

Table 2-15h Calculation of Dioxin-Furan TEQ Concentrations for Tidally-Biased Groundwater Sampling Results for the Second Water Bearing Zone – Aquatic Life Receptors

Analyte	TEF ¹	Low Tide								Halfway between Low Tide and High High Tide								High High Tide							
		PMW-9				PMW-10				PMW-9				PMW-10				PMW-9				PMW-10			
		5/8/2012		DAF		5/8/2012		DAF		5/8/2012		DAF		5/8/2012		DAF		5/8/2012		DAF		5/8/2012		DAF	
		Tidally-biased GW		8.79E+09		Tidally-biased GW		1.41E+08		Tidally-biased GW		8.79E+09		Tidally-biased GW		1.41E+08		Tidally-biased GW		8.79E+09		Tidally-biased GW		1.41E+08	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	1.08E-06	U	5.40E-07	6.15E-17	6.09E-07	U	3.05E-07	2.16E-15	8.67E-07	U	4.34E-07	4.93E-17	9.12E-07	U	4.56E-07	3.23E-15	9.32E-07	U	4.66E-07	5.30E-17	7.85E-07	U	3.93E-07	2.78E-15
1,2,3,7,8-PeCDD	1	1.33E-06	U	6.65E-07	7.57E-17	6.67E-07	U	3.34E-07	2.36E-15	1.07E-06	U	5.35E-07	6.09E-17	1.04E-06	U	5.20E-07	3.68E-15	1.09E-06	U	5.45E-07	6.20E-17	1.19E-06	U	5.95E-07	4.21E-15
1,2,3,4,7,8-HxCDD	0.5	9.18E-07	U	2.30E-07	2.61E-17	1.18E-06	U	2.95E-07	2.09E-15	7.21E-07	U	1.80E-07	2.05E-17	8.65E-07	U	2.16E-07	1.53E-15	1.49E-06	J	7.45E-07	8.48E-17	6.57E-07	U	1.64E-07	1.16E-15
1,2,3,6,7,8-HxCDD	0.01	6.27E-07	U	3.14E-09	3.57E-19	1.12E-06	U	5.60E-09	3.97E-17	6.40E-07	U	3.20E-09	3.64E-19	8.58E-07	U	4.29E-09	3.04E-17	1.44E-06	J	1.44E-08	1.64E-18	5.97E-07	U	2.99E-09	2.11E-17
1,2,3,7,8,9-HxCDD	0.01	5.73E-07	U	2.87E-09	3.26E-19	1.03E-06	U	5.15E-09	3.65E-17	5.95E-07	U	2.98E-09	3.39E-19	7.78E-07	U	3.89E-09	2.75E-17	1.08E-06	U	5.40E-09	6.15E-19	5.49E-07	U	2.75E-09	1.94E-17
1,2,3,4,6,7,8-HpCDD	0.001	1.66E-06	U	8.30E-10	9.45E-20	8.52E-07	U	4.26E-10	3.02E-18	5.84E-07	U	2.92E-10	3.32E-20	1.78E-06	U	8.90E-10	6.30E-18	1.99E-06	U	9.95E-10	1.13E-19	8.41E-07	U	4.21E-10	2.98E-18
1,2,3,4,6,7,8,9-OCDD	0.0001	3.05E-05	J	3.05E-09	3.47E-19	8.56E-06	J	8.56E-10	6.06E-18	2.72E-06	J	2.72E-10	3.10E-20	2.58E-06	N	2.58E-10	1.83E-18	3.30E-05	J	3.30E-09	3.76E-19	1.20E-06	J	1.20E-10	8.50E-19
2,3,7,8-TCDF	0.05	1.50E-06	J	7.50E-08	8.54E-18	1.05E-06	U	2.63E-08	1.86E-16	1.08E-06	U	2.70E-08	3.07E-18	1.20E-06	U	3.00E-08	2.12E-16	8.92E-07	U	2.23E-08	2.54E-18	7.34E-07	U	1.84E-08	1.30E-16
1,2,3,7,8-PeCDF	0.05	1.37E-06	U	3.43E-08	3.90E-18	9.31E-07	U	2.33E-08	1.65E-16	8.74E-07	U	2.19E-08	2.49E-18	2.54E-06	N	1.27E-07	8.99E-16	1.24E-06	U	3.10E-08	3.53E-18	8.39E-07	U	2.10E-08	1.49E-16
2,3,4,7,8-PeCDF	0.5	1.44E-06	U	3.60E-07	4.10E-17	9.96E-07	U	2.49E-07	1.76E-15	1.00E-06	U	2.50E-07	2.85E-17	1.21E-06	U	3.03E-07	2.14E-15	1.35E-06	U	3.38E-07	3.84E-17	9.94E-07	U	2.49E-07	1.76E-15
1,2,3,4,7,8-HxCDF	0.1	3.96E-07	U	1.98E-08	2.25E-18	2.60E-07	U	1.30E-08	9.21E-17	5.50E-07	U	2.75E-08	3.13E-18	5.35E-06	J	5.35E-07	3.79E-15	5.26E-07	U	2.63E-08	2.99E-18	5.57E-07	U	2.79E-08	1.97E-16
1,2,3,6,7,8-HxCDF	0.1	3.84E-07	U	1.92E-08	2.19E-18	2.53E-07	U	1.27E-08	8.96E-17	2.72E-07	U	1.36E-08	1.55E-18	9.67E-07	N	9.67E-08	6.85E-16	4.79E-07	U	2.40E-08	2.73E-18	2.53E-07	U	1.27E-08	8.96E-17
2,3,4,6,7,8-HxCDF	0.1	3.82E-07	U	1.91E-08	2.17E-18	2.53E-07	U	1.27E-08	8.96E-17	2.78E-07	U	1.39E-08	1.58E-18	1.16E-06	J	1.16E-07	8.21E-16	5.47E-07	U	2.74E-08	3.11E-18	2.58E-07	U	1.29E-08	9.13E-17
1,2,3,7,8,9-HxCDF	0.1	4.73E-07	U	2.37E-08	2.69E-18	3.13E-07	U	1.57E-08	1.11E-16	3.58E-07	U	1.79E-08	2.04E-18	2.30E-06	N	2.30E-07	1.63E-15	6.86E-07	U	3.43E-08	3.90E-18	3.33E-07	U	1.67E-08	1.18E-16
1,2,3,4,6,7,8-HpCDF	0.01	8.57E-07	U	4.29E-09	4.88E-19	5.72E-07	U	2.86E-09	2.03E-17	4.91E-07	U	2.46E-09	2.79E-19	3.20E-06	N	3.20E-08	2.27E-16	7.42E-07	U	3.71E-09	4.22E-19	4.00E-07	U	2.00E-09	1.42E-17
1,2,3,4,7,8,9-HpCDF	0.01	1.26E-06	U	6.30E-09	7.17E-19	8.48E-07	U	4.24E-09	3.00E-17	7.32E-07	U	3.66E-09	4.17E-19	5.16E-06	J	5.16E-08	3.65E-16	1.03E-06	U	5.15E-09	5.86E-19	5.65E-07	U	2.83E-09	2.00E-17
1,2,3,4,6,7,8,9-OCDF	0.0001	9.06E-07	U	4.53E-11	5.16E-21	1.22E-06	U	6.10E-11	4.32E-19	1.88E-06	U	9.40E-11	1.07E-20	6.87E-06	J	6.87E-10	4.86E-18	2.07E-06	U	1.04E-10	1.18E-20	1.18E-06	U	5.90E-11	4.18E-19
Total PCDD/PCDF TEQ - Aquatic Life		2.01E-06		2.28E-16		1.30E-06		9.24E-15		1.53E-06		1.75E-16		2.72E-06		1.93E-14		2.29E-06		2.61E-16		1.52E-06		1.08E-14	

Analyte	TEF ¹	Halfway between High High Tide and Low Tide								Low Low Tide							
		PMW-9				PMW-10				PMW-9				PMW-10			
		5/8/2012		DAF		5/8/2012		DAF		5/9/2012		DAF		5/9/2012		DAF	
		Tidally-biased GW		8.79E+09		Tidally-biased GW		1.41E+08		Tidally-biased GW		8.79E+09		Tidally-biased GW		1.41E+08	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	1.00E-06	U	5.00E-07	5.69E-17	9.96E-07	U	4.98E-07	3.53E-15	1.19E-06	U	5.95E-07	6.77E-17	1.58E-06	U	7.90E-07	5.59E-15
1,2,3,7,8-PeCDD	1	3.25E-06	U	1.63E-06	1.85E-16	3.11E-06	U	1.56E-06	1.10E-14	3.00E-06	U	1.50E-06	1.71E-16	4.28E-06	U	2.14E-06	1.52E-14
1,2,3,4,7,8-HxCDD	0.5	5.37E-06	U	1.34E-06	1.53E-16	4.81E-06	U	1.20E-06	8.52E-15	4.66E-06	U	1.17E-06	1.33E-16	6.52E-06	U	1.63E-06	1.15E-14
1,2,3,6,7,8-HxCDD	0.01	5.08E-06	U	2.54E-08	2.89E-18	4.30E-06	U	2.15E-08	1.52E-16	4.47E-06	U	2.24E-08	2.54E-18	6.06E-06	U	3.03E-08	2.15E-16
1,2,3,7,8,9-HxCDD	0.01	4.59E-06	U	2.30E-08	2.61E-18	3.98E-06	U	1.99E-08	1.41E-16	4.01E-06	U	2.01E-08	2.28E-18	5.52E-06	U	2.76E-08	1.95E-16
1,2,3,4,6,7,8-HpCDD	0.001	6.88E-06	U	3.44E-09	3.91E-19	7.32E-06	U	3.66E-09	2.59E-17	6.97E-06	U	3.49E-09	3.97E-19	8.32E-06	U	4.16E-09	2.95E-17
1,2,3,4,6,7,8,9-OCDD	0.0001	1.11E-05	U	5.55E-10	6.32E-20	9.31E-06	U	4.66E-10	3.30E-18	8.49E-06	U	4.25E-10	4.83E-20	1.19E-05	U	5.95E-10	4.21E-18
2,3,7,8-TCDF	0.05	5.00E-07	U	1.25E-08	1.42E-18	6.36E-07	U	1.59E-08	1.13E-16	5.17E-07	U	1.29E-08	1.47E-18	7.00E-07	U	1.75E-08	1.24E-16
1,2,3,7,8-PeCDF	0.05	8.15E-07	U	2.04E-08	2.32E-18	6.99E-07	U	1.75E-08	1.24E-16	6.43E-07	U	1.61E-08	1.83E-18	7.07E-07	U	1.77E-08	1.25E-16
2,3,4,7,8-PeCDF	0.5	9.82E-07	U	2.46E-07	2.79E-17	8.27E-07	U	2.07E-07	1.46E-15	7.86E-07	U	1.97E-07	2.24E-17	8.52E-07	U	2.13E-07	1.51E-15
1,2,3,4,7,8-HxCDF	0.1	3.41E-07	U	1.71E-08	1.94E-18	3.73E-07	U	1.87E-08	1.32E-16	4.20E-07	U	2.10E-08	2.39E-18	5.65E-07	U	2.83E-08	2.00E-16
1,2,3,6,7,8-HxCDF	0.1	3.05E-07	U	1.53E-08	1.74E-18	3.27E-07	U	1.64E-08	1.16E-16	3.72E-07	U	1.86E-08	2.12E-18	4.20E-07	U	2.10E-08	1.49E-16
2,3,4,6,7,8-HxCDF	0.1	3.15E-07	U	1.58E-08	1.79E-18	3.55E-07	U	1.78E-08	1.26E-16	3.94E-07	U	1.97E-08	2.24E-18	4.29E-07	U	2.15E-08	1.52E-16
1,2,3,7,8,9-HxCDF	0.1	7.76E-07	J	7.76E-08	8.83E-18	4.62E-07	U	2.31E-08	1.64E-16	4.98E-07	U	2.49E-08	2.83E-18	5.56E-07	U	2.78E-08	1.97E-16
1,2,3,4,6,7,8-HpCDF	0.01	6.81E-07	U	3.41E-09	3.88E-19	7.63E-07	U	3.82E-09	2.70E-17	6.36E-07	U	3.18E-09	3.62E-19	9.06E-07	U	4.53E-09	3.21E-17
1,2,3,4,7,8,9-HpCDF	0.01	1.11E-06	U	5.55E-09	6.32E-19	1.18E-06	U	5.90E-09	4.18E-17	9.55E-07	U	4.78E-09	5.43E-19	1.41E-06	U	7.05E-09	4.99E-17
1,2,3,4,6,7,8,9-OCDF	0.0001	1.64E-06	U	8.20E-11	9.33E-21	1.66E-06	U	8.30E-11	5.88E-19	1.70E-06	U	8.50E-11	9.67E-21	2.21E-06	U	1.11E-10	7.82E-19
Total PCDD/PCDF TEQ - Aquatic Life		3.93E-06		4.48E-16		3.63E-06		2.57E-14		3.62E-06		4.12E-16		4.98E-06		3.53E-14	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 1998.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

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TABLE 2-15I
Summary of Risk Screening Based on Tidally-Biased Groundwater Sampling Results for the First Water Bearing Zone - Radiological Materials of Potential Concern

Tidal Stage	Location	Sample Date	Cesium-137						Cobalt-60						Radium-226					
			Project Action Limit (Table 2-13)					3.52E+00	Project Action Limit (Table 2-13)					2.15E+00	Project Action Limit (Table 2-13)					8.11E+00
			Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.
Low Tide	PMW-9	05/08/12	-1.01E+00	U	5.54E+00	6.90E+00	2.42E+09	5.13E-09	-1.86E+00	U	6.54E+00	8.37E+00	5.55E+09	2.69E-09	1.39E+00	U	1.34E+01	1.45E+01	2.34E+07	1.19E-06
	PMW-10	05/08/12	-1.65E+00	U	6.02E+00	7.57E+00	7.72E+06	1.76E-06	9.82E-01	U	2.15E+00	3.06E+00	5.12E+07	1.02E-07	3.59E+00	U	1.29E+01	1.44E+01	4.86E+04	5.61E-04
	PMW-11	05/08/12	-3.07E+00	U	5.96E+00	7.62E+00	1.30E+06	1.05E-05	0.00E+00	U	8.54E+00	1.35E+00	9.72E+06	1.02E-06	3.99E+00	U	1.18E+01	1.37E+01	3.55E+04	7.19E-04
Halfway between Low Tide and High High Tide	PMW-9	05/08/12	-2.34E+00	U	5.71E+00	7.25E+00	2.42E+09	5.34E-09	1.73E+00	U	6.33E+00	2.59E+00	5.55E+09	1.61E-09	1.83E+01		1.00E+01	1.51E+01	2.34E+07	1.42E-06
	PMW-10	05/08/12	0.00E+00	U	4.04E+00	3.79E+00	7.72E+06	1.01E-06	8.93E-01	U	4.98E+00	6.24E+00	5.12E+07	2.19E-07	3.30E+00	U	1.17E+01	1.30E+01	4.86E+04	5.08E-04
	PMW-11	05/08/12	2.69E+00	U	3.52E+00	4.85E+00	1.30E+06	6.46E-06	7.38E-01	U	2.41E+00	3.26E+00	9.72E+06	5.83E-07	1.35E+01		1.02E+01	1.63E+01	3.55E+04	8.40E-04
	PMW-11 (dup)	05/08/12	2.14E+00	U	5.60E+00	7.25E+00	1.30E+06	9.92E-06	8.63E-01	U	2.70E+00	5.05E+00	9.72E+06	7.97E-07	5.22E+00	U	1.60E+01	1.52E+01	3.55E+04	8.80E-04
High High Tide	PMW-9	05/08/12	-9.83E-01	U	4.79E+00	5.97E+00	2.42E+09	4.44E-09	-1.45E+00	U	6.29E+00	7.89E+00	5.55E+09	2.55E-09	-2.93E+00	U	1.13E+01	2.28E+01	2.34E+07	1.45E-06
	PMW-10	05/08/12	0.00E+00	U	7.44E+00	5.14E+00	7.72E+06	1.63E-06	3.11E+00	U	6.05E+00	5.04E+00	5.12E+07	2.17E-07	1.84E+01		9.54E+00	1.36E+01	4.86E+04	6.58E-04
	PMW-11	05/08/12	7.22E-01	U	5.10E+00	6.29E+00	1.30E+06	8.79E-06	-1.44E+00	U	5.76E+00	7.26E+00	9.72E+06	1.34E-06	8.89E+00	U	1.16E+01	1.40E+01	3.55E+04	7.22E-04
Halfway between High High Tide and Low Tide	PMW-9	05/08/12	-2.10E+00	U	5.81E+00	7.35E+00	2.42E+09	5.43E-09	1.79E+00	U	5.21E+00	3.87E+00	5.55E+09	1.64E-09	-1.12E+00	U	1.35E+01	1.76E+01	2.34E+07	1.33E-06
	PMW-9 (dup)	05/08/12	-2.33E+00	U	5.51E+00	7.00E+00	2.42E+09	5.16E-09	2.30E+00	U	5.04E+00	6.61E+00	5.55E+09	2.10E-09	7.42E+00	U	1.13E+01	1.51E+01	2.34E+07	1.13E-06
	PMW-10	05/08/12	0.00E+00	U	8.54E+00	1.43E+00	7.72E+06	1.29E-06	9.60E-01	U	4.79E+00	6.06E+00	5.12E+07	2.12E-07	-7.20E-01	U	1.25E+01	1.51E+01	4.86E+04	5.68E-04
	PMW-11	05/08/12	-2.47E+00	U	5.23E+00	6.69E+00	1.30E+06	9.20E-06	-3.55E-01	U	5.55E+00	6.81E+00	9.72E+06	1.27E-06	-4.35E+00	U	1.09E+01	2.11E+01	3.55E+04	9.02E-04
Low Low Tide	PMW-9	05/09/12	-1.62E+00	U	5.70E+00	7.19E+00	2.42E+09	5.32E-09	-4.99E-01	U	5.74E+00	7.09E+00	5.55E+09	2.31E-09	-1.31E+01	U	1.35E+01	1.99E+02	2.34E+07	9.06E-06
	PMW-10	05/09/12	6.01E-01	U	4.19E+00	5.21E+00	7.72E+06	1.22E-06	2.35E+00	U	5.37E+00	7.05E+00	5.12E+07	2.43E-07	1.69E+00	U	1.36E+01	1.53E+01	4.86E+04	5.94E-04
	PMW-10 (dup)	05/09/12	3.42E-01	U	4.81E+00	5.89E+00	7.72E+06	1.39E-06	2.29E+00	U	4.23E+00	5.71E+00	5.12E+07	1.94E-07	8.29E+00	U	8.74E+00	1.10E+01	4.86E+04	4.06E-04
	PMW-11	05/09/12	-2.11E+00	U	6.22E+00	7.88E+00	1.30E+06	1.09E-05	1.78E+00	U	8.06E+00	1.01E+01	9.72E+06	1.87E-06	-2.31E+00	U	1.36E+01	1.96E+01	3.55E+04	9.36E-04

Tidal Stage	Location	Sample Date	Strontium-90						Thorium-232						Uranium 238					
			Project Action Limit (Table 2-13)					2.18E-01	Project Action Limit (Table 2-13)					6.02E-02	Project Action Limit (Table 2-13)					4.87E-02
			Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.
Low Tide	PMW-9	05/08/12	NT						NT						NT					
	PMW-10	05/08/12	3.40E-01	J	2.18E-01	2.41E-01	4.87E+04	1.19E-05	5.84E-02	U	9.80E-02	1.40E-01	1.41E+08	1.69E-09	-1.13E-02	U	1.59E-01	1.42E-01	7.18E+04	4.19E-06
	PMW-11	05/08/12	NT						NT						NT					
Halfway between Low Tide and High High Tide	PMW-9	05/08/12	NT						NT						NT					
	PMW-10	05/08/12	NT						NT						NT					
	PMW-11	05/08/12	NT						NT						NT					
	PMW-11 (dup)	05/08/12	NT						NT						NT					
High High Tide	PMW-9	05/08/12	6.74E-01	J	2.26E-01	2.77E-01	3.81E+07	2.49E-08	2.95E-03	U	1.06E-01	1.02E-01	8.79E+09	2.37E-11	1.45E-01	J	4.87E-02	1.68E-01	2.55E+05	1.23E-06
	PMW-10	05/08/12	NT						NT						NT					
	PMW-11	05/08/12	NT						NT						NT					
Halfway between High High Tide and Low Tide	PMW-9	05/08/12	NT						NT						NT					
	PMW-9 (dup)	05/08/12	NT						NT						NT					
	PMW-10	05/08/12	NT						NT						NT					
	PMW-11	05/08/12	NT						NT						NT					
Low Low Tide	PMW-9	05/09/12	NT						NT						NT					
	PMW-10	05/09/12	NT						NT						NT					
	PMW-10 (dup)	05/09/12	NT						NT						NT					
	PMW-11	05/09/12	2.67E-01	J	2.41E-01	2.52E-01	3.43E+04	1.51E-05	-1.59E-02	U	6.02E-02	2.25E-02	2.83E+07	2.92E-09	2.76E-03	U	9.94E-02	9.57E-02	5.27E+04	3.70E-06

Notes:
Results in picocuries per liter (pCi/l)
BW = bay water (measured GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
MDC = Minumum Detected Concentration
NT = not tested
Results are not validated
Bolded values are detections

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TABLE 2-15J
Summary of Risk Screening Based on Tidally-Biased Groundwater Sampling Results for the Second Water Bearing Zone - Radiological Materials of Potential Concern

Tidal Stage	Location	Sample Date	Cesium-137						Cobalt-60						Radium-226					
			Project Action Limit (Table 2-13)					3.52E+00	Project Action Limit (Table 2-13)					2.15E+00	Project Action Limit (Table 2-13)					8.11E+00
			Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.
Low Tide	PMW-9	05/08/12	2.67E+00	U	6.15E+00	7.98E+00	2.42E+09	5.83E-09	0.00E+00	U	2.72E+00	3.30E+00	5.55E+09	1.08E-09	1.81E+01		1.08E+01	1.72E+01	2.34E+07	1.51E-06
	PMW-10	05/08/12	-1.98E+00	U	5.08E+00	6.45E+00	7.72E+06	1.49E-06	1.86E+00	U	5.96E+00	7.58E+00	5.12E+07	2.65E-07	1.30E+01		1.23E+01	1.77E+01	4.86E+04	6.31E-04
Halfway between Low Tide and High High Tide	PMW-9	05/08/12	-2.38E+00	U	6.50E+00	8.19E+00	2.42E+09	6.06E-09	-1.62E-01	U	7.61E+00	9.27E+00	5.55E+09	3.04E-09	3.16E+01		8.11E+00	1.30E+01	2.34E+07	1.90E-06
	PMW-10	05/08/12	2.53E+00	U	4.28E+00	5.75E+00	7.72E+06	1.30E-06	2.60E+00	U	4.11E+00	5.88E+00	5.12E+07	1.95E-07	-3.69E+00	U	1.33E+01	2.53E+01	4.86E+04	7.94E-04
High High Tide	PMW-9	05/08/12	6.72E-01	U	4.77E+00	5.90E+00	2.42E+09	4.40E-09	-2.07E+00	U	6.06E+00	7.76E+00	5.55E+09	2.49E-09	1.10E+01	U	1.20E+01	1.70E+01	2.34E+07	1.24E-06
	PMW-10	05/08/12	-2.04E+00	U	6.37E+00	1.16E+02	7.72E+06	1.58E-05	-5.19E+00	U	8.32E+00	8.29E+01	5.12E+07	1.78E-06	1.77E+00	U	1.25E+01	1.37E+01	4.86E+04	5.39E-04
Halfway between High High Tide and Low Tide	PMW-9	05/08/12	-4.15E+00	U	6.02E+00	2.43E+01	2.42E+09	1.25E-08	-8.86E+00	U	9.48E+00	6.06E+01	5.55E+09	1.26E-08	-1.61E+00	U	1.20E+01	9.63E+00	2.34E+07	9.23E-07
	PMW-10	05/08/12	-2.31E+00	U	6.79E+00	9.25E+01	7.72E+06	1.29E-05	-6.13E+00	U	7.24E+00	3.92E+02	5.12E+07	7.81E-06	-7.51E+00	U	1.24E+01	4.27E+01	4.86E+04	1.13E-03
Low Low Tide	PMW-9	05/09/12	3.55E+00	U	4.99E+00	6.57E+00	2.42E+09	4.77E-09	1.75E+00	U	6.04E+00	3.57E+00	5.55E+09	1.73E-09	-1.53E+00	U	1.20E+01	1.80E+01	2.34E+07	1.28E-06
	PMW-10	05/09/12	-2.31E+00	U	8.00E+00	9.25E+01	7.72E+06	1.30E-05	-7.18E+00	U	8.01E+00	1.22E+02	5.12E+07	2.54E-06	-1.91E-02	U	1.26E+01	1.37E+01	4.86E+04	5.41E-04

