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANTILLES AUTO PARTS/ RAMSAY MOTOR CO. - SUBSURFACE SOIL

INORGANIC:		CADMIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/8		
				Average:	0.48	Sample Std. Dev.	0.28
				Average log:	-0.84	Sample Std. Dev.	0.46
				UCL:	0.73	(log value)	
				Maximum:	1.10		
B-7	0.31 U		-1.2				
MWS-3	0.34 U		-1.1				
B-4	0.35 U		-1.0				
MWS-4	0.73 BJ		-0.3				
MWS-4D	0.345 U		-1.1				
B-3	0.35 U		-1.0				
B-5	0.345 U		-1.1				
eT-02s-AVD	NA						
MWS-15	1.1 B		0.1				
MWS-17	NA						

FIRE DEPARTMENT/TEXACO GAS STATION/ AN. LES AUTO PARTS/ RAMSAY MOTOR CO. - SUBSURFACE SOIL

INORGANIC:		HEXAVALENT CHROMIUM**					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	8/8		
				Average:	4.63	Sample Std. Dev.	0.49
				Average log:	1.53	Sample Std. Dev.	0.11
				UCL:	5.00	(log value)	
				Maximum:	5.40		
B-7	4.1		1.4				
MWS-3	4.5 J		1.5				
B-4	4.5 J		1.5				
MWS-4	5.4 EJ		1.7				
MWS-4D	3.9 J		1.4				
B-3	5.1		1.6				
B-5	4.8 NJ		1.6				
eT-02s-AVD	NA						
MWS-15	4.74 J		1.6				
MWS-17	NA						

** - One-seventh of the detected total chromium concentration was assumed to be hexavalent per IRIS (1994).

FIRE DEPARTMENT/ TEXACO GAS STATION/ ANILLES AUTO PARTS/ RAMSAY MOTOR CO. - SUBSURFACE SOIL

INORGANIC:		MANGANESE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	8/8	
				Average:	768.38	Sample Std. Dev. 155.21
				Average log:	6.62	Sample Std. Dev. 0.22
				UCL:	907.17	(log value)
				Maximum:	947.00	
B-7	828		6.7			
MWS-3	725 J		6.6			
B-4	941 J		6.8			
MWS-4	947 EJ		6.9			
MWS-4D	717 J		6.6			
B-3	506		6.2			
B-5	861		6.8			
eT-02s-AVD	NA					
MWS-15	622		6.4			
MWS-17	NA					

CURRICULUM CENTER BUILDING - SUBSURFACE SOIL

INORGANIC:		ARSENIC					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	8/10		
				Average:	1.82	Sample Std. Dev.	3.47
				Average log:	-0.21	Sample Std. Dev.	1.14
				UCL:	5.54	(log value)	
				Maximum:	11.60		
B-14-AVD	0.23 U		-1.5				
B-15	1.3 B		0.3				
B-16	11.6		2.5				
B-1-AVS	0.81 B		-0.2				
B-6-AVS	0.51 B		-0.7				
MWS-1	0.45 BJ		-0.8				
MWS-1D	0.23 UW		-1.5				
MWS-13	0.71 B		-0.3				
MWS-13D	1.7 BJ		0.5				
MWS-14	0.67 BJ		-0.4				

CURRICULUM CENTER BUILDING - SUBSURFACE SOIL

INORGANIC:		BERYLLIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	2/10		
				Average:	0.15	Sample Std. Dev.	0.05
				Average log:	-1.93	Sample Std. Dev.	0.34
				UCL:	0.19	(log value)	
				Maximum:	0.23		
B-14-AVD	0.115 U		-2.2				
B-15	0.115 U		-2.2				
B-16	0.11 U		-2.2				
B-1-AVS	0.21 U		-1.6				
B-6-AVS	0.205 U		-1.6				
MWS-1	0.115 U		-2.2				
MWS-1D	0.23 BJ		-1.5				
MWS-13	0.22 B		-1.5				
MWS-13D	0.105 U		-2.3				
MWS-14	0.11 U		-2.2				

CURRICULUM CENTER BUILDING - SUBSURFACE SOIL

INORGANIC:		CADMIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	3/10		
				Average:	0.91	Sample Std. Dev.	1.03
				Average log:	-0.53	Sample Std. Dev.	0.89
				UCL:	2.07	(log value)	
				Maximum:	2.87		
B-14-AVD	0.35 U		-1.0				
B-15	0.35 U		-1.0				
B-16	0.99 B		0.0				
B-1-AVS	2.77		1.0				
B-6-AVS	2.87		1.1				
MWS-1	0.34 U		-1.1				
MWS-1D	0.34 U		-1.1				
MWS-13	0.43 U		-0.8				
MWS-13D	0.315 U		-1.2				
MWS-14	0.335 U		-1.1				

CURRICULUM CENTER BUILDING - SUBSURFACE SOIL

INORGANIC:		MANGANESE			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	10/10
				Average:	785.70
				Average log:	6.66
				UCL:	855.10
				Maximum:	972.50
B-14-AVD	698.5		6.5		Sample Std. Dev. 105.55
B-15	809		6.7		Sample Std. Dev. 0.14
B-16	599		6.4		(log value)
B-1-AVS	803		6.7		
B-6-AVS	972.5		6.9		
MWS-1	734 J		6.6		
MWS-1D	833 J		6.7		
MWS-13	705		6.6		
MWS-13D	820 EJ		6.7		
MWS-14	883 EJ		6.8		

CURRICULUM CENTER BUILDING - SUBSURFACE SOIL

INORGANIC:		MERCURY					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/10		
				Average:	0.09	Sample Std. Dev.	0.17
				Average log:	-3.09	Sample Std. Dev.	0.96
				UCL:	0.19	(log value)	
				Maximum:	0.57		
B-14-AVD	0.03 U		-3.5				
B-15	0.03 U		-3.5				
B-16	0.57		-0.6				
B-1-AVS	0.065 U		-2.7				
B-6-AVS	0.065 U		-2.7				
MWS-1	0.03 U		-3.5				
MWS-1D	0.03 U		-3.5				
MWS-13	0.025 U		-3.7				
MWS-13D	0.025 U		-3.7				
MWS-14	0.03 U		-3.5				

ESSO GAS STATION AND SPILL WASH AND DASH CAR WASH - SUBSURFACE SOIL

INORGANIC:		ARSENIC					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	4 / 7		
				Average:	0.98	Sample Std. Dev.	0.48
				Average log:	-0.19	Sample Std. Dev.	0.69
				UCL:	2.41 *	(log value)	
				Maximum:	1.60		
B-9	1.6 BJ		0.5				
MWS-8-AVS	0.225 U		-1.5				
MWS-9-AVS	0.47 BJ		-0.8				
MWS-10	1.2 U		0.2				
MWS-10D	1.1 U		0.1				
MWS-18	1.3 B		0.3				
MWS-25	0.94 B		-0.1				

* - 95% UCL exceeds the maximum concentration detected in the samples.

ESSO GAS STATION AND SPLASH AND DASH CAR WASH - SUBSURFACE SOIL

INORGANIC:		BARIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	7/7		
				Average:	78.47	Sample Std. Dev.	67.66
				Average log:	4.03	Sample Std. Dev.	0.89
				UCL:	291.13 *	(log value)	
				Maximum:	199.00		
B-9	33.8 BJ		3.5				
MWS-8-AVS	22.75 BJ		3.1				
MWS-9-AVS	21.85 BJ		3.1				
MWS-10	120		4.8				
MWS-10D	199		5.3				
MWS-18	37.9 B		3.6				
MWS-25	114		4.7				

* - 95% UCL exceeds the maximum concentration detected in the samples.

ESSO GAS STATION AND SPLASH AND DASH CAR WASH - SUBSURFACE SOIL

INORGANIC:		BERYLLIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	6/7		
				Average:	0.24	Sample Std. Dev.	0.09
				Average log:	-1.52	Sample Std. Dev.	0.46
				UCL:	0.38 *	(log value)	
				Maximum:	0.35		
B-9	0.23 BJ		-1.5				
MWS-8-AVS	0.16 B		-1.8				
MWS-9-AVS	0.09 U		-2.4				
MWS-10	0.27 B		-1.3				
MWS-10D	0.28 B		-1.3				
MWS-18	0.28 B		-1.3				
MWS-25	0.35 B		-1.0				

* - 95% UCL exceeds the maximum concentration detected in the samples.

ESSO GAS STATION AND S. SH AND DASH CAR WASH - SUBSURFACE SOIL

INORGANIC:		CADMIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	1/7		
				Average:	0.41	Sample Std. Dev.	0.25
				Average log:	-1.00	Sample Std. Dev.	0.47
				UCL:	0.65	(log value)	
				Maximum:	0.95		
B-9	0.32 U		-1.1				
MWS-8-AVS	0.245 U		-1.4				
MWS-9-AVS	0.24 U		-1.4				
MWS-10	0.355 U		-1.0				
MWS-10D	0.325 U		-1.1				
MWS-18	0.455 U		-0.8				
MWS-25	0.95 B		-0.1				

ESSO GAS STATION AND SPLASH AND DASH CAR WASH - SUBSURFACE SOIL

INORGANIC:		HEXAVALENT CHROMIUM					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	7/7		
				Average:	2.54	Sample Std. Dev.	1.59
				Average log:	0.71	Sample Std. Dev.	0.78
				UCL:	7.50 *	(log value)	
				Maximum:	5.00		
B-9	5.0 J		1.6				
MWS-8-AVS	2.6 J		1.0				
MWS-9-AVS	2.9 J		1.1				
MWS-10	0.81		-0.2				
MWS-10D	0.64		-0.4				
MWS-18	3.93 J		1.4				
MWS-25	1.93 J		0.7				

* - 95% UCL exceeds the maximum concentration detected in the samples.

** - One-seventh of the detected total chromium concentration was assumed to be hexavalent per IRIS (1994).

ESSO GAS STATION AND SPLASH AND DASH CAR WASH - SUBSURFACE SOIL

INORGANIC:		MANGANESE					
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	7/7	Sample Std. Dev.	285.05
				Average:	706.57	Sample Std. Dev.	0.38
				Average log:	6.50	(log value)	
				UCL:	1014.26		
				Maximum:	1250.00		
B-9	760 J		6.6				
MWS-8-AVS	773.5 J		6.7				
MWS-9-AVS	775.5 J		6.7				
MWS-10	480		6.2				
MWS-10D	435		6.1				
MWS-18	472		6.2				
MWS-25	1250		7.1				

O'HENRY DRY CLEANERS AND LIQUOR BARN - SUBSURFACE SOIL

INORGANIC:		ARSENIC			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	3 / 4
				Average:	52.35
				Average log:	2.46
				UCL:	5.69E+11 *
				Maximum:	185.00
B-10	1.1 U		0.1		
B-11	5.0		1.6		
B-12-AVS	18.3		2.9		
B-13	185 J		5.2		
				Sample Std. Dev.	88.74
				Sample Std. Dev.	2.17
				(log value)	

* - 95% UCL exceeds the maximum concentration detected in the samples.

O'HENRY DRY CLEANERS AND LIQUOR BARN - SUBSURFACE SOIL

INORGANIC:		BARIUM			
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	
				Average:	4 / 4
				Average log:	205.75
				UCL:	Sample Std. Dev. 203.69
				Maximum:	Sample Std. Dev. 1.17 (log value)
B-10	498		6.2		
B-11	124		4.8		
B-12-AVS	172		5.1		
B-13	29 B		3.4		

* - 95% UCL exceeds the maximum concentration detected in the samples.

O'HENRY DRY CLEANERS AND LIQUOR BARN - SUBSURFACE SOIL

INORGANIC:		MANGANESE				
Sample Location	Concentration (mg/kg)	Q	Log of Concentration (mg/kg)	Frequency:	4 / 4	
				Average:	1367.00	Sample Std. Dev. 899.05
				Average log:	7.01	Sample Std. Dev. 0.79
				UCL:	42006.84 *	(log value)
				Maximum:	2200.00	
B-10	2200		7.7			
B-11	768		6.6			
B-12-AVS	2070		7.6			
B-13	430		6.1			

* - 95% UCL exceeds the maximum concentration detected in the samples.

GROUNDWATER

VOC:	BENZENE					
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	34/168	
				Average:	0.35	Sample Std. Dev. 2.41
				Average log:	-5.99	Sample Std. Dev. 2.27
				UCL:	0.06	(log value)
				Maximum:	21.00	
MW-1	0.025 U		-3.7			
MW-1D	R					
MW-2	0.005 U		-5.3			
MW-3	0.0125 U		-4.4			
MW-4-AVS	0.005 U		-5.3			
MW-4D	0.005 U		-5.3			
MW-5-AVS	0.9625		0.0			
MW-6D	0.005 U		-5.3			
MW-6R-AVS	0.005 U		-5.3			
MW-7-AVD	0.005 U		-5.3			
MW-8	0.005 U		-5.3			
MW-9-AVD	0.027		-3.6			
MW-9S	0.016		-4.1			
MW-10	0.0165 U		-4.1			
MW-10D	0.025 U		-3.7			
MW-11D	0.005 U		-5.3			
MW-12D	0.005 U		-5.3			
MW-13D	0.005 U		-5.3			
MW-14-AVS	0.005 U		-5.3			
Eglin I-2	0.0005 U		-7.6			
Eglin II-2	0.0005 U		-7.6			
Eglin III-2-AVD	0.0005 U		-7.6			
FourWinds II-2	0.0005 U		-7.6			
Gassett-2	0.0005 U		-7.6			
Harvey-2	0.05 U		-3.0			
LaPlace-2-AVD	0.0005 U		-7.6			
Matthias-2	0.006 U		-5.1			
Ramsay-2	0.0005 U		-7.6			
Rodriguez-2	0.0005 U		-7.6			
Smith-2	0.0005 U		-7.6			
Steele-2	0.0025 U		-6.0			
Tillett-2	0.027		-3.6			
Eglin I-3	R					
Eglin II-3	R					

Eglin III-3	0.00025 W	-8.3
FourWindsI-3	0.00025 W	-8.3
Gassett-3	0.00025 W	-8.3
Harvey-3	0.00025 W	-8.3
LaPlace-3-AVD	0.00025 W	-8.3
Matthias-3	0.00025 U	-8.3
Ramsay-3	R	
Smith-3	0.00025 W	-8.3
Steele-3	0.00025 U	-8.3
Tillett-3	0.003	-5.8
Eglin I-4	0.0005 U	-7.6
Eglin II-4	0.0006 U	-7.4
Eglin III-4	0.00005 J	-9.9
FourWindsI-4	0.00033 J	-8.0
FourWindsII-4	0.0025 U	-6.0
Gassett-4	0.00025 U	-8.3
Harvey-4	0.00025 U	-8.3
LaPlace-4	0.00125 U	-6.7
Matthias-4	0.0006 U	-7.4
Ramsay-4	0.00025 U	-8.3
Smith-4	0.0001 J	-9.2
Steele-4	0.00008 J	-9.4
Tillett-4-AVD	0.0645 DJ	-2.7
Eglin I-5	0.00025 U	-8.3
Eglin II-5	0.00025 U	-8.3
Eglin III-5	0.00025 U	-8.3
FourWindsI-5	0.0008	-7.1
FourWindsII-5	0.0027	-5.9
Gassett-5-AVD	0.00007 J	-9.6
Harvey-5	0.00025 U	-8.3
LaPlace-5-AVD	0.00015 J	-8.8
Matthias-5	0.00025 U	-8.3
Ramsay-5	0.00025 U	-8.3
Rodriguez-5	0.00025 U	-8.3
Smith-5	0.00007 J	-9.6
Steele-5	0.00125 U	-6.7
Tillett-5	0.0017	-6.4
Eglin I-6	0.00025 U	-8.3
Eglin II-6	0.00007 J	-9.6
Eglin III-6	0.00025 U	-8.3
Gassett-6	0.00025 U	-8.3
Harvey-6	0.0031 U	-5.8

LaPlace-6	0.001 U	-6.9
Ramsay-6	0.00025 U	-8.3
Smith-6-AVD	0.00075 U	-7.2
Steele-6	0.0006 U	-7.4
Tillett-6	0.0008 J	-7.1
Eglin I-7	0.00025 U	-8.3
Eglin II-7	0.00025 U	-8.3
Eglin III-7	0.00025 U	-8.3
FourWindsI-7	0.00125 U	-6.7
FourWindsII-7	0.001 U	-6.9
Gassett-7	0.00025 U	-8.3
Harvey-7	0.0025 U	-6.0
LaPlace-7	0.00029 J	-8.1
Ramsay-7-AVD	0.00025 U	-8.3
Smith-7	0.00125 U	-6.7
Steele-7	0.001 U	-6.9
Tillett-7	0.007	-5.0
Eglin I-8	0.004 U	-5.5
Eglin III-8	0.004 U	-5.5
FourWindsI-8	0.004 U	-5.5
Gassett-8	0.004 U	-5.5
Harvey-8-AVD	0.00014 J	-8.9
LaPlace-8	0.004 U	-5.5
Ramsay-8	0.004 U	-5.5
Rodriguez-8	0.004 U	-5.5
Smith-8	0.004 U	-5.5
Steele-8	0.004 U	-5.5
Tillett-8	0.0065	-5.0
MW01	0.0005 U	-7.6
MW02	0.0005 U	-7.6
MW03-AVD	0.0005 U	-7.6
MW04	0.0005 U	-7.6
CHT-3-9	1.7	0.5
CHT-6D-9	0.005 U	-5.3
CHT-7D-9	0.005 U	-5.3
Delegarde-9	0.00025 U	-8.3
Delegarde-9*	0.00017 JB	-8.7
DW-1-9	0.005 U	-5.3
DW-2-9	0.005 U	-5.3
Eglin I-9	0.005 U	-5.3
Eglin III-9	0.005 U	-5.3
FourWindsI-9	0.005 U	-5.3

FourWindsII9AV	0.005 U	-5.3
Gassett-9	0.00025 U	-8.3
Harvey-9	0.005 U	-5.3
LaPlace-9	0.005 U	-5.3
Matthias-9	0.005 U	-5.3
MW-1-9	0.005 U	-5.3
MW-1D-9	0.02 U	-3.9
MW-2-9	0.005 W	-5.3
MW-3-9	0.0125 U	-4.4
MW-4-9	0.005 W	-5.3
MW-4D-9	0.005 W	-5.3
MW-5-9	0.46 DJ	-0.8
MW-6D-9	0.005 U	-5.3
MW-6R-9	0.005 U	-5.3
MW-7-9	0.021	-3.9
MW-8-9	0.005 W	-5.3
MW-9S-9	0.01 W	-4.6
MW-10-9	0.0125 W	-4.4
MW-10D-9	0.005 W	-5.3
MW-11D-9-AVD	0.005 U	-5.3
MW-12D-9	0.005 W	-5.3
MW-13-9	0.005 W	-5.3
MW-13D-9	0.005 W	-5.3
MW-15-9	0.005 U	-5.3
MW-16-9	0.1 U	-2.3
MW-17-9	0.005 U	-5.3
MW-18-9	NA	
MW-18R-9	0.005 W	-5.3
MW-19-9	0.005 W	-5.3
MW-20-9	0.005 W	-5.3
MW-20D-9	0.005 W	-5.3
MW-21D-9	R	
MW-22D-9	0.005 W	-5.3
MW-24-9	0.005 W	-5.3
MW-25-9	0.005 U	-5.3
OHMW-1-9	0.005 U	-5.3
OHMW-2-9	0.005 U	-5.3
OHMW-3-9	0.005 U	-5.3
OHMW-4-9	0.005 U	-5.3
Ramsay-9	0.005 U	-5.3
Smith-9	0.005 W	-5.3
Steele-9	0.005 U	-5.3

SW-2-9	0.55 J	-0.6
SW-3-9	10 J	2.3
SW-4-9	0.005 W	-5.3
SW-5-9	0.005 U	-5.3
SW-6-9	0.005 U	-5.3
SW-7-9-AVD	0.1045 J	-2.3
Tillet-9	0.005 U	-5.3
TT-1-9	21 D	3.0
TT-1D-9	1.7 D	0.5
TT-2-9-AVD	0.0125 U	-4.4
TT-3D-9	0.01 U	-4.6
TT-4-9	21	3.0
TT-5-9	0.001 J	-6.9
VIHA I-9	0.00016 JB	-8.7

GROUNDWATER

VOC: 1,2 DICHLOROETHENE (TOTAL)

Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)
MW-1	1.0		0.0
MW-1D	0.6		-0.5
MW-2	0.026		-3.6
MW-3	0.53 E		-0.6
MW-4-AVS	0.082 J		-2.5
MW-4D	0.15		-1.9
MW-5-AVS	0.03 J		-3.5
MW-6D	0.005 U		-5.3
MW-6R-AVS	0.0365		-3.3
MW-7-AVD	0.17		-1.8
MW-8	0.14		-2.0
MW-9-AVD	0.005 U		-5.3
MW-9S	0.002 J		-6.2
MW-10	0.13		-2.0
MW-10D	0.18		-1.7
MW-11D	0.005 U		-5.3
MW-12D	0.002 J		-6.2
MW-13D	0.005 U		-5.3
MW-14-AVS	0.041 J		-3.2
Eglin I-2	0.06 J		-2.8
Eglin II-2	0.072 DJ		-2.6
Eglin III-2-AVD	0.045 J		-3.1
FourWinds II-2	0.23 D		-1.5
Gassett-2	0.0005 U		-7.6
Harvey-2	0.16		-1.8
LaPlace-2-AVD	0.195 D		-1.6
Matthias-2	0.021		-3.9
Ramsay-2	0.001 J		-6.9
Rodriguez-2	0.0005 U		-7.6
Smith-2	0.042 J		-3.2
Steele-2	0.044		-3.1
Tillett-2	0.2 D		-1.6
Eglin I-3	0.068 DJ		-2.7
Eglin II-3	0.13 DJ		-2.0

Frequency: 142/169
Average: 0.13
Average log: -3.45
UCL: 0.39
Maximum: 2.10

Sample Std. Dev. 0.30
Sample Std. Dev. 2.00
(log value)

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Eglin III-3	0.069 DJ	-2.7
FourWindsI-3	0.13 DJ	-2.0
Gassett-3	0.00025 W	-8.3
Harvey-3	0.08 DJ	-2.5
LaPlace-3-AVD	0.21 DEJ	-1.6
Matthias-3	0.036 J	-3.3
Ramsay-3	0.002 J	-6.2
Smith-3	0.062 D	-2.8
Steele-3	0.18 DJ	-1.7
Tillett-3	0.4 DEJ	-0.9
Eglin I-4	0.045	-3.1
Eglin II-4	0.067	-2.7
Eglin III-4	0.051	-3.0
FourWindsI-4	0.089 D	-2.4
FourWindsII-4	0.19	-1.7
Gassett-4	0.00025 U	-8.3
Harvey-4	0.038	-3.3
LaPlace-4	0.17 D	-1.8
Matthias-4	0.019	-4.0
Ramsay-4	0.0028	-5.9
Smith-4	0.056 D	-2.9
Steele-4	0.15 D	-1.9
Tillett-4-AVD	0.145 D	-1.9
Eglin I-5	0.017	-4.1
Eglin II-5	0.02	-3.9
Eglin III-5	0.039	-3.2
FourWindsI-5	0.15 D	-1.9
FourWindsII-5	0.13	-2.0
Gassett-5-AVD	0.00011 J	-9.1
Harvey-5	0.039	-3.2
LaPlace-5-AVD	0.14 D	-2.0
Matthias-5	0.017	-4.1
Ramsay-5	0.017	-4.1
Rodriguez-5	0.00025 U	-8.3
Smith-5	0.048 D	-3.0
Steele-5	0.11	-2.2
Tillett-5	0.023	-3.8
Eglin I-6	0.013	-4.3
Eglin II-6	0.031	-3.5
Eglin III-6	0.031	-3.5
Gassett-6	0.00025 U	-8.3
Harvey-6	0.041	-3.2

LaPlace-6	0.1	-2.3
Ramsay-6	0.0095	-4.7
Smith-6-AVD	0.0385	-3.3
Steele-6	0.15 D	-1.9
Tillett-6	0.47 DJ	-0.8
Eglin I-7	0.012	-4.4
Eglin II-7	0.011	-4.5
Eglin III-7	0.032	-3.4
FourWindsI-7	0.17	-1.8
FourWindsII-7	0.099	-2.3
Gassett-7	0.00025 U	-8.3
Harvey-7	0.049	-3.0
LaPlace-7	0.13	-2.0
Ramsay-7-AVD	0.0014	-6.6
Smith-7	0.06	-2.8
Steele-7	0.14	-2.0
Tillett-7	0.29	-1.2
Eglin I-8	0.012	-4.4
Eglin III-8	0.027	-3.6
FourWindsI-8	0.14	-2.0
Gassett-8	0.004 U	-5.5
Harvey-8-AVD	0.0465 D	-3.1
LaPlace-8	0.11	-2.2
Ramsay-8	0.0014	-6.6
Rodriguez-8	0.004 U	-5.5
Smith-8	0.052	-3.0
Steele-8	0.13	-2.0
Tillett-8	0.2	-1.6
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	0.05 U	-3.0
CHT-6D-9	0.042	-3.2
CHT-7D-9	0.091	-2.4
Delegarde-9	0.0074 J	-4.9
Delegarde-9*	0.00025 U	-8.3
DW-1-9	0.092 J	-2.4
DW-2-9	0.043	-3.1
Eglin I-9	0.002 J	-6.2
Eglin III-9	0.031	-3.5
FourWindsI-9	0.064	-2.7

FourWindsII9AV	0.0595	-2.8
Gassett-9	0.00025 U	-8.3
Harvey-9	0.021	-3.9
LaPlace-9	0.095	-2.4
Matthias-9	0.015	-4.2
MW-1-9	0.95 D	-0.1
MW-1D-9	0.5	-0.7
MW-2-9	0.0045 U	-5.4
MW-3-9	0.44 D	-0.8
MW-4-9	0.076 J	-2.6
MW-4D-9	0.064 J	-2.7
MW-5-9	0.019 J	-4.0
MW-6D-9	0.1	-2.3
MW-6R-9	0.022	-3.8
MW-7-9	0.18	-1.7
MW-8-9	0.088 J	-2.4
MW-9S-9	0.006 J	-5.1
MW-10-9	0.076 J	-2.6
MW-10D-9	0.11 J	-2.2
MW-11D-9-AVD	0.002 J	-6.2
MW-12D-9	0.067 J	-2.7
MW-13-9	0.005 W	-5.3
MW-13D-9	0.005 W	-5.3
MW-15-9	1.5 D	0.4
MW-16-9	2.1	0.7
MW-17-9	0.053	-2.9
MW-18-9	NA	
MW-18R-9	0.013 J	-4.3
MW-19-9	0.013 J	-4.3
MW-20-9	0.005 W	-5.3
MW-20D-9	0.035 J	-3.4
MW-21D-9	0.011 J	-4.5
MW-22D-9	0.004 J	-5.5
MW-24-9	0.005 W	-5.3
MW-25-9	0.027	-3.6
OHMW-1-9	0.012	-4.4
OHMW-2-9	0.009 J	-4.7
OHMW-3-9	0.008 J	-4.8
OHMW-4-9	0.023	-3.8
Ramsay-9	0.005 U	-5.3
Smith-9	0.039 J	-3.2
Steele-9	0.1	-2.3

SW-2-9	0.5 W	-0.7
SW-3-9	0.5 W	-0.7
SW-4-9	0.038 J	-3.3
SW-5-9	0.004 J	-5.5
SW-6-9	0.005 U	-5.3
SW-7-9-AVD	0.075 W	-2.6
Tillett-9	0.36 D	-1.0
TT-1-9	0.012 J	-4.4
TT-1D-9	0.01	-4.6
TT-2-9-AVD	0.33	-1.1
TT-3D-9	0.28	-1.3
TT-4-9	2.5 U	0.9
TT-5-9	0.18	-1.7
VIHA 1-9	0.00015 J	-8.8

GROUNDWATER

VOC:	TETRACHLOROETHENE					
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency: 143/173	Average: 0.10	Sample Std. Dev. 0.24
				Average log: -3.61		Sample Std. Dev. 1.77
				UCL: 0.20		(log value)
				Maximum: 1.50		
MW-1	0.12 J		-2.1			
MW-1D	0.19 J		-1.7			
MW-2	0.015		-4.2			
MW-3	0.017 J		-4.1			
MW-4-AVS	0.026 J		-3.6			
MW-4D	0.044		-3.1			
MW-5-AVS	0.25 U		-1.4			
MW-6D	0.005 U		-5.3			
MW-6R-AVS	0.0135		-4.3			
MW-7-AVD	0.025 J		-3.7			
MW-8	0.011 J		-4.5			
MW-9-AVD	0.005 U		-5.3			
MW-9S	0.005 U		-5.3			
MW-10	0.025 J		-3.7			
MW-10D	0.01 J		-4.6			
MW-11D	0.005 U		-5.3			
MW-12D	0.005 U		-5.3			
MW-13D	0.007 J		-5.0			
MW-14-AVS	0.001 J		-6.9			
Eglin I-2	0.026		-3.6			
Eglin II-2	0.034 DJ		-3.4			
Eglin III-2-AVD	0.0355		-3.3			
FourWindsII-2	0.09 D		-2.4			
Gassett-2	0.0005 U		-7.6			
Harvey-2	1.5		0.4			
LaPlace-2-AVD	0.105 D		-2.3			
Matthias-2	0.076		-2.6			
Ramsay-2	0.016		-4.1			
Rodriguez-2	0.0005 U		-7.6			
Smith-2	0.16 J		-1.8			
Steele-2	0.065		-2.7			
Tillett-2	0.1 D		-2.3			
Eglin I-3	0.032 J		-3.4			
Eglin II-3	0.061 DJ		-2.8			

Eglin III-3	0.04 J	-3.2
FourWindsI-3	0.034 DJ	-3.4
Gassett-3	0.00025 U	-8.3
Harvey-3	0.53 DEJ	-0.6
LaPlace-3-AVD	0.076 DJ	-2.6
Matthias-3	0.059 DJ	-2.8
Ramsay-3	0.016	-4.1
Smith-3	0.19 D	-1.7
Steele-3	0.15 DJ	-1.9
Tillett-3	0.18 DJ	-1.7
Eglin I-4	0.024	-3.7
Eglin II-4	0.054	-2.9
Eglin III-4	0.036	-3.3
FourWindsI-4	0.036	-3.3
FourWindsII-4	0.08	-2.5
Gassett-4	0.00025 U	-8.3
Harvey-4	0.67 D	-0.4
LaPlace-4	0.1 D	-2.3
Matthias-4	0.081	-2.5
Ramsay-4	0.019	-4.0
Smith-4	0.25 D	-1.4
Steele-4	0.054 D	-2.9
Tillett-4-AVD	0.0645 D	-2.7
Eglin I-5	0.016	-4.1
Eglin II-5	0.016	-4.1
Eglin III-5	0.041 D	-3.2
FourWindsI-5	0.075 D	-2.6
FourWindsII-5	0.00125 U	-6.7
Gassett-5-AVD	0.00025 U	-8.3
Harvey-5	0.5 D	-0.7
LaPlace-5-AVD	0.0825 D	-2.5
Matthias-5	0.06 D	-2.8
Ramsay-5	0.023	-3.8
Rodriguez-5	0.00025 U	-8.3
Smith-5	0.23 D	-1.5
Steele-5	0.055	-2.9
Tillett-5	0.023	-3.8
Eglin I-6	0.014	-4.3
Eglin II-6	0.036	-3.3
Eglin III-6	0.039	-3.2
Gassett-6	0.00025 U	-8.3
Harvey-6	0.35	-1.0

LaPlace-6	0.06	-2.8
Ramsay-6	0.02	-3.9
Smith-6-AVD	0.145 D	-1.9
Steele-6	0.04	-3.2
Tillett-6	0.2	-1.6
Eglin I-7	0.011	-4.5
Eglin II-7	0.011	-4.5
Eglin III-7	0.034	-3.4
FourWindsI-7	0.078	-2.6
FourWindsII-7	0.038	-3.3
Gassett-7	0.00025 U	-8.3
Harvey-7	0.26	-1.3
LaPlace-7	0.067	-2.7
Ramsay-7-AVD	0.016	-4.1
Smith-7	0.17	-1.8
Steele-7	0.065	-2.7
Tillett-7	0.14	-2.0
Eglin I-8	0.0093	-4.7
Eglin III-8	0.03	-3.5
FourWindsI-8	0.062	-2.8
Gassett-8	0.004 U	-5.5
Harvey-8-AVD	0.3 DJ	-1.2
LaPlace-8	0.062	-2.8
Ramsay-8	0.016	-4.1
Rodriguez-8	0.004 U	-5.5
Smith-8	0.17	-1.8
Steele-8	0.081	-2.5
Tillett-8	0.14	-2.0
MW01	0.018	-4.0
MW02	0.3 D	-1.2
MW03-AVD	0.008	-4.8
MW04	0.25 D	-1.4
CHT-3-9	0.05 U	-3.0
CHT-6D-9	0.012	-4.4
CHT-7D-9	0.036	-3.3
Delegarde-9	0.015 J	-4.2
Delegarde-9*	0.016	-4.1
DW-1-9	0.042 J	-3.2
DW-2-9	0.018	-4.0
Eglin I-9	0.01	-4.6
Eglin III-9	0.031	-3.5
FourWindsI-9	0.025	-3.7

FourWindsII9AV	0.023	-3.8
Gassett-9	0.00025 U	-8.3
Harvey-9	0.1	-2.3
LaPlace-9	0.058	-2.8
Matthias-9	0.03	-3.5
MW-1-9	0.33 D	-1.1
MW-1D-9	0.36	-1.0
MW-2-9	0.004 W	-5.5
MW-3-9	0.056	-2.9
MW-4-9	0.02 J	-3.9
MW-4D-9	0.017 J	-4.1
MW-5-9	0.004 J	-5.5
MW-6D-9	0.031	-3.5
MW-6R-9	0.01	-4.6
MW-7-9	0.13	-2.0
MW-8-9	0.038 J	-3.3
MW-9S-9	0.01 W	-4.6
MW-10-9	0.034 J	-3.4
MW-10D-9	0.048 J	-3.0
MW-11D-9-AVD	0.001 J	-6.9
MW-12D-9	0.033 J	-3.4
MW-13-9	0.004 J	-5.5
MW-13D-9	0.028 J	-3.6
MW-15-9	0.12	-2.1
MW-16-9	0.071 J	-2.6
MW-17-9	0.037	-3.3
MW-18-9	NA	
MW-18R-9	0.005 W	-5.3
NW-19-9	0.002 J	-6.2
MW-20-9	0.005 W	-5.3
MW-20D-9	0.022 J	-3.8
MW-21D-9	0.045 J	-3.1
MW-22D-9	0.004 J	-5.5
MW-24-9	0.001 J	-6.9
MW-25-9	0.011	-4.5
OHMW-1-9	0.01	-4.6
OHMW-2-9	0.026	-3.6
OHMW-3-9	0.006 J	-5.1
OHMW-4-9	0.14	-2.0
Ramsay-9	0.011	-4.5
Smith-9	0.11 J	-2.2
Steele-9	0.04	-3.2

SW-2-9	0.5 W	-0.7
SW-3-9	0.5 W	-0.7
SW-4-9	0.015 J	-4.2
SW-5-9	0.004 J	-5.5
SW-6-9	0.005 U	-5.3
SW-7-9-AVD	0.075 W	-2.6
Tillet-9	0.18	-1.7
TT-1-9	0.05 U	-3.0
TT-1D-9	0.005 U	-5.3
TT-2-9-AVD	0.0905	-2.4
TT-3D-9	0.023	-3.8
TT-4-9	2.5 U	0.9
TT-5-9	0.003 J	-5.8
VIHA 1-9	0.0019	-6.3

GROUNDWATER

VOC:	TOLUENE					
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	32/168	
				Average:	0.22	Sample Std. Dev. 1.81
				Average log:	-6.25	Sample Std. Dev. 2.12
				UCL:	0.03	(log value)
				Maximum:	17.00	
MW-1	0.025 U		-3.7			
MW-1D	R					
MW-2	0.005 U		-5.3			
MW-3	0.0125 U		-4.4			
MW-4-AVS	0.005 U		-5.3			
MW-4D	0.005 U		-5.3			
MW-5-AVS	0.1775 J		-1.7			
MW-6D	0.005 U		-5.3			
MW-6R-AVS	0.005 U		-5.3			
MW-7-AVD	0.005 U		-5.3			
MW-8	0.005 U		-5.3			
MW-9-AVD	0.005 U		-5.3			
MW-9S	0.002 J		-6.2			
MW-10	0.0165 U		-4.1			
MW-10D	0.025 U		-3.7			
MW-11D	0.005 U		-5.3			
MW-12D	0.001 J		-6.9			
MW-13D	0.001 J		-6.9			
MW-14-AVS	0.005 U		-5.3			
Eglin I-2	0.0005 U		-7.6			
Eglin II-2	0.0005 U		-7.6			
Eglin III-2-AVD	0.0005 U		-7.6			
FourWindsII-2	0.0005 U		-7.6			
Gassett-2	0.044 D		-3.1			
Harvey-2	0.05 U		-3.0			
LaPlace-2-AVD	0.0005 U		-7.6			
Matthias-2	0.006 U		-5.1			
Ramsay-2	0.0005 U		-7.6			
Rodriguez-2	0.0005 U		-7.6			
Smith-2	0.0005 U		-7.6			
Steele-2	0.0025 U		-6.0			
Tillett-2	0.001		-6.9			
Eglin I-3	R					
Eglin II-3	R					

Eglin III-3	0.00025 W	-8.3
FourWindsI-3	0.00025 W	-8.3
Gassett-3	0.00025 W	-8.3
Harvey-3	0.00025 W	-8.3
LaPlace-3-AVD	0.00175 W	-6.3
Matthias-3	0.00025 W	-8.3
Ramsay-3	R	
Smith-3	0.00025 W	-8.3
Steele-3	0.00025 W	-8.3
Tillett-3	0.0008 J	-7.1
Eglin I-4	0.0005 U	-7.6
Eglin II-4	0.0006 U	-7.4
Eglin III-4	0.00025 U	-8.3
FourWindsI-4	0.00025 U	-8.3
FourWindsII-4	0.0025 U	-6.0
Gassett-4	0.00025 U	-8.3
Harvey-4	0.00025 U	-8.3
LaPlace-4	0.00125 U	-6.7
Matthias-4	0.0006 U	-7.4
Ramsay-4	0.00025 U	-8.3
Smith-4	0.00025 U	-8.3
Steele-4	0.00025 U	-8.3
Tillett-4-AVD	0.00255 J	-6.0
Eglin I-5	0.006 J	-5.1
Eglin II-5	0.00025 U	-8.3
Eglin III-5	0.00025 U	-8.3
FourWindsI-5	0.00025 U	-8.3
FourWindsII-5	0.00125 U	-6.7
Gassett-5-AVD	0.000385 U	-7.9
Harvey-5	0.00006 J	-9.7
LaPlace-5-AVD	0.00011 J	-9.1
Matthias-5	0.00025 U	-8.3
Ramsay-5	0.00025 U	-8.3
Rodriguez-5	0.00025 U	-8.3
Smith-5	0.00005 J	-9.9
Steele-5	0.00125 U	-6.7
Tillett-5	0.00005 J	-9.9
Eglin I-6	0.00006 J	-9.7
Eglin II-6	0.00025 U	-8.3
Eglin III-6	0.00025 U	-8.3
Gassett-6	0.00025 U	-8.3
Harvey-6	0.0031 U	-5.8

LaPlace-6	0.001 U	-6.9
Ramsay-6	0.00025 U	-8.3
Smith-6-AVD	0.00075 U	-7.2
Steele-6	0.0006 U	-7.4
Tillett-6	0.00125 U	-6.7
Eglin I-7	0.00025 U	-8.3
Eglin II-7	0.00008 J	-9.4
Eglin III-7	0.00025 U	-8.3
FourWindsI-7	0.00125 U	-6.7
FourWindsII-7	0.001 U	-6.9
Gassett-7	0.00025 U	-8.3
Harvey-7	0.0025 U	-6.0
LaPlace-7	0.000315 W	-8.1
Ramsay-7-AVD	0.00025 U	-8.3
Smith-7	0.00125 U	-6.7
Steele-7	0.001 U	-6.9
Tillett-7	0.0005 J	-7.6
Eglin I-8	0.00005 J	-9.9
Eglin III-8	0.00018 J	-8.6
FourWindsI-8	0.004 U	-5.5
Gassett-8	0.00006 J	-9.7
Harvey-8-AVD	0.00009 J	-9.3
LaPlace-8	0.004 U	-5.5
Ramsay-8	0.004 U	-5.5
Rodriguez-8	0.00007 J	-9.6
Smith-8	0.004 U	-5.5
Steele-8	0.004 U	-5.5
Tillett-8	0.00042 J	-7.8
MW01	0.0005 U	-7.6
MW02	0.0005 U	-7.6
MW03-AVD	0.0005 U	-7.6
MW04	0.0005 U	-7.6
CHT-3-9	0.18	-1.7
CHT-6D-9	0.005 U	-5.3
CHT-7D-9	0.005 U	-5.3
Delegarde-9	0.00025 U	-8.3
Delegarde-9*	0.00015 JB	-8.8
DW-1-9	0.005 W	-5.3
DW-2-9	0.005 W	-5.3
Eglin I-9	0.005 W	-5.3
Eglin III-9	0.005 W	-5.3
FourWindsI-9	0.005 U	-5.3

FourWindsII9AV	0.005 U	-5.3
Gassett-9	0.00025 U	-8.3
Harvey-9	0.005 U	-5.3
LaPlace-9	0.005 U	-5.3
Matthias-9	0.005 U	-5.3
MW-1-9	0.005 U	-5.3
MW-1D-9	0.02 U	-3.9
MW-2-9	0.005 W	-5.3
MW-3-9	0.0125 U	-4.4
MW-4-9	0.005 W	-5.3
MW-4D-9	0.005 W	-5.3
MW-5-9	0.02 J	-3.9
MW-6D-9	0.005 U	-5.3
MW-6R-9	0.005 U	-5.3
MW-7-9	0.005 U	-5.3
MW-8-9	0.005 W	-5.3
MW-9S-9	0.01 W	-4.6
MW-10-9	0.0125 W	-4.4
MW-10D-9	0.005 W	-5.3
MW-11D-9-AVD	0.005 U	-5.3
MW-12D-9	0.005 W	-5.3
MW-13-9	0.005 W	-5.3
MW-13D-9	0.005 W	-5.3
MW-15-9	0.005 U	-5.3
MW-16-9	0.1 U	-2.3
MW-17-9	0.005 U	-5.3
M W-18-9	NA	
MW-18R-9	0.005 W	-5.3
NW-19-9	0.005 W	-5.3
MW-20-9	0.005 W	-5.3
MW-20D-9	0.005 W	-5.3
MW-21D-9	R	
MW-22D-9	0.005 W	-5.3
MW-24-9	0.005 W	-5.3
MW-25-9	0.005 U	-5.3
OHMW-1-9	0.005 U	-5.3
OHMW-2-9	0.005 U	-5.3
OHMW-3-9	0.005 U	-5.3
OHMW-4-9	0.005 U	-5.3
Ramsay-9	0.005 U	-5.3
Smith-9	0.005 W	-5.3
Steele-9	0.005 U	-5.3

SW-2-9	0.36 J	-1.0
SW-3-9	3.2 J	1.2
SW-4-9	0.005 W	-5.3
SW-5-9	0.005 U	-5.3
SW-6-9	0.005 U	-5.3
SW-7-9-AVD	0.075 W	-2.6
Tillet-9	0.002 J	-6.2
TT-1-9	16 D	2.8
TT-1D-9	0.048	-3.0
TT-2-9-AVD	0.0125 U	-4.4
TT-3D-9	0.01 U	-4.6
TT-4-9	17	2.8
TT-5-9	0.005 U	-5.3
VIHA 1-9	0.00014 JB	-8.9

GROUNDWATER..

VOC: VINYL CHLORIDE

Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency: 21/164	Average: 0.04	Sample Std. Dev. 0.23
				Average log: -5.87		Sample Std. Dev. 1.81
				UCL: 0.02		(log value)
				Maximum: 1.30		
MW-1	0.025 U		-3.7			
MW-1D	R					
MW-2	0.005 U		-5.3			
MW-3	0.14		-2.0			
MW-4-AVS	0.005 U		-5.3			
MW-4D	0.005 U		-5.3			
MW-5-AVS	0.25 U		-1.4			
MW-6D	0.005 U		-5.3			
MW-6R-AVS	0.005 U		-5.3			
MW-7-AVD	0.005 U		-5.3			
MW-8	0.005 U		-5.3			
MW-9-AVD	0.005 U		-5.3			
MW-9S	0.005 U		-5.3			
MW-10	0.0165 U		-4.1			
MW-10D	0.025 U		-3.7			
MW-11D	0.005 U		-5.3			
MW-12D	0.005 U		-5.3			
MW-13D	0.005 U		-5.3			
MW-14-AVS	0.0175 J		-4.0			
Eglin I-2	R					
Eglin II-2	R					
Eglin III-2-AVD	0.001 U		-6.9			
FourWinds II-2	0.001 U		-6.9			
Gassett-2	0.001 U		-6.9			
Harvey-2	0.1 U		-2.3			
LaPlace-2-AVD	0.001 U		-6.9			
Matthias-2	0.0125 U		-4.4			
Ramsay-2	R					
Rodriguez-2	0.001 U		-6.9			
Smith-2	R					
Steele-2	0.005 U		-5.3			
Tillett-2	0.007		-5.0			
Eglin I-3	R					
Eglin II-3	R					

Eglin III-3	0.0005 W	-7.6
FourWindsI-3	0.0005 W	-7.6
Gassett-3	0.0005 W	-7.6
Harvey-3	0.003	-5.8
LaPlace-3-AVD	0.0005 W	-7.6
Matthias-3	0.0005 W	-7.6
Ramsay-3	R	
Smith-3	0.0005 W	-7.6
Steele-3	0.004	-5.5
Tillett-3	0.005	-5.3
Eglin I-4	0.0005 U	-7.6
Eglin II-4	0.0006 U	-7.4
Eglin III-4	0.00025 U	-8.3
FourWindsI-4	0.00025 U	-8.3
FourWindsII-4	0.0025 U	-6.0
Gassett-4	0.00025 U	-8.3
Harvey-4	0.0021	-6.2
LaPlace-4	0.00125 U	-6.7
Matthias-4	0.0006 U	-7.4
Ramsay-4	0.00025 U	-8.3
Smith-4	0.00025 U	-8.3
Steele-4	0.0025	-6.0
Tillett-4-AVD	0.014 J	-4.3
Eglin I-5	0.00025 U	-8.3
Eglin II-5	0.00025 U	-8.3
Eglin III-5	0.00025 U	-8.3
FourWindsI-5	0.00022 J	-8.4
FourWindsII-5	0.00125 U	-6.7
Gassett-5-AVD	0.00025 U	-8.3
Harvey-5	0.0022	-6.1
LaPlace-5-AVD	0.00025 U	-8.3
Matthias-5	0.00025 U	-8.3
Ramsay-5	0.00025 U	-8.3
Rodriguez-5	0.00025 U	-8.3
Smith-5	0.00025 U	-8.3
Steele-5	0.0014 J	-6.6
Tillett-5	0.00025 U	-8.3
Eglin I-6	0.00025 U	-8.3
Eglin II-6	0.00025 U	-8.3
Eglin III-6	0.00025 U	-8.3
Gassett-6	0.00025 U	-8.3
Harvey-6	0.0031 U	-5.8

LaPlace-6	0.001 U	-6.9
Ramsay-6	0.00025 U	-8.3
Smith-6-AVD	0.00075 U	-7.2
Steele-6	0.002	-6.2
Tillett-6	0.0032	-5.7
Eglin I-7	0.00025 U	-8.3
Eglin II-7	0.00025 U	-8.3
Eglin III-7	0.00025 U	-8.3
FourWindsI-7	0.00125 U	-6.7
FourWindsII-7	0.001 U	-6.9
Gassett-7	0.00025 U	-8.3
Harvey-7	0.0025 U	-6.0
LaPlace-7	0.001 U	-6.9
Ramsay-7-AVD	0.00025 U	-8.3
Smith-7	0.00125 U	-6.7
Steele-7	0.0033	-5.7
Tillett-7	0.0025 U	-6.0
Eglin I-8	0.004 U	-5.5
Eglin III-8	0.004 U	-5.5
FourWindsI-8	0.004 U	-5.5
Gassett-8	0.004 U	-5.5
Harvey-8-AVD	0.004 U	-5.5
LaPlace-8	0.004 U	-5.5
Ramsay-8	0.004 U	-5.5
Rodriguez-8	0.004 U	-5.5
Smith-8	0.004 U	-5.5
Steele-8	0.004 U	-5.5
Tillett-8	0.004 U	-5.5
MW01	0.0005 U	-7.6
MW02	0.0005 U	-7.6
MW03-AVD	0.0005 U	-7.6
MW04	0.0005 U	-7.6
CHT-3-9	0.05 U	-3.0
CHT-6D-9	0.005 U	-5.3
CHT-7D-9	0.005 U	-5.3
Delegarde-9	0.00025 U	-8.3
Delegarde-9*	0.00025 U	-8.3
DW-1-9	0.005 U	-5.3
DW-2-9	0.005 U	-5.3
Eglin I-9	0.005 U	-5.3
Eglin III-9	0.005 U	-5.3
FourWindsI-9	0.005 U	-5.3

FourWindsII9AV	0.001 J	-6.9
Gassett-9	0.00025 U	-8.3
Harvey-9	0.005 U	-5.3
LaPlace-9	0.005 U	-5.3
Matthias-9	0.005 U	-5.3
MW-1-9	0.005 U	-5.3
MW-1D-9	0.02 U	-3.9
MW-2-9	0.005 W	-5.3
MW-3-9	0.048	-3.0
MW-4-9	0.005 W	-5.3
MW-4D-9	0.005 W	-5.3
MW-5-9	0.005 W	-5.3
MW-6D-9	0.005 U	-5.3
MW-6R-9	0.005 U	-5.3
MW-7-9	0.005 U	-5.3
MW-8-9	0.005 W	-5.3
MW-9S-9	0.01 W	-4.6
MW-10-9	0.0125 W	-4.4
MW-10D-9	0.005 W	-5.3
MW-11D-9-AVD	0.005 U	-5.3
MW-12D-9	0.005 W	-5.3
MW-13-9	0.005 W	-5.3
MW-13D-9	0.005 W	-5.3
MW-15-9	0.26 D	-1.3
MW-16-9	1.3	0.3
MW-17-9	0.005 U	-5.3
MW-18-9	NA	
MW-18R-9	0.005 W	-5.3
MW-19-9	0.005 W	-5.3
MW-20-9	0.005 W	-5.3
MW-20D-9	0.005 W	-5.3
MW-21D-9	R	
MW-22D-9	0.005 W	-5.3
MW-24-9	0.005 W	-5.3
MW-25-9	0.005 U	-5.3
OHMW-1-9	0.005 U	-5.3
OIMW-2-9	0.005 U	-5.3
OHMW-3-9	0.005 U	-5.3
OHMW-4-9	0.005 U	-5.3
Ramsay-9	0.005 U	-5.3
Smith-9	0.005 W	-5.3
Steele-9	0.005 U	-5.3

SW-2-9	0.5 W	-0.7
SW-3-9	0.5 W	-0.7
SW-4-9	0.005 W	-5.3
SW-5-9	0.005 U	-5.3
SW-6-9	0.005 U	-5.3
SW-7-9-AVD	0.075 W	-2.6
Tillet-9	0.005 U	-5.3
TT-1-9	0.05 U	-3.0
TT-1D-9	0.005 U	-5.3
TT-2-9-AVD	0.0125 U	-4.4
TT-3D-9	0.009 J	-4.7
TT-4-9	2.5 U	0.9
TT-5-9	0.042	-3.2
VIHA I-9	0.00025 U	-8.3

GROUNDWATER...