Notes:
Results in picocuries per liter (pCi/l)
BW = bay water (measured GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
MDC = Minumum Detected Concentration
NT = not tested
Results are not validated
Bolded values are detections

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Table 2-16a Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the First Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-1			PMW-5			PMW-8			PMW-9			PMW-10		
				02-1526			02-1528			02-1530			02-1532			02-1534		
				5/16/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/17/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated
				GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW
Volatile Organic Compounds																		
1,1,1,2-Tetrachloroethane	630-20-6	1.10E+01	8260B	9.00E-02 U	N/A	N/A	9.00E-02 U	N/A	N/A	9.00E-02 U	N/A	N/A	9.00E-02 U	N/A	N/A	9.00E-02 U	N/A	N/A
1,1,1-Trichloroethane	71-55-6	3.12E+03	8260B	6.90E-02 U	N/A	N/A	6.90E-02 U	N/A	N/A	6.90E-02 U	N/A	N/A	6.90E-02 U	N/A	N/A	6.90E-02 U	N/A	N/A
1,1,2,2-Tetrachloroethane	79-34-5	1.10E+01	8260B	9.80E-02 U	N/A	N/A	9.80E-02 U	N/A	N/A	9.80E-02 U	N/A	N/A	9.80E-02 U	N/A	N/A	9.80E-02 U	N/A	N/A
1,1,2-Trichloro-1,2,2-Trichfluoroethane	76-13-1	6.40E+03	8260B	1.01E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A
1,1,2-Trichloroethane	79-00-5	4.20E+01	8260B	1.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A
1,1-Dichloroethane	75-34-3	9.90E+01	8260B	6.80E-02 U	N/A	N/A	6.80E-02 U	N/A	N/A	6.80E-02 U	N/A	N/A	6.80E-02 U	N/A	N/A	6.80E-02 U	N/A	N/A
1,1-Dichloroethene	75-35-4	3.20E+00	8260B	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
1,1-Dichloropropene	563-58-6	1.70E+03	8260B	7.90E-02 U	N/A	N/A	7.90E-02 U	N/A	N/A	7.90E-02 U	N/A	N/A	7.90E-02 U	N/A	N/A	7.90E-02 U	N/A	N/A
1,2,3-Trichlorobenzene	87-61-6	7.00E+01	8260B	8.70E-02 U	N/A	N/A	1.48E-01 J	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A
1,2,3-Trichloropropane	96-18-4	3.90E+01	8260B	1.53E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A
1,2,4-Trichlorobenzene	120-82-1	7.00E+01	8260B	7.80E-02 U	N/A	N/A	1.17E-01 J	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A
1,2,4-Trimethylbenzene	95-63-6	7.10E+01	8260B	8.40E-02 U	N/A	N/A	8.40E-02 U	N/A	N/A	1.58E-01 J	N/A	N/A	8.40E-02 U	N/A	N/A	8.40E-02 U	N/A	N/A
1,2-Dibromo-3-Chloropropane	96-12-8	3.90E+01	8260B	4.11E-01 U	N/A	N/A	4.11E-01 U	N/A	N/A	4.11E-01 U	N/A	N/A	4.11E-01 U	N/A	N/A	4.11E-01 U	N/A	N/A
1,2-Dibromoethane	106-93-4	9.90E+01	8260B	1.28E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A
1,2-Dichlorobenzene	95-50-1	1.29E+02	8260B	6.00E-02 U	N/A	N/A	1.08E-01 J	N/A	N/A	6.00E-02 U	N/A	N/A	6.00E-02 U	N/A	N/A	6.00E-02 U	N/A	N/A
1,2-Dichloroethane	107-06-2	9.90E+01	8260B	1.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A
1,2-Dichloropropane	78-87-5	3.90E+01	8260B	9.70E-02 U	N/A	N/A	9.70E-02 U	N/A	N/A	9.70E-02 U	N/A	N/A	9.70E-02 U	N/A	N/A	9.70E-02 U	N/A	N/A
1,3,5-Trimethylbenzene	108-67-8	7.10E+01	8260B	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A	1.34E-01 J	N/A	N/A	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A
1,3-Dichlorobenzene	541-73-1	1.29E+02	8260B	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A
1,3-Dichloropropane	142-28-9	3.90E+01	8260B	7.20E-02 U	N/A	N/A	7.20E-02 U	N/A	N/A	7.20E-02 U	N/A	N/A	7.20E-02 U	N/A	N/A	7.20E-02 U	N/A	N/A
1,4-Dichlorobenzene	106-46-7	1.29E+02	8260B	1.16E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A
2,2-Dichloropropane	594-20-7	3.90E+01	8260B	1.42E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A
2-Butanone	78-93-3	NE	8260B	5.18E-01 U	N/A	N/A	5.18E-01 U	N/A	N/A	5.18E-01 U	N/A	N/A	5.18E-01 U	N/A	N/A	5.18E-01 U	N/A	N/A
2-Chlorotoluene	95-49-8	2.10E+04	8260B	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A
2-Hexanone	591-78-6	NE	8260B	2.24E-01 U	N/A	N/A	2.24E-01 U	N/A	N/A	2.24E-01 U	N/A	N/A	2.24E-01 U	N/A	N/A	2.24E-01 U	N/A	N/A
4-Chlorotoluene	106-43-4	2.10E+04	8260B	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A
4-Isopropyltoluene	99-87-6	7.10E+01	8260B	8.50E-02 U	N/A	N/A	8.50E-02 U	N/A	N/A	8.50E-02 U	N/A	N/A	8.50E-02 U	N/A	N/A	8.50E-02 U	N/A	N/A
4-Methyl-2-pentanone	108-10-1	NE	8260B	1.21E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A
Acetone	67-64-1	NE	8260B	3.44E-01 U	N/A	N/A	3.44E-01 U	N/A	N/A	8.89E+00 J	N/A	N/A	3.44E-01 U	N/A	N/A	3.44E-01 U	N/A	N/A
Benzene	71-43-2	7.10E+01	8260B	6.40E-02 U	N/A	N/A	2.02E-01 J	N/A	N/A	1.64E-01 J	N/A	N/A	6.40E-02 U	N/A	N/A	3.41E-01 J	N/A	N/A
Bromobenzene	108-86-1	2.10E+04	8260B	7.60E-02 U	N/A	N/A	7.60E-02 U	N/A	N/A	7.60E-02 U	N/A	N/A	7.60E-02 U	N/A	N/A	7.60E-02 U	N/A	N/A
Bromodichloromethane	75-27-4	4.60E+01	8260B	8.80E-02 U	N/A	N/A	8.80E-02 U	N/A	N/A	8.80E-02 U	N/A	N/A	8.80E-02 U	N/A	N/A	8.80E-02 U	N/A	N/A
Bromoform	75-25-2	3.60E+02	8260B	1.66E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A
Bromomethane	74-83-9	4.00E+03	8260B	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A
Carbon Disulfide	75-15-0	NE	8260B	5.10E-02 U	N/A	N/A	5.10E-02 U	N/A	N/A	1.36E-01 J	N/A	N/A	5.10E-02 U	N/A	N/A	5.10E-02 U	N/A	N/A
Carbon Tetrachloride	56-23-5	4.40E+00	8260B	1.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A
Chlorobenzene	108-90-7	2.10E+04	8260B	1.48E-01 U	N/A	N/A	1.48E-01 U	N/A	N/A	1.48E-01 U	N/A	N/A	1.48E-01 U	N/A	N/A	1.48E-01 U	N/A	N/A
Chloroethane	75-00-3	9.90E+01	8260B	9.90E-02 U	N/A	N/A	9.90E-02 U	N/A	N/A	9.90E-02 U	N/A	N/A	9.90E-02 U	N/A	N/A	9.90E-02 U	N/A	N/A
Chloroform	67-66-3	4.70E+02	8260B	1.02E-01 U	N/A	N/A	1.02E-01 U	N/A	N/A	1.02E-01 U	N/A	N/A	1.02E-01 U	N/A	N/A	1.02E-01 U	N/A	N/A
Chloromethane	74-87-3	6.40E+03	8260B	7.70E-02 U	N/A	N/A	7.70E-02 U	N/A	N/A	7.70E-02 U	N/A	N/A	7.70E-02 U	N/A	N/A	7.70E-02 U	N/A	N/A
cis-1,2-Dichloroethene	156-59-2	1.40E+05	8260B	1.27E+00	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A	2.14E-01 J	N/A	N/A	1.39E-01 J	N/A	N/A
cis-1,3-Dichloropropene	10061-01-5	1.70E+03	8260B	7.30E-02 U	N/A	N/A	7.30E-02 U	N/A	N/A	7.30E-02 U	N/A	N/A	7.30E-02 U	N/A	N/A	7.30E-02 U	N/A	N/A
Dibromochloromethane	124-48-1	3.40E+01	8260B	1.27E-01 U	N/A	N/A	1.27E-01 U	N/A	N/A	1.27E-01 U	N/A	N/A	1.27E-01 UJ	N/A	N/A	1.27E-01 U	N/A	N/A
Dibromomethane	74-95-3	4.00E+03	8260B	2.10E-01 U	N/A	N/A	2.10E-01 U	N/A	N/A	2.10E-01 U	N/A	N/A	2.10E-01 U	N/A	N/A	2.10E-01 U	N/A	N/A
Dichlorodifluoromethane	75-71-8	6.40E+03	8260B	8.40E-02 UJ	N/A	N/A	8.40E-02 UJ	N/A	N/A	8.40E-02 UJ	N/A	N/A	8.40E-02 UJ	N/A	N/A	8.40E-02 UJ	N/A	N/A
Ethylbenzene	100-41-4	2.90E+04	8260B	8.60E-02 U	N/A	N/A	8.60E-02 U	N/A	N/A	8.60E-02 U	N/A	N/A	8.60E-02 U	N/A	N/A	8.60E-02 U	N/A	N/A
Hexachlorobutadiene	87-68-3	5.00E+01	8260B	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A
Isopropylbenzene	98-82-8	7.10E+01	8260B	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	1.28E-01 J	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
Methyl tert-Butyl Ether	1634-04-4	1.80E+04	8260B	1.14E-01 U	N/A	N/A	1.14E-01 U	N/A	N/A	1.14E-01 U	N/A	N/A	1.14E-01 U	N/A	N/A</			

Table 2-16a Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the First Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-1			PMW-5			PMW-8			PMW-9			PMW-10		
				02-1526			02-1528			02-1530			02-1532			02-1534		
				5/16/2012 GW	Table 2-17 DAF	Estimated BW	5/16/2012 GW	Table 2-17 DAF	Estimated BW	5/16/2012 GW	Table 2-17 DAF	Estimated BW	5/17/2012 GW	Table 2-17 DAF	Estimated BW	5/16/2012 GW	Table 2-17 DAF	Estimated BW
trans-1,2-Dichloroethene	156-60-5	1.40E+05	8260B	1.20E-01 J	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
trans-1,3-Dichloropropene	10061-02-6	1.70E+03	8260B	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
Trichloroethene	79-01-6	8.10E+01	8260B	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A
Trichlorofluoromethane	75-69-4	6.40E+03	8260B	1.13E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A
Vinyl Chloride	75-01-4	5.25E+02	8260B	1.80E-01 J	N/A	N/A	8.40E-02 U	N/A	N/A	8.40E-02 U	N/A	N/A	7.00E-01 J	N/A	N/A	8.40E-02 U	N/A	N/A
Semi-Volatile Organic Compounds																		
2,4-Dimethylphenol	105-67-9	2.30E+03	8270C	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A
bis(2-Chloroethyl) ether	111-44-4	1.40E+00	8270C	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A
bis(2-Ethylhexyl) phthalate	117-81-7	5.90E+00	8270C	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A
Polycyclic Aromatic Hydrocarbons (PAHs)																		
Acenaphthene	83-32-9	2.70E+03	8270_SIM	5.36E-02 J	N/A	N/A	7.49E-01	N/A	N/A	1.35E+00	N/A	N/A	4.40E-01	N/A	N/A	7.10E-01	N/A	N/A
Acenaphthylene	208-96-8	3.00E+01	8270_SIM	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A
Anthracene	120-12-7	1.10E+05	8270_SIM	2.10E-02 U	N/A	N/A	5.30E-02 J	N/A	N/A	7.77E-02 J	N/A	N/A	3.31E-02 J	N/A	N/A	4.00E-02 J	N/A	N/A
Benzo(a)anthracene	56-55-3	4.90E-02	8270_SIM	2.50E-02 U	1.39E+06	8.96E-09	2.50E-02 U	3.45E+05	3.62E-08	2.50E-02 U	2.21E+06	5.65E-09	2.50E-02 U	6.49E+09	1.93E-12	2.50E-02 U	7.24E+07	1.73E-10
Benzo(a)pyrene	50-32-8	4.90E-02	8270_SIM	2.50E-02 U	3.06E+03	4.08E-06	2.50E-02 U	8.02E+03	1.56E-06	2.50E-02 U	1.13E+04	1.11E-06	2.50E-02 U	2.37E+08	5.28E-11	2.50E-02 U	8.29E+04	1.51E-07
Benzo(b)fluoranthene	205-99-2	4.90E-02	8270_SIM	3.10E-02 U	1.63E+05	9.51E-08	3.10E-02 U	1.36E+05	1.14E-07	3.10E-02 U	2.07E+05	7.49E-08	3.10E-02 U	2.71E+09	5.72E-12	3.10E-02 U	1.00E+07	1.55E-09
Benzo(g,h,i)perylene	191-24-2	4.90E-02	8270_SIM	2.10E-02 U	2.83E+06	3.71E-09	2.10E-02 U	4.72E+05	2.22E-08	2.10E-02 U	4.72E+06	2.22E-09	1.30E-01 J	8.79E+09	1.48E-11	2.10E-02 U	1.41E+08	7.44E-11
Benzo(k)Fluoranthene	207-08-9	4.90E-02	8270_SIM	3.40E-02 U	2.83E+06	6.00E-09	3.40E-02 U	4.72E+05	3.60E-08	3.40E-02 U	4.72E+06	3.60E-09	3.40E-02 U	8.79E+09	1.93E-12	3.40E-02 U	1.41E+08	1.20E-10
Chrysene	218-01-9	4.90E-02	8270_SIM	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A
Dibenzo(a,h)anthracene	53-70-3	4.90E-02	8270_SIM	2.80E-02 U	3.55E+05	3.94E-08	2.80E-02 U	1.90E+05	7.38E-08	2.80E-02 U	4.95E+05	2.83E-08	2.80E-02 U	3.69E+09	3.79E-12	2.80E-02 U	2.03E+07	6.88E-10
Fluoranthene	206-44-0	3.70E+02	8270_SIM	1.28E-01 J	N/A	N/A	9.98E-02 J	N/A	N/A	4.30E-02 J	N/A	N/A	7.76E-02 J	N/A	N/A	7.93E-02 J	N/A	N/A
Fluorene	86-73-7	1.40E+04	8270_SIM	5.34E-02 J	N/A	N/A	7.81E-02 J	N/A	N/A	7.03E-01	N/A	N/A	5.26E-02 J	N/A	N/A	1.25E-01 J	N/A	N/A
Indeno(1,2,3-cd)pyrene	193-39-5	4.90E-02	8270_SIM	2.90E-02 U	2.66E+03	5.45E-06	2.90E-02 U	1.27E+03	1.14E-05	2.90E-02 U	9.68E+03	1.50E-06	2.90E-02 U	2.84E+07	5.10E-10	2.90E-02 U	4.85E+04	2.99E-07
Naphthalene	91-20-3	2.35E+02	8270_SIM	3.95E-02 J	3.88E+03	1.02E-05	6.75E-01	2.51E+03	2.69E-04	1.06E+01	1.46E+04	7.25E-04	9.40E-01	2.12E+05	4.44E-06	4.38E+00	7.06E+04	6.20E-05
Phenanthrene	85-01-8	3.00E+01	8270_SIM	1.61E-01 J	N/A	N/A	8.29E-02 J	N/A	N/A	5.29E-01	N/A	N/A	1.19E-01 J	N/A	N/A	1.79E-01 J	N/A	N/A
Pyrene	129-00-0	1.10E+04	8270_SIM	3.09E-02 J	N/A	N/A	5.25E-02 J	N/A	N/A	2.30E-02 U	N/A	N/A	5.90E-02 J	N/A	N/A	6.24E-02 J	N/A	N/A
BaP _{equiv}	- -	4.90E-02	8270_SIM	2.31E-01	3.06E+03	7.55E-05	2.31E-01	8.02E+03	2.88E-05	2.31E-01	1.13E+04	2.05E-05	2.31E-01	2.37E+08	9.76E-10	2.31E-01	8.29E+04	2.79E-06
Total Metals																		
Antimony	7440-36-0	4.30E+03	6020A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A
Arsenic	7440-38-2	3.60E+01	6020A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A
Barium	7440-39-3	1.00E+03	6020A	2.83E+02	N/A	N/A	5.18E+02	N/A	N/A	5.60E+01 J	N/A	N/A	4.33E+01	N/A	N/A	7.50E+02	N/A	N/A
Beryllium	7440-41-7	NE	6020A	1.75E+01 U	N/A	N/A	1.75E+01 U	N/A	N/A	1.75E+01 U	N/A	N/A	3.50E+00 U	N/A	N/A	1.75E+01 U	N/A	N/A
Cadmium	7440-43-9	9.30E+00	6020A	1.00E+00 U	2.83E+06	1.77E-07	1.00E+00 U	4.72E+05	1.06E-06	1.09E+01	4.72E+06	2.31E-06	1.00E+00 U	8.79E+09	5.69E-11	1.00E+00 U	1.41E+08	3.54E-09
Chromium	7440-47-3	5.00E+01	6020A	3.26E+01 U	3.13E+03	5.21E-03	3.26E+01 U	9.42E+03	1.73E-03	3.26E+01 U	1.15E+04	1.42E-03	3.26E+01 U	2.70E+08	6.03E-08	3.26E+01 U	9.32E+04	1.75E-04
Cobalt	7440-48-4	NE	6020A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A
Copper	7440-50-8	3.10E+00	6020A	4.50E+00 U	3.08E+05	7.30E-06	4.50E+00 U	1.79E+05	1.26E-05	2.84E+01 J	4.23E+05	6.71E-05	4.50E+00 U	3.49E+09	6.45E-10	4.50E+00 U	1.79E+07	1.26E-07
Lead	7439-92-1	8.10E+00	6020A	3.19E+01	2.83E+06	1.13E-05	1.70E+00 U	4.72E+05	1.80E-06	3.20E+00 J	4.72E+06	6.78E-07	1.70E+00 U	8.79E+09	9.67E-11	1.70E+00 U	1.41E+08	6.02E-09
Manganese	7439-96-5	1.00E+02	6020A	9.96E+01	3.83E+03	2.60E-02	1.12E+02	2.46E+03	4.55E-02	3.06E+02	1.45E+04	2.12E-02	3.09E+02	1.95E+05	1.59E-03	5.60E+01	6.97E+04	8.04E-04
Mercury	7439-97-6	5.10E-02	7470A	6.00E-02 UJ	2.83E+06	1.06E-08	6.00E-02 UJ	4.72E+05	6.36E-08	6.00E-02 UJ	4.72E+06	6.36E-09	6.00E-02 UJ	8.79E+09	3.41E-12	6.00E-02 UJ	1.41E+08	2.12E-10
Molybdenum	7439-98-7	NE	6020A	1.00E+01 U	N/A	N/A	1.00E+01 U	N/A	N/A	1.00E+01 U	N/A	N/A	1.00E+01 U	N/A	N/A	1.00E+01 U	N/A	N/A
Nickel	7440-02-0	8.20E+00	6020A	4.00E+00 U	2.83E+06	7.06E-07	4.00E+00 U	4.72E+05	4.24E-06	1.89E+01 J	4.72E+06	4.00E-06	5.00E+00 J	8.79E+09	5.69E-10	4.00E+00 U	1.41E+08	1.42E-08
Selenium	7782-49-2	7.10E+01	6020A	1.59E+01 U	N/A	N/A	1.59E+01 U	N/A	N/A	1.59E+01 U	N/A	N/A	1.59E+01 U	N/A	N/A	1.59E+01 U	N/A	N/A
Silver	7440-22-4	1.90E+00	6020A	5.00E-01 U	9.63E+05	2.60E-07	5.00E-01 U	2.93E+05	8.52E-07	3.50E+00 J	1.48E+06	2.36E-06	2.50E+00 J	5.55E+09	4.50E-10	5.00E-01 U	5.12E+07	4.89E-09
Thallium	7440-28-0	6.30E+00	6020A	5.60E+00 J	3.89E+03	1.44E-03	1.59E+01 J	2.52E+03	6.31E-03	5.50E+00 U	1.47E+04	1.88E-04	1.03E+01 J	2.18E+05	4.73E-05	5.50E+00 U	7.08E+04	3.88E-05
Zinc	7440-66-6	8.10E+01	6020A	8.29E+01 U	2.83E+06	1.46E-05	8.29E+01 U	4.72E+05	8.78E-05	1.15E+02 J	4.72E+06	2.44E-05	8.29E+01 U	8.79E+09	4.72E-09			