INORGANIC:		ANTIMONY			
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	22/115
				Average:	0.02
				Average log:	-4.50
				UCL:	0.01
				Maximum:	0.424
				Sample Std. Dev.	0.041
				Sample Std. Dev. (log value)	0.57
MW-1	0.01 U		-4.6		
MW-1D	0.01 U		-4.6		
MW-2	0.01 U		-4.6		
MW-3	0.01 U		-4.6		
MW-4-AVS	0.0155		-4.2		
MW-4D	0.01 U		-4.6		
MW-5-AVS	0.00775 U		-4.9		
MW-6D	0.01 U		-4.6		
MW-6R-AVS	0.00775 U		-4.9		
MW-7-AVD	0.01 U		-4.6		
MW-8	0.01 U		-4.6		
MW-9-AVD	0.01 U		-4.6		
MW-9S	0.01 U		-4.6		
MW-10	0.01 U		-4.6		
MW-10D	0.01 U		-4.6		
MW-11D	0.01 U		-4.6		
MW-12D	0.01 U		-4.6		
MW-13D	0.01 U		-4.6		
MW-14-AVS	0.00775 U		-4.9		
Eglin I-2	NA				
Eglin II-2	0.0135 U		-4.3		
EglinIII-2-AVD	0.0135 U		-4.3		
FourWindsII-2	0.0135 U		-4.3		
Gassett-2	NA				
Harvey-2	0.0135 U		-4.3		
LaPlace-2-AVD	NA				
Matthias-2	NA				
Ramsay-2	NA				
Rodriguez-2	0.0135 U		-4.3		
Smith-2	0.0135 U		-4.3		
Steele-2	0.0135 U		-4.3		
Tillett-2	NA				
Eglin I-3	NA				
Eglin II-3	NA				

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.00885 U	-4.7
Eglin II-5	0.00885 U	-4.7
Eglin III-5	0.00885 U	-4.7
FourWindsI-5	0.0091 U	-4.7
FourWindsII-5	0.0091 U	-4.7
Gassett-5-AVD	0.0091 U	-4.7
Harvey-5	0.00885 U	-4.7
LaPlace-5-AVD	0.009 U	-4.7
Matthias-5	0.0091 U	-4.7
Ramsay-5	0.0091 U	-4.7
Rodriguez-5	0.019	-4.0
Smith-5	0.0091 U	-4.7
Steele-5	0.0091 U	-4.7
Tillett-5	0.0091 U	-4.7
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.0105 U	-4.6
Eglin III-8	0.0105 U	-4.6
FourWindsI-8	0.0105 U	-4.6
Gassett-8	0.0105 U	-4.6
Harvey-8-AVD	0.0105 U	-4.6
LaPlace-8	0.0105 U	-4.6
Ramsay-8	0.0105 U	-4.6
Rodriguez-8	0.0105 U	-4.6
Smith-8	0.0105 U	-4.6
Steele-8	0.0105 U	-4.6
Tillett-8	0.0105 U	-4.6
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	0.0075 U	-4.9
CHT-6D-9	0.0075 U	-4.9
CGT-7D-9	0.0075 U	-4.9
Delegarde-9	0.15 U	-1.9
Delegarde-9*	NA	
DW-1-9	0.0075 U	-4.9
DW-2-9	0.0375 U	-3.3
Eglin I-9	0.0075 U	-4.9
Eglin III-9	0.0075 U	-4.9
FourWindsI-9	0.0075 U	-4.9

FourWindsII9AV	0.0148 B	-4.2
Gassett-9	0.0075 U	-4.9
Harvey-9	0.0075 U	-4.9
LaPlace-9	0.0075 U	-4.9
Matthias-9	0.0075 U	-4.9
MW-1-9	0.0176 B	-4.0
MW-1D-9	0.0075 U	-4.9
MW-2-9	0.015 B	-4.2
MW-3-9	0.017 B	-4.1
MW-4-9	0.0201 B	-3.9
MW-4D-9	0.0075 U	-4.9
MW-5-9	0.0201 B	-3.9
MW-6D-9	0.0253 B	-3.7
MW-6R-9	0.0075 U	-4.9
MW-7-9	0.0213 B	-3.8
MW-8-9	0.0075 U	-4.9
MW-9S-9	0.0075 U	-4.9
MW-10-9	0.0075 U	-4.9
MW-10D-9	0.0075 U	-4.9
MW-11D-9-AVD	0.0075 U	-4.9
MW-12D-9	0.0075 U	-4.9
MW-13-9	0.0075 U	-4.9
MW-13D-9	0.424 B	-0.9
MW-15-9	0.0075 U	-4.9
MW-16-9	0.0075 U	-4.9
MW-17-9	0.0075 U	-4.9
MW-18-9	0.0206 BJ	-3.9
MW-18R-9	NA	
MW-19-9	0.0075 UJ	-4.9
MW-20-9	0.0075 U	-4.9
MW-20D-9	0.0075 U	-4.9
MW-21D-9	0.0196 B	-3.9
MW-22D-9	0.0223 BJ	-3.8
MW-24-9	0.0075 U	-4.9
MW-25-9	0.0075 U	-4.9
OHMW-1-9	0.0161 BJ	-4.1
OHMW-2-9	0.0075 U	-4.9
OHMW-3-9	0.0507 B	-3.0
OHMW-4-9	0.0075 UJ	-4.9
Ramsay-9	0.015 U	-4.2
Smith-9	0.0075 U	-4.9
Steele-9	0.0075 U	-4.9

SW-2-9	0.0154 BJ	-4.2
SW-3-9	0.0164 BJ	-4.1
SW-4-9	0.0075 U	-4.9
SW-5-9	0.0075 U	-4.9
SW-6-9	0.015 U	-4.2
SW-7-9-AVD	0.0184 BJ	-4.0
Tillet-9	0.0075 U	-4.9
TT-1-9	0.0197 B	-3.9
TT-1D-9	0.0075 U	-4.9
TT-2-9-AVD	0.0075 U	-4.9
TT-3D-9	0.019 B	-4.0
TT-4-9	0.0075 U	-4.9
TT-5-9	0.0075 U	-4.9
VIHA I-9	0.0206 B	-3.9

GROUNDWATER

INORGANIC:	ARSENIC					
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	24/107	
				Average:	0.003	Sample Std. Dev. 0.008
				Average log:	-6.89	Sample Std. Dev. 0.62
				UCL:	0.001	(log value)
				Maximum:	0.0808	
MW-1	0.001 U		-6.9			
MW-1D	0.001 UJ		-6.9			
MW-2	0.001 UW		-6.9			
MW-3	0.001 UW		-6.9			
MW-4-AVS	0.00125 UWJ		-6.7			
MW-4D	0.001 U		-6.9			
MW-5-AVS	0.00408 B		-5.5			
MW-6D	0.001 UW		-6.9			
MW-6R-AVS	0.00125 UWJ		-6.7			
MW-7-AVD	0.001 U		-6.9			
MW-8	0.001 UW		-6.9			
MW-9-AVD	0.0092 J		-4.7			
MW-9S	R					
MW-10	0.0055 B		-5.2			
MW-10D	0.001 U		-6.9			
MW-11D	0.001 U		-6.9			
MW-12D	0.001 U		-6.9			
MW-13D	0.001 U		-6.9			
MW-14-AVS	0.00125 UWJ		-6.7			
Eglin I-2	NA					
Eglin II-2	NA					
EglinIII-2-AVD	NA					
FourWindsII-2	NA					
Gassett-2	NA					
Harvey-2	NA					
LaPlace-2-AVD	NA					
Matthias-2	NA					
Ramsay-2	NA					
Rodriguez-2	NA					
Smith-2	NA					
Steele-2	NA					
Tillett-2	NA					
Eglin I-3	NA					
Eglin II-3	NA					

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.0016 B	-6.4
Eglin II-5	0.0005 U	-7.6
Eglin III-5	0.0005 U	-7.6
FourWindsI-5	0.001 B	-6.9
FourWindsII-5	0.0005 U	-7.6
Gassett-5-AVD	0.003 B	-5.8
Harvey-5	0.0011 B	-6.8
LaPlace-5-AVD	0.0005 U	-7.6
Matthias-5	0.0005 U	-7.6
Ramsay-5	0.0005 U	-7.6
Rodriguez-5	0.0005 U	-7.6
Smith-5	0.0005 U	-7.6
Steele-5	0.0005 U	-7.6
Tillett-5	0.0005 U	-7.6
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.001 U	-6.9
Eglin III-8	0.001 U	-6.9
FourWindsI-8	0.001 U	-6.9
Gassett-8	0.001 U	-6.9
Harvey-8-AVD	0.001 U	-6.9
LaPlace-8	0.001 U	-6.9
Ramsay-8	0.001 U	-6.9
Rodriguez-8	0.001 U	-6.9
Smith-8	0.001 U	-6.9
Steele-8	0.001 U	-6.9
Tillett-8	0.001 U	-6.9
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	0.0047 B	
CHT-6D-9	0.001 U	
CGT-7D-9	0.001 U	
Delegarde-9	0.001 U	
Delegarde-9*	NA	
DW-1-9	0.001 U	
DW-2-9	0.001 U	
Eglin I-9	0.001 U	
Eglin III-9	0.001 U	
FourWindsI-9	0.001 U	

FourWindsII9AV	0.001 U
Gassett-9	0.001 U
Harvey-9	0.001 U
LaPlace-9	0.001 U
Matthias-9	0.001 U
MW-1-9	0.001 U
MW-1D-9	0.001 U
MW-2-9	0.0033 B
MW-3-9	0.001 U
MW-4-9	0.001 U
MW-4D-9	0.001 U
MW-5-9	0.0038 B
MW-6D-9	0.001 U
MW-6R-9	0.001 U
MW-7-9	0.0092 B
MW-8-9	0.0024 B
MW-9S-9	0.0065 B
MW-10-9	0.003 B
MW-10D-9	0.001 U
MW-11D-9-AVD	0.001 U
MW-12D-9	0.001 U
MW-13-9	0.001 U
MW-13D-9	0.001 U
MW-15-9	0.001 U
MW-16-9	0.001 U
MW-17-9	0.001 U
MW-18-9	0.0034 BJ
MW-18R-9	NA
MW-19-9	0.001 W
MW-20-9	0.001 U
MW-20D-9	0.001 U
MW-21D-9	0.001 U
MW-22D-9	0.0022 BJ
MW-24-9	0.001 U
MW-25-9	0.001 U
OHMW-1-9	0.003 BJ
OHMW-2-9	0.0808 J
OHMW-3-9	0.0182
OHMW-4-9	0.001 W
Ramsay-9	0.001 U
Smith-9	0.001 U
Steele-9	0.001 U

SW-2-9	0.0059 BJ
SW-3-9	0.0102 J
SW-4-9	0.001 U
SW-5-9	0.001 U
SW-6-9	0.001 U
SW-7-9-AVD	0.0026 BJ
Tillett-9	0.001 U
TT-1-9	0.0029 B
TT-1D-9	0.001 U
TT-2-9-AVD	0.001 U
TT-3D-9	0.001 U
TT-4-9	0.0078 B
TT-5-9	0.001 U
VIHA I-9	0.001 U

GROUNDWATER

INORGANIC:		BERYLLIUM			
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	8/108
				Average:	0.001119
				Average log:	-7.52
				UCL:	0.001
				Maximum:	0.0408
				Sample Std. Dev.	0.0041
				Sample Std. Dev.	0.78
				(log value)	
MW-1	0.0005 U		-7.6		
MW-1D	0.0005 U		-7.6		
MW-2	0.0005 U		-7.6		
MW-3	0.0005 U		-7.6		
MW-4-AVS	0.0005 U		-7.6		
MW-4D	0.0005 U		-7.6		
MW-5-AVS	0.0005 U		-7.6		
MW-6D	0.0005 U		-7.6		
MW-6R-AVS	0.0005 U		-7.6		
MW-7-AVD	0.00075 B		-7.2		
MW-8	0.0005 U		-7.6		
MW-9-AVD	0.0005 U		-7.6		
MW-9S	0.0005 U		-7.6		
MW-10	0.0005 U		-7.6		
MW-10D	0.0005 U		-7.6		
MW-11D	0.0005 U		-7.6		
MW-12D	0.0005 U		-7.6		
MW-13D	0.0005 U		-7.6		
MW-14-AVS	0.0005 U		-7.6		
Eglin I-2	NA				
Eglin II-2	NA				
Eglin III-2-AVD	NA				
FourWinds II-2	NA				
Gassett-2	NA				
Harvey-2	NA				
LaPlace-2-AVD	NA				
Matthias-2	NA				
Ramsay-2	NA				
Rodriguez-2	NA				
Smith-2	NA				
Steele-2	NA				
Tillett-2	NA				
Eglin I-3	NA				
Eglin II-3	NA				

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.000265 U	-8.2
Eglin II-5	0.000265 U	-8.2
Eglin III-5	0.000265 U	-8.2
FourWindsI-5	0.000125 U	-9.0
FourWindsII-5	0.000125 U	-9.0
Gassett-5-AVD	0.000125 U	-9.0
Harvey-5	0.000265 U	-8.2
LaPlace-5-AVD	0.0005 U	-7.6
Matthias-5	0.001 B	-6.9
Ramsay-5	0.000125 U	-9.0
Rodriguez-5	0.001 B	-6.9
Smith-5	0.000125 U	-9.0
Steele-5	0.000125 U	-9.0
Tillett-5	0.000125 U	-9.0
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.0005 U	-7.6
Eglin III-8	0.0005 U	-7.6
FourWindsI-8	0.0005 U	-7.6
Gassett-8	0.0005 U	-7.6
Harvey-8-AVD	0.0005 U	-7.6
LaPlace-8	0.0005 U	-7.6
Ramsay-8	0.0005 U	-7.6
Rodriguez-8	0.0005 U	-7.6
Smith-8	0.0005 U	-7.6
Steele-8	0.0005 U	-7.6
Tillett-8	0.0005 U	-7.6
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	0.0005 U	-7.6
CHT-6D-9	0.0005 U	-7.6
CHT-7D-9	0.0005 W	-7.6
Delegarde-9	0.01 U	-4.6
Delegarde-9*	NA	
DW-1-9	0.01 W	-4.6
DW-2-9	0.0025 U	-6.0
Eglin I-9	0.0005 U	-7.6
Eglin III-9	0.0005 U	-7.6
FourWindsI-9	0.001 B	-6.9

FourWindsII9AV	0.0005 U	-7.6
Gassett-9	0.0005 U	-7.6
Harvey-9	0.0005 U	-7.6
LaPlace-9	0.0005 U	-7.6
Matthias-9	0.0005 U	-7.6
MW-1-9	0.0005 W	-7.6
MW-1D-9	0.0005 W	-7.6
MW-2-9	0.0005 U	-7.6
MW-3-9	0.0005 U	-7.6
MW-4-9	0.0005 U	-7.6
MW-4D-9	0.0005 U	-7.6
MW-5-9	0.0005 U	-7.6
MW-6D-9	0.0005 W	-7.6
MW-6R-9	0.0005 W	-7.6
MW-7-9	0.0005 W	-7.6
MW-8-9	0.0005 W	-7.6
MW-9S-9	0.0005 U	-7.6
MW-10-9	0.0005 U	-7.6
MW-10D-9	0.0005 U	-7.6
MW-11D-9-AVD	0.0005 U	-7.6
MW-12D-9	0.0005 U	-7.6
MW-13-9	0.0005 U	-7.6
MW-13D-9	0.0408 B	-3.2
MW-15-9	0.0005 W	-7.6
MW-16-9	0.0005 U	-7.6
MW-17-9	0.0005 W	-7.6
MW-18-9	0.0005 W	-7.6
MW-18R-9	NA	
MW-19-9	0.0005 W	-7.6
MW-20-9	0.0005 U	-7.6
MW-20D-9	0.0005 U	-7.6
MW-21D-9	0.0005 U	-7.6
MW-22D-9	0.0005 W	-7.6
MW-24-9	0.0005 W	-7.6
MW-25-9	0.0005 W	-7.6
OHMW-1-9	0.0035 BJ	-5.7
OHMW-2-9	0.0005 U	-7.6
OHMW-3-9	0.0005 U	-7.6
OHMW-4-9	0.0021 BJ	-6.2
Ramsay-9	0.001 U	-6.9
Smith-9	0.0005 U	-7.6
Steele-9	0.0005 U	-7.6

SW-2-9	0.0005 W	-7.6
SW-3-9	0.0023 BJ	-6.1
SW-4-9	0.0005 U	-7.6
SW-5-9	0.0005 U	-7.6
SW-6-9	0.001 U	-6.9
SW-7-9-AVD	0.0005 W	-7.6
Tillett-9	0.0005 U	-7.6
TT-1-9	0.0005 W	-7.6
TT-1D-9	0.0005 W	-7.6
TT-2-9-AVD	0.0005 W	-7.6
TT-3D-9	0.0005 U	-7.6
TT-4-9	0.0005 U	-7.6
TT-5-9	0.0005 W	-7.6
VIHA I-9	0.0005 U	-7.6

GROUNDWATER

INORGANIC: HEXAVALENT CHROMIUM **

Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	63/107	Sample Std. Dev.	0.09
				Average:	0.02	Sample Std. Dev.	1.99
				Average log:	-6.36	(log value)	
				UCL:	0.02		
				Maximum:	0.659		
MW-1	0.0009	U	-7.0				
MW-1D	0.0033	J	-5.7				
MW-2	0.0006	B	-7.4				
MW-3	0.0025		-6.0				
MW-4-AVS	0.0035		-5.7				
MW-4D	0.0003	U	-8.1				
MW-5-AVS	0.002		-6.2				
MW-6D	0.0297		-3.5				
MW-6R-AVS	0.0044		-5.4				
MW-7-AVD	0.0017		-6.4				
MW-8	0.0016		-6.4				
MW-9-AVD	0.0016	U	-6.4				
MW-9S	0.0028	U	-5.9				
MW-10	0.0027		-5.9				
MW-10D	0.006	B	-5.1				
MW-11D	0.0136		-4.3				
MW-12D	0.0091		-4.7				
MW-13D	0.0102		-4.6				
MW-14-AVS	0.0022		-6.1				
Eglin I-2	NA						
Eglin II-2	NA						
EglinIII-2-AVD	NA						
FourWindsII-2	NA						
Gassett-2	NA						
Harvey-2	NA						
LaPlace-2-AVD	NA						
Matthias-2	NA						
Ramsay-2	NA						
Rodriguez-2	NA						
Smith-2	NA						
Steele-2	NA						
Tillett-2	NA						
Eglin I-3	NA						
Eglin II-3	NA						

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.0003 U	-8.1
Eglin II-5	0.0007 B	-7.3
Eglin III-5	0.0003 U	-8.1
FourWindsI-5	0.00025 U	-8.3
FourWindsII-5	0.00025 U	-8.3
Gassett-5-AVD	0.0005 B	-7.6
Harvey-5	0.0003 U	-8.1
LaPlace-5-AVD	0.0003 U	-8.1
Matthias-5	0.0156	-4.2
Ramsay-5	0.00025 U	-8.3
Rodriguez-5	0.0268	-3.6
Smith-5	0.0069	-5.0
Steele-5	0.00025 U	-8.3
Tillett-5	0.0016	-6.4
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.0004 U	-7.8
Eglin III-8	0.0004 U	-7.8
FourWindsI-8	0.0004 U	-7.8
Gassett-8	0.0004 U	-7.8
Harvey-8-AVD	0.0004 U	-7.8
LaPlace-8	0.0007 B	-7.3
Ramsay-8	0.0004 U	-7.8
Rodriguez-8	0.0004 U	-7.8
Smith-8	0.0004 U	-7.8
Steele-8	0.0004 U	-7.8
Tillett-8	0.0004 U	-7.8
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	R	
CHT-6D-9	0.0005 B	-7.6
CHT-7D-9	0.0002 U	-8.5
Delegarde-9	0.0043 U	-5.4
Delegarde-9*	NA	
DW-1-9	0.0025	-6.0
DW-2-9	0.0897	-2.4
Eglin I-9	0.0002 U	-8.5
Eglin III-9	0.0002 U	-8.5
FourWindsI-9	0.0002 U	-8.5

FourWindsII9AV	0.0002 U	-8.5
Gassett-9	0.0002 U	-8.5
Harvey-9	0.0002 U	-8.5
LaPlace-9	0.0002 U	-8.5
Matthias-9	0.0002 U	-8.5
MW-1-9	0.0647	-2.7
MW-1D-9	0.0034	-5.7
MW-2-9	0.0884	-2.4
MW-3-9	0.0018 J	-6.3
MW-4-9	0.0047	-5.4
MW-4D-9	0.0065	-5.0
MW-5-9	0.0018	-6.3
MW-6D-9	0.0046	-5.4
MW-6R-9	0.029	-3.5
MW-7-9	0.15	-1.9
MW-8-9	0.03	-3.5
MW-9S-9	0.001 B	-6.9
MW-10-9	0.0009 B	-7.0
MW-10D-9	0.0022	-6.1
MW-11D-9-AVD	0.0129	-4.4
MW-12D-9	0.0452	-3.1
MW-13-9	0.0015	-6.5
MW-13D-9	0.6142	-0.5
MW-15-9	0.0011 B	-6.8
MW-16-9	0.0002 U	-8.5
MW-17-9	0.034	-3.4
MW-18-9	0.0072 J	-4.9
MW-18R-9	NA	
MW-19-9	0.0025	-6.0
MW-20-9	0.0021	-6.2
MW-20D-9	0.0135	-4.3
MW-21D-9	0.0068	-5.0
MW-22D-9	0.0018 W	-6.3
MW-24-9	0.0017	-6.4
MW-25-9	0.0015	-6.5
OHMW-1-9	0.3143 J	-1.2
OHMW-2-9	0.0015	-6.5
OHMW-3-9	0.6586	-0.4
OHMW-4-9	0.0567 J	-2.9
Ramsay-9	0.0043 U	-5.4
Smith-9	0.0002 U	-8.5
Steele-9	0.0004 B	-7.8

SW-2-9	0.0007 BJ	-7.3
SW-3-9	0.0048 J	-5.3
SW-4-9	0.0002 U	-8.5
SW-5-9	0.0065	-5.0
SW-6-9	0.0016 B	-6.4
SW-7-9-AVD	0.0008 BJ	-7.1
Tillett-9	0.0002 U	-8.5
TT-1-9	0.0007 B	-7.3
TT-1D-9	0.0002 U	-8.5
TT-2-9-AVD	0.0002 U	-8.5
TT-3D-9	0.0002 W	-8.5
TT-4-9	0.0002 U	-8.5
TT-5-9	0.0002 U	-8.5
VIHA I-9	0.0002 U	-8.5

** - One-seventh of the detected total chromium concentration was assumed to be hexavalent per IRIS (1994).

GROUNDWATER

INORGANIC:		MANGANESE			
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency: 104/107	
				Average: 0.97	Sample Std. Dev. 2.53
				Average log: -1.95	Sample Std. Dev. 2.32
				UCL: 4.68	(log value)
				Maximum: 20.40	
MW-1	0.563		-0.6		
MW-1D	0.423 J		-0.9		
MW-2	0.0854		-2.5		
MW-3	1.56		0.4		
MW-4-AVS	1.1		0.1		
MW-4D	0.0389 J		-3.2		
MW-5-AVS	0.39225		-0.9		
MW-6D	0.0093 B		-4.7		
MW-6R-AVS	0.3575		-1.0		
MW-7-AVD	0.126 J		-2.1		
MW-8	0.0814		-2.5		
MW-9-AVD	2.58		0.9		
MW-9S	1.7		0.5		
MW-10	1.45		0.4		
MW-10D	0.156		-1.9		
MW-11D	0.0058 B		-5.1		
MW-12D	0.0126 B		-4.4		
MW-13D	0.0158		-4.1		
MW-14-AVS	2.515		0.9		
Eglin I-2	NA				
Eglin II-2	NA				
EglinIII-2-AVD	NA				
FourWindsII-2	NA				
Gassett-2	NA				
Harvey-2	NA				
LaPlace-2-AVD	NA				
Matthias-2	NA				
Ramsay-2	NA				
Rodriguez-2	NA				
Smith-2	NA				
Steele-2	NA				
Tillett-2	NA				
Eglin I-3	NA				
Eglin II-3	NA				

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.0121 B	-4.4
Eglin II-5	0.118	-2.1
Eglin III-5	0.0229	-3.8
FourWindsI-5	0.033	-3.4
FourWindsII-5	0.0068 B	-5.0
Gassett-5-AVD	0.07345	-2.6
Harvey-5	0.12	-2.1
LaPlace-5-AVD	0.00285 B	-5.9
Matthias-5	0.269	-1.3
Ramsay-5	0.002 B	-6.2
Rodriguez-5	0.132	-2.0
Smith-5	0.108	-2.2
Steele-5	0.0178	-4.0
Tillett-5	1.11	0.1
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.0285	-3.6
Eglin III-8	0.0089 B	-4.7
FourWindsI-8	0.0128 B	-4.4
Gassett-8	0.0497	-3.0
Harvey-8-AVD	0.191	-1.7
LaPlace-8	0.0075 B	-4.9
Ramsay-8	0.0023 B	-6.1
Rodriguez-8	0.092	-2.4
Smith-8	0.0262	-3.6
Steele-8	0.0364	-3.3
Tillett-8	0.0674	-2.7
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	R	
CHT-6D-9	0.0103 B	-4.6
CHT-7D-9	0.282	-1.3
Delegarde-9	0.163 B	-1.8
Delegarde-9*	NA	
DW-1-9	0.0243	-3.7
DW-2-9	0.62	-0.5
Eglin I-9	0.0022 B	-6.1
Eglin III-9	0.0079 B	-4.8
FourWindsI-9	0.0149 B	-4.2

FourWindsII9AV	0.122	-2.1
Gassett-9	0.03	-3.5
Harvey-9	0.267	-1.3
LaPlace-9	0.002 B	-6.2
Matthias-9	0.0014 B	-6.6
MW-1-9	0.57	-0.6
MW-1D-9	0.338	-1.1
MW-2-9	0.366	-1.0
MW-3-9	2.54	0.9
MW-4-9	1.29	0.3
MW-4D-9	0.0551	-2.9
MW-5-9	1.08	0.1
MW-6D-9	0.0045 B	-5.4
MW-6R-9	0.736	-0.3
MW-7-9	0.453	-0.8
MW-8-9	2.35	0.9
MW-9S-9	2.56	0.9
MW-10-9	0.597	-0.5
MW-10D-9	0.216	-1.5
MW-11D-9-AVD	0.0076 B	-4.9
MW-12D-9	0.114	-2.2
MW-13-9	0.11	-2.2
MW-13D-9	20.4	3.0
MW-15-9	0.149	-1.9
MW-16-9	0.532	-0.6
MW-17-9	1.55	0.4
MW-18-9	3.74	1.3
MW-18R-9	NA	
MW-19-9	0.0726 J	-2.6
MW-20-9	0.997	0.0
MW-20D-9	1.14	0.1
MW-21D-9	0.402	-0.9
MW-22D-9	0.0358 W	-3.3
MW-24-9	0.215	-1.5
MW-25-9	0.982	0.0
OHMW-1-9	5.87 J	1.8
OHMW-2-9	0.275	-1.3
OHMW-3-9	3.18	1.2
OHMW-4-9	13.5 J	2.6
Ramsay-9	0.001 U	-6.9
Smith-9	0.0212	-3.9
Steele-9	0.007 B	-5.0

SW-2-9	0.943 J	-0.1
SW-3-9	6.34 J	1.8
SW-4-9	0.165	-1.8
SW-5-9	0.29	-1.2
SW-6-9	0.422	-0.9
SW-7-9-AVD	4.17 J	1.4
Tillet-9	0.934	-0.1
TT-1-9	1.71	0.5
TT-1D-9	1.88	0.6
TT-2-9-AVD	1.285	0.3
TT-3D-9	0.236	-1.4
TT-4-9	0.957	0.0
TT-5-9	1.11	0.1
VIHA-1-9	0.0005 U	-7.6

GROUNDWATER

INORGANIC:		NICKEL					
Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency:	50/107	Sample Std. Dev.	0.30
				Average:	0.09	Sample Std. Dev.	1.54
				Average log:	-4.26	(log value)	
				UCL:	0.07		
				Maximum:	2.05		
MW-1	0.013 B		-4.3				
MW-1D	0.0103 BJ		-4.6				
MW-2	0.0212 B		-3.9				
MW-3	0.0087 B		-4.7				
MW-4-AVS	0.025 B		-3.7				
MW-4D	0.004 U		-5.5				
MW-5-AVS	0.05103		-3.0				
MW-6D	0.062		-2.8				
MW-6R-AVS	0.02755 B		-3.6				
MW-7-AVD	0.004 U		-5.5				
MW-8	0.0252 B		-3.7				
MW-9-AVD	0.0192 B		-4.0				
MW-9S	0.0618		-2.8				
MW-10	0.0181 B		-4.0				
MW-10D	0.004 U		-5.5				
MW-11D	0.0107 B		-4.5				
MW-12D	0.0104 B		-4.6				
MW-13D	0.004 U		-5.5				
MW-14-AVS	0.019 B		-4.0				
Eglin I-2	NA						
Eglin II-2	NA						
EglinIII-2-AVD	NA						
FourWindsII-2	NA						
Gassett-2	NA						
Harvey-2	NA						
LaPlace-2-AVD	NA						
Matthias-2	NA						
Ramsay-2	NA						
Rodriguez-2	NA						
Smith-2	NA						
Steele-2	NA						
Tillett-2	NA						
Eglin I-3	NA						
Eglin II-3	NA						

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.00475 U	-5.3
Eglin II-5	0.00475 U	-5.3
Eglin III-5	0.00475 U	-5.3
FourWindsI-5	0.00355 U	-5.6
FourWindsII-5	0.00355 U	-5.6
Gassett-5-AVD	0.00355 U	-5.6
Harvey-5	0.00475 U	-5.3
LaPlace-5-AVD	0.005 U	-5.3
Matthias-5	0.0537	-2.9
Ramsay-5	0.00355 U	-5.6
Rodriguez-5	0.4459	-0.8
Smith-5	0.0184 B	-4.0
Steele-5	0.00355 U	-5.6
Tillett-5	0.00355 U	-5.6
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.0045 U	-5.4
Eglin III-8	0.0045 U	-5.4
FourWindsI-8	0.0045 U	-5.4
Gassett-8	0.0045 U	-5.4
Harvey-8-AVD	0.0045 U	-5.4
LaPlace-8	0.0045 U	-5.4
Ramsay-8	0.0045 U	-5.4
Rodriguez-8	0.0045 U	-5.4
Smith-8	0.0045 U	-5.4
Steele-8	0.0045 U	-5.4
Tillett-8	0.0045 U	-5.4
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	R	
CHT-6D-9	0.005 U	-5.3
CHT-7D-9	0.005 U	-5.3
Delegarde-9	0.1 U	-2.3
Delegarde-9*	NA	
DW-1-9	0.005 U	-5.3
DW-2-9	0.374	-1.0
Eglin I-9	0.005 U	-5.3
Eglin III-9	0.005 U	-5.3
FourWindsI-9	0.005 U	-5.3

FourWindsII9AV	0.005 U	-5.3
Gassett-9	0.0124 B	-4.4
Harvey-9	0.005 U	-5.3
LaPlace-9	0.005 U	-5.3
Matthias-9	0.005 U	-5.3
MW-1-9	0.124	-2.1
MW-1D-9	0.0142	-4.3
MW-2-9	0.266	-1.3
MW-3-9	0.005 U	-5.3
MW-4-9	0.0667	-2.7
MW-4D-9	0.46	-0.8
MW-5-9	0.005 U	-5.3
MW-6D-9	0.0319 B	-3.4
MW-6R-9	0.127	-2.1
MW-7-9	0.445	-0.8
MW-8-9	0.109	-2.2
MW-9S-9	0.005 U	-5.3
MW-10-9	0.005 U	-5.3
MW-10D-9	0.0107 B	-4.5
MW-11D-9-AVD	0.005 U	-5.3
MW-12D-9	0.005 U	-5.3
MW-13-9	0.005 U	-5.3
MW-13D-9	2.05	0.7
MW-15-9	0.005 U	-5.3
MW-16-9	0.0114 B	-4.5
MW-17-9	0.14	-2.0
MW-18-9	0.136 J	-2.0
MW-18R-9	NA	
MW-19-9	0.0239 BJ	-3.7
MW-20-9	0.0235 B	-3.8
MW-20D-9	0.0482	-3.0
MW-21D-9	0.0216 B	-3.8
MW-22D-9	0.005 U	-5.3
MW-24-9	0.005 U	-5.3
MW-25-9	0.0132 B	-4.3
OHMW-1-9	1.12 EJ	0.1
OHMW-2-9	0.0146 B	-4.2
OHMW-3-9	1.84 J	0.6
OHMW-4-9	0.603 EJ	-0.5
Ramsay-9	0.01 U	-4.6
Smith-9	0.005 U	-5.3
Steele-9	0.005 U	-5.3

SW-2-9	0.005 W	-5.3
SW-3-9	0.0418 J	-3.2
SW-4-9	0.0113 B	-4.5
SW-5-9	0.0172 B	-4.1
SW-6-9	0.01 U	-4.6
SW-7-9-AVD	0.005 W	-5.3
Tillett-9	0.005 U	-5.3
TT-1-9	0.0165 B	-4.1
TT-1D-9	0.005 U	-5.3
TT-2-9-AVD	0.0092 B	-4.7
TT-3D-9	0.005 U	-5.3
TT-4-9	0.0171 B	-4.1
TT-5-9	0.0188 B	-4.0
VIHA I-9	0.005 U	-5.3

GROUNDWATER

INORGANIC: VANADIUM

Sample Location	Concentration (mg/l)	Q	Log of Concentration (mg/l)	Frequency: 101/107	Average: 0.08	Sample Std. Dev. 0.14
				Average log: -3.24		Sample Std. Dev. 1.23
				UCL: 0.11		(log value)
				Maximum: 1.00		
MW-1	0.0931 J		-2.4			
MW-1D	0.0648 J		-2.7			
MW-2	0.0368 B		-3.3			
MW-3	0.0362 B		-3.3			
MW-4-AVS	0.0718		-2.6			
MW-4D	0.0388 B		-3.2			
MW-5-AVS	0.00573 B		-5.2			
MW-6D	0.002 U		-6.2			
MW-6R-AVS	0.1225		-2.1			
MW-7-AVD	0.1045		-2.3			
MW-8	0.042 B		-3.2			
MW-9-AVD	0.0841		-2.5			
MW-9S	0.0651		-2.7			
MW-10	0.0669 J		-2.7			
MW-10D	0.0697 J		-2.7			
MW-11D	0.002 U		-6.2			
MW-12D	0.002 U		-6.2			
MW-13D	0.0123 B		-4.4			
MW-14-AVS	0.01955 B		-3.9			
Eglin I-2	NA					
Eglin II-2	NA					
EglinIII-2-AVD	NA					
FourWindsII-2	NA					
Gassett-2	NA					
Harvey-2	NA					
LaPlace-2-AVD	NA					
Matthias-2	NA					
Ramsay-2	NA					
Rodriguez-2	NA					
Smith-2	NA					
Steele-2	NA					
Tillett-2	NA					
Eglin I-3	NA					
Eglin II-3	NA					

Eglin III-3	NA	
FourWindsI-3	NA	
Gassett-3	NA	
Harvey-3	NA	
LaPlace-3-AVD	NA	
Matthias-3	NA	
Ramsay-3	NA	
Smith-3	NA	
Steele-3	NA	
Tillett-3	NA	
Eglin I-4	NA	
Eglin II-4	NA	
Eglin III-4	NA	
FourWindsI-4	NA	
FourWindsII-4	NA	
Gassett-4	NA	
Harvey-4	NA	
LaPlace-4	NA	
Matthias-4	NA	
Ramsay-4	NA	
Smith-4	NA	
Steele-4	NA	
Tillett-4-AVD	NA	
Eglin I-5	0.0303 B	-3.5
Eglin II-5	0.0326 B	-3.4
Eglin III-5	0.0131 B	-4.3
FourWindsI-5	0.0591	-2.8
FourWindsII-5	0.0592	-2.8
Gassett-5-AVD	0.005 U	-5.3
Harvey-5	0.0216 B	-3.8
LaPlace-5-AVD	0.0354 B	-3.3
Matthias-5	0.0426 B	-3.2
Ramsay-5	0.0541	-2.9
Rodriguez-5	0.005 U	-5.3
Smith-5	0.0163 B	-4.1
Steele-5	0.005 U	-5.3
Tillett-5	0.0585	-2.8
Eglin I-6	NA	
Eglin II-6	NA	
Eglin III-6	NA	
Gassett-6	NA	
Harvey-6	NA	

LaPlace-6	NA	
Ramsay-6	NA	
Smith-6-AVD	NA	
Steele-6	NA	
Tillett-6	NA	
Eglin I-7	NA	
Eglin II-7	NA	
Eglin III-7	NA	
FourWindsI-7	NA	
FourWindsII-7	NA	
Gassett-7	NA	
Harvey-7	NA	
LaPlace-7	NA	
Ramsay-7-AVD	NA	
Smith-7	NA	
Steele-7	NA	
Tillett-7	NA	
Eglin I-8	0.0206 B	-3.9
Eglin III-8	0.011 B	-4.5
FourWindsI-8	0.0518	-3.0
Gassett-8	0.006 B	-5.1
Harvey-8-AVD	0.1595 B	-1.8
LaPlace-8	0.0305 B	-3.5
Ramsay-8	0.0452 B	-3.1
Rodriguez-8	0.0066 B	-5.0
Smith-8	0.0052 B	-5.3
Steele-8	0.0092 B	-4.7
Tillett-8	0.0541	-2.9
MW01	NA	
MW02	NA	
MW03-AVD	NA	
MW04	NA	
CHT-3-9	R	
CHT-6D-9	0.0462 B	-3.1
CHT-7D-9	0.052	-3.0
Delegarde-9	0.234 B	-1.5
Delegarde-9*	NA	
DW-1-9	0.0646	-2.7
DW-2-9	0.241 B	-1.4
Eglin I-9	0.0278 B	-3.6
Eglin III-9	0.0159 B	-4.1
FourWindsI-9	0.0551	-2.9

FourWindsII9AV	0.0468 B	-3.1
Gassett-9	0.0061 B	-5.1
Harvey-9	0.0237 B	-3.7
LaPlace-9	0.0332 B	-3.4
Matthias-9	0.0116 B	-4.5
MW-1-9	0.166	-1.8
MW-1D-9	0.0526	-2.9
MW-2-9	0.218	-1.5
MW-3-9	0.0287 B	-3.6
MW-4-9	0.0528	-2.9
MW-4D-9	0.0407 B	-3.2
MW-5-9	0.0115 B	-4.5
MW-6D-9	0.0631	-2.8
MW-6R-9	0.235	-1.4
MW-7-9	0.627	-0.5
MW-8-9	0.0857	-2.5
MW-9S-9	0.0124 B	-4.4
MW-10-9	0.0318 B	-3.4
MW-10D-9	0.0713	-2.6
MW-11D-9-AVD	0.0112 B	-4.5
MW-12D-9	0.0412 BJ	-3.2
MW-13-9	0.06	-2.8
MW-13D-9	0.252 B	-1.4
MW-15-9	0.0651	-2.7
MW-16-9	0.0476 B	-3.0
MW-17-9	0.164	-1.8
MW-18-9	0.166 J	-1.8
MW-18R-9	NA	
MW-19-9	0.0326 BJ	-3.4
MW-20-9	0.056	-2.9
MW-20D-9	0.086	-2.5
MW-21D-9	0.0509	-3.0
MW-22D-9	0.0137 BJ	-4.3
MW-24-9	0.0686	-2.7
MW-25-9	0.138	-2.0
OHMW-1-9	0.498 J	-0.7
OHMW-2-9	0.0854	-2.5
OHMW-3-9	0.624	-0.5
OHMW-4-9	1 J	0.0
Ramsay-9	0.119	-2.1
Smith-9	0.0049 B	-5.3
Steele-9	0.0099 B	-4.6

SW-2-9	0.045 BJ	-3.1
SW-3-9	0.268 J	-1.3
SW-4-9	0.0767	-2.6
SW-5-9	0.0723	-2.6
SW-6-9	0.0639 B	-2.8
SW-7-9-AVD	0.0382 BJ	-3.3
Tillett-9	0.0716	-2.6
TT-1-9	0.0209 B	-3.9
TT-1D-9	0.0157 B	-4.2
TT-2-9-AVD	0.0439 B	-3.1
TT-3D-9	0.0248 B	-3.7
TT-4-9	0.0213 B	-3.8
TT-5-9	0.0051 B	-5.3
VIHA I-9	0.0604	-2.8

APPENDIX B

TOXICOLOGICAL PROFILES

ANTIMONY

Antimony production has been associated with an increase in lung cancer in exposed workers. An inhalation study using rats yielded suggestive evidence that antimony trioxide causes lung and liver tumors, and several antimony compounds were mutagenic when tested using bacterial test systems. Female workers exposed to antimony compounds had an increased incidence of gynecological disorders and spontaneous abortions; similar effects were observed in an animal study. Antimony also causes cardiovascular changes in humans and may damage the myocardia (Clement Associates, Inc., 1985).

The EPA has not assigned antimony a weight-of-evidence classification. This chemical has not been reviewed by the EPA for evidence of carcinogenic potential (IRIS, 1994). An oral reference dose (RfD) of 4×10^{-4} mg/kg/day was developed based on a rat chronic oral bioassay by Schroeder et al. (1970). In this study, rats were administered 5 ppm of antimony tartrate in drinking water. Survival rates decreased in male rats as did the blood glucose level. Cholesterol levels were altered in both sexes. A NOEL was not established as only one level of antimony was administered. The LOAEL was 0.35 mg/kg/day. An uncertainty factor of 1000 was applied in developing the oral RfD (IRIS, 1994). An inhalation reference concentration (RfC) has not been developed.

ARSENIC

Acute exposure of humans to the metal arsenic has been associated with gastrointestinal effects, hemolysis, and neuropathy. Chronic exposure of humans to this metal can produce toxic effects on both the peripheral and central nervous systems, keratosis, hyperpigmentation, precancerous dermal lesions, and cardiovascular damage (EPA, 1984). Arsenic is embryotoxic, fetotoxic, and teratogenic in several animals species (EPA, 1984). Arsenic is a known human carcinogen (Group A) (EPA, 1994). Epidemiological studies of workers in smelters and in plants manufacturing arsenical pesticides have shown that inhalation of arsenic is strongly associated with lung cancer and perhaps with hepatic angiosarcoma (EPA, 1984). Ingestion of arsenic has been linked to a form of skin cancer and more recently to bladder, liver, and lung cancer (Tseng et al., 1968).

EPA has developed inhalation and oral cancer slope factors for arsenic of $15 \text{ (mg/kg/day)}^{-1}$ and $1.75\text{E}+00 \text{ (mg/kg/day)}^{-1}$ (IRIS, 1994), respectively. In developing the inhalation slope factor, a geometric mean was calculated from data sets obtained within distinct exposed populations. The final estimate is the geometric mean of those two values (IRIS, 1994). The oral slope factor was calculated using the unit risk of $5\text{E}-05 \text{ (ug/l)}^{-1}$ proposed by the Risk Assessment Forum. This was based on an epidemiological study in Taiwan by Tseng et al. (1977) which indicated an increased incidence of skin cancer in individuals exposed to arsenic in drinking water.

ARSENIC (Cont'd)

EPA (IRIS, 1994) developed an oral reference dose (RfD) of $3\text{E-}04$ based on the Tseng et al. (1968) study which showed increased incidences of hyperpigmentation and keratosis with age and on the Tseng (1977) study. An uncertainty factor of 3 was used to develop the oral RfD. An inhalation reference concentration (RfC) has not been developed.

BARIUM

Absorption of barium from the gastrointestinal tract following oral exposure has been estimated in one report to be approximately 5% for human adults (EPA, 1987). Specific studies on the extent of absorption of barium following inhalation exposure have not been conducted. However, systemic toxicity has been observed following inhalation exposure to this metal suggesting that absorption of barium from the respiratory tract occurs to some extent (EPA, 1984).

Barium carbonate and more soluble barium compounds are quite toxic to humans following oral exposure. Doses of barium carbonate and barium chloride of 57 mg/kg and 12 mg/kg, respectively, have been reported to be fatal when ingested by humans. Adverse effects observed in humans following ingestion of barium have included gastroenteritis, muscular paralysis, hypertension, cardiotoxicity including ventricular fibrillation, and damage to the central nervous system (EPA, 1984; Perry et al., 1983). Chronic oral exposure of rats to barium has been observed to cause significant increases in blood pressure (EPA, 1984).

Inhalation of barium sulfate or barium carbonate dust has been associated in occupationally exposed workers with baritosis, a benign pneumoconiosis (Goyer, 1986). Inhalation exposure of male rats to barium carbonate dust has produced such effects as decreased numbers of spermatozooids, decreased numbers of motile sperm forms, and increased fetal mortality

BARIUM (Cont'd)

following mating of treating males with untreated females. Exposure of female rats has been associated with ovarian follicle atresia, increased mortality in subsequent litters, and a general underdevelopment of newborn pups (EPA, 1984).

EPA (IRIS, 1994) derived an oral reference dose (RfD) for barium based on epidemiological studies by Wones et al. (1990) and Brenniman and Levy (1984), as well as on rodent studies conducted by Perry et al. (1983), McCauley et al. (1985), Schroeder and Mitchner (1975a, b), and Tardiff et al. (1980). In the Wones et al. (1990) study, barium in the form of barium chloride was administered in drinking water to human volunteers over a 10 week period. Subjects were given 1.5 liters/day of water containing 0, 5 or 10 mg/l barium. As no increase in blood pressure was observed, the NOAEL of 10 mg/l barium was identified which corresponds to 0.21 mg/kg/day based on an actual consumption rate of 1.5 liters/day and a 70 kg body weight. In the Brenniman and Levy (1984) study, no significant differences in human mortality and morbidity rates, blood pressure, hypertension prevalence, stroke, or heart and renal disease were observed between populations ingesting 2 to 10 mg/l barium in drinking water and populations ingesting no or less than 0.2 mg/l barium in drinking water. EPA does not believe that any single study is adequate to calculate an oral RfD for barium. Therefore, based on these studies, an oral RfD of $7E-02$ mg/kg/day was derived using an uncertainty factor of 3 (IRIS, 1994).

BARIUM (Cont'd)

A chronic inhalation reference concentration (RfC) of $5\text{E-}04 \text{ mg/m}^3$ and converted reference dose of $1.4\text{E-}04 \text{ mg/kg/day}$ for inhalation exposure to barium has also been derived by EPA (1994). This value was based on an inhalation study by Tarasenko et al. (1977) in which rats were exposed to barium carbonate dust at airborne concentrations of 1.15 mg/m^3 for 4 hours/day for 4 months. Adverse effects noted at this concentration included decreased body weight, alterations in liver function, and increased fetal mortality. An uncertainty factor of 1000 was used to develop the chronic inhalation RfC.

Barium has not been evaluated by EPA for evidence of human carcinogenic potential.

BENZENE

Benzene is readily absorbed into the body via ingestion and inhalation (EPA, 1985). The toxic effects of benzene vapors in humans and other animals include central nervous system effects, hematological effects, and immune system depression. In humans, acute exposure to high concentrations of benzene vapors can result in central nervous system effects such as dizziness, nausea, vomiting, headache, drowsiness, narcosis, coma, and death (NAS, 1976). Chronic exposure to benzene vapors can result in reduction in the number of leukocytes, platelets, or red blood cells (EPA, 1985). Benzene has produced solid tumors and leukemias in rats exposed by gavage (Maltoni et al., 1985). Many studies have also described a causal relationship between exposure to benzene (concentrations unspecified) by inhalation (either alone or in combination with other chemicals) and leukemia in humans (IARC, 1982).

Benzene is classified by EPA in Group A, Human Carcinogen, based on adequate evidence of carcinogenicity from epidemiological studies. IRIS (1994) derived an inhalation cancer slope factor of $2.9\text{E-}02 \text{ (mg/kg/day)}^{-1}$ for benzene based on epidemiological studies (Ott et al., 1978; Rinsky et al., 1981; Wong et al., 1983) in which significantly increased incidences of nonlymphocytic leukemia were observed in workers exposed to benzene principally by inhalation. The oral slope factor of $2.9\text{E-}02 \text{ (mg/kg/day)}^{-1}$ was derived based on the same studies used to develop the inhalation slope factor. The oral and inhalation reference dose (RfD) and reference concentration (RfC) are currently undergoing review by EPA; however, the slope factors presented here were used in quantifying risks in this report.

BERYLLIUM

Beryllium is a metal with a complicated chemistry, and it can form complexes, oxycarboxylates, and chelates with a variety of materials. Inhalation exposure to beryllium causes lung and bone cancer in animals, and epidemiological studies suggest that it may cause lung cancer in humans. Acute respiratory effects include rhinitis, pharyngitis, tracheobronchitis, and acute pneumonitis associated with inhalation of beryllium. Dermal exposure can cause contact dermatitis (Clement Associates, 1985). Beryllium has been reported to cause berylliosis (chronic granulomatous pulmonary disease), in which granulomatous lesions occur in the lungs. In the early stages, the lesions are filled with fluid. As the lesions progress, interstitial fibrosis increases with loss of functioning alveoli and effective air/capillary gas exchange resulting in increasing respiratory dysfunction (Casarett and Doull, 1986).

Beryllium has been classified for carcinogenicity by EPA in Group B2 (Probable Human Carcinogen). An inhalation slope factor of $8.4\text{E}+00 \text{ (mg/kg/day)}^{-1}$ was developed based on occupational exposure studies (IRIS, 1994). An oral slope factor of $4.3\text{E}+00 \text{ (mg/kg/day)}^{-1}$ was developed based on studies from rats exposed to beryllium (5 ppm) in drinking water (Schroeder and Mitchener, 1975). An oral reference dose (RfD) of $5\text{E}-03 \text{ mg/kg/day}$ was developed based on the same study, with an uncertainty factor of 100 applied. An inhalation reference concentration (RfC) has not been developed (IRIS, 1994).

CHROMIUM

Gastrointestinal absorption of chromium (III) is low, whereas chromium (VI) is more readily absorbed following oral exposure (EPA, 1987). Chromium is an essential micronutrient and is not toxic in trace quantities (EPA, 1980). High levels of soluble chromium (VI) and chromium (III) can produce kidney and liver damage following acute oral exposures, but target organs following chronic oral exposures have not been identified (EPA, 1984). Chronic inhalation exposures may cause respiratory system damage (EPA, 1984). Epidemiological studies of worker populations have clearly established that inhaled chromium (VI) is a human carcinogen, with the respiratory passages and the lungs as the target organs (EPA, 1984). Inhalation of chromium (III) and the ingestion of chromium (VI) or (III) have not been associated with carcinogenicity in humans or experimental animals (EPA, 1984). Certain chromium salts have been shown to be teratogenic and embryotoxic in mice and hamsters following intravenous or intraperitoneal injection (EPA, 1984).

EPA has classified inhaled chromium (VI) for carcinogenicity in Group A (Human Carcinogen) (IRIS, 1994). Inhaled chromium (III) and ingested chromium (III) and (VI) have not been classified with respect to carcinogenicity. EPA (IRIS, 1994) has developed an inhalation unit risk of $1.2\text{E-}02 \text{ (ug/m}^3\text{)}^{-1}$ converted to an inhalation slope factor of $4.2\text{E+}01 \text{ (mg/kg/day)}^{-1}$ for chromium (VI) based upon an increased incidence of lung cancer in workers exposed to chromium over a 5 year period, and followed for approximately 40 years (Mancuso, 1975).

CHROMIUM (Cont'd)

EPA (IRIS, 1994) has derived an oral reference dose (RfD) for chromium (VI) based on a study by MacKenzie et al. (1958). In this study, no adverse effects were observed in rats exposed to chromium (VI) at concentrations of 2.4 mg/kg/day in drinking water for one year. Using a NOAEL of 2.4 mg/kg/day and applying an uncertainty factor of 500, an oral RfD of 5E-03 mg/kg/day was derived (IRIS, 1994). An inhalation reference concentration (RfC) has not been developed.

COPPER

Copper is an essential element. A daily copper intake of 2 mg is considered to be adequate for normal health and nutrition; the minimum daily requirement is 10 ug/kg (EPA, 1985). Adverse effects in humans resulting from acute overexposure to copper by ingestion includes salivation, gastrointestinal irritation, nausea, vomiting, hemorrhagic gastritis, and diarrhea (ACCGIH, 1986). Dermal or ocular exposure of humans to copper salts can produce irritation (ACGIH, 1986). Acute inhalation of dusts or mists of copper salts by humans may produce irritation of the mucous membranes and pharynx, ulceration of the nasal septum, and metal fume fever. The latter condition is characterized by chills, fever, headache, and muscle pain. Limited data are available on the chronic toxicity of copper; however, chronic overexposure to copper by humans has been associated with anemia (ACGIH, 1986). Evidence to date indicates that copper is not teratogenic in experimental animals (EPA, 1980) and various copper compounds are negative for mutagenicity in microbial assay systems (EPA, 1985). Results of several animal bioassays suggest that copper compounds are not carcinogenic by oral administration; however, some copper compounds can induce injection-site tumors in mice (EPA, 1985).

EPA's Drinking Water Criteria document concluded that toxicity data were inadequate for calculation of an oral reference dose (RfD) for copper (EPA, 1994).

CIS/TRANS-1,2-DICHLOROETHENE

Cis-1,2-Dichloroethene (cis-1,2-DCE) is a colorless and flammable liquid that is often used as a chemical intermediate in the synthesis of chlorinated solvents. 1,2-DCE is often present as a mixture of both cis-1,2 and trans-1,2-DCE. This compound may be released to the environment from chemical factories, landfills, and industrial waste sites. It may also be present in the environment as a result of the degradation of other chlorinated solvents (ATSDR, 1990).

Cis-1,2-DCE is expected to be rapidly absorbed via inhalation. In one study, rats exposed to cis-1,2-DCE in air achieved equilibrium in the whole body within 1.5 to 2 hours (Filser et al., 1978). Several *in vitro* studies with isolated rat livers indicated that cis-DCE is metabolized to dichloroacetaldehyde, monochloroacetic acid, and 1,2-dichloroethanol by the rearrangement of epoxide intermediates. Based on the pharmacokinetics of similar chlorinated compounds, cis-1,2-DCE is expected to be rapidly absorbed and excreted when ingested and inhaled (Jaegar et al., 1977).

DCE has an oral LD₅₀ in rats and mice ranging from 1275 mg/kg/day to 7902 mg/kg/day. Symptoms related to acute exposure to DCE in animals include pulmonary hyperemia, ataxia, depressed respiration, and CNS depression (Barnes et al., 1985; Freundt et al., 1977; Hayes et al., 1987). Human symptoms of acute exposure to trans-1,2-DCE in air include ocular irritation, dizziness, drowsiness, vertigo, and intracranial pressure (ATSDR, 1990).

CIS/TRANS-1,2-DICHLOROETHENE (Cont'd)

Animal studies involving intermediate exposure (14-90 days) to 1,2-DCE indicate the heart, liver, and lungs are the likely targets of toxicity. Inhalation exposure of rats to trans-DCE has resulted in pulmonary edema, alveolar septal distention, fibrous swelling in the heart, and fatty degeneration and lipid accumulation in the liver. Similar effects have been observed in rats orally exposed to trans-1,2-DCE (ATSDR, 1990).

No data are available regarding the carcinogenicity of cis-1,2-DCE or trans-1,2-DCE from human or animal studies.

Cis-1,2-DCE was not mutagenic with or without metabolic activation in several studies with *E. coli* K12, *Saccharomyces cerevisiae* D7, Chinese hamster cells, and *Salmonella typhimurium*. However, cis-DCE was mutagenic in mouse-host mediated assays with *Salmonella typhimurium* and *Saccharomyces cerevisiae* D7 (ATSDR, 1990).

No teratogenicity studies in animals or humans have been conducted to date.

EPA (1993) has developed an oral reference dose of $9.0\text{E-}03$ based on a 2-year study conducted by Quast et al. (1983) in which rats given 1,2-dichloroethene (cis/trans) in drinking water developed liver lesions. An uncertainty factor of 1000 was applied in deriving this value.

LEAD

Absorption of lead from the gastrointestinal tract of humans is estimated at 10 to 15%. For adult humans, the deposition of particulate airborne lead is 30 to 50%, and essentially all of the lead deposited is absorbed. Lead is stored in the body in bone, kidney, and liver (EPA, 1984). The major adverse effects in humans caused by lead include alterations in the hematopoietic and nervous systems. The toxic effects are generally related to the concentration of the metal in blood. Blood concentration levels of over 80 ug/L in children and over 100 ug/L in sensitive adults can cause severe, irreversible brain damage, encephalopathy and possible death. Lower blood concentrations of lead (30-40 ug/L) have been associated in humans with altered nerve conduction, altered testicular function, renal dysfunction, and anemia. Lead exposure also has been associated in humans with spontaneous abortions, premature delivery, and early membrane rupture; however, reliable exposure estimates are lacking in these cases. Decreased fertility, phytotoxic effects and skeletal malformations have been observed in experimental animals exposed to lead (EPA, 1984).

EPA has classified lead as a Group B2 carcinogen (Probable Human Carcinogen) (IRIS, 1994). This category applies to those agents for which there is sufficient evidence of carcinogenicity in animals and inadequate evidence of carcinogenicity in humans. At present, the pharmacokinetics for lead do not allow an accurate estimate of the potential risks from exposure to lead, therefore, EPA recommends that a numerical estimate not be used. Oral ingestion of certain lead salts (lead acetate, lead phosphate, lead subacetate) has been associated in experimental animals with increased renal tumors, but no quantitative estimate of cancer potency

LEAD (Cont'd)

has been developed for these various lead compounds. Doses of lead that induced kidney tumors were high and were beyond the lethal dose in humans (EPA, 1985).

EPA has noted that the available data provide an insufficient basis on which to regulate lead acetate, phosphate and subacetate as human carcinogens. EPA (IRIS, 1994) determined that health effects are apparent from exposure to lead at levels so low as to be essentially without a threshold. EPA's Reference Dose (RfD) work groups discussed this issue and considered it inappropriate to develop an oral RfD for inorganic lead. No data are available to develop an inhalation reference concentration (RfC).

MANGANESE

Manganese is an essential element present in all living organisms. Daily manganese intake ranges from 2 to 9 mg although less than 5 percent is absorbed by the intestines. Acute inhalation exposure in the workplace (i.e., mining or manufacturing) to manganese may cause pneumonitis, a respiratory disease. Chronic inhalation of manganese dioxide in the workplace may result in the more serious central nervous system effects. Those who develop chronic manganese poisoning (manganism) exhibit a psychiatric disorder characterized by irritability, difficulty in walking, speech disturbances, and compulsive behavior. A Parkinson-like syndrome can develop if the condition persists. Recovery is slow, even when removed from excessive exposure (Goyer, 1986).

EPA has classified manganese as a Class D carcinogen (not classifiable) (IRIS, 1994). EPA (IRIS, 1994) has developed two oral reference doses (RfDs) for manganese. An oral RfD of $5\text{E-}03$ mg/kg/day for manganese in water has been developed based on chronic human ingestion data (Kondakis et al. 1989) in which the critical effect occurred to the central nervous system. A no-observed-adverse-effect-level (NOAEL) of 0.005 mg/kg/day and a lowest-observed-adverse-effect-level (LOAEL) of 0.06 mg/kg/day were identified in the study. EPA (IRIS, 1994) has developed an oral RfD of $1.4\text{E-}01$ mg/kg/day for manganese in food based on several studies. An NOAEL of 0.14 mg/kg/day was identified. An uncertainty factor of 1 was used in developing the oral RfD in food. EPA (IRIS, 1994) has also developed an inhalation reference concentration (RfC) of $5\text{E-}05$ mg/m³ corresponding to an inhalation reference dose of $1.4\text{E-}05$ mg/kg/day for manganese using an uncertainty factor of 1000. The RfC was derived based on

MANGANESE (Cont'd)

an occupational study of workers exposed to manganese dioxide, tetroxide and various salts. The study indicated an increased prevalence of respiratory symptoms and psychomotor disturbances in exposed workers (Roels et al., 1987).