Table 2-16a Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the First Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-1			PMW-5			PMW-8			PMW-9			PMW-10		
				02-1526			02-1528			02-1530			02-1532			02-1534		
				5/16/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/17/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated
				GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW
Pesticides																		
4,4'-DDD	72-54-8	8.40E-04	8081A	1.00E-02 U	1.82E+06	2.74E-09	1.00E-02 U	3.89E+05	1.29E-08	1.00E-02 U	2.95E+06	1.70E-09	1.00E-02 U	7.27E+09	6.88E-13	1.00E-02 U	9.31E+07	5.37E-11
4,4'-DDE	72-55-9	5.90E-04	8081A	1.00E-02 U	2.83E+06	1.77E-09	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+06	1.06E-09	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11
4,4'-DDT	50-29-3	5.90E-04	8081A	1.00E-02 U	2.83E+06	1.77E-09	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+06	1.06E-09	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11
Aldrin	309-00-2	1.40E-04	8081A	1.00E-02 U	2.83E+06	1.77E-09	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+06	1.06E-09	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11
alpha-Benzene Hexachloride (BHC)	319-84-6	1.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
alpha-Chlordane	5103-71-9	5.90E-04	8081A	1.00E-02 U	2.83E+06	1.77E-09	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+06	1.06E-09	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11
beta-BHC	319-85-7	4.60E-02	8081A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A	2.40E-02 N	N/A	N/A	1.30E-02 U	N/A	N/A
delta-BHC	319-86-8	6.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Dieldrin	60-57-1	1.40E-04	8081A	1.00E-02 U	8.10E+05	6.17E-09	1.00E-02 U	2.72E+05	1.84E-08	1.00E-02 U	1.23E+06	4.07E-09	1.00E-02 U	5.17E+09	9.68E-13	1.00E-02 U	4.35E+07	1.15E-10
Endosulfan I	959-98-8	8.70E-03	8081A	1.00E-02 U	6.75E+04	7.41E-08	1.00E-02 U	9.35E+04	5.35E-08	1.00E-02 U	7.70E+04	6.50E-08	1.00E-02 U	1.93E+09	2.59E-12	1.00E-02 U	4.54E+06	1.10E-09
Endosulfan II	33213-65-9	8.70E-03	8081A	1.00E-02 U	6.75E+04	7.41E-08	1.00E-02 U	9.35E+04	5.35E-08	1.00E-02 U	7.70E+04	6.50E-08	1.00E-02 U	1.93E+09	2.59E-12	1.00E-02 U	4.54E+06	1.10E-09
Endosulfan Sulfate	1031-07-8	2.40E+02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Endrin	72-20-8	2.30E-03	8081A	1.70E-02 U	1.26E+04	6.76E-07	1.70E-02 U	4.47E+04	1.90E-07	1.70E-02 U	1.64E+04	5.19E-07	1.70E-02 U	1.01E+09	8.45E-12	1.70E-02 U	9.76E+05	8.71E-09
Endrin Aldehyde	7421-93-4	8.10E-01	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Endrin Ketone	53494-70-5	2.30E-03	8081A	1.00E-02 U	2.83E+06	1.77E-09	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+06	1.06E-09	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11
gamma-BHC (Lindane)	58-89-9	6.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
gamma-Chlordane	5566-34-7	5.90E-04	8081A	1.00E-02 U	2.83E+06	1.77E-09	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+06	1.06E-09	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11
Heptachlor	76-44-8	2.10E-04	8081A	1.00E-02 U	7.32E+03	6.83E-07	1.00E-02 U	3.34E+04	1.50E-07	1.00E-02 U	1.29E+04	3.87E-07	1.70E-02 N	7.81E+08	2.18E-11	1.00E-02 U	5.48E+05	9.12E-09
Heptachlor Epoxide	1024-57-3	1.10E-04	8081A	1.70E-02 U	2.83E+06	3.00E-09	1.70E-02 U	4.72E+05	1.80E-08	1.70E-02 U	4.72E+06	1.80E-09	1.70E-02 U	8.79E+09	9.67E-13	1.70E-02 U	1.41E+08	6.02E-11
Methoxychlor	72-43-5	3.00E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Toxaphene	8001-35-2	7.50E-04	8081A	6.60E-01 U	2.83E+06	1.17E-07	6.60E-01 U	4.72E+05	6.99E-07	6.60E-01 U	4.72E+06	6.99E-08	6.60E-01 U	8.79E+09	3.76E-11	6.60E-01 U	1.41E+08	2.34E-09
Polychlorinated Biphenyls (PCBs)																		
Aroclor 1016	12674-11-2	1.70E-04	8082	2.41E-01 U	3.25E+03	3.71E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.22E+04	9.88E-06	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06
Aroclor 1221	11104-28-2	1.70E-04	8082	2.41E-01 U	3.25E+03	3.71E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.22E+04	9.88E-06	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06
Aroclor 1232	11141-16-5	1.70E-04	8082	2.41E-01 U	3.25E+03	3.71E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.22E+04	9.88E-06	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06
Aroclor 1242	53469-21-9	1.70E-04	8082	2.41E-01 U	3.25E+03	3.71E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.22E+04	9.88E-06	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06
Aroclor 1248	12672-29-6	1.70E-04	8082	2.41E-01 U	3.25E+03	3.71E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.22E+04	9.88E-06	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06
Aroclor 1254	11097-69-1	1.70E-04	8082	1.66E-01 U	2.68E+03	3.10E-05	1.66E-01 U	1.25E+03	6.64E-05	1.66E-01 U	9.77E+03	8.50E-06	1.66E-01 U	2.45E+07	3.38E-09	1.66E-01 U	4.86E+04	1.71E-06
Aroclor 1260	11096-82-5	1.70E-04	8082	1.66E-01 U	4.31E+04	1.93E-06	1.66E-01 U	7.74E+04	1.07E-06	1.66E-01 U	4.74E+04	1.75E-06	1.66E-01 U	1.63E+09	5.09E-11	1.66E-01 U	3.04E+06	2.73E-08
Aroclor 1268	11100-14-4	1.70E-04	8082	1.66E-01 U	3.25E+03	2.55E-05	1.66E-01 U	1.79E+03	4.64E-05	1.66E-01 U	1.22E+04	6.80E-06	1.66E-01 U	2.40E+06	3.46E-08	1.66E-01 U	5.80E+04	1.43E-06
Dioxin TEQ Calculations																		
Total PCDD/PCDF TEQ - Human	--	1.40E-08	calculated	3.34E-06	2.83E+06	1.18E-12	3.35E-06	4.72E+05	7.10E-12	4.37E-06	4.72E+06	9.26E-13	1.63E-06	8.79E+09	1.85E-16	3.19E-06	1.41E+08	2.26E-14
Total PCDD/PCDF TEQ - Aquatic Life	--	1.40E-08	calculated	3.98E-06	2.83E+06	1.40E-12	3.99E-06	4.72E+05	8.45E-12	5.96E-06	4.72E+06	1.26E-12	1.87E-06	8.79E+09	2.12E-16	3.73E-06	1.41E+08	2.64E-14

Notes:

Bolded values are detections

Bold TEQ concentrations indicate that one or more congeners were detected

Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.

Results are validated

Results in micrograms per liter (ug/L)

Gray shaded cells represent a measured concentration or method detection limit in groundwater

or estimated concentration in bay water is greater than the Project Action Limit

Data Qualifiers:

U = not detected at or above the laboratory method detection limit listed

UJ = not detected at or above the estimated method detection limit listed

J = estimated concentration

N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (measured GW concentration / dilution attenuation factor)

GW = groundwater

N/A = not applicable because the measured groundwater concentration or method detection limit is less than the Project Action Limit

NE = not established

NT = not tested

Table 2-16a Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the First Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-11 02-1536			PMW-12 02-1538			PMW-13 02-1540			PMW-16 02-1542			M033-A 02-1544			M033-A (Dup) 02-1544D		
				5/15/2012	Table 2-17	Estimated	5/17/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/17/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated
				GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW
Pesticides																					
4,4'-DDD	72-54-8	8.40E-04	8081A	1.00E-02 U	1.83E+07	2.73E-10	1.00E-02 U	4.84E+05	1.03E-08	1.00E-02 U	1.86E+07	2.69E-10	1.00E-02 U	4.82E+11	1.04E-14	1.00E-02 U	4.82E+11	1.04E-14	1.00E-02 U	4.82E+11	1.04E-14
4,4'-DDE	72-55-9	5.90E-04	8081A	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	6.59E+05	7.59E-09	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15
4,4'-DDT	50-29-3	5.90E-04	8081A	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	6.59E+05	7.59E-09	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15
Aldrin	309-00-2	1.40E-04	8081A	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	6.59E+05	7.59E-09	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15
alpha-Benzene Hexachloride (BHC)	319-84-6	1.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
alpha-Chlordane	5103-71-9	5.90E-04	8081A	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	6.59E+05	7.59E-09	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15
beta-BHC	319-85-7	4.60E-02	8081A	2.10E-02 N	N/A	N/A	3.00E-02 N	N/A	N/A	2.60E-02 N	N/A	N/A	1.60E-02 N	N/A	N/A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A
delta-BHC	319-86-8	6.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Dieldrin	60-57-1	1.40E-04	8081A	1.00E-02 U	8.19E+06	6.10E-10	1.00E-02 U	2.77E+05	1.81E-08	1.00E-02 U	8.55E+06	5.85E-10	1.00E-02 U	2.40E+11	2.08E-14	1.00E-02 U	2.40E+11	2.08E-14	1.00E-02 U	2.40E+11	2.08E-14
Endosulfan I	959-98-8	8.70E-03	8081A	1.00E-02 U	7.37E+05	6.78E-09	1.00E-02 U	5.15E+04	9.72E-08	1.00E-02 U	8.01E+05	6.24E-09	1.00E-02 U	3.20E+10	1.56E-13	1.00E-02 U	3.20E+10	1.56E-13	1.00E-02 U	3.20E+10	1.56E-13
Endosulfan II	33213-65-9	8.70E-03	8081A	1.00E-02 U	7.37E+05	6.78E-09	1.00E-02 U	5.15E+04	9.72E-08	1.00E-02 U	8.01E+05	6.24E-09	1.00E-02 U	3.20E+10	1.56E-13	1.00E-02 U	3.20E+10	1.56E-13	1.00E-02 U	3.20E+10	1.56E-13
Endosulfan Sulfate	1031-07-8	2.40E+02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Endrin	72-20-8	2.30E-03	8081A	1.70E-02 U	1.60E+05	5.31E-08	1.70E-02 U	1.56E+04	5.45E-07	1.70E-02 U	1.37E+05	6.20E-08	1.70E-02 U	8.22E+09	1.03E-12	1.70E-02 U	8.22E+09	1.03E-12	1.70E-02 U	8.22E+09	1.03E-12
Endrin Aldehyde	7421-93-4	8.10E-01	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Endrin Ketone	53494-70-5	2.30E-03	8081A	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	6.59E+05	7.59E-09	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15
gamma-BHC (Lindane)	58-89-9	6.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
gamma-Chlordane	5566-34-7	5.90E-04	8081A	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	6.59E+05	7.59E-09	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15	1.00E-02 U	7.09E+11	7.05E-15
Heptachlor	76-44-8	2.10E-04	8081A	1.00E-02 U	9.99E+04	5.01E-08	1.00E-02 U	9.67E+03	5.17E-07	1.00E-02 U	6.47E+04	7.73E-08	1.00E-02 UJ	4.82E+09	1.04E-12	1.00E-02 U	4.82E+09	1.04E-12	1.00E-02 U	4.82E+09	1.04E-12
Heptachlor Epoxide	1024-57-3	1.10E-04	8081A	1.70E-02 U	2.83E+07	3.00E-10	1.70E-02 U	6.59E+05	1.29E-08	1.70E-02 U	2.83E+07	3.00E-10	1.70E-02 U	7.09E+11	1.20E-14	1.70E-02 U	7.09E+11	1.20E-14	1.70E-02 U	7.09E+11	1.20E-14
Methoxychlor	72-43-5	3.00E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Toxaphene	8001-35-2	7.50E-04	8081A	6.60E-01 U	2.83E+07	1.17E-08	6.60E-01 U	6.59E+05	5.01E-07	6.60E-01 U	2.83E+07	1.17E-08	6.60E-01 U	7.09E+11	4.65E-13	6.60E-01 U	7.09E+11	4.65E-13	6.60E-01 U	7.09E+11	4.65E-13
Polychlorinated Biphenyls (PCBs)																					
Aroclor 1016	12674-11-2	1.70E-04	8082	2.41E-01 U	4.38E+04	2.75E-06	2.41E-01 U	2.56E+03	4.71E-05	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1221	11104-28-2	1.70E-04	8082	2.41E-01 U	4.38E+04	2.75E-06	2.41E-01 U	2.56E+03	4.71E-05	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1232	11141-16-5	1.70E-04	8082	2.41E-01 U	4.38E+04	2.75E-06	2.41E-01 U	2.56E+03	4.71E-05	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1242	53469-21-9	1.70E-04	8082	2.41E-01 U	4.38E+04	2.75E-06	2.41E-01 U	2.56E+03	4.71E-05	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1248	12672-29-6	1.70E-04	8082	2.41E-01 U	4.38E+04	2.75E-06	2.41E-01 U	2.56E+03	4.71E-05	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1254	11097-69-1	1.70E-04	8082	1.66E-01 U	3.53E+04	2.35E-06	1.66E-01 U	2.16E+03	3.84E-05	1.66E-01 U	2.25E+03	3.69E-05	1.66E-01 U	8.47E+05	9.80E-08	1.66E-01 U	8.47E+05	9.80E-08	1.66E-01 U	8.47E+05	9.80E-08
Aroclor 1260	11096-82-5	1.70E-04	8082	1.66E-01 U	4.85E+05	1.71E-07	1.66E-01 U	3.80E+04	2.19E-06	1.66E-01 U	5.16E+05	1.61E-07	1.66E-01 U	2.25E+10	3.69E-12	1.66E-01 U	2.25E+10	3.69E-12	1.66E-01 U	2.25E+10	3.69E-12
Aroclor 1268	11100-14-4	1.70E-04	8082	1.66E-01 U	4.38E+04	1.89E-06	1.66E-01 U	2.56E+03	3.24E-05	1.66E-01 U	2.24E+03	3.71E-05	1.66E-01 U	1.54E+04	5.39E-06	1.66E-01 U	1.54E+04	5.39E-06	1.66E-01 U	1.54E+04	5.39E-06
Dioxin TEQ Calculations																					
Total PCDD/PCDF TEQ - Human	--	1.40E-08	calculated	1.41E-06	2.83E+07	4.98E-14	3.07E-06	6.59E+05	4.66E-12	1.66E-06	2.83E+07	5.88E-14	3.15E-06	7.09E+11	4.44E-18	3.63E-06	7.09E+11	5.11E-18	3.21E-06	7.09E+11	4.53E-18
Total PCDD/PCDF TEQ - Aquatic Life	--	1.40E-08	calculated	1.57E-06	2.83E+07	5.54E-14	3.59E-06	6.59E+05	5.45E-12	1.88E-06	2.83E+07	6.65E-14	3.33E-06	7.09E+11	4.70E-18	4.18E-06	7.09E+11	5.90E-18	3.80E-06	7.09E+11	5.36E-18

Notes:

Bolded values are detections

Bold TEQ concentrations indicate that one or more congeners were detected

Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were de

Results are validated

Results in micrograms per liter (ug/L)

Gray shaded cells represent a measured concentration or method detection limit in or estimated concentration in bay water is greater than the Project Action Limit

Data Qualifiers:

U = not detected at or above the laboratory method detection limit listed

UJ = not detected at or above the estimated method detection limit listed

J = estimated concentration

N = analysis indicates the presence of an analyte for which there is presumptive ev

Abbreviations:

BW = bay water (measured GW concentration / dilution attenuation factor)

GW = groundwater

N/A = not applicable because the measured groundwater concentration or method detection limit is less than the Project Action Limit

NE = not established

NT = not tested

Table 2-16b Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the Second Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-5			PMW-5 (Dup)			PMW-9			PMW-10			PMW-13			PMW-16		
				02-1529			02-1529D			02-1533			02-1535			02-1541			02-1543		
				5/16/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated
				GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW
Volatile Organic Compounds																					
1,1,1,2-Tetrachloroethane	630-20-6	1.10E+01	8260B	9.00E-02 U	N/A	N/A	9.00E-02 U	N/A	N/A	4.50E-01 U	N/A	N/A	4.50E-01 U	N/A	N/A	9.00E-02 U	N/A	N/A	9.00E-02 U	N/A	N/A
1,1,1-Trichloroethane	71-55-6	3.12E+03	8260B	6.90E-02 U	N/A	N/A	6.90E-02 U	N/A	N/A	3.45E-01 U	N/A	N/A	3.45E-01 U	N/A	N/A	6.90E-02 U	N/A	N/A	6.90E-02 U	N/A	N/A
1,1,2,2-Tetrachloroethane	79-34-5	1.10E+01	8260B	9.80E-02 U	N/A	N/A	9.80E-02 U	N/A	N/A	4.90E-01 U	N/A	N/A	4.90E-01 U	N/A	N/A	9.80E-02 U	N/A	N/A	9.80E-02 U	N/A	N/A
1,1,2-Trichloro-1,2,2-Trichfluoroethane	76-13-1	6.40E+03	8260B	1.01E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A	5.05E-01 U	N/A	N/A	5.05E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A	1.01E-01 U	N/A	N/A
1,1,2-Trichloroethane	79-00-5	4.20E+01	8260B	1.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A	7.50E-01 U	N/A	N/A	7.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A	1.50E-01 U	N/A	N/A
1,1-Dichloroethane	75-34-3	9.90E+01	8260B	6.80E-02 U	N/A	N/A	6.80E-02 U	N/A	N/A	3.40E-01 U	N/A	N/A	3.40E-01 U	N/A	N/A	6.80E-02 U	N/A	N/A	6.80E-02 U	N/A	N/A
1,1-Dichloroethene	75-35-4	3.20E+00	8260B	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	4.15E-01 U	N/A	N/A	4.15E-01 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
1,1-Dichloropropene	563-58-6	1.70E+03	8260B	7.90E-02 U	N/A	N/A	7.90E-02 U	N/A	N/A	3.95E-01 U	N/A	N/A	3.95E-01 U	N/A	N/A	7.90E-02 U	N/A	N/A	7.90E-02 U	N/A	N/A
1,2,3-Trichlorobenzene	87-61-6	7.00E+01	8260B	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A	4.35E-01 U	N/A	N/A	4.35E-01 U	N/A	N/A	8.70E-02 U	N/A	N/A	8.70E-02 U	N/A	N/A
1,2,3-Trichloropropane	96-18-4	3.90E+01	8260B	1.53E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A	7.65E-01 U	N/A	N/A	7.65E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A	1.53E-01 U	N/A	N/A
1,2,4-Trichlorobenzene	120-82-1	7.00E+01	8260B	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	3.90E-01 U	N/A	N/A	3.90E-01 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A
1,2,4-Trimethylbenzene	95-63-6	7.10E+01	8260B	3.27E+00	N/A	N/A	3.53E+00	N/A	N/A	1.01E+01	N/A	N/A	8.78E+00	N/A	N/A	8.40E-02 U	N/A	N/A	8.40E-02 U	N/A	N/A
1,2-Dibromo-3-Chloropropane	96-12-8	3.90E+01	8260B	4.11E-01 U	N/A	N/A	4.11E-01 U	N/A	N/A	2.06E+00 U	N/A	N/A	2.06E+00 U	N/A	N/A	4.11E-01 U	N/A	N/A	4.11E-01 U	N/A	N/A
1,2-Dibromoethane	106-93-4	9.90E+01	8260B	1.28E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A	6.40E-01 U	N/A	N/A	6.40E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A	1.28E-01 U	N/A	N/A
1,2-Dichlorobenzene	95-50-1	1.29E+02	8260B	6.00E-02 U	N/A	N/A	6.00E-02 U	N/A	N/A	3.00E-01 U	N/A	N/A	3.00E-01 U	N/A	N/A	6.00E-02 U	N/A	N/A	6.00E-02 U	N/A	N/A
1,2-Dichloroethane	107-06-2	9.90E+01	8260B	1.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A	5.00E-01 U	N/A	N/A	5.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A	1.00E-01 U	N/A	N/A
1,2-Dichloropropane	78-87-5	3.90E+01	8260B	9.70E-02 U	N/A	N/A	9.70E-02 U	N/A	N/A	4.85E-01 U	N/A	N/A	4.85E-01 U	N/A	N/A	9.70E-02 U	N/A	N/A	9.70E-02 U	N/A	N/A
1,3,5-Trimethylbenzene	108-67-8	7.10E+01	8260B	7.17E-01 J	N/A	N/A	7.58E-01 J	N/A	N/A	2.95E+00 J	N/A	N/A	2.65E+00 J	N/A	N/A	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A
1,3-Dichlorobenzene	541-73-1	1.29E+02	8260B	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	3.90E-01 U	N/A	N/A	3.90E-01 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A
1,3-Dichloropropane	142-28-9	3.90E+01	8260B	7.20E-02 U	N/A	N/A	7.20E-02 U	N/A	N/A	3.60E-01 U	N/A	N/A	3.60E-01 U	N/A	N/A	7.20E-02 U	N/A	N/A	7.20E-02 U	N/A	N/A
1,4-Dichlorobenzene	106-46-7	1.29E+02	8260B	1.16E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A	5.80E-01 U	N/A	N/A	5.80E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A	1.16E-01 U	N/A	N/A
2,2-Dichloropropane	594-20-7	3.90E+01	8260B	1.42E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A	7.10E-01 U	N/A	N/A	7.10E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A	1.42E-01 U	N/A	N/A
2-Butanone	78-93-3	NE	8260B	5.18E-01 U	N/A	N/A	5.18E-01 U	N/A	N/A	2.59E+00 U	N/A	N/A	2.59E+00 U	N/A	N/A	5.18E-01 U	N/A	N/A	5.18E-01 U	N/A	N/A
2-Chlorotoluene	95-49-8	2.10E+04	8260B	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A	3.90E-01 U	N/A	N/A	3.90E-01 U	N/A	N/A	7.80E-02 U	N/A	N/A	7.80E-02 U	N/A	N/A
2-Hexanone	591-78-6	NE	8260B	2.24E-01 U	N/A	N/A	2.24E-01 U	N/A	N/A	1.12E+00 U	N/A	N/A	1.12E+00 U	N/A	N/A	2.24E-01 U	N/A	N/A	2.24E-01 U	N/A	N/A
4-Chlorotoluene	106-43-4	2.10E+04	8260B	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A	4.05E-01 U	N/A	N/A	4.05E-01 U	N/A	N/A	8.10E-02 U	N/A	N/A	8.10E-02 U	N/A	N/A
4-Isopropyltoluene	99-87-6	7.10E+01	8260B	8.50E-02 U	N/A	N/A	8.50E-02 U	N/A	N/A	4.25E-01 U	N/A	N/A	4.25E-01 U	N/A	N/A	8.50E-02 U	N/A	N/A	8.50E-02 U	N/A	N/A
4-Methyl-2-pentanone	108-10-1	NE	8260B	1.21E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A	6.05E-01 U	N/A	N/A	6.05E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A	1.21E-01 U	N/A	N/A
Acetone	67-64-1	NE	8260B	3.44E-01 U	N/A	N/A	3.44E-01 U	N/A	N/A	1.72E+00 U	N/A	N/A	1.72E+00 U	N/A	N/A	5.22E+00 J	N/A	N/A	3.44E-01 U	N/A	N/A
Benzene	71-43-2	7.10E+01	8260B	8.10E+00	N/A	N/A	8.19E+00	N/A	N/A	1.21E+00 J	N/A	N/A	1.72E+00 J	N/A	N/A	6.40E-02 U	N/A	N/A	6.40E-02 U	N/A	N/A
Bromobenzene	108-86-1	2.10E+04	8260B	7.60E-02 U	N/A	N/A	7.60E-02 U	N/A	N/A	3.80E-01 U	N/A	N/A	3.80E-01 U	N/A	N/A	7.60E-02 U	N/A	N/A	7.60E-02 U	N/A	N/A
Bromodichloromethane	75-27-4	4.60E+01	8260B	8.80E-02 U	N/A	N/A	8.80E-02 U	N/A	N/A	4.40E-01 U	N/A	N/A	4.40E-01 U	N/A	N/A	8.80E-02 U	N/A	N/A	8.80E-02 U	N/A	N/A
Bromoform	75-25-2	3.60E+02	8260B	1.66E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A	8.30E-01 U	N/A	N/A	8.30E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A	1.66E-01 U	N/A	N/A
Bromomethane	74-83-9	4.00E+03	8260B	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	1.25E+00 U	N/A	N/A	1.25E+00 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A
Carbon Disulfide	75-15-0	NE	8260B	5.10E-02 U	N/A	N/A	5.10E-02 U	N/A	N/A	2.55E-01 U	N/A	N/A	2.55E-01 U	N/A	N/A	5.10E-02 U	N/A	N/A	1.86E-01 J	N/A	N/A
Carbon Tetrachloride	56-23-5	4.40E+00	8260B	1.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A	6.25E-01 U	N/A	N/A	6.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A	1.25E-01 U	N/A	N/A
Chlorobenzene	108-90-7	2.10E+04	8260B	2.26E+01	N/A	N/A	2.25E+01	N/A	N/A	7.40E-01 U	N/A	N/A	7.40E-01 U	N/A	N/A	1.48E-01 U	N/A	N/A	1.48E-01 U	N/A	N/A
Chloroethane	75-00-3	9.90E+01	8260B	9.90E-02 U	N/A	N/A	9.90E-02 U														

Table 2-16b Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the Second Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-5			PMW-5 (Dup)			PMW-9			PMW-10			PMW-13			PMW-16		
				02-1529			02-1529D			02-1533			02-1535			02-1541			02-1543		
				5/16/2012 GW	Table 2-17 DAF	Estimated BW	5/16/2012 GW	Table 2-17 DAF	Estimated BW	5/15/2012 GW	Table 2-17 DAF	Estimated BW	5/15/2012 GW	Table 2-17 DAF	Estimated BW	5/16/2012 GW	Table 2-17 DAF	Estimated BW	5/15/2012 GW	Table 2-17 DAF	Estimated BW
trans-1,2-Dichloroethene	156-60-5	1.40E+05	8260B	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	4.15E-01 U	N/A	N/A	4.15E-01 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
trans-1,3-Dichloropropene	10061-02-6	1.70E+03	8260B	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A	4.15E-01 U	N/A	N/A	4.15E-01 U	N/A	N/A	8.30E-02 U	N/A	N/A	8.30E-02 U	N/A	N/A
Trichloroethene	79-01-6	8.10E+01	8260B	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A	1.25E+00 U	N/A	N/A	1.25E+00 U	N/A	N/A	2.50E-01 U	N/A	N/A	2.50E-01 U	N/A	N/A
Trichlorofluoromethane	75-69-4	6.40E+03	8260B	1.13E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A	5.65E-01 U	N/A	N/A	5.65E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A	1.13E-01 U	N/A	N/A
Vinyl Chloride	75-01-4	5.25E+02	8260B	8.40E-02 U	N/A	N/A	8.40E-02 U	N/A	N/A	4.20E-01 U	N/A	N/A	4.20E-01 U	N/A	N/A	8.40E-02 U	N/A	N/A	8.40E-02 U	N/A	N/A
Semi-Volatile Organic Compounds																					
2,4-Dimethylphenol	105-67-9	2.30E+03	8270C	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	2.69E+01	N/A	N/A	1.11E+02	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A
bis(2-Chloroethyl) ether	111-44-4	1.40E+00	8270C	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A
bis(2-Ethylhexyl) phthalate	117-81-7	5.90E+00	8270C	2.14E+00 J	N/A	N/A	1.36E+00 J	N/A	N/A	1.00E+00 U	N/A	N/A	2.22E+00 J	N/A	N/A	1.00E+00 U	N/A	N/A	1.00E+00 U	N/A	N/A
Polycyclic Aromatic Hydrocarbons (PAHs)																					
Acenaphthene	83-32-9	2.70E+03	8270_SIM	3.78E+01	N/A	N/A	3.84E+01	N/A	N/A	4.29E+00	N/A	N/A	8.07E+00	N/A	N/A	3.63E-02 J	N/A	N/A	2.00E-02 U	N/A	N/A
Acenaphthylene	208-96-8	3.00E+01	8270_SIM	2.00E-02 UJ	N/A	N/A	2.00E-02 UJ	N/A	N/A	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A	2.00E-02 U	N/A	N/A
Anthracene	120-12-7	1.10E+05	8270_SIM	5.77E-01 J	N/A	N/A	6.11E-01 J	N/A	N/A	4.43E-02 J	N/A	N/A	2.10E-02 U	N/A	N/A	2.10E-02 U	N/A	N/A	2.10E-02 U	N/A	N/A
Benzo(a)anthracene	56-55-3	4.90E-02	8270_SIM	2.50E-02 UJ	3.45E+05	3.62E-08	2.50E-02 UJ	3.45E+05	3.62E-08	2.50E-02 U	6.49E+09	1.93E-12	2.50E-02 U	7.24E+07	1.73E-10	2.50E-02 U	1.44E+07	8.70E-10	2.50E-02 U	3.83E+11	3.27E-14
Benzo(a)pyrene	50-32-8	4.90E-02	8270_SIM	2.50E-02 UJ	8.02E+03	1.56E-06	2.50E-02 UJ	8.02E+03	1.56E-06	2.50E-02 U	2.37E+08	5.28E-11	2.50E-02 U	8.29E+04	1.51E-07	2.50E-02 U	2.59E+03	4.83E-06	2.50E-02 U	3.66E+08	3.41E-11
Benzo(b)fluoranthene	205-99-2	4.90E-02	8270_SIM	3.10E-02 UJ	1.36E+05	1.14E-07	3.10E-02 UJ	1.36E+05	1.14E-07	3.10E-02 U	2.71E+09	5.72E-12	3.10E-02 U	1.00E+07	1.55E-09	3.10E-02 U	1.87E+06	8.31E-09	3.10E-02 U	6.43E+10	2.41E-13
Benzo(g,h,i)perylene	191-24-2	4.90E-02	8270_SIM	2.10E-02 UJ	4.72E+05	2.22E-08	2.10E-02 UJ	4.72E+05	2.22E-08	2.10E-02 U	8.79E+09	1.19E-12	2.10E-02 U	1.41E+08	7.44E-11	2.10E-02 U	2.83E+07	3.71E-10	2.10E-02 U	7.09E+11	1.48E-14
Benzo(k)Fluoranthene	207-08-9	4.90E-02	8270_SIM	3.40E-02 UJ	4.72E+05	3.60E-08	3.40E-02 UJ	4.72E+05	3.60E-08	3.40E-02 U	8.79E+09	1.93E-12	3.40E-02 U	1.41E+08	1.20E-10	3.40E-02 U	2.83E+07	6.00E-10	3.40E-02 U	7.09E+11	2.40E-14
Chrysene	218-01-9	4.90E-02	8270_SIM	2.60E-02 UJ	N/A	N/A	2.60E-02 UJ	N/A	N/A	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A	2.60E-02 U	N/A	N/A
Dibenzo(a,h)anthracene	53-70-3	4.90E-02	8270_SIM	2.80E-02 UJ	1.90E+05	7.38E-08	2.80E-02 UJ	1.90E+05	7.38E-08	2.80E-02 U	3.69E+09	3.79E-12	2.80E-02 U	2.03E+07	6.88E-10	2.80E-02 U	3.91E+06	3.58E-09	2.80E-02 U	1.21E+11	1.16E-13
Fluoranthene	206-44-0	3.70E+02	8270_SIM	4.70E-01 J	N/A	N/A	4.98E-01 J	N/A	N/A	3.40E-02 J	N/A	N/A	6.75E-02 J	N/A	N/A	1.28E-01 J	N/A	N/A	1.13E-01 J	N/A	N/A
Fluorene	86-73-7	1.40E+04	8270_SIM	6.59E+00 J	N/A	N/A	6.34E+00 J	N/A	N/A	1.42E-01 J	N/A	N/A	2.97E+00	N/A	N/A	2.24E-02 J	N/A	N/A	2.00E-02 U	N/A	N/A
Indeno(1,2,3-cd)pyrene	193-39-5	4.90E-02	8270_SIM	2.90E-02 UJ	1.27E+03	1.14E-05	2.90E-02 UJ	1.27E+03	1.14E-05	2.90E-02 U	2.84E+07	5.10E-10	2.90E-02 U	4.85E+04	2.99E-07	2.90E-02 U	2.32E+03	6.25E-06	2.90E-02 U	1.48E+06	9.81E-09
Naphthalene	91-20-3	2.35E+02	8270_SIM	1.45E+02	2.51E+03	5.78E-02	1.47E+02	2.51E+03	5.86E-02	4.79E+02	2.12E+05	2.26E-03	2.97E+02	7.06E+04	4.21E-03	5.43E-02 J	3.19E+03	1.70E-05	1.17E-01 J	1.74E+04	6.74E-06
Phenanthrene	85-01-8	3.00E+01	8270_SIM	9.25E+00	N/A	N/A	9.01E+00	N/A	N/A	5.86E-02 J	N/A	N/A	1.70E+00	N/A	N/A	7.46E-02 J	N/A	N/A	4.86E-02 J	N/A	N/A
Pyrene	129-00-0	1.10E+04	8270_SIM	2.40E-01 J	N/A	N/A	2.44E-01 J	N/A	N/A	2.36E-02 J	N/A	N/A	4.21E-02 J	N/A	N/A	1.68E-01 J	N/A	N/A	1.10E-01 J	N/A	N/A
BaP _{equiv}	--	4.90E-02	8270_SIM	2.31E-01	8.02E+03	2.88E-05	2.31E-01	8.02E+03	2.88E-05	2.31E-01	2.37E+08	9.76E-10	2.31E-01	8.29E+04	2.79E-06	2.31E-01	2.59E+03	8.92E-05	2.31E-01	3.66E+08	6.31E-10
Total Metals																					
Antimony	7440-36-0	4.30E+03	6020A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A	1.67E+01 U	N/A	N/A
Arsenic	7440-38-2	3.60E+01	6020A	1.30E+01 J	N/A	N/A	1.22E+01 J	N/A	N/A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A	1.18E+01 U	N/A	N/A
Barium	7440-39-3	1.00E+03	6020A	1.69E+02	N/A	N/A	1.71E+02	N/A	N/A	4.32E+02	N/A	N/A	2.12E+02	N/A	N/A	4.34E+02	N/A	N/A	4.74E+02	N/A	N/A
Beryllium	7440-41-7	NE	6020A	1.75E+01 U	N/A	N/A	1.75E+01 U	N/A	N/A	3.50E+00 U	N/A	N/A	3.50E+00 U	N/A	N/A	3.50E+00 U	N/A	N/A	3.50E+00 U	N/A	N/A
Cadmium	7440-43-9	9.30E+00	6020A	1.00E+00 U	4.72E+05	1.06E-06	1.00E+00 U	4.72E+05	1.06E-06	1.00E+00 U	8.79E+09	5.69E-11	1.00E+00 U	1.41E+08	3.54E-09	1.00E+00 U	2.83E+07	1.77E-08	1.00E+00 U	7.09E+11	7.05E-13
Chromium	7440-47-3	5.00E+01	6020A	3.26E+01 U	9.42E+03	1.73E-03	3.26E+01 U	9.42E+03	1.73E-03	3.26E+01 U	2.70E+08	6.03E-08	3.26E+01 U	9.32E+04	1.75E-04	3.26E+01 U	2.96E+03	5.51E-03	3.26E+01 U	4.91E+08	3.32E-08
Cobalt	7440-48-4	NE	6020A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.20E+00 U	N/A	N/A	2.30E+00 J	N/A	N/A
Copper	7440-50-8	3.10E+00	6020A	7.00E+00 J	1.79E+05	3.92E-05	7.30E+00 J	1.79E+05	4.09E-05	4.50E+00 U	3.49E+09	6.45E-10	4.90E+00 J	1.79E+07	2.74E-07	4.50E+00 U	3.42E+06	6.58E-07	4.50E+00 U	1.08E+11	2.09E-11
Lead	7439-92-1	8.10E+00	6020A	1.70E+00 U	4.72E+05	1.80E-06	1.70E+00 U	4.72E+05	1.80E-06	1.70E+00 U	8.79E+09	9.67E-11	1.70E+00 U	1.41E+08	6.02E-09	1.70E+00 U	2.83E+07	3.00E-08	1.70E+00 U	7.09E+11	1.20E-12
Manganese	7439-96-5	1.00E+02	6020A	8.87E+02	2.46E+03	3.61E-01	8.63E+02	2.46E+03	3.51E-01	4.08E+											

Table 2-16b Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the Second Water Bearing Zone - Chemicals of Potential Concern

Analyte	Cas rn	Project Action Limits (Table 2-13)	Method	PMW-5			PMW-5 (Dup)			PMW-9			PMW-10			PMW-13			PMW-16		
				02-1529			02-1529D			02-1533			02-1535			02-1541			02-1543		
				5/16/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated	5/16/2012	Table 2-17	Estimated	5/15/2012	Table 2-17	Estimated
				GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW	GW	DAF	BW
Pesticides																					
4,4'-DDD	72-54-8	8.40E-04	8081A	1.00E-02 U	3.89E+05	1.29E-08	1.00E-02 U	3.89E+05	1.29E-08	1.00E-02 U	7.27E+09	6.88E-13	1.00E-02 U	9.31E+07	5.37E-11	1.00E-02 U	1.86E+07	2.69E-10	1.00E-02 U	4.82E+11	1.04E-14
4,4'-DDE	72-55-9	5.90E-04	8081A	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15
4,4'-DDT	50-29-3	5.90E-04	8081A	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15
Aldrin	309-00-2	1.40E-04	8081A	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15
alpha-Benzene Hexachloride (BHC)	319-84-6	1.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
alpha-Chlordane	5103-71-9	5.90E-04	8081A	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15
beta-BHC	319-85-7	4.60E-02	8081A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A	1.30E-02 U	N/A	N/A
delta-BHC	319-86-8	6.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.20E-02 N	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	2.20E-02 N	N/A	N/A
Dieldrin	60-57-1	1.40E-04	8081A	1.00E-02 U	2.72E+05	1.84E-08	1.00E-02 U	2.72E+05	1.84E-08	1.00E-02 U	5.17E+09	9.68E-13	1.00E-02 U	4.35E+07	1.15E-10	1.00E-02 U	8.55E+06	5.85E-10	1.00E-02 U	2.40E+11	2.08E-14
Endosulfan I	959-98-8	8.70E-03	8081A	1.00E-02 U	9.35E+04	5.35E-08	1.00E-02 U	9.35E+04	5.35E-08	1.00E-02 U	1.93E+09	2.59E-12	1.00E-02 U	4.54E+06	1.10E-09	1.00E-02 U	8.01E+05	6.24E-09	1.00E-02 U	3.20E+10	1.56E-13
Endosulfan II	33213-65-9	8.70E-03	8081A	1.00E-02 U	9.35E+04	5.35E-08	1.00E-02 U	9.35E+04	5.35E-08	1.00E-02 U	1.93E+09	2.59E-12	1.00E-02 U	4.54E+06	1.10E-09	1.00E-02 U	8.01E+05	6.24E-09	1.00E-02 U	3.20E+10	1.56E-13
Endosulfan Sulfate	1031-07-8	2.40E+02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Endrin	72-20-8	2.30E-03	8081A	1.70E-02 U	4.47E+04	1.90E-07	1.70E-02 U	4.47E+04	1.90E-07	1.70E-02 U	1.01E+09	8.45E-12	1.70E-02 U	9.76E+05	8.71E-09	1.70E-02 U	1.37E+05	6.20E-08	1.70E-02 U	8.22E+09	1.03E-12
Endrin Aldehyde	7421-93-4	8.10E-01	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Endrin Ketone	53494-70-5	2.30E-03	8081A	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15
gamma-BHC (Lindane)	58-89-9	6.30E-02	8081A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
gamma-Chlordane	5566-34-7	5.90E-04	8081A	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	4.72E+05	1.06E-08	1.00E-02 U	8.79E+09	5.69E-13	1.00E-02 U	1.41E+08	3.54E-11	1.00E-02 U	2.83E+07	1.77E-10	1.00E-02 U	7.09E+11	7.05E-15
Heptachlor	76-44-8	2.10E-04	8081A	1.00E-02 U	3.34E+04	1.50E-07	1.00E-02 U	3.34E+04	1.50E-07	1.00E-02 U	7.81E+08	6.40E-12	1.30E-02 N	5.48E+05	2.37E-08	1.00E-02 U	6.47E+04	7.73E-08	1.00E-02 U	4.82E+09	1.04E-12
Heptachlor Epoxide	1024-57-3	1.10E-04	8081A	1.70E-02 U	4.72E+05	1.80E-08	1.70E-02 U	4.72E+05	1.80E-08	1.70E-02 U	8.79E+09	9.67E-13	1.70E-02 U	1.41E+08	6.02E-11	1.70E-02 U	2.83E+07	3.00E-10	1.70E-02 U	7.09E+11	1.20E-14
Methoxychlor	72-43-5	3.00E-02	8081A	1.40E-02 J	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A	1.00E-02 U	N/A	N/A
Toxaphene	8001-35-2	7.50E-04	8081A	6.60E-01 U	4.72E+05	6.99E-07	6.60E-01 U	4.72E+05	6.99E-07	6.60E-01 U	8.79E+09	3.76E-11	6.60E-01 U	1.41E+08	2.34E-09	6.60E-01 U	2.83E+07	1.17E-08	6.60E-01 U	7.09E+11	4.65E-13
Polychlorinated Biphenyls (PCBs)																					
Aroclor 1016	12674-11-2	1.70E-04	8082	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1221	11104-28-2	1.70E-04	8082	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1232	11141-16-5	1.70E-04	8082	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1242	53469-21-9	1.70E-04	8082	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1248	12672-29-6	1.70E-04	8082	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	1.79E+03	6.73E-05	2.41E-01 U	2.40E+06	5.03E-08	2.41E-01 U	5.80E+04	2.08E-06	2.41E-01 U	2.24E+03	5.38E-05	2.41E-01 U	1.54E+04	7.82E-06
Aroclor 1254	11097-69-1	1.70E-04	8082	1.66E-01 U	1.25E+03	6.64E-05	1.66E-01 U	1.25E+03	6.64E-05	1.66E-01 U	2.45E+07	3.38E-09	1.66E-01 U	4.86E+04	1.71E-06	1.66E-01 U	2.25E+03	3.69E-05	1.66E-01 U	8.47E+05	9.80E-08
Aroclor 1260	11096-82-5	1.70E-04	8082	1.66E-01 U	7.74E+04	1.07E-06	1.66E-01 U	7.74E+04	1.07E-06	1.66E-01 U	1.63E+09	5.09E-11	1.66E-01 U	3.04E+06	2.73E-08	1.66E-01 U	5.16E+05	1.61E-07	1.66E-01 U	2.25E+10	3.69E-12
Aroclor 1268	11100-14-4	1.70E-04	8082	1.66E-01 U	1.79E+03	4.64E-05	1.66E-01 U	1.79E+03	4.64E-05	1.66E-01 U	2.40E+06	3.46E-08	1.66E-01 U	5.80E+04	1.43E-06	1.66E-01 U	2.24E+03	3.71E-05	1.66E-01 U	1.54E+04	5.39E-06
Dioxin TEQ Calculations																					
Total PCDD/PCDF TEQ - Human	--	1.40E-08	calculated	3.15E-06	4.72E+05	6.68E-12	3.28E-06	4.72E+05	6.95E-12	1.94E-06	8.79E+09	2.20E-16	1.49E-06	1.41E+08	1.06E-14	2.01E-06	2.83E+07	7.10E-14	4.82E-06	7.09E+11	6.80E-18
Total PCDD/PCDF TEQ - Aquatic Life	--	1.40E-08	calculated	3.79E-06	4.72E+05	8.03E-12	3.83E-06	4.72E+05	8.12E-12	2.07E-06	8.79E+09	2.35E-16	1.70E-06	1.41E+08	1.20E-14	2.37E-06	2.83E+07	8.36E-14	4.62E-06	7.09E+11	6.52E-18

Notes:
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.
Results are validated
Results in micrograms per liter (ug/L)
Gray shaded cells represent a measured concentration or method detection limit in groundwater
or estimated concentration in bay water is greater than the Project Action Limit

Data Qualifiers:
U = not detected at or above the laboratory method detection limit listed
UJ = not detected at or above the estimated method detection limit listed
J = estimated concentration
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:
BW = bay water (measured GW concentration / dilution attenuation factor)
GW = groundwater
N/A = not applicable because the measured groundwater concentration or
method detection limit is less than the Project Action Limit
NE = not established
NT = not tested

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TABLE 2-16c
Calculation of Benzo(a)pyrene Equivalent Concentrations for the Study Area Groundwater Sampling Results for the First Water Bearing Zone

Analyte	RPF ¹	PMW-1				PMW-5				PMW-8				PMW-9			
		02-1526		DAF ²		02-1528		DAF ²		02-1530		DAF ²		02-1532		DAF ²	
		05/16/12 17:18		3.06E+03		05/17/12 06:57		8.02E+03		05/16/12 16:36		1.13E+04		05/15/12 14:55		2.37E+08	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
Benzo(a)anthracene	0.1	2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02	
Benzo(a)pyrene	1	2.00E-01	U	1.00E-01		2.00E-01	U	1.00E-01		2.00E-01	U	1.00E-01		2.00E-01	U	1.00E-01	
Benzo(b)fluoranthene	0.1	2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02	
Benzo(k)Fluoranthene	0.01	2.00E-01	U	1.00E-03		2.00E-01	U	1.00E-03		2.00E-01	U	1.00E-03		2.00E-01	U	1.00E-03	
Chrysene	0.001	2.00E-01	U	1.00E-04		2.00E-01	U	1.00E-04		2.00E-01	U	1.00E-04		2.00E-01	U	1.00E-04	
Dibenzo(a,h)anthracene	1	2.00E-01	U	1.00E-01		2.00E-01	U	1.00E-01		2.00E-01	U	1.00E-01		2.00E-01	U	1.00E-01	
Indeno(1,2,3-cd)pyrene	0.1	2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02		2.00E-01	U	1.00E-02	
BaP _{equiv}		2.31E-01		7.55E-05		2.31E-01		2.88E-05		2.31E-01		2.05E-05		2.31E-01		9.76E-10	

Notes:

¹Relative potency factors (RPF) from EPA 1993.

²The DAF for benzo(a)pyrene is used to estimate bay water concentrations.

Non-detected results were assigned a value of 1/2 of the method detection limit in the BaP_{equiv} calculations.

Bolded values are detections.

Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.

Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.

U = The analyte is not detected at or above the concentration listed.

UJ = The analyte is not detected and the associated detection limit is an estimated value.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)

DAF = Dilution Attenuation Factor (Table 2-17)

GW = groundwater

BaP_{equiv} = cumulative benzo(a)pyrene equivalent concentration

TABLE 2-16c
Calculation of Benzo(a)pyrene Equivalent Concentrations for the Study Area Groundwater Sampling Results for the First Water Bearing Zone

Analyte	RPF ¹	PMW-10				PMW-11				PMW-12				PMW-13			
		02-1534		DAF ²		02-1536		DAF ²		02-1538		DAF ²		02-1540		DAF ²	
		05/17/12 07:33		8.29E+04		05/15/12 16:37		4.02E+04		05/16/12 17:03		1.60E+03		05/17/12 07:03		2.59E+03	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
Benzo(a)anthracene	0.1	2.00E-01	U	1.00E-02	1.21E-07	2.00E-01	U	1.00E-02	2.49E-07	2.00E-01	U	1.00E-02	6.25E-06	6.27E-02	J	6.27E-03	2.42E-06
Benzo(a)pyrene	1	2.00E-01	U	1.00E-01	1.21E-06	1.34E-01	J	1.34E-01	3.34E-06	2.00E-01	U	1.00E-01	6.25E-05	2.00E-01	U	1.00E-01	3.86E-05
Benzo(b)fluoranthene	0.1	2.00E-01	U	1.00E-02	1.21E-07	4.36E-02	J	4.36E-03	1.09E-07	2.00E-01	U	1.00E-02	6.25E-06	2.00E-01	U	1.00E-02	3.86E-06
Benzo(k)Fluoranthene	0.01	2.00E-01	U	1.00E-03	1.21E-08	1.60E-01	J	1.60E-03	3.98E-08	2.00E-01	U	1.00E-03	6.25E-07	2.00E-01	U	1.00E-03	3.86E-07
Chrysene	0.001	2.00E-01	U	1.00E-04	1.21E-09	2.80E-02	J	2.80E-05	6.97E-10	2.00E-01	U	1.00E-04	6.25E-08	4.74E-02	J	4.74E-05	1.83E-08
Dibenzo(a,h)anthracene	1	2.00E-01	U	1.00E-01	1.21E-06	2.00E-01	U	1.00E-01	2.49E-06	2.00E-01	U	1.00E-01	6.25E-05	2.00E-01	U	1.00E-01	3.86E-05
Indeno(1,2,3-cd)pyrene	0.1	2.00E-01	U	1.00E-02	1.21E-07	2.00E-01	U	1.00E-02	2.49E-07	2.00E-01	U	1.00E-02	6.25E-06	2.00E-01	U	1.00E-02	3.86E-06
BaP _{equiv}		2.31E-01		2.79E-06		2.60E-01		6.47E-06		2.31E-01		1.44E-04		2.27E-01		8.78E-05	

Notes:

¹Relative potency factors (RPF) from EPA 1993.