METHYL TERT-BUTYL ETHER (MTBE)

Methyl-tert-butyl-ether (MTBE), a synthetic flammable liquid made from combinations of such chemicals as isobutylene and methanol, has a distinctive disagreeable odor. It was first introduced as an additive for unleaded gasolines in the 1980s. In city areas where there are concerns over pollutants like carbon monoxide, the USEPA may require the use of either MTBE or ethanol as a cleaner burning oxygenating agent during the winter months. Since most MTBE is mixed with gasoline, people may come in contact with it while using automobile fuels. MTBE may be used as a laboratory chemical or in medicine to dissolve gallstones. (ATSDR, 1994).

People exposed to MTBE while pumping gasoline, driving their cars, or working as attendants or mechanics at gas stations have reported headaches, nausea, dizziness, irritation of the nose or throat, and feelings of spaciness or confusion. These symptoms were reported when high levels of MTBE were added to gasoline to lower the amount of carbon monoxide, a known poison, released from cars. MTBE also caused side effects in some patients development or are acquired following repeated acute insults, such as hypersensitivity reactions, asthma, or chronic bronchitis. (ATSDR, 1994).

In a chronic inhalation study (Chun et al., 1992), Fischer 344 rats (50 males, 50 females/group) were exposed to analytical mean concentrations of 403, 3023, or 7977 ppm methyl tertiary-butyl ether (MTBE) vapors (1453, 10,899, or 28,760 mg/cu.m) 6 hours/day, 5 days/week for 24 months (duration-adjusted values are 259, 1946, and 5136 mg/cu.m, respectively). The control animals breathed air. Survival times for females were not significantly different between exposed

METHYL TERT-BUTYL ETHER (Cont'd)

and control rats. A slight decrease in mean survival time was observed in the males exposed to the low concentration (controls, 632 days; low-concentration group, 617 days; $p < 0.05$). Survival time clearly decreased in males exposed to both the mid and high concentrations (mid-concentration group, 587 days; high-concentration group, 516 days; $p < 0.01$), leading to earlier sacrifice times at 97 and 82 weeks, respectively. According to study pathologists, chronic, progressive nephropathy was the main cause of death in the higher concentration groups and also contributed to a slight increase in mortality in the males exposed to the low concentration (Garman, 1993a, b). (IRIS, 1994).

Information regarding death in animals was located only for rats and mice in ATSDR (1994). Acute inhalation 4-hour LC_{50} values in rats for two grades of MTBE were determined to be 39,395 ppm for ARCO MTBE (96.2% MTBE) and 33,370 ppm for commercial MTBE (99.1% MTBE) (ARCO, 1980). An acute LC_{50} in mice following inhalation of MTBE for 10 minutes was determined to be 180,000 ppm (Snamprogetti, 1980). The LT_{50} (time at which death occurs in 50% of exposed animals) in mice following inhalation exposure to 209,300 ppm MTBE was 5.6 minutes. Intermittent inhalation exposure of Sprague-Dawley rats of both sexes to MTBE for 9 days to concentrations ranging from 100 to 3,000 ppm did not result in any treatment-related deaths (Biodynamics, 1981). Intermittent exposure of rats and mice for 13 days (Dodd and Kintigh, 1989) or to mice for 1 or 2 days (Vergnes and Kintigh, 1993) to concentrations $\leq 8,000$ ppm MTBE was not lethal.

METHYL TERT-BUTYL ETHER (Cont'd)

Intermediate-duration exposure of rats and mice (5-10 minutes/day, 5 days/week for 30 days) to 50,000 and 80,000 ppm MTBE caused no mortality (Snamprogetti, 1980). Similarly, no mortality was observed in rats or mice exposed to $\leq 8,000$ ppm MTBE 6 hours/day, 5 days/week for 4 or 5 weeks (Chun and Kintigh, 1993). No rats died during intermittent exposure to 1,000 ppm MTBE for 13 weeks (Greenough et al., 1980).

In a 24-month inhalation study increased mortality and decreased mean survival time occurred in male rats exposed intermittently in 3,000 and 8,000 ppm MTBE (Chun et al., 1992). These groups were sacrificed at weeks 97 and 82, respectively. A slight increase in mortality and a significantly decreased mean survival time also occurred in the male rats exposed to 400 ppm (lowest concentration tested). This group was maintained until the scheduled sacrifice. Chronic progressive nephropathy was the main cause of death. In mice exposed to the same concentrations of MTBE for 18 months increased mortality and decreased mean survival time, due to a slightly increased incidence of obstructive uropathy, occurred in males at 8,000 ppm (Burleigh-Flayer et al., 1992). Although female rats had slightly more deaths from chronic progressive nephropathy (Chun et al., 1992), no significant increase in mortality occurred in the female rats and mice in these studies. (ASTDR, 1994).

No studies were located in the literature, according to ATSDR (1994), regarding death in humans following inhalation exposure to MTBE.

METHYL TERT-BUTYL ETHER (Cont'd)

An oral RfD for methyl tert-butyl ether is currently not available on the USEPA's on line IRIS data base or HEAST. A risk assessment for this substance is under review by a USEPA work group. (IRIS, 1994).

Although limited information on human inhalation of MTBE is available, an inhalation RfC of $3E+0$ mg/cu.m is reported in IRIS (1994) based on a chronic rat 24-month inhalation study performed by Chun, et al. 1992. Using an uncertainty factor of 100, an inhalation RfD of $9.0E-01$ mg/kg-day was derived for MTBE.

2-METHYLPHENOL

2-Methylphenol, also known as o-cresol, is naturally occurring in coal, petroleum, wood, and natural runoff. It is also found in artificial sources, such as roadway runoff, perfumes, oils, lubricants, and metal cleaning. 2-Methylphenol may be released into the environment in emissions and effluents during its production and use as a disinfectant and solvent. It may also be released in emissions or wastewater during coal tar and petroleum refining, organic chemicals, plastics, and resins manufacturing and in its use as an ore flotation and textile scouring agent. It is found in sewage and in emissions from wood pulping, tobacco smoke and auto and diesel exhaust. It is a product of photooxidation of toluene (EPA, 1993).

2-Methylphenol causes many symptoms in humans, including burning pain in the mouth and throat, white necrotic lesions in the mouth, esophagus, and stomach, abdominal pain, vomiting, and bloody diarrhea. Other symptoms include pallor, sweating, weakness, headache, dizziness, tinnitus, shock, weak and irregular pulse, hypotension, shallow respirations, cyanosis, and a profound fall in body temperature. If 2-methylphenol is spilled on the skin, pain is followed by numbness. The skin becomes blanched, and a dry opaque eschar forms over the burn. When the eschar sloughs off, a brown stain remains (EPA, 1993).

2-Methylphenol is classified by EPA in Group C, Possible Human Carcinogen, based on an increased incidence of skin papillomas in mice in an initiation-promotion study. The three cresol isomers produced positive results in genetic toxicity studies both alone and in combination (IRIS, 1994). Information concerning human carcinogenicity is inadequate, although some anecdotal

2-METHYLPHENOL (Cont'd)

information is available. Garrett (1975) reported two cases of multifocal transitional cell carcinoma of the bladder following chronic occupational exposure to cresol and creosote. Wlodyka (1964, as cited in EPA, 1979) described a squamous cell carcinoma of the vocal cords in a petroleum refinery worker with a long history of exposure to cresol, dichlorooctane, and chromic acid.

EPA has derived an oral reference dose (RfD) for 2-methylphenol of $5E-02$ mg/kg/day (IRIS, 1994). An uncertainty factor of 1000 was used to develop the oral RfD. The oral RfD was based on two studies conducted with Sprague-Dawley rats. In a 90-day subchronic toxicity study (EPA, 1986), 30 Sprague-Dawley rats/sex/dose were gavaged daily with 0, 50, 175, or 600 mg/kg/day of o-cresol. At 600 mg/kg/day, o-cresol produced 47% combined mortality and a 30% reduction in body weight at week 1 and 10% at final sacrifice. At 450 mg/kg/day, combined mortality was 20%. In the 175 mg/kg/day group, two animals exhibited tremors on day 1 during the hours following gavage administration, and one of these animals became comatose during that time. At 50 mg/kg/day, no significant adverse effects were observed.

In a 90-day neurotoxicity study (EPA, 1987), the lowest dose of o-cresol (50 mg/kg/day) given to Sprague-Dawley rats caused clinical signs of CNS-stimulation post dosing; however, these symptoms were low in incidence and sporadic in nature. In this study, 10 Sprague-Dawley rats/sex/dose were gavaged with o-cresol daily at 0, 50, 175, 450, or 600 mg/kg/day. Higher

2-METHYLPHENOL (Cont'd)

doses of o-cresol (greater than 450 mg/kg/day) produced significant neurological events. High dosed animals showed abnormal patterns in the neurobehavioral tests. The NOAEL was based on systemic toxicity was 50 mg/kg/day in rats.

Based on a review and assessment of the available literature, primarily studies conducted by Uzhdavini et al. (1972), NIOSH (1978) recommended a TLV-TWA of 10mg/cu.m. An RfD of 5×10^{-2} mg/kg/day can also be derived from this value; this lends support to the RfD derived from the subchronic toxicity studies.

4-METHYLPHENOL

4-Methylphenol, also known as p-cresol, is naturally occurring in *Acacia farnesiana*, Ylang-Ylang oil, jasmine absolute, orange oil from leaves, the essence from flowers of *Lilium candidum*, anise-seed oil, the essence of *Artemisia santolinoflia*, and some sea algae. 4-Methylphenol may be released into the environment in emissions and effluents during its production and use as a disinfectant. It may also be released in emissions or wastewater during coal tar refining, metal refining, and chemical manufacturing. It is found in sewage and in emissions from wood pulping, brewing, tobacco smoke and auto and diesel exhaust. It is a product of photooxidation of toluene (EPA, 1993).

4-Methylphenol causes many symptoms in humans, including burning pain in the mouth and throat, white necrotic lesions in the mouth, esophagus, and stomach, abdominal pain, vomiting, and bloody diarrhea. Other symptoms include pallor, sweating, weakness, headache, dizziness, tinnitus, shock, weak and irregular pulse, hypotension, shallow respirations, cyanosis, and a profound fall in body temperature. If 4-methylphenol is spilled on the skin, pain is followed by numbness. The skin becomes blanched, and a dry opaque eschar forms over the burn. When the eschar sloughs off, a brown stain remains (EPA, 1993).

4-Methylphenol is classified by EPA in Group C, Possible Human Carcinogen, based on an increased incidence of skin papillomas in mice in an initiation-promotion study. The three cresol isomers produced positive results in genetic toxicity studies both alone and in combination (IRIS, 1994). Information concerning human carcinogenicity is inadequate, although some anecdotal

4-METHYLPHENOL (Cont'd)

information is available. Garrett (1975) reported two cases of multifocal transitional cell carcinoma of the bladder following chronic occupational exposure to cresol and creosote. Wlodyka (1964, as cited in EPA, 1979) described a squamous cell carcinoma of the vocal cords in a petroleum refinery worker with a long history of exposure to cresol, dichlorooctane, and chromic acid.

EPA has derived an oral reference dose (RfD) for 4-methylphenol of 5×10^{-3} mg/kg/day (EPA, 1994). An uncertainty factor of 1000 was used to develop the oral RfD.

NICKEL

Nickel compounds can be absorbed following inhalation, ingestion, or dermal exposure. The amount absorbed depends on the dose administered and the chemical and physical form or the particular nickel compound (EPA, 1986). Adverse effects associated with acute exposure in animals have included depressed weight gain, altered hematological parameters, and increased iron deposition in blood, heart, liver, and testes (EPA, 1987). Chronic or subchronic exposure of experimental animals to nickel has been associated with reduced weight gain, degenerative lesions of the male reproductive tract, asthma, nasal septal perforations, rhinitis, sinusitis, hyperglycemia, decreased prolactin levels, decreased iodine uptake, and vasoconstriction of the coronary vessels. Dermal exposure of humans to nickel produces allergic contact dermatitis (EPA, 1986). Teratogenic and phytotoxic effects have been observed in the offspring of exposed animals (EPA, 1986). Certain nickel compounds are genotoxic in bacterial and mammalian assay systems (EPA, 1986).

Inhalation exposure of experimental animals to nickel carbonyl or nickel subsulfide induces pulmonary tumors (EPA, 1986). Several nickel salts caused localized tumors when administered by subcutaneous injection or implantation. Epidemiological evidence indicates that inhalation of nickel refinery dust and nickel subsulfide is associated with cancers of the nasal cavity, lung, larynx, kidney, and prostate (EPA, 1986). There is no evidence that nickel is carcinogenic in animals or humans when the metal is ingested, and EPA (1987) does not consider nickel to be carcinogenic by the oral route.

NICKEL (Cont'd)

EPA (IRIS, 1994) has derived an oral reference dose (RfD) for nickel (soluble salts) based on a study by Ambrose et al. (1976). In this study, rats were administered nickel in the diet for 2 years at concentrations of 0, 100, 1000, or 2500 ppm. Decreased organ and body weights were observed at nickel concentrations greater than 1000 ppm diet (50 mg/kg/day). Using a NOAEL of 100 ppm diet (5 mg/kg/day) and applying an uncertainty factor of 300, an oral reference dose (RfD) of 2×10^{-2} mg/kg/day was derived (IRIS, 1994). An inhalation reference concentration (RfC) for nickel is under review by an EPA work group.

POLYCHLORINATED BIPHENYLS (PCBs)

PCBs are very persistent in the natural environment and are readily bioaccumulated. Human exposure to PCBs has been associated with chloracne, impairment of liver function, a variety of neurobehavioral symptoms, menstrual disorders, minor birth abnormalities, and increased incidence of cancer (Clement Associates, Inc., 1985).

PCBs have been given an EPA classification for carcinogenicity of B2 (Probable Human Carcinogen) based on hepatocellular carcinomas in three strains of rats and two strains of mice and inadequate yet suggestive evidence of excess risk of liver cancer in humans by ingestion and inhalation or dermal contact (IRIS, 1994). The slope factor developed for PCBs of $7.7\text{E}+00$ (mg/kg/day)⁻¹ is based on the studies performed by Norback and Weltman (1985). Sprague-Dawley rats were fed a diet containing Aroclor 1260 at 100 ppm for 16 months, followed by a 50 ppm diet for an additional 8 months, and then a basal diet for 5 months. Among animals that survived for at least 18 months, female rats exhibited a 91% incidence of hepatocellular carcinomas. In addition, the Norback and Weltman study is preferred over Kimbrough et al. (1974) because Sprague-Dawley rats are known to have low incidence of spontaneous hepatocellular neoplasms. This study spanned the natural life of the animal, and concurrent morphologic liver studies showed the sequential progression of liver lesions to hepatocellular carcinomas. Although it is known that PCB congeners vary greatly as to their potency in producing biological effects, for purposes of this assessment, Aroclor 1260 is intended to be representative of all PCB mixtures. An inhalation slope factor was not determined. No oral reference dose or inhalation reference concentration has been developed.

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

Polycyclic aromatic hydrocarbons (PAHs) occur in the environment as complex mixtures of many components with varying noncarcinogenic and carcinogenic potencies. Only a few components of these mixtures have been adequately characterized, and only limited information is available on the relative potencies of different compounds. The PAHs are often separated into two categories for risk assessment purposes: carcinogenic and noncarcinogenic PAHs.

PAH absorption following oral exposure is inferred from the demonstrated toxicity of PAHs following ingestion (EPA, 1984a). PAH absorption following inhalation exposure is inferred from the demonstrated toxicity of PAHs following inhalation (EPA, 1984a). It has been suggested that simultaneous exposure to carcinogenic PAHs, such as benzo(a)pyrene, and particulate matter can increase the effective dose of the compound (ATSDR, 1987). PAHs are also absorbed following dermal exposure (Kao et al., 1985).

Acute effects from direct contact with PAHs and related materials are limited primarily to phototoxicity; the primary effect is dermatitis (NIOSH, 1977). PAHs have also been shown to cause cytotoxicity in rapidly proliferating cells throughout the body; the hematopoietic system, lymphoid system, and testes are frequent targets (Santodonato et al., 1981). Some of the noncarcinogenic PAHs have been shown to cause systemic toxicity but these effects are generally seen only at rather high doses (Santodonato et al., 1981). Slight morphological changes in the liver and kidneys of rats have been reported following oral exposure to acenaphthene. Oral

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (Cont'd)

administration of naphthalene to rabbits and rats has resulted in cataract formation (EPA, 1984b).

Non-neoplastic lesions are seen in animals exposed to the more potent carcinogenic PAHs only after exposure to levels well above those required to elicit a carcinogenic response. Carcinogenic PAHs are believed to induce tumors both at the site of application and systemically. Neal and Rigdon (1967) reported that oral administration of benzo(a)pyrene led to forestomach tumors in mice. Thyssen et al. (1981) observed respiratory tract tumors in hamsters exposed to benzo(a)pyrene.

Benzo(a)pyrene is representative of the carcinogenic PAHs and is classified by EPA as a B2 carcinogen (Probable Human Carcinogen) based on sufficient evidence of carcinogenicity from animal studies and inadequate evidence from epidemiological studies (IRIS, 1994). EPA (IRIS, 1994) calculated a value of $7.3E+00 \text{ (mg/kg/day)}^{-1}$ for the slope factor for oral exposure to carcinogenic PAHs (specifically benzo(a)pyrene) based on the study by Neal and Rigdon (1967). In this study, mice given benzo(a)pyrene in the diet developed increased incidences of forestomach tumors (IRIS, 1994). The oral slope factor is currently undergoing a reevaluation based on recalculation of the data.

The slope factor for the carcinogenic PAH benzo(b)fluoranthene was calculated based on the benzo(a)pyrene slope factor and relative potency values.

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (Cont'd)

Benzo(b)fluoranthene is classified by EPA as a B2 carcinogen. This chemical produced tumors in mice after lung implantation, intraperitoneal or subcutaneous injection, and skin painting (IRIS, 1994). No human data specifically link exposure to benzo(b)fluoranthene to human cancers, although it is a component of mixtures that have been associated with human cancer (IRIS, 1994). An oral slope factor of $7.3\text{E-}01 \text{ (mg/kg/day)}^{-1}$ was calculated by using a relative potency value of 0.1 multiplied by the benzo(a)pyrene oral slope factor (EPA, 1993).

TETRACHLOROETHENE (PCE)

Tetrachloroethene (PCE) is a volatile, colorless, nonflammable liquid. It has widespread use as a solvent in dry cleaning operations, metal degreasing, and as a paint remover.

In a National Cancer Institute bioassay (NCI, 1977), a high incidence of hepatocellular was observed in both sexes of B6C3F₁ mice administered tetrachloroethylene in corn oil by gavage five days per week for 78 weeks. Time-weighted average doses were 536 and 1,072 mg/kg/day in males and 386 and 772 mg/kg/day in females. No conclusion concerning the effects on Osborne-Mendel rats administered 471 to 949 mg/kg/day by gavage could be made because of high mortality rates and other technical flaws (NCI, 1977).

NTP has reported the results of inhalation studies concerning carcinogenicity of tetrachloroethene. There was some evidence of carcinogenicity in F344/N rats (EPA, 1985a). Evidence of carcinogenicity was also observed in B6C3F₁ mice of both sexes (EPA, 1985a).

The offspring of female rats and mice exposed to tetrachloroethene at 2,000 mg/m³ for seven hours daily on days 6-15 of gestation showed toxic effects, including a decrease in fetal body weight in mice and a small but significant increase in fetal resorptions in rats (EPA, 1985a,b). Mice also exhibited teratogenic effects, including subcutaneous edema and delayed ossification of skull bones and sternebrae (EPA, 1985a,b).

TETRACHLOROETHENE (PCE) (Cont'd)

The principal toxic effects of tetrachloroethene in humans and laboratory animals from both acute and longer-term exposures include central nervous system depression and fatty infiltration of the liver and kidney with concomitant changes in serum enzyme activity levels indicative of tissue damage (EPA, 1985a; EPA, 1985b).

Individuals exposed to concentrations of tetrachloroethene ranging from 6,258 to 10,600 mg/m³ experienced lassitude, mental fogginess, and exhilaration, progressing at the higher dose to signs of inebriation (EPA, 1980). Signs of central nervous system depression and cholinergic stimulation were also observed at concentrations of 1,622 mg/kg tetrachloroethene in an animal study in rabbits, monkeys, rats, and guinea pigs (EPA, 1980).

Rats exposed to 1,600 mg/kg tetrachloroethene seven hours per day, five days per week, 18 times over 25 days exhibited central nervous system depression and hepatic and renal hypertrophy. Rats exposed to 230 mg/kg and 470 mg/kg tetrachloroethene, eight hours a day, five days a week over a period of seven months, exhibited congestion and swelling of kidneys and liver, respectively (Carpenter, 1937). Female Sprague-Dawley rats exposed to tetrachloroethene in air five days a week for 12 months at concentrations of 300 to 600 mg/kg showed liver atrophy, and high-dose females developed an increased incidence of fluid-filled cysts in the liver (EPA, 1980).

TETRACHLOROETHENE (PCE) (Cont'd)

Fatty infiltration in livers and other liver function alterations were noted in mice, guinea pigs, and rabbits (EPA, 1985a; EPA, 1985b; NCI, 1977).

Three of seven men occupationally exposed to tetrachloroethene at concentrations of 1,890 to 2,600 mg/m³ showed evidence of impaired liver function (EPA, 1980).

Tetrachloroethene was formerly classified as a Group B2 carcinogen (EPA, 1985a). This classification is currently under reconsideration (IRIS, 1994). The decision whether tetrachloroethene will be classified as a Group B2 or Group C carcinogen is pending. Cancer slope factors for exposure to tetrachloroethene by ingestion and inhalation are currently under review but have been provided by the Superfund Health Risk Technical Support Center as 5.2E-02 (mg/kg/day)⁻¹ and 2.0E-03 mg/kg/day, respectively (EPA, 1994).

The oral RfD of 1E-02 mg/kg/day (IRIS, 1994) is based on a study conducted by Buben and O'Flaherty (1985), in which Swiss-Cox mice were exposed to tetrachloroethene in corn oil by gavage at doses of 0, 20, 100, 200, 500, 1,500, and 2,000 mg/kg for 5 days/week for 6 weeks. Several parameters were monitored to evaluate liver toxicity, including liver weight/body weight ratio, hepatic triglyceride concentration, DNA content, histopathological evaluation and serum enzyme levels. At doses of 100 mg/kg, liver triglyceride levels and liver weight/body weight ratios were significantly higher than in control animals. The no observed adverse effect level

TETRACHLOROETHENE (PCE) (Cont'd)

(NOAEL) of 20 mg/kg/day was adjusted for the treatment schedule of 5 days/week to arrive at a NOAEL of 14 mg/kg/day. An uncertainty factor of 1,000 was applied to the NOAEL to account for intraspecies variability, interspecies variability, and extrapolation of a subchronic effect level to its chronic variability (IRIS, 1994).

TOLUENE

In humans, toluene is absorbed quickly through the respiratory tract; dermal absorption of aqueous toluene is directly related to concentration (EPA, 1985). In humans, the primary acute effects of exposure to toluene vapor are central nervous system (CNS) depression and narcosis; in experimental animals, acute oral and inhalation exposures to toluene can result in central nervous system depression and histological changes in the lungs, liver, and kidneys (EPA, 1987). In humans, chronic exposure to toluene vapors at levels of approximately 200 and 800 ppm has been associated with CNS and possibly, peripheral nervous system effects, hepatomegaly, and hepatic and renal functions changes (EPA, 1987). Toxic effects following prolonged exposure of experimental animals to toluene are similar to those seen following acute exposure, predominantly to the CNS, liver, kidneys, and lungs (EPA, 1987). There is some evidence in experimental animals that oral and inhalation exposure to toluene during gestation results in embryotoxicity and skeletal malformations (Nawrot and Staples 1979; Hudak and Ungvary, 1978).

EPA has classified toluene as a Class D carcinogen (Not Classifiable) (IRIS, 1994). EPA (IRIS, 1994) derived an oral reference dose (RfD) of $2\text{E-}01$ mg/kg/day for toluene based on a 13-week rat gavage study (NTP, 1989); reporting changes in liver and kidney weight. A no-observed-adverse-effect-level (NOAEL) of 312 mg/kg (converted to 223 mg/kg/day) and an uncertainty factor of 1,000 was the basis for the RfD.

EPA (IRIS, 1994) derived an inhalation reference concentration (RfC) of $4\text{E-}01$ mg/m³

TOLUENE (Cont'd)

corresponding to an inhalation RfD of $1.1\text{E-}01$ mg/kg/day. The RfC was based on the lowest-observed-adverse effect level (LOAEL) from two studies (Foo et al., 1990; NTP, 1990) and an uncertainty factor of 300.

TOTAL PETROLEUM HYDROCARBONS (TPHs)

Total petroleum hydrocarbons (TPHs) are petroleum distillates that include a variety of hydrocarbon mixtures. Gasoline, motor oil, kerosene, jet fuel, diesel fuel, red seal oil, and furniture polish are some examples of hydrocarbon mixtures (Klaassen et al., 1986); ATSDR, 1993). Each of these hydrocarbon mixtures is composed of numerous organic chemicals that vary in contribution depending upon the manufacturing process. Gasoline, for example, typically contains more than 150 chemicals including benzene, toluene, and xylene, but varies in composition due to origin of the petroleum starting material, the manufacturer, and the time of year (ATSDR, 1993).

The toxicity of the hydrocarbon mixture is generally indirectly proportional to its viscosity. Viscosity within the 30 to 35 range or lower represents an extreme aspiration risk. High viscosity, of 150 to 250 , signifies only limited aspiration risk and is present in heavy greases and oils. Oral ingestion of petroleum hydrocarbons is often associated with the following symptoms: mucous membrane irritation, vomiting, and central nervous system depression. Aspiration of petroleum hydrocarbons may cause cyanosis, tachycardia, and tachypnea with the subsequent development of chemical pneumonitis. Other symptoms of petroleum hydrocarbon exposure include albuminuria, cardiac arrhythmias (Klaassen et al., 1986).

Oral doses as low as 10 ml have been reported as fatal, while reports of survival after the ingestion of 60 ml of petroleum distillates exist (Rumack, 1977 as cited in Klaassen et al., 1986).

VANADIUM

Limited information is available regarding the toxicity of vanadium. Pentavalent vanadium compounds are generally considered to be more toxic than vanadium compounds having other valence states. In humans, short-term and long-term occupational exposure to vanadium by inhalation has been associated with irritation of the respiratory tract, coughing, labored breathing, bronchitis, and chest pains. Vanadium is also reported to cause ocular and dermal irritation in humans. Adverse effects observed in experimental animals following such chronic inhalation exposure to vanadium have included renal, hepatic, and pulmonary lesions (NIOSH, 1977; NAS, 1974).

EPA (1994) has established an oral reference dose (RfD) for vanadium of $7.0\text{E-}03$ mg/kg/day. This value is based on a study by Schroeder et al. (1970) in which rats exposed to 5 ppm of vanadium in drinking water over a lifetime showed no adverse effects (EPA, 1994). An uncertainty factor of 100 was applied to develop the RfD. EPA has not developed inhalation criteria for vanadium.

VINYL CHLORIDE

Vinyl chloride is a human carcinogen that causes angiosarcomas of the liver and tumors of the brain, lung, and hemolymphopoietic system. There is suggestive evidence that vinyl chloride has teratogenic and reproductive effects in both humans and animals. Chronic human exposure to vinyl chloride is associated with multiple systemic disorders, including a sclerotic syndrome, acro-osteolysis, and liver damage. Acute human exposure to high concentrations can cause narcosis, respiratory tract irritation, bronchitis, and memory disturbances. Chronic exposure by animals can result in lesions of the liver, kidneys, spleen, and lungs (Clement Associates, Inc., 1985).

Vinyl chloride is classified as a Group A chemical (Human Carcinogen) (EPA, 1994). EPA (1994) has developed an oral slope factor of $1.9\text{E}+00 \text{ (mg/kg/day)}^{-1}$ based on a dietary study in which rats fed vinyl chloride for 1001 days developed lung and liver tumors. An inhalation slope factor of $3\text{E}-01 \text{ (mg/kg/day)}^{-1}$ has also been developed based on a rat study in which liver tumors resulted (EPA, 1994). Both slope factors are currently under review.

No oral reference doses (RfDs) or inhalation reference concentrations (RfCs) have been developed for vinyl chloride.

REFERENCES

Antimony

Clement Associates, Inc. 1985. Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites. Final Report. September 27, 1985.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency on-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Schroeder, H., Mitchener, M., and Nasor, A. 1970. Zirconium, niobium, antimony, vanadium and lead in rats: Life-term studies. J. Nutrition. 100:59-66.

Arsenic

Environmental Protection Agency (EPA). 1984. Health Assessment Document for Inorganic Arsenic. Office of Health and Environmental Assessment, Washington, D.C. March 1984. EPA 600/8-83-021F.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Tseng, W.P., Chu, H.M., How, S.W., Fong, J.M., Lin C.S., and Yeh, S. 1968. Prevalence of Skin Cancer in an Endemic Area of Chronic Arsenicism in Taiwan. J. Natl. Cancer Inst. 40:453-463.

Tseng, W.P. 1977. Effects and Dose-Response Relationships of Skin Cancer and Blackfoot Disease with Arsenic. Environ. Health Perspect. 19:109-119.

Barium

Brenniman, G. and Levy, P. 1984. High Barium Levels in Public Drinking Water and its association with Elevated Blood Pressure. In: Advances in Modern Toxicology IX, E.J. Calabrese, Ed. Princeton Scientific Publications, Princeton, N.J. pp. 231-249.

Environmental Protection Agency (EPA). 1984. Health Effects Assessment for Barium. Environmental Criteria and Assessment Office, Cincinnati, Ohio. September 1984. EPA 540/1-86-021.

Environmental Protection Agency (EPA). 1987. Health Advisory for Barium. Office of Drinking Water, Washington, D.C. March 31, 1987.

REFERENCES (Cont'd)

Environmental Protection Agency (EPA). 1994. Health Effects Assessment Summary Tables (HEAST) FY-1994 Annual Update. Office of Research and Development. OERR 9200.6-303-(94-1) March.

Goyer, R.A. 1986. Toxic Effects of Metals. In: Casarett and Doull's Toxicology: The Basic Science of Poisons, 3rd Ed., Klaassen, C.D., Amdur, M.D. and Doull, J. (eds.). Macmillan Publishing Co., New York, Toronto, and London. pp. 623-624.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

McCauley, P.T., Douglas, B.H., Laurie, R.D. and Bull, R.J. 1985. Investigations into the effect of drinking water barium on rats. Environ. Health Perspect. Vol. IX, E.J. Calabrese, Ed. Princeton Scientific Publications, Princeton, NJ. pp. 197-210.

Perry, H.M., Kopp, S.J., Erlanger, M.W. and Perry, E.F. 1983. Cardiovascular effects of chronic barium ingestion. In: Trace Substances in Environmental Health, XVII, D.D. Hemphill, Ed. Proc. Univ. Missouri's 17th Ann. Conf. on Trace Substances in Environmental Health. University of Missouri Press, Columbia, MO.

Schroeder, H.A. and Mitchener, M. 1975a. Life-term effects of mercury, methyl mercury and nine other trace metals on mice. J. Nutr. 105: 452-458.

Schroeder, H.A. and Mitchener M. 1975b. Life-time studies in rats: Effects of aluminum, barium, beryllium, and tungsten. J. Nutr. 105: 421-427.

Tardiff, R.G., Robinson, M. and Ulmer, N.S. 1980. Subchronic oral toxicity of BaCl₂ in rats. J. Environ. Pathol. Toxicol. 4: 267-275.

Tarasenko, M., Promin, O., and Silayev, A. 1977. Barium Compounds as Industrial Poisons (an experimental study). J. Hyg. Epiderm. Microbial. Immunol. 21:361. As cited in EPA, 1984.

Wones et al. 1990. Lack of Effect of Drinking Water Barium on Cardiovascular Risk Factor. Environ. Health Perspect. 85:1-13.

Benzene

Environmental Protection Agency (EPA). 1985. Drinking Water Criteria Document for Benzene (Final Draft). Office of Drinking Water, Washington, D.C. April 1985.

REFERENCES (Cont'd)

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency on-line data base toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

International Agency for Research on Cancer (IARC). 1982. IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans. Volume 27: Some Aromatic Amines, Anthraquinones and Nitroso Compounds, and inorganic Fluorides Used in Drinking Water and Dental Preparations, World Health Organization, Lyon, France.

Maltoni, C., Conti, B., Cotti, G., and Belpoggi, F. 1985. Experimental studies on benzene carcinogenicity at the Bologna Institute of Oncology: Current results and ongoing research. *Am. J. Ind. Med.* 7:415-446.

National Academy of Science (NAS). 1976. Health Effects of Benzene: A Review Committee on Toxicology, Assembly of Life Sciences. National Research Council, Washington, D.C.

Ott, M., Townsend, J., Fishbeck, W., and Langner, R. 1978. Mortality among individuals occupationally exposed to benzene. *Arch. Environ. Health* 33:3-10.

Rinsky, R., Young, R., and Smith, A. 1981. Leukemia in benzene workers. *Am. J. Ind. Med.* 3:217-245.

Wong, O., Morgan, R., and Whorton, M. 1983. Comments on the NIOSH Study of Leukemia in Benzene Workers. Technical Report Submitted to Gulf Canada, Ltd., by Environmental Health Associates, August 31. Cited in EPA 1985.

Beryllium

Clement Associates, Inc. 1985. Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites. Final Report prepared for U.S. EPA. September 27, 1985.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Klaassen, C., Amdur, O., and Doull, J. (Eds). 1986. Casarett and Doull's Toxicology. The Basic Science of Poisons. Third Edition. Macmillan Publishing Co., New York.

Schroeder, H.A. and M. Mitchner. 1975. Life-term studies in Rats: Effects of Aluminum, Barium, Beryllium and Tungsten. *J. Nutr.* 105:421-427.

REFERENCES (Cont'd)

Chromium

Environmental Protection Agency (EPA). 1980. Ambient Water Quality Criteria for Chromium. Office of Water Regulations and Standards, Washington, D.C. EPA 440/5-80-035.

Environmental Protection Agency (EPA). 1984. Health Assessment Document for Chromium. Environmental Criteria and Assessment Office. Research Triangle Park, North Carolina. EPA 600/8-83-014F.

Environmental Protection Agency (EPA). 1987. Draft Health Advisory for Chromium. Office of Drinking Water, Washington, D.C. March 31, 1987.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Mackenzie, R.D., Byerrum, R.U., Decker, C.F., Hoppert, C.A., and Longham, R.F. 1958. Chronic Toxicity Studies II. Hexavalent and Trivalent Chromium Administered in Drinking Water to Rats. Am. Med. Assoc. Arch. Ind. Health. 18:232-234. As cited in IRIS, 1993.

Mancuso, T.F. 1975. International Conference on Heavy Metals in the Environment, Toronto, Canada. As cited in EPA 1984.

Copper

American Conference of Governmental Industrial Hygienists (ACGIH). 1986. Documentation of the Threshold Limit Values and Biological Exposure Indices, 5th Ed. Cincinnati, Ohio.

Environmental Protection Agency (EPA). 1980. Ambient Water Quality Criteria for Copper. Office of Water Regulations and Standards, Criteria and Standards Division, Washington, D.C. October 1980. EPA 440/5-80-036.

Environmental Protection Agency (EPA). 1985. National Primary Drinking Water Regulations; Synthetic Organic Chemicals, Inorganic Chemicals and Microorganisms. 40 CFR Part 141 Fed. Reg. 50:46967-47025 (November 13, 1985).

Environmental Protection Agency (EPA). 1994. Health Effects Assessment Summary Tables (HEAST) FY-1994 Annual Update. Office of Research and Development. OERR 9200.6-303(94-1). March.

REFERENCES (Cont'd)

Cis/Trans-1,2-Dichloroethene

Agency for Toxic Substances and Disease Registry (ATSDR). 1990. Toxicological Profile for cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloroethene. U.S. Public Health Service 1990.

Barnes D.W., Sanders, V.M., White, K.L. Jr. et al. 1985. Toxicology of trans-1,2-dichloroethylene in the mouse. *Drug Chem. Toxicol.* 8:373-392.

Filser J.G., Bolt, H.M., Kimmich K. et al. 1978. Exhalation of acetone by rats on exposure to trans-1,2-dichloroethene and related compounds. *Toxicol. Lett.* 2:247-252.

Freundt K.G., Liebaltd G.P., and Lieberwirth E. 1977. Toxicity studies on trans-1,2-dichloroethylene. *Toxicology* 7:141-153.

Hayes, J.R., Condie L.W. Jr., Egle J.L. Jr. et al. 1987. The acute and subchronic toxicity in rats of trans-1,2-dichloroethylene in drinking water. *J.A. Coll. Toxicol.* 6:471-478.

Henschler, D., Hoos, R. Metaboolic activation and deactivation mechanisms of di, tri, and tetrachloroethylenes. In Snyder, R. et al., Eds. *Biological Reactive Intermediates-II: Chemical Mechanisms and Biological Effects*. Plenum Press, New York. pp. 659-666.

Jaeger, R.J., Shoner, L.H., and Coffman, L. 1977. 1,1-Dichloroethylene hepatotoxicity: Proposed mechanism of action and distribution and binding of ¹⁴C radioactivity following inhalation exposure in rats. *Environ. Health Perspec.* 21:113-119.

Quast et al. 1983. A Chronic Toxicity and Oncogenicity Study in Rats and Subchronic Toxicity Study in Dogs on Ingested Vinylidene Chloride. *Fund Appl. Toxicol* 3(1): 55-62.

Lead

Environmental Protection Agency (EPA). 1984. Health Effects Assessment for Lead. Environmental Criteria and Assessment Office, Cincinnati, Ohio. EPA/540/1-86-055.

Environmental Protection Agency (EPA). 1985. National Primary Drinking Water Regulations; Synthetic Organic Chemicals, Inorganic Chemicals and Microorganisms; Proposed Rule. 40 CFR Part 141. *Fed. Reg.* 50:46967-47025 (November 13, 1985).

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. June.

REFERENCES (Cont'd)

Manganese

Goyer, R.A. 1986. Toxic Effects of Metals. In: Casarett and Doull's Toxicology: The Basic Science of Poisons 3rd ed. Klaassen, C., Amdur, M. and Doull, J. (ed). Macmillan Publishing Co., New York, Toronto and London. p. 614.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Kondakis, et al. 1989. Possible Health Effects of High Manganese Concentration in Drinking Water. Arch. Environ. Health. 44:175-178.

Roels, H., Lauwerys, R., Buchet J.P. et al. 1987. Epidemiological Survey Among Workers Exposed to Manganese: Effects on Lung, Central Nervous System, and Some Biological Indices. Am. J. Ind. Med. 11:307-327.

Methyl tert-Butyl Ether

Agency for Toxic Substances and Disease Registry (ATSDR). 1994. Toxicological Profile for Methyl-t-Butyl Ether (Draft). U.S. Public Health Service, August 1994.

ARCO Chemical Company. 1980. Methyl tertiary-butyl ether: acute toxicological studies. Unpublished study from ARCO Research and Development, Glenolden, PA.

Biodynamics Inc. 1981. Nine day inhalation toxicity study of MTBE in the rat. Project no. 80-1452. East Millstone, NJ: Unpublished report submitted to American Petroleum Institute, Washington, DC.

Burleigh-Flayer H.D., Chun J.S., Kintigh W.J. 1992. Methyltertiary butyl ether: vapor inhalation oncogenicity study in CD-10 mice. Bushy Run Research Center, Export PA.

Chun J.S., Burleigh-Flayer H.D., Kintigh W.J. 1992. Methyl tertiary butyl ether: vapor inhalation oncogenicity study in Fischer 344 rats. Bushy Run Research Center, Export, PA. Project No. 91N0013B.

Chun J.S., Kintigh W.J. 1993. Methyl tertiary butyl ether: twenty-eight day vapor inhalation study in rats and mice. Laboratory project ID 93N1241. Bushy Run Research Center, Export, PA. (unpublished study to be peer reviewed).

REFERENCES (Cont'd)

Dodd D.E., Knitigh W.J. 1989. Methyl tertiary butyl ether (MTBE): Repeated (13-week) vapor inhalation study in rats with neurotoxicity evaluation (unpublished study). Union Carbide, Bushy Run Research Center, Export, PA.

Environmental Protection Agency (EPA). 1991. Alpha-2u-globulin: Association with chemically induced renal toxicity and neoplasia in the male rat. Risk Assessment Forum. EPA/625/3-91/019F.

Garman, R.H. 1993a. Bushy Run Research Center. Correspondence to Larry S. Andrews of ARCO Chemical Company. May 3.

Garman, R.H. 1993b. Bushy Run Research Center. Correspondence to Larry S. Andrews of ARCO Chemical Company. May 15.

Greenough R.J., McDonald P., Robinson P., et al. 1980. Methyl tertiary-butyl ether (Driveron) three month inhalation toxicity in rats. Inverisk Research Internation, Edinburgh, Scotland.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. June.

NTP (National Toxicology Program). 1987. Toxicology and carcinogenesis studies of dimethyl methylphosphonate (CAS No. 756-79-6) in F344/N rats and B6C3F1 mice (gavage studies). NIH Publication No. 88-2579.

Snamprogetti. 1980. MTBE toxicological data book. Texas Petrochemicals Corp.

Vergnes J.S., Kintigh, W.J. 1993. Methyl tertiary butyl ether: bone marrow micronucleus test in mice. Bushy Run Research Center, Export, PA (unpublished study to be peer reviewed).

2-Methylphenol

Environmental Protection Agency (EPA). 1979. The carcinogen Assessment Group's Preliminary Risk Assessment on Cresols. Type I - Air Program. Prepared by the Office of Health and Environment Assessment for the Office of Air Quality Planning and Standards, Washington, D.C.

Environmental Protection Agency (EPA). 1986. o, m, p-Cresol. 90-Day oral subchronic toxicity studies in rats. Office of Solid Waste, Washington, D.C.

Environmental Protection Agency (EPA). 1987. o, m, p-Cresol. 90-Day oral subchronic neurotoxicity study in rats. Office of Solid Waste, Washington, D.C.

REFERENCES (Cont'd)

Environmental Protection Agency (EPA). 1993. Hazardous Substances Databank. On-line February 17, 1993.

Garrett, J.S. 1975. Association between bladder tumors and chronic exposure to cresol and cresosote. (Letter) J. Occup. Med. 17:492.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

National Institute for Occupational Safety and Health (NIOSH). 1978. Criteria for a recommended standard...Occupational exposure to cresol. U.S. DHEW, DHEW (NIOSH) Publ. No. 78-133.

Uzhdavini, E.R., Astaf'yeva, I.K., Mamayeva, A.A., and Bakhtizina, G.Z. 1972. Inhalation toxicity of o-cresol. Tr. Ufimskogo Nauchno-Issledovatel'skogo Instituta Gigiyeny Profzabolevaniya. 7:115-119. (Eng. Trans).

4-Methylphenol

Environmental Protection Agency (EPA). 1993. Hazardous Substances Data Bank. On-line February 17, 1993.

Environmental Protection Agency (EPA). 1994. Health Effects Assessment Summary Tables (HEAST) FY-1994 Annual Update. Office of Research and Development. OERR-9200.6-303(94-1). March.

Garrett, J.S. 1975. Association between bladder tumors and chronic exposure to cresol and creosote. (Letter) J. Occup. Med. 17:492.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Wlodyka, J. 1964. Precancerous states of the larynx Pol. Tyg. Ted. 19:91-94. Reviewed in Albert, R.E. 1979. The Carcinogen Assessment Group's Preliminary Risk Assessment on Cresols. Type I - Air Program. U.S. EPA.

Nickel

Ambrose, A.M., Larson, D.S., Borzelleca, J.R., and Hennigar, G.R. 1976. Long-term Toxicologic Assessment of Nickel in Rats and Dogs. J. Food Sci. Technol. 13:181-187.

REFERENCES (Cont'd)

Environmental Protection Agency (EPA). 1986. Health Assessment Document for Nickel and Nickel Compounds. Office of Health and Environmental Assessment, Research Triangle Park, North Carolina. EPA 600/8-83-012FF.

Environmental Protection Agency (EPA). 1987. Health Advisory for Nickel. Office for Drinking Water, Washington, D.C. March 31, 1987.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August 1994.

Polychlorinated Biphenyls (PCBs)

Clement Associates, Inc. 1985. Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites. Final Report. September 27, 1985.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Kimbrough et al. 1974. See IRIS (1994).

Norback and Weltman, 1985. See IRIS (1994).

Polycyclic Aromatic Hydrocarbons (PAHs)

Agency for Toxic Substances and Disease Registry (ATSDR). 1987. Draft Toxicological Profile for Benzo(a)pyrene. October 1987.

Environmental Protection Agency (EPA). 1984a. Health Effects Assessment for Polycyclic Aromatic Hydrocarbons (PAHs). Environmental Criteria and Assessment Office, Cincinnati, Ohio. September 1984. EPA 540/1-86-013.

Environmental Protection Agency (EPA). 1984b. Health Effects Assessment for Naphthalene. Environmental Criteria and Assessment Office, Cincinnati, Ohio. September, 1984. EPA 540/1-86-014.

Environmental Protection Agency (EPA). 1993. Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. U.S. Environmental Protection Agency, Office of Research and Development, Washington, D.C. EPA/600/R-93/089. July.

REFERENCES (Cont'd)

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. August.

Kao, J.K., Patterson, F.K., and Hall, J. 1985. Skin Penetration and Metabolism of Topically Applied Chemicals in six Mammalian Species including Man: An *in vitro* study with benzo(a)pyrene and testosterone. *Toxicol. Appl. Pharmacol.* 81:502-516. As cited in ATSDR, 1987.

National Institute for Occupational Safety and Health (NIOSH). 1977. Criteria for a Recommended Standard - Occupational Exposure to Coal Tar Products. DHEW (NIOSH) 78-107.

Neal, J., and Rigdon, R.H. 1967. Gastric Tumors in Mice Fed Benzo(a)pyrene: A Quantitative Study. *Tex. Rep. Biol. Med.* 25:553-557.

Santodonato, J., Howard, P., and Basu, D. 1981. Health and Ecological Assessment of Polynuclear Aromatic Hydrocarbons. *J. Environ. Pathol. Toxicol.* 5:1-364.

Thyssen, J., Althoff, J., Kimmerle, G., and Mohr, U. 1981. Inhalation Studies with Benzo(a)pyrene in Syrian golden hamsters. *J. Natl. Cancer Inst.* 66:575-577.

Hill, W.R. and Pillsbury, D.M. 1939. *Argyria, the Pharmacology of Silver*. Williams and Wilkins Co. Baltimore, Maryland.

Integrated Risk Information System (IRIS), 1994. U.S. Environmental Protection Agency. On-line data base of toxicity measures. Office of Research and Development Criteria and Assessment Office, Cincinnati, OH. June.

Tetrachloroethene

Buben, J.A. and O'Flaherty, E.J.. 1985. Delineation of the Role of Metabolism in the Hepatotoxicity of Trichloroethylene and Perchloroethylene: A dose-effect study. *Toxicol. Appl. Pharmacol.* 78:105-122.

Carpenter, C.P. 1937. The Chronic Toxicity of Tetrachloroethylene. *J. Ind. Hyg. Toxicol.* 19:323-326.

Environmental Protection Agency (EPA). 1980. Ambient Water Quality Criteria for Tetrachloroethylene. Office of Water Regulations and Standards. Criteria and Standards Division, Washington, D.C. October. EPA 440/5-80-073.

REFERENCES (Cont'd)

Environmental Protection Agency (EPA). 1985a. Health Assessment Document for Tetrachloroethylene (Perchloroethylene). Office of Health and Environmental Assessment, Washington, D.C. July. EPA 600/8-82-005F.

Environmental Protection Agency (EPA). 1985b. Drinking Water Criteria Document for Tetrachloroethylene. Office of Drinking Water, Criteria and Standards Division, Washington, D.C. April.

Environmental Protection Agency (EPA). 1994. Originally obtained from the Superfund Health Risk Technical Support Center, September 27, 1993 and confirmed by the EPA in July 1994.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. Online data base of toxicity measures. Environmental Criteria and Assessment Office, Cincinnati, OH. August.

NCI (National Cancer Institute). 1977. Bioassay of Tetrachloroethylene for Possible Carcinogenicity. CAS No. 127-18-4. NCI Carcinogenesis Technical Report Series No. 13. Washington, D.C. DHEW (NIH) Publication No. 77-813.

Toluene

Environmental Protection Agency (EPA). 1985. Drinking Water Criteria Document for Toluene. Final Draft. Office of Drinking Water, Washington, D.C. March 1985. EPA 600/X-84-188.

Environmental Protection Agency (EPA). 1987. Health Advisory for Toluene. Office of Drinking Water, Washington, D.C. March 1987.

Foo, S., Jeyaratnam, J., and Koh, D. 1990. Chronic Neurobehavioral Effects of Toluene. Br. J. Ind. Med. 47(7):480-484.

Hudak, A. and Ungvary, G. 1978. Embryotoxic Effects of Benzene and Its Methyl Derivatives: Toluene, Xylene. Toxicology 11:55-63.

Integrated Risk Information System (IRIS). 1994. U.S. Environmental Protection Agency. Online data base of toxicity measures. Office of Research and Development, Environmental Criteria and Assessment Office, Cincinnati, OH. June.

Nawrot, P.S. and Staples, R.E. 1979. Embryo-fetal Toxicity and Teratogenicity of Benzene and Toluene in the Mouse. Teratology 19:41A.

REFERENCES (Cont'd)

National Toxicology Program (NTP). 1989. Toxicology and Carcinogenesis Study of Toluene in F344/N rats and B6C3F1 mice. Technical Reports Series No. 371. Research Triangle Park, NC.

NTP (1990). Toxicology and Carcinogenesis Studies of Toluene in F344/N Rats and B6C3F1 mice. NTP-TR-371.

Total Petroleum Hydrocarbons

Agency for Toxic Substances and Disease Registry (ATSDR) 1993. Toxicological Profile for Automotive Gasoline, (Draft). U.S. Public Health Service 1993.

Klaassen, C., Admur, O., and Doull, J. (Eds). 1986. Casarett and Doull's Toxicology. The Basic Science of Poisons. Third Edition. Macmillan Publishing Co., New York.

Kjhellstrand, P., Holmquist, B., Alm, P., Kanje, M., Romare, S., Jonsson, I., Mannson, L., and Bjerkemo, M. 1983. Trichloroethylene: Further Studies of the Effects on Body and Organ Weights and Plasma Butyl Cholinesterase Activity in Mice. Acta. Pharmacol. Toxicol. 43:375-384.

Vanadium

Environmental Protection Agency (EPA). 1994. Health Effects Assessment Summary Tables (HEAST). FY-1994 Annual. Office of Research and Development. OERR 9200.6-303(94-1) March.

National Academy of Science (NAS). 1974. Vanadium. Committee on Biological Effects of Atmospheric Pollutants. Division of Medical Sciences. National Research Council, Washington, D.C.

National Institute for Occupational Safety and Health (NIOSH). 1977. Criteria for a Recommended Standard - Occupational Exposure to Vanadium. DHEW (NIOSH) Publication No. 77-222.

Schroeder, H., Mitchener, M., and Nason, A. 1970. Zirconium, Niobium, Antimony and Lead in Rats: Life-time Studies. J. Nutr. 100:59-69.

Vinyl Chloride

Clement Associates, Inc. 1985. Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites. September 27, 1985.

REFERENCES (Cont'd)

Environmental Protection Agency (EPA). 1994. Health Effects Assessment Summary Tables (HEAST). FY-1994 Annual. U.S. Environmental Protection Agency. Office of Research and Development. OERR 9200.6-303 (94-1). March.

APPENDIX C

SPREADSHEET CALCULATIONS

TABLE C-1

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Ingestion Rate	X	Conversion Factor	X	Fraction Ingested	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/kg	X	100 mg/day	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1 (unitless)	X	350 days/year	X	24 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration		Ingestion Rate		Conversion Factor		Fraction Ingested		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02		100		1.0E-06		1		350		24		70		25550	5.6E-05	7.7E+00	4.3E-04
Arsenic	1.00E+01		100		1.0E-06		1		350		24		70		25550	4.7E-06	1.75E+00	8.2E-06

TOTAL RISK = 4.4E-04

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Children (0 - 6 years)

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Ingestion Rate	X	Conversion Factor	X	Fraction Ingested	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/kg	X	200 mg/day	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1 (unitless)	X	350 days/year	X	6 years	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration		Ingestion Rate		Conversion Factor		Fraction Ingested		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	¹ RISK = (CDI*SF)
Aroclor 1242	1.20E+02		200		1.0E-06		1		350		6		15		25550	1.3E-04	7.7E+00	1.0E-03
Arsenic	1.00E+01		200		1.0E-06		1		350		6		15		25550	1.1E-05	1.75E+00	1.9E-05

TOTAL RISK = 1.0E-03

30-YEAR COMBINED RISK (ADULT + CHILD) = 1.5E-03

TABLE C-1

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{aligned} \text{Chronic Daily Intake=} & \text{Soil Concentration} \times \text{Ingestion Rate} \times \text{Conversion Factor} \times \text{Fraction Ingested} \times \text{Exposure Frequency} \times \text{Exposure Duration} \times \frac{1}{\text{Body Weight}} \times \frac{1}{\text{Averaging Time}} \\ & \text{mg/kg} \times 100 \text{ mg/day} \times \frac{1 \text{ kg}}{1000000 \text{ mg}} \times 1 \text{ (unitless)} \times 350 \text{ days/year} \times 24 \text{ years} \times \frac{1}{70 \text{ kg}} \times \frac{1}{8760 \text{ days}} \end{aligned}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Antimony	5.05E+00	100	1.0E-06	1	350	24	70	8760	6.9E-06	4.0E-04	1.7E-02
Arsenic	1.00E+01	100	1.0E-06	1	350	24	70	8760	1.4E-05	3.0E-04	4.6E-02
Manganese	8.69E+02	100	1.0E-06	1	350	24	70	8760	1.2E-03	5.0E-03	2.4E-01
Vanadium	9.59E+01	100	1.0E-06	1	350	24	70	8760	1.3E-04	7.0E-03	1.9E-02

HAZARD INDEX = 3.2E-01

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Children (0-6 years)

$$\begin{aligned} \text{Chronic Daily Intake=} & \text{Soil Concentration} \times \text{Ingestion Rate} \times \text{Conversion Factor} \times \text{Fraction Ingested} \times \text{Exposure Frequency} \times \text{Exposure Duration} \times \frac{1}{\text{Body Weight}} \times \frac{1}{\text{Averaging Time}} \\ & \text{mg/kg} \times 200 \text{ mg/day} \times \frac{1 \text{ kg}}{1000000 \text{ mg}} \times 1 \text{ (unitless)} \times 350 \text{ days/year} \times 6 \text{ years} \times \frac{1}{15 \text{ kg}} \times \frac{1}{2190 \text{ days}} \end{aligned}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Antimony	5.05E+00	200	1.0E-06	1	350	6	15	2190	6.5E-05	4.0E-04	1.6E-01
Arsenic	1.00E+01	200	1.0E-06	1	350	6	15	2190	1.3E-04	3.0E-04	4.3E-01
Manganese	8.69E+02	200	1.0E-06	1	350	6	15	2190	1.1E-02	5.0E-03	2.2E+00
Vanadium	9.59E+01	200	1.0E-06	1	350	6	15	2190	1.2E-03	7.0E-03	1.8E-01

HAZARD INDEX = 3.0E+00
30-YEAR COMBINED HAZARD (ADULT + CHILD) = 3.3E+00

TABLE C-2

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X Skin Surface Area	X Adherence Factor	X Absorption Factor	X Exposure Frequency	X Exposure Duration	X $\frac{1}{70 \text{ kg}}$	X $\frac{1}{25550 \text{ days}}$			
	mg/kg	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X 5065 cm2/day	X 1 mg/cm2	X (unitless)	X 350 events/year	X 24 years	X $\frac{1}{70 \text{ kg}}$	X $\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	1.0E-06	5065	1	0.06	350	24	70	25550	1.7E-04	7.7E+00	1.3E-03
TOTAL RISK = 1.3E-03												

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Children (0-6 years)

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X Skin Surface Area	X Adherence Factor	X Absorption Factor	X Exposure Frequency	X Exposure Duration	X $\frac{1}{15 \text{ kg}}$	X $\frac{1}{25550 \text{ days}}$			
	mg/kg	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X 1270 cm2/day	X 1 mg/cm2	X (unitless)	X 350 events/year	X 6 years	X $\frac{1}{15 \text{ kg}}$	X $\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF) [†]	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	1.0E-06	1270	1	0.06	350	6	15	25550	5.0E-05	7.7E+00	3.9E-04
TOTAL RISK = 3.9E-04												
30-YEAR COMBINED RISK (ADULT + CHILD) = 1.7E-03												

TABLE C-2

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Conversion} & \text{X} & \text{Skin Surface} & \text{X} & \text{Adherence} & \text{X} & \text{Absorption} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\ (\text{mg/kg-day}) & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 5065 \text{ cm}^2/\text{day} & \text{X} & 1 \text{ mg/cm}^2 & \text{X} & (\text{unitless}) & \text{X} & 350 \text{ events/year} & \text{X} & 24 \text{ years} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{8760 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD

A chronic noncarcinogenic oral reference dose is not currently established for Aroclor 1242.