²The DAF for benzo(a)pyrene is used to estimate bay water concentrations.

Non-detected results were assigned a value of 1/2 of the method detection limit in the BaP_{equiv} calculations.

Bolded values are detections.

Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.

Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.

U = The analyte is not detected at or above the concentration listed.

UJ = The analyte is not detected and the associated detection limit is an estimated value.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)

DAF = Dilution Attenuation Factor (Table 2-17)

GW = groundwater

BaP_{equiv} = cumulative benzo(a)pyrene equivalent concentration

TABLE 2-16c
Calculation of Benzo(a)pyrene Equivalent Concentrations for the Study Area Groundwater Sampling Results for the First Water Bearing Zone

Analyte	RPF ¹	PMW-16				M033-A				M033-A (Dup)			
		02-1542		DAF ²		02-1544		DAF ²		02-1544D		DAF ²	
		05/16/12 17:53		3.66E+08		05/16/12 18:00		3.66E+08		05/16/12 18:00		3.66E+08	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
Benzo(a)anthracene	0.1	2.00E-01	U	1.00E-02	2.73E-11	2.00E-01	U	1.00E-02	2.73E-11	2.00E-01	U	1.00E-02	2.73E-11
Benzo(a)pyrene	1	2.00E-01	U	1.00E-01	2.73E-10	2.00E-01	U	1.00E-01	2.73E-10	2.00E-01	U	1.00E-01	2.73E-10
Benzo(b)fluoranthene	0.1	2.00E-01	U	1.00E-02	2.73E-11	2.00E-01	U	1.00E-02	2.73E-11	2.00E-01	U	1.00E-02	2.73E-11
Benzo(k)Fluoranthene	0.01	2.00E-01	U	1.00E-03	2.73E-12	2.00E-01	U	1.00E-03	2.73E-12	2.00E-01	U	1.00E-03	2.73E-12
Chrysene	0.001	2.00E-01	U	1.00E-04	2.73E-13	2.00E-01	U	1.00E-04	2.73E-13	2.00E-01	U	1.00E-04	2.73E-13
Dibenzo(a,h)anthracene	1	2.00E-01	U	1.00E-01	2.73E-10	2.00E-01	U	1.00E-01	2.73E-10	2.00E-01	U	1.00E-01	2.73E-10
Indeno(1,2,3-cd)pyrene	0.1	2.00E-01	U	1.00E-02	2.73E-11	2.00E-01	U	1.00E-02	2.73E-11	2.00E-01	U	1.00E-02	2.73E-11
BaP _{equiv}		2.31E-01		6.31E-10		2.31E-01		6.31E-10		2.31E-01		6.31E-10	

Notes:

¹Relative potency factors (RPF) from EPA 1993.

²The DAF for benzo(a)pyrene is used to estimate bay water concentrations.

Non-detected results were assigned a value of 1/2 of the method detection limit in the BaP_{equiv} calculations.

Bolded values are detections.

Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.

Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.

U = The analyte is not detected at or above the concentration listed.

UJ = The analyte is not detected and the associated detection limit is an estimated value.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)

DAF = Dilution Attenuation Factor (Table 2-17)

GW = groundwater

BaP_{equiv} = cumulative benzo(a)pyrene equivalent concentration

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TABLE 2-16d
Calculation of Benzo(a)pyrene Equivalent Concentrations for the Study Area Groundwater Sampling Results for the Second Water Bearing Zone

Analyte	RPF ¹	PMW-5				PMW-5 (Dup)				PMW-9			
		02-1529		DAF ²		02-1529D		DAF ²		02-1533		DAF ²	
		05/16/12 16:06		8.02E+03		05/16/12 16:16		8.02E+03		05/15/12 15:25		2.37E+08	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
Benzo(a)anthracene	0.1	2.00E-01	UJ	1.00E-02	1.25E-06	2.00E-01	UJ	1.00E-02	1.25E-06	2.00E-01	U	1.00E-02	4.22E-11
Benzo(a)pyrene	1	2.00E-01	UJ	1.00E-01	1.25E-05	2.00E-01	UJ	1.00E-01	1.25E-05	2.00E-01	U	1.00E-01	4.22E-10
Benzo(b)fluoranthene	0.1	2.00E-01	UJ	1.00E-02	1.25E-06	2.00E-01	UJ	1.00E-02	1.25E-06	2.00E-01	U	1.00E-02	4.22E-11
Benzo(k)Fluoranthene	0.01	2.00E-01	UJ	1.00E-03	1.25E-07	2.00E-01	UJ	1.00E-03	1.25E-07	2.00E-01	U	1.00E-03	4.22E-12
Chrysene	0.001	2.00E-01	UJ	1.00E-04	1.25E-08	2.00E-01	UJ	1.00E-04	1.25E-08	2.00E-01	U	1.00E-04	4.22E-13
Dibenzo(a,h)anthracene	1	2.00E-01	UJ	1.00E-01	1.25E-05	2.00E-01	UJ	1.00E-01	1.25E-05	2.00E-01	U	1.00E-01	4.22E-10
Indeno(1,2,3-cd)pyrene	0.1	2.00E-01	UJ	1.00E-02	1.25E-06	2.00E-01	UJ	1.00E-02	1.25E-06	2.00E-01	U	1.00E-02	4.22E-11
BaP _{equiv}		2.31E-01		2.88E-05		2.31E-01		2.88E-05		2.31E-01		9.76E-10	

Notes:

¹Relative potency factors (RPF) from EPA 1993.
²The DAF for benzo(a)pyrene is used to estimate bay water concentrations.
Non-detected results were assigned a value of 1/2 of the method detection limit in the BaP_{equiv} calculations.
Bolded values are detections.
Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
BaP_{equiv} = cumulative benzo(a)pyrene equivalent concentration

TABLE 2-16d
Calculation of Benzo(a)pyrene Equivalent Concentrations for the Study Area Groundwater Sampling Results for the Second Water Bearing Zone

Analyte	RPF ¹	PMW-10				PMW-13				PMW-16			
		02-1535		DAF ²		02-1541		DAF ²		02-1543		DAF ²	
		05/15/12 15:08		8.29E+04		05/16/12 15:57		2.59E+03		05/15/12 15:21		3.66E+08	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
Benzo(a)anthracene	0.1	2.00E-01	U	1.00E-02	1.21E-07	2.00E-01	U	1.00E-02	3.86E-06	2.00E-01	U	1.00E-02	2.73E-11
Benzo(a)pyrene	1	2.00E-01	U	1.00E-01	1.21E-06	2.00E-01	U	1.00E-01	3.86E-05	2.00E-01	U	1.00E-01	2.73E-10
Benzo(b)fluoranthene	0.1	2.00E-01	U	1.00E-02	1.21E-07	2.00E-01	U	1.00E-02	3.86E-06	2.00E-01	U	1.00E-02	2.73E-11
Benzo(k)Fluoranthene	0.01	2.00E-01	U	1.00E-03	1.21E-08	2.00E-01	U	1.00E-03	3.86E-07	2.00E-01	U	1.00E-03	2.73E-12
Chrysene	0.001	2.00E-01	U	1.00E-04	1.21E-09	2.00E-01	U	1.00E-04	3.86E-08	2.00E-01	U	1.00E-04	2.73E-13
Dibenzo(a,h)anthracene	1	2.00E-01	U	1.00E-01	1.21E-06	2.00E-01	U	1.00E-01	3.86E-05	2.00E-01	U	1.00E-01	2.73E-10
Indeno(1,2,3-cd)pyrene	0.1	2.00E-01	U	1.00E-02	1.21E-07	2.00E-01	U	1.00E-02	3.86E-06	2.00E-01	U	1.00E-02	2.73E-11
BaP _{equiv}		2.31E-01		2.79E-06		2.31E-01		8.92E-05		2.31E-01		6.31E-10	

Notes:

¹Relative potency factors (RPF) from EPA 1993.

²The DAF for benzo(a)pyrene is used to estimate bay water concentrations.

Non-detected results were assigned a value of 1/2 of the method detection limit in the BaP_{equiv} calculations.

Bolded values are detections.

Bold BaP_{equiv} concentrations indicate that one or more carcinogenic PAHs were detected.

Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.

U = The analyte is not detected at or above the concentration listed.

UJ = The analyte is not detected and the associated detection limit is an estimated value.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)

DAF = Dilution Attenuation Factor (Table 2-17)

GW = groundwater

BaP_{equiv} = cumulative benzo(a)pyrene equivalent concentration

Table 2-16e Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Human Receptors

Analyte	TEF ¹	PMW-1				PMW-5				PMW-8			
		5/16/2012 GW sample			DAF 2.83E+06	5/17/2012 GW sample			DAF 4.72E+05	5/16/2012 GW sample			DAF 4.72E+06
		GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.			
2,3,7,8-TCDD	1	1.68E-06	U	8.40E-07	2.97E-13	1.67E-06	U	8.35E-07	1.77E-12	2.02E-06	U	1.01E-06	2.14E-13
1,2,3,7,8-PeCDD	1	2.66E-06	U	1.33E-06	4.70E-13	2.83E-06	U	1.42E-06	3.00E-12	2.61E-06	U	1.31E-06	2.76E-13
1,2,3,4,7,8-HxCDD	0.1	4.02E-06	U	2.01E-07	7.10E-14	3.73E-06	U	1.87E-07	3.95E-13	8.57E-06	U	4.29E-07	9.08E-14
1,2,3,6,7,8-HxCDD	0.1	3.68E-06	U	1.84E-07	6.50E-14	3.22E-06	U	1.61E-07	3.41E-13	5.90E-06	U	2.95E-07	6.25E-14
1,2,3,7,8,9-HxCDD	0.1	3.37E-06	U	1.69E-07	5.95E-14	3.02E-06	U	1.51E-07	3.20E-13	6.01E-06	U	3.01E-07	6.37E-14
1,2,3,4,6,7,8-HpCDD	0.01	4.81E-06	U	2.41E-08	8.49E-15	4.29E-06	U	2.15E-08	4.54E-14	5.72E-06	U	2.86E-08	6.06E-15
1,2,3,4,6,7,8,9-OCDD	0.0003	4.58E-06	U	6.87E-10	2.43E-16	3.53E-06	U	5.30E-10	1.12E-15	3.34E-06	U	5.01E-10	1.06E-16
2,3,7,8-TCDF	0.1	1.62E-06	U	8.10E-08	2.86E-14	1.57E-06	U	7.85E-08	1.66E-13	1.39E-06	U	6.95E-08	1.47E-14
1,2,3,7,8-PeCDF	0.03	1.67E-06	U	2.51E-08	8.85E-15	1.84E-06	U	2.76E-08	5.85E-14	1.44E-06	U	2.16E-08	4.58E-15
2,3,4,7,8-PeCDF	0.3	1.99E-06	U	2.99E-07	1.05E-13	2.15E-06	U	3.23E-07	6.83E-13	4.58E-06	U	6.87E-07	1.46E-13
1,2,3,4,7,8-HxCDF	0.1	8.24E-07	U	4.12E-08	1.45E-14	6.81E-07	U	3.41E-08	7.21E-14	1.41E-06	U	7.05E-08	1.49E-14
1,2,3,6,7,8-HxCDF	0.1	7.27E-07	U	3.64E-08	1.28E-14	6.05E-07	U	3.03E-08	6.41E-14	8.98E-07	U	4.49E-08	9.51E-15
2,3,4,6,7,8-HxCDF	0.1	7.45E-07	U	3.73E-08	1.32E-14	6.22E-07	U	3.11E-08	6.59E-14	9.25E-07	U	4.63E-08	9.80E-15
1,2,3,7,8,9-HxCDF	0.1	1.11E-06	U	5.55E-08	1.96E-14	8.78E-07	U	4.39E-08	9.30E-14	9.26E-07	U	4.63E-08	9.81E-15
1,2,3,4,6,7,8-HpCDF	0.01	1.21E-06	U	6.05E-09	2.14E-15	8.15E-07	U	4.08E-09	8.63E-15	1.47E-06	U	7.35E-09	1.56E-15
1,2,3,4,7,8,9-HpCDF	0.01	1.71E-06	U	8.55E-09	3.02E-15	1.36E-06	U	6.80E-09	1.44E-14	1.28E-06	U	6.40E-09	1.36E-15
1,2,3,4,6,7,8,9-OCDF	0.0003	4.24E-06	U	6.36E-10	2.25E-16	3.05E-06	U	4.58E-10	9.69E-16	4.21E-06	U	6.32E-10	1.34E-16
Total PCDD/PCDF TEQ - Human		3.34E-06			1.18E-12	3.35E-06			7.10E-12	4.37E-06			9.26E-13

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 2006.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16e Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Human Receptors

Analyte	TEF ¹	PMW-9				PMW-10				PMW-11			
		5/15/2012 GW sample		DAF 8.79E+09		5/17/2012 GW sample		DAF 1.41E+08		5/15/2012 GW sample		DAF 2.83E+07	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	8.72E-07	U	4.36E-07	4.96E-17	1.57E-06	U	7.85E-07	5.56E-15	8.05E-07	U	4.03E-07	1.42E-14
1,2,3,7,8-PeCDD	1	1.35E-06	U	6.75E-07	7.68E-17	2.96E-06	U	1.48E-06	1.05E-14	1.02E-06	U	5.10E-07	1.80E-14
1,2,3,4,7,8-HxCDD	0.1	9.22E-07	U	4.61E-08	5.25E-18	3.50E-06	U	1.75E-07	1.24E-15	8.68E-07	U	4.34E-08	1.53E-15
1,2,3,6,7,8-HxCDD	0.1	7.96E-07	U	3.98E-08	4.53E-18	3.05E-06	U	1.53E-07	1.08E-15	7.68E-07	U	3.84E-08	1.36E-15
1,2,3,7,8,9-HxCDD	0.1	7.46E-07	U	3.73E-08	4.24E-18	2.85E-06	U	1.43E-07	1.01E-15	7.14E-07	U	3.57E-08	1.26E-15
1,2,3,4,6,7,8-HpCDD	0.01	7.76E-07	U	3.88E-09	4.42E-19	4.72E-06	U	2.36E-08	1.67E-16	3.58E-06	N	3.58E-08	1.26E-15
1,2,3,4,6,7,8,9-OCDD	0.0003	2.43E-06	N	7.29E-10	8.30E-20	4.14E-06	U	6.21E-10	4.40E-18	1.60E-05	J	4.80E-09	1.69E-16
2,3,7,8-TCDF	0.1	1.03E-06	U	5.15E-08	5.86E-18	1.46E-06	U	7.30E-08	5.17E-16	9.86E-07	U	4.93E-08	1.74E-15
1,2,3,7,8-PeCDF	0.03	1.18E-06	U	1.77E-08	2.01E-18	1.21E-06	U	1.82E-08	1.29E-16	8.64E-07	U	1.30E-08	4.58E-16
2,3,4,7,8-PeCDF	0.3	1.43E-06	U	2.15E-07	2.44E-17	1.50E-06	U	2.25E-07	1.59E-15	1.03E-06	U	1.55E-07	5.46E-15
1,2,3,4,7,8-HxCDF	0.1	4.92E-07	U	2.46E-08	2.80E-18	5.53E-07	U	2.77E-08	1.96E-16	7.76E-07	U	3.88E-08	1.37E-15
1,2,3,6,7,8-HxCDF	0.1	4.19E-07	U	2.10E-08	2.38E-18	4.40E-07	U	2.20E-08	1.56E-16	3.82E-07	U	1.91E-08	6.74E-16
2,3,4,6,7,8-HxCDF	0.1	4.28E-07	U	2.14E-08	2.44E-18	4.43E-07	U	2.22E-08	1.57E-16	4.03E-07	U	2.02E-08	7.12E-16
1,2,3,7,8,9-HxCDF	0.1	5.78E-07	U	2.89E-08	3.29E-18	6.47E-07	U	3.24E-08	2.29E-16	5.09E-07	U	2.55E-08	8.99E-16
1,2,3,4,6,7,8-HpCDF	0.01	6.52E-07	U	3.26E-09	3.71E-19	8.08E-07	U	4.04E-09	2.86E-17	1.54E-06	N	1.54E-08	5.44E-16
1,2,3,4,7,8,9-HpCDF	0.01	8.92E-07	U	4.46E-09	5.08E-19	1.44E-06	U	7.20E-09	5.10E-17	6.52E-07	U	3.26E-09	1.15E-16
1,2,3,4,6,7,8,9-OCDF	0.0003	1.63E-06	U	2.45E-10	2.78E-20	3.00E-06	U	4.50E-10	3.19E-18	1.53E-06	U	2.30E-10	8.10E-18
Total PCDD/PCDF TEQ - Human		1.63E-06		1.85E-16		3.19E-06		2.26E-14		1.41E-06		4.98E-14	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 2006.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16e Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Human Receptors

Analyte	TEF ¹	PMW-12				PMW-13				PMW-16			
		5/16/2012 GW sample		DAF 6.59E+05		5/17/2012 GW sample		DAF 2.83E+07		5/16/2012 GW sample		DAF 7.09E+11	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	1.90E-06	U	9.50E-07	1.44E-12	1.17E-06	U	5.85E-07	2.07E-14	6.51E-07	U	3.26E-07	4.59E-19
1,2,3,7,8-PeCDD	1	2.48E-06	U	1.24E-06	1.88E-12	1.16E-06	U	5.80E-07	2.05E-14	1.59E-06	U	7.95E-07	1.12E-18
1,2,3,4,7,8-HxCDD	0.1	3.29E-06	U	1.65E-07	2.50E-13	8.02E-07	U	4.01E-08	1.42E-15	7.88E-07	U	3.94E-08	5.56E-20
1,2,3,6,7,8-HxCDD	0.1	2.69E-06	U	1.35E-07	2.04E-13	7.21E-07	U	3.61E-08	1.27E-15	7.10E-07	U	3.55E-08	5.01E-20
1,2,3,7,8,9-HxCDD	0.1	2.57E-06	U	1.29E-07	1.95E-13	6.63E-07	U	3.32E-08	1.17E-15	6.55E-07	U	3.28E-08	4.62E-20
1,2,3,4,6,7,8-HpCDD	0.01	4.14E-06	U	2.07E-08	3.14E-14	1.25E-06	U	6.25E-09	2.21E-16	4.50E-06	N	4.50E-08	6.35E-20
1,2,3,4,6,7,8,9-OCDD	0.0003	3.36E-06	U	5.04E-10	7.65E-16	2.46E-06	N	7.38E-10	2.61E-17	3.73E-05	J	1.12E-08	1.58E-20
2,3,7,8-TCDF	0.1	1.50E-06	U	7.50E-08	1.14E-13	9.68E-07	U	4.84E-08	1.71E-15	1.03E-06	U	5.15E-08	7.26E-20
1,2,3,7,8-PeCDF	0.03	1.26E-06	U	1.89E-08	2.87E-14	1.16E-06	U	1.74E-08	6.14E-16	1.54E-06	U	2.31E-08	3.26E-20
2,3,4,7,8-PeCDF	0.3	1.48E-06	U	2.22E-07	3.37E-13	1.39E-06	U	2.09E-07	7.36E-15	1.52E-06	U	2.28E-07	3.22E-19
1,2,3,4,7,8-HxCDF	0.1	4.87E-07	U	2.44E-08	3.70E-14	6.69E-07	U	3.35E-08	1.18E-15	5.49E-06	J	5.49E-07	7.74E-19
1,2,3,6,7,8-HxCDF	0.1	4.32E-07	U	2.16E-08	3.28E-14	4.24E-07	U	2.12E-08	7.49E-16	6.17E-06	J	6.17E-07	8.70E-19
2,3,4,6,7,8-HxCDF	0.1	4.52E-07	U	2.26E-08	3.43E-14	3.40E-07	U	1.70E-08	6.00E-16	1.71E-06	J	1.71E-07	2.41E-19
1,2,3,7,8,9-HxCDF	0.1	6.61E-07	U	3.31E-08	5.02E-14	6.01E-07	U	3.01E-08	1.06E-15	1.20E-06	J	1.20E-07	1.69E-19
1,2,3,4,6,7,8-HpCDF	0.01	7.17E-07	U	3.59E-09	5.44E-15	7.50E-07	U	3.75E-09	1.32E-16	5.65E-06	N	5.65E-08	7.97E-20
1,2,3,4,7,8,9-HpCDF	0.01	1.24E-06	U	6.20E-09	9.41E-15	6.49E-07	U	3.25E-09	1.15E-16	4.39E-06	N	4.39E-08	6.19E-20
1,2,3,4,6,7,8,9-OCDF	0.0003	2.98E-06	U	4.47E-10	6.79E-16	1.58E-06	U	2.37E-10	8.37E-18	6.59E-06	J	1.98E-09	2.79E-21
Total PCDD/PCDF TEQ - Human		3.07E-06		4.66E-12		1.66E-06		5.88E-14		3.15E-06		4.44E-18	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 2006.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16e Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Human Receptors

Analyte	TEF ¹	M033-A				M033-A (dup)			
		5/16/2012 GW sample		DAF 7.09E+11		5/16/2012 GW sample		DAF 7.09E+11	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	2.09E-06	U	1.05E-06	1.47E-18	2.04E-06	U	1.02E-06	1.44E-18
1,2,3,7,8-PeCDD	1	3.17E-06	U	1.59E-06	2.24E-18	2.39E-06	U	1.20E-06	1.69E-18
1,2,3,4,7,8-HxCDD	0.1	3.69E-06	U	1.85E-07	2.60E-19	3.70E-06	U	1.85E-07	2.61E-19
1,2,3,6,7,8-HxCDD	0.1	3.31E-06	U	1.66E-07	2.33E-19	3.37E-06	U	1.69E-07	2.38E-19
1,2,3,7,8,9-HxCDD	0.1	3.06E-06	U	1.53E-07	2.16E-19	3.09E-06	U	1.55E-07	2.18E-19
1,2,3,4,6,7,8-HpCDD	0.01	5.05E-06	U	2.53E-08	3.56E-20	4.21E-06	U	2.11E-08	2.97E-20
1,2,3,4,6,7,8,9-OCDD	0.0003	3.83E-06	U	5.75E-10	8.10E-22	3.60E-06	U	5.40E-10	7.62E-22
2,3,7,8-TCDF	0.1	1.61E-06	U	8.05E-08	1.14E-19	1.43E-06	U	7.15E-08	1.01E-19
1,2,3,7,8-PeCDF	0.03	1.34E-06	U	2.01E-08	2.84E-20	1.51E-06	U	2.27E-08	3.19E-20
2,3,4,7,8-PeCDF	0.3	1.55E-06	U	2.33E-07	3.28E-19	1.78E-06	U	2.67E-07	3.77E-19
1,2,3,4,7,8-HxCDF	0.1	6.81E-07	U	3.41E-08	4.80E-20	5.11E-07	U	2.56E-08	3.60E-20
1,2,3,6,7,8-HxCDF	0.1	4.80E-07	U	2.40E-08	3.39E-20	3.64E-07	U	1.82E-08	2.57E-20
2,3,4,6,7,8-HxCDF	0.1	4.77E-07	U	2.39E-08	3.36E-20	3.80E-07	U	1.90E-08	2.68E-20
1,2,3,7,8,9-HxCDF	0.1	7.45E-07	U	3.73E-08	5.25E-20	5.63E-07	U	2.82E-08	3.97E-20
1,2,3,4,6,7,8-HpCDF	0.01	1.10E-06	U	5.50E-09	7.76E-21	9.27E-07	U	4.64E-09	6.54E-21
1,2,3,4,7,8,9-HpCDF	0.01	1.80E-06	U	9.00E-09	1.27E-20	1.63E-06	U	8.15E-09	1.15E-20
1,2,3,4,6,7,8,9-OCDF	0.0003	3.60E-06	U	5.40E-10	7.62E-22	2.49E-06	U	3.74E-10	5.27E-22
Total PCDD/PCDF TEQ - Human		3.63E-06		5.11E-18		3.21E-06		4.53E-18	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 2006.

Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.

Bolded values are detections

Bold TEQ concentrations indicate that one or more congeners were detected

Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.

U = The analyte is not detected at or above the concentration listed.

UJ = The analyte is not detected and the associated detection limit is an estimated value.

N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)

DAF = Dilution Attenuation Factor (Table 2-17)

GW = groundwater

PCDD = polychlorinated dibenzo-p-dioxin

PCDF = polychlorinated dibenzofuran

TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16f Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the Second Water Bearing Zone – Human Receptors

Analyte	TEF ¹	PMW-5				PMW-5 (dup)				PMW-9				PMW-10				PMW-13				PMW-16			
		5/16/2012 GW sample			DAF 4.72E+05	5/16/2012 GW sample			DAF 4.72E+05	5/15/2012 GW sample			DAF 8.79E+09	5/15/2012 GW sample			DAF 1.41E+08	5/16/2012 GW sample			DAF 2.83E+07	5/15/2012 GW sample			DAF 7.09E+11
		GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.
2,3,7,8-TCDD	1	1.68E-06	U	8.40E-07	1.78E-12	1.82E-06	U	9.10E-07	1.93E-12	8.15E-07	U	4.08E-07	4.64E-17	9.23E-07	U	4.62E-07	3.27E-15	5.85E-07	U	2.93E-07	1.03E-14	9.18E-07	U	4.59E-07	6.47E-19
1,2,3,7,8-PeCDD	1	2.48E-06	U	1.24E-06	2.63E-12	2.81E-06	U	1.41E-06	2.98E-12	1.47E-06	U	7.35E-07	8.36E-17	1.18E-06	U	5.90E-07	4.18E-15	1.28E-06	U	6.40E-07	2.26E-14	2.69E-06	N	2.69E-06	3.79E-18
1,2,3,4,7,8-HxCDD	0.1	4.12E-06	U	2.06E-07	4.36E-13	3.36E-06	U	1.68E-07	3.56E-13	1.06E-06	U	5.30E-08	6.03E-18	8.52E-07	U	4.26E-08	3.02E-16	1.22E-06	N	1.22E-07	4.31E-15	8.33E-07	U	4.17E-08	5.87E-20
1,2,3,6,7,8-HxCDD	0.1	3.55E-06	U	1.78E-07	3.76E-13	2.83E-06	U	1.42E-07	3.00E-13	9.55E-07	U	4.78E-08	5.43E-18	7.30E-07	U	3.65E-08	2.58E-16	8.16E-07	N	8.16E-08	2.88E-15	3.46E-06	N	3.46E-07	4.88E-19
1,2,3,7,8,9-HxCDD	0.1	3.33E-06	U	1.67E-07	3.53E-13	2.68E-06	U	1.34E-07	2.84E-13	8.81E-07	U	4.41E-08	5.01E-18	6.85E-07	U	3.43E-08	2.43E-16	1.27E-06	J	1.27E-07	4.48E-15	2.36E-06	J	2.36E-07	3.33E-19
1,2,3,4,6,7,8-HpCDD	0.01	5.61E-06	U	2.81E-08	5.94E-14	4.48E-06	U	2.24E-08	4.75E-14	1.31E-05	J	1.31E-07	1.49E-17	7.77E-07	U	3.89E-09	2.75E-17	4.88E-06	J	4.88E-08	1.72E-15	1.91E-06	N	1.91E-08	2.69E-20
1,2,3,4,6,7,8,9-OCDD	0.0003	4.73E-06	U	7.10E-10	1.50E-15	4.52E-06	J	1.36E-09	2.87E-15	1.79E-04		5.37E-08	6.11E-18	1.88E-06	J	5.64E-10	3.99E-18	2.99E-05	J	8.97E-09	3.17E-16	3.99E-06	N	1.20E-09	1.69E-21
2,3,7,8-TCDF	0.1	1.66E-06	U	8.30E-08	1.76E-13	1.43E-06	U	7.15E-08	1.51E-13	9.58E-07	U	4.79E-08	5.45E-18	8.11E-07	U	4.06E-08	2.87E-16	8.91E-07	U	4.46E-08	1.57E-15	6.82E-07	U	3.41E-08	4.81E-20
1,2,3,7,8-PeCDF	0.03	1.47E-06	U	2.21E-08	4.67E-14	1.40E-06	U	2.10E-08	4.45E-14	1.38E-06	U	2.07E-08	2.36E-18	8.65E-07	U	1.30E-08	9.19E-17	1.00E-06	U	1.50E-08	5.30E-16	2.09E-06	J	6.27E-08	8.84E-20
2,3,4,7,8-PeCDF	0.3	1.79E-06	U	2.69E-07	5.69E-13	1.71E-06	U	2.57E-07	5.43E-13	1.69E-06	U	2.54E-07	2.88E-17	1.18E-06	U	1.77E-07	1.25E-15	1.22E-06	U	1.83E-07	6.46E-15	1.52E-06	U	2.28E-07	3.22E-19
1,2,3,4,7,8-HxCDF	0.1	5.11E-07	U	2.56E-08	5.41E-14	6.55E-07	U	3.28E-08	6.94E-14	8.18E-07	U	4.09E-08	4.65E-18	5.22E-07	U	2.61E-08	1.85E-16	1.18E-06	N	1.18E-07	4.17E-15	2.18E-06	N	2.18E-07	3.07E-19
1,2,3,6,7,8-HxCDF	0.1	4.53E-07	U	2.27E-08	4.80E-14	5.82E-07	U	2.91E-08	6.17E-14	6.75E-07	U	3.38E-08	3.84E-18	3.60E-07	U	1.80E-08	1.27E-16	1.15E-06	J	1.15E-07	4.06E-15	1.42E-06	N	1.42E-07	2.00E-19
2,3,4,6,7,8-HxCDF	0.1	4.66E-07	U	2.33E-08	4.94E-14	6.00E-07	U	3.00E-08	6.36E-14	2.17E-07	U	1.09E-08	1.23E-18	3.44E-07	U	1.72E-08	1.22E-16	8.80E-07	N	8.80E-08	3.11E-15	2.18E-06	N	2.18E-07	3.07E-19
1,2,3,7,8,9-HxCDF	0.1	6.87E-07	U	3.44E-08	7.28E-14	8.56E-07	U	4.28E-08	9.07E-14	2.31E-07	U	1.16E-08	1.31E-18	4.46E-07	U	2.23E-08	1.58E-16	8.31E-07	J	8.31E-08	2.93E-15	1.69E-06	U	8.45E-08	1.19E-19
1,2,3,4,6,7,8-HpCDF	0.01	9.69E-07	U	4.85E-09	1.03E-14	8.46E-07	N	8.46E-09	1.79E-14	3.66E-06	N	3.66E-08	4.17E-18	6.14E-07	U	3.07E-09	2.17E-17	2.75E-06	J	2.75E-08	9.71E-16	2.14E-06	N	2.14E-08	3.02E-20
1,2,3,4,7,8,9-HpCDF	0.01	1.59E-06	U	7.95E-09	1.68E-14	1.21E-06	U	6.05E-09	1.28E-14	9.07E-07	U	4.54E-09	5.16E-19	9.10E-07	U	4.55E-09	3.22E-17	1.16E-06	N	1.16E-08	4.10E-16	1.97E-06	J	1.97E-08	2.78E-20
1,2,3,4,6,7,8,9-OCDF	0.0003	2.90E-06	U	4.35E-10	9.22E-16	3.06E-06	U	4.59E-10	9.72E-16	1.64E-05	J	4.92E-09	5.60E-19	1.53E-06	U	2.30E-10	1.63E-18	9.13E-06	J	2.74E-09	9.67E-17	1.88E-06	N	5.64E-10	7.95E-22
Total PCDD/PCDF TEQ - Human				3.15E-06	6.68E-12			3.28E-06	6.95E-12			1.94E-06	2.20E-16			1.49E-06	1.06E-14			2.01E-06	7.10E-14			4.82E-06	6.80E-18

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 2006.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

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Table 2-16g Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Aquatic Life Receptors

Analyte	TEF ¹	PMW-1				PMW-5				PMW-8			
		5/16/2012 GW sample			DAF 2.83E+06	5/17/2012 GW sample			DAF 4.72E+05	5/16/2012 GW sample			DAF 4.72E+06
		GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.			
2,3,7,8-TCDD	1	1.68E-06	U	8.40E-07	2.97E-13	1.67E-06	U	8.35E-07	1.77E-12	2.02E-06	U	1.01E-06	2.14E-13
1,2,3,7,8-PeCDD	1	2.66E-06	U	1.33E-06	4.70E-13	2.83E-06	U	1.42E-06	3.00E-12	2.61E-06	U	1.31E-06	2.76E-13
1,2,3,4,7,8-HxCDD	0.5	4.02E-06	U	1.01E-06	3.55E-13	3.73E-06	U	9.33E-07	1.98E-12	8.57E-06	U	2.14E-06	4.54E-13
1,2,3,6,7,8-HxCDD	0.01	3.68E-06	U	1.84E-08	6.50E-15	3.22E-06	U	1.61E-08	3.41E-14	5.90E-06	U	2.95E-08	6.25E-15
1,2,3,7,8,9-HxCDD	0.01	3.37E-06	U	1.69E-08	5.95E-15	3.02E-06	U	1.51E-08	3.20E-14	6.01E-06	U	3.01E-08	6.37E-15
1,2,3,4,6,7,8-HpCDD	0.001	4.81E-06	U	2.41E-09	8.49E-16	4.29E-06	U	2.15E-09	4.54E-15	5.72E-06	U	2.86E-09	6.06E-16
1,2,3,4,6,7,8,9-OCDD	0.0001	4.58E-06	U	2.29E-10	8.09E-17	3.53E-06	U	1.77E-10	3.74E-16	3.34E-06	U	1.67E-10	3.54E-17
2,3,7,8-TCDF	0.05	1.62E-06	U	4.05E-08	1.43E-14	1.57E-06	U	3.93E-08	8.32E-14	1.39E-06	U	3.48E-08	7.36E-15
1,2,3,7,8-PeCDF	0.05	1.67E-06	U	4.18E-08	1.47E-14	1.84E-06	U	4.60E-08	9.75E-14	1.44E-06	U	3.60E-08	7.63E-15
2,3,4,7,8-PeCDF	0.5	1.99E-06	U	4.98E-07	1.76E-13	2.15E-06	U	5.38E-07	1.14E-12	4.58E-06	U	1.15E-06	2.43E-13
1,2,3,4,7,8-HxCDF	0.1	8.24E-07	U	4.12E-08	1.45E-14	6.81E-07	U	3.41E-08	7.21E-14	1.41E-06	U	7.05E-08	1.49E-14
1,2,3,6,7,8-HxCDF	0.1	7.27E-07	U	3.64E-08	1.28E-14	6.05E-07	U	3.03E-08	6.41E-14	8.98E-07	U	4.49E-08	9.51E-15
2,3,4,6,7,8-HxCDF	0.1	7.45E-07	U	3.73E-08	1.32E-14	6.22E-07	U	3.11E-08	6.59E-14	9.25E-07	U	4.63E-08	9.80E-15
1,2,3,7,8,9-HxCDF	0.1	1.11E-06	U	5.55E-08	1.96E-14	8.78E-07	U	4.39E-08	9.30E-14	9.26E-07	U	4.63E-08	9.81E-15
1,2,3,4,6,7,8-HpCDF	0.01	1.21E-06	U	6.05E-09	2.14E-15	8.15E-07	U	4.08E-09	8.63E-15	1.47E-06	U	7.35E-09	1.56E-15
1,2,3,4,7,8,9-HpCDF	0.01	1.71E-06	U	8.55E-09	3.02E-15	1.36E-06	U	6.80E-09	1.44E-14	1.28E-06	U	6.40E-09	1.36E-15
1,2,3,4,6,7,8,9-OCDF	0.0001	4.24E-06	U	2.12E-10	7.49E-17	3.05E-06	U	1.53E-10	3.23E-16	4.21E-06	U	2.11E-10	4.46E-17
Total PCDD/PCDF TEQ - Aquatic Life		3.98E-06			1.40E-12	3.99E-06			8.45E-12	5.96E-06			1.26E-12

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 1998.

Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.

Bolded values are detections

Bold TEQ concentrations indicate that one or more congeners were detected

Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.

U = The analyte is not detected at or above the concentration listed.

UJ = The analyte is not detected and the associated detection limit is an estimated value.

N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)

DAF = Dilution Attenuation Factor (Table 2-17)

GW = groundwater

PCDD = polychlorinated dibenzo-p-dioxin

PCDF = polychlorinated dibenzofuran

TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16g Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Aquatic Life Receptors

Analyte	TEF ¹	PMW-9				PMW-10				PMW-11			
		5/15/2012 GW sample		DAF 8.79E+09		5/17/2012 GW sample		DAF 1.41E+08		5/15/2012 GW sample		DAF 2.83E+07	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	8.72E-07	U	4.36E-07	4.96E-17	1.57E-06	U	7.85E-07	5.56E-15	8.05E-07	U	4.03E-07	1.42E-14
1,2,3,7,8-PeCDD	1	1.35E-06	U	6.75E-07	7.68E-17	2.96E-06	U	1.48E-06	1.05E-14	1.02E-06	U	5.10E-07	1.80E-14
1,2,3,4,7,8-HxCDD	0.5	9.22E-07	U	2.31E-07	2.62E-17	3.50E-06	U	8.75E-07	6.20E-15	8.68E-07	U	2.17E-07	7.66E-15
1,2,3,6,7,8-HxCDD	0.01	7.96E-07	U	3.98E-09	4.53E-19	3.05E-06	U	1.53E-08	1.08E-16	7.68E-07	U	3.84E-09	1.36E-16
1,2,3,7,8,9-HxCDD	0.01	7.46E-07	U	3.73E-09	4.24E-19	2.85E-06	U	1.43E-08	1.01E-16	7.14E-07	U	3.57E-09	1.26E-16
1,2,3,4,6,7,8-HpCDD	0.001	7.76E-07	U	3.88E-10	4.42E-20	4.72E-06	U	2.36E-09	1.67E-17	3.58E-06	N	3.58E-09	1.26E-16
1,2,3,4,6,7,8,9-OCDD	0.0001	2.43E-06	N	2.43E-10	2.77E-20	4.14E-06	U	2.07E-10	1.47E-18	1.60E-05	J	1.60E-09	5.65E-17
2,3,7,8-TCDF	0.05	1.03E-06	U	2.58E-08	2.93E-18	1.46E-06	U	3.65E-08	2.58E-16	9.86E-07	U	2.47E-08	8.70E-16
1,2,3,7,8-PeCDF	0.05	1.18E-06	U	2.95E-08	3.36E-18	1.21E-06	U	3.03E-08	2.14E-16	8.64E-07	U	2.16E-08	7.63E-16
2,3,4,7,8-PeCDF	0.5	1.43E-06	U	3.58E-07	4.07E-17	1.50E-06	U	3.75E-07	2.66E-15	1.03E-06	U	2.58E-07	9.09E-15
1,2,3,4,7,8-HxCDF	0.1	4.92E-07	U	2.46E-08	2.80E-18	5.53E-07	U	2.77E-08	1.96E-16	7.76E-07	U	3.88E-08	1.37E-15
1,2,3,6,7,8-HxCDF	0.1	4.19E-07	U	2.10E-08	2.38E-18	4.40E-07	U	2.20E-08	1.56E-16	3.82E-07	U	1.91E-08	6.74E-16
2,3,4,6,7,8-HxCDF	0.1	4.28E-07	U	2.14E-08	2.44E-18	4.43E-07	U	2.22E-08	1.57E-16	4.03E-07	U	2.02E-08	7.12E-16
1,2,3,7,8,9-HxCDF	0.1	5.78E-07	U	2.89E-08	3.29E-18	6.47E-07	U	3.24E-08	2.29E-16	5.09E-07	U	2.55E-08	8.99E-16
1,2,3,4,6,7,8-HpCDF	0.01	6.52E-07	U	3.26E-09	3.71E-19	8.08E-07	U	4.04E-09	2.86E-17	1.54E-06	N	1.54E-08	5.44E-16
1,2,3,4,7,8,9-HpCDF	0.01	8.92E-07	U	4.46E-09	5.08E-19	1.44E-06	U	7.20E-09	5.10E-17	6.52E-07	U	3.26E-09	1.15E-16
1,2,3,4,6,7,8,9-OCDF	0.0001	1.63E-06	U	8.15E-11	9.28E-21	3.00E-06	U	1.50E-10	1.06E-18	1.53E-06	U	7.65E-11	2.70E-18
Total PCDD/PCDF TEQ - Aquatic Life		1.87E-06		2.12E-16		3.73E-06		2.64E-14		1.57E-06		5.54E-14	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 1998.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.

Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16g Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Aquatic Life Receptors

Analyte	TEF ¹	PMW-12				PMW-13				PMW-16			
		5/16/2012 GW sample		DAF 6.59E+05		5/17/2012 GW sample		DAF 2.83E+07		5/16/2012 GW sample		DAF 7.09E+11	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	1.90E-06	U	9.50E-07	1.44E-12	1.17E-06	U	5.85E-07	2.07E-14	6.51E-07	U	3.26E-07	4.59E-19
1,2,3,7,8-PeCDD	1	2.48E-06	U	1.24E-06	1.88E-12	1.16E-06	U	5.80E-07	2.05E-14	1.59E-06	U	7.95E-07	1.12E-18
1,2,3,4,7,8-HxCDD	0.5	3.29E-06	U	8.23E-07	1.25E-12	8.02E-07	U	2.01E-07	7.08E-15	7.88E-07	U	1.97E-07	2.78E-19
1,2,3,6,7,8-HxCDD	0.01	2.69E-06	U	1.35E-08	2.04E-14	7.21E-07	U	3.61E-09	1.27E-16	7.10E-07	U	3.55E-09	5.01E-21
1,2,3,7,8,9-HxCDD	0.01	2.57E-06	U	1.29E-08	1.95E-14	6.63E-07	U	3.32E-09	1.17E-16	6.55E-07	U	3.28E-09	4.62E-21
1,2,3,4,6,7,8-HpCDD	0.001	4.14E-06	U	2.07E-09	3.14E-15	1.25E-06	U	6.25E-10	2.21E-17	4.50E-06	N	4.50E-09	6.35E-21
1,2,3,4,6,7,8,9-OCDD	0.0001	3.36E-06	U	1.68E-10	2.55E-16	2.46E-06	N	2.46E-10	8.69E-18	3.73E-05	J	3.73E-09	5.26E-21
2,3,7,8-TCDF	0.05	1.50E-06	U	3.75E-08	5.69E-14	9.68E-07	U	2.42E-08	8.55E-16	1.03E-06	U	2.58E-08	3.63E-20
1,2,3,7,8-PeCDF	0.05	1.26E-06	U	3.15E-08	4.78E-14	1.16E-06	U	2.90E-08	1.02E-15	1.54E-06	U	3.85E-08	5.43E-20
2,3,4,7,8-PeCDF	0.5	1.48E-06	U	3.70E-07	5.62E-13	1.39E-06	U	3.48E-07	1.23E-14	1.52E-06	U	3.80E-07	5.36E-19
1,2,3,4,7,8-HxCDF	0.1	4.87E-07	U	2.44E-08	3.70E-14	6.69E-07	U	3.35E-08	1.18E-15	5.49E-06	J	5.49E-07	7.74E-19
1,2,3,6,7,8-HxCDF	0.1	4.32E-07	U	2.16E-08	3.28E-14	4.24E-07	U	2.12E-08	7.49E-16	6.17E-06	J	6.17E-07	8.70E-19
2,3,4,6,7,8-HxCDF	0.1	4.52E-07	U	2.26E-08	3.43E-14	3.40E-07	U	1.70E-08	6.00E-16	1.71E-06	J	1.71E-07	2.41E-19
1,2,3,7,8,9-HxCDF	0.1	6.61E-07	U	3.31E-08	5.02E-14	6.01E-07	U	3.01E-08	1.06E-15	1.20E-06	J	1.20E-07	1.69E-19
1,2,3,4,6,7,8-HpCDF	0.01	7.17E-07	U	3.59E-09	5.44E-15	7.50E-07	U	3.75E-09	1.32E-16	5.65E-06	N	5.65E-08	7.97E-20
1,2,3,4,7,8,9-HpCDF	0.01	1.24E-06	U	6.20E-09	9.41E-15	6.49E-07	U	3.25E-09	1.15E-16	4.39E-06	N	4.39E-08	6.19E-20
1,2,3,4,6,7,8,9-OCDF	0.0001	2.98E-06	U	1.49E-10	2.26E-16	1.58E-06	U	7.90E-11	2.79E-18	6.59E-06	J	6.59E-10	9.29E-22
Total PCDD/PCDF TEQ - Aquatic Life		3.59E-06		5.45E-12		1.88E-06		6.65E-14		3.33E-06		4.70E-18	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 1998.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.

Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16g Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the First Water Bearing Zone – Aquatic Life Receptors

Analyte	TEF ¹	M033-A				M033-A (dup)			
		5/16/2012 GW sample		DAF 7.09E+11		5/16/2012 GW sample		DAF 7.09E+11	
		GW Conc.	Adj. Conc.	Est. BW Conc.		GW Conc.	Adj. Conc.	Est. BW Conc.	
2,3,7,8-TCDD	1	2.09E-06	U	1.05E-06	1.47E-18	2.04E-06	U	1.02E-06	1.44E-18
1,2,3,7,8-PeCDD	1	3.17E-06	U	1.59E-06	2.24E-18	2.39E-06	U	1.20E-06	1.69E-18
1,2,3,4,7,8-HxCDD	0.5	3.69E-06	U	9.23E-07	1.30E-18	3.70E-06	U	9.25E-07	1.30E-18
1,2,3,6,7,8-HxCDD	0.01	3.31E-06	U	1.66E-08	2.33E-20	3.37E-06	U	1.69E-08	2.38E-20
1,2,3,7,8,9-HxCDD	0.01	3.06E-06	U	1.53E-08	2.16E-20	3.09E-06	U	1.55E-08	2.18E-20
1,2,3,4,6,7,8-HpCDD	0.001	5.05E-06	U	2.53E-09	3.56E-21	4.21E-06	U	2.11E-09	2.97E-21
1,2,3,4,6,7,8,9-OCDD	0.0001	3.83E-06	U	1.92E-10	2.70E-22	3.60E-06	U	1.80E-10	2.54E-22
2,3,7,8-TCDF	0.05	1.61E-06	U	4.03E-08	5.68E-20	1.43E-06	U	3.58E-08	5.04E-20
1,2,3,7,8-PeCDF	0.05	1.34E-06	U	3.35E-08	4.73E-20	1.51E-06	U	3.78E-08	5.32E-20
2,3,4,7,8-PeCDF	0.5	1.55E-06	U	3.88E-07	5.47E-19	1.78E-06	U	4.45E-07	6.28E-19
1,2,3,4,7,8-HxCDF	0.1	6.81E-07	U	3.41E-08	4.80E-20	5.11E-07	U	2.56E-08	3.60E-20
1,2,3,6,7,8-HxCDF	0.1	4.80E-07	U	2.40E-08	3.39E-20	3.64E-07	U	1.82E-08	2.57E-20
2,3,4,6,7,8-HxCDF	0.1	4.77E-07	U	2.39E-08	3.36E-20	3.80E-07	U	1.90E-08	2.68E-20
1,2,3,7,8,9-HxCDF	0.1	7.45E-07	U	3.73E-08	5.25E-20	5.63E-07	U	2.82E-08	3.97E-20
1,2,3,4,6,7,8-HpCDF	0.01	1.10E-06	U	5.50E-09	7.76E-21	9.27E-07	U	4.64E-09	6.54E-21
1,2,3,4,7,8,9-HpCDF	0.01	1.80E-06	U	9.00E-09	1.27E-20	1.63E-06	U	8.15E-09	1.15E-20
1,2,3,4,6,7,8,9-OCDF	0.0001	3.60E-06	U	1.80E-10	2.54E-22	2.49E-06	U	1.25E-10	1.76E-22
Total PCDD/PCDF TEQ - Aquatic Life		4.18E-06		5.90E-18		3.80E-06		5.36E-18	

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 1998.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

Table 2-16h Calculation of Dioxin-Furan TEQ Concentrations for Study-Area Groundwater Sampling Results for the Second Water Bearing Zone – Aquatic Life Receptors

Analyte	TEF ¹	PMW-5				PMW-5 (dup)				PMW-9				PMW-10				PMW-13				PMW-16			
		5/16/2012 GW sample			DAF 4.72E+05	5/16/2012 GW sample			DAF 4.72E+05	5/15/2012 GW sample			DAF 8.79E+09	5/15/2012 GW sample			DAF 1.41E+08	5/16/2012 GW sample			DAF 2.83E+07	5/15/2012 GW sample			DAF 7.09E+11
		GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.	GW Conc.	Adj. Conc.	Est. BW Conc.
2,3,7,8-TCDD	1	1.68E-06	U	8.40E-07	1.78E-12	1.82E-06	U	9.10E-07	1.93E-12	8.15E-07	U	4.08E-07	4.64E-17	9.23E-07	U	4.62E-07	3.27E-15	5.85E-07	U	2.93E-07	1.03E-14	9.18E-07	U	4.59E-07	6.47E-19
1,2,3,7,8-PeCDD	1	2.48E-06	U	1.24E-06	2.63E-12	2.81E-06	U	1.41E-06	2.98E-12	1.47E-06	U	7.35E-07	8.36E-17	1.18E-06	U	5.90E-07	4.18E-15	1.28E-06	U	6.40E-07	2.26E-14	2.69E-06	N	2.69E-06	3.79E-18
1,2,3,4,7,8-HxCDD	0.5	4.12E-06	U	1.03E-06	2.18E-12	3.36E-06	U	8.40E-07	1.78E-12	1.06E-06	U	2.65E-07	3.02E-17	8.52E-07	U	2.13E-07	1.51E-15	1.22E-06	N	6.10E-07	2.15E-14	8.33E-07	U	2.08E-07	2.94E-19
1,2,3,6,7,8-HxCDD	0.01	3.55E-06	U	1.78E-08	3.76E-14	2.83E-06	U	1.42E-08	3.00E-14	9.55E-07	U	4.78E-09	5.43E-19	7.30E-07	U	3.65E-09	2.58E-17	8.16E-07	N	8.16E-09	2.88E-16	3.46E-06	N	3.46E-08	4.88E-20
1,2,3,7,8,9-HxCDD	0.01	3.33E-06	U	1.67E-08	3.53E-14	2.68E-06	U	1.34E-08	2.84E-14	8.81E-07	U	4.41E-09	5.01E-19	6.85E-07	U	3.43E-09	2.43E-17	1.27E-06	J	1.27E-08	4.48E-16	2.36E-06	J	2.36E-08	3.33E-20
1,2,3,4,6,7,8-HpCDD	0.001	5.61E-06	U	2.81E-09	5.94E-15	4.48E-06	U	2.24E-09	4.75E-15	1.31E-05	J	1.31E-08	1.49E-18	7.77E-07	U	3.89E-10	2.75E-18	4.88E-06	J	4.88E-09	1.72E-16	1.91E-06	N	1.91E-09	2.69E-21
1,2,3,4,6,7,8,9-OCDD	0.0001	4.73E-06	U	2.37E-10	5.01E-16	4.52E-06	J	4.52E-10	9.58E-16	1.79E-04		1.79E-08	2.04E-18	1.88E-06	J	1.88E-10	1.33E-18	2.99E-05	J	2.99E-09	1.06E-16	3.99E-06	N	3.99E-10	5.63E-22
2,3,7,8-TCDF	0.05	1.66E-06	U	4.15E-08	8.79E-14	1.43E-06	U	3.58E-08	7.57E-14	9.58E-07	U	2.40E-08	2.73E-18	8.11E-07	U	2.03E-08	1.44E-16	8.91E-07	U	2.23E-08	7.87E-16	6.82E-07	U	1.71E-08	2.40E-20
1,2,3,7,8-PeCDF	0.05	1.47E-06	U	3.68E-08	7.79E-14	1.40E-06	U	3.50E-08	7.42E-14	1.38E-06	U	3.45E-08	3.93E-18	8.65E-07	U	2.16E-08	1.53E-16	1.00E-06	U	2.50E-08	8.83E-16	2.09E-06	J	1.05E-07	1.47E-19
2,3,4,7,8-PeCDF	0.5	1.79E-06	U	4.48E-07	9.48E-13	1.71E-06	U	4.28E-07	9.06E-13	1.69E-06	U	4.23E-07	4.81E-17	1.18E-06	U	2.95E-07	2.09E-15	1.22E-06	U	3.05E-07	1.08E-14	1.52E-06	U	3.80E-07	5.36E-19
1,2,3,4,7,8-HxCDF	0.1	5.11E-07	U	2.56E-08	5.41E-14	6.55E-07	U	3.28E-08	6.94E-14	8.18E-07	U	4.09E-08	4.65E-18	5.22E-07	U	2.61E-08	1.85E-16	1.18E-06	N	1.18E-07	4.17E-15	2.18E-06	N	2.18E-07	3.07E-19
1,2,3,6,7,8-HxCDF	0.1	4.53E-07	U	2.27E-08	4.80E-14	5.82E-07	U	2.91E-08	6.17E-14	6.75E-07	U	3.38E-08	3.84E-18	3.60E-07	U	1.80E-08	1.27E-16	1.15E-06	J	1.15E-07	4.06E-15	1.42E-06	N	1.42E-07	2.00E-19
2,3,4,6,7,8-HxCDF	0.1	4.66E-07	U	2.33E-08	4.94E-14	6.00E-07	U	3.00E-08	6.36E-14	2.17E-07	U	1.09E-08	1.23E-18	3.44E-07	U	1.72E-08	1.22E-16	8.80E-07	N	8.80E-08	3.11E-15	2.18E-06	N	2.18E-07	3.07E-19
1,2,3,7,8,9-HxCDF	0.1	6.87E-07	U	3.44E-08	7.28E-14	8.56E-07	U	4.28E-08	9.07E-14	2.31E-07	U	1.16E-08	1.31E-18	4.46E-07	U	2.23E-08	1.58E-16	8.31E-07	J	8.31E-08	2.93E-15	1.69E-06	U	8.45E-08	1.19E-19
1,2,3,4,6,7,8-HpCDF	0.01	9.69E-07	U	4.85E-09	1.03E-14	8.46E-07	N	8.46E-09	1.79E-14	3.66E-06	N	3.66E-08	4.17E-18	6.14E-07	U	3.07E-09	2.17E-17	2.75E-06	J	2.75E-08	9.71E-16	2.14E-06	N	2.14E-08	3.02E-20
1,2,3,4,7,8,9-HpCDF	0.01	1.59E-06	U	7.95E-09	1.68E-14	1.21E-06	U	6.05E-09	1.28E-14	9.07E-07	U	4.54E-09	5.16E-19	9.10E-07	U	4.55E-09	3.22E-17	1.16E-06	N	1.16E-08	4.10E-16	1.97E-06	J	1.97E-08	2.78E-20
1,2,3,4,6,7,8,9-OCDF	0.0001	2.90E-06	U	1.45E-10	3.07E-16	3.06E-06	U	1.53E-10	3.24E-16	1.64E-05	J	1.64E-09	1.87E-19	1.53E-06	U	7.65E-11	5.42E-19	9.13E-06	J	9.13E-10	3.22E-17	1.88E-06	N	1.88E-10	2.65E-22
Total PCDD/PCDF TEQ - Aquatic Life		3.79E-06			8.03E-12	3.83E-06			8.12E-12	2.07E-06			2.35E-16	1.70E-06			1.20E-14	2.37E-06			8.36E-14	4.62E-06			6.52E-18

Notes:

¹Toxicity Equivalency Factors from Van den Berg, et al. 1998.
Non-detected results were assigned a value of 1/2 of the method detection limit in the TEQ calculations.
Bolded values are detections
Bold TEQ concentrations indicate that one or more congeners were detected
Results in micrograms per liter (ug/L)

Data Qualifiers:

J = The associated result is quantitatively uncertain.
U = The analyte is not detected at or above the concentration listed.
UJ = The analyte is not detected and the associated detection limit is an estimated value.
N = analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.

Abbreviations:

BW = bay water (adj. GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
GW = groundwater
PCDD = polychlorinated dibenzo-p-dioxin
PCDF = polychlorinated dibenzofuran
TEQ = Toxic Equivalency to 2,3,7,8-TCDD

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TABLE 2-16I
Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the First Water Bearing Zone - Radiological Materials of Potential Concern

Location	Sample Date	Cesium-137						Cobalt-60						Radium-226					
		Project Action Limit (Table 2-13)					1.72E+00	Project Action Limit (Table 2-13)					1.58E+00	Project Action Limit (Table 2-13)					8.30E+00
		Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Activity	Qual	MLCC	Error Delta	DAF	BW	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.
PMW-1	5/16/2012	-3.03E-01	U	3.85E+00	4.74E+00	1.22E+05	7.03E-05	1.37E+00	U	4.70E+00	4.15E+00	9.63E+05	9.19E-06	2.14E+01		1.01E+01	1.48E+01	2.69E+03	1.35E-02
PMW-5	5/17/2012	-2.54E+00	U	6.54E+00	1.56E+02	1.20E+05	1.35E-03	-8.16E+00	U	8.11E+00	6.33E+01	2.93E+05	2.43E-04	1.85E+00	U	1.31E+01	1.45E+01	1.25E+03	2.21E-02
PMW-8	5/16/2012	1.26E+00	U	5.48E+00	6.82E+00	1.50E+05	8.23E-05	-1.58E-02	U	6.35E+00	7.57E-02	1.48E+06	4.34E-06	1.02E+00	U	1.08E+01	1.20E+01	9.81E+03	2.32E-03
PMW-9	5/15/2012	-6.33E-02	U	3.14E+00	3.82E+00	2.42E+09	2.87E-09	3.69E-02	U	5.27E+00	6.40E+00	5.55E+09	2.10E-09	3.02E+01		8.30E+00	1.48E+01	2.34E+07	1.92E-06
PMW-10	5/17/2012	9.30E-01	U	4.98E+00	6.20E+00	7.72E+06	1.45E-06	1.56E+00	U	6.92E+00	8.68E+00	5.12E+07	3.05E-07	5.04E+01		1.05E+01	2.04E+01	4.86E+04	1.46E-03
PMW-11	5/15/2012	-5.75E-01	U	4.24E+00	5.28E+00	1.30E+06	7.35E-06	-8.89E-01	U	6.20E+00	7.74E+00	9.72E+06	1.43E-06	-4.37E+00	U	1.43E+01	2.74E+01	3.55E+04	1.18E-03
PMW-12	5/16/2012	2.55E+00	U	4.28E+00	5.75E+00	7.67E+04	1.31E-04	0.00E+00	U	2.15E+00	1.84E+00	3.12E+05	1.28E-05	3.25E+01		9.95E+00	1.58E+01	2.18E+03	2.22E-02
PMW-13	5/17/2012	0.00E+00	U	4.91E+00	2.37E+00	1.42E+06	5.14E-06	6.20E-01	U	6.44E+00	7.97E+00	1.01E+07	1.43E-06	7.90E+00	U	9.95E+00	1.18E+01	2.23E+03	9.75E-03
PMW-16	5/16/2012	1.61E-01	U	5.17E+00	6.30E+00	5.11E+10	2.25E-10	-1.56E+00	U	5.71E+00	7.23E+00	2.79E+11	4.64E-11	-2.02E-01	U	1.24E+01	5.09E-01	6.98E+05	1.85E-05
M033-A	5/16/2012	-2.16E+00	U	4.97E+00	6.35E+00	5.11E+10	2.22E-10	2.44E-01	U	1.58E+00	2.66E+00	2.79E+11	1.52E-11	6.83E+01		8.97E+00	2.06E+01	6.98E+05	1.27E-04
M033-A (dup)	5/16/2012	-2.38E+00	U	6.54E+00	5.36E+02	5.11E+10	1.06E-08	-6.38E+00	U	8.28E+00	1.97E+03	2.79E+11	7.10E-09	4.13E+01		1.18E+01	2.26E+01	6.98E+05	9.15E-05

Location	Sample Date	Strontium-90						Thorium-232						Uranium 238					
		Project Action Limit (Table 2-13)					1.95E-01	Project Action Limit (Table 2-13)					4.68E-02	Project Action Limit (Table 2-13)					6.16E-02
		Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.
PMW-1	5/16/2012	NT						NT						NT					
PMW-5	5/17/2012	NT						NT						NT					
PMW-8	5/16/2012	4.82E-01	U	1.63E+00	1.59E+00	9.54E+03	3.38E-04	3.78E-02	U	4.68E-02	9.47E-02	4.72E+06	3.00E-08	4.16E-01	J	8.61E-02	3.00E-01	1.48E+04	4.83E-05
PMW-9	5/15/2012	NT						NT						NT					
PMW-10	5/17/2012	NT						NT						NT					
PMW-11	5/15/2012	NT						NT						NT					
PMW-12	5/16/2012	NT						NT						NT					
PMW-13	5/17/2012	-1.18E-01	U	1.95E-01	1.71E-01	2.48E+03	1.48E-04	2.72E-03	U	9.80E-02	9.44E-02	2.83E+07	6.79E-09	7.03E-02	J	6.16E-02	1.25E-01	3.30E+03	5.92E-05
PMW-16	5/16/2012	NT						NT						NT					
M033-A	5/16/2012	NT						NT						NT					
M033-A (dup)	5/16/2012	NT						NT						NT					

Notes:
Results in picocuries per liter (pCi/l)
BW = bay water (measured GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
MDC = Minumum Detected Concentration
NT = not tested
Results are not validated
Bolded values are detections

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TABLE 2-16J
Summary of Risk Screening Based on Study-Area Groundwater Sampling Results for the Second Water Bearing Zone - Radiological Materials of Potential Concern

Location	Sample Date	Cesium-137						Cobalt-60						Radium-226					
		Project Action Limit (Table 1)					1.72E+00	Project Action Limit (Table 1)					1.58E+00	Project Action Limit (Table 1)					8.30E+00
		Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.	Concentration (Activity)		MDC	Error Delta	DAF (unitless)	Est. BW Conc.
PMW-5	5/16/2012	2.36E+00	U	3.54E+00	4.91E+00	1.20E+05	7.03E-05	0.00E+00	U	8.09E+00	2.61E+00	2.93E+05	3.65E-05	1.29E+01		1.13E+01	1.45E+01	1.25E+03	2.19E-02
PMW-5 (dup)	5/16/2012	5.73E-01	U	4.98E+00	6.13E+00	1.20E+05	9.24E-05	-3.32E+00	U	7.35E+00	9.42E+00	2.93E+05	5.72E-05	1.96E+01		1.04E+01	1.75E+01	1.25E+03	2.97E-02
PMW-9	5/15/2012	2.36E+00	U	4.45E+00	5.82E+00	2.42E+09	4.24E-09	-1.74E+00	U	5.47E+00	7.02E+00	5.55E+09	2.25E-09	-3.20E+00	U	1.21E+01	1.72E+01	2.34E+07	1.25E-06
PMW-10	5/15/2012	1.19E+00	U	5.66E+00	7.07E+00	7.72E+06	1.65E-06	1.72E-01	U	8.09E+00	2.42E+00	5.12E+07	2.05E-07	2.13E+00	U	1.23E+01	8.00E+00	4.86E+04	4.17E-04
PMW-13	5/16/2012	0.00E+00	U	1.72E+00	3.61E+00	1.42E+06	3.76E-06	3.67E+00	U	6.12E+00	8.51E+00	1.01E+07	1.45E-06	2.86E+00	U	1.50E+01	1.65E+01	2.23E+03	1.41E-02
PMW-16	5/15/2012	2.90E-01	U	4.36E+00	5.34E+00	5.11E+10	1.90E-10	1.23E+00	U	6.00E+00	3.24E+00	2.79E+11	3.32E-11	1.73E+01		1.03E+01	1.56E+01	6.98E+05	4.71E-05

Notes:
Results in picocuries per liter (pCi/l)
BW = bay water (measured GW concentration / dilution attenuation factor)
DAF = Dilution Attenuation Factor (Table 2-17)
MDC = Minimum Detected Concentration
NT = not tested
Results are not validated
Bolded values are detections

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Table 2-17. Summary of Well-Specific Dilution Attenuation Factors for Chemicals and Radiological Materials of Potential Concern

POTENTIAL COC	CAS	Kd	Kd Reference Source	DILUTION ATTENUATION FACTOR								
		(L/Kg)		PMW-1	PMW-5FWBZ	PMW-8	PMW-9FWBZ	PMW-10FWBZ	PMW-11	PMW-12	PMW-13FWBZ	PMW-16FWBZ
SVOCs / PAHs												
Benzo(a)anthracene	56-55-3	4300	Calculated ¹	1.39E+06	3.45E+05	2.21E+06	6.49E+09	7.24E+07	1.40E+07	4.02E+05	1.44E+07	3.83E+11
Benzo(a)pyrene	50-32-8	844	Calculated ¹	3.06E+03	8.02E+03	1.13E+04	2.37E+08	8.29E+04	4.02E+04	1.60E+03	2.59E+03	3.66E+08
Benzo(b)fluoranthene	205-99-2	2790	Calculated ¹	1.63E+05	1.36E+05	2.07E+05	2.71E+09	1.00E+07	1.71E+06	9.31E+04	1.87E+06	6.43E+10
Benzo(ghi)perylene	191-24-2	238000	Literature - GSI, 2012	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Benzo(k)fluoranthene	207-08-9	184500	Literature - U.S. EPA, 1996b	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Dibenz(a,h)anthracene	53-70-3	3250	Calculated ¹	3.55E+05	1.90E+05	4.95E+05	3.69E+09	2.03E+07	3.65E+06	1.58E+05	3.91E+06	1.21E+11
Indeno(1,2,3-cd)pyrene	193-39-5	310	Calculated ¹	2.66E+03	1.27E+03	9.68E+03	2.84E+07	4.85E+04	3.49E+04	2.11E+03	2.32E+03	1.48E+06
Naphthalene	91-20-3	21	Literature - U.S. EPA, 1996b	3.88E+03	2.51E+03	1.46E+04	2.12E+05	7.06E+04	5.20E+04	2.65E+03	3.19E+03	1.74E+04
Metals												
Cadmium	7440-43-9	95800	Calculated ¹	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Chromium	7440-47-3	900	Calculated ¹	3.13E+03	9.42E+03	1.15E+04	2.70E+08	9.32E+04	4.17E+04	1.77E+03	2.96E+03	4.91E+08
Copper	7440-50-8	3160	Literature - U.S. EPA, 1999c	3.08E+05	1.79E+05	4.23E+05	3.49E+09	1.79E+07	3.18E+06	1.43E+05	3.42E+06	1.08E+11
Lead	7439-92-1	2510000	Calculated ¹	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Manganese	7439-96-5	26	Literature - U.S. EPA, 2004	3.83E+03	2.46E+03	1.45E+04	1.95E+05	6.97E+04	5.14E+04	2.65E+03	3.11E+03	1.59E+04
Mercury	7439-97-6	79430	Literature - U.S. EPA, 1999c	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Nickel	7440-02-0	7940	Literature - U.S. EPA, 1999c	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Silver	7440-22-4	3980	Literature - U.S. EPA, 1999c	9.63E+05	2.93E+05	1.48E+06	5.55E+09	5.12E+07	9.72E+06	3.12E+05	1.01E+07	2.79E+11
Thallium	7440-28-0	19.9	Literature - U.S. EPA, 1999c	3.89E+03	2.52E+03	1.47E+04	2.18E+05	7.08E+04	5.21E+04	2.65E+03	3.21E+03	1.79E+04
Zinc	7440-66-6	102000	Literature - U.S. EPA, 1999c	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Pesticides												
4,4'-DDD	72-54-8	4550	Calculated ¹	1.82E+06	3.89E+05	2.95E+06	7.27E+09	9.31E+07	1.83E+07	4.84E+05	1.86E+07	4.82E+11
4,4'-DDE	72-55-9	12960	Literature - U.S. EPA, 1996b	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
4,4'-DDT	50-29-3	78600	Literature - U.S. EPA, 1996b	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Aldrin	309-00-2	48686	Literature - U.S. EPA, 1996b	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
alpha-Chlordane	5103-71-9	1060000	Literature - GSI, 2012	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Dieldrin	60-57-1	3840	Literature - U.S. EPA, 1996b	8.10E+05	2.72E+05	1.23E+06	5.17E+09	4.35E+07	8.19E+06	2.77E+05	8.55E+06	2.40E+11
Endosulfan I	959-98-8	2360	Literature - GSI, 2012	6.75E+04	9.35E+04	7.70E+04	1.93E+09	4.54E+06	7.37E+05	5.15E+04	8.01E+05	3.20E+10
Endosulfan II	33213-65-9	2360	Literature - GSI, 2012	6.75E+04	9.35E+04	7.70E+04	1.93E+09	4.54E+06	7.37E+05	5.15E+04	8.01E+05	3.20E+10
Endrin	72-20-8	1710	Literature - U.S. EPA, 1996b	1.26E+04	4.47E+04	1.64E+04	1.01E+09	9.76E+05	1.60E+05	1.56E+04	1.37E+05	8.22E+09
Endrin ketone	53494-70-5	26100	Literature - GSI, 2012	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
gamma-Chlordane	5566-34-7	59000	Literature - GSI, 2012	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Heptachlor	76-44-8	1510	Literature - U.S. EPA, 1996b	7.32E+03	3.34E+04	1.29E+04	7.81E+08	5.48E+05	9.99E+04	9.67E+03	6.47E+04	4.82E+09
Heptachlor epoxide	1024-57-3	12480	Literature - U.S. EPA, 1996b	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Toxaphene	8001-35-2	14300	Literature - U.S. EPA, 1996b	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
PCBs												
Aroclor-1016	12674-11-2	107	Literature - Bechtel Hanford, Inc., 2005	3.25E+03	1.79E+03	1.22E+04	2.40E+06	5.80E+04	4.38E+04	2.56E+03	2.24E+03	1.54E+04
Aroclor-1221	11104-28-2	107	Lowest conservative value	3.25E+03	1.79E+03	1.22E+04	2.40E+06	5.80E+04	4.38E+04	2.56E+03	2.24E+03	1.54E+04
Aroclor-1232	11141-16-5	107	Lowest conservative value	3.25E+03	1.79E+03	1.22E+04	2.40E+06	5.80E+04	4.38E+04	2.56E+03	2.24E+03	1.54E+04
Aroclor-1242	53469-21-9	107	Lowest conservative value	3.25E+03	1.79E+03	1.22E+04	2.40E+06	5.80E+04	4.38E+04	2.56E+03	2.24E+03	1.54E+04
Aroclor-1248	12672-29-6	107	Lowest conservative value	3.25E+03	1.79E+03	1.22E+04	2.40E+06	5.80E+04	4.38E+04	2.56E+03	2.24E+03	1.54E+04
Aroclor-1254	11097-69-1	290	Calculated ²	2.68E+03	1.25E+03	9.77E+03	2.45E+07	4.86E+04	3.53E+04	2.16E+03	2.25E+03	8.47E+05
Aroclor-1260	11096-82-5	2170	Calculated ³	4.31E+04	7.74E+04	4.74E+04	1.63E+09	3.04E+06	4.85E+05	3.80E+04	5.16E+05	2.25E+10
Aroclor-1268	11100-14-4	107	Lowest conservative value	3.25E+03	1.79E+03	1.22E+04	2.40E+06	5.80E+04	4.38E+04	2.56E+03	2.24E+03	1.54E+04
Dioxans / Furans												
Dioxans / Furans	1746-01-6	30600	Literature, Walters et al, 1989	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
Radionuclides												
¹³⁷ Cs-Cesium	10045-97-3	2640	Literature - U.S. EPA, 1999a	1.22E+05	1.20E+05	1.50E+05	2.42E+09	7.72E+06	1.30E+06	7.67E+04	1.42E+06	5.11E+10
⁶⁰ Co-Cobalt	10198-40-0	3980	Literature, U.S. EPA 1996a	9.63E+05	2.93E+05	1.48E+06	5.55E+09	5.12E+07	9.72E+06	3.12E+05	1.01E+07	2.79E+11
²²⁶ Ra-Radium	13982-63-3	284	Literature, Tachi et al, 2001	2.69E+03	1.25E+03	9.81E+03	2.34E+07	4.86E+04	3.55E+04	2.18E+03	2.23E+03	6.98E+05
⁹⁰ Sr-Strontium	10098-97-2	355	Literature - U.S. EPA, 1999a	2.64E+03	1.39E+03	9.54E+03	3.81E+07	4.87E+04	3.43E+04	2.00E+03	2.48E+03	3.88E+06
²³² Th - Thorium	15117-56-3	54000	Literature - U.S. EPA, 1999a	2.83E+06	4.72E+05	4.72E+06	8.79E+09	1.41E+08	2.83E+07	6.59E+05	2.83E+07	7.09E+11
²³⁸ U - Uranium	7440-61-1	15	Literature - U.S. EPA, 1999a	3.93E+03	2.57E+03	1.48E+04	2.55E+05	7.18E+04	5.27E+04	2.66E+03	3.30E+03	2.10E+04