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Children (0-6 years)

$$\begin{array}{cccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Conversion} & \text{X} & \text{Skin Surface} & \text{X} & \text{Adherence} & \text{X} & \text{Absorption} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\ (\text{mg/kg-day}) & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1270 \text{ cm}^2/\text{day} & \text{X} & 1 \text{ mg/cm}^2 & \text{X} & (\text{unitless}) & \text{X} & 350 \text{ events/year} & \text{X} & 6 \text{ years} & \text{X} & \frac{1}{15 \text{ kg}} & \text{X} & \frac{1}{2190 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD

A chronic noncarcinogenic oral reference dose is not currently established for Aroclor 1242.

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO

RISKS TO RESIDENTS (INSIDE AND OUTSIDE RESIDENCE) IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp. Soil	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Concen.		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg		X 0.070 mg/m3		X (unitless)		X 0.83 m3/hr		X 18 hrs/day		X 350 days/yr		X 24 years		X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$		X $\frac{1}{70 \text{ kg}}$		X $\frac{1}{25550 \text{ days}}$					
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)		
Arsenic	1.00E+01		7.0E-02		0.75		0.83		18		350		24		1.0E-06		70		25550	3.7E-08	1.50E+01	5.5E-07		

TOTAL RISK = 5.5E-07

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Children (0-6 years)

Chronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Susp. Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	350 days/yr	X	6 years	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{2190 \text{ days}}$					
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)		
Arsenic	1.00E+01		7.0E-02		0.75		0.83		18		350		6		1.0E-06		15		25550	4.3E-08	1.50E+01	6.4E-07		

TOTAL RISK = 6.4E-07

30-YEAR COMBINED RISK (ADULT + CHILD) = 1.2E-06

TABLE C-3

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO RESIDENTS (INSIDE AND OUTSIDE RESIDENCE) IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE - Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	350 days/yr	X	24 years	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{8760 \text{ days}}$					
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD		
Manganese	8.69E+02		7.0E-02		0.75		0.83		18		350		24		1.0E-06		70		8760	9.3E-06	1.4E-05	6.7E-01		
																							HAZARD INDEX = 6.7E-01	

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE - Children (0-6 years)

Chronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	350 days/yr	X	6 years	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{2190 \text{ days}}$					
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD		
Manganese	8.69E+02		7.0E-02		0.75		0.83		18		350		6		1.0E-06		15		2190	4.4E-05	1.4E-05	3.1E+00		
																							HAZARD INDEX = 3.1E+00	
																							30-YEAR COMBINED HAZARD INDEX (ADULT + CHILD) = 3.8E+00	

TABLE C-4

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Ingestion Rate	X	Conversion Factor	X	Fraction Ingested	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/kg	X	50 mg/day	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1 (unitless)	X	250 days/year	X	25 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration		Ingestion Rate		Conversion Factor		Fraction Ingested		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzo(b)fluoranthene	8.70E-01		50		1.0E-06		1		250		25		70		25550	1.5E-07	7.3E-01	1.1E-07
Benzo(a)pyrene	7.70E-01		50		1.0E-06		1		250		25		70		25550	1.3E-07	7.3E+00	9.8E-07
Beryllium	2.60E-01		50		1.0E-06		1		250		25		70		25550	4.5E-08	4.3E+00	2.0E-07

TOTAL RISK = 1.3E-06

TABLE C-4

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{cccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Ingestion} & \text{X} & \text{Conversion} & \text{X} & \text{Fraction} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \text{X} & 50 \text{ mg/day} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1 & \text{X} & 250 \text{ days/year} & \text{X} & 25 \text{ years} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Antimony	5.90E+00	50	1.0E-06	1	250	25	70	9125	2.9E-06	4.0E-04	7.2E-03
Beryllium	2.60E-01	50	1.0E-06	1	250	25	70	9125	1.3E-07	5.0E-03	2.5E-05
Manganese	8.34E+02	50	1.0E-06	1	250	25	70	9125	4.1E-04	5.0E-03	8.2E-02
Vanadium	1.19E+02	50	1.0E-06	1	250	25	70	9125	5.8E-05	7.0E-03	8.3E-03

HAZARD INDEX = 9.7E-02

TABLE C-5

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE FIRE DEPT/TEXACO GAS STATION/VANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 250 \text{ events/year} & \times & 25 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-5

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 250 \text{ events/year} & \times & 25 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO

RISKS TO SITE WORKERS/EMPLOYEES IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	1	X	1			
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor		Body Wt		Avging Time			
	mg/kg		0.070 mg/m3		(unitless)		0.83 m3/hr		8 hrs/day		250 days/yr		25 years		$\frac{1 \text{ kg}}{1000000 \text{ mg}}$		$\frac{1}{70 \text{ kg}}$		$\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Beryllium	2.60E-01		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		25550	3.2E-10	8.4E+00	2.7E-09

TOTAL RISK = 2.7E-09

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO

RISKS TO SITE WORKERS/EMPLOYEES IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	1	X	1			
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor		Body Wt		Avging Time			
	mg/kg		0.070 mg/m3		(unitless)		0.83 m3/hr		8 hrs/day		250 days/yr		25 years		$\frac{1 \text{ kg}}{1000000 \text{ mg}}$		$\frac{1}{70 \text{ kg}}$		$\frac{1}{9125 \text{ days}}$			
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Manganese	8.34E+02		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		9125	2.8E-06	1.4E-05	2.0E-01

HAZARD INDEX = 2.0E-01

TABLE C-7

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 50 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 250 \text{ days/year} & \times & 25 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Arsenic	1.16E+01	50	1.0E-06	1	250	25	70	25550	2.0E-06	1.75E+00	3.5E-06
Beryllium	2.40E-01	50	1.0E-06	1	250	25	70	25550	4.2E-08	4.3E+00	1.8E-07

TOTAL RISK = 3.7E-06

TABLE C-7

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Ingestion} & \text{X} & \text{Conversion} & \text{X} & \text{Fraction} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\ (\text{mg/kg-day}) & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \text{X} & 50 \text{ mg/day} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1 & \text{X} & 250 \text{ days/year} & \text{X} & 25 \text{ years} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
2-Methylphenol	3.20E+02	50	1.0E-06	1	250	25	70	9125	1.6E-04	5.0E-02	3.1E-03
4-Methylphenol	1.30E+03	50	1.0E-06	1	250	25	70	9125	6.4E-04	5.0E-03	1.3E-01
Antimony	7.30E+00	50	1.0E-06	1	250	25	70	9125	3.6E-06	4.0E-04	8.9E-03
Arsenic	1.16E+01	50	1.0E-06	1	250	25	70	9125	5.7E-06	3.0E-04	1.9E-02
Beryllium	2.40E-01	50	1.0E-06	1	250	25	70	9125	1.2E-07	5.0E-03	2.3E-05
Manganese	8.73E+02	50	1.0E-06	1	250	25	70	9125	4.3E-04	5.0E-03	8.5E-02
Vanadium	1.07E+02	50	1.0E-06	1	250	25	70	9125	5.2E-05	7.0E-03	7.5E-03

HAZARD INDEX = 2.5E-01

TABLE C-8

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT- USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Conversion Factor	X	Skin Surface Area	X	Adherence Factor	X	Absorption Factor	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$
	mg/kg	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1940 cm ² /day	X	1 mg/cm ²	X	(unitless)	X	250 events/year	X	25 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-6

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT- USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Conversion Factor	X	Skin Surface Area	X	Adherence Factor	X	Absorption Factor	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$
	mg/kg	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1940 cm ² /day	X	1 mg/cm ²	X	(unitless)	X	250 events/year	X	25 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{9125 \text{ days}}$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-9

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccccccccc}
 \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Ingestion} & \text{X} & \text{Conversion} & \text{X} & \text{Fraction} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\
 (\text{mg/kg-day}) & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \text{X} & 50 \text{ mg/day} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1 & \text{X} & 250 \text{ days/year} & \text{X} & 25 \text{ years} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{25550 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Arsenic	2.30E+00	50	1.0E-06	1	250	25	70	25550	4.0E-07	1.75E+00	7.0E-07
Beryllium	2.70E-01	50	1.0E-06	1	250	25	70	25550	4.7E-08	4.3E+00	2.0E-07

TOTAL RISK = 9.1E-07

TABLE C-9

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 50 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 250 \text{ days/year} & \times & 25 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
2-Methylphenol	3.20E+02	50	1.0E-06	1	250	25	70	9125	1.6E-04	5.0E-02	3.1E-03
4-Methylphenol	1.30E+03	50	1.0E-06	1	250	25	70	9125	6.4E-04	5.0E-03	1.3E-01
Antimony	4.63E+00	50	1.0E-06	1	250	25	70	9125	2.3E-06	4.0E-04	5.7E-03
Arsenic	2.30E+00	50	1.0E-06	1	250	25	70	9125	1.1E-06	3.0E-04	3.8E-03
Beryllium	2.70E-01	50	1.0E-06	1	250	25	70	9125	1.3E-07	5.0E-03	2.6E-05
Manganese	8.73E+02	50	1.0E-06	1	250	25	70	9125	4.3E-04	5.0E-03	8.5E-02
Vanadium	1.15E+02	50	1.0E-06	1	250	25	70	9125	5.6E-05	7.0E-03	8.0E-03

HAZARD INDEX = 2.3E-01

TABLE C-10

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Conversion Factor	X	Skin Surface Area	X	Adherence Factor	X	Absorption Factor	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$						
	mg/kg	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1940 cm2/day	X	1 mg/cm2	X	(unitless)	X	250 events/year	X	25 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$						
Chemicals	Soil Concentration		Conversion Factor		Skin Surface Area		Adherence Factor		Absorption Factor		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)			

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-10

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 250 \text{ events/year} & \times & 25 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-11

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg		X 0.070 mg/m3		X (unitless)		X 0.83 m3/hr		X 8 hrs/day		X 250 days/yr		X 25 years		X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$		X $\frac{1}{70 \text{ kg}}$		X $\frac{1}{25550 \text{ days}}$					
Chemicals	Soil		Susp.		Resp.		Inhalation		Exposure		Exposure		Exposure		Conv.		Body		Averaging	Chronic Daily	Slope	RISK =		
	Concen.		Concen.		Fraction		Rate		Time		Frequency		Duration		Factor		Weight		Time	Intake (CDI)	Factor (SF)	(CDI*SF)		
Arsenic	2.30E+00		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		25550	2.8E-09	1.5E+01	4.2E-08		
Beryllium	2.70E-01		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		25550	3.3E-10	8.4E+00	2.8E-09		

TOTAL RISK = 4.5E-08

TABLE C-11

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE CURRICULUM CENTER BUILDING AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$				
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor								
	mg/kg		0.070 mg/m3		X (unitless)		X 0.83 m3/hr		X 8 hrs/day		X 250 days/yr		X 25 years		X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$		X $\frac{1}{70 \text{ kg}}$		X $\frac{1}{9125 \text{ days}}$				
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD	
Manganese	8.73E+02		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		9125	3.0E-06	1.4E-05	2.1E-01	

HAZARD INDEX = 2.1E-01

TABLE C-1.

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Ingestion Rate	X	Conversion Factor	X	Fraction Ingested	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$						
	mg/kg	X	50 mg/day	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1 (unitless)	X	250 days/year	X	25 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$						
Chemicals	Soil Concentration		Ingestion Rate		Conversion Factor		Fraction Ingested		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time		Chronic Daily Intake (CDI)		Slope Factor (SF)		RISK = (CDI*SF)
Tetrachloroethene	4.40E+02		50		1.0E-06		1		250		25		70		25550		7.7E-05		5.2E-02		4.0E-06
Arsenic	1.87E+01		50		1.0E-06		1		250		25		70		25550		3.3E-06		1.75E+00		5.7E-06

TOTAL RISK = 9.7E-06

TABLE C-12

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\text{Chronic Daily Intake} = \frac{\text{Soil Concentration (mg/kg)} \times \text{Ingestion Rate (50 mg/day)} \times \text{Conversion Factor} \left(\frac{1 \text{ kg}}{1000000 \text{ mg}}\right) \times \text{Fraction Ingested} \left(\frac{1}{\text{unitless}}\right) \times \text{Exposure Frequency (250 days/year)} \times \text{Exposure Duration (25 years)} \times \frac{1}{\text{Body Weight (70 kg)}} \times \frac{1}{\text{Averaging Time (9125 days)}} \text{ (mg/kg-day)}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Tetrachloroethene	4.40E+02	50	1.0E-06	1	250	25	70	9125	2.2E-04	1.0E-02	2.2E-02
Antimony	6.35E+00	50	1.0E-06	1	250	25	70	9125	3.1E-06	4.0E-04	7.8E-03
Arsenic	1.87E+01	50	1.0E-06	1	250	25	70	9125	9.1E-06	3.0E-04	3.0E-02
Manganese	8.70E+02	50	1.0E-06	1	250	25	70	9125	4.3E-04	5.0E-03	8.5E-02
Vanadium	8.31E+01	50	1.0E-06	1	250	25	70	9125	4.1E-05	7.0E-03	5.8E-03

HAZARD INDEX = 1.5E-01

TABLE C-13

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccc}
 \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Conversion} & \text{X} & \text{Skin Surface} & \text{X} & \text{Adherence} & \text{X} & \text{Absorption} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\
 \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1940 \text{ cm}^2/\text{day} & \text{X} & 1 \text{ mg/cm}^2 & \text{X} & (\text{unitless}) & \text{X} & 250 \text{ events/year} & \text{X} & 25 \text{ years} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{25550 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-13

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 250 \text{ events/year} & \times & 25 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CD/RfD

No chemicals of potential concern selected for surface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

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TABLE C-14

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$					
	Concn.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg		X 0.070 mg/m3		X (unitless)		X 0.83 m3/hr		X 8 hrs/day		X 250 days/yr		X 25 years		X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$		X $\frac{1}{70 \text{ kg}}$		X $\frac{1}{25550 \text{ days}}$					
Chemicals	Soil		Susp.		Resp.		Inhalation		Exposure		Exposure		Exposure		Conv.		Body		Averaging	Chronic Daily	Slope	RISK =		
	Concn.		Concn.		Fraction		Rate		Time		Frequency		Duration		Factor		Weight		Time	Intake (CDI)	Factor (SF)	(CDI*SF)		
Tetrachloroethene	4.40E+02		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		25550	5.4E-07	2.0E-03	1.1E-09		
Arsenic	1.87E+01		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		25550	2.3E-08	1.5E+01	3.4E-07		

TOTAL RISK = 3.4E-07

TABLE C-14

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE - USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concen.	X	Susp. Soil Concen.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Averaging Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	250 days/yr	X	25 years	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{9125 \text{ days}}$					
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD		
Manganese	8.70E+02		7.0E-02		0.75		0.83		8		250		25		1.0E-06		70		9125	3.0E-06	1.4E-05	2.1E-01		

HAZARD INDEX = 2.1E-01

TABLE C-15

SURFACE SOIL INHALATION OF VOCS PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION OF VOCS EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Soil-to-Air Volatilization Factor	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Averaging Time}}$
	mg/kg	X	$\frac{1}{41506 \text{ m}^3/\text{kg}}$	X	0.83 m ³ /hr	X	8 hrs/day	X	250 days/yr	X	25 year	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$
Chemicals	Soil Concn.		Volatilization Factor		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time
Tetrachloroethene	4.40E+02		2.4E-05		0.83		8		250		25		70		25550
															2.5E-04
															2.0E-03
															RISK = (CDI*SF)
															4.9E-07
															TOTAL RISK = 4.9E-07

TABLE C-15

SURFACE SOIL INHALATION OF VOCS PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE WORKERS/EMPLOYEES IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION OF VOCS EXPOSURE: Adults

$$\begin{array}{l} \text{Chronic Daily Intake=} \\ \text{(mg/kg-day)} \end{array} \quad \begin{array}{c} \text{Soil} \\ \text{Concn.} \end{array} \times \begin{array}{c} \text{Soil-to-Air} \\ \text{Volatilization} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{Inhalation} \\ \text{Rate} \end{array} \times \begin{array}{c} \text{Exposure} \\ \text{Time} \end{array} \times \begin{array}{c} \text{Exposure} \\ \text{Frequency} \end{array} \times \begin{array}{c} \text{Exposure} \\ \text{Duration} \end{array} \times \frac{1}{\text{Body Wt}} \times \frac{1}{\text{Averaging Time}}$$

$$\text{mg/kg} \times \frac{1}{41506 \text{ m}^3/\text{kg}} \times 0.83 \text{ m}^3/\text{hr} \times 8 \text{ hrs/day} \times 250 \text{ days/yr} \times 25 \text{ year} \times \frac{1}{70 \text{ kg}} \times \frac{1}{9125 \text{ days}}$$

Chemicals	Soil Concn.	Volatilization Factor	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD

Tetrachloroethene does not currently have an established chronic inhalation reference dose.

TABLE C-1

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 480 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 225 \text{ days/year} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	480	1.0E-06	1	225	1	70	25550	7.2E-06	7.7E+00	5.6E-05
Arsenic	1.00E+01	480	1.0E-06	1	225	1	70	25550	6.0E-07	1.75E+00	1.1E-06

TOTAL RISK = 5.7E-05

TABLE C-1c

SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{cccccccccc} \text{Subchronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 480 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 225 \text{ days/year} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{365 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD
Antimony	5.05E+00	480	1.0E-06	1	225	1	70	365	2.1E-05	4.0E-04	5.3E-02
Arsenic	1.00E+01	480	1.0E-06	1	225	1	70	365	4.2E-05	3.0E-04	1.4E-01
Manganese	8.69E+02	480	1.0E-06	1	225	1	70	365	3.7E-03	5.0E-03	7.3E-01
Vanadium	9.59E+01	480	1.0E-06	1	225	1	70	365	4.1E-04	7.0E-03	5.8E-02

HAZARD INDEX = 9.9E-01

TABLE C-1,

SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDEN AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X Conversion Factor	X Skin Surface Area	X Adherence Factor	X Absorption Factor	X Exposure Frequency	X Exposure Duration	X $\frac{1}{\text{Body Weight}}$	X $\frac{1}{\text{Averaging Time}}$			
	mg/kg	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X 6125 cm ² /day	X 1 mg/cm ²	X (unitless)	X 225 events/yr	X 1 year	X $\frac{1}{70 \text{ kg}}$	X $\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	1.0E-06	6125	1	0.06	225	1	70	25550	5.5E-06	7.7E+00	4.3E-05

TOTAL RISK = 4.3E-05

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Chemicals	Subchronic Daily Intake= (mg/kg-day)										Reference Dose (RfD)	HQ= SDI/RfD
	Soil Concentration	X Conversion Factor	X Skin Surface Area	X Adherence Factor	X Absorption Factor	X Exposure Frequency	X Exposure Duration	X $\frac{1}{\text{Body Weight}}$	X $\frac{1}{\text{Averaging Time}}$			
	mg/kg	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X 6125 cm2/day	X 1 mg/cm2	X (unitless)	X 225 events/yr	X 1 year	X $\frac{1}{70 \text{ kg}}$	X $\frac{1}{365 \text{ days}}$			
	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)		

A subchronic noncarcinogenic oral reference dose is not currently established for Aroclor 1242.

TUT 007 0155

TABLE C-18

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Susp. Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	225 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$					
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)		
Arsenic	1.00E+01		7.0E-02		0.75		0.83		8		225		1		1.0E-06		70		25550	4.4E-10	1.5E+01	6.6E-09		

TOTAL RISK = 6.6E-09

TUT 007 0156

TABLE C-18

SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Susp. Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$						
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	225 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$						
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD			
Manganese	8.69E+02		7.0E-02		0.75		0.83		8		225		1		1.0E-06		70		365	2.7E-06	1.1E-04	2.4E-02			

HAZARD INDEX = 2.4E-02

TABLE C-1b

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{l} \text{Chronic Daily Intake=} \\ \text{(mg/kg-day)} \end{array} \quad \begin{array}{c} \text{Soil} \\ \text{Concentration} \end{array} \times \begin{array}{c} \text{X} \\ \text{Conversion} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{X} \\ \text{Skin Surface} \\ \text{Area} \end{array} \times \begin{array}{c} \text{X} \\ \text{Adherence} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{X} \\ \text{Absorption} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{X} \\ \text{Exposure} \\ \text{Frequency} \end{array} \times \begin{array}{c} \text{X} \\ \text{Exposure} \\ \text{Duration} \end{array} \times \frac{1}{\text{Body Weight}} \times \frac{1}{\text{Averaging Time}}$$

$$\text{mg/kg} \quad \times \frac{1 \text{ kg}}{1000000 \text{ mg}} \times 5065 \text{ cm}^2/\text{day} \times 1 \text{ mg/cm}^2 \times (\text{unitless}) \times 91 \text{ events/yr} \times 1 \text{ year} \times \frac{1}{70 \text{ kg}} \times \frac{1}{25550 \text{ days}}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Children (0-6 years)

$$\begin{array}{l} \text{Chronic Daily Intake=} \\ \text{(mg/kg-day)} \end{array} \quad \begin{array}{c} \text{Soil} \\ \text{Concentration} \end{array} \times \begin{array}{c} \text{X} \\ \text{Conversion} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{X} \\ \text{Skin Surface} \\ \text{Area} \end{array} \times \begin{array}{c} \text{X} \\ \text{Adherence} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{X} \\ \text{Absorption} \\ \text{Factor} \end{array} \times \begin{array}{c} \text{X} \\ \text{Exposure} \\ \text{Frequency} \end{array} \times \begin{array}{c} \text{X} \\ \text{Exposure} \\ \text{Duration} \end{array} \times \frac{1}{\text{Body Weight}} \times \frac{1}{\text{Averaging Time}}$$

$$\text{mg/kg} \quad \times \frac{1 \text{ kg}}{1000000 \text{ mg}} \times 1270 \text{ cm}^2/\text{day} \times 1 \text{ mg/cm}^2 \times (\text{unitless}) \times 91 \text{ events/yr} \times 1 \text{ year} \times \frac{1}{15 \text{ kg}} \times \frac{1}{25550 \text{ days}}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-19

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Subchronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 5065 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 91 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{365 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Children (0-6 years)

$$\begin{array}{cccccccccccc} \text{Subchronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1270 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 91 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{15 \text{ kg}} & \times & \frac{1}{365 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-20

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO

RISKS TO SITE RESIDENTS (INSIDE AND OUTSIDE RESIDENCE) IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concen.	X	Susp. Soil Concen.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	91 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$					
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)		
Arsenic	4.92E+01		7.00E-02		0.75		0.83		18		91		1		1.0E-06		70		25550	2.0E-09	1.5E+01	2.9E-08		
Beryllium	4.60E-01		7.00E-02		0.75		0.83		18		91		1		1.0E-06		70		25550	1.8E-11	8.4E+00	1.5E-10		

TOTAL RISK = 3.0E-08

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Children (0-6 years)

Chronic Daily Intake= (mg/kg-day)	Soil Concen.	X	Soil Concen.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$				
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	91 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$				
			Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)	
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)	
Arsenic	4.92E+01		7.00E-02		0.75		0.83		18		91		1		1.0E-06		15		25550	9.2E-09	1.5E+01	1.4E-07	
Beryllium	4.60E-01		7.00E-02		0.75		0.83		18		91		1		1.0E-06		15		25550	8.6E-11	8.4E+00	7.2E-10	

TOTAL RISK = 1.4E-07

COMBINED TOTAL RISK (ADULT + CHILD) = 1.7E-07

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE RESIDENTS (INSIDE AND OUTSIDE RESIDENCE) IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concen.	X	Susp. Soil Concen.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$			
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	91 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$			
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD
Manganese	7.63E+02		7.00E-02		0.75		0.83		18		91		1		1.0E-06		70		365	2.1E-06	1.1E-04	1.9E-02

HAZARD INDEX = 1.9E-02

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Children (0-6 years)

Subchronic Daily Intake= (mg/kg-day)	Soil Concen.	X	Soil Concen.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$				
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	18 hrs/day	X	91 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$				
			Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD	
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD	
Manganese	7.63E+02		7.00E-02		0.75		0.83		18		91		1		1.0E-06		15		365	9.9E-06	1.1E-04	9.0E-02	

HAZARD INDEX = 9.0E-02

TOTAL HAZARD INDEX (ADULT + CHILD) = 1.1E-01

TABLE C-2

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc}
 \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\
 \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 65 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e. cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-2:

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concentration	X Conversion Factor	X Skin Surface Area	X Adherence Factor	X Absorption Factor	X Exposure Frequency	X Exposure Duration	X $\frac{1}{\text{Body Weight}}$	X $\frac{1}{\text{Averaging Time}}$				
	mg/kg	X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X 1940 cm ² /day	X 1 mg/cm ²	X (unitless)	X 65 events/yr	X 1 year	X $\frac{1}{70 \text{ kg}}$	X $\frac{1}{365 \text{ days}}$				
Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD	

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e. cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-22

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO

RISKS TO SITE WORKERS IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg		X 0.070 mg/m3		X (unitless)		X 0.83 m3/hr		X 8 hrs/day		X 65 days/yr		X 1 year		X $\frac{1 \text{ kg}}{1000000 \text{ mg}}$		X $\frac{1}{70 \text{ kg}}$		X $\frac{1}{25550 \text{ days}}$					
Chemicals	Soil		Susp.		Resp.		Inhalation		Exposure		Exposure		Exposure		Conv.		Body		Averaging	Chronic Daily	Slope	RISK =		
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor		Weight		Time	Intake (CDI)	Factor (SF)	(CDI*SF)		
Arsenic	1.80E+00		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	2.3E-11	1.5E+01	3.4E-10		
Beryllium	3.60E-01		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	4.6E-12	8.4E+00	3.8E-11		

TOTAL RISK = 3.8E-10

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE FIRE DEPT/TEXACO GAS STATION/ANTILLES AUTO PARTS/RAMSAY MOTOR CO. AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil X Concen.	Susp. Soil X Concen.	Resp. X Fraction	Inhalation X Rate	Exposure X Time	Exposure X Frequency	Exposure X Duration	Conv. X Factor	$\frac{1}{\text{Body Wt}}$ X	$\frac{1}{\text{Aving Time}}$ X			
	mg/kg X	0.070 mg/m3 X	(unitless) X	0.83 m3/hr X	8 hrs/day X	65 days/yr X	1 year X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$ X	$\frac{1}{70 \text{ kg}}$ X	$\frac{1}{365 \text{ days}}$ X			
Chemicals	Soil Concen.	Susp. Soil Concen.	Resp. Fraction	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Conv. Factor	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD
Barium	1.12E+02	7.0E-02	0.75	0.83	8	65	1	1.0E-06	70	365	1.0E-07	1.4E-03	7.1E-05
Manganese	9.07E+02	7.0E-02	0.75	0.83	8	65	1	1.0E-06	70	365	8.0E-07	1.1E-04	7.3E-03

HAZARD INDEX = 7.4E-03

TABLE C-23

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc}
 \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\
 \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 65 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e. cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TUT 007 0166

TABLE C-2

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE CURRICULUM CENTER BUILDING AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Subchronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1940 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 65 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{365 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e. cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TUT
007
0167

Table C-24

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE CURRICULUM CENTER BUILDING AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$					
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)		
Arsenic	5.54E+00		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	7.0E-11	1.5E+01	1.1E-09		
Beryllium	1.90E-01		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	2.4E-12	8.4E+00	2.0E-11		

TOTAL RISK = 1.1E-09

TUT 007 0168

**SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE CURRICULUM CENTER BUILDING AREA**

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Susp. Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$			
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$			
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD
Manganese	8.55E+02		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		365	7.6E-07	1.1E-04	6.9E-03

HAZARD INDEX = 6.9E-03

TABLE C-1

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE ESSO GAS STATION AND SPLASH AND DASH CAR WASH AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Conversion} & \text{X} & \text{Skin Surface} & \text{X} & \text{Adherence} & \text{X} & \text{Absorption} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1940 \text{ cm}^2/\text{day} & \text{X} & 1 \text{ mg/cm}^2 & \text{X} & (\text{unitless}) & \text{X} & 65 \text{ events/yr} & \text{X} & 1 \text{ year} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e. cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TUT 007 0170

TABLE C-1

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE ESSO GAS STATION AND SPLASH AND DASH CAR WASH AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{ccccccccccccc}
 \text{Subchronic Daily Intake=} & \text{Soil} & \text{X} & \text{Conversion} & \text{X} & \text{Skin Surface} & \text{X} & \text{Adherence} & \text{X} & \text{Absorption} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\
 \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1940 \text{ cm}^2/\text{day} & \text{X} & 1 \text{ mg/cm}^2 & \text{X} & (\text{unitless}) & \text{X} & 65 \text{ events/yr} & \text{X} & 1 \text{ year} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{365 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e. cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TUT 007 0171

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE ESSO GAS STATION AND SPLASH AND DASH CAR WASH AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$					
Chemicals	Soil		Susp.		Resp.		Inhalation		Exposure		Exposure		Exposure		Conv.		Body		Averaging	Chronic Daily	Slope		RISK =	
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor		Weight		Time	Intake (CDI)	Factor (SF)		(CDI*SF)	
Arsenic	1.60E+00		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	2.0E-11	1.5E+01		3.0E-10	
Beryllium	3.50E-01		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	4.4E-12	8.4E+00		3.7E-11	

TOTAL RISK = 3.4E-10

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE ESSO GAS STATION AND SPLASH AND DASH CAR WASH AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concen.	X	Susp. Soil Concen.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$					
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD		
Manganese	1.01E+03		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		365	9.0E-07	1.1E-04	8.2E-03		

HAZARD INDEX = 8.2E-03

TABLE C-2.

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc}
 \text{Chronic Daily Intake=} & \text{Soil} & \text{X} & \text{Conversion} & \text{X} & \text{Skin Surface} & \text{X} & \text{Adherence} & \text{X} & \text{Absorption} & \text{X} & \text{Exposure} & \text{X} & \text{Exposure} & \text{X} & \frac{1}{\text{Body Weight}} & \text{X} & \frac{1}{\text{Averaging Time}} \\
 \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \text{X} & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \text{X} & 1940 \text{ cm}^2/\text{day} & \text{X} & 1 \text{ mg/cm}^2 & \text{X} & (\text{unitless}) & \text{X} & 65 \text{ events/yr} & \text{X} & 1 \text{ year} & \text{X} & \frac{1}{70 \text{ kg}} & \text{X} & \frac{1}{25550 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Conversion Factor	X	Skin Surface Area	X	Adherence Factor	X	Absorption Factor	X	Exposure Frequency	X	Exposure Duration	X	1 Body Weight	X	1 Averaging Time
	mg/kg	X	1 kg 1000000 mg	X	1940 cm ² /day	X	1 mg/cm ²	X	(unitless)	X	65 events/yr	X	1 year	X	1 70 kg	X	1 365 days

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD

No chemicals of potential concern for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TUT 007 0175

**SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA**

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$					
Chemicals	Soil		Susp.		Resp.		Inhalation		Exposure		Exposure		Exposure		Conv.		Body		Averaging	Chronic Daily	Slope	RISK =		
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor		Weight		Time	Intake (CDI)	Factor (SF)	(CDI*SF)		
Arsenic	1.85E+02		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	2.3E-09	1.5E+01	3.5E-08		

TOTAL RISK = 3.5E-08

SUBSURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO SITE WORKERS IN THE O'HENRY DRY CLEANERS AND LIQUOR BARN AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concn.	X	Susp. Soil Concn.	X	Resp. Fraction	X	Inhalation Rate	X	Exposure Time	X	Exposure Frequency	X	Exposure Duration	X	Conv. Factor	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Aving Time}}$					
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$					
Chemicals	Soil Concn.		Susp. Soil Concn.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD		
Manganese	2.20E+03		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		365	2.0E-06	1.1E-04	1.8E-02		

HAZARD INDEX = 1.8E-02

TABLE C-1

SUBSURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INGESTION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Ingestion Rate	X	Conversion Factor	X	Fraction Ingested	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/kg	X	480 mg/day	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1 (unitless)	X	65 days/year	X	1 year	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$			
Chemicals	Soil Concentration		Ingestion Rate		Conversion Factor		Fraction Ingested		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzo(a)pyrene	1.90E-01		480		1.0E-06		1		65		1		70		25550	3.3E-09	7.3E+00	2.4E-08
Arsenic	4.92E+01		480		1.0E-06		1		65		1		70		25550	8.6E-07	1.75E+00	1.5E-06
Beryllium	4.60E-01		480		1.0E-06		1		65		1		70		25550	8.0E-09	4.3E+00	3.5E-08

TOTAL RISK = 1.6E-06

TABLE C-2

SUBSURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INGESTION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil Concentration	X	Ingestion Rate	X	Conversion Factor	X	Fraction Ingested	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$
	mg/kg	X	480 mg/day	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	1 (unitless)	X	65 days/year	X	1 year	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$
Chemicals	Soil Concentration		Ingestion Rate		Conversion Factor		Fraction Ingested		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time
Antimony	5.10E+00		480		1.0E-06		1		65		1		70		365
Arsenic	4.92E+01		480		1.0E-06		1		65		1		70		365
Beryllium	4.60E-01		480		1.0E-06		1		65		1		70		365
Manganese	7.63E+02		480		1.0E-06		1		65		1		70		365
Vanadium	1.57E+02		480		1.0E-06		1		65		1		70		365

HAZARD INDEX = 4.3E-01

TABLE C-36

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDEN AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc}
 \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\
 \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\
 & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 6125 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 65 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}}
 \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-30

SUBSURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDEN AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{cccccccccccc} \text{Subchronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 6125 \text{ cm}^2/\text{day} & \times & 1 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 65 \text{ events/yr} & \times & 1 \text{ year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{365 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD

No chemicals of potential concern selected for subsurface soil in this area of concern have established dermal absorption factors (i.e., cadmium and PCBs). Therefore, this pathway cannot be evaluated.

TABLE C-31

SUBSURFACE SOIL INHALATION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Soil	X	Susp. Soil	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$					
	Concen.		Concen.		Fraction		Rate		Time		Frequency		Duration		Factor									
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$					
Chemicals	Soil Concen.		Susp. Soil Concen.		Resp. Fraction		Inhalation Rate		Exposure Time		Exposure Frequency		Exposure Duration		Conv. Factor		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)		
Arsenic	4.92E+01		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	6.2E-10	1.5E+01	9.3E-09		
Beryllium	4.60E-01		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		25550	5.8E-12	8.4E+00	4.9E-11		

TOTAL RISK = 9.4E-09

TABLE C-31

SUBSURFACE SOIL INHALATION PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO CONSTRUCTION WORKERS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SUBSURFACE SOIL INHALATION EXPOSURE: Adults

Subchronic Daily Intake= (mg/kg-day)	Soil	X	Susp.	X	Resp.	X	Inhalation	X	Exposure	X	Exposure	X	Exposure	X	Conv.	X	$\frac{1}{\text{Body Wt}}$	X	$\frac{1}{\text{Avging Time}}$			
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor							
	mg/kg	X	0.070 mg/m3	X	(unitless)	X	0.83 m3/hr	X	8 hrs/day	X	65 days/yr	X	1 year	X	$\frac{1 \text{ kg}}{1000000 \text{ mg}}$	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{365 \text{ days}}$			
Chemicals	Soil		Susp.		Resp.		Inhalation		Exposure		Exposure		Exposure		Conv.		Body		Averaging	Subchronic Daily	Reference	HQ=
	Concen.		Soil		Fraction		Rate		Time		Frequency		Duration		Factor		Weight		Time	Intake (SDI)	Dose (RfD)	SDI/RfD
Manganese	7.63E+02		7.0E-02		0.75		0.83		8		65		1		1.0E-06		70		365	6.8E-07	1.1E-04	6.2E-03

HAZARD INDEX = 6.2E-03

GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Adults

$$\text{Chronic Daily Intake} = \frac{\text{Water Concentration (mg/l)} \times \text{Ingestion Rate (2 l/day)} \times \text{Exposure Frequency (350 days/year)} \times \text{Exposure Duration (30 years)} \times \frac{1}{\text{Body Weight (70 kg)}} \times \frac{1}{\text{Averaging Time (25550 days)}} \text{ (mg/kg-day)}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02	2	350	30	70	25550	7.0E-04	2.9E-02	2.0E-05
Tetrachloroethene	2.00E-01	2	350	30	70	25550	2.3E-03	5.2E-02	1.2E-04
Vinyl Chloride	2.00E-02	2	350	30	70	25550	2.3E-04	1.9E+00	4.5E-04
Arsenic	1.00E-03	2	350	30	70	25550	1.2E-05	1.75E+00	2.1E-05
Beryllium	1.00E-03	2	350	30	70	25550	1.2E-05	4.3E+00	5.0E-05

TOTAL RISK = 6.6E-04

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Children (0 - 6 years)

$$\text{Chronic Daily Intake} = \frac{\text{Water Concentration (mg/l)} \times \text{Ingestion Rate (1 l/day)} \times \text{Exposure Frequency (350 days/year)} \times \text{Exposure Duration (6 years)} \times \frac{1}{\text{Body Weight (15 kg)}} \times \frac{1}{\text{Averaging Time (25550 days)}} \text{ (mg/kg-day)}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02	1	350	6	15	25550	3.3E-04	2.9E-02	9.5E-06
Tetrachloroethene	2.00E-01	1	350	6	15	25550	1.1E-03	5.2E-02	5.7E-05
Vinyl Chloride	2.00E-02	1	350	6	15	25550	1.1E-04	1.9E+00	2.1E-04
Arsenic	1.00E-03	1	350	6	15	25550	5.5E-06	1.75E+00	9.6E-06
Beryllium	1.00E-03	1	350	6	15	25550	5.5E-06	4.3E+00	2.4E-05

TOTAL RISK = 3.1E-04

TABLE C-32

GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Adults

$$\text{Chronic Daily Intake} = \frac{\text{Water Concentration (mg/l)} \times \text{Ingestion Rate (l/day)} \times \text{Exposure Frequency (days/year)} \times \text{Exposure Duration (years)} \times \frac{1}{\text{Body Weight (kg)}} \times \frac{1}{\text{Averaging Time (days)}} \times \frac{1}{10950}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
1,2-Dichloroethene(Total)	3.90E-01	2	350	30	70	10950	1.1E-02	9.0E-03	1.2E+00
Tetrachloroethene	2.00E-01	2	350	30	70	10950	5.5E-03	1.0E-02	5.5E-01
Toluene	3.00E-02	2	350	30	70	10950	8.2E-04	2.0E-01	4.1E-03
Antimony	1.00E-02	2	350	30	70	10950	2.7E-04	4.0E-04	6.8E-01
Arsenic	1.00E-03	2	350	30	70	10950	2.7E-05	3.0E-04	9.1E-02
Beryllium	1.00E-03	2	350	30	70	10950	2.7E-05	5.0E-03	5.5E-03
Chromium VI	2.00E-02	2	350	30	70	10950	5.5E-04	5.0E-03	1.1E-01
Manganese	4.68E+00	2	350	30	70	10950	1.3E-01	5.0E-03	2.6E+01
Nickel	7.00E-02	2	350	30	70	10950	1.9E-03	2.0E-02	9.6E-02
Vanadium	1.10E-01	2	350	30	70	10950	3.0E-03	7.0E-03	4.3E-01

HAZARD INDEX = 2.9E+01

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Children (0 - 6 years)

$$\text{Chronic Daily Intake} = \frac{\text{Water Concentration (mg/l)} \times \text{Ingestion Rate (l/day)} \times \text{Exposure Frequency (days/year)} \times \text{Exposure Duration (years)} \times \frac{1}{\text{Body Weight (kg)}} \times \frac{1}{\text{Averaging Time (days)}} \times \frac{1}{2190}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
1,2-Dichloroethene(Total)	3.90E-01	1	350	6	15	2190	2.5E-02	9.0E-03	2.8E+00
Tetrachloroethene	2.00E-01	1	350	6	15	2190	1.3E-02	1.0E-02	1.3E+00
Toluene	3.00E-02	1	350	6	15	2190	1.9E-03	2.0E-01	9.6E-03
Antimony	1.00E-02	1	350	6	15	2190	6.4E-04	4.0E-04	1.6E+00
Arsenic	1.00E-03	1	350	6	15	2190	6.4E-05	3.0E-04	2.1E-01
Beryllium	1.00E-03	1	350	6	15	2190	6.4E-05	5.0E-03	1.3E-02
Chromium VI	2.00E-02	1	350	6	15	2190	1.3E-03	5.0E-03	2.6E-01
Manganese	4.68E+00	1	350	6	15	2190	3.0E-01	5.0E-03	6.0E+01
Nickel	7.00E-02	1	350	6	15	2190	4.5E-03	2.0E-02	2.2E-01
Vanadium	1.10E-01	1	350	6	15	2190	7.0E-03	7.0E-03	1.0E+00

HAZARD INDEX = 6.7E+01

GROUNDWATER DERMAL CONTACT DURING SHOWERING PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE RESIDENTS

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Water} & \text{X Skin Surface} & \text{X Permeability} & \text{X Exposure} & \text{X Exposure} & \text{X Exposure} & \text{X Conversion} & \text{X } \frac{1}{\text{Body Weight}} & \text{X } \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & \text{Area} & \text{Constant} & \text{Time} & \text{Frequency} & \text{Duration} & \text{Factor} & & \\ & \text{mg/l} & \text{X 18150 cm}^2 & \text{X cm/hr} & \text{X 0.2 hr/day} & \text{X 350 days/year} & \text{X 30 years} & \text{X } \frac{1 \text{ L}}{1000 \text{ cm}^3} & \text{X } \frac{1}{70 \text{ kg}} & \text{X } \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Skin Surface Area	Permeability Constant	Exposure Time	Exposure Frequency	Exposure Duration	Conversion Factor	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Cancer Slope Factor (CSF)	RISK = (CDI*CSF)
Arsenic	1.00E-03	18150	1.0E-03	0.2	350	30	1.0E-03	70	25550	2.1E-08	1.75E+00	3.7E-08
Beryllium	1.00E-03	18150	1.0E-03	0.2	350	30	1.0E-03	70	25550	2.1E-08	4.3E+00	9.2E-08

TOTAL RISK = 1.3E-07

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER DERMAL CONTACT EXPOSURE: Children (0 - 6 years)

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Water} & \text{X Skin Surface} & \text{X Permeability} & \text{X Exposure} & \text{X Exposure} & \text{X Exposure} & \text{X Conversion} & \text{X } \frac{1}{\text{Body Weight}} & \text{X } \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & \text{Area} & \text{Constant} & \text{Time} & \text{Frequency} & \text{Duration} & \text{Factor} & & \\ & \text{mg/l} & \text{X 5400 cm}^2 & \text{X cm/hr} & \text{X 0.2 hr/day} & \text{X 350 days/year} & \text{X 6 years} & \text{X } \frac{1 \text{ L}}{1000 \text{ cm}^3} & \text{X } \frac{1}{15 \text{ kg}} & \text{X } \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Skin Surface Area	Permeability Constant	Exposure Time	Exposure Frequency	Exposure Duration	Conversion Factor	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Cancer Slope Factor (CSF)	RISK = (CDI*CSF)
Arsenic	1.00E-03	5400	1.0E-03	0.2	350	6	1.0E-03	15	25550	5.9E-09	1.75E+00	1.0E-08
Beryllium	1.00E-03	5400	1.0E-03	0.2	350	6	1.0E-03	15	25550	5.9E-09	4.3E+00	2.5E-08

TOTAL RISK = 3.6E-08

TUT 007 0186

GROUNDWATER DERMAL CONTACT DURING SHOWERING PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE RESIDENTS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER DERMAL CONTACT EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Water Concentration	X Skin Surface Area	X Permeability Constant	X Exposure Time	X Exposure Frequency	X Exposure Duration	X Conversion Factor	X $\frac{1}{\text{Body Weight}}$	X $\frac{1}{\text{Averaging Time}}$			
	mg/l	X 18150 cm ²	X	cm/hr	X 0.2 hr/day	X 350 days/year	X 30 years	X $\frac{1 \text{ L}}{1000 \text{ cm}^3}$	X $\frac{1}{70 \text{ kg}}$	X $\frac{1}{10950 \text{ days}}$		
Chemicals	Water Concentration	Skin Surface Area	Permeability Constant	Exposure Time	Exposure Frequency	Exposure Duration	Conversion Factor	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Antimony	1.00E-02	18150	1.0E-03	0.2	350	30	1.0E-03	70	10950	5.0E-07	4.0E-04	1.2E-03
Arsenic	1.00E-03	18150	1.0E-03	0.2	350	30	1.0E-03	70	10950	5.0E-08	3.0E-04	1.7E-04
Beryllium	1.00E-03	18150	1.0E-03	0.2	350	30	1.0E-03	70	10950	5.0E-08	5.0E-03	9.9E-06
Chromium VI	2.00E-02	18150	1.0E-03	0.2	350	30	1.0E-03	70	10950	9.9E-07	5.0E-03	2.0E-04
Manganese	4.68E+00	18150	1.0E-03	0.2	350	30	1.0E-03	70	10950	2.3E-04	5.0E-03	4.7E-02
Nickel	7.00E-02	18150	1.0E-04	0.2	350	30	1.0E-03	70	10950	3.5E-07	2.0E-02	1.7E-05
Vanadium	1.10E-01	18150	1.0E-03	0.2	350	30	1.0E-03	70	10950	5.5E-06	7.0E-03	7.8E-04

HAZARD INDEX = 4.9E-02

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER DERMAL CONTACT EXPOSURE: Children (0 - 6 Years)

Chronic Daily Intake= (mg/kg-day)	Water Concentration	X Skin Surface Area	X Permeability Constant	X Exposure Time	X Exposure Frequency	X Exposure Duration	X Conversion Factor	X $\frac{1}{\text{Body Weight}}$	X $\frac{1}{\text{Averaging Time}}$			
	mg/l	X 5400 cm ²	X	cm/hr	X 0.2 hr/day	X 350 days/year	X 6 years	X $\frac{1 \text{ L}}{1000 \text{ cm}^3}$	X $\frac{1}{15 \text{ kg}}$	X $\frac{1}{2190 \text{ days}}$		
Chemicals	Water Concentration	Skin Surface Area	Permeability Constant	Exposure Time	Exposure Frequency	Exposure Duration	Conversion Factor	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Antimony	1.00E-02	5400	1.0E-03	0.2	350	6	1.0E-03	15	2190	6.9E-07	4.0E-04	1.7E-03
Arsenic	1.00E-03	5400	1.0E-03	0.2	350	6	1.0E-03	15	2190	6.9E-08	3.0E-04	2.3E-04
Beryllium	1.00E-03	5400	1.0E-03	0.2	350	6	1.0E-03	15	2190	6.9E-08	5.0E-03	1.4E-05
Chromium VI	2.00E-02	5400	1.0E-03	0.2	350	6	1.0E-03	15	2190	1.4E-06	5.0E-03	2.8E-04
Manganese	4.68E+00	5400	1.0E-03	0.2	350	6	1.0E-03	15	2190	3.2E-04	5.0E-03	6.5E-02
Nickel	7.00E-02	5400	1.0E-04	0.2	350	6	1.0E-03	15	2190	4.8E-07	2.0E-02	2.4E-05
Vanadium	1.10E-01	5400	1.0E-03	0.2	350	6	1.0E-03	15	2190	7.6E-06	7.0E-03	1.1E-03

HAZARD INDEX = 6.8E-02

TABLE C

GROUNDWATER INHALATION (SHOWER MODEL) PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO RESIDENTS

C(a) = Concentration of chemical in air (mg/m3)
C(aMAX) = Maximum concentration of chemical in air (mg/m3)
t1 = Time of shower (hr)
t2 = Time after shower (hr)

Equation:

	C(a) = (mg/m3)	[C(aMAX)/2 (mg/m3)	x (hr)	+ [C(aMAX) x (mg/m3)	t2] (hr)	/ (t1 + t2) (hr)
<u>Chemicals:</u>						
Benzene	0.450	0.281	0.2	0.563	0.3	0.5
Tetrachloroethene	1.500	0.938	0.2	1.875	0.3	0.5
Toluene	0.225	0.141	0.2	0.281	0.3	0.5
Vinyl Chloride	0.150	0.094	0.2	0.188	0.3	0.5

C(aMAX) = Maximum air concentration in bathroom (mg/m3)
C(w) = Water concentration (mg/l)
f = Fraction volatilized (unitless)
F(w) = Water flow rate (l/hr)
V(a) = Bathroom volume (m3)

Equation:

	C(aMAX) = (mg/m3)	[C(w) (mg/l)	x (unitless)	x (unitless)	F(w) x (l/hr)	t1 (hr)	/ V(a) (m3)
<u>Chemicals:</u>							
Benzene	0.563	6.00E-02	0.75		750	0.2	12
Tetrachloroethene	1.875	2.00E-01	0.75		750	0.2	12
Toluene	0.281	3.00E-02	0.75		750	0.2	12
Vinyl Chloride	0.188	2.00E-02	0.75		750	0.2	12

TABLE C

GROUNDWATER INHALATION (SHOWER MODEL) PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO RESIDENTS

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INHALATION EXPOSURE: Adults

$$\begin{array}{ccccccc} \text{Chronic Daily Intake=} & \text{Air} & \times & \text{Inhalation} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Time} & & \text{Frequency} & & \text{Duration} & & \\ & \text{mg/m}^3 & \times & 0.6 \text{ m}^3/\text{hr} & \times & 0.2 \text{ hrs/day} & \times & 350 \text{ days/year} & \times & 30 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Air Concentration	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	4.50E-01	0.6	0.2	350	30	70	25550	3.2E-04	2.9E-02	9.2E-06
Tetrachloroethene	1.50E+00	0.6	0.2	350	30	70	25550	1.1E-03	2.0E-03	2.1E-06
Vinyl Chloride	1.50E-01	0.6	0.2	350	30	70	25550	1.1E-04	3.0E-01	3.2E-05

TOTAL RISK = 4.3E-05

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INHALATION EXPOSURE: Children (0 - 6 years)

$$\begin{array}{ccccccc} \text{Chronic Daily Intake=} & \text{Air} & \times & \text{Inhalation} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Time} & & \text{Frequency} & & \text{Duration} & & \\ & \text{mg/m}^3 & \times & 0.6 \text{ m}^3/\text{hr} & \times & 0.2 \text{ hrs/day} & \times & 350 \text{ days/year} & \times & 6 \text{ years} & \times & \frac{1}{15 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Air Concentration	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	4.50E-01	0.6	0.2	350	6	15	25550	3.0E-04	2.9E-02	8.6E-06
Tetrachloroethene	1.50E+00	0.6	0.2	350	6	15	25550	9.9E-04	2.0E-03	2.0E-06
Vinyl Chloride	1.50E-01	0.6	0.2	350	6	15	25550	9.9E-05	3.0E-01	3.0E-05

TOTAL RISK = 4.0E-05

TABLE C

GROUNDWATER INHALATION (SHOWER MODEL) PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO RESIDENTS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INHALATION EXPOSURE: Adults

$$\begin{aligned} \text{Chronic Daily Intake=} & \text{Air} \times \text{Inhalation} \times \text{Exposure} \times \text{Exposure} \times \text{Exposure} \times \frac{1}{\text{Body Weight}} \times \frac{1}{\text{Averaging Time}} \\ & \text{(mg/kg-day)} \quad \text{Concentration} \quad \text{Rate} \quad \text{Time} \quad \text{Frequency} \quad \text{Duration} \end{aligned}$$

$$\text{mg/m}^3 \times 0.6 \text{ m}^3/\text{hr} \times 0.2 \text{ hrs/day} \times 350 \text{ days/year} \times 30 \text{ years} \times \frac{1}{70 \text{ kg}} \times \frac{1}{10950 \text{ days}}$$

Chemicals	Air Concentration	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Toluene	2.25E-01	0.6	0.2	350	30	70	10950	3.7E-04	1.10E-01	3.4E-03

TOTAL HAZARD = 3.4E-03

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INHALATION EXPOSURE: Children (0 - 6 years)

$$\begin{aligned} \text{Chronic Daily Intake=} & \text{Air} \times \text{Inhalation} \times \text{Exposure} \times \text{Exposure} \times \text{Exposure} \times \frac{1}{\text{Body Weight}} \times \frac{1}{\text{Averaging Time}} \\ & \text{(mg/kg-day)} \quad \text{Concentration} \quad \text{Rate} \quad \text{Time} \quad \text{Frequency} \quad \text{Duration} \end{aligned}$$

$$\text{mg/m}^3 \times 0.6 \text{ m}^3/\text{hr} \times 0.2 \text{ hrs/day} \times 350 \text{ days/year} \times 6 \text{ years} \times \frac{1}{15 \text{ kg}} \times \frac{1}{2190 \text{ days}}$$

Chemicals	Air Concentration	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Toluene	2.25E-01	0.6	0.2	350	6	15	2190	1.7E-03	1.10E-01	1.6E-02

TOTAL HAZARD = 1.6E-02

TABLE C-35

GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE WORKERS

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccc} \text{Chronic Daily Intake=} & \text{Water} & \times & \text{Ingestion} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/l} & \times & \text{1 l/day} & \times & \text{250 days/year} & \times & \text{25 years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02	1	250	25	70	25550	2.1E-04	2.9E-02	6.1E-06
Tetrachloroethene	2.00E-01	1	250	25	70	25550	7.0E-04	5.2E-02	3.6E-05
Vinyl Chloride	2.00E-02	1	250	25	70	25550	7.0E-05	1.9E+00	1.3E-04
Arsenic	1.00E-03	1	250	25	70	25550	3.5E-06	1.75E+00	6.1E-06
Beryllium	1.00E-03	1	250	25	70	25550	3.5E-06	4.3E+00	1.5E-05

TOTAL RISK = 2.0E-04

TABLE C-35

GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE WORKERS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Adults

$$\text{Chronic Daily Intake} = \frac{\text{Water Concentration (mg/l)} \times \text{Ingestion Rate (l/day)} \times \text{Exposure Frequency (days/year)} \times \text{Exposure Duration (years)} \times \frac{1}{\text{Body Weight (kg)}} \times \frac{1}{\text{Averaging Time (days)}} \times \frac{1}{70 \text{ kg}} \times \frac{1}{9125 \text{ days}}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
1,2-Dichloroethene (Total)	3.90E-01	1	250	25	70	9125	3.8E-03	9.0E-03	4.2E-01
Tetrachloroethene	2.00E-01	1	250	25	70	9125	2.0E-03	1.0E-02	2.0E-01
Toluene	3.00E-02	1	250	25	70	9125	2.9E-04	2.0E-01	1.5E-03
Antimony	1.00E-02	1	250	25	70	9125	9.8E-05	4.0E-04	2.4E-01
Arsenic	1.00E-03	1	250	25	70	9125	9.8E-06	3.0E-04	3.3E-02
Beryllium	1.00E-03	1	250	25	70	9125	9.8E-06	5.0E-03	2.0E-03
Chromium VI	2.00E-02	1	250	25	70	9125	2.0E-04	5.0E-03	3.9E-02
Manganese	4.68E+00	1	250	25	70	9125	4.6E-02	5.0E-03	9.2E+00
Nickel	7.00E-02	1	250	25	70	9125	6.8E-04	2.0E-02	3.4E-02
Vanadium	1.10E-01	1	250	25	70	9125	1.1E-03	7.0E-03	1.5E-01

HAZARD INDEX = 1.0E+01

1

TABLE C-6

GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - FUTURE - USE SCENARIO
RISKS TO CONSTRUCTION WORKERS

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE

$$\begin{array}{ccccccc} \text{Chronic Daily Intake=} & \text{Water} & \times & \text{Ingestion} & \times & \text{Exposure} & \times \text{Exposure} & \times \frac{1}{\text{Body Weight}} & \times \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Frequency} & \text{Duration} & & \\ & \text{mg/l} & \times & \text{1 l/day} & \times & \text{225 days/year} & \times \text{1 year} & \times \frac{1}{70 \text{ kg}} & \times \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02	1	225	1	70	25550	7.5E-06	2.9E-02	2.2E-07
Tetrachloroethene	2.00E-01	1	225	1	70	25550	2.5E-05	5.2E-02	1.3E-06
Vinyl Chloride	2.00E-02	1	225	1	70	25550	2.5E-06	1.9E+00	4.8E-06
Arsenic	1.00E-03	1	225	1	70	25550	1.3E-07	1.75E+00	2.2E-07
Beryllium	1.00E-03	1	225	1	70	25550	1.3E-07	4.3E+00	5.4E-07

TOTAL RISK = 7.1E-06

TUT 007 0193

TABLE 6

GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - FUTURE - USE SCENARIO
RISKS TO CONSTRUCTION WORKERS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE

$$\text{Subchronic Daily Intake} = \frac{\text{Water Concentration (mg/l)} \times \text{Ingestion Rate (l/day)} \times \text{Exposure Frequency (days/year)} \times \text{Exposure Duration (years)} \times \frac{1}{\text{Body Weight (kg)}} \times \frac{1}{\text{Averaging Time (days)}} \times \frac{1}{365 \text{ days}}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD
1,2-Dichloroethene (Total)	3.90E-01	1	225	1	70	365	3.4E-03	9.0E-03	3.8E-01
Tetrachloroethene	2.00E-01	1	225	1	70	365	1.8E-03	1.0E-01	1.8E-02
Toluene	3.00E-02	1	225	1	70	365	2.6E-04	2.0E+00	1.3E-04
Antimony	1.00E-02	1	225	1	70	365	8.8E-05	4.0E-04	2.2E-01
Arsenic	1.00E-03	1	225	1	70	365	8.8E-06	3.0E-04	2.9E-02
Beryllium	1.00E-03	1	225	1	70	365	8.8E-06	5.0E-03	1.8E-03
Chromium VI	2.00E-02	1	225	1	70	365	1.8E-04	2.0E-02	8.8E-03
Manganese	4.68E+00	1	225	1	70	365	4.1E-02	5.0E-03	8.2E+00
Nickel	7.00E-02	1	225	1	70	365	6.2E-04	2.0E-02	3.1E-02
Vanadium	1.10E-01	1	225	1	70	365	9.7E-04	7.0E-03	1.4E-01

HAZARD INDEX = 9.1E+00

TUT 007 0194

APPENDIX D

CENTRAL TENDENCY CALCULATIONS

TABLE D-1

CENTRAL TENDENCY CALCULATION
SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - SURFACE SOIL INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 50 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 275 \text{ days/year} & \times & 9 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	50	1.0E-06	1	275	9	70	25550	8.3E-06	7.7E+00	6.4E-05
Arsenic	1.00E+01	50	1.0E-06	1	275	9	70	25550	6.9E-07	1.75E+00	1.2E-06

TOTAL RISK = 6.5E-05

CARCINOGENS - SURFACE SOIL INGESTION EXPOSURE: Children (0 - 6 years)

$$\begin{array}{ccccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 100 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 275 \text{ days/year} & \times & 6 \text{ years} & \times & \frac{1}{15 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	100	1.0E-06	1	275	6	15	25550	5.2E-05	7.7E+00	4.0E-04
Arsenic	1.00E+01	100	1.0E-06	1	275	6	15	25550	4.3E-06	1.75E+00	7.5E-06

TOTAL RISK = 4.1E-04

30-YEAR COMBINED RISK (ADULT + CHILD) = 4.7E-04

TABLE D-1

CENTRAL TENDENCY CALCULATION
SURFACE SOIL INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INGESTION EXPOSURE: Children (0-6 years)

$$\begin{array}{cccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Ingestion} & \times & \text{Conversion} & \times & \text{Fraction} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Factor} & & \text{Ingested} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/kg} & \times & 100 \text{ mg/day} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1 & \times & 275 \text{ days/year} & \times & 6 \text{ years} & \times & \frac{1}{15 \text{ kg}} & \times & \frac{1}{2190 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Ingestion Rate	Conversion Factor	Fraction Ingested	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Antimony	5.05E+00	100	1.0E-06	1	275	6	15	2190	2.5E-05	4.0E-04	6.3E-02
Arsenic	1.00E+01	100	1.0E-06	1	275	6	15	2190	5.0E-05	3.0E-04	1.7E-01
Manganese	8.69E+02	100	1.0E-06	1	275	6	15	2190	4.4E-03	5.0E-03	8.7E-01
Vanadium	9.59E+01	100	1.0E-06	1	275	6	15	2190	4.8E-04	7.0E-03	6.9E-02

HAZARD INDEX = 1.2E+00

TUT 007 0197

TABLE D-2

CENTRAL TENDENCY CALCULATION
SURFACE SOIL DERMAL CONTACT PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS IN THE TILLET GARDENS AND ART CENTER AREA

CARCINOGENS - SURFACE SOIL DERMAL CONTACT EXPOSURE: Adults

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ (\text{mg/kg-day}) & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 5065 \text{ cm}^2/\text{day} & \times & 0.6 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 275 \text{ events/year} & \times & 9 \text{ years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	1.0E-06	5065	0.6	0.03	275	9	70	25550	1.7E-05	7.7E+00	1.3E-04

TOTAL RISK = 1.3E-04

CARCINOGENS - SURFACE SOIL DERMAL CONTACT EXPOSURE: Children (0-6 years)

$$\begin{array}{ccccccccccc} \text{Chronic Daily Intake=} & \text{Soil} & \times & \text{Conversion} & \times & \text{Skin Surface} & \times & \text{Adherence} & \times & \text{Absorption} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ (\text{mg/kg-day}) & \text{Concentration} & & \text{Factor} & & \text{Area} & & \text{Factor} & & \text{Factor} & & \text{Frequency} & & \text{Duration} & & & & & \\ & \text{mg/kg} & \times & \frac{1 \text{ kg}}{1000000 \text{ mg}} & \times & 1270 \text{ cm}^2/\text{day} & \times & 0.6 \text{ mg/cm}^2 & \times & (\text{unitless}) & \times & 275 \text{ events/year} & \times & 6 \text{ years} & \times & \frac{1}{15 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Soil Concentration	Conversion Factor	Skin Surface Area	Adherence Factor	Absorption Factor	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Aroclor 1242	1.20E+02	1.0E-06	1270	0.6	0.03	275	6	15	25550	1.3E-05	7.7E+00	1.0E-04

TOTAL RISK = 1.0E-04

30-YEAR COMBINED RISK (ADULT + CHILD) = 2.3E-04

TUT 007 0198

CENTRAL TENDENCY CALCULATIONS
SURFACE SOIL INHALATION OF PARTICULATES PATHWAY
TUTU WELLS SITE - FUTURE-USE SCENARIO
RISKS TO RESIDENTS (INSIDE AND OUTSIDE RESIDENCE) IN THE TILLET GARDENS AND ART CENTER AREA

NONCARCINOGENS - REASONABLE MAXIMUM CASE SURFACE SOIL INHALATION EXPOSURE - Children (0-6 years)

$$\begin{aligned} \text{Chronic Daily Intake=} & \text{Soil} \times \text{Soil} \times \text{Resp.} \times \text{Inhalation} \times \text{Exposure} \times \text{Exposure} \times \text{Exposure} \times \text{Conv.} \times \frac{1}{\text{Body Wt}} \times \frac{1}{\text{Aving Time}} \\ & (\text{mg/kg-day}) \quad \text{Concen.} \quad \text{Concen.} \quad \text{Fraction} \quad \text{Rate} \quad \text{Time} \quad \text{Frequency} \quad \text{Duration} \quad \text{Factor} \quad \text{mg/kg} \quad \text{mg/m}^3 \quad \text{(unitless)} \quad \text{m}^3/\text{hr} \quad \text{hrs/day} \quad \text{days/yr} \quad \text{years} \quad \frac{1 \text{ kg}}{1000000 \text{ mg}} \quad \frac{1}{15 \text{ kg}} \quad \frac{1}{2190 \text{ days}} \end{aligned}$$

Chemicals	Soil Concen.	Susp. Soil Concen.	Resp. Fraction	Inhalation Rate	Exposure Time	Exposure Frequency	Exposure Duration	Conv. Factor	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
Manganese	8.69E+02	7.0E-02	0.75	0.83	12	275	6	1.0E-06	15	2190	2.3E-05	1.4E-05	1.6E+00

HAZARD INDEX = 1.6E+00

TABLE

CENTRAL TENDENCY CALCULATIONS
GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS

CARCINOGENS - GROUNDWATER INGESTION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Water Concentration	X	Ingestion Rate	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/l	X	1.4 l/day	X	275 days/year	X	9 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$			
Chemicals	Water Concentration		Ingestion Rate		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02		1.4		275		9		70		25550	1.2E-04	2.9E-02	3.4E-06
Tetrachloroethene	2.00E-01		1.4		275		9		70		25550	3.9E-04	5.2E-02	2.0E-05
Vinyl Chloride	2.00E-02		1.4		275		9		70		25550	3.9E-05	1.9E+00	7.4E-05
Arsenic	1.00E-03		1.4		275		9		70		25550	1.9E-06	1.75E+00	3.4E-06
Beryllium	1.00E-03		1.4		275		9		70		25550	1.9E-06	4.3E+00	8.3E-06
													TOTAL RISK =	1.1E-04

CARCINOGENS - GROUNDWATER INGESTION EXPOSURE: Children (0-6 years)

Chronic Daily Intake= (mg/kg-day)	Water Concentration	X	Ingestion Rate	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/l	X	0.7 l/day	X	275 days/year	X	6 years	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{25550 \text{ days}}$			
Chemicals	Water Concentration		Ingestion Rate		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02		0.7		275		6		15		25550	1.8E-04	2.9E-02	5.2E-06
Tetrachloroethene	2.00E-01		0.7		275		6		15		25550	6.0E-04	5.2E-02	3.1E-05
Vinyl Chloride	2.00E-02		0.7		275		6		15		25550	6.0E-05	1.9E+00	1.1E-04
Arsenic	1.00E-03		0.7		275		6		15		25550	3.0E-06	1.75E+00	5.3E-06
Beryllium	1.00E-03		0.7		275		6		15		25550	3.0E-06	4.3E+00	1.3E-05
													TOTAL RISK =	1.7E-04

TABLE

CENTRAL TENDENCY CALCULATIONS
GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE - USE SCENARIO
RISKS TO RESIDENTS

NONCARCINOGENS - GROUNDWATER INGESTION EXPOSURE: Adults

Chronic Daily Intake= (mg/kg-day)	Water Concentration	X	Ingestion Rate	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/l	X	1.4 l/day	X	275 days/year	X	9 years	X	$\frac{1}{70 \text{ kg}}$	X	$\frac{1}{3285 \text{ days}}$			
Chemicals	Water Concentration		Ingestion Rate		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
1,2-Dichloroethene(Total)	3.90E-01		1.4		275		9		70		3285	5.9E-03	9.0E-03	6.5E-01
Tetrachloroethene	2.00E-01		1.4		275		9		70		3285	3.0E-03	1.0E-02	3.0E-01
Toluene	3.00E-02		1.4		275		9		70		3285	4.5E-04	2.0E-01	2.3E-03
Antimony	1.00E-02		1.4		275		9		70		3285	1.5E-04	4.0E-04	3.8E-01
Arsenic	1.00E-03		1.4		275		9		70		3285	1.5E-05	3.0E-04	5.0E-02
Beryllium	1.00E-03		1.4		275		9		70		3285	1.5E-05	5.0E-03	3.0E-03
Chromium VI	2.00E-02		1.4		275		9		70		3285	3.0E-04	5.0E-03	6.0E-02
Manganese	4.68E+00		1.4		275		9		70		3285	7.1E-02	5.0E-03	1.4E+01
Nickel	7.00E-02		1.4		275		9		70		3285	1.1E-03	2.0E-02	5.3E-02
Vanadium	1.10E-01		1.4		275		9		70		3285	1.7E-03	7.0E-03	2.4E-01

HAZARD INDEX = 1.6E+01

NONCARCINOGENS - GROUNDWATER INGESTION EXPOSURE: Children (0 - 6 years)

Chronic Daily Intake= (mg/kg-day)	Water Concentration	X	Ingestion Rate	X	Exposure Frequency	X	Exposure Duration	X	$\frac{1}{\text{Body Weight}}$	X	$\frac{1}{\text{Averaging Time}}$			
	mg/l	X	0.7 l/day	X	275 days/year	X	6 years	X	$\frac{1}{15 \text{ kg}}$	X	$\frac{1}{2190 \text{ days}}$			
Chemicals	Water Concentration		Ingestion Rate		Exposure Frequency		Exposure Duration		Body Weight		Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
1,2-Dichloroethene(Total)	3.90E-01		0.7		275		6		15		2190	1.4E-02	9.0E-03	1.5E+00
Tetrachloroethene	2.00E-01		0.7		275		6		15		2190	7.0E-03	1.0E-02	7.0E-01
Toluene	3.00E-02		0.7		275		6		15		2190	1.1E-03	2.0E-01	5.3E-03
Antimony	1.00E-02		0.7		275		6		15		2190	3.5E-04	4.0E-04	8.8E-01
Arsenic	1.00E-03		0.7		275		6		15		2190	3.5E-05	3.0E-04	1.2E-01
Beryllium	1.00E-03		0.7		275		6		15		2190	3.5E-05	5.0E-03	7.0E-03
Chromium VI	2.00E-02		0.7		275		6		15		2190	7.0E-04	5.0E-03	1.4E-01
Manganese	4.68E+00		0.7		275		6		15		2190	1.6E-01	5.0E-03	3.3E+01
Nickel	7.00E-02		0.7		275		6		15		2190	2.5E-03	2.0E-02	1.2E-01
Vanadium	1.10E-01		0.7		275		6		15		2190	3.9E-03	7.0E-03	5.5E-01

HAZARD INDEX = 3.7E+01

TABLE C-3

CENTRAL TENDENCY CALCULATION
GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE WORKERS

CARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccc} \text{Chronic Daily Intake=} & \text{Water} & \times & \text{Ingestion} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/l} & \times & \text{1 l/day} & \times & \text{185 days/year} & \times & \text{25 years} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{25550 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Slope Factor (SF)	RISK = (CDI*SF)
Benzene	6.00E-02	1	185	25	70	25550	1.6E-04	2.9E-02	4.5E-06
Tetrachloroethene	2.00E-01	1	185	25	70	25550	5.2E-04	5.2E-02	2.7E-05
Vinyl Chloride	2.00E-02	1	185	25	70	25550	5.2E-05	1.9E+00	9.8E-05
Arsenic	1.00E-03	1	185	25	70	25550	2.6E-06	1.75E+00	4.5E-06
Beryllium	1.00E-03	1	185	25	70	25550	2.6E-06	4.3E+00	1.1E-05

TOTAL RISK = 1.5E-04

TABLE

CENTRAL TENDENCY CALCULATION
GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - PRESENT/FUTURE-USE SCENARIO
RISKS TO SITE WORKERS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE: Adults

$$\begin{array}{ccccccc} \text{Chronic Daily Intake=} & \text{Water} & \times & \text{Ingestion} & \times & \text{Exposure} & \times \text{Exposure} & \times \frac{1}{\text{Body Weight}} & \times \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Frequency} & \text{Duration} & & \\ & \text{mg/l} & \times & 1 \text{ l/day} & \times & 185 \text{ days/year} & \times 25 \text{ years} & \times \frac{1}{70 \text{ kg}} & \times \frac{1}{9125 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Chronic Daily Intake (CDI)	Reference Dose (RfD)	HQ= CDI/RfD
1,2-Dichloroethene (Total)	3.90E-01	1	185	25	70	9125	2.8E-03	9.0E-03	3.1E-01
Tetrachloroethene	2.00E-01	1	185	25	70	9125	1.4E-03	1.0E-02	1.4E-01
Toluene	3.00E-02	1	185	25	70	9125	2.2E-04	2.0E-01	1.1E-03
Antimony	1.00E-02	1	185	25	70	9125	7.2E-05	4.0E-04	1.8E-01
Arsenic	1.00E-03	1	185	25	70	9125	7.2E-06	3.0E-04	2.4E-02
Beryllium	1.00E-03	1	185	25	70	9125	7.2E-06	5.0E-03	1.4E-03
Chromium VI	2.00E-02	1	185	25	70	9125	1.4E-04	5.0E-03	2.9E-02
Manganese	4.68E+00	1	185	25	70	9125	3.4E-02	5.0E-03	6.8E+00
Nickel	7.00E-02	1	185	25	70	9125	5.1E-04	2.0E-02	2.5E-02
Vanadium	1.10E-01	1	185	25	70	9125	8.0E-04	7.0E-03	1.1E-01

HAZARD INDEX = 7.6E+00

TABLE D-6

CENTRAL TENDENCY CALCULATIONS
GROUNDWATER INGESTION PATHWAY
TUTU WELLS SITE - FUTURE - USE SCENARIO
RISKS TO CONSTRUCTION WORKERS

NONCARCINOGENS - REASONABLE MAXIMUM CASE GROUNDWATER INGESTION EXPOSURE

$$\begin{array}{ccccccc} \text{Subchronic Daily Intake=} & \text{Water} & \times & \text{Ingestion} & \times & \text{Exposure} & \times & \text{Exposure} & \times & \frac{1}{\text{Body Weight}} & \times & \frac{1}{\text{Averaging Time}} \\ \text{(mg/kg-day)} & \text{Concentration} & & \text{Rate} & & \text{Frequency} & & \text{Duration} & & & & \\ & \text{mg/l} & \times & \text{1 l/day} & \times & \text{130 days/year} & \times & \text{1 year} & \times & \frac{1}{70 \text{ kg}} & \times & \frac{1}{365 \text{ days}} \end{array}$$

Chemicals	Water Concentration	Ingestion Rate	Exposure Frequency	Exposure Duration	Body Weight	Averaging Time	Subchronic Daily Intake (SDI)	Reference Dose (RfD)	HQ= SDI/RfD
1,2-Dichloroethene (Total)	3.90E-01	1	130	1	70	365	2.0E-03	9.0E-03	2.2E-01
Tetrachloroethene	2.00E-01	1	130	1	70	365	1.0E-03	1.0E-01	1.0E-02
Toluene	3.00E-02	1	130	1	70	365	1.5E-04	2.0E+00	7.6E-05
Antimony	1.00E-02	1	130	1	70	365	5.1E-05	4.0E-04	1.3E-01
Arsenic	1.00E-03	1	130	1	70	365	5.1E-06	3.0E-04	1.7E-02
Beryllium	1.00E-03	1	130	1	70	365	5.1E-06	5.0E-03	1.0E-03
Chromium VI	2.00E-02	1	130	1	70	365	1.0E-04	2.0E-02	5.1E-03
Manganese	4.68E+00	1	130	1	70	365	2.4E-02	5.0E-03	4.8E+00
Nickel	7.00E-02	1	130	1	70	365	3.6E-04	2.0E-02	1.8E-02
Vanadium	1.10E-01	1	130	1	70	365	5.6E-04	7.0E-03	8.0E-02

HAZARD INDEX = 5.2E+00

APPENDIX E

SITE DATA

Tutu, St. Thomas, U.S. Virgin Islands
Subsurface Soil - Background
Inorganic Analytes

08/18/1994
9:15 AM
Page 1

SAMPLE NAME		MWS-2	MWS-2-FR	MWS-2-AVD
SAMPLE DATE		08/13/92	08/13/92	08/13/92
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes				
ALUMINUM	mg/kg	13,300.00	15,700.00	14,500.00
ANTIMONY	mg/kg	4.50 UNJ	4.60 UNJ	4.55 UNJ
ARSENIC	mg/kg	3.00	1.20 B	2.10 B
BARIUM	mg/kg	81.00	45.60 B	63.30
BERYLLIUM	mg/kg	0.22 U	0.23 U	0.23 U
CADMIUM	mg/kg	0.67 U	0.69 U	0.68 U
CALCIUM	mg/kg	68,500.00 *J	8,720.00 *J	38,610.00 *J
CHROMIUM	mg/kg	16.10 NJ	7.60 NJ	11.85 NJ
COBALT	mg/kg	11.30	12.80	12.05
COPPER	mg/kg	40.00 NJ	58.00 NJ	49.00 NJ
IRON	mg/kg	21,700.00	30,800.00	26,250.00
LEAD	mg/kg	5.60 J	1.90 J	3.75 J
MAGNESIUM	mg/kg	9,160.00	9,640.00	9,400.00
MANGANESE	mg/kg	582.00	1,110.00	846.00
MERCURY	mg/kg	0.06 U	0.06 U	0.06 U
NICKEL	mg/kg	12.70	5.60 B	9.15 B
POTASSIUM	mg/kg	557.00 B	299.00 B	428.00 B
SELENIUM	mg/kg	0.45 U	0.46 U	0.46 U
SILVER	mg/kg	0.89 U	1.20 B	0.82 B
SODIUM	mg/kg	717.00 B	536.00 B	626.50 B
THALLIUM	mg/kg	0.67 U	0.69 U	0.68 U
VANADIUM	mg/kg	58.00 NJ	52.80 NJ	55.40 NJ
ZINC	mg/kg	66.20	119.00	92.60
CYANIDE, TOTAL	mg/kg	0.56 U	0.57 U	0.57 U

TUT 007 0206

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Gardens Area - Surface Soil
Organic Compounds

06/17/1994
8:10 AM
Page 1

SAMPLE NAME		SS-5	SS-5-CDM	SS-5-AVS	eTT-14S	eTT-15S
SAMPLE DATE		08/19/92	08/19/92	08/19/92	09/13/88	09/13/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,P,T	V,P,T
Volatile Organics						
CHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 U
BROMOMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 U
VINYL CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 U
CHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 U
METHYLENE CHLORIDE	ug/kg	10.00 J	16.00 UJ	9.00 J	R	62.00 U
ACETONE	ug/kg	11.00 U	11.00 UJ	11.00 U	R	62.00 UJ
CARBON DISULFIDE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
CHLOROFORM	ug/kg	11.00 U	2.00 J	2.00 J	R	7.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	11.00 UJ	11.00 UJ	R	7.00 U
2-BUTANONE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 U
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 UJ	11.00 U	11.00 UJ	R	7.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	R	15.00 UJ
BROMODICHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
cis 1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
TRICHLOROETHYLENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
BENZENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
Trans 1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
BROMOFORM	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 UJ
2-HEXANONE	ug/kg	11.00 U	11.00 U	11.00 U	R	15.00 UJ
TETRACHLOROETHYLENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
TOLUENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
CHLOROBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
ETHYLBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
STYRENE	ug/kg	11.00 U	11.00 U	11.00 U	R	7.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	11.00 J	7.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.50 U	NA	5.50 U	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	NA	11.00 UJ	NA	NA
n-PROPYLBENZENE	ug/kg	5.50 UJ	NA	5.50 UJ	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Gardens Area - Surface Soil
Organic Compounds

06/24/1994
2:02 PM
Page 1

SAMPLE NAME		SS-5	SS-5-CDM	SS-5-AVS	eTT-14S	eTT-15S
SAMPLE DATE		08/19/92	08/19/92	08/19/92	09/13/88	09/13/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,P,T	V,P,T
Semivolatiles-1						
PHENOL	ug/kg	390.00 U	370.00 UJ	380.00 UJ	NA	NA
BIS (2-CHLOROETHYL) ETHER	ug/kg	390.00 U	370.00 UJ	380.00 UJ	NA	NA
2-CHLOROPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
1,3-DICHLOROBENZENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
1,4-DICHLOROBENZENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2-METHYLPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
4 METHYLPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
HEXACHLOROETHANE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
NITROBENZENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
ISOPHORONE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2-NITROPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2,4-DIMETHYLPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2,4-DICHLOROPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
1,2,4-TRICHLOROBENZENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
NAPHTHALENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
4-CHLOROANILINE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
HEXACHLOROBUTADIENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
4-CHLORO-3-METHYLPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2-METHYLNAPHTHALENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
HEXACHLOROCYCLOPENTADIENE	ug/kg	390.00 UJ	370.00 U	380.00 UJ	NA	NA
2,4,6-TRICHLOROPHENOL	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2,4,5-TRICHLOROPHENOL	ug/kg	950.00 U	900.00 U	475.00 U	NA	NA
2-CHLORONAPHTHALENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2-NITROANILINE	ug/kg	950.00 U	900.00 UJ	475.00 UJ	NA	NA
DIMETHYLPHTHALATE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
ACENAPHTHYLENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2,6-DINITROTOLUENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Gardens Area - Surface Soil
Organic Compounds

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SAMPLE NAME		SS-5	SS-5-CDM	SS-5-AVS	eTT-14S	eTT-15S
SAMPLE DATE		08/19/92	08/19/92	08/19/92	09/13/88	09/13/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,P,T	V,P,T
Semivolatiles-2						
3-NITROANILINE	ug/kg	950.00 U	900.00 UJ	925.00 UJ	NA	NA
ACENAPHTHENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2,4-DINITROPHENOL	ug/kg	950.00 U	900.00 UJ	925.00 UJ	NA	NA
4-NITROPHENOL	ug/kg	950.00 U	900.00 U	925.00 U	NA	NA
DIBENZOFURAN	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
2,4-DINITROTOLUENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
DIETHYLPHTHALATE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
4-CHLOROPHENYL-PHENYLETHER	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
FLUORENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
4-NITROANILINE	ug/kg	950.00 U	900.00 UJ	925.00 UJ	NA	NA
4,6-DINITRO-2-METHYLPHENOL	ug/kg	950.00 U	900.00 U	925.00 U	NA	NA
N-NITROSODIPHENYLAMINE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
4-BROMOPHENYL-PHENYLETHER	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
HEXACHLOROBENZENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
PENTALCHLOROPHENOL	ug/kg	950.00 U	900.00 U	925.00 U	NA	NA
PHENANTHRENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
ANTHRACENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
CARBAZOLE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
DI-N-BUTYLPHTHALATE	ug/kg	55.00 J	370.00 U	55.00 J	NA	NA
FLUORANTHENE	ug/kg	100.00 J	370.00 U	100.00 J	NA	NA
PYRENE	ug/kg	76.00 J	370.00 U	76.00 J	NA	NA
BUTYLBENZYLPHTHALATE	ug/kg	190.00 J	78.00 J	134.00 J	NA	NA
3,3'-DICHLOROBENZIDINE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
BENZO (A) ANTHRACENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
CHRYSENE	ug/kg	59.00 J	370.00 U	59.00 J	NA	NA
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	430.00 U	370.00 U	400.00 U	NA	NA
DI-N-OCTYLPHTHALATE	ug/kg	390.00 U	370.00 UJ	380.00 UJ	NA	NA
BENZO(B)FLUORANTHENE	ug/kg	84.00 J	370.00 U	84.00 J	NA	NA
BENZO(K) FLUORANTHENE	ug/kg	390.00 UJ	370.00 U	380.00 UJ	NA	NA
BENZO (A) PYRENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
INDENO (1,2,3-CD) PYRENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
DIBENZO (A,H) ANTHRACENE	ug/kg	390.00 U	370.00 U	380.00 U	NA	NA
BENZO (G,H,I) PERYLENE	ug/kg	82.00 J	370.00 U	82.00 J	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Gardens Area - Surface Soil
Organic Compounds

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SAMPLE NAME		SS-5	SS-5-CDM	SS-5-AVS	eTT-14S	eTT-15S
SAMPLE DATE		08/19/92	08/19/92	08/19/92	09/13/88	09/13/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,P,T	V,P,T
Pesticides						
ALPHA-BHC	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
BETA-BHC	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
DELTA-BHC	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
LINDANE, TOTAL	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
HEPTACHLOR	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
ALDRIN	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
ENDOSULFAN I	ug/kg	NA	NA	NA	10.00 UJ	1,700.00 UJ
DIELDRIN	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
4,4'-DDE	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
ENDRIN, TOTAL	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
ENDOSULFAN II	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
4,4'-DDD	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
4,4'-DDT	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
METHOXYCHLOR	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
ENDRIN KETONE	ug/kg	NA	NA	NA	20.00 UJ	3,400.00 UJ
ALPHA-CHLORDANE	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
GAMMA-CHLORDANE	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
TOXAPHENE	ug/kg	NA	NA	NA	200.00 UJ	34,000.00 UJ
AROCLOR-1016	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
AROCLOR-1221	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
AROCLOR-1232	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
AROCLOR-1242	ug/kg	NA	NA	NA	580.00 UJ	120,000.00 J
AROCLOR-1248	ug/kg	NA	NA	NA	99.00 UJ	17,000.00 UJ
AROCLOR-1254	ug/kg	NA	NA	NA	200.00 UJ	34,000.00 UJ
AROCLOR-1260	ug/kg	NA	NA	NA	200.00 UJ	34,000.00 UJ

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Gardens Area - Surface Soil
Inorganic Analytes

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SAMPLE NAME	SS-5	SS-5-CDM	SS-5-AVS	eTT-14S	eTT-15S
SAMPLE DATE	08/19/92	08/19/92	08/19/92	09/13/88	09/13/88
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004	V,SV,I	V,SV,I	V,SV,I	V,P,T	V,P,T
ALUMINUM	mg/kg 17,700.00	24,900.00	21,300.00	NA	NA
ANTIMONY	mg/kg 8.20 BNJ	3.80 U	5.05 BNJ	NA	NA
ARSENIC	mg/kg 3.50	16.50	10.00	NA	NA
BARIUM	mg/kg 97.00	134.00	70.50	NA	NA
BERYLLIUM	mg/kg 0.22 U	0.28 B	0.20 B	NA	NA
CADMIUM	mg/kg 0.66 U	0.35 U	0.51 U	NA	NA
CALCIUM	mg/kg 35,800.00	36,000.00	35,900.00	NA	NA
CHROMIUM	mg/kg 17.60 NJ	33.00	25.30 NJ	NA	NA
COBALT	mg/kg 19.40 J	20.70	20.05 J	NA	NA
COPPER	mg/kg 79.20 NJ	80.10	79.65 NJ	NA	NA
IRON	mg/kg 28,100.00	37,400.00	32,750.00	NA	NA
LEAD	mg/kg 149.00 SJ	23.70	86.35 SJ	NA	NA
MAGNESIUM	mg/kg 13,600.00	12,900.00	13,250.00	NA	NA
MANGANESE	mg/kg 708.00	1,030.00	869.00	NA	NA
MERCURY	mg/kg 0.19	0.10 U	0.12	NA	NA
NICKEL	mg/kg 12.60	15.10	13.85	NA	NA
POTASSIUM	mg/kg 4,170.00	2,610.00 J	3,390.00 J	NA	NA
SELENIUM	mg/kg 0.44 U	0.80 U	0.62 U	NA	NA
SILVER	mg/kg 2.80	1.50 B	2.15 B	NA	NA
SODIUM	mg/kg 349.00 B	306.00 B	327.50 B	NA	NA
THALLIUM	mg/kg 0.66 U	0.20 UJ	0.43 UJ	NA	NA
VANADIUM	mg/kg 78.80 NJ	113.00	95.90 NJ	NA	NA
ZINC	mg/kg 216.00	121.00	168.50	NA	NA
CYANIDE, total	mg/kg 0.55 U	0.55 U	0.55 U	NA	NA

TUT 007 0211

Tutu, St. Thomas, U.S. Virgin Islands
 Tillet Gardens Area - Surface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	SS-5	SS-5-CDM	SS-5-AVS	eTT-14S	eTT-15S
SAMPLE DATE	08/19/92	08/19/92	08/19/92	09/13/88	09/13/88
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004	V,SV,I	V,SV,I	V,SV,I	V,P,T	V,P,T
TOTAL PETROLEUM HYDROCARBONS	mg/kg	NA	NA	0.18 J	0.22 J

TUT 007 0212

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Present - Surface Soil
Organic Compounds

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Volatile Organics							
CHLOROMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
BROMOMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
VINYL CHLORIDE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
CHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	22.00	84.00 UJ	22.00	8.00 J	22.00 UJ	8.00 J
ACETONE	ug/kg	13.00 U	91.00 UJ	52.00 UJ	11.00 U	14.00 UJ	125.00 UJ
CARBON DISULFIDE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
CHLOROFORM	ug/kg	13.00 U	7.00 J	6.75 J	11.00 U	2.00 J	2.00 J
1,2-DICHLOROETHANE	ug/kg	13.00 U	65.00 UJ	39.00 UJ	11.00 U	11.00 UJ	11.00 UJ
2-BUTANONE	ug/kg	35.00	54.00 J	44.50 J	11.00 U	11.00 U	11.00 U
1,1,1-TRICHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 UJ	11.00 U	11.00 UJ
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
TRICHLOROETHENE	ug/kg	13.00 U	65.00 J	65.00 J	11.00 U	11.00 U	11.00 U
DIBROMOCHLOROMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
BENZENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
BROMOFORM	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
2-HEXANONE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
TETRACHLOROETHENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
TOLUENE	ug/kg	4.00 J	65.00 U	4.00 J	11.00 U	11.00 U	11.00 U
CHLOROBENZENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
ETHYLBENZENE	ug/kg	3.00 J	65.00 U	3.00 J	11.00 U	11.00 U	11.00 U
STYRENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
XYLENES (TOTAL)	ug/kg	19.00	65.00 U	19.00	11.00 U	11.00 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	6.40 U	NA	6.40 U	5.50 U	NA	5.50 U
tert-butyl methyl ether (MTBE)	ug/kg	13.00 UJ	NA	13.00 UJ	11.00 UJ	NA	11.00 UJ
n-PROPYLBENZENE	ug/kg	6.40 UJ	NA	6.40 UJ	5.50 UJ	NA	5.50 UJ
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Present - Surface Soil
Organic Compounds

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SAMPLE NAME		B-14	B-15	B-16	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE		08/14/92	08/14/92	08/14/92	06/06/89	06/06/89	06/06/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,P,T	V,SV,P,T	V,SV,P,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 UJ	58.00 UJ	12.00 UJ
BROMOMETHANE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 UJ	58.00 UJ	12.00 UJ
VINYL CHLORIDE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 UJ	58.00 UJ	12.00 UJ
CHLOROETHANE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 UJ	58.00 UJ	12.00 UJ
METHYLENE CHLORIDE	ug/kg	11.00 U	12.00 U	11.00 U	R	R	R
ACETONE	ug/kg	11.00 UJ	12.00 UJ	11.00 UJ	250.00 UJ	58.00 UJ	14.00 UJ
CARBON DISULFIDE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
1,1-DICHLOROETHENE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
1,1-DICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
CHLOROFORM	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
1,2-DICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
2-BUTANONE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 U	58.00 UJ	12.00 UJ
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
CARBON TETRACHLORIDE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
VINYL ACETATE	ug/kg	NA	NA	NA	57.00 UJ	58.00 UJ	12.00 UJ
BROMODICHLOROMETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
1,2-DICHLOROPROPANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
TRICHLOROETHENE	ug/kg	11.00 U	6.00 J	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
BENZENE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
BROMOFORM	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
4-METHYL-2-PENTANONE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 UJ	58.00 UJ	12.00 UJ
2-HEXANONE	ug/kg	11.00 U	12.00 U	11.00 U	57.00 UJ	58.00 UJ	12.00 UJ
TETRACHLOROETHENE	ug/kg	72.00 J	170.00	23.00	28.00 UJ	29.00 UJ	6.00 UJ
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
TOLUENE	ug/kg	2.00 J	12.00	11.00 J	200.00 NJ	29.00 UJ	6.00 UJ
CHLOROBENZENE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
ETHYLBENZENE	ug/kg	11.00 U	12.00 U	11.00 U	420.00 J	29.00 UJ	6.00 UJ
STYRENE	ug/kg	11.00 U	12.00 U	11.00 U	28.00 UJ	29.00 UJ	6.00 UJ
XYLENES (TOTAL)	ug/kg	11.00 U	12.00 U	11.00 U	1,400.00 J	1,600.00 J	6.00 UJ
1,2-DIBROMOETHANE (EDB)	ug/kg	5.70 U	6.00 U	5.60 U	NA	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	12.00 UJ	11.00 UJ	NA	NA	NA
n-PROPYLBENZENE	ug/kg	5.70 UJ	6.00 UJ	5.60 UJ	NA	NA	NA
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Present - Surface Soil
Organic Compounds

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SAMPLE NAME		MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics				
CHLOROMETHANE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ
BROMOMETHANE	ug/kg	11.00 U	11.00 U	11.00 U
VINYL CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U
CHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	11.00 U	1.00 J	1.00 J
ACETONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ
CARBON DISULFIDE	ug/kg	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U
CHLOROFORM	ug/kg	11.00 U	11.00 U	11.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U
2-BUTANONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U
VINYL ACETATE	ug/kg	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	11.00 U	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U
TRICHLOROETHENE	ug/kg	1.00 J	11.00 U	1.00 J
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U
BENZENE	ug/kg	11.00 U	11.00 U	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U
BROMOFORM	ug/kg	11.00 U	11.00 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	11.00 U	11.00 U
2-HEXANONE	ug/kg	11.00 U	11.00 U	11.00 U
TETRACHLOROETHENE	ug/kg	72.00 J	35.00 J	53.50 J
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U
TOLUENE	ug/kg	11.00 U	11.00 U	11.00 U
CHLOROBENZENE	ug/kg	11.00 U	11.00 U	11.00 U
ETHYLBENZENE	ug/kg	11.00 U	11.00 U	11.00 U
STYRENE	ug/kg	11.00 U	11.00 U	11.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	NA	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	55.00 U	55.00 U	55.00 U
n-PROPYLBENZENE	ug/kg	R	R	R
DIBROMOMETHANE	ug/kg	R	R	R

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Semivolatiles-1							
PHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
BIS (2-CHLOROETHYL) ETHER	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-CHLOROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
1,3-DICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
1,4-DICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-METHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4 METHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROETHANE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
NITROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
ISOPHORONE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-NITROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
2,4-DIMETHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,4-DICHLOROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
1,2,4-TRICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
NAPHTHALENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-CHLOROANILINE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROBUTADIENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-CHLORO-3-METHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
2-METHYLNAPHTHALENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROCYCLOPENTADIENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
2,4,5-TRICHLOROPHENOL	ug/kg	R	R	R	R	28000.0 UJ	28000.0 UJ
2-CHLORONAPHTHALENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-NITROANILINE	ug/kg	R	32000.0 UJ	32000.0 UJ	R	28000.0 UJ	28000.0 UJ
DIMETHYLPHTHALATE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
ACENAPHTHYLENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,6-DINITROTOLUENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ

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SAMPLE NAME		B-14	B-15	B-16	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE		08/14/92	08/14/92	08/14/92	06/06/89	06/06/89	06/06/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,P,T	V,SV,P,T	V,SV,P,T
Semivolatiles-1							
PHENOL	ug/kg	370.0 U	390.0 U	370.0 U	900000.0	3900.0 U	850.0 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2-CHLOROPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
1,3-DICHLOROBENZENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
1,4-DICHLOROBENZENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	78000.0 U	3900.0 U	850.0 U
1,2-DICHLOROBENZENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2-METHYLPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	320000.0	3900.0 U	850.0 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
4 METHYLPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	1300000.0 J	3900.0 U	850.0 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
HEXACHLOROETHANE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
NITROBENZENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
ISOPHORONE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2-NITROPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2,4-DIMETHYLPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	42000.0 J	3900.0 U	850.0 U
BENZOIC ACID	ug/kg	NA	NA	NA	380000.0 U	19000.0 U	4100.0 U
BIS (2-CHLOROETHOXY) METHANE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2,4-DICHLOROPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
1,2,4-TRICHLOROBENZENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
NAPHTHALENE	ug/kg	370.0 U	390.0 U	370.0 U	7700.0 J	4100.0	850.0 U
4-CHLOROANILINE	ug/kg	370.0 UJ	390.0 UJ	370.0 UJ	78000.0 U	3900.0 U	850.0 U
HEXACHLOROBUTADIENE	ug/kg	370.0 UJ	390.0 UJ	370.0 UJ	78000.0 U	3900.0 U	850.0 U
4-CHLORO-3-METHYLPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2-METHYLNAPHTHALENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	750.0 J	850.0 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	370.0 UJ	390.0 UJ	370.0 UJ	78000.0 U	3900.0 U	850.0 U
2,4,6-TRICHLOROPHENOL	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2,4,5-TRICHLOROPHENOL	ug/kg	910.0 UJ	950.0 UJ	890.0 UJ	380000.0 U	19000.0 U	4100.0 U
2-CHLORONAPHTHALENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2-NITROANILINE	ug/kg	910.0 U	950.0 U	890.0 U	380000.0 U	19000.0 U	4100.0 U
DIMETHYLPHTHALATE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
ACENAPHTHYLENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2,6-DINITROTOLUENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U

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SAMPLE NAME		MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1				
PHENOL	ug/kg	360.0 U	340.0 U	350.0 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	360.0 U	340.0 U	350.0 U
2-CHLOROPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
1,3-DICHLOROBENZENE	ug/kg	360.0 U	340.0 U	350.0 U
1,4-DICHLOROBENZENE	ug/kg	360.0 U	340.0 U	350.0 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	360.0 U	340.0 U	350.0 U
2-METHYLPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	360.0 U	340.0 U	350.0 U
4 METHYLPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	360.0 U	340.0 U	350.0 U
HEXACHLOROETHANE	ug/kg	360.0 U	340.0 U	350.0 U
NITROBENZENE	ug/kg	360.0 U	340.0 U	350.0 U
ISOPHORONE	ug/kg	360.0 U	340.0 U	350.0 U
2-NITROPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
2,4-DIMETHYLPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
BENZOIC ACID	ug/kg	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	360.0 U	340.0 U	350.0 U
2,4-DICHLOROPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
1,2,4-TRICHLOROBENZENE	ug/kg	360.0 U	340.0 U	350.0 U
NAPHTHALENE	ug/kg	360.0 U	340.0 U	350.0 U
4-CHLOROANILINE	ug/kg	360.0 U	340.0 U	350.0 U
HEXACHLOROBUTADIENE	ug/kg	360.0 U	340.0 U	350.0 U
4-CHLORO-3-METHYLPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
2-METHYLNAPHTHALENE	ug/kg	360.0 U	340.0 U	350.0 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	360.0 UJ	340.0 U	350.0 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	360.0 U	340.0 U	350.0 U
2,4,5-TRICHLOROPHENOL	ug/kg	880.0 U	810.0 U	845.0 U
2-CHLORONAPHTHALENE	ug/kg	360.0 U	340.0 U	350.0 U
2-NITROANILINE	ug/kg	880.0 U	810.0 U	845.0 U
DIMETHYLPHTHALATE	ug/kg	360.0 U	340.0 U	350.0 U
ACENAPHTHYLENE	ug/kg	360.0 U	340.0 U	350.0 U
2,6-DINITROTOLUENE	ug/kg	360.0 U	340.0 U	350.0 U

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SAMPLE NAME			SS-3	SS-3-CDM	SS-3-AVS		SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE			08/19/92	08/19/92	08/19/92		08/19/92	08/19/92	08/19/92
SAMPLE TYPE			SOIL	SOIL	SOIL		SOIL	SOIL	SOIL
SAMPLE DEPTH			0.0'-2.0'	0.0'-2.0'	0.0'-2.0'		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004			V,SV,I	V,SV,I	V,SV,I		V,SV,I	V,SV,I	V,SV,I
Semivolatiles-2									
3-NITROANILINE	ug/kg	R		32000.0 UJ	32000.0 UJ	R		28000.0 UJ	28000.0 UJ
ACENAPHTHENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
2,4-DINITROPHENOL	ug/kg	R		R	R	R		28000.0 UJ	28000.0 UJ
4-NITROPHENOL	ug/kg	R		R	R	R		28000.0 UJ	28000.0 UJ
DIBENZOFURAN	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
2,4-DINITROTOLUENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
DIETHYLPHTHALATE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
4-CHLOROPHENYL-PHENYLETHER	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
FLUORENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
4-NITROANILINE	ug/kg	R		32000.0 UJ	32000.0 UJ	R		28000.0 UJ	28000.0 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	R		R	R	R		28000.0 UJ	28000.0 UJ
N-NITROSODIPHENYLAMINE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
4-BROMOPHENYL-PHENYLETHER	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
HEXACHLOROBENZENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
PENTALCHLOROPHENOL	ug/kg	R		R	R	R		28000.0 UJ	28000.0 UJ
PHENANTHRENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
ANTHRACENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
CARBAZOLE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
DI-N-BUTYLPHTHALATE	ug/kg	R		9400.0 J	9400.0 J	R		1800.0 J	1800.0 J
FLUORANTHENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
PYRENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BUTYLBENZYLPHTHALATE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
3,3'-DICHLOROBENZIDINE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BENZO (A) ANTHRACENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
CHRYSENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
DI-N-OCTYLPHTHALATE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BENZO(B)FLUORANTHENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BENZO(K) FLUORANTHENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BENZO (A) PYRENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
INDENO (1,2,3-CD) PYRENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
DIBENZO (A,H) ANTHRACENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ
BENZO (G,H,I) PERYLENE	ug/kg	R		13000.0 UJ	13000.0 UJ	R		11000.0 UJ	11000.0 UJ

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SAMPLE NAME		B-14	B-15	B-16	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE		08/14/92	08/14/92	08/14/92	06/06/89	06/06/89	06/06/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,P,T	V,SV,P,T	V,SV,P,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	910.0 UJ	950.0 UJ	890.0 UJ	380000.0 U	19000.0 U	4100.0 U
ACENAPHTHENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2,4-DINITROPHENOL	ug/kg	910.0 U	950.0 U	890.0 U	380000.0 U	19000.0 U	4100.0 U
4-NITROPHENOL	ug/kg	910.0 U	950.0 U	870.0 U	R	19000.0 U	4100.0 U
DIBENZOFURAN	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
2,4-DINITROTOLUENE	ug/kg	370.0 U	390.0 U	370.0 U	R	3900.0 U	850.0 U
DIETHYLPHTHALATE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
FLUORENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
4-NITROANILINE	ug/kg	910.0 U	950.0 U	890.0 U	380000.0 U	19000.0 U	4100.0 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	910.0 U	950.0 U	890.0 U	380000.0 U	19000.0 U	4100.0 U
N-NITROSODIPHENYLAMINE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
HEXACHLOROBENZENE	ug/kg	370.0 UJ	390.0 UJ	370.0 UJ	78000.0 U	3900.0 U	850.0 U
PENTALCHLOROPHENOL	ug/kg	910.0 U	950.0 U	890.0 U	R	19000.0 U	4100.0 U
PHENANTHRENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
ANTHRACENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
CARBAZOLE	ug/kg	370.0 U	390.0 U	370.0 U	NA	NA	NA
D1-N-BUTYLPHTHALATE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
FLUORANTHENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
PYRENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
BUTYLBENZYLPHTHALATE	ug/kg	370.0 U	390.0 U	158.0 J	78000.0 U	3900.0 U	120.0 J
3,3'-DICHLOROBENZIDINE	ug/kg	370.0 U	390.0 U	370.0 U	160000.0 U	7900.0 U	1700.0 U
BENZO (A) ANTHRACENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
CHRYSENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
D1-N-OCTYLPHTHALATE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
BENZO(B)FLUORANTHENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
BENZO(K) FLUORANTHENE	ug/kg	370.0 UJ	390.0 UJ	370.0 UJ	78000.0 U	3900.0 U	850.0 U
BENZO (A) PYRENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
INDENO (1,2,3-CD) PYRENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
DIBENZO (A,H) ANTHRACENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U
BENZO (G,H,I) PERYLENE	ug/kg	370.0 U	390.0 U	370.0 U	78000.0 U	3900.0 U	850.0 U

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SAMPLE NAME		MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2				
3-NITROANILINE	ug/kg	880.0 UJ	810.0 UJ	845.0 UJ
ACENAPHTHENE	ug/kg	360.0 U	340.0 U	350.0 U
2,4-DINITROPHENOL	ug/kg	880.0 UJ	810.0 UJ	845.0 UJ
4-NITROPHENOL	ug/kg	880.0 UJ	810.0 UJ	845.0 UJ
DIBENZOFURAN	ug/kg	360.0 U	340.0 U	350.0 U
2,4-DINITROTOLUENE	ug/kg	360.0 U	340.0 U	350.0 U
DIETHYLPHTHALATE	ug/kg	360.0 UJ	340.0 U	350.0 UJ
4-CHLOROPHENYL-PHENYLETHER	ug/kg	360.0 U	340.0 U	350.0 U
FLUORENE	ug/kg	360.0 U	340.0 U	350.0 U
4-NITROANILINE	ug/kg	880.0 UJ	810.0 U	845.0 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	880.0 U	810.0 UJ	845.0 UJ
N-NITROSODIPHENYLAMINE	ug/kg	360.0 U	340.0 U	350.0 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	360.0 U	340.0 U	350.0 U
HEXACHLOROBENZENE	ug/kg	360.0 U	340.0 U	350.0 U
PENTALCHLOROPHENOL	ug/kg	880.0 UJ	810.0 U	845.0 UJ
PHENANTHRENE	ug/kg	360.0 U	340.0 U	350.0 U
ANTHRACENE	ug/kg	360.0 U	340.0 U	350.0 U
CARBAZOLE	ug/kg	360.0 UJ	340.0 U	350.0 UJ
DI-N-BUTYLPHTHALATE	ug/kg	52.0 J	340.0 U	52.0 J
FLUORANTHENE	ug/kg	360.0 U	340.0 U	350.0 U
PYRENE	ug/kg	360.0 U	340.0 U	350.0 U
BUTYLBENZYLPHTHALATE	ug/kg	360.0 U	340.0 U	350.0 U
3,3'-DICHLOROBENZIDINE	ug/kg	360.0 U	340.0 U	350.0 U
BENZO (A) ANTHRACENE	ug/kg	360.0 U	340.0 U	350.0 U
CHRYSENE	ug/kg	360.0 U	340.0 U	350.0 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	360.0 U	340.0 U	350.0 U
DI-N-OCTYLPHTHALATE	ug/kg	360.0 U	340.0 U	350.0 U
BENZO(B)FLUORANTHENE	ug/kg	360.0 U	340.0 U	350.0 U
BENZO(K) FLUORANTHENE	ug/kg	360.0 U	340.0 U	350.0 U
BENZO (A) PYRENE	ug/kg	360.0 U	340.0 U	350.0 U
INDENO (1,2,3-CD) PYRENE	ug/kg	360.0 U	340.0 U	350.0 U
DIBENZO (A,H) ANTHRACENE	ug/kg	360.0 U	340.0 U	350.0 U
BENZO (G,H,I) PERYLENE	ug/kg	360.0 U	340.0 U	350.0 U

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Pesticides\Pcbs							
ALPHA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
BETA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
DELTA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
LINDANE, TOTAL	ug/kg	NA	NA	NA	NA	NA	NA
HEPTACHLOR	ug/kg	NA	NA	NA	NA	NA	NA
ALDRIN	ug/kg	NA	NA	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN I	ug/kg	NA	NA	NA	NA	NA	NA
DIELDRIN	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDE	ug/kg	NA	NA	NA	NA	NA	NA
ENDRIN, TOTAL	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN II	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDD	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDT	ug/kg	NA	NA	NA	NA	NA	NA
METHOXYCHLOR	ug/kg	NA	NA	NA	NA	NA	NA
ENDRIN KETONE	ug/kg	NA	NA	NA	NA	NA	NA
ALPHA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	NA
GAMMA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	NA
TOXAPHENE	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1016	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1221	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1232	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1242	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1248	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1254	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1260	ug/kg	NA	NA	NA	NA	NA	NA

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SAMPLE NAME		B-14	B-15	B-16	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE		08/14/92	08/14/92	08/14/92	06/06/89	06/06/89	06/06/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,P,T	V,SV,P,T	V,SV,P,T
Pesticides\Pcbs							
ALPHA-BHC	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
BETA-BHC	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
DELTA-BHC	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
LINDANE, TOTAL	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
HEPTACHLOR	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
ALDRIN	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA	47.00 U	38.00 U	10.00 U
ENDOSULFAN I	ug/kg	NA	NA	NA	92.00	38.00 U	10.00 U
DIELDRIN	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
4,4-DDE	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
ENDRIN, TOTAL	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
ENDOSULFAN II	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
4,4-DDD	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
4,4-DDT	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
METHOXYCHLOR	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
ENDRIN KETONE	ug/kg	NA	NA	NA	94.00 U	75.00 U	20.00 U
ALPHA-CHLORDANE	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
GAMMA-CHLORDANE	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
TOXAPHENE	ug/kg	NA	NA	NA	940.00 U	750.00 U	200.00 U
AROCLOR-1016	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
AROCLOR-1221	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
AROCLOR-1232	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
AROCLOR-1242	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
AROCLOR-1248	ug/kg	NA	NA	NA	470.00 U	380.00 U	100.00 U
AROCLOR-1254	ug/kg	NA	NA	NA	940.00 U	750.00 U	200.00 U
AROCLOR-1260	ug/kg	NA	NA	NA	940.00 U	750.00 U	200.00 U

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SAMPLE NAME		MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Pesticides\Pcbs				
ALPHA-BHC	ug/kg	NA	NA	NA
BETA-BHC	ug/kg	NA	NA	NA
DELTA-BHC	ug/kg	NA	NA	NA
LINDANE, TOTAL	ug/kg	NA	NA	NA
HEPTACHLOR	ug/kg	NA	NA	NA
ALDRIN	ug/kg	NA	NA	NA
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA
ENDOSULFAN I	ug/kg	NA	NA	NA
DIELDRIN	ug/kg	NA	NA	NA
4,4-DDE	ug/kg	NA	NA	NA
ENDRIN, TOTAL	ug/kg	NA	NA	NA
ENDOSULFAN II	ug/kg	NA	NA	NA
4,4-DDD	ug/kg	NA	NA	NA
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA
4,4-DDT	ug/kg	NA	NA	NA
METHOXYCHLOR	ug/kg	NA	NA	NA
ENDRIN KETONE	ug/kg	NA	NA	NA
ALPHA-CHLORDANE	ug/kg	NA	NA	NA
GAMMA-CHLORDANE	ug/kg	NA	NA	NA
TOXAPHENE	ug/kg	NA	NA	NA
AROCLOR-1016	ug/kg	NA	NA	NA
AROCLOR-1221	ug/kg	NA	NA	NA
AROCLOR-1232	ug/kg	NA	NA	NA
AROCLOR-1242	ug/kg	NA	NA	NA
AROCLOR-1248	ug/kg	NA	NA	NA
AROCLOR-1254	ug/kg	NA	NA	NA
AROCLOR-1260	ug/kg	NA	NA	NA

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Inorganic Analytes

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Inorganic Analytes							
ALUMINUM	mg/kg	23,100.00	26,900.00	25,000.00	23,000.00	30,900.00	26,950.00
ANTIMONY	mg/kg	7.20 BNJ	4.10 U	4.63 BNJ	6.50 BNJ	3.30 U	4.08 BNJ
ARSENIC	mg/kg	1.70 B	2.90	2.30 B	0.92 BWJ	2.00 B	1.46 BWJ
BARIUM	mg/kg	94.20	98.30	96.25	39.40 B	49.00	44.20 B
BERYLLIUM	mg/kg	0.26 U	0.25 B	0.19 B	0.22 U	0.14 U	0.18 U
CADMIUM	mg/kg	0.77 U	0.37 U	0.57 U	0.66 U	0.30 U	0.48 U
CALCIUM	mg/kg	56,500.00	49,600.00	53,050.00	61,100.00	51,000.00	56,050.00
CHROMIUM	mg/kg	33.80 NJ	34.10	33.95 NJ	25.10 NJ	31.80	28.45 NJ
COBALT	mg/kg	22.10 J	23.40	22.75 J	20.90 J	21.30	21.10 J
COPPER	mg/kg	72.80 NJ	75.00	73.90 NJ	62.90 NJ	71.50	67.20 NJ
IRON	mg/kg	55,400.00	42,200.00	48,800.00	29,800.00	35,100.00	32,450.00
LEAD	mg/kg	12.20 J	27.70	19.95 J	9.10 J	13.50	11.30 J
MAGNESIUM	mg/kg	18,700.00	18,700.00	18,700.00	19,300.00	18,500.00	18,900.00
MANGANESE	mg/kg	886.00	841.00	863.50	634.00	719.00	676.50
MERCURY	mg/kg	0.06 U	0.12 U	0.09 U	0.05 U	0.10 U	0.08 U
NICKEL	mg/kg	19.20	17.10	18.15	16.80	16.10	16.45
POTASSIUM	mg/kg	7,140.00	8,110.00 J	7,625.00 J	673.00 B	1,150.00 J	911.50 BJ
SELENIUM	mg/kg	0.51 U	0.88 UJ	0.70 UJ	0.44 U	0.73 U	0.59 U
SILVER	mg/kg	2.10 B	1.70 B	1.90 B	0.93 B	1.40 B	1.17 B
SODIUM	mg/kg	476.00 B	501.00 B	488.50 B	352.00 B	453.00 B	402.50 B
THALLIUM	mg/kg	0.77 U	0.22 UJ	0.50 UJ	0.66 U	0.18 UJ	0.42 UJ
VANADIUM	mg/kg	88.30 NJ	102.00	95.15 NJ	86.00 NJ	107.00	96.50 NJ
ZINC	mg/kg	258.00	313.00	285.50	265.00	371.00	318.00
CYANIDE, TOTAL	mg/kg	0.96	0.62 U	0.64	0.57 U	0.50 U	0.54 U

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SAMPLE NAME		B-14	B-15	B-16	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE		08/14/92	08/14/92	08/14/92	06/06/89	06/06/89	06/06/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,P,T	V,SV,P,T	V,SV,P,T
Inorganic Analytes							
ALUMINUM	mg/kg	25,300.00	26,400.00	18,900.00	NA	NA	NA
ANTIMONY	mg/kg	7.30 BNJ	6.40 BNJ	6.80 BNJ	NA	NA	NA
ARSENIC	mg/kg	0.46 U	1.30 B	11.60	NA	NA	NA
BARIUM	mg/kg	34.50 B	32.10 B	39.90 B	NA	NA	NA
BERYLLIUM	mg/kg	0.23 U	0.23 U	0.22 U	NA	NA	NA
CADMIUM	mg/kg	0.70 U	0.70 U	0.99 B	NA	NA	NA
CALCIUM	mg/kg	120,000.00 *	89,400.00 *	68,800.00 *	NA	NA	NA
CHROMIUM	mg/kg	13.80 NJ	27.30 NJ	36.40 NJ	NA	NA	NA
COBALT	mg/kg	20.00	23.20	19.00	NA	NA	NA
COPPER	mg/kg	48.30 NJ	65.90 NJ	72.10 NJ	NA	NA	NA
IRON	mg/kg	28,000.00	32,600.00	30,600.00	NA	NA	NA
LEAD	mg/kg	2.90 J	12.20 J	45.60 N*J	NA	NA	NA
MAGNESIUM	mg/kg	26,200.00	22,900.00	16,300.00	NA	NA	NA
MANGANESE	mg/kg	757.00	809.00	599.00	NA	NA	NA
MERCURY	mg/kg	0.06 U	0.06 U	0.57	NA	NA	NA
NICKEL	mg/kg	11.10	16.50	15.70	NA	NA	NA
POTASSIUM	mg/kg	161.00 B	389.00 B	506.00 B	NA	NA	NA
SELENIUM	mg/kg	0.46 UWJ	0.46 UWJ	0.44 UWJ	NA	NA	NA
SILVER	mg/kg	0.93 B	1.10 B	1.30 B	NA	NA	NA
SODIUM	mg/kg	181.00 B	281.00 B	396.00 B	NA	NA	NA
THALLIUM	mg/kg	0.70 U	0.70 U	0.67 U	NA	NA	NA
VANADIUM	mg/kg	95.80 NJ	98.80 NJ	79.70 NJ	NA	NA	NA
ZINC	mg/kg	50.90	206.00	459.00	NA	NA	NA
CYANIDE, TOTAL	mg/kg	0.58 U	0.75	0.55 U	NA	NA	NA

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SAMPLE NAME		MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes				
ALUMINUM	mg/kg	25,700.00	29,000.00	27,350.00
ANTIMONY	mg/kg	5.00 UJ	5.20 UJ	5.10 UJ
ARSENIC	mg/kg	2.10	0.77 B	2.10
BARIUM	mg/kg	41.30 B	26.50 B	33.90 B
BERYLLIUM	mg/kg	0.28 B	0.25 B	0.27 B
CADMIUM	mg/kg	0.84 U	0.97 B	0.70 B
CALCIUM	mg/kg	22,800.00	54,400.00	38,600.00
CHROMIUM	mg/kg	39.10 J	45.30 J	42.20 J
COBALT	mg/kg	27.40 J	23.70 J	25.55 J
COPPER	mg/kg	135.00	82.40	108.70
IRON	mg/kg	35,300.00	36,900.00	36,100.00
LEAD	mg/kg	3.20	3.00	3.10
MAGNESIUM	mg/kg	22,000.00	25,100.00	23,550.00
MANGANESE	mg/kg	927.00	818.00	872.50
MERCURY	mg/kg	0.05 U	0.05 U	0.05 U
NICKEL	mg/kg	21.50	21.90	21.70
POTASSIUM	mg/kg	151.00 U	175.00 B	125.25 B
SELENIUM	mg/kg	0.42 U	0.43 U	0.43 U
SILVER	mg/kg	0.63 U	0.65 U	0.64 U
SODIUM	mg/kg	384.00 U	396.00 U	390.00 U
THALLIUM	mg/kg	0.42 U	0.43 U	0.43 U
VANADIUM	mg/kg	120.00	109.00	114.50
ZINC	mg/kg	51.70	52.30	52.00
CYANIDE, TOTAL	mg/kg	0.52 U	0.54 U	0.53 U

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Present - Surface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
TOTAL PETROLEUM HYDROCARBONS	mg/kg	NA	NA	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Present - Surface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	B-14	B-15	B-16	MWS-16	MWS-16-FR	MWS-16-AVD	
SAMPLE DATE	08/14/92	08/14/92	08/14/92	04/04/94	04/04/94	04/04/94	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	250.00 DJ	24.00 U	82.00 J	37.00 J	53.00 J	45.00 J

Tutu, St. Thomas, U.S. Virgin Islands
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Total Petroleum Hydrocarbons

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SAMPLE NAME	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE	06/06/89	06/06/89	06/06/89
SAMPLE TYPE	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004	V,SV,P,T	V,SV,P,T	V,SV,P,T
TOTAL PETROLEUM HYDROCARBONS ug/g	3,470.00	1,730.00	544.00
TOTAL PETROLEUM HYDROCARBONS ug/g	NA	NA	NA

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Organic Compounds

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Volatile Organics							
CHLOROMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
BROMOMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
VINYL CHLORIDE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
CHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	22.00	84.00 UJ	22.00	8.00 J	22.00 UJ	8.00 J
ACETONE	ug/kg	13.00 U	91.00 UJ	52.00 UJ	11.00 U	14.00 UJ	125.00 UJ
CARBON DISULFIDE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
CHLOROFORM	ug/kg	13.00 U	7.00 J	6.75 J	11.00 U	2.00 J	2.00 J
1,2-DICHLOROETHANE	ug/kg	13.00 U	65.00 UJ	39.00 UJ	11.00 U	11.00 UJ	11.00 UJ
2-BUTANONE	ug/kg	35.00	54.00 J	44.50 J	11.00 U	11.00 U	11.00 U
1,1,1-TRICHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 UJ	11.00 U	11.00 UJ
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
TRICHLOROETHENE	ug/kg	13.00 U	65.00 J	65.00 J	11.00 U	11.00 U	11.00 U
DIBROMOCHLOROMETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
BENZENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
BROMOFORM	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
2-HEXANONE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
TETRACHLOROETHENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
TOLUENE	ug/kg	4.00 J	65.00 U	4.00 J	11.00 U	11.00 U	11.00 U
CHLOROBENZENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
ETHYLBENZENE	ug/kg	3.00 J	65.00 U	3.00 J	11.00 U	11.00 U	11.00 U
STYRENE	ug/kg	13.00 U	65.00 U	39.00 U	11.00 U	11.00 U	11.00 U
XYLENES (TOTAL)	ug/kg	19.00	65.00 U	19.00	11.00 U	11.00 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	6.40 U	NA	6.40 U	5.50 U	NA	5.50 U
tert-butyl methyl ether (MTBE)	ug/kg	13.00 UJ	NA	13.00 UJ	11.00 UJ	NA	11.00 UJ
n-PROPYLBENZENE	ug/kg	6.40 UJ	NA	6.40 UJ	5.50 UJ	NA	5.50 UJ
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
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SAMPLE NAME		eL-02-01S	eL-02-02S	eL-02-03S	MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		06/06/89	06/06/89	06/06/89	04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.25'-1.0'	0.0'-0.5'	0.25'-1.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,P,T	V,SV,P,T	V,SV,P,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ
BROMOMETHANE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	11.00 U	11.00 U	11.00 U
VINYL CHLORIDE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	11.00 U	11.00 U	11.00 U
CHLOROETHANE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	11.00 U	11.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	R	R	R	11.00 U	1.00 J	1.00 J
ACETONE	ug/kg	250.00 UJ	58.00 UJ	14.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ
CARBON DISULFIDE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
CHLOROFORM	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
1,2-DICHLOROETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
2-BUTANONE	ug/kg	57.00 U	58.00 UJ	12.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ
1,1,1-TRICHLOROETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
VINYL ACETATE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
TRICHLOROETHENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	1.00 J	11.00 U	1.00 J
DIBROMOCHLOROMETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
BENZENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
BROMOFORM	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	11.00 U	11.00 U	11.00 U
2-HEXANONE	ug/kg	57.00 UJ	58.00 UJ	12.00 UJ	11.00 U	11.00 U	11.00 U
TETRACHLOROETHENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	72.00 J	35.00 J	53.50 J
1,1,2,2-TETRACHLOROETHANE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
TOLUENE	ug/kg	200.00 NJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
CHLOROBENZENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
ETHYLBENZENE	ug/kg	420.00 J	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
STYRENE	ug/kg	28.00 UJ	29.00 UJ	6.00 UJ	11.00 U	11.00 U	11.00 U
XYLENES (TOTAL)	ug/kg	1,400.00 J	1,600.00 J	6.00 UJ	11.00 U	11.00 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	NA	NA	NA	NA	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	NA	NA	NA	55.00 U	55.00 U	55.00 U
n-PROPYLBENZENE	ug/kg	NA	NA	NA	R	R	R
DIBROMOMETHANE	ug/kg	NA	NA	NA	R	R	R

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Semivolatiles-1							
PHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
BIS (2-CHLOROETHYL) ETHER	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-CHLOROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
1,3-DICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
1,4-DICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-METHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4 METHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROETHANE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
NITROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
ISOPHORONE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-NITROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
2,4-DIMETHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,4-DICHLOROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
1,2,4-TRICHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
NAPHTHALENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-CHLOROANILINE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROBUTADIENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-CHLORO-3-METHYLPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
2-METHYLNAPHTHALENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROCYCLOPENTADIENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	R	R	R	R	11000.0 UJ	11000.0 UJ
2,4,5-TRICHLOROPHENOL	ug/kg	R	R	R	R	28000.0 UJ	28000.0 UJ
2-CHLORONAPHTHALENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2-NITROANILINE	ug/kg	R	32000.0 UJ	32000.0 UJ	R	28000.0 UJ	28000.0 UJ
DIMETHYLPHTHALATE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
ACENAPHTHYLENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,6-DINITROTOLUENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ

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SAMPLE NAME		eL-02-01S	eL-02-02S	eL-02-03S	MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		06/06/89	06/06/89	06/06/89	04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.25'-1.0'	0.0'-0.5'	0.25'-1.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,P,T	V,SV,P,T	V,SV,P,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	900000.0	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2-CHLOROPHENOL	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
1,3-DICHLOROBENZENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
1,4-DICHLOROBENZENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BENZYL ALCOHOL	ug/kg	78000.0 U	3900.0 U	850.0 U	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2-METHYLPHENOL	ug/kg	320000.0	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
4 METHYLPHENOL	ug/kg	1300000.0 J	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
HEXACHLOROETHANE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
NITROBENZENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
ISOPHORONE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2-NITROPHENOL	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2,4-DIMETHYLPHENOL	ug/kg	42000.0 J	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BENZOIC ACID	ug/kg	380000.0 U	19000.0 U	4100.0 U	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2,4-DICHLOROPHENOL	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
1,2,4-TRICHLOROBENZENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
NAPHTHALENE	ug/kg	7700.0 J	4100.0	850.0 U	360.0 U	340.0 U	350.0 U
4-CHLOROANILINE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
HEXACHLOROBUTADIENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
4-CHLORO-3-METHYLPHENOL	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2-METHYLNAPHTHALENE	ug/kg	78000.0 U	750.0 J	850.0 U	360.0 U	340.0 U	350.0 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 UJ	340.0 U	350.0 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2,4,5-TRICHLOROPHENOL	ug/kg	380000.0 U	19000.0 U	4100.0 U	880.0 U	810.0 U	845.0 U
2-CHLORONAPHTHALENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2-NITROANILINE	ug/kg	380000.0 U	19000.0 U	4100.0 U	880.0 U	810.0 U	845.0 U
DIMETHYLPHTHALATE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
ACENAPHTHYLENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2,6-DINITROTOLUENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U

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Organic Compounds

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Semivolatiles-2							
3-NITROANILINE	ug/kg	R	32000.0 UJ	32000.0 UJ	R	28000.0 UJ	28000.0 UJ
ACENAPHTHENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,4-DINITROPHENOL	ug/kg	R	R	R	R	28000.0 UJ	28000.0 UJ
4-NITROPHENOL	ug/kg	R	R	R	R	28000.0 UJ	28000.0 UJ
DIBENZOFURAN	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
2,4-DINITROTOLUENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
DIETHYLPHthalate	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-CHLOROPHENYL-PHENYLETHER	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
FLUORENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-NITROANILINE	ug/kg	R	32000.0 UJ	32000.0 UJ	R	28000.0 UJ	28000.0 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	R	R	R	R	28000.0 UJ	28000.0 UJ
N-NITROSODIPHENYLAMINE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
4-BROMOPHENYL-PHENYLETHER	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
HEXACHLOROBENZENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
PENTALCHLOROPHENOL	ug/kg	R	R	R	R	28000.0 UJ	28000.0 UJ
PHENANTHRENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
ANTHRACENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
CARBAZOLE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
DI-N-BUTYLPHthalate	ug/kg	R	9400.0 J	9400.0 J	R	1800.0 J	1800.0 J
FLUORANTHENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
PYRENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BUTYLBENZYLPHthalate	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
3,3'-DICHLOROBENZIDINE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZO (A) ANTHRACENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
CHRYSENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
DI-N-OCTYLPHthalate	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZO(B)FLUORANTHENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZO(K) FLUORANTHENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZO (A) PYRENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
INDENO (1,2,3-CD) PYRENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
DIBENZO (A,H) ANTHRACENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ
BENZO (G,H,I) PERYLENE	ug/kg	R	13000.0 UJ	13000.0 UJ	R	11000.0 UJ	11000.0 UJ

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SAMPLE NAME		eL-02-01S	eL-02-02S	eL-02-03S	MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		06/06/89	06/06/89	06/06/89	04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.25'-1.0'	0.0'-0.5'	0.25'-1.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,P,T	V,SV,P,T	V,SV,P,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	380000.0 U	19000.0 U	4100.0 U	880.0 UJ	810.0 UJ	845.0 UJ
ACENAPHTHENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2,4-DINITROPHENOL	ug/kg	380000.0 U	19000.0 U	4100.0 U	880.0 UJ	810.0 UJ	845.0 UJ
4-NITROPHENOL	ug/kg	R	19000.0 U	4100.0 U	880.0 UJ	810.0 UJ	845.0 UJ
DIBENZOFURAN	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
2,4-DINITROTOLUENE	ug/kg	R	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
DIETHYLPHthalate	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 UJ	340.0 U	350.0 UJ
4-CHLOROPHENYL-PHENYLETHER	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
FLUORENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
4-NITROANILINE	ug/kg	380000.0 U	19000.0 U	4100.0 U	880.0 UJ	810.0 U	845.0 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	380000.0 U	19000.0 U	4100.0 U	880.0 U	810.0 UJ	845.0 UJ
N-NITROSODIPHENYLAMINE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
HEXACHLOROBENZENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
PENTALCHLOROPHENOL	ug/kg	R	19000.0 U	4100.0 U	880.0 UJ	810.0 U	845.0 UJ
PHENANTHRENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
ANTHRACENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
CARBAZOLE	ug/kg	NA	NA	NA	360.0 UJ	340.0 U	350.0 UJ
DI-N-BUTYLPHthalate	ug/kg	78000.0 U	3900.0 U	850.0 U	52.0 J	340.0 U	52.0 J
FLUORANTHENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
PYRENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BUTYLBENZYLPHthalate	ug/kg	78000.0 U	3900.0 U	120.0 J	360.0 U	340.0 U	350.0 U
3,3'-DICHLOROBENZIDINE	ug/kg	160000.0 U	7900.0 U	1700.0 U	360.0 U	340.0 U	350.0 U
BENZO (A) ANTHRACENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
CHRYSENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
DI-N-OCTYLPHthalate	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BENZO(B)FLUORANTHENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BENZO(K) FLUORANTHENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BENZO (A) PYRENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
INDENO (1,2,3-CD) PYRENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
DIBENZO (A,H) ANTHRACENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U
BENZO (G,H,I) PERYLENE	ug/kg	78000.0 U	3900.0 U	850.0 U	360.0 U	340.0 U	350.0 U

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Pesticides\Pcbs							
ALPHA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
BETA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
DELTA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
LINDANE, TOTAL	ug/kg	NA	NA	NA	NA	NA	NA
HEPTACHLOR	ug/kg	NA	NA	NA	NA	NA	NA
ALDRIN	ug/kg	NA	NA	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN I	ug/kg	NA	NA	NA	NA	NA	NA
DIELDRIN	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDE	ug/kg	NA	NA	NA	NA	NA	NA
ENDRIN, TOTAL	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN II	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDD	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDT	ug/kg	NA	NA	NA	NA	NA	NA
METHOXYCHLOR	ug/kg	NA	NA	NA	NA	NA	NA
ENDRIN KETONE	ug/kg	NA	NA	NA	NA	NA	NA
ALPHA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	NA
GAMMA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	NA
TOXAPHENE	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1016	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1221	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1232	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1242	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1248	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1254	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1260	ug/kg	NA	NA	NA	NA	NA	NA

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SAMPLE NAME		eL-02-01S	eL-02-02S	eL-02-03S	MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		06/06/89	06/06/89	06/06/89	04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.25'-1.0'	0.0'-0.5'	0.25'-1.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,P,T	V,SV,P,T	V,SV,P,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Pesticides\Pcbs							
ALPHA-BHC	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
BETA-BHC	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
DELTA-BHC	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
LINDANE, TOTAL	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
HEPTACHLOR	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
ALDRIN	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
HEPTACHLOR EPOXIDE	ug/kg	47.00 U	38.00 U	10.00 U	NA	NA	NA
ENDOSULFAN I	ug/kg	92.00	38.00 U	10.00 U	NA	NA	NA
DIELDRIN	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
4,4-DDE	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
ENDRIN, TOTAL	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
ENDOSULFAN II	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
4,4-DDD	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
ENDOSULFAN SULFATE	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
4,4-DDT	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
METHOXYCHLOR	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
ENDRIN KETONE	ug/kg	94.00 U	75.00 U	20.00 U	NA	NA	NA
ALPHA-CHLORDANE	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
GAMMA-CHLORDANE	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
TOXAPHENE	ug/kg	940.00 U	750.00 U	200.00 U	NA	NA	NA
AROCLOR-1016	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
AROCLOR-1221	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
AROCLOR-1232	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
AROCLOR-1242	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
AROCLOR-1248	ug/kg	470.00 U	380.00 U	100.00 U	NA	NA	NA
AROCLOR-1254	ug/kg	940.00 U	750.00 U	200.00 U	NA	NA	NA
AROCLOR-1260	ug/kg	940.00 U	750.00 U	200.00 U	NA	NA	NA

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Inorganic Analytes

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SAMPLE NAME		eL-02-01S	eL-02-02S	eL-02-03S	MWS-16	MWS-16-FR	MWS-16-AVD
SAMPLE DATE		06/06/89	06/06/89	06/06/89	04/04/94	04/04/94	04/04/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.25'-1.0'	0.0'-0.5'	0.25'-1.0'	0.0' - 2.0'	0.0' - 2.0'	0.0' - 2.0'
TEXT 004		V,SV,P,T	V,SV,P,T	V,SV,P,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes							
ALUMINUM	mg/kg	NA	NA	NA	25,700.00	29,000.00	27,350.00
ANTIMONY	mg/kg	NA	NA	NA	5.00 UJ	5.20 UJ	5.10 UJ
ARSENIC	mg/kg	NA	NA	NA	2.10	0.77 B	2.10
BARIUM	mg/kg	NA	NA	NA	41.30 B	26.50 B	33.90 B
BERYLLIUM	mg/kg	NA	NA	NA	0.28 B	0.25 B	0.27 B
CADMIUM	mg/kg	NA	NA	NA	0.84 U	0.97 B	0.70 B
CALCIUM	mg/kg	NA	NA	NA	22,800.00	54,400.00	38,600.00
CHROMIUM	mg/kg	NA	NA	NA	39.10 J	45.30 J	42.20 J
COBALT	mg/kg	NA	NA	NA	27.40 J	23.70 J	25.55 J
COPPER	mg/kg	NA	NA	NA	135.00	82.40	108.70
IRON	mg/kg	NA	NA	NA	35,300.00	36,900.00	36,100.00
LEAD	mg/kg	NA	NA	NA	3.20	3.00	3.10
MAGNESIUM	mg/kg	NA	NA	NA	22,000.00	25,100.00	23,550.00
MANGANESE	mg/kg	NA	NA	NA	927.00	818.00	872.50
MERCURY	mg/kg	NA	NA	NA	0.05 U	0.05 U	0.05 U
NICKEL	mg/kg	NA	NA	NA	21.50	21.90	21.70
POTASSIUM	mg/kg	NA	NA	NA	151.00 U	175.00 B	125.25 B
SELENIUM	mg/kg	NA	NA	NA	0.42 U	0.43 U	0.43 U
SILVER	mg/kg	NA	NA	NA	0.63 U	0.65 U	0.64 U
SODIUM	mg/kg	NA	NA	NA	384.00 U	396.00 U	390.00 U
THALLIUM	mg/kg	NA	NA	NA	0.42 U	0.43 U	0.43 U
VANADIUM	mg/kg	NA	NA	NA	120.00	109.00	114.50
ZINC	mg/kg	NA	NA	NA	51.70	52.30	52.00
CYANIDE, TOTAL	mg/kg	NA	NA	NA	0.52 U	0.54 U	0.53 U

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Inorganic Analytes

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SAMPLE NAME		SS-3	SS-3-CDM	SS-3-AVS	SS-4	SS-4-CDM	SS-4-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I
Inorganic Analytes							
ALUMINUM	mg/kg	23,100.00	26,900.00	25,000.00	23,000.00	30,900.00	26,950.00
ANTIMONY	mg/kg	7.20 BNJ	4.10 U	4.63 BNJ	6.50 BNJ	3.30 U	4.08 BNJ
ARSENIC	mg/kg	1.70 B	2.90	2.30 B	0.92 BWJ	2.00 B	1.46 BWJ
BARIUM	mg/kg	94.20	98.30	96.25	39.40 B	49.00	44.20 B
BERYLLIUM	mg/kg	0.26 U	0.25 B	0.19 B	0.22 U	0.14 U	0.18 U
CADMIUM	mg/kg	0.77 U	0.37 U	0.57 U	0.66 U	0.30 U	0.48 U
CALCIUM	mg/kg	56,500.00	49,600.00	53,050.00	61,100.00	51,000.00	56,050.00
CHROMIUM	mg/kg	33.80 NJ	34.10	33.95 NJ	25.10 NJ	31.80	28.45 NJ
COBALT	mg/kg	22.10 J	23.40	22.75 J	20.90 J	21.30	21.10 J
COPPER	mg/kg	72.80 NJ	75.00	73.90 NJ	62.90 NJ	71.50	67.20 NJ
IRON	mg/kg	55,400.00	42,200.00	48,800.00	29,800.00	35,100.00	32,450.00
LEAD	mg/kg	12.20 J	27.70	19.95 J	9.10 J	13.50	11.30 J
MAGNESIUM	mg/kg	18,700.00	18,700.00	18,700.00	19,300.00	18,500.00	18,900.00
MANGANESE	mg/kg	886.00	841.00	863.50	634.00	719.00	676.50
MERCURY	mg/kg	0.06 U	0.12 U	0.09 U	0.05 U	0.10 U	0.08 U
NICKEL	mg/kg	19.20	17.10	18.15	16.80	16.10	16.45
POTASSIUM	mg/kg	7,140.00	8,110.00 J	7,625.00 J	673.00 B	1,150.00 J	911.50 BJ
SELENIUM	mg/kg	0.51 U	0.88 UJ	0.70 UJ	0.44 U	0.73 U	0.59 U
SILVER	mg/kg	2.10 B	1.70 B	1.90 B	0.93 B	1.40 B	1.17 B
SODIUM	mg/kg	476.00 B	501.00 B	488.50 B	352.00 B	453.00 B	402.50 B
THALLIUM	mg/kg	0.77 U	0.22 UJ	0.50 UJ	0.66 U	0.18 UJ	0.42 UJ
VANADIUM	mg/kg	88.30 NJ	102.00	95.15 NJ	86.00 NJ	107.00	96.50 NJ
ZINC	mg/kg	258.00	313.00	285.50	265.00	371.00	318.00
CYANIDE, TOTAL	mg/kg	0.96	0.62 U	0.64	0.57 U	0.50 U	0.54 U

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Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Future - Surface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	SS-3-AVS	SS-4-AVS	MWS-16-AVD
SAMPLE DATE	08/19/92	08/19/92	04/04/94
SAMPLE TYPE	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0' - 2.0'
TEXT 004	V,SV,I	V,SV,I	V,SV,I,T
TOTAL PETROLEUM HYDROCARBONS	mg/kg	NA	NA
			45.00 J

TUT 007 0241

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Future - Surface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	eL-02-01S	eL-02-02S	eL-02-03S
SAMPLE DATE	06/06/89	06/06/89	06/06/89
SAMPLE TYPE	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.25'-1.0'	0.0'-0.5'	0.25'-1.0'
TEXT 004	V,SV,P,T	V,SV,P,T	V,SV,P,T
TOTAL PETROLEUM HYDROCARBONS ug/g	3,470.00	1,730.00	544.00
TOTAL PETROLEUM HYDROCARBONS ug/g	NA	NA	NA

TUT 007 0242

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Surface Soil
Organic Compounds

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SAMPLE NAME		B-2	eC-09S	eC-10S	eR-07S	eR-08S	eR-02-02S
SAMPLE DATE		08/03/92	09/12/88	09/12/88	09/12/88	09/12/88	06/08/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0'-2.0'	0.5'-1.0'	0.3'-1.0'	0.25'-0.75'	0.17'-1.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,P,T	V,SV,P
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	1,800.00 U	13.00 U	12.00 U	13.00 U	60.00 UJ
BROMOMETHANE	ug/kg	11.00 U	1,800.00 U	13.00 U	12.00 U	13.00 U	60.00 UJ
VINYL CHLORIDE	ug/kg	11.00 U	1,800.00 U	13.00 U	12.00 U	13.00 U	60.00 UJ
CHLOROETHANE	ug/kg	11.00 U	1,800.00 U	13.00 U	12.00 U	13.00 U	60.00 UJ
METHYLENE CHLORIDE	ug/kg	17.00 J	12,000.00 U	29.00 U	26.00 U	26.00 U	200.00
ACETONE	ug/kg	14.00	2,700.00 UJ	54.00 UJ	17.00 UJ	33.00 UJ	60.00 UJ
CARBON DISULFIDE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,1-DICHLOROETHENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,1-DICHLOROETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
CHLOROFORM	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,2-DICHLOROETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
2-BUTANONE	ug/kg	11.00 U	R	13.00 U	12.00 U	13.00 U	60.00 UJ
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
CARBON TETRACHLORIDE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
VINYL ACETATE	ug/kg	NA	1,800.00 U	13.00 UJ	12.00 UJ	13.00 UJ	60.00 UJ
BROMODICHLOROMETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,2-DICHLOROPROPANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
cis 1,3-DICHLOROPROPENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
TRICHLOROETHYLENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
BENZENE	ug/kg	11.00 U	880.00 U	45.00 J	6.00 U	6.00 J	30.00 UJ
Trans 1,3-DICHLOROPROPENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
BROMOFORM	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
4-METHYL-2-PENTANONE	ug/kg	11.00 U	1,800.00 UJ	33.00 J	8.00 J	13.00 UJ	60.00 UJ
2-HEXANONE	ug/kg	11.00 U	1,800.00 UJ	13.00 UJ	55.00 J	13.00 UJ	60.00 UJ
TETRACHLOROETHYLENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
TOLUENE	ug/kg	11.00 U	560.00 J	1,300.00	2.00 J	6.00 U	30.00 UJ
CHLOROBENZENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
ETHYLBENZENE	ug/kg	11.00 U	1,300.00	2,100.00	6.00 U	18.00 B	30.00 UJ
STYRENE	ug/kg	11.00 U	880.00 U	6.00 U	6.00 U	6.00 U	30.00 UJ
XYLENES (TOTAL)	ug/kg	11.00 U	2,500.00	5,600.00	1.00 J	7.00	490.00 J
1,2-DIBROMOETHANE (EDB)	ug/kg	5.00 U	NA	NA	NA	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	10.00 UJ	NA	NA	NA	NA	NA
n-PROPYLBENZENE	ug/kg	5.00 UJ	NA	NA	NA	NA	NA

TUT 007 0243

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Co. - Surface Soil
Organic Compounds

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SAMPLE NAME		B-2	eC-09S	eC-10S	eR-07S	eR-08S	eR-02-02S
SAMPLE DATE		08/03/92	09/12/88	09/12/88	09/12/88	09/12/88	06/08/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0'-2.0'	0.5'-1.0'	0.3'-1.0'	0.25'-0.75'	0.17'-1.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,P,T	V,SV,P
Semivolatiles-1							
PHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2-CHLOROPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
1,3-DICHLOROBENZENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
1,4-DICHLOROBENZENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	1,600.00 U
1,2-DICHLOROBENZENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2-METHYLPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
4 METHYLPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
N-NITROSO-D1-N-PROPYLAMINE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
HEXACHLOROETHANE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
NITROBENZENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
ISOPHORONE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2-NITROPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2,4-DIMETHYLPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	7,600.00 U
BIS (2-CHLOROETHOXY) METHANE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2,4-DICHLOROPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
NAPHTHALENE	ug/kg	1,400.00 U	NA	NA	NA	NA	4,400.00
4-CHLOROANILINE	ug/kg	1,400.00 UJ	NA	NA	NA	NA	1,600.00 U
HEXACHLOROBUTADIENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2-METHYLNAPHTHALENE	ug/kg	1,400.00 U	NA	NA	NA	NA	6,100.00
HEXACHLOROCYCLOPENTADIENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	3,400.00 U	NA	NA	NA	NA	7,600.00 U
2-CHLORONAPHTHALENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2-NITROANILINE	ug/kg	3,400.00 U	NA	NA	NA	NA	7,600.00 U
DIMETHYLPHTHALATE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
ACENAPHTHYLENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2,6-DINITROTOLUENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Surface Soil
Organic Compounds

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SAMPLE NAME		B-2	eC-09S	eC-10S	eR-07S	eR-08S	eR-02-02S
SAMPLE DATE		08/03/92	09/12/88	09/12/88	09/12/88	09/12/88	06/08/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0'-2.0'	0.5'-1.0'	0.3'-1.0'	0.25'-0.75'	0.17'-1.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,P,T	V,SV,P
Semivolatiles-2							
3-NITROANILINE	ug/kg	3,400.00 UJ	NA	NA	NA	NA	7,600.00 U
ACENAPHTHENE	ug/kg	1,400.00 U	NA	NA	NA	NA	190.00 J
2,4-DINITROPHENOL	ug/kg	3,400.00 U	NA	NA	NA	NA	7,600.00 U
4-NITROPHENOL	ug/kg	1,400.00 U	NA	NA	NA	NA	7,600.00 U
DIBENZOFURAN	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
2,4-DINITROTOLUENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
DIETHYLPHTHALATE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
FLUORENE	ug/kg	1,400.00 U	NA	NA	NA	NA	420.00 J
4-NITROANILINE	ug/kg	3,400.00 U	NA	NA	NA	NA	7,600.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	3,400.00 U	NA	NA	NA	NA	7,600.00 U
N-NITROSODIPHENYLAMINE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
HEXACHLOROBENZENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
PENTALCHLOROPHENOL	ug/kg	3,400.00 U	NA	NA	NA	NA	7,600.00 U
PHENANTHRENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
ANTHRACENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
CARBAZOLE	ug/kg	1,400.00 U	NA	NA	NA	NA	NA
D1-N-BUTYLPHTHALATE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
FLUORANTHENE	ug/kg	1,400.00 U	NA	NA	NA	NA	740.00 J
PYRENE	ug/kg	220.00 J	NA	NA	NA	NA	2,000.00
BUTYLBENZYLPHTHALATE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	1,400.00 U	NA	NA	NA	NA	3,100.00 U
BENZO (A) ANTHRACENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
CHRYSENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	1,400.00 U	NA	NA	NA	NA	5,400.00
D1-N-OCTYLPHTHALATE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BENZO(B)FLUORANTHENE	ug/kg	1,400.00 U	NA	NA	NA	NA	870.00 J
BENZO(K) FLUORANTHENE	ug/kg	1,400.00 UJ	NA	NA	NA	NA	1,600.00 U
BENZO (A) PYRENE	ug/kg	270.00 J	NA	NA	NA	NA	770.00 J
INDENO (1,2,3-CD) PYRENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	1,400.00 U	NA	NA	NA	NA	1,600.00 U
BENZO (G,H,I) PERYLENE	ug/kg	290.00 J	NA	NA	NA	NA	430.00 J

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Surface Soil
Organic Compounds

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SAMPLE NAME		B-2	eC-09S	eC-10S	eR-07S	eR-08S	eR-02-02S
SAMPLE DATE		08/03/92	09/12/88	09/12/88	09/12/88	09/12/88	06/08/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0'-2.0'	0.5'-1.0'	0.3'-1.0'	0.25'-0.75'	0.17'-1.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,P,T	V,SV,P
Pesticides							
ALPHA-BHC	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
BETA-BHC	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
DELTA-BHC	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
LINDANE, TOTAL	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
HEPTACHLOR	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
ALDRIN	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
HEPTACHLOR EPOXIDE	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
ENDOSULFAN I	ug/kg	NA	110.00 UJ	100.00 UJ	10.00 UJ	100.00 UJ	37.00 U
DIELDRIN	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
4,4'-DDE	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
ENDRIN, TOTAL	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
ENDOSULFAN II	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
4,4'-DDD	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
ENDOSULFAN SULFATE	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
4,4'-DDT	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
METHOXYCHLOR	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
ENDRIN KETONE	ug/kg	NA	230.00 UJ	200.00 UJ	19.00 UJ	200.00 UJ	74.00 U
ALPHA-CHLORDANE	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
GAMMA-CHLORDANE	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
TOXAPHENE	ug/kg	NA	2,300.00 UJ	2,000.00 UJ	190.00 UJ	2,000.00 UJ	740.00 U
AROCLOR-1016	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
AROCLOR-1221	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
AROCLOR-1232	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
AROCLOR-1242	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	470.00 UJ	1,000.00 UJ	370.00 U
AROCLOR-1248	ug/kg	NA	1,100.00 UJ	1,000.00 UJ	96.00 UJ	1,000.00 UJ	370.00 U
AROCLOR-1254	ug/kg	NA	2,300.00 UJ	2,000.00 UJ	190.00 UJ	2,000.00 UJ	740.00 U
AROCLOR-1260	ug/kg	NA	2,300.00 UJ	2,000.00 UJ	190.00 UJ	2,000.00 UJ	740.00 U

Tutu, St. Thomas, U.S. Virgin Islands
 Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Surface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	B-2	eC-09S	eC-10S	eR-07S	eR-08S
SAMPLE DATE	08/03/92	09/12/88	09/12/88	09/12/88	09/12/88
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0' - 2.0'	0.0'-2.0'	0.5'-1.0'	0.3'-1.0'	0.25'-0.75'
TEXT 004	V,SV,I,T	V,P,T	V,P,T	V,P,T	V,P,T
TOTAL PETROLEUM HYDROCARBONS mg/kg	110.00	0.90 J	15.70 J	0.57 J	1.93 J

TUT 007 0247

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Surface Soil
Inorganic Analytes

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SAMPLE NAME		B-2	eC-09S	eC-10S	eR-07S	eR-08S	eR-02-02S
SAMPLE DATE		08/03/92	09/12/88	09/12/88	09/12/88	09/12/88	06/08/89
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0' - 2.0'	0.0'-2.0'	0.5'-1.0'	0.3'-1.0'	0.25'-0.75'	0.17'-1.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,P,T	V,SV,P
ALUMINUM	mg/kg	26,000.00	NA	NA	NA	NA	NA
ANTIMONY	mg/kg	5.90 BJ	NA	NA	NA	NA	NA
ARSENIC	mg/kg	2.10 U	NA	NA	NA	NA	NA
BARIUM	mg/kg	67.20	NA	NA	NA	NA	NA
BERYLLIUM	mg/kg	0.26 B	NA	NA	NA	NA	NA
CADMIUM	mg/kg	0.64 U	NA	NA	NA	NA	NA
CALCIUM	mg/kg	47,200.00	NA	NA	NA	NA	NA
CHROMIUM	mg/kg	31.70	NA	NA	NA	NA	NA
COBALT	mg/kg	21.90	NA	NA	NA	NA	NA
COPPER	mg/kg	79.10	NA	NA	NA	NA	NA
IRON	mg/kg	38,400.00	NA	NA	NA	NA	NA
LEAD	mg/kg	26.00 SJ	NA	NA	NA	NA	NA
MAGNESIUM	mg/kg	17,100.00	NA	NA	NA	NA	NA
MANGANESE	mg/kg	834.00	NA	NA	NA	NA	NA
MERCURY	mg/kg	0.06 U	NA	NA	NA	NA	NA
NICKEL	mg/kg	17.50	NA	NA	NA	NA	NA
POTASSIUM	mg/kg	1,170.00	NA	NA	NA	NA	NA
SELENIUM	mg/kg	0.42 U	NA	NA	NA	NA	NA
SILVER	mg/kg	2.20 J	NA	NA	NA	NA	NA
SODIUM	mg/kg	319.00 B	NA	NA	NA	NA	NA
THALLIUM	mg/kg	0.64 U	NA	NA	NA	NA	NA
VANADIUM	mg/kg	119.00	NA	NA	NA	NA	NA
ZINC	mg/kg	108.00	NA	NA	NA	NA	NA
CYANIDE, total	mg/kg	1.10	NA	NA	NA	NA	NA

TUT 007 0248

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Surface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	eR-02-02S
SAMPLE DATE	06/08/89
SAMPLE TYPE	SOIL
SAMPLE DEPTH	0.17'-1.0'
TEXT 004	V,SV,P

TOTAL PETROLEUM HYDROCARBONS	ug/g	23,400.00
TOTAL PETROLEUM HYDROCARBONS	ug/g	NA

TUT 007 0249

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		SS-6	SS-6-FR	SS-6-CDM	SS-6-AVS	B-13A	e-01
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/12/92	09/08/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,P,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	27,000.00 U
BROMOMETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	27,000.00 U
VINYL CHLORIDE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	27,000.00 U
CHLOROETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	27,000.00 U
METHYLENE CHLORIDE	ug/kg	22.00	20.00	26.00 UJ	16.50	11.00 UJ	14,000.00 BU
ACETONE	ug/kg	11.00 U	12.00 U	12.00 UJ	11.75 UJ	11.00 UJ	27,000.00 BU
CARBON DISULFIDE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
CHLOROFORM	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	12.00 U	12.00 UJ	11.75 UJ	11.00 U	14,000.00 U
2-BUTANONE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 UJ	R
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	27,000.00 U
BROMODICHLOROMETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
cis 1,3-DICHLOROPROPENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
TRICHLOROETHYLENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
BENZENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 UJ
Trans 1,3-DICHLOROPROPENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
BROMOFORM	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 UJ	27,000.00 U
2-HEXANONE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 UJ	27,000.00 U
TETRACHLOROETHYLENE	ug/kg	1.00 J	12.00 U	12.00 U	11.75 U	15.00	440,000.00
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 U
TOLUENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 UJ
CHLOROBENZENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 UJ
ETHYLBENZENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 UJ
STYRENE	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 UJ
XYLENES (TOTAL)	ug/kg	11.00 U	12.00 U	12.00 U	11.75 U	11.00 U	14,000.00 UJ
1,2-DIBROMOETHANE (EDB)	ug/kg	5.70 U	NA	NA	5.70 U	5.40 U	NA
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	NA	NA	11.00 UJ	11.00 UJ	NA
n-PROPYLBENZENE	ug/kg	5.70 UJ	NA	NA	5.70 UJ	5.40 UJ	NA

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		e0-02-01	e0-02-02	e0-02-03
SAMPLE DATE		06/05/89	06/05/89	06/05/89
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.5'-1.25'	1.25'-2.0'	0.5'-1.25'
TEXT 004		V,SV,P,T	V,SV,P	V,SV,P,T
Volatile Organics				
CHLOROMETHANE	ug/kg	11,000.00 U	62.00 U	11.00 U
BROMOMETHANE	ug/kg	11,000.00 U	62.00 U	11.00 U
VINYL CHLORIDE	ug/kg	11,000.00 U	62.00 U	11.00 U
CHLOROETHANE	ug/kg	11,000.00 U	62.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	5,300.00 U	150.00 J	27.00 U
ACETONE	ug/kg	11,000.00 U	84.00 J	80.00 U
CARBON DISULFIDE	ug/kg	5,300.00 U	31.00 U	6.00 U
1,1-DICHLOROETHENE	ug/kg	5,300.00 U	31.00 U	6.00 U
1,1-DICHLOROETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	5,300.00 U	20.00 J	6.00 U
CHLOROFORM	ug/kg	5,300.00 U	12.00 J	2.00 J
1,2-DICHLOROETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
2-BUTANONE	ug/kg	11,000.00 U	62.00 U	11.00 U
1,1,1-TRICHLOROETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
CARBON TETRACHLORIDE	ug/kg	5,300.00 U	31.00 U	6.00 U
VINYL ACETATE	ug/kg	11,000.00 U	62.00 U	11.00 U
BROMODICHLOROMETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
1,2-DICHLOROPROPANE	ug/kg	5,300.00 U	31.00 U	6.00 U
cis 1,3-DICHLOROPROPENE	ug/kg	5,300.00 U	31.00 U	6.00 U
TRICHLOROETHYLENE	ug/kg	5,300.00 U	75.00	6.00 U
DIBROMOCHLOROMETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
1,1,2-TRICHLOROETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
BENZENE	ug/kg	5,300.00 U	31.00 U	6.00 U
Trans 1,3-DICHLOROPROPENE	ug/kg	5,300.00 U	31.00 U	6.00 U
BROMOFORM	ug/kg	5,300.00 U	31.00 U	6.00 U
4-METHYL-2-PENTANONE	ug/kg	11,000.00 U	62.00 U	11.00 U
2-HEXANONE	ug/kg	11,000.00 U	62.00 U	11.00 U
TETRACHLOROETHYLENE	ug/kg	170,000.00	180,000.00 D	58.00 J
1,1,2,2-TETRACHLOROETHANE	ug/kg	5,300.00 U	31.00 U	6.00 U
TOLUENE	ug/kg	5,300.00 U	31.00 U	6.00 U
CHLOROBENZENE	ug/kg	5,300.00 U	31.00 U	6.00 U
ETHYLBENZENE	ug/kg	5,300.00 U	31.00 U	6.00 U
STYRENE	ug/kg	5,300.00 U	31.00 U	6.00 U
XYLENES (TOTAL)	ug/kg	5,300.00 U	31.00 U	6.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	NA	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	NA	NA	NA
n-PROPYLBENZENE	ug/kg	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		SS-6	SS-6-FR	SS-6-CDM	SS-6-AVS	B-13A	e-01
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/12/92	09/08/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,P,T
Semivolatiles-1							
PHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
BIS (2-CHLOROETHYL) ETHER	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2-CHLOROPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
1,3-DICHLOROBENZENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
1,4-DICHLOROBENZENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2-METHYLPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
4 METHYLPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
HEXACHLOROETHANE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
NITROBENZENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
ISOPHORONE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2-NITROPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2,4-DIMETHYLPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
BENZOIC ACID	ug/kg	63.00 JN	NA	NA	63.00 JN	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2,4-DICHLOROPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
1,2,4-TRICHLOROBENZENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
NAPHTHALENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
4-CHLOROANILINE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
HEXACHLOROBUTADIENE	ug/kg	R	370.00 U	390.00 U	380.00 U	340.00 U	NA
4-CHLORO-3-METHYLPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2-METHYLNAPHTHALENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
HEXACHLOROCYCLOPENTADIENE	ug/kg	R	370.00 UJ	390.00 U	380.00 UJ	350.00 U	NA
2,4,6-TRICHLOROPHENOL	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2,4,5-TRICHLOROPHENOL	ug/kg	R	910.00 U	940.00 U	925.00 U	840.00 U	NA
2-CHLORONAPHTHALENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2-NITROANILINE	ug/kg	R	910.00 U	940.00 UJ	925.00 UJ	840.00 U	NA
DIMETHYLPHTHALATE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
ACENAPHTHYLENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA
2,6-DINITROTOLUENE	ug/kg	R	370.00 U	390.00 U	380.00 U	350.00 U	NA

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		e0-02-01	e0-02-02	e0-02-03
SAMPLE DATE		06/05/89	06/05/89	06/05/89
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.5'-1.25'	1.25'-2.0'	0.5'-1.25'
TEXT 004		V,SV,P,T	V,SV,P	V,SV,P,T
Semivolatiles-1				
PHENOL	ug/kg	420.00 U	410.00 U	39.00 NJ
BIS (2-CHLOROETHYL) ETHER	ug/kg	420.00 U	410.00 U	370.00 U
2-CHLOROPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
1,3-DICHLOROBENZENE	ug/kg	420.00 U	410.00 U	370.00 U
1,4-DICHLOROBENZENE	ug/kg	420.00 U	410.00 U	370.00 U
BENZYL ALCOHOL	ug/kg	420.00 U	410.00 U	370.00 U
1,2-DICHLOROBENZENE	ug/kg	420.00 U	410.00 U	370.00 U
2-METHYLPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	R	410.00 U	370.00 U
4 METHYLPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	420.00 U	410.00 U	370.00 U
HEXACHLOROETHANE	ug/kg	420.00 U	410.00 U	370.00 U
NITROBENZENE	ug/kg	420.00 U	410.00 U	370.00 U
ISOPHORONE	ug/kg	420.00 U	410.00 U	370.00 U
2-NITROPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
2,4-DIMETHYLPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
BENZOIC ACID	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
BIS (2-CHLOROETHOXY) METHANE	ug/kg	420.00 U	410.00 U	370.00 U
2,4-DICHLOROPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	420.00 U	410.00 U	370.00 U
NAPHTHALENE	ug/kg	420.00 U	410.00 U	370.00 U
4-CHLOROANILINE	ug/kg	420.00 U	410.00 U	370.00 U
HEXACHLOROBUTADIENE	ug/kg	420.00 U	410.00 U	370.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
2-METHYLNAPHTHALENE	ug/kg	420.00 U	410.00 U	370.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	420.00 U	410.00 U	370.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	420.00 U	410.00 U	370.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
2-CHLORONAPHTHALENE	ug/kg	420.00 U	410.00 U	370.00 U
2-NITROANILINE	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
DIMETHYLPHTHALATE	ug/kg	420.00 U	410.00 U	370.00 U
ACENAPHTHYLENE	ug/kg	420.00 U	410.00 U	370.00 U
2,6-DINITROTOLUENE	ug/kg	420.00 U	410.00 U	370.00 U

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners and Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME			SS-6	SS-6-FR	SS-6-CDM	SS-6-AVS	B-13A	e-01
SAMPLE DATE			08/19/92	08/19/92	08/19/92	08/19/92	08/12/92	09/08/88
SAMPLE TYPE			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH			0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004			V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,P,T
Semivolatiles-2								
3-NITROANILINE	ug/kg	R		910.00 U	940.00 UJ	475.00 UJ	840.00 U	NA
ACENAPHTHENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
2,4-DINITROPHENOL	ug/kg	R		910.00 U	940.00 U	475.00 U	840.00 U	NA
4-NITROPHENOL	ug/kg	R		910.00 U	940.00 U	475.00 U	840.00 UJ	NA
DIBENZOFURAN	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
2,4-DINITROTOLUENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
DIETHYLPHTHALATE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
4-CHLOROPHENYL-PHENYLETHER	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
FLUORENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
4-NITROANILINE	ug/kg	R		910.00 U	940.00 UJ	475.00 UJ	840.00 U	NA
4,6-DINITRO-2-METHYLPHENOL	ug/kg	R		910.00 U	940.00 U	475.00 U	840.00 U	NA
N-NITROSODIPHENYLAMINE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
4-BROMOPHENYL-PHENYLETHER	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
HEXACHLOROBENZENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
PENTALCHLOROPHENOL	ug/kg	R		910.00 U	940.00 UJ	475.00 UJ	840.00 U	NA
PHENANTHRENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
ANTHRACENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
CARBAZOLE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
DI-N-BUTYLPHTHALATE	ug/kg	R		62.00 J	390.00 U	62.00 J	350.00 U	NA
FLUORANTHENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
PYRENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 UJ	NA
BUTYLBENZYLPHTHALATE	ug/kg	R		75.00 J	64.00 J	69.50 J	350.00 U	NA
3,3'-DICHLOROBENZIDINE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
BENZO (A) ANTHRACENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
CHRYSENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	R		370.00 U	390.00 UJ	380.00 UJ	350.00 U	NA
DI-N-OCTYLPHTHALATE	ug/kg	R		370.00 U	390.00 UJ	380.00 UJ	350.00 U	NA
BENZO(B)FLUORANTHENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
BENZO(K) FLUORANTHENE	ug/kg	R		370.00 UJ	390.00 U	380.00 UJ	350.00 U	NA
BENZO (A) PYRENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
INDENO (1,2,3-CD) PYRENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
DIBENZO (A,H) ANTHRACENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA
BENZO (G,H,I) PERYLENE	ug/kg	R		370.00 U	390.00 U	380.00 U	350.00 U	NA

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners and Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		e0-02-01	e0-02-02	e0-02-03
SAMPLE DATE		06/05/89	06/05/89	06/05/89
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.5'-1.25'	1.25'-2.0'	0.5'-1.25'
TEXT 004		V,SV,P,T	V,SV,P	V,SV,P,T
Semivolatiles-2				
3-NITROANILINE	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
ACENAPHTHENE	ug/kg	420.00 U	410.00 U	370.00 U
2,4-DINITROPHENOL	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
4-NITROPHENOL	ug/kg	2,000.00 UJ	2,000.00 U	1,800.00 U
DIBENZOFURAN	ug/kg	420.00 U	410.00 U	370.00 U
2,4-DINITROTOLUENE	ug/kg	420.00 U	410.00 U	370.00 U
DIETHYLPHTHALATE	ug/kg	420.00 U	410.00 U	370.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	420.00 U	410.00 U	370.00 U
FLUORENE	ug/kg	420.00 U	410.00 U	370.00 U
4-NITROANILINE	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
N-NITROSODIPHENYLAMINE	ug/kg	420.00 U	410.00 U	370.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	420.00 U	410.00 U	370.00 U
HEXACHLOROBENZENE	ug/kg	420.00 UJ	410.00 U	370.00 U
PENTALCHLOROPHENOL	ug/kg	2,000.00 U	2,000.00 U	1,800.00 U
PHENANTHRENE	ug/kg	420.00 U	410.00 U	370.00 U
ANTHRACENE	ug/kg	420.00 U	410.00 U	370.00 U
CARBAZOLE	ug/kg	NA	NA	NA
DI-N-BUTYLPHTHALATE	ug/kg	420.00 U	410.00 U	370.00 U
FLUORANTHENE	ug/kg	420.00 U	410.00 U	370.00 U
PYRENE	ug/kg	420.00 U	410.00 U	370.00 U
BUTYLBENZYLPHTHALATE	ug/kg	420.00 U	410.00 U	370.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	840.00 UJ	820.00 U	740.00 U
BENZO (A) ANTHRACENE	ug/kg	420.00 U	410.00 U	370.00 U
CHRYSENE	ug/kg	420.00 U	410.00 U	370.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	510.00	390.00 J	280.00 J
DI-N-OCTYLPHTHALATE	ug/kg	420.00 U	410.00 U	370.00 U
BENZO(B)FLUORANTHENE	ug/kg	420.00 U	410.00 U	370.00 U
BENZO(K) FLUORANTHENE	ug/kg	420.00 U	410.00 U	370.00 U
BENZO (A) PYRENE	ug/kg	420.00 U	410.00 U	370.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	420.00 U	410.00 U	370.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	420.00 U	410.00 U	370.00 U
BENZO (G,H,I) PERYLENE	ug/kg	420.00 U	410.00 U	370.00 U

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		SS-6	SS-6-FR	SS-6-CDM	SS-6-AVS	B-13A	e-01
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/12/92	09/08/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,P,T
Pesticides/Pcbs							
ALPHA-BHC	ug/kg	NA	NA	NA	NA	NA	12.00 U
BETA-BHC	ug/kg	NA	NA	NA	NA	NA	12.00 U
DELTA-BHC	ug/kg	NA	NA	NA	NA	NA	12.00 U
LINDANE, TOTAL	ug/kg	NA	NA	NA	NA	NA	12.00 U
HEPTACHLOR	ug/kg	NA	NA	NA	NA	NA	12.00 U
ALDRIN	ug/kg	NA	NA	NA	NA	NA	12.00 U
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA	NA	NA	12.00 U
ENDOSULFAN I	ug/kg	NA	NA	NA	NA	NA	12.00 U
DIELDRIN	ug/kg	NA	NA	NA	NA	NA	24.00 U
4,4'-DDE	ug/kg	NA	NA	NA	NA	NA	24.00 U
ENDRIN, TOTAL	ug/kg	NA	NA	NA	NA	NA	24.00 U
ENDOSULFAN II	ug/kg	NA	NA	NA	NA	NA	24.00 U
4,4'-DDD	ug/kg	NA	NA	NA	NA	NA	24.00 U
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA	NA	NA	24.00 U
4,4'-DDT	ug/kg	NA	NA	NA	NA	NA	24.00 U
METHOXYCHLOR	ug/kg	NA	NA	NA	NA	NA	120.00 U
ENDRIN KETONE	ug/kg	NA	NA	NA	NA	NA	24.00 U
ALPHA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	120.00 U
GAMMA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	120.00 U
TOXAPHENE	ug/kg	NA	NA	NA	NA	NA	240.00 U
AROCLOR-1016	ug/kg	NA	NA	NA	NA	NA	120.00 U
AROCLOR-1221	ug/kg	NA	NA	NA	NA	NA	120.00 U
AROCLOR-1232	ug/kg	NA	NA	NA	NA	NA	120.00 U
AROCLOR-1242	ug/kg	NA	NA	NA	NA	NA	120.00 U
AROCLOR-1248	ug/kg	NA	NA	NA	NA	NA	120.00 U
AROCLOR-1254	ug/kg	NA	NA	NA	NA	NA	240.00 U
AROCLOR-1260	ug/kg	NA	NA	NA	NA	NA	240.00 U

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Organic Compounds

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SAMPLE NAME		e0-02-01	e0-02-02	e0-02-03
SAMPLE DATE		06/05/89	06/05/89	06/05/89
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.5'-1.25'	1.25'-2.0'	0.5'-1.25'
TEXT 004		V,SV,P,T	V,SV,P	V,SV,P,T
Pesticides\Pcbs				
ALPHA-BHC	ug/kg	10.00 U	9.90 U	9.00 U
BETA-BHC	ug/kg	10.00 U	9.90 U	9.00 U
DELTA-BHC	ug/kg	10.00 U	9.90 U	9.00 U
LINDANE, TOTAL	ug/kg	10.00 U	9.90 U	9.00 U
HEPTACHLOR	ug/kg	10.00 U	9.90 U	9.00 U
ALDRIN	ug/kg	10.00 U	9.90 U	9.00 U
HEPTACHLOR EPOXIDE	ug/kg	10.00 U	9.90 U	9.00 U
ENDOSULFAN I	ug/kg	10.00 U	9.90 U	9.00 U
DIELDRIN	ug/kg	20.00 U	20.00 U	18.00 U
4,4'-DDE	ug/kg	20.00 U	20.00 U	18.00 U
ENDRIN, TOTAL	ug/kg	20.00 U	20.00 U	18.00 U
ENDOSULFAN II	ug/kg	20.00 U	20.00 U	18.00 U
4,4'-DDD	ug/kg	20.00 U	20.00 U	18.00 U
ENDOSULFAN SULFATE	ug/kg	20.00 U	20.00 U	18.00 U
4,4'-DDT	ug/kg	20.00 U	20.00 U	18.00 U
METHOXYCHLOR	ug/kg	100.00 U	99.00 U	90.00 U
ENDRIN KETONE	ug/kg	20.00 U	20.00 U	18.00 U
ALPHA-CHLORDANE	ug/kg	100.00 U	99.00 U	90.00 U
GAMMA-CHLORDANE	ug/kg	100.00 U	99.00 U	90.00 U
TOXAPHENE	ug/kg	200.00 U	200.00 U	180.00 U
AROCLOR-1016	ug/kg	100.00 U	99.00 U	90.00 U
AROCLOR-1221	ug/kg	100.00 U	99.00 U	90.00 U
AROCLOR-1232	ug/kg	100.00 U	99.00 U	90.00 U
AROCLOR-1242	ug/kg	100.00 U	99.00 U	90.00 U
AROCLOR-1248	ug/kg	100.00 U	99.00 U	90.00 U
AROCLOR-1254	ug/kg	200.00 U	200.00 U	180.00 U
AROCLOR-1260	ug/kg	200.00 U	200.00 U	180.00 U

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Inorganic Analytes

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SAMPLE NAME		SS-6	SS-6-FR	SS-6-CDM	SS-6-AVS	B-13A	e-01
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/12/92	09/08/88
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,P,T
Inorganic Analytes							
ALUMINUM	mg/kg	14,300.00 J	13,800.00 J	30,800.00	22,425.00 J	21,100.00	NA
ANTIMONY	mg/kg	7.40 BNJ	6.00 BNJ	3.80 U	6.35 BNJ	4.30 UNJ	NA
ARSENIC	mg/kg	17.30 J	19.10 J	8.20	18.65 J	13.70	NA
BARIUM	mg/kg	89.00 J	90.90 J	84.90	90.43 J	59.30	NA
BERYLLIUM	mg/kg	0.23 UJ	0.23 UJ	0.52 B	0.23 UJ	0.22 U	NA
CADMIUM	mg/kg	0.68 UJ	0.70 UJ	2.00	0.65 UJ	0.65 U	NA
CALCIUM	mg/kg	59,200.00 J	30,700.00 J	34,100.00	37,825.00 J	73,200.00 *	NA
CHROMIUM	mg/kg	23.30 NJ	18.80 NJ	21.50	19.93 NJ	23.60	NA
COBALT	mg/kg	14.00 J	13.80 J	22.70	13.85 J	16.30	NA
COPPER	mg/kg	55.40 NJ	54.80 NJ	96.20	54.95 J	52.00	NA
IRON	mg/kg	39,500.00 J	23,800.00 J	42,300.00	27,725.00 J	29,400.00	NA
LEAD	mg/kg	14.40 J	11.40 J	75.20	12.15 J	4.80 J	NA
MAGNESIUM	mg/kg	9,960.00 J	9,670.00 J	17,700.00	9,742.50 J	18,300.00	NA
MANGANESE	mg/kg	662.00 J	672.00 J	817.00	669.50 J	870.00	NA
MERCURY	mg/kg	0.06 U	0.06 U	0.25	0.06 U	0.05 U	NA
NICKEL	mg/kg	14.10 J	10.70 J	10.50	11.50 J	14.70	NA
POTASSIUM	mg/kg	1,910.00 J	2,070.00 J	4,540.00 J	2,030.00 J	841.00 B	NA
SELENIUM	mg/kg	0.46 UJ	0.47 UJ	R	0.47 UJ	0.43 U	NA
SILVER	mg/kg	1.60 BJ	0.93 UJ	3.20	0.75 BJ	1.60 BNJ	NA
SODIUM	mg/kg	340.00 BJ	251.00 BJ	368.00 B	273.25 BJ	474.00 B	NA
THALLIUM	mg/kg	0.68 UJ	0.70 UJ	0.20 UJ	0.70 UJ	0.65 U	NA
VANADIUM	mg/kg	71.30 NJ	73.10 NJ	131.00	72.65 NJ	83.10	NA
ZINC	mg/kg	91.70 J	97.10 J	170.00	95.75 J	63.10	NA
CYANIDE, total	mg/kg	0.57 U	1.30	0.59 U	1.05	0.54 U	NA

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Surface Soil
Inorganic Analytes

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SAMPLE NAME		e0-02-01	e0-02-02	e0-02-03
SAMPLE DATE		06/05/89	06/05/89	06/05/89
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.5'-1.25'	1.25'-2.0'	0.5'-1.25'
TEXT 004		V,SV,P,T	V,SV,P	V,SV,P,T
Inorganic Analytes				
ALUMINUM	mg/kg	NA	NA	NA
ANTIMONY	mg/kg	NA	NA	NA
ARSENIC	mg/kg	NA	NA	NA
BARIUM	mg/kg	NA	NA	NA
BERYLLIUM	mg/kg	NA	NA	NA
CADMIUM	mg/kg	NA	NA	NA
CALCIUM	mg/kg	NA	NA	NA
CHROMIUM	mg/kg	NA	NA	NA
COBALT	mg/kg	NA	NA	NA
COPPER	mg/kg	NA	NA	NA
IRON	mg/kg	NA	NA	NA
LEAD	mg/kg	NA	NA	NA
MAGNESIUM	mg/kg	NA	NA	NA
MANGANESE	mg/kg	NA	NA	NA
MERCURY	mg/kg	NA	NA	NA
NICKEL	mg/kg	NA	NA	NA
POTASSIUM	mg/kg	NA	NA	NA
SELENIUM	mg/kg	NA	NA	NA
SILVER	mg/kg	NA	NA	NA
SODIUM	mg/kg	NA	NA	NA
THALLIUM	mg/kg	NA	NA	NA
VANADIUM	mg/kg	NA	NA	NA
ZINC	mg/kg	NA	NA	NA
CYANIDE, total	mg/kg	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
 O'Henry Dry Cleaners & Liquor Barn - Surface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	e0-02-01	e0-02-02	e0-02-03
SAMPLE DATE	06/05/89	06/05/89	06/05/89
SAMPLE TYPE	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.5'-1.25'	1.25'-2.0'	0.5'-1.25'
TEXT 004	V,SV,P,T	V,SV,P	V,SV,P,T
TOTAL PETROLEUM HYDROCARBONS ug/g	379.00	998.00	42.00
TOTAL PETROLEUM HYDROCARBONS ug/g	224.00	732.00	33.00

TUT 007 0260

Tutu, St. Thomas, U.S. Virgin Islands
 O'Henry Dry Cleaners & Liquor Barn - Surface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	SS-6	SS-6-FR	SS-6-CDM	SS-6-AVS	B-13A	e-01
SAMPLE DATE	08/19/92	08/19/92	08/19/92	08/19/92	08/12/92	09/08/88
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,SV,I	V,P,T
TOTAL PETROLEUM HYDROCARBONS	mg/kg	NA	NA	NA	NA	0.17 J

TUT 007 0261

Tutu, St. Thomas, U.S. Virgin Islands
Surface Soil - Background
Inorganic Analytes

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SAMPLE NAME		SS-1	SS-1-CDM	SS-1-AVS	SS-2	SS-2-CDM	SS-2-AVS
SAMPLE DATE		08/19/92	08/19/92	08/19/92	08/19/92	08/19/92	08/19/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		I	I	I	I	I	I
Inorganic Analytes							
ALUMINUM	mg/kg	23,600.00	35,600.00	29,600.00	16,100.00	33,100.00	24,600.00
ANTIMONY	mg/kg	6.10 BNJ	3.40 U	3.90 BNJ	4.20 UNJ	3.40 U	3.80 UNJ
ARSENIC	mg/kg	0.44 U	1.20 B	0.71 B	0.42 U	1.30 B	0.76 B
BARIUM	mg/kg	41.90 B	47.00	44.45 B	30.10 B	43.60	36.85 B
BERYLLIUM	mg/kg	0.22 U	0.20 B	0.16 B	0.21 U	0.34 B	0.22 B
CADMIUM	mg/kg	0.66 U	0.31 U	0.49 U	0.62 U	0.32 U	0.47 U
CALCIUM	mg/kg	75,100.00	74,700.00	74,900.00	9,630.00	18,700.00	14,165.00
CHROMIUM	mg/kg	23.40 NJ	29.90	26.65 NJ	25.80 NJ	30.60	28.20 NJ
COBALT	mg/kg	25.70 J	28.60	27.15 J	18.00 J	27.40	22.70 J
COPPER	mg/kg	55.30 NJ	73.90	64.60 NJ	40.30 NJ	70.00	55.15 NJ
IRON	mg/kg	31,300.00	43,400.00	37,350.00	22,600.00	40,900.00	31,750.00
LEAD	mg/kg	2.10 SJ	2.50	2.30 SJ	1.70 J	4.00	2.85 J
MAGNESIUM	mg/kg	20,500.00	22,400.00	21,450.00	13,200.00	19,700.00	16,450.00
MANGANESE	mg/kg	763.00	814.00	788.50	535.00	810.00	672.50
MERCURY	mg/kg	0.05 U	0.10 U	0.08 U	0.05 U	0.10 U	0.08 U
NICKEL	mg/kg	18.90	19.60	19.25	15.50	18.80	17.15
POTASSIUM	mg/kg	412.00 B	723.00 B	567.50 B	568.00 B	1,090.00 J	829.00 BJ
SELENIUM	mg/kg	0.44 U	0.78 UJ	0.61 UJ	0.42 U	0.76 U	0.59 U
SILVER	mg/kg	0.98 B	1.90 B	1.44 B	0.99 B	2.20	1.60 B
SODIUM	mg/kg	557.00 B	577.00 B	567.00 B	157.00 B	257.00 B	207.00 B
THALLIUM	mg/kg	0.66 U	0.19 UJ	0.43 UJ	0.62 U	0.19 UJ	0.41 UJ
VANADIUM	mg/kg	109.00 NJ	151.00	130.00 NJ	74.90 NJ	139.00	106.95 NJ
ZINC	mg/kg	50.60	54.80	52.70	40.10	56.80	48.45
CYANIDE, TOTAL	mg/kg	1.20	0.54 U	0.74	0.52 U	0.52 U	0.52 U

TUT 007 0262

Tutu, St. Thomas, U.S. Virgin Islands
Surface Soil - Background
Inorganic Analytes

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SAMPLE NAME	SS-8	SS-8-CDM	SS-8-AVS
SAMPLE DATE	08/19/92	08/19/92	08/19/92
SAMPLE TYPE	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004	I	I	I

Inorganic Analytes.				
ALUMINUM	mg/kg	21,500.00 J	31,000.00	26,250.00 J
ANTIMONY	mg/kg	14.70 BNJ	3.20 U	8.15 BNJ
ARSENIC	mg/kg	0.99 BJ	0.67 BJ	0.83 BJ
BARIUM	mg/kg	29.30 BJ	30.40 B	29.85 BJ
BERYLLIUM	mg/kg	0.41 UJ	0.27 B	0.24 B
CADMIUM	mg/kg	1.20 UJ	0.30 U	0.75 UJ
CALCIUM	mg/kg	144,000.00 J	100,000.00	122,000.00 J
CHROMIUM	mg/kg	16.20 NJ	20.40	18.30 NJ
COBALT	mg/kg	16.90 BJ	20.00	18.45 BJ
COPPER	mg/kg	43.10 NJ	56.10	49.60 NJ
IRON	mg/kg	25,400.00 J	33,100.00	29,250.00 J
LEAD	mg/kg	2.50 SJ	R	2.50 SJ
MAGNESIUM	mg/kg	21,400.00 J	23,800.00	22,600.00 J
MANGANESE	mg/kg	888.00 J	911.00	899.50 J
MERCURY	mg/kg	0.05 U	0.09 U	0.07 U
NICKEL	mg/kg	12.90 BJ	10.30	11.60 BJ
POTASSIUM	mg/kg	325.00 BJ	520.00 B	422.50 BJ
SELENIUM	mg/kg	0.41 UJ	0.70 UJ	0.56 UJ
SILVER	mg/kg	1.70 UJ	0.95 U	1.33 UJ
SODIUM	mg/kg	187.00 BJ	184.00 B	185.50 BJ
THALLIUM	mg/kg	0.62 UJ	0.18 UJ	0.40 UJ
VANADIUM	mg/kg	82.10 NJ	108.00	95.05 NJ
ZINC	mg/kg	43.80 J	51.30	47.55 J
CYANIDE, TOTAL	mg/kg	1.10	0.51 U	0.68

TUT 007 0263

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Garden Area - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-8	B-8-FR	B-8-AVD	MWS-5	MWS-5-CDM	MWS-5-AVS
SAMPLE DATE		08/12/92	08/12/92	08/12/92	08/11/92	08/11/92	08/11/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0' - 4.0'	0.0'-4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
BROMOMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
VINYL CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
CHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
METHYLENE CHLORIDE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ	27.00 UJ	19.00 UJ
ACETONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ	31.00 UJ	21.00 UJ
CARBON DISULFIDE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
CHLOROFORM	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
2-BUTANONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ	10.00 U	10.50 UJ
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
cis 1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
TRICHLOROETHYLENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
BENZENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
Trans 1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
BROMOFORM	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
4-METHYL-2-PENTANONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ	10.00 U	10.50 UJ
2-HEXANONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	11.00 UJ	10.00 U	10.50 UJ
TETRACHLOROETHYLENE	ug/kg	2.00 J	5.00 J	3.50 J	11.00 U	10.00 U	10.50 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
TOLUENE	ug/kg	4.00 J	4.00 J	4.00 J	11.00 U	10.00 U	10.50 U
CHLOROBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
ETHYLBENZENE	ug/kg	2.00 J	3.00 J	2.50 J	11.00 U	10.00 U	10.50 U
STYRENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
XYLENES (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U	10.50 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.80 U	5.50 U	5.65 U	5.30 U	11.00 U	8.15 U
tert-butyl methyl ether (MTBE)	ug/kg	12.00 UJ	11.00 UJ	11.50 UJ	11.00 UJ	11.00 U	11.00 UJ
n-PROPYLBENZENE	ug/kg	5.80 UJ	5.50 UJ	5.65 UJ	5.30 UJ	11.00 U	8.15 UJ

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Garden Area - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-8	B-8-FR	B-8-AVD	MWS-5	MWS-5-CDM	MWS-5-AVS
SAMPLE DATE		08/12/92	08/12/92	08/12/92	08/11/92	08/11/92	08/11/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0' - 4.0'	0.0'-4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	370.00 U	350.00 UJ	360.00 UJ	350.00 UJ	340.00 U	345.00 UJ
BIS (2-CHLOROETHYL) ETHER	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2-CHLOROPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
1,3-DICHLOROBENZENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
1,4-DICHLOROBENZENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2-METHYLPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	370.00 U	340.00 U	355.00 U	350.00 UJ	340.00 U	345.00 UJ
4 METHYLPHENOL	ug/kg	370.00 U	350.00 UJ	360.00 UJ	350.00 UJ	340.00 U	345.00 UJ
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 UJ	345.00 UJ
HEXACHLOROETHANE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
NITROBENZENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
ISOPHORONE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2-NITROPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,4-DIMETHYLPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,4-DICHLOROPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
1,2,4-TRICHLOROBENZENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
NAPHTHALENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
4-CHLOROANILINE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
HEXACHLOROBUTADIENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
4-CHLORO-3-METHYLPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2-METHYLNAPHTHALENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
HEXACHLOROCYCLOPENTADIENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,4,5-TRICHLOROPHENOL	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 U	440.00 UJ
2-CHLORONAPHTHALENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2-NITROANILINE	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 U	440.00 UJ
DIMETHYLPHTHALATE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
ACENAPHTHYLENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,6-DINITROTOLUENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Gardens Area - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-8	B-8-FR	B-8-AVD	MWS-5	MWS-5-CDM	MWS-5-AVS
SAMPLE DATE		08/12/92	08/12/92	08/12/92	08/11/92	08/11/92	08/11/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0' - 4.0'	0.0'-4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 U	840.00 UJ
ACENAPHTHENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,4-DINITROPHENOL	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 UJ	840.00 UJ
4-NITROPHENOL	ug/kg	910.00 UJ	850.00 UJ	880.00 UJ	860.00 UJ	820.00 UJ	840.00 UJ
DIBENZOFURAN	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
2,4-DINITROTOLUENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
DIETHYLPHTHALATE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
4-CHLOROPHENYL-PHENYLETHER	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
FLUORENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
4-NITROANILINE	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 UJ	840.00 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 U	840.00 UJ
N-NITROSODIPHENYLAMINE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
4-BROMOPHENYL-PHENYLETHER	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
HEXACHLOROBENZENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
PENTALCHLOROPHENOL	ug/kg	910.00 U	850.00 U	880.00 U	860.00 UJ	820.00 U	840.00 UJ
PHENANTHRENE	ug/kg	160.00 J	350.00 U	167.50 J	350.00 UJ	340.00 U	345.00 UJ
ANTHRACENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
CARBAZOLE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
DI-N-BUTYLPHTHALATE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
FLUORANTHENE	ug/kg	290.00 J	350.00 U	232.50 J	350.00 UJ	340.00 U	345.00 UJ
PYRENE	ug/kg	300.00 J	350.00 UJ	237.50 J	350.00 UJ	340.00 U	345.00 UJ
BUTYLBENZYLPHthalate	ug/kg	370.00 U	350.00 UJ	360.00 UJ	350.00 UJ	340.00 UJ	345.00 UJ
3,3'-DICHLOROBENZIDINE	ug/kg	370.00 U	350.00 U	360.00 UJ	350.00 UJ	340.00 U	345.00 UJ
BENZO (A) ANTHRACENE	ug/kg	180.00 J	350.00 U	177.50 J	350.00 UJ	340.00 U	345.00 UJ
CHRYSENE	ug/kg	210.00 J	350.00 U	192.50 J	350.00 UJ	340.00 U	345.00 UJ
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	370.00 U	350.00 UJ	360.00 UJ	350.00 UJ	340.00 UJ	345.00 UJ
DI-N-OCTYLPHTHALATE	ug/kg	370.00 U	350.00 UJ	360.00 UJ	350.00 UJ	340.00 UJ	345.00 UJ
BENZO(B)FLUORANTHENE	ug/kg	250.00 J	350.00 U	212.50 J	350.00 UJ	340.00 U	345.00 UJ
BENZO(K) FLUORANTHENE	ug/kg	96.00 J	350.00 U	96.00 J	350.00 UJ	340.00 U	345.00 UJ
BENZO (A) PYRENE	ug/kg	200.00 J	350.00 U	187.50 J	350.00 UJ	340.00 U	345.00 UJ
INDENO (1,2,3-CD) PYRENE	ug/kg	87.00 J	350.00 U	87.00 J	350.00 UJ	340.00 U	345.00 UJ
DIBENZO (A,H) ANTHRACENE	ug/kg	370.00 U	350.00 U	360.00 U	350.00 UJ	340.00 U	345.00 UJ
BENZO (G,H,I) PERYLENE	ug/kg	84.00 J	350.00 U	84.00 J	350.00 UJ	340.00 U	345.00 UJ

TUT 007 0266

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Garden Area - Subsurface Soil
Inorganic Analytes

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SAMPLE NAME		B-8	B-8-FR	B-8-AVD	MWS-5	MWS-5-CDM	MWS-5-AVS
SAMPLE DATE		08/12/92	08/12/92	08/12/92	08/11/92	08/11/92	08/11/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0' - 4.0'	0.0'-4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
ALUMINUM	mg/kg	23,600.00	19,700.00	21,650.00	27,400.00	NA	27,400.00
ANTIMONY	mg/kg	4.60 UNJ	5.00 BNJ	3.65 BNJ	5.10 BNJ	NA	5.10 BNJ
ARSENIC	mg/kg	4.30	94.00 J	49.15 J	0.77 B	NA	0.77 B
BARIUM	mg/kg	98.40	53.00	75.70	50.70	NA	50.70
BERYLLIUM	mg/kg	0.37 B	0.35 B	0.36 B	0.46 B	NA	0.46 B
CADMIUM	mg/kg	0.69 U	0.66 U	0.68 U	0.64 U	NA	0.64 U
CALCIUM	mg/kg	72,800.00 *	65,200.00 *	69,000.00 *	54,400.00 *	NA	54,400.00 *
CHROMIUM	mg/kg	29.70	22.30	26.00	24.20	NA	24.20
COBALT	mg/kg	20.50	16.30	18.40	24.30	NA	24.30
COPPER	mg/kg	157.00 J	49.80 J	103.40 J	115.00	NA	115.00
IRON	mg/kg	31,500.00	29,100.00	30,300.00	37,700.00	NA	37,700.00
LEAD	mg/kg	R	10.00 J	10.00 J	R	NA	R
MAGNESIUM	mg/kg	18,000.00	16,100.00	17,050.00	26,200.00	NA	26,200.00
MANGANESE	mg/kg	700.00	791.00	745.50	763.00	NA	763.00
MERCURY	mg/kg	0.12	0.06 U	0.06	0.05 U	NA	0.05 U
NICKEL	mg/kg	14.90	14.10	14.50	15.30	NA	15.30
POTASSIUM	mg/kg	3,320.00 J	870.00 BJ	2,095.00 BJ	1,180.00	NA	1,180.00
SELENIUM	mg/kg	0.46 U	0.44 U	0.45 U	0.43 UW	NA	0.43 UW
SILVER	mg/kg	3.90 NJ	1.60 BNJ	2.75 BNJ	2.20 NJ	NA	2.20 NJ
SODIUM	mg/kg	465.00 B	453.00 B	459.00 B	381.00 B	NA	381.00 B
THALLIUM	mg/kg	0.69 U	0.66 U	0.68 U	0.64 U	NA	0.64 U
VANADIUM	mg/kg	79.10	76.20	157.30	108.00	NA	108.00
ZINC	mg/kg	149.00	63.80	106.40	164.00	NA	164.00
CYANIDE, total	mg/kg	0.58 U	2.70	1.50	0.53 U	0.50 U	0.52 U

TUT 007 0267

Tutu, St. Thomas, U.S. Virgin Islands
Tillett Garden Area - Subsurface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	B-8	B-8-FR	B-8-AVD	MWS-5	MWS-5-CDM	MWS-5-AVS	
SAMPLE DATE	08/12/92	08/12/92	08/12/92	08/11/92	08/11/92	08/11/92	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0' - 4.0'	0.0'-4.0'	0.0'-4.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	23.00 U	77.00	44.25	590.00 D	1,210.00	900.00 D

TUT 007 0268

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-7	MWS-3	B-4	MWS-4	MWS-4D	B-3
SAMPLE DATE		07/31/92	06/10/92	06/09/92	06/16/92	06/04/92	08/03/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-4.0'	0.4'-2.0'	8.0'-10.0'	2.7'-4.7'	8.7'-10.7'	2.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
BROMOMETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
VINYL CHLORIDE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
CHLOROETHANE	ug/kg	10.00 UJ	12.00 U	12.00 U	13.00 U	R	11.00 U
METHYLENE CHLORIDE	ug/kg	10.00 U	1.00 J	12.00 U	2.00 J	1.00 J	26.00 J
ACETONE	ug/kg	10.00 U	11.00 J	55.00 J	190.00 B	81.00 J	6.00 J
CARBON DISULFIDE	ug/kg	10.00 U	12.00 UJ	12.00 UJ	13.00 UJ	R	11.00 U
1,1-DICHLOROETHENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
1,1-DICHLOROETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
CHLOROFORM	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
1,2-DICHLOROETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
2-BUTANONE	ug/kg	10.00 U	12.00 U	12.00 U	48.00 U	R	11.00 U
1,1,1-TRICHLOROETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
CARBON TETRACHLORIDE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
1,2-DICHLOROPROPANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
TRICHLOROETHENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
DIBROMOCHLOROMETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
BENZENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
BROMOFORM	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
4-METHYL-2-PENTANONE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
2-HEXANONE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
TETRACHLOROETHENE	ug/kg	10.00 U	2.00 J	12.00 U	1.00 J	R	6.00 J
1,1,2,2-TETRACHLOROETHANE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
TOLUENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
CHLOROBENZENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
ETHYLBENZENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
STYRENE	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
XYLENES (TOTAL)	ug/kg	10.00 U	12.00 U	12.00 U	13.00 U	R	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.20 U	5.90 U	6.00 U	6.30 U	R	5.00 U
tert-butyl methyl ether (MTBE)	ug/kg	10.00 UJ	12.00 UJ	12.00 UJ	13.00 U	R	10.00 UJ
n-PROPYLBENZENE	ug/kg	5.20 UJ	5.90 UJ	6.00 UJ	6.30 UJ	R	5.00 UJ
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

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SAMPLE NAME		B-5	eT-02S	eT-02SD	eT-02S-AVD	MWS-15	MWS-17
SAMPLE DATE		08/13/92	09/14/88	09/14/88	09/14/88	03/28/94	03/28/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0' - 6.0'	6.0' - 8.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,SV,I,T	V,SV,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	14.00 UJ	18.00 UJ	16.00 UJ	12.00 U	11.00 U
BROMOMETHANE	ug/kg	11.00 U	2.00 J	18.00 UJ	2.00 J	12.00 U	11.00 U
VINYL CHLORIDE	ug/kg	11.00 U	14.00 UJ	18.00 UJ	16.00 UJ	12.00 U	11.00 U
CHLOROETHANE	ug/kg	11.00 U	14.00 UJ	18.00 UJ	16.00 UJ	12.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	9.00 J	28.00 UBJ	16.00 UJ	22.00 UBJ	12.00 U	11.00 U
ACETONE	ug/kg	92.00 J	220.00 UJ	18.00 UJ	119.00 UJ	4.00 J	3.00 J
CARBON DISULFIDE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	2.00 J
CHLOROFORM	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
2-BUTANONE	ug/kg	18.00	75.00 J	R	75.00 J	12.00 U	11.00 U
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
VINYL ACETATE	ug/kg	NA	14.00 UJ	18.00 UJ	16.00 UJ	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
TRICHLOROETHENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
BENZENE	ug/kg	11.00 U	4.00 J	9.00 UJ	4.25 J	12.00 U	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
BROMOFORM	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	25.00 J	18.00 UJ	17.00 J	12.00 U	11.00 U
2-HEXANONE	ug/kg	11.00 U	14.00 UJ	18.00 UJ	16.00 UJ	12.00 U	11.00 U
TETRACHLOROETHENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	1.00 J
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
TOLUENE	ug/kg	2.00 J	18.00 J	32.00 J	25.00 J	12.00 U	11.00 U
CHLOROBENZENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
ETHYLBENZENE	ug/kg	11.00 U	10.00 J	8.00 J	9.00 J	12.00 U	11.00 U
STYRENE	ug/kg	11.00 U	7.00 UJ	9.00 UJ	8.00 UJ	12.00 U	11.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	88.00 J	1,700.00 J	1,700.00 J	12.00 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.70 U	NA	NA	NA	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	1.30 J	NA	NA	NA	20.00 J	55.00 U
n-PROPYLBENZENE	ug/kg	5.70 UJ	NA	NA	NA	R	R
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	R	R

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SAMPLE NAME		B-7	MWS-3	B-4	MWS-4	MWS-4D	B-3
SAMPLE DATE		07/31/92	06/10/92	06/09/92	06/16/92	06/04/92	08/03/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-4.0'	0.4'-2.0'	8.0'-10.0'	2.7'-4.7'	8.7'-10.7'	2.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	340.00 U	390.00 U	390.00 U	13.00 J	390.00 U	380.00 U
2-CHLOROPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
1,3-DICHLOROBENZENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
1,4-DICHLOROBENZENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2-METHYLPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
4 METHYLPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
HEXACHLOROETHANE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
NITROBENZENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
ISOPHORONE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2-NITROPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2,4-DIMETHYLPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2,4-DICHLOROPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
NAPHTHALENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
4-CHLOROANILINE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
HEXACHLOROBUTADIENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2-METHYLNAPHTHALENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	340.00 U	390.00 UJ	390.00 UJ	420.00 UJ	390.00 UJ	380.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
2-CHLORONAPHTHALENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2-NITROANILINE	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
DIMETHYLPHTHALATE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
ACENAPHTHYLENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2,6-DINITROTOLUENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U

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SAMPLE NAME		B-5	eT-02S	eT-02SD	eT-02S-AVD	MWS-15	MWS-17
SAMPLE DATE		08/13/92	09/14/88	09/14/88	09/14/88	03/28/94	03/28/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0' - 6.0'	6.0' - 8.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,SV,I,T	V,SV,T
Semivolatiles-1							
PHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2-CHLOROPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
1,3-DICHLOROBENZENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
1,4-DICHLOROBENZENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2-METHYLPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	370.00 U	NA	NA	NA	410.00 U	NA
4-METHYLPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
HEXACHLOROETHANE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
NITROBENZENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
ISOPHORONE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2-NITROPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2,4-DIMETHYLPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2,4-DICHLOROPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
NAPHTHALENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
4-CHLOROANILINE	ug/kg	370.00 UJ	NA	NA	NA	410.00 U	370.00 U
HEXACHLOROBUTADIENE	ug/kg	370.00 UJ	NA	NA	NA	410.00 U	370.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2-METHYLNAPHTHALENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	370.00 UJ	NA	NA	NA	410.00 UJ	370.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	910.00 UJ	NA	NA	NA	980.00 U	900.00 U
2-CHLORONAPHTHALENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2-NITROANILINE	ug/kg	910.00 U	NA	NA	NA	980.00 U	900.00 U
DIMETHYLPHTHALATE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
ACENAPHTHYLENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2,6-DINITROTOLUENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U

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SAMPLE NAME		B-7	MWS-3	B-4	MWS-4	MWS-4D	B-3
SAMPLE DATE		07/31/92	06/10/92	06/09/92	06/16/92	06/04/92	08/03/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-4.0'	0.4'-2.0'	8.0'-10.0'	2.7'-4.7'	8.7'-10.7'	2.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
ACENAPHTHENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2,4-DINITROPHENOL	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
4-NITROPHENOL	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
DIBENZOFURAN	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
2,4-DINITROTOLUENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
DIETHYLPHTHALATE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
FLUORENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
4-NITROANILINE	ug/kg	830.00 U	950.00 UJ	950.00 U	1,000.00 UJ	950.00 U	910.00 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
N-NITROSODIPHENYLAMINE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 UJ
HEXACHLOROBENZENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 UJ
PENTALCHLOROPHENOL	ug/kg	830.00 U	950.00 U	950.00 U	1,000.00 U	950.00 U	910.00 U
PHENANTHRENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
ANTHRACENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
CARBAZOLE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
DI-N-BUTYLPHTHALATE	ug/kg	340.00 U	170.00 J	390.00 U	1,900.00 U	390.00 U	380.00 U
FLUORANTHENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
PYRENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BUTYLBENZYLPHTHALATE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	340.00 U	390.00 UJ	R	420.00 UJ	R	380.00 U
BENZO (A) ANTHRACENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
CHRYSENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
DI-N-OCTYLPHTHALATE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BENZO(B)FLUORANTHENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BENZO(K) FLUORANTHENE	ug/kg	340.00 UJ	390.00 U	390.00 U	420.00 U	390.00 U	380.00 UJ
BENZO (A) PYRENE	ug/kg	340.00 U	390.00 U	390.00 U	140.00 J	390.00 U	380.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U
BENZO (G,H,I) PERYLENE	ug/kg	340.00 U	390.00 U	390.00 U	420.00 U	390.00 U	380.00 U

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SAMPLE NAME		B-5	eT-02S	eT-02SD	eT-02S-AVD	MWS-15	MWS-17
SAMPLE DATE		08/13/92	09/14/88	09/14/88	09/14/88	03/28/94	03/28/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0' - 6.0'	6.0' - 8.0'
TEXT 004		V,SV,I,T	V,P,T	V,P,T	V,P,T	V,SV,I,T	V,SV,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	910.00 UJ	NA	NA	NA	980.00 UJ	900.00 U
ACENAPHTHENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2,4-DINITROPHENOL	ug/kg	910.00 U	NA	NA	NA	R	900.00 UJ
4-NITROPHENOL	ug/kg	910.00 U	NA	NA	NA	980.00 U	900.00 U
DIBENZOFURAN	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
2,4-DINITROTOLUENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
DIETHYLPHTHALATE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
FLUORENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
4-NITROANILINE	ug/kg	910.00 U	NA	NA	NA	980.00 U	900.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	910.00 U	NA	NA	NA	980.00 UJ	900.00 U
N-NITROSODIPHENYLAMINE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
HEXACHLOROBENZENE	ug/kg	370.00 UJ	NA	NA	NA	410.00 U	370.00 U
PENTALCHLOROPHENOL	ug/kg	910.00 U	NA	NA	NA	980.00 UJ	900.00 U
PHENANTHRENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
ANTHRACENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
CARBAZOLE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
DI-N-BUTYLPHTHALATE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
FLUORANTHENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
PYRENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BUTYLBENZYLPHTHALATE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BENZO (A) ANTHRACENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
CHRYSENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 J
DI-N-OCTYLPHTHALATE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BENZO(B)FLUORANTHENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BENZO(K) FLUORANTHENE	ug/kg	370.00 UJ	NA	NA	NA	410.00 U	370.00 U
BENZO (A) PYRENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U
BENZO (G,H,I) PERYLENE	ug/kg	370.00 U	NA	NA	NA	410.00 U	370.00 U

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Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Subsurface Soil
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SAMPLE NAME		B-7	MWS-3	B-4	MWS-4	MWS-4D	B-3
SAMPLE DATE		07/31/92	06/10/92	06/09/92	06/16/92	06/04/92	08/03/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-4.0'	0.4'-2.0'	8.0'-10.0'	2.7'-4.7'	8.7'-10.7'	2.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I,T
Pesticides\Pcbs							
ALPHA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
BETA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
DELTA-BHC	ug/kg	NA	NA	NA	NA	NA	NA
LINDANE, TOTAL	ug/kg	NA	NA	NA	NA	NA	NA
HEPTACHLOR	ug/kg	NA	NA	NA	NA	NA	NA
ALDRIN	ug/kg	NA	NA	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN I	ug/kg	NA	NA	NA	NA	NA	NA
DIELDRIN	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDE	ug/kg	NA	NA	NA	NA	NA	NA
ENDRIN, TOTAL	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN II	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDD	ug/kg	NA	NA	NA	NA	NA	NA
ENDOSULFAN SULFATE	ug/kg	NA	NA	NA	NA	NA	NA
4,4-DDT	ug/kg	NA	NA	NA	NA	NA	NA
METHOXYCHLOR	ug/kg	NA	NA	NA	NA	NA	NA
ENDRIN KETONE	ug/kg	NA	NA	NA	NA	NA	NA
ALPHA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	NA
GAMMA-CHLORDANE	ug/kg	NA	NA	NA	NA	NA	NA
TOXAPHENE	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1016	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1221	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1232	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1242	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1248	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1254	ug/kg	NA	NA	NA	NA	NA	NA
AROCLOR-1260	ug/kg	NA	NA	NA	NA	NA	NA

Tutu, St. Thomas, U.S. Virgin Islands
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SAMPLE NAME	B-5	eT-02S	eT-02SD	eT-02S-AVD	MWS-15	MWS-17
SAMPLE DATE	08/13/92	09/14/88	09/14/88	09/14/88	03/28/94	03/28/94
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0' - 6.0'	6.0' - 8.0'
TEXT 004	V,SV,I,T	V,P,T	V,P,T	V,P,T	V,SV,I,T	V,SV,T
Pesticides\Pcbs						
ALPHA-BHC	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
BETA-BHC	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
DELTA-BHC	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
LINDANE, TOTAL	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
HEPTACHLOR	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
ALDRIN	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
HEPTACHLOR EPOXIDE	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
ENDOSULFAN I	ug/kg	NA	11.00 UJ	14.00 UJ	12.50 UJ	NA
DIELDRIN	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
4,4-DDE	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
ENDRIN, TOTAL	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
ENDOSULFAN II	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
4,4-DDD	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
ENDOSULFAN SULFATE	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
4,4-DDT	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
METHOXYCHLOR	ug/kg	NA	110.00 UJ	140.00 UJ	125.00 UJ	NA
ENDRIN KETONE	ug/kg	NA	22.00 UJ	28.00 UJ	25.00 UJ	NA
ALPHA-CHLORDANE	ug/kg	NA	130.00 J	140.00 UJ	135.00 UJ	NA
GAMMA-CHLORDANE	ug/kg	NA	120.00 J	140.00 UJ	130.00 UJ	NA
TOXAPHENE	ug/kg	NA	220.00 UJ	280.00 UJ	250.00 UJ	NA
AROCLOR-1016	ug/kg	NA	110.00 UJ	140.00 UJ	125.00 UJ	NA
AROCLOR-1221	ug/kg	NA	110.00 UJ	140.00 UJ	125.00 UJ	NA
AROCLOR-1232	ug/kg	NA	110.00 UJ	140.00 UJ	125.00 UJ	NA
AROCLOR-1242	ug/kg	NA	110.00 UJ	140.00 UJ	125.00 UJ	NA
AROCLOR-1248	ug/kg	NA	110.00 UJ	140.00 UJ	125.00 UJ	NA
AROCLOR-1254	ug/kg	NA	220.00 UJ	280.00 UJ	250.00 UJ	NA
AROCLOR-1260	ug/kg	NA	220.00 UJ	280.00 UJ	250.00 UJ	NA

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Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Subsurface Soil
Inorganic Analytes

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SAMPLE NAME	B-5	eT-02S	eT-02SD	eT-02S-AVD	MWS-15	MWS-17
SAMPLE DATE	08/13/92	09/14/88	09/14/88	09/14/88	03/28/94	03/28/94
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0' - 6.0'	6.0' - 8.0'
TEXT 004	V,SV,I,T	V,P,T	V,P,T	V,P,T	V,SV,I,T	V,SV,T
Inorganic Analytes						
ALUMINUM	mg/kg 22,900.00	NA	NA	NA	21,100.00	NA
ANTIMONY	mg/kg 7.90 BNJ	NA	NA	NA	6.00 UJ	NA
ARSENIC	mg/kg 0.46 U	NA	NA	NA	0.82 B	NA
BARIUM	mg/kg 38.40 B	NA	NA	NA	81.10	NA
BERYLLIUM	mg/kg 0.23 U	NA	NA	NA	0.34	NA
CADMIUM	mg/kg 0.69 U	NA	NA	NA	1.10 B	NA
CALCIUM	mg/kg 67,200.00 *	NA	NA	NA	5,730.00	NA
CHROMIUM	mg/kg 33.60 NJ	NA	NA	NA	33.20 J	NA
COBALT	mg/kg 18.90	NA	NA	NA	21.30	NA
COPPER	mg/kg 47.30 NJ	NA	NA	NA	94.90	NA
IRON	mg/kg 29,800.00	NA	NA	NA	38,600.00	NA
LEAD	mg/kg 3.60 J	NA	NA	NA	4.90	NA
MAGNESIUM	mg/kg 19,400.00	NA	NA	NA	11,100.00	NA
MANGANESE	mg/kg 861.00	NA	NA	NA	622.00	NA
MERCURY	mg/kg 0.06 U	NA	NA	NA	0.08 B	NA
NICKEL	mg/kg 19.40	NA	NA	NA	18.40	NA
POTASSIUM	mg/kg 386.00 B	NA	NA	NA	773.00 B	NA
SELENIUM	mg/kg 0.46 UWJ	NA	NA	NA	0.50 U	NA
SILVER	mg/kg 0.92 U	NA	NA	NA	0.75 U	NA
SODIUM	mg/kg 271.00 B	NA	NA	NA	1,550.00	NA
THALLIUM	mg/kg 0.69 U	NA	NA	NA	0.50 U	NA
VANADIUM	mg/kg 94.90 NJ	NA	NA	NA	112.00	NA
ZINC	mg/kg 49.90	NA	NA	NA	51.40	NA
CYANIDE, TOTAL	mg/kg 0.58 U	NA	NA	NA	0.79 U	NA

Tutu, St. Thomas, U.S. Virgin Islands
Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Subsurface Soil
Inorganic Analytes

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SAMPLE NAME		B-7	MWS-3	B-4	MWS-4	MWS-4D	B-3
SAMPLE DATE		07/31/92	06/10/92	06/09/92	06/16/92	06/04/92	08/03/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-4.0'	0.4'-2.0'	8.0'-10.0'	2.7'-4.7'	8.7'-10.7'	2.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I,T
Inorganic Analytes							
ALUMINUM	mg/kg	28,400.00	25,800.00 J	32,200.00 J	22,800.00 J	21,700.00 J	24,200.00
ANTIMONY	mg/kg	5.90 BJ	3.00 U	3.00 U	6.20 BJ	3.50 BJ	4.70 UJ
ARSENIC	mg/kg	1.00 B	R	0.54 BWJ	1.80 BJ	0.46 U	1.20 B
BARIUM	mg/kg	36.90 B	59.80 J	42.90 BJ	55.00 J	59.40 J	184.00
BERYLLIUM	mg/kg	0.21 U	0.23 U	0.27 BJ	0.24 U	0.23 U	0.42 B
CADMIUM	mg/kg	0.62 U	0.68 U	0.70 U	0.73 BJ	0.69 U	0.70 U
CALCIUM	mg/kg	51,600.00	57,300.00 J	7,360.00 J	9,810.00 J	7,790.00 J	65,900.00
CHROMIUM	mg/kg	28.60	31.80 J	31.30 J	38.00 EJ	27.00 J	35.80
COBALT	mg/kg	23.40	21.60 J	28.20 J	32.70 J	28.50 J	22.80
COPPER	mg/kg	73.10	57.40 J	74.70 J	73.90 EJ	75.30 J	104.00
IRON	mg/kg	35,400.00	31,500.00 J	41,500.00 J	39,400.00 EJ	38,000.00 J	42,500.00
LEAD	mg/kg	19.80 J	3.90 J	1.50 J	3.60 BJ	2.80 J	4.50 J
MAGNESIUM	mg/kg	21,500.00	15,000.00 J	23,600.00 J	14,000.00 EJ	17,800.00 J	12,700.00
MANGANESE	mg/kg	828.00	725.00 J	941.00 J	947.00 EJ	717.00 J	506.00
MERCURY	mg/kg	0.05 U	0.06 U	0.12 BJ	0.06 U	0.06 U	0.06 U
NICKEL	mg/kg	17.80	16.70 J	18.60 J	18.80 J	19.10 J	17.10
POTASSIUM	mg/kg	460.00 B	919.00 B	569.00 B	1,270.00 J	505.00 B	471.00 B
SELENIUM	mg/kg	0.41 UWJ	0.46 UWJ	0.47 U	0.55 BWJ	0.53 BWJ	0.47 U
SILVER	mg/kg	0.83 U	1.40 BJ	2.10 BJ	0.72 U	2.00 BJ	2.10 BJ
SODIUM	mg/kg	561.00 B	665.00 B	217.00 BJ	274.00 B	318.00 B	2,040.00
THALLIUM	mg/kg	0.62 U	0.68 UW	0.70 UW	0.72 U	0.69 UW	0.70 U
VANADIUM	mg/kg	94.80	93.40 J	137.00 J	121.00 EJ	120.00 J	157.00
ZINC	mg/kg	62.40	42.60 J	53.10 J	49.00 EJ	46.80 J	42.60
CYANIDE, TOTAL	mg/kg	0.52 U	0.57 U	0.59 U	0.65	0.57 U	0.58 U

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 Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Subsurface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	B-7	MWS-3	B-4	MWS-4	MWS-4D	B-3	
SAMPLE DATE	07/31/92	06/10/92	06/09/92	06/16/92	06/04/92	08/03/92	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	2.0'-4.0'	0.4'-2.0'	8.0'-10.0'	2.7'-4.7'	8.7'-10.7'	2.0'-4.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I,T	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	28.00	24.00 U	24.00 U	130.00	NA	23.00 U

Tutu, St. Thomas, U.S. Virgin Islands
 Fire Dept., Texaco Gas Station, Antilles Auto Parts, Ramsay Motor Co. - Subsurface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	B-5	eT-02S	eT-02SD	eT-02S-AVD	MWS-15	MWS-17
SAMPLE DATE	08/13/92	09/14/88	09/14/88	09/14/88	03/28/94	03/28/94
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0' - 6.0'	6.0' - 8.0'
TEXT 004	V,SV,I,T	V,P,T	V,P,T	V,P,T	V,SV,I,T	V,SV,T
TOTAL PETROLEUM HYDROCARBONS	mg/kg	53.00	66.10 J	47.60 J	56.85 J	25.00 U
						21.00 U

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SAMPLE NAME		B-14	B-14-FR	B-14-AVD	B-15	B-16	B-1
SAMPLE DATE		08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	07/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0'-8.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
BROMOMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
VINYL CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
CHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 UJ
METHYLENE CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
ACETONE	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	12.00 UJ	11.00 UJ	16.00 J
CARBON DISULFIDE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
CHLOROFORM	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
2-BUTANONE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
TRICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	6.00 J	11.00 U	38.00 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
BENZENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
BROMOFORM	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
2-HEXANONE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
TETRACHLOROETHENE	ug/kg	72.00 J	100.00 J	86.00 J	170.00	23.00	38.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
TOLUENE	ug/kg	2.00 J	3.00 J	2.50 J	12.00	11.00 J	38.00 U
CHLOROBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
ETHYLBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
STYRENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U	11.00 U	38.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.70 U	5.70 U	5.70 U	6.00 U	5.60 U	19.00 U
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	11.00 UJ	11.00 UJ	12.00 UJ	11.00 UJ	38.00 UJ
n-PROPYLBENZENE	ug/kg	5.70 UJ	5.70 UJ	5.70 U	6.00 UJ	5.60 UJ	19.00 UJ
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

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SAMPLE NAME		B-1-CDM	B-1-AVS	B-6	B-6-CDM	B-6-AVS	MWS-1
SAMPLE DATE		07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	06/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		4.0'-8.0'	4.0'-8.0'	4.0' - 8.0'	4.0'-8.0'	4.0'-8.0'	0.0'-2.0'
TEXT 004		V,SV,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 UJ
BROMOMETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
VINYL CHLORIDE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
CHLOROETHANE	ug/kg	11.00 U	24.50 UJ	29.00 U	11.00 U	20.00 U	11.00 U
METHYLENE CHLORIDE	ug/kg	18.00 UJ	28.00 UJ	29.00 U	17.00 UJ	23.00 UJ	2.00 J
ACETONE	ug/kg	11.00 U	10.75 J	370.00 U	11.00 U	370.00 U	11.00 U
CARBON DISULFIDE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
CHLOROFORM	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
2-BUTANONE	ug/kg	11.00 UJ	24.50 UJ	59.00 U	11.00 UJ	59.00 U	11.00 UJ
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
TRICHLOROETHENE	ug/kg	1.00 J	1.00 J	29.00 U	11.00 U	20.00 U	11.00 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
BENZENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
BROMOFORM	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 UJ
2-HEXANONE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
TETRACHLOROETHENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 UJ
TOLUENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
CHLOROBENZENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
ETHYLBENZENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
STYRENE	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	24.50 U	29.00 U	11.00 U	20.00 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	11.00 U	15.00 U	15.00 U	11.00 U	13.00 U	5.80 U
tert-butyl methyl ether (MTBE)	ug/kg	11.00 U	24.50 UJ	30.00 UJ	11.00 U	20.50 UJ	12.00 U
n-PROPYLBENZENE	ug/kg	11.00 U	15.00 UJ	15.00 UJ	11.00 U	13.00 UJ	5.80 UJ
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

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SAMPLE NAME		MWS-1D	MWS-13	MWS-13D	MWS-14
SAMPLE DATE		06/05/92	03/29/94	06/19/92	07/01/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		1.0'-2.5'	2.0' - 3.5'	4.0'-6.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I
Volatile Organics					
CHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
BROMOMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
VINYL CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
CHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
METHYLENE CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	34.00 B
ACETONE	ug/kg	49.00 J	11.00 UJ	11.00 U	16.00 U
CARBON DISULFIDE	ug/kg	11.00 UJ	11.00 U	11.00 U	12.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
CHLOROFORM	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
2-BUTANONE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
TRICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
BENZENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
BROMOFORM	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
2-HEXANONE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
TETRACHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
TOLUENE	ug/kg	11.00 U	11.00 U	11.00 U	2.00 J
CHLOROBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
ETHYLBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
STYRENE	ug/kg	11.00 U	11.00 U	11.00 U	12.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	1.00 J
1,2-DIBROMOETHANE (EDB)	ug/kg	5.60 U	NA	5.40 U	5.90 U
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	55.00 U	11.00 U	12.00 U
n-PROPYLBENZENE	ug/kg	5.60 UJ	R	5.40 U	5.90 U
DIBROMOMETHANE	ug/kg	NA	R	NA	NA

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SAMPLE NAME		B-14	B-14-FR	B-14-AVD	B-15	B-16	B-1
SAMPLE DATE		08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	07/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0'-8.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2-CHLOROPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
1,3-DICHLOROBENZENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
1,4-DICHLOROBENZENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2-METHYLPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
4 METHYLPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
HEXACHLOROETHANE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
NITROBENZENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
ISOPHORONE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2-NITROPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2,4-DIMETHYLPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2,4-DICHLOROPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
NAPHTHALENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
4-CHLOROANILINE	ug/kg	370.00 UJ	380.00 UJ	375.00 UJ	390.00 UJ	370.00 UJ	1,300.00 U
HEXACHLOROBUTADIENE	ug/kg	370.00 UJ	380.00 UJ	375.00 UJ	390.00 UJ	370.00 UJ	1,300.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2-METHYLNAPHTHALENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	370.00 UJ	380.00 UJ	375.00 UJ	390.00 UJ	370.00 UJ	1,300.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	910.00 UJ	920.00 UJ	915.00 UJ	950.00 UJ	890.00 UJ	3,100.00 U
2-CHLORONAPHTHALENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2-NITROANILINE	ug/kg	910.00 U	920.00 U	915.00 U	950.00 U	890.00 U	3,100.00 U
DIMETHYLPHTHALATE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
ACENAPHTHYLENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2,6-DINITROTOLUENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U

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SAMPLE NAME		B-1-CDM	B-1-AVS	B-6	B-6-CDM	B-6-AVS	MWS-1
SAMPLE DATE		07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	06/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		4.0'-8.0'	4.0'-8.0'	4.0' - 8.0'	4.0'-8.0'	4.0'-8.0'	0.0'-2.0'
TEXT 004		V,SV,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2-CHLOROPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
1,3-DICHLOROBENZENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
1,4-DICHLOROBENZENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2-METHYLPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BIS(2-CHLOROISOPROPYL) ETHER	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
4 METHYLPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
HEXACHLOROETHANE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
NITROBENZENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
ISOPHORONE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2-NITROPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2,4-DIMETHYLPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2,4-DICHLOROPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
NAPHTHALENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
4-CHLOROANILINE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
HEXACHLOROBUTADIENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2-METHYLNAPHTHALENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	860.00 U	1,980.00 U	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
2-CHLORONAPHTHALENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2-NITROANILINE	ug/kg	860.00 UJ	1,980.00 UJ	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
DIMETHYLPHTHALATE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
ACENAPHTHYLENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2,6-DINITROTOLUENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U

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SAMPLE NAME		MWS-1D	MWS-13	MWS-13D	MWS-14
SAMPLE DATE		06/05/92	03/29/94	06/19/92	07/01/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		1.0'-2.5'	2.0' - 3.5'	4.0'-6.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I
Semivolatiles-1					
PHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2-CHLOROPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
1,3-DICHLOROBENZENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
1,4-DICHLOROBENZENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2-METHYLPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
4 METHYLPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
HEXACHLOROETHANE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
NITROBENZENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
ISOPHORONE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2-NITROPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2,4-DIMETHYLPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2,4-DICHLOROPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
NAPHTHALENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
4-CHLOROANILINE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
HEXACHLOROBUTADIENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2-METHYLNAPHTHALENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	370.00 UJ	370.00 U	350.00 UJ	390.00 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	890.00 U	890.00 U	860.00 U	940.00 U
2-CHLORONAPHTHALENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2-NITROANILINE	ug/kg	890.00 U	890.00 U	860.00 U	940.00 U
DIMETHYLPHTHALATE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
ACENAPHTHYLENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2,6-DINITROTOLUENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U

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SAMPLE NAME		B-14	B-14-FR	B-14-AVD	B-15	B-16	B-1
SAMPLE DATE		08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	07/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0'-8.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	910.00 UJ	920.00 UJ	915.00 UJ	950.00 UJ	890.00 UJ	3,100.00 U
ACENAPHTHENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2,4-DINITROPHENOL	ug/kg	910.00 U	920.00 U	915.00 U	950.00 U	890.00 U	3,100.00 U
4-NITROPHENOL	ug/kg	910.00 U	920.00 U	915.00 U	950.00 U	870.00 U	3,100.00 U
DIBENZOFURAN	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
2,4-DINITROTOLUENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
DIETHYLPHTHALATE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
FLUORENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
4-NITROANILINE	ug/kg	910.00 U	920.00 U	915.00 U	950.00 U	890.00 U	3,100.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	910.00 U	920.00 U	915.00 U	950.00 U	890.00 U	3,100.00 U
N-NITROSODIPHENYLAMINE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
HEXACHLOROBENZENE	ug/kg	370.00 UJ	380.00 UJ	375.00 UJ	390.00 UJ	370.00 UJ	1,300.00 U
PENTALCHLOROPHENOL	ug/kg	910.00 U	920.00 U	915.00 U	950.00 U	890.00 U	3,100.00 U
PHENANTHRENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
ANTHRACENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
CARBAZOLE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
DI-N-BUTYLPHTHALATE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
FLUORANTHENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
PYRENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BUTYLBENZYLPHthalate	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	58.00 J	1,300.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BENZO (A) ANTHRACENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
CHRYSENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
DI-N-OCTYLPHTHALATE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BENZO(B)FLUORANTHENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BENZO(K) FLUORANTHENE	ug/kg	370.00 UJ	380.00 UJ	375.00 UJ	390.00 UJ	370.00 UJ	1,300.00 UJ
BENZO (A) PYRENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U
BENZO (G,H,I) PERYLENE	ug/kg	370.00 U	380.00 U	375.00 U	390.00 U	370.00 U	1,300.00 U

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SAMPLE NAME		B-1-CDM	B-1-AVS	B-6	B-6-CDM	B-6-AVS	MWS-1
SAMPLE DATE		07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	06/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		4.0'-8.0'	4.0'-8.0'	4.0' - 8.0'	4.0'-8.0'	4.0'-8.0'	0.0'-2.0'
TEXT 004		V,SV,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	860.00 U	1,980.00 U	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
ACENAPHTHENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2,4-DINITROPHENOL	ug/kg	860.00 UJ	1,980.00 UJ	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
4-NITROPHENOL	ug/kg	860.00 UJ	1,980.00 UJ	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 UJ
DIBENZOFURAN	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
2,4-DINITROTOLUENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
DIETHYLPHTHALATE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
FLUORENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
4-NITROANILINE	ug/kg	860.00 UJ	1,980.00 UJ	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	860.00 U	1,980.00 UJ	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
N-NITROSODIPHENYLAMINE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
HEXACHLOROBENZENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
PENTALCHLOROPHENOL	ug/kg	860.00 U	1,980.00 U	2,000.00 U	870.00 UJ	1,435.00 UJ	920.00 U
PHENANTHRENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
ANTHRACENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
CARBAZOLE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
DI-N-BUTYLPHTHALATE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
FLUORANTHENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
PYRENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BUTYLBENZYLPHTHALATE	ug/kg	350.00 UJ	825.00 UJ	820.00 U	360.00 UJ	590.00 UJ	380.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BENZO (A) ANTHRACENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
CHRYSENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	49.00 J	49.00 J	820.00 U	360.00 UJ	590.00 UJ	380.00 U
DI-N-OCTYLPHTHALATE	ug/kg	350.00 UJ	825.00 UJ	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BENZO(B)FLUORANTHENE	ug/kg	350.00 U	825.00 UJ	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BENZO(K) FLUORANTHENE	ug/kg	350.00 UJ	825.00 UJ	820.00 UJ	360.00 UJ	590.00 UJ	380.00 U
BENZO (A) PYRENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U
BENZO (G,H,I) PERYLENE	ug/kg	350.00 U	825.00 U	820.00 U	360.00 UJ	590.00 UJ	380.00 U

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SAMPLE NAME		MWS-1D	MWS-13	MWS-13D	MWS-14
SAMPLE DATE		06/05/92	03/29/94	06/19/92	07/01/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		1.0'-2.5'	2.0' - 3.5'	4.0'-6.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I
Semivolatiles-2					
3-NITROANILINE	ug/kg	890.00 U	890.00 U	860.00 U	940.00 U
ACENAPHTHENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2,4-DINITROPHENOL	ug/kg	890.00 U	890.00 UJ	860.00 U	940.00 U
4-NITROPHENOL	ug/kg	890.00 U	890.00 U	860.00 U	940.00 UJ
DIBENZOFURAN	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
2,4-DINITROTOLUENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
DIETHYLPHthalate	ug/kg	370.00 U	370.00 U	350.00 U	40.00 J
4-CHLOROPHENYL-PHENYLETHER	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
FLUORENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
4-NITROANILINE	ug/kg	890.00 U	890.00 U	860.00 UJ	940.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	890.00 U	890.00 U	860.00 U	940.00 U
N-NITROSODIPHENYLAMINE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
HEXACHLOROBENZENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
PENTALCHLOROPHENOL	ug/kg	890.00 U	890.00 U	860.00 U	940.00 U
PHENANTHRENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
ANTHRACENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
CARBAZOLE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
DI-N-BUTYLPHthalate	ug/kg	370.00 U	370.00 U	350.00 U	890.00 B
FLUORANTHENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
PYRENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BUTYLBENZYLPHthalate	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	R	370.00 U	350.00 UJ	390.00 U
BENZO (A) ANTHRACENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
CHRYSENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BIS (2-ETHYLHEXYL) PHthalate	ug/kg	370.00 U	210.00 J	350.00 U	390.00 U
DI-N-OCTYLPHthalate	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BENZO(B)FLUORANTHENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BENZO(K) FLUORANTHENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BENZO (A) PYRENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U
BENZO (G,H,I) PERYLENE	ug/kg	370.00 U	370.00 U	350.00 U	390.00 U

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SAMPLE NAME	B-14	B-14-FR	B-14-AVD	B-15	B-16	B-1
SAMPLE DATE	08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	07/30/92
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0'-8.0'
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes						
ALUMINUM	mg/kg 25,300.00	19,000.00	22,150.00	26,400.00	18,900.00	25,100.00
ANTIMONY	mg/kg 7.30 BNJ	4.60 UNJ	4.80 BNJ	6.40 BNJ	6.80 BNJ	7.40 BJ
ARSENIC	mg/kg 0.46 U	0.46 U	0.46 U	1.30 B	11.60	0.96 B
BARIUM	mg/kg 34.50 B	33.60 B	34.05 B	32.10 B	39.90 B	42.10 B
BERYLLIUM	mg/kg 0.23 U	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U
CADMIUM	mg/kg 0.70 U	0.69 U	0.70 U	0.70 U	0.99 B	0.68 U
CALCIUM	mg/kg 120,000.00 *	73,000.00 *	96,500.00 *	89,400.00 *	68,800.00 *	39,600.00
CHROMIUM	mg/kg 13.80 NJ	17.40 NJ	15.60 NJ	27.30 NJ	36.40 NJ	29.20
COBALT	mg/kg 20.00	18.20	19.10	23.20	19.00	23.00
COPPER	mg/kg 48.30 NJ	77.60 NJ	62.95 NJ	65.90 NJ	72.10 NJ	85.60
IRON	mg/kg 28,000.00	23,100.00	25,550.00	32,600.00	30,600.00	35,700.00
LEAD	mg/kg 2.90 J	2.00 J	2.45 J	12.20 J	45.60 N*J	31.00 SJ
MAGNESIUM	mg/kg 26,200.00	17,800.00	22,000.00	22,900.00	16,300.00	17,600.00
MANGANESE	mg/kg 757.00	640.00	698.50	809.00	599.00	757.00
MERCURY	mg/kg 0.06 U	0.06 U	0.06 U	0.06 U	0.57	0.06 U
NICKEL	mg/kg 11.10	13.10	12.10	16.50	15.70	18.90
POTASSIUM	mg/kg 161.00 B	201.00 B	181.00 B	389.00 B	506.00 B	634.00 B
SELENIUM	mg/kg 0.46 UWJ	0.46 U	0.46 UWJ	0.46 UWJ	0.44 UWJ	0.46 U
SILVER	mg/kg 0.93 B	0.92 U	0.70 B	1.10 B	1.30 B	0.91 U
SODIUM	mg/kg 181.00 B	191.00 B	186.00 B	281.00 B	396.00 B	472.00 B
THALLIUM	mg/kg 0.70 U	0.69 U	0.70 U	0.70 U	0.67 U	0.68 U
VANADIUM	mg/kg 95.80 NJ	69.30 NJ	82.55 NJ	98.80 NJ	79.70 NJ	102.00
ZINC	mg/kg 50.90	60.10	55.50	206.00	459.00	56.50
CYANIDE, TOTAL	mg/kg 0.58 U	0.58 U	0.58 U	0.75	0.55 U	0.57 U

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SAMPLE NAME		B-1-CDM	B-1-AVS	B-6	B-6-CDM	B-6-AVS	MWS-1
SAMPLE DATE		07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	06/30/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		4.0'-8.0'	4.0'-8.0'	4.0' - 8.0'	4.0'-8.0'	4.0'-8.0'	0.0'-2.0'
TEXT 004		V,SV,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes							
ALUMINUM	mg/kg	29,800.00	27,450.00	35,700.00	40,100.00	37,900.00	26,700.00 J
ANTIMONY	mg/kg	16.00	11.70 BJ	4.50 BJ	19.00	19.00	5.70 BJ
ARSENIC	mg/kg	0.65	0.81 B	0.74 B	0.57 U	0.51 B	0.45 BJ
BARIUM	mg/kg	53.00	47.55 B	41.00 B	40.00	40.50 B	59.10 J
BERYLLIUM	mg/kg	0.60 U	0.42 U	0.22 U	0.60 U	0.41 U	0.23 U
CADMIUM	mg/kg	5.20	2.77	0.67 U	5.40	2.87	0.68 U
CALCIUM	mg/kg	43,300.00	41,450.00	6,490.00	6,590.00	6,540.00	48,300.00 J
CHROMIUM	mg/kg	33.00	31.10	36.00	37.00	36.50	18.60 J
COBALT	mg/kg	29.00	26.00	30.30	35.00	32.65	22.60 J
COPPER	mg/kg	100.00	92.80	67.60	70.00	68.80	47.80 J
IRON	mg/kg	43,200.00	39,450.00	42,700.00	50,100.00	46,400.00	37,100.00 EJ
LEAD	mg/kg	11.20 J	31.00 SJ	6.20 SJ	7.20 J	6.70 SJ	3.00 J
MAGNESIUM	mg/kg	17,700.00	17,650.00	21,300.00	23,100.00	22,200.00	24,600.00 J
MANGANESE	mg/kg	849.00	803.00	895.00	1,050.00	972.50	734.00 J
MERCURY	mg/kg	0.20 U	0.13 U	0.06 U	0.20 U	0.13 U	0.06 U
NICKEL	mg/kg	19.00	18.95	19.00	20.00	19.50	12.80 J
POTASSIUM	mg/kg	572.00 U	460.00 B	833.00 B	778.00	805.50 B	278.00 B
SELENIUM	mg/kg	0.57 U	0.52 U	0.45 U	0.57 U	0.51 U	0.45 UW
SILVER	mg/kg	1.10 U	1.01 U	0.98 BJ	1.20 U	0.79 BJ	0.68 U
SODIUM	mg/kg	572.00 U	379.00 B	274.00 B	579.00 U	274.00 B	305.00 B
THALLIUM	mg/kg	0.57 U	0.63 U	0.67 U	0.57 U	0.62 U	0.68 U
VANADIUM	mg/kg	115.00	108.50	119.00	131.00	125.00	132.00 J
ZINC	mg/kg	59.00	57.75	51.00	59.00	55.00	56.00 EJ
CYANIDE, TOTAL	mg/kg	10.00 U	5.29 U	0.56 U	10.00 U	5.28 U	0.88

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Subsurface Soil
Inorganic Analytes

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SAMPLE NAME		MWS-1D	MWS-13	MWS-13D	MWS-14
SAMPLE DATE		06/05/92	03/29/94	06/19/92	07/01/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		1.0'-2.5'	2.0' - 3.5'	4.0'-6.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I
Inorganic Analytes					
ALUMINUM	mg/kg	37,000.00 J	23,000.00	23,400.00 EJ	28,700.00 EJ
ANTIMONY	mg/kg	8.10 BJ	5.20 UJ	3.70 BJ	3.40 BJ
ARSENIC	mg/kg	0.46 UW	0.71 B	1.70 BJ	0.67 BJ
BARIUM	mg/kg	23.10 BJ	40.50 B	17.90 BJ	40.20 BEJ
BERYLLIUM	mg/kg	0.23 BJ	0.22 B	0.21 U	0.22 U
CADMIUM	mg/kg	0.68 U	0.86 U	0.63 U	0.67 U
CALCIUM	mg/kg	41,200.00 J	67,400.00	37,900.00 EJ	29,900.00 J
CHROMIUM	mg/kg	28.70 J	23.80 J	20.00 J	36.00 EJ
COBALT	mg/kg	28.80 J	17.10	26.30 J	28.30 J
COPPER	mg/kg	75.20 J	77.90	102.00 EJ	86.40 EJ
IRON	mg/kg	39,900.00 J	29,100.00	39,000.00 EJ	40,000.00 EJ
LEAD	mg/kg	9.20 J	33.60	3.40 J	3.20 J
MAGNESIUM	mg/kg	23,600.00 J	18,700.00	17,400.00 EJ	20,300.00 EJ
MANGANESE	mg/kg	833.00 J	705.00	820.00 EJ	883.00 EJ
MERCURY	mg/kg	0.06 U	0.05 U	0.05 U	0.06 U
NICKEL	mg/kg	19.90 J	27.30	17.20 J	18.90 J
POTASSIUM	mg/kg	655.00 B	492.00 B	205.00 B	689.00 B
SELENIUM	mg/kg	0.46 UWJ	0.43 UJ	0.42 U	0.45 U
SILVER	mg/kg	2.30 J	0.64 U	0.63 U	0.67 U
SODIUM	mg/kg	632.00 B	393.00 U	581.00 B	500.00 B
THALLIUM	mg/kg	0.68 UW	0.43 U	0.63 U	0.67 U
VANADIUM	mg/kg	113.00 J	84.50	95.10 EJ	113.00 EJ
ZINC	mg/kg	52.10 J	585.00	59.50 EJ	57.40 EJ
CYANIDE, TOTAL	mg/kg	0.57 U	0.58 U	0.52 U	0.56 U

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Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Subsurface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	B-14	B-14-FR	B-14-AVD	B-15	B-16	B-1	
SAMPLE DATE	08/14/92	08/14/92	08/14/92	08/14/92	08/14/92	07/30/92	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	0.0'-2.0'	4.0'-8.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	250.00 DJ	56.00 J	153.00 DJ	24.00 U	82.00 J	77.00 U

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Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Subsurface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	B-1-CDM	B-1-AVS	B-6	B-6-CDM	B-6-AVS	MWS-1
SAMPLE DATE	07/30/92	07/30/92	07/30/92	07/30/92	07/30/92	06/30/92
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	4.0'-8.0'	4.0'-8.0'	4.0' - 8.0'	4.0'-8.0'	4.0'-8.0'	0.0'-2.0'
TEXT 004	V,SV,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T	V,SV,I,T
TOTAL PETROLEUM HYDROCARBONS mg/kg	60.20	49.35	170.00	69.60	119.80	140.00

Tutu, St. Thomas, U.S. Virgin Islands
Curriculum Center Building - Subsurface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	MWS-1D	MWS-13	MWS-13D	MWS-14	
SAMPLE DATE	06/05/92	03/29/94	06/19/92	07/01/92	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	1.0'-2.5'	2.0' - 3.5'	4.0'-6.0'	0.0'-2.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I	V,SV,I	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	84.00	230.00	21.00 U	220.00 D

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-9	MWS-8	MWS-8-CDM	MWS-8-AVS	MWS-9	MWS-9-CDM
SAMPLE DATE		07/29/92	07/20/92	07/20/92	07/20/92	07/24/92	07/24/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-6.0'	0.0'-4.0'	0.0'-4.0'	0.0'-4.0'	0.0' - 4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
BROMOMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
VINYL CHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
CHLOROETHANE	ug/kg	11.00 UJ	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
METHYLENE CHLORIDE	ug/kg	11.00 U	25.00	25.00 UJ	18.75	18.00 U	25.00 UJ
ACETONE	ug/kg	11.00 U	27.00 U	53.00 UJ	40.00 UJ	11.00 U	70.00 UJ
CARBON DISULFIDE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
CHLOROFORM	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
2-BUTANONE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
TRICHLOROETHENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 J
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
BENZENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
BROMOFORM	ug/kg	11.00 U	11.00 U	11.00 UJ	11.00 UJ	11.00 U	10.00 UJ
4-METHYL-2-PENTANONE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
2-HEXANONE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
TETRACHLOROETHENE	ug/kg	11.00 U	2.00 J	11.00 U	2.00 J	11.00 U	10.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
TOLUENE	ug/kg	11.00 U	1.00 J	11.00 U	1.00 J	11.00 U	10.00 U
CHLOROBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
ETHYLBENZENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
STYRENE	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
XYLENES (TOTAL)	ug/kg	11.00 U	11.00 U	11.00 U	11.00 U	11.00 U	10.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.30 U	5.60 U	11.00 U	8.30 U	5.00 U	11.00 U
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	11.00 UJ	11.00 U	11.00 UJ	10.00 U	11.00 U
n-PROPYLBENZENE	ug/kg	5.30 UJ	5.60 UJ	11.00 U	8.30 UJ	5.00 U	11.00 U
DIBROMOMETHANE	ug/kg	NA	NA	NA	NA	NA	NA

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Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-9	MWS-8	MWS-8-CDM	MWS-8-AVS	MWS-9	MWS-9-CDM
SAMPLE DATE		07/29/92	07/20/92	07/20/92	07/20/92	07/24/92	07/24/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-6.0'	0.0'-4.0'	0.0'-4.0'	0.0'-4.0'	0.0' - 4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2-CHLOROPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
1,3-DICHLOROBENZENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
1,4-DICHLOROBENZENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2-METHYLPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
4 METHYLPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
HEXACHLOROETHANE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
NITROBENZENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
ISOPHORONE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2-NITROPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2,4-DIMETHYLPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2,4-DICHLOROPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
NAPHTHALENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
4-CHLOROANILINE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
HEXACHLOROBUTADIENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2-METHYLNAPHTHALENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	350.00 U	370.00 UJ	370.00 UJ	370.00 UJ	350.00 UJ	340.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	840.00 U	900.00 U	370.00 UJ	635.00 UJ	860.00 U	830.00 U
2-CHLORONAPHTHALENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2-NITROANILINE	ug/kg	840.00 U	900.00 U	890.00 UJ	895.00 UJ	860.00 U	830.00 U
DIMETHYLPHTHALATE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
ACENAPHTHYLENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2,6-DINITROTOLUENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Organic Compounds

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SAMPLE NAME		MWS-9-AVS	MWS-10	MWS-10D	MWS-18	MWS-25
SAMPLE DATE		07/24/92	08/04/92	08/04/92	03/26/94	03/31/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-4.0'	2.0'-4.0'	0.0'-2.0'	12.0' - 14.0'	12.0' - 14.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics						
CHLOROMETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
BROMOMETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
VINYL CHLORIDE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
CHLOROETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
METHYLENE CHLORIDE	ug/kg	21.50 UJ	17.00 J	20.00 J	12.00 UJ	3.00 J
ACETONE	ug/kg	40.50 UJ	35.00	11.00 U	50.00 BJ	33.00 J
CARBON DISULFIDE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,1-DICHLOROETHENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,1-DICHLOROETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
CHLOROFORM	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,2-DICHLOROETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
2-BUTANONE	ug/kg	10.50 U	5.00 J	11.00 U	13.00 BJ	12.00 U
1,1,1-TRICHLOROETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
CARBON TETRACHLORIDE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,2-DICHLOROPROPANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
cis-1,3-DICHLOROPROPENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
TRICHLOROETHENE	ug/kg	7.75 J	11.00 U	11.00 U	12.00 UJ	12.00 U
DIBROMOCHLOROMETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,1,2-TRICHLOROETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
BENZENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
Trans-1,3-DICHLOROPROPENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
BROMOFORM	ug/kg	10.50 UJ	11.00 U	11.00 U	12.00 UJ	12.00 U
4-METHYL-2-PENTANONE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
2-HEXANONE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
TETRACHLOROETHENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
TOLUENE	ug/kg	10.50 U	11.00 U	1.00 J	12.00 UJ	12.00 U
CHLOROBENZENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
ETHYLBENZENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
STYRENE	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
XYLENES (TOTAL)	ug/kg	10.50 U	11.00 U	11.00 U	12.00 UJ	12.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	8.00 U	5.00 U	5.50 U	NA	NA
tert-butyl methyl ether (MTBE)	ug/kg	10.50 U	10.00 UJ	11.00 UJ	60.00 UJ	60.00 U
n-PROPYLBENZENE	ug/kg	8.00 U	5.00 UJ	5.50 UJ	R	R
DIBROMOMETHANE	ug/kg	NA	NA	NA	R	R

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
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SAMPLE NAME		MWS-9-AVS	MWS-10	MWS-10D	MWS-18	MWS-25
SAMPLE DATE		07/24/92	08/04/92	08/04/92	03/26/94	03/31/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-4.0'	2.0'-4.0'	0.0'-2.0'	12.0' - 14.0'	12.0' - 14.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1						
PHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2-CHLOROPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
1,3-DICHLOROBENZENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
1,4-DICHLOROBENZENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2-METHYLPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
4 METHYLPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
HEXACHLOROETHANE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
NITROBENZENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
ISOPHORONE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2-NITROPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2,4-DIMETHYLPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2,4-DICHLOROPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
NAPHTHALENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
4-CHLOROANILINE	ug/kg	345.00 UJ	360.00 U	370.00 U	750.00 U	390.00 U
HEXACHLOROBUTADIENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2-METHYLNAPHTHALENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	345.00 UJ	360.00 U	370.00 U	750.00 U	390.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	845.00 U	880.00 U	890.00 U	1,800.00 U	930.00 U
2-CHLORONAPHTHALENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2-NITROANILINE	ug/kg	845.00 U	880.00 U	890.00 U	1,800.00 U	930.00 U
DIMETHYLPHTHALATE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
ACENAPHTHYLENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2,6-DINITROTOLUENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-9	MWS-8	MWS-8-CDM	MWS-8-AVS	MWS-9	MWS-9-CDM
SAMPLE DATE		07/29/92	07/20/92	07/20/92	07/20/92	07/24/92	07/24/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-6.0'	0.0'-4.0'	0.0'-4.0'	0.0'-4.0'	0.0' - 4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	840.00 U	900.00 U	R	900.00 U	860.00 U	R
ACENAPHTHENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2,4-DINITROPHENOL	ug/kg	840.00 U	900.00 UJ	890.00 UJ	895.00 UJ	860.00 UJ	830.00 U
4-NITROPHENOL	ug/kg	840.00 U	900.00 U	890.00 UJ	895.00 UJ	860.00 UJ	830.00 UJ
DIBENZOFURAN	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
2,4-DINITROTOLUENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
DIETHYLPHthalate	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
FLUORENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
4-NITROANILINE	ug/kg	840.00 U	900.00 U	890.00 UJ	895.00 UJ	860.00 U	830.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	840.00 U	900.00 UJ	890.00 UJ	895.00 UJ	860.00 UJ	830.00 UJ
N-NITROSODIPHENYLAMINE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
4-BROMOPHENYL-PHENYLETHER	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
HEXACHLOROBENZENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
PENTALCHLOROPHENOL	ug/kg	840.00 U	900.00 U	890.00 UJ	895.00 UJ	860.00 U	830.00 U
PHENANTHRENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
ANTHRACENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
CARBAZOLE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
DI-N-BUTYLPHthalate	ug/kg	350.00 U	730.00 B	370.00 UJ	457.50 B	350.00 U	340.00 U
FLUORANTHENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
PYRENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BUTYLBENZYLPHthalate	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
3,3'-DICHLOROBENZIDINE	ug/kg	350.00 U	370.00 UJ	R	370.00 UJ	350.00 UJ	R
BENZO (A) ANTHRACENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
CHRYSENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BIS (2-ETHYLHEXYL) PHthalate	ug/kg	220.00 J	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
DI-N-OCTYLPHthalate	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 UJ
BENZO(B)FLUORANTHENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BENZO(K) FLUORANTHENE	ug/kg	350.00 UJ	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BENZO (A) PYRENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U
BENZO (G,H,I) PERYLENE	ug/kg	350.00 U	370.00 U	370.00 UJ	370.00 UJ	350.00 U	340.00 U

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Organic Compounds

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SAMPLE NAME		MWS-9-AVS	MWS-10	MWS-10D	MWS-18	MWS-25
SAMPLE DATE		07/24/92	08/04/92	08/04/92	03/26/94	03/31/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-4.0'	2.0'-4.0'	0.0'-2.0'	12.0' - 14.0'	12.0' - 14.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2						
3-NITROANILINE	ug/kg	860.00 U	880.00 U	890.00 U	1,800.00 U	930.00 U
ACENAPHTHENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2,4-DINITROPHENOL	ug/kg	845.00 UJ	880.00 U	890.00 U	1,800.00 UJ	930.00 UJ
4-NITROPHENOL	ug/kg	845.00 UJ	880.00 U	890.00 U	1,800.00 U	930.00 U
DIBENZOFURAN	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
2,4-DINITROTOLUENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
DIETHYLPHTHALATE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
FLUORENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
4-NITROANILINE	ug/kg	845.00 U	880.00 UJ	890.00 UJ	1,800.00 U	930.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	845.00 UJ	880.00 U	890.00 U	1,800.00 U	930.00 U
N-NITROSODIPHENYLAMINE	ug/kg	345.00 UJ	360.00 U	370.00 U	750.00 U	390.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	345.00 UJ	360.00 UJ	370.00 UJ	750.00 U	390.00 U
HEXACHLOROBENZENE	ug/kg	345.00 UJ	360.00 UJ	370.00 UJ	750.00 U	390.00 U
PENTALCHLOROPHENOL	ug/kg	845.00 U	880.00 U	890.00 U	1,800.00 U	930.00 U
PHENANTHRENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
ANTHRACENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
CARBAZOLE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
DI-N-BUTYLPHTHALATE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
FLUORANTHENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
PYRENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BUTYLBENZYLPHTHALATE	ug/kg	345.00 UJ	360.00 U	370.00 U	750.00 U	390.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	350.00 UJ	360.00 U	370.00 U	750.00 U	390.00 U
BENZO (A) ANTHRACENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
CHRYSENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	345.00 UJ	360.00 U	370.00 U	130.00 J	140.00 J
DI-N-OCTYLPHTHALATE	ug/kg	345.00 UJ	360.00 U	370.00 U	750.00 U	390.00 U
BENZO(B)FLUORANTHENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BENZO(K) FLUORANTHENE	ug/kg	345.00 U	360.00 UJ	370.00 UJ	750.00 U	390.00 U
BENZO (A) PYRENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U
BENZO (G,H,I) PERYLENE	ug/kg	345.00 U	360.00 U	370.00 U	750.00 U	390.00 U

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Inorganic Analytes

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SAMPLE NAME		MWS-9-AVS	MWS-10	MWS-10D	MWS-18	MWS-25
SAMPLE DATE		07/24/92	08/04/92	08/04/92	03/26/94	03/31/94
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-4.0'	2.0'-4.0'	0.0'-2.0'	12.0' - 14.0'	12.0' - 14.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes						
ALUMINUM	mg/kg	28,000.00 J	14,900.00	14,100.00	22,200.00	17,000.00
ANTIMONY	mg/kg	3.85 BJ	4.70 UJ	4.30 UJ	5.50 UJ	5.60 UJ
ARSENIC	mg/kg	0.47 BJ	2.40 U	2.20 U	1.30 B	0.94 B
BARIUM	mg/kg	21.85 BJ	120.00	199.00	37.90 B	114.00
BERYLLIUM	mg/kg	0.18 U	0.27 B	0.28 B	0.28 B	0.35 B
CADMIUM	mg/kg	0.48 U	0.71 U	0.65 U	0.91 U	0.95 B
CALCIUM	mg/kg	37,750.00 J	3,480.00	5,260.00	10,800.00	2,340.00
CHROMIUM	mg/kg	20.50 J	5.70	4.50	27.50 J	13.50 J
COBALT	mg/kg	22.85 J	8.80 B	7.90 B	20.10	18.40
COPPER	mg/kg	58.85 J	42.20	40.20	62.60	56.50
IRON	mg/kg	32,450.00 J	30,000.00	33,600.00	34,300.00	39,300.00
LEAD	mg/kg	3.80 J	3.40 J	3.20 J	8.50	11.70
MAGNESIUM	mg/kg	18,550.00 J	5,770.00	5,770.00	15,600.00	6,280.00
MANGANESE	mg/kg	775.50 J	480.00	435.00	472.00	1,250.00
MERCURY	mg/kg	0.05 U	0.06 U	0.05 U	0.06 U	0.06 U
NICKEL	mg/kg	15.65 J	3.20 B	3.50 B	17.00	8.30 B
POTASSIUM	mg/kg	234.50 B	621.00 B	529.00 B	1,440.00	1,130.00 B
SELENIUM	mg/kg	0.43 U	0.47 U	0.43 U	0.46 U	1.10 B
SILVER	mg/kg	4.12 B	2.20 BJ	2.00 BJ	0.68 U	0.82 B
SODIUM	mg/kg	832.00 B	413.00 BJ	373.00 BJ	511.00 B	430.00 U
THALLIUM	mg/kg	0.77 U	0.71 U	0.65 U	0.46 U	0.47 U
VANADIUM	mg/kg	73.45 J	57.90	69.50	130.00	89.60
ZINC	mg/kg	42.05 J	57.70	58.20	65.20	87.20
CYANIDE, TOTAL	mg/kg	0.53 U	0.59 U	0.54 U	0.57 U	0.59 U

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Inorganic Analytes

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SAMPLE NAME		B-9	MWS-8	MWS-8-CDM	MWS-8-AVS	MWS-9	MWS-9-CDM
SAMPLE DATE		07/29/92	07/20/92	07/20/92	07/20/92	07/24/92	07/24/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		2.0'-6.0'	0.0'-4.0'	0.0'-4.0'	0.0'-4.0'	0.0' - 4.0'	0.0'-4.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
Inorganic Analytes							
ALUMINUM	mg/kg	20,800.00 J	22,500.00 J	33,000.00	27,750.00 J	22,400.00 J	33,600.00
ANTIMONY	mg/kg	4.40 BJ	5.60 BJ	3.40 UJ	3.65 BJ	6.00 BJ	3.40 UJ
ARSENIC	mg/kg	1.60 BJ	0.44 U	0.46 UJ	0.45 UJ	0.70 BJ	0.46 UJ
BARIUM	mg/kg	33.80 BJ	21.70 BJ	23.80 B	22.75 BJ	18.70 BJ	25.00 B
BERYLLIUM	mg/kg	0.23 BJ	0.22 U	0.21 B	0.16 B	0.21 U	0.15 U
CADMIUM	mg/kg	0.64 U	0.65 U	0.32 U	0.49 U	0.64 U	0.31 U
CALCIUM	mg/kg	15,400.00 J	28,400.00 J	39,000.00	33,700.00 J	31,600.00 J	43,900.00
CHROMIUM	mg/kg	35.20 J	15.30 J	20.80	18.05 J	15.60 J	25.40
COBALT	mg/kg	23.70 J	19.00 J	24.50 J	21.75 J	18.90 J	26.80 J
COPPER	mg/kg	105.00 J	49.70 J	57.10	53.40 J	50.70 J	67.00
IRON	mg/kg	33,100.00 J	26,500.00 J	37,500.00	32,000.00 J	25,700.00 J	39,200.00
LEAD	mg/kg	5.50 J	0.48 BJ	1.90 J	1.19 BJ	3.20 J	4.40 J
MAGNESIUM	mg/kg	16,300.00 J	15,400.00 J	20,600.00	18,000.00 J	15,100.00 J	22,000.00
MANGANESE	mg/kg	760.00 J	688.00 J	859.00	773.50 J	631.00 J	920.00
MERCURY	mg/kg	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
NICKEL	mg/kg	21.80 J	11.30 J	15.70 J	13.50 J	12.40 J	18.90 J
POTASSIUM	mg/kg	528.00 B	204.00 B	201.00 B	202.50 B	205.00 B	264.00 B
SELENIUM	mg/kg	0.43 U	0.44 UWJ	R	0.44 UWJ	0.43 U	R
SILVER	mg/kg	0.85 U	0.65 U	1.70 B	1.01 B	0.64 U	1.80 B
SODIUM	mg/kg	248.00 B	491.00 B	843.00 B	667.00 B	654.00 B	1,010.00 B
THALLIUM	mg/kg	0.64 U	0.65 U	0.90 U	0.78 U	0.64 U	0.90 U
VANADIUM	mg/kg	85.80 J	59.50 J	85.60	72.55 J	56.30 J	90.60
ZINC	mg/kg	58.40 J	31.80 J	45.10	38.45 J	32.40 J	51.70
CYANIDE, TOTAL	mg/kg	0.53 U	0.55	0.55 U	0.41	0.53 U	0.52 U

TUT 007 0303

Tutu, St. Thomas, U.S. Virgin Islands
 Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
 Total Petroleum Hydrocarbons

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SAMPLE NAME	B-9	MWS-8	MWS-8-CDM	MWS-8-AVS	MWS-9	MWS-9-CDM	
SAMPLE DATE	07/29/92	07/20/92	07/20/92	07/20/92	07/24/92	07/24/92	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	2.0'-6.0'	0.0'-4.0'	0.0'-4.0'	0.0'-4.0'	0.0' - 4.0'	0.0'-4.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	160.00	22.00 U	69.30	69.30	230.00 D	163.00

TUT 007 0304

Tutu, St. Thomas, U.S. Virgin Islands
Esso Gas Station and Splash & Dash Car Wash-Subsurface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	MWS-9-AVS	MWS-10	MWS-10D	MWS-18	MWS-25
SAMPLE DATE	07/24/92	08/04/92	08/04/92	03/26/94	03/31/94
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH	0.0'-4.0'	2.0'-4.0'	0.0'-2.0'	12.0' - 14.0'	12.0' - 14.0'
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T
TOTAL PETROLEUM HYDROCARBONS	mg/kg	196.50 D	22.00 U	22.00 U	23.00 U

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-10	B-11	B-12	B-12-CDM	B-12-AVS	B-13
SAMPLE DATE		08/10/92	08/10/92	08/11/92	08/11/92	08/11/92	08/10/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		6.0'-8.0'	0.0'-2.0'	6.0' - 8.0'	6.0'-8.0'	6.0'-8.0'	4.0'-6.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T
Volatile Organics							
CHLOROMETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
BROMOMETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
VINYL CHLORIDE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
CHLOROETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
METHYLENE CHLORIDE	ug/kg	12.00 UJ	3.00 J	11.00 UJ	28.00 UJ	19.50 UJ	11.00 UJ
ACETONE	ug/kg	12.00 UJ	26.00 UJ	13.00 UJ	25.00 UJ	19.00 UJ	11.00 UJ
CARBON DISULFIDE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,1-DICHLOROETHENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,1-DICHLOROETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
CHLOROFORM	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,2-DICHLOROETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
2-BUTANONE	ug/kg	12.00 UJ	12.00 UJ	11.00 UJ	12.00 U	11.50 UJ	11.00 UJ
1,1,1-TRICHLOROETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
CARBON TETRACHLORIDE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
VINYL ACETATE	ug/kg	NA	NA	NA	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,2-DICHLOROPROPANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
cis 1,3-DICHLOROPROPENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
TRICHLOROETHYLENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
DIBROMOCHLOROMETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,1,2-TRICHLOROETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
BENZENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
Trans 1,3-DICHLOROPROPENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
BROMOFORM	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
4-METHYL-2-PENTANONE	ug/kg	12.00 UJ	12.00 UJ	11.00 UJ	12.00 U	11.50 UJ	11.00 UJ
2-HEXANONE	ug/kg	12.00 UJ	12.00 UJ	11.00 UJ	12.00 U	11.50 UJ	11.00 UJ
TETRACHLOROETHYLENE	ug/kg	12.00 U	29.00	11.00 U	12.00 U	11.50 U	200.00 D
1,1,2,2-TETRACHLOROETHANE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
TOLUENE	ug/kg	12.00 U	3.00 J	11.00 U	12.00 U	11.50 U	11.00 U
CHLOROBENZENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
ETHYLBENZENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
STYRENE	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
XYLENES (TOTAL)	ug/kg	12.00 U	12.00 U	11.00 U	12.00 U	11.50 U	11.00 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.90 U	6.10 U	5.70 U	11.00 U	8.35 U	5.70 U
tert-butyl methyl ether (MTBE)	ug/kg	12.00 UJ	12.00 UJ	11.00 UJ	11.00 U	11.00 UJ	11.00 UJ
n-PROPYLBENZENE	ug/kg	5.90 UJ	6.10 UJ	5.70 UJ	11.00 U	8.35 UJ	5.70 UJ

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-10	B-11	B-12	B-12-CDM	B-12-AVS	B-13
SAMPLE DATE		08/10/92	08/10/92	08/11/92	08/11/92	08/11/92	08/10/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		6.0'-8.0'	0.0'-2.0'	6.0' - 8.0'	6.0'-8.0'	6.0'-8.0'	4.0'-6.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T
Semivolatiles-1							
PHENOL	ug/kg	390.00 U	400.00 U	380.00 UJ	390.00 U	385.00 UJ	380.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2-CHLOROPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
1,3-DICHLOROBENZENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
1,4-DICHLOROBENZENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2-METHYLPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
4 METHYLPHENOL	ug/kg	390.00 U	400.00 U	380.00 UJ	390.00 U	385.00 UJ	380.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
HEXACHLOROETHANE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
NITROBENZENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
ISOPHORONE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2-NITROPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,4-DIMETHYLPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BENZOIC ACID	ug/kg	NA	NA	NA	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,4-DICHLOROPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
NAPHTHALENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
4-CHLOROANILINE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
HEXACHLOROBUTADIENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
4-CHLORO-3-METHYLPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2-METHYLNAPHTHALENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,4,6-TRICHLOROPHENOL	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	940.00 U	980.00 U	920.00 U	940.00 U	930.00 U	910.00 U
2-CHLORONAPHTHALENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2-NITROANILINE	ug/kg	940.00 U	980.00 U	920.00 U	940.00 U	930.00 U	910.00 U
DIMETHYLPHTHALATE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
ACENAPHTHYLENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,6-DINITROTOLUENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners and Liquor Barn - Subsurface Soil
Organic Compounds

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SAMPLE NAME		B-10	B-11	B-12	B-12-CDM	B-12-AVS	B-13
SAMPLE DATE		08/10/92	08/10/92	08/11/92	08/11/92	08/11/92	08/10/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		6.0'-8.0'	0.0'-2.0'	6.0' - 8.0'	6.0'-8.0'	6.0'-8.0'	4.0'-6.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T
Semivolatiles-2							
3-NITROANILINE	ug/kg	940.00 U	980.00 U	920.00 U	940.00 U	930.00 U	910.00 U
ACENAPHTHENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,4-DINITROPHENOL	ug/kg	940.00 UJ	980.00 UJ	920.00 U	940.00 U	930.00 U	910.00 U
4-NITROPHENOL	ug/kg	940.00 U	980.00 U	920.00 UJ	940.00 UJ	930.00 UJ	910.00 U
DIBENZOFURAN	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
2,4-DINITROTOLUENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
DIETHYLPHthalate	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
FLUORENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
4-NITROANILINE	ug/kg	940.00 U	980.00 U	920.00 U	940.00 U	930.00 U	910.00 UJ
4,6-DINITRO-2-METHYLPHENOL	ug/kg	940.00 U	980.00 U	920.00 U	940.00 U	930.00 U	910.00 U
N-NITROSODIPHENYLAMINE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 UJ
HEXACHLOROBENZENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 UJ
PENTALCHLOROPHENOL	ug/kg	940.00 U	980.00 U	920.00 U	940.00 U	930.00 U	910.00 U
PHENANTHRENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
ANTHRACENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
CARBAZOLE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
DI-N-BUTYLPHthalate	ug/kg	160.00 J	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
FLUORANTHENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	42.00 J
PYRENE	ug/kg	390.00 U	400.00 U	380.00 UJ	390.00 U	385.00 UJ	380.00 U
BUTYLBENZYLPHthalate	ug/kg	220.00 J	400.00 U	380.00 UJ	390.00 UJ	385.00 UJ	380.00 U
3,3'-DICHLOROBENZIDINE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BENZO (A) ANTHRACENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
CHRYSENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	390.00 U	400.00 U	380.00 UJ	390.00 UJ	385.00 UJ	380.00 U
DI-N-OCTYLPHthalate	ug/kg	390.00 UJ	400.00 UJ	380.00 UJ	390.00 UJ	385.00 UJ	380.00 U
BENZO(B)FLUORANTHENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BENZO(K) FLUORANTHENE	ug/kg	390.00 UJ	400.00 UJ	380.00 U	390.00 U	385.00 U	380.00 UJ
BENZO (A) PYRENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U
BENZO (G,H,I) PERYLENE	ug/kg	390.00 U	400.00 U	380.00 U	390.00 U	385.00 U	380.00 U

TUT 007 0308

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Subsurface Soil
Inorganic Analytes

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SAMPLE NAME		B-10	B-11	B-12	B-12-CDM	B-12-AVS	B-13
SAMPLE DATE		08/10/92	08/10/92	08/11/92	08/11/92	08/11/92	08/10/92
SAMPLE TYPE		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SAMPLE DEPTH		6.0'-8.0'	0.0'-2.0'	6.0' - 8.0'	6.0'-8.0'	6.0'-8.0'	4.0'-6.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T
Inorganic Analytes							
ALUMINUM	mg/kg	14,300.00	19,200.00	15,300.00	NA	15,300.00	18,000.00
ANTIMONY	mg/kg	5.20 BJ	4.70 UJ	4.40 UJ	NA	4.40 UJ	4.90 BJ
ARSENIC	mg/kg	2.20 U	5.00	18.30	NA	18.30	185.00 J
BARIUM	mg/kg	498.00	124.00	172.00	NA	172.00	29.00 B
BERYLLIUM	mg/kg	0.22 U	0.33 B	0.29 B	NA	0.29 B	0.22 U
CADMIUM	mg/kg	0.65 U	0.70 U	0.65 U	NA	0.65 U	0.67 U
CALCIUM	mg/kg	14,400.00	5,150.00	6,060.00	NA	6,060.00	12,800.00
CHROMIUM	mg/kg	13.00	19.50	21.20	NA	21.20	20.10
COBALT	mg/kg	17.20	15.10	18.20	NA	18.20	15.20
COPPER	mg/kg	88.70	76.60	74.20	NA	74.20	46.40
IRON	mg/kg	33,600.00 EJ	34,100.00 EJ	28,100.00 EJ	NA	28,100.00 EJ	26,800.00 EJ
LEAD	mg/kg	5.20 J	6.90 SJ	5.40 SJ	NA	5.40 SJ	1.20 J
MAGNESIUM	mg/kg	9,970.00	5,920.00	5,570.00	NA	5,570.00	14,600.00
MANGANESE	mg/kg	2,200.00	768.00	2,070.00	NA	2,070.00	430.00
MERCURY	mg/kg	0.05 U	0.08 B	0.05 U	NA	0.05 U	0.06 U
NICKEL	mg/kg	4.70 B	12.80	16.40	NA	16.40	12.30
POTASSIUM	mg/kg	1,900.00	2,830.00	2,280.00	NA	2,280.00	591.00 B
SELENIUM	mg/kg	0.43 U	0.47 U	0.44 U	NA	0.44 U	0.44 U
SILVER	mg/kg	2.00 BJ	1.90 BJ	1.80 BJ	NA	1.80 BJ	1.60 BJ
SODIUM	mg/kg	352.00 B	270.00 B	297.00 B	NA	297.00 B	133.00 B
THALLIUM	mg/kg	0.65 U	0.70 U	0.65 U	NA	0.65 U	0.67 U
VANADIUM	mg/kg	119.00	88.80	87.80	NA	87.80	83.90
ZINC	mg/kg	68.20 EJ	99.50 EJ	89.10 EJ	NA	89.10 EJ	45.70 EJ
CYANIDE, total	mg/kg	0.54 U	0.58 U	0.57 U	0.56 U	0.57 U	0.56 U

TUT 007 0309

Tutu, St. Thomas, U.S. Virgin Islands
Subsurface Soil - Background
Organic Compounds

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SAMPLE NAME		MWS-2	MWS-2-FR	MWS-2-AVD
SAMPLE DATE		08/13/92	08/13/92	08/13/92
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Volatile Organics				
CHLOROMETHANE	ug/kg	11.00 U	12.00 U	11.50 U
BROMOMETHANE	ug/kg	11.00 U	12.00 U	11.50 U
VINYL CHLORIDE	ug/kg	11.00 U	12.00 U	11.50 U
CHLOROETHANE	ug/kg	11.00 U	12.00 U	11.50 U
METHYLENE CHLORIDE	ug/kg	10.00 J	10.00 J	10.00 J
ACETONE	ug/kg	58.00 J	130.00 J	94.00 J
CARBON DISULFIDE	ug/kg	11.00 U	12.00 U	11.50 U
1,1-DICHLOROETHENE	ug/kg	11.00 U	12.00 U	11.50 U
1,1-DICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.50 U
1,2-DICHLOROETHENE (TOTAL)	ug/kg	11.00 U	12.00 U	11.50 U
CHLOROFORM	ug/kg	11.00 U	12.00 U	11.50 U
1,2-DICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.50 U
2-BUTANONE	ug/kg	11.00 U	25.00	15.25
1,1,1-TRICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.50 U
CARBON TETRACHLORIDE	ug/kg	11.00 U	12.00 U	11.50 U
VINYL ACETATE	ug/kg	NA	NA	NA
BROMODICHLOROMETHANE	ug/kg	11.00 U	12.00 U	11.50 U
1,2-DICHLOROPROPANE	ug/kg	11.00 U	12.00 U	11.50 U
cis-1,3-DICHLOROPROPENE	ug/kg	11.00 U	12.00 U	11.50 U
TRICHLOROETHENE	ug/kg	11.00 U	12.00 U	11.50 U
DIBROMOCHLOROMETHANE	ug/kg	11.00 U	12.00 U	11.50 U
1,1,2-TRICHLOROETHANE	ug/kg	11.00 U	12.00 U	11.50 U
BENZENE	ug/kg	11.00 U	12.00 U	11.50 U
Trans-1,3-DICHLOROPROPENE	ug/kg	11.00 U	12.00 U	11.50 U
BROMOFORM	ug/kg	11.00 U	12.00 U	11.50 U
4-METHYL-2-PENTANONE	ug/kg	11.00 U	12.00 U	11.50 U
2-HEXANONE	ug/kg	11.00 U	12.00 U	11.50 U
TETRACHLOROETHENE	ug/kg	11.00 U	12.00 U	11.50 U
1,1,2,2-TETRACHLOROETHANE	ug/kg	11.00 U	12.00 U	11.50 U
TOLUENE	ug/kg	11.00 U	12.00 U	11.50 U
CHLOROBENZENE	ug/kg	11.00 U	12.00 U	11.50 U
ETHYLBENZENE	ug/kg	11.00 U	12.00 U	11.50 U
STYRENE	ug/kg	11.00 U	12.00 U	11.50 U
XYLENES (TOTAL)	ug/kg	11.00 U	12.00 U	11.50 U
1,2-DIBROMOETHANE (EDB)	ug/kg	5.70 U	6.00 U	5.85 U
tert-butyl methyl ether (MTBE)	ug/kg	11.00 UJ	12.00 UJ	11.50 UJ
n-PROPYLBENZENE	ug/kg	5.70 UJ	6.00 UJ	5.85 UJ

Tutu, St. Thomas, U.S. Virgin Islands
O'Henry Dry Cleaners & Liquor Barn - Subsurface Soil
Total Petroleum Hydrocarbons

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SAMPLE NAME	B-10	B-11	B-12	B-12-CDM	B-12-AVS	B-13	
SAMPLE DATE	08/10/92	08/10/92	08/11/92	08/11/92	08/11/92	08/10/92	
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE DEPTH	6.0'-8.0'	0.0'-2.0'	6.0' - 8.0'	6.0'-8.0'	6.0'-8.0'	4.0'-6.0'	
TEXT 004	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,I,T	V,SV,T	V,SV,I,T	
TOTAL PETROLEUM HYDROCARBONS	mg/kg	27.00	41.00	25.00	26.40	25.70	28.00

TUT 007 0311

Tutu, St. Thomas, U.S. Virgin Islands
Subsurface Soil - Background
Organic Compounds

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SAMPLE NAME		MWS-2	MWS-2-FR	MWS-2-AVD
SAMPLE DATE		08/13/92	08/13/92	08/13/92
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-1				
PHENOL	ug/kg	380.00 U	400.00 U	390.00 U
BIS (2-CHLOROETHYL) ETHER	ug/kg	380.00 U	400.00 U	390.00 U
2-CHLOROPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
1,3-DICHLOROBENZENE	ug/kg	380.00 U	400.00 U	390.00 U
1,4-DICHLOROBENZENE	ug/kg	380.00 U	400.00 U	390.00 U
BENZYL ALCOHOL	ug/kg	NA	NA	NA
1,2-DICHLOROBENZENE	ug/kg	380.00 U	400.00 U	390.00 U
2-METHYLPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	380.00 U	400.00 U	390.00 U
4 METHYLPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
N-NITROSO-DI-N-PROPYLAMINE	ug/kg	380.00 U	400.00 U	390.00 U
HEXACHLOROETHANE	ug/kg	380.00 U	400.00 U	390.00 U
NITROBENZENE	ug/kg	380.00 U	400.00 U	390.00 U
ISOPHORONE	ug/kg	380.00 U	400.00 U	390.00 U
2-NITROPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
2,4-DIMETHYLPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
BENZOIC ACID	ug/kg	NA	NA	NA
BIS (2-CHLOROETHOXY) METHANE	ug/kg	380.00 U	400.00 U	390.00 U
2,4-DICHLOROPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
1,2,4-TRICHLOROBENZENE	ug/kg	380.00 U	400.00 U	390.00 U
NAPHTHALENE	ug/kg	380.00 U	400.00 U	390.00 U
4-CHLOROANILINE	ug/kg	380.00 UJ	400.00 UJ	390.00 UJ
HEXACHLOROBUTADIENE	ug/kg	380.00 UJ	400.00 UJ	390.00 UJ
4-CHLORO-3-METHYLPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
2-METHYLNAPHTHALENE	ug/kg	380.00 U	400.00 U	390.00 U
HEXACHLOROCYCLOPENTADIENE	ug/kg	380.00 UJ	400.00 UJ	390.00 UJ
2,4,6-TRICHLOROPHENOL	ug/kg	380.00 U	400.00 U	390.00 U
2,4,5-TRICHLOROPHENOL	ug/kg	910.00 UJ	960.00 UJ	935.00 UJ
2-CHLORONAPHTHALENE	ug/kg	380.00 U	400.00 U	390.00 U
2-NITROANILINE	ug/kg	910.00 U	960.00 U	935.00 U
DIMETHYLPHTHALATE	ug/kg	380.00 U	400.00 U	390.00 U
ACENAPHTHYLENE	ug/kg	380.00 U	400.00 U	390.00 U
2,6-DINITROTOLUENE	ug/kg	380.00 U	400.00 U	390.00 U

Tutu, St. Thomas, U.S. Virgin Islands
Subsurface Soil - Background
Organic Compounds

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SAMPLE NAME		MWS-2	MWS-2-FR	MWS-2-AVD
SAMPLE DATE		08/13/92	08/13/92	08/13/92
SAMPLE TYPE		SOIL	SOIL	SOIL
SAMPLE DEPTH		0.0'-2.0'	0.0'-2.0'	0.0'-2.0'
TEXT 004		V,SV,I,T	V,SV,I,T	V,SV,I,T
Semivolatiles-2				
3-NITROANILINE	ug/kg	910.00 UJ	960.00 UJ	935.00 UJ
ACENAPHTHENE	ug/kg	380.00 U	400.00 U	390.00 U
2,4-DINITROPHENOL	ug/kg	910.00 U	960.00 U	935.00 U
4-NITROPHENOL	ug/kg	910.00 U	960.00 U	935.00 U
DIBENZOFURAN	ug/kg	380.00 U	400.00 U	390.00 U
2,4-DINITROTOLUENE	ug/kg	380.00 U	400.00 U	390.00 U
DIETHYLPHTHALATE	ug/kg	380.00 U	400.00 U	390.00 U
4-CHLOROPHENYL-PHENYLETHER	ug/kg	380.00 U	400.00 U	390.00 U
FLUORENE	ug/kg	380.00 U	400.00 U	390.00 U
4-NITROANILINE	ug/kg	910.00 U	960.00 U	935.00 U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	910.00 U	960.00 U	935.00 U
N-NITROSODIPHENYLAMINE	ug/kg	380.00 U	400.00 U	390.00 U
4-BROMOPHENYL-PHENYLETHER	ug/kg	380.00 U	400.00 U	390.00 U
HEXACHLOROBENZENE	ug/kg	380.00 UJ	400.00 UJ	390.00 UJ
PENTACHLOROPHENOL	ug/kg	910.00 U	960.00 U	935.00 U
PHENANTHRENE	ug/kg	380.00 U	400.00 U	390.00 U
ANTHRACENE	ug/kg	380.00 U	400.00 U	390.00 U
CARBAZOLE	ug/kg	380.00 U	400.00 U	390.00 U
DI-N-BUTYLPHTHALATE	ug/kg	380.00 U	400.00 U	390.00 U
FLUORANTHENE	ug/kg	380.00 U	400.00 U	390.00 U
PYRENE	ug/kg	380.00 U	400.00 U	390.00 U
BUTYLBENZYLPHTHALATE	ug/kg	380.00 U	400.00 U	390.00 U
3,3'-DICHLOOROBENZIDINE	ug/kg	380.00 U	400.00 U	390.00 U
BENZO (A) ANTHRACENE	ug/kg	380.00 U	400.00 U	390.00 U
CHRYSENE	ug/kg	380.00 U	400.00 U	390.00 U
BIS (2-ETHYLHEXYL) PHTHALATE	ug/kg	380.00 U	400.00 U	390.00 U
DI-N-OCTYLPHTHALATE	ug/kg	380.00 U	400.00 U	390.00 U
BENZO(B)FLUORANTHENE	ug/kg	380.00 U	400.00 U	390.00 U
BENZO(K) FLUORANTHENE	ug/kg	380.00 UJ	400.00 UJ	390.00 UJ
BENZO (A) PYRENE	ug/kg	380.00 U	400.00 U	390.00 U
INDENO (1,2,3-CD) PYRENE	ug/kg	380.00 U	400.00 U	390.00 U
DIBENZO (A,H) ANTHRACENE	ug/kg	380.00 U	400.00 U	390.00 U
BENZO (G,H,I) PERYLENE	ug/kg	380.00 U	400.00 U	390.00 U