NOTES:

¹ Calculated with soil and groundwater detections

² Calculated with soil and groundwater MDL values

³ Calculated with soil detection and groundwater MDL value

⁴ Detailed description of the calculation of K_d values based on soil and/or groundwater detections and/or analyses method detection limits is provided in Section 2.7.2.3 of the report

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**Table 6-1. Cost Estimate Summary
Burn Area Aspects of Alternative S1-4A**

DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL
REMEDIAL DESIGN				
Datagap Investigation	each	\$ 2,184,019.00	1	\$ 2,184,019
Remedial Design	each	\$ 475,568.00	1	\$ 475,568
Remedial Action Work Plan	each	\$ 228,563.00	1	\$ 228,563
IC Implementation Plan	each	\$ 71,146.00	1	\$ 71,146
REMEDIAL DESIGN SUBTOTAL WITH MARKUPS*				\$ 2,959,296
REMEDIAL ACTION				
<i>Install Shoring System Bulkhead</i>				
Procure & Deliver Steel Sheet Pile	ton	\$ 3,200.14	610	\$ 1,952,085
Mobilization/Demobilization	each	\$ 523,377.25	1	\$ 523,377
Install Bulkhead	square foot	\$ 68.18	39590	\$ 2,699,246
<i>Excavation & Backfill</i>				
Import General Fill	ton	\$ 3.85	46200	\$ 177,870
Import Clean Gravel	ton	\$ 31.35	58800	\$ 1,843,380
Import Topsoil	ton	\$ 7.98	4200	\$ 33,495
Excavate Above Water Table	bank cubic yard	\$ 39.60	33000	\$ 1,306,800
Excavate Below Water Table	bank cubic yard	\$ 62.70	42000	\$ 2,633,400
Backfill Above Water Table	bank cubic yard	\$ 8.80	33000	\$ 290,400
Backfill Below Water Table	bank cubic yard	\$ 8.80	42000	\$ 369,600
Segregate Wastes Stream	bank cubic yard	\$ 71.50	75000	\$ 5,362,500
Off-site Disposal (Rad.-impacted)	ton	\$ 1,667.00	2100	\$ 3,500,700
Off-site Disposal (Cal.Haz.Waste)	ton	\$ 53.00	31500	\$ 1,669,500
Off-site Disposal (RCRA Haz.Waste)	ton	\$ 314.00	21000	\$ 6,594,000
On-site Disposal	bank cubic yard	\$ 18.98	36000	\$ 683,100
Final Grading	each	\$ 55,000.00	1	\$ 55,000
Soil Confirmation Sampling	per sample	\$ 275.00	400	\$ 110,000
REMEDIAL ACTION SUBTOTAL W/ MARKUPS*				\$ 29,804,454
OPERATIONS & MAINTENANCE				
Institutional Controls	30 years	\$ 264,000.00	1	\$ 264,000
Five-year Reviews	each	\$ 70,400.00	6	\$ 422,400
O&M SUBTOTAL WITH MARKUPS*				\$ 686,400
SUBTOTAL WITH MARKUPS*				\$ 33,450,150
CONTINGENCY (20%)				\$ 6,690,030
NET PRESENT VALUE (2012 DOLLARS)				\$ 40,140,180

NOTES:

*markups include overall project management, overhead, bonds and insurance, home office support, and profit

Unit rates shown above were estimated based on the cost backup provided in Appendix G.

Engineering and construction oversight and radiological controls labor and direct costs were rounded and divided into applicable unit rates shown above.

Costs for institutional controls and five-year reviews from the Final FS (BEI, 2006a).

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**Table 6-2. Cost Estimate Summary
Alternative BA-1**

DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL
REMEDIAL DESIGN				
Datagap Investigation	each	\$ 2,183,719.00	1	\$ 2,183,719
Remedial Design	each	\$ 403,942.00	1	\$ 403,942
Remedial Action Work Plan	each	\$ 194,167.00	1	\$ 194,167
IC Implementation Plan	each	\$ 60,055.00	1	\$ 60,055
REMEDIAL DESIGN SUBTOTAL WITH MARKUPS*				\$ 2,841,883
REMEDIAL ACTION				
<i>Install Shoring System Bulkhead</i>				
Procure & Deliver Steel Sheet Pile	ton	\$ 3,555.50	610	\$ 2,168,855
Mobilization/Demobilization	each	\$ 523,380.00	1	\$ 523,380
Install Bulkhead	square foot	\$ 68.18	39590	\$ 2,699,246
Backfill Bulkhead	bank cubic yard	\$ 52.81	3200	\$ 168,992
<i>Select Excavation & Backfill</i>				
Import General Fill	ton	\$ 3.85	7000	\$ 26,950
Import Clean Gravel	ton	\$ 31.35	2800	\$ 87,780
Import Topsoil	ton	\$ 7.98	700	\$ 5,583
Excavate Above Water Table	bank cubic yard	\$ 39.60	5000	\$ 198,000
Excavate Below Water Table	bank cubic yard	\$ 62.70	2000	\$ 125,400
Backfill Above Water Table	bank cubic yard	\$ 8.80	5000	\$ 44,000
Backfill Below Water Table	bank cubic yard	\$ 8.80	2000	\$ 17,600
Segregate Wastes Stream	bank cubic yard	\$ 71.50	7000	\$ 500,500
Off-site Disposal (Rad.-impacted)	ton	\$ 1,667.00	200	\$ 333,400
On-site Disposal	bank cubic yard	\$ 18.98	6800	\$ 129,030
Final Grading	each	\$ 16,500.00	1	\$ 16,500
Soil Confirmation Sampling	per sample	\$ 275.00	50	\$ 13,750
REMEDIAL ACTION SUBTOTAL W/ MARKUPS*				\$ 7,058,966
OPERATIONS & MAINTENANCE				
Institutional Controls	30 years	\$ 264,000.00	1	\$ 264,000
Inspection and Maintenance of WIB	30 years	\$ 300,000.00	1	\$ 300,000
Five-year Reviews	each	\$ 70,400.00	6	\$ 422,400
O&M SUBTOTAL WITH MARKUPS*				\$ 986,400
SUBTOTAL WITH MARKUPS*				\$ 10,887,249
CONTINGENCY (20%)				\$ 2,177,450
NET PRESENT VALUE (2012 DOLLARS)				\$ 13,064,698

NOTES:

*markups include overall project management, overhead, bonds and insurance, home office support, and profit

Unit rates shown above were estimated based on the cost backup provided in Appendix G.

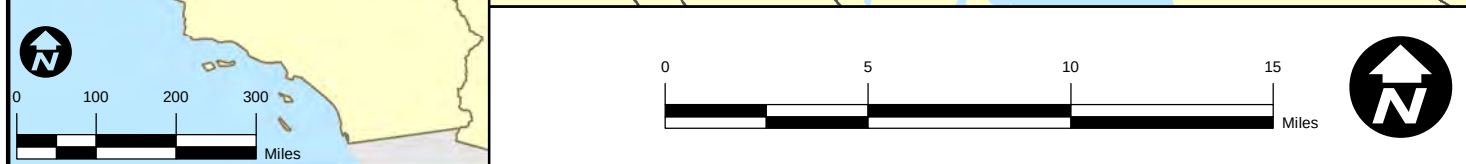
Engineering and construction oversight and radiological controls labor and direct costs were rounded and divided into applicable unit rates shown above.

Costs for institutional controls and five-year reviews from the Final FS (BEI, 2006a).

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FIGURES

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AMEC 9210 Sky Park Court, Suite 200 San Diego, CA 92123		amec				CLIENT: U.S. Department of the Navy BRAC PMO West San Diego, California			
PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY				DWN BY: SFW		DATUM: NAD27		DATE: JANUARY 2013	
TITLE: ALAMEDA POINT LOCATION MAP				CHK'D BY: PAG		REV. NO.: 1		PROJECT NO.: N62473-08-D-8816-CTO-002	
				PROJECTION: CA SP III FT		SCALE: 1 in = 5 miles		FIGURE No.: 2-1	

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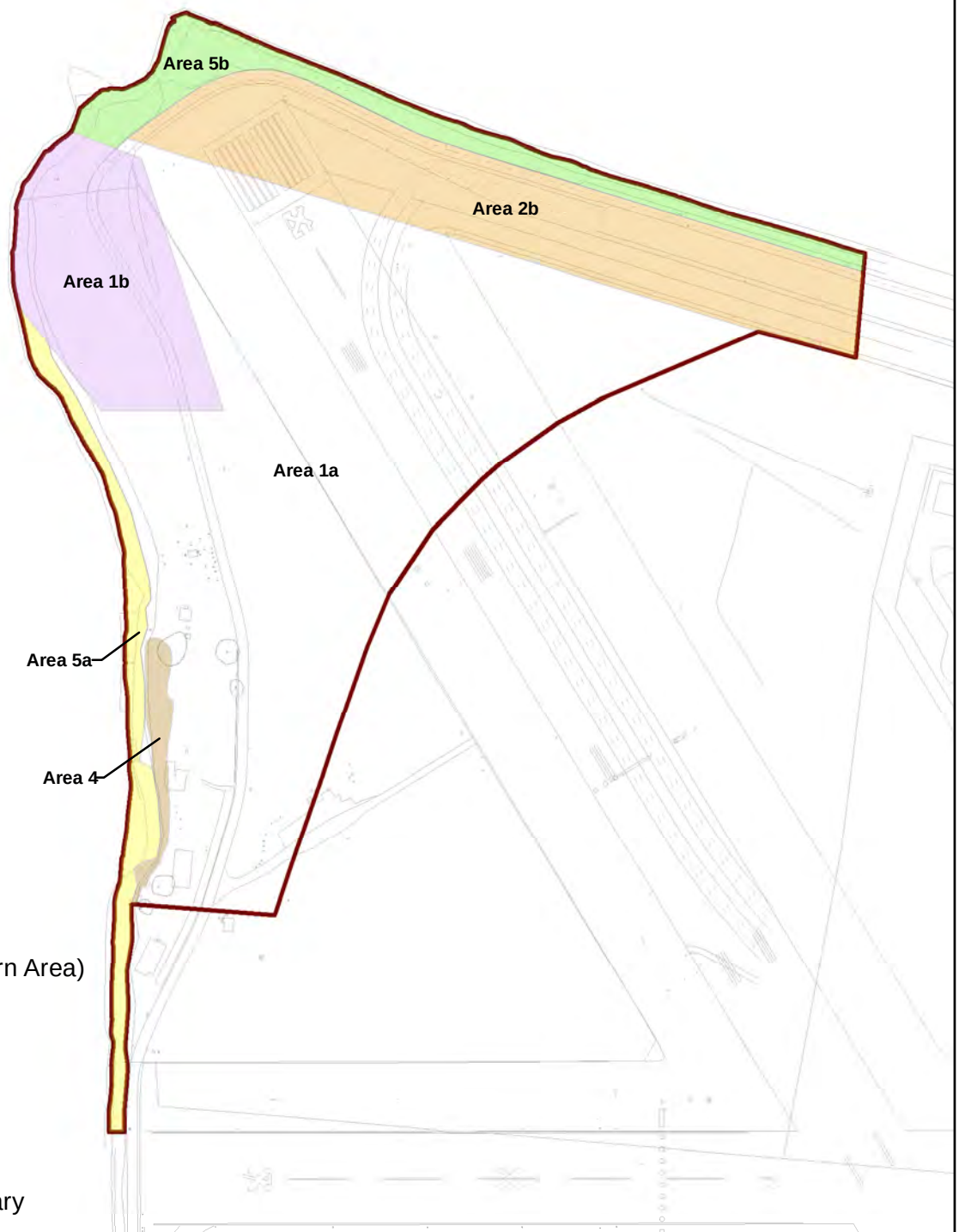
DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III Ft.
SCALE: 1 inch = 1,500 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: IR SITE 1 LOCATION MAP

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-2

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Legend

- Soil Area 1a
- Soil Area 1b (Burn Area)
- Soil Area 2b
- Soil Area 4
- Soil Area 5a
- Soil Area 5b
- IR Site 1 Boundary



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CLIENT:

**U.S. Department of the Navy
BRAC PMO West
San Diego, California**

PROJECT: **BURN AREA FOCUSED FEASIBILITY STUDY**

DWN BY:

SFW

DATUM:

NAD27

DATE:

JANUARY 2013

TITLE:

SOIL CONTAMINATION AREAS LOCATION MAP

CHK'D BY:

PAG

REV. NO.:

1

PROJECT NO.:

N62473-08-D-8816-CTO-002

PROJECTION:

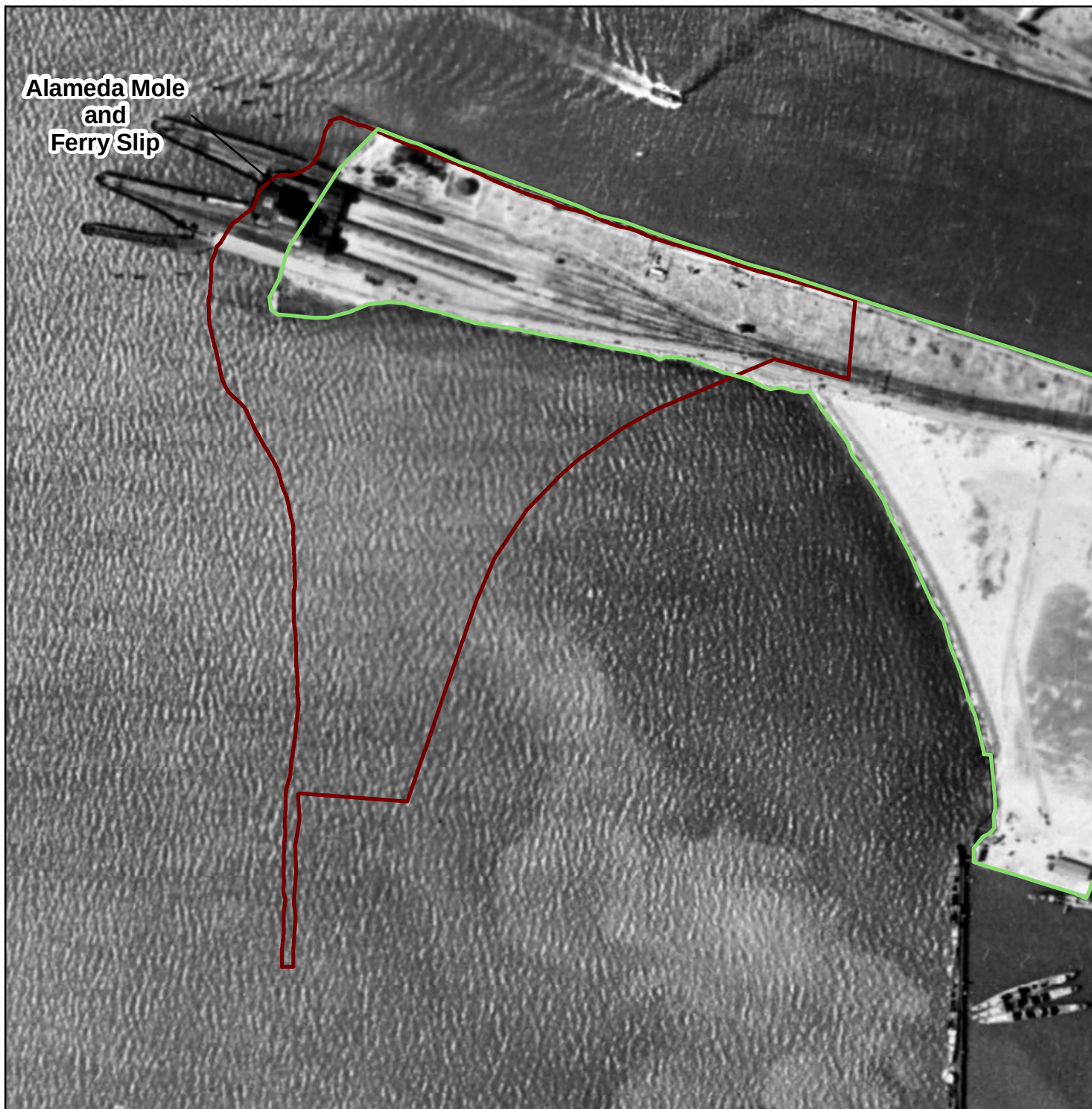
SCALE:

1 inch = 350 feet

FIGURE No.:

2-3

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— 1939 Land Surface
— IR Site 1 Boundary



AMEC 9210 Sky Park Court, Suite 200 San Diego, CA 92123				CLIENT: U.S. Department of the Navy BRAC PMO West San Diego, California	
PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY			DWN BY: SFW	DATUM: NAD27	DATE: JANUARY 2013
TITLE: 1939 Aerial Photo with IR Site 1 Boundary			CHK'D BY: PAG	REV. NO.: 1	PROJECT NO.: N62473-08-D-8816-CTO-002
			PROJECTION: CA SP III FT	SCALE: 1 inch = 400 feet	FIGURE No.: 2-4

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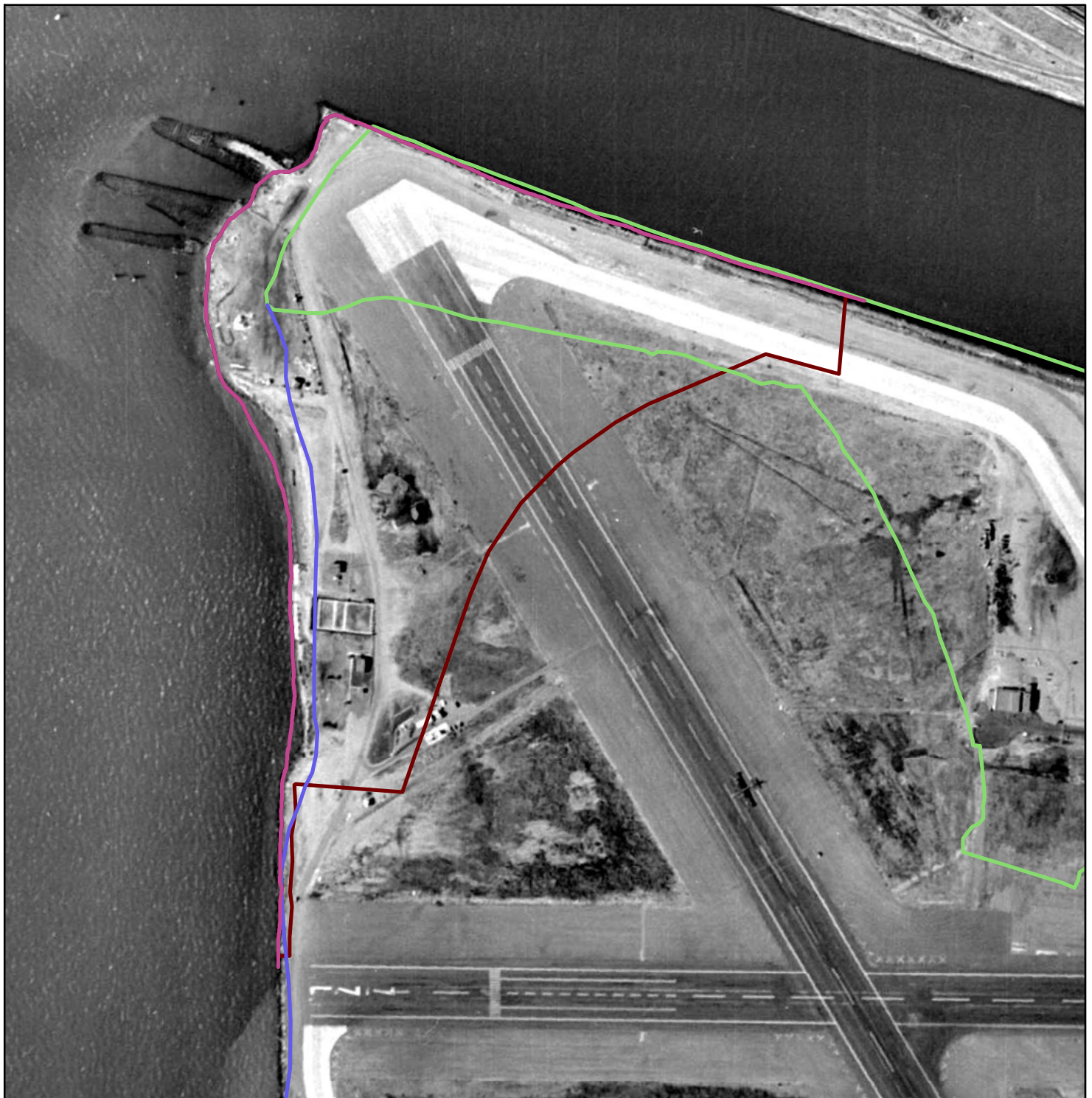


- 1946 Land Surface
- 1939 Land Surface
- IR Site 1 Boundary



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PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY			DWN BY: SFW	DATUM: NAD27	DATE: JANUARY 2013
TITLE: 1946 Aerial Photo with 1939 Land Surface and IR Site 1 Boundary			CHK'D BY: PAG	REV. NO.: 1	PROJECT NO.: N62473-08-D-8816-CTO-002
			PROJECTION: CA SP III FT	SCALE: 1 inch = 400 feet	FIGURE No.: 2-5

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- 2010 Land Surface
- 1946 Land Surface
- 1939 Land Surface
- IR Site 1 Boundary



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PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY			DWN BY: SFW	DATUM: NAD27	DATE: JANUARY 2013
TITLE: 1958 Aerial Photo with 1939 and 1946 Land Surfaces and IR Site 1 Boundary			CHK'D BY: PAG	REV. NO.: 1	PROJECT NO.: N62473-08-D-8816-CTO-002
			PROJECTION: CA SP III FT	SCALE: 1 inch = 400 feet	FIGURE No.: 2-6

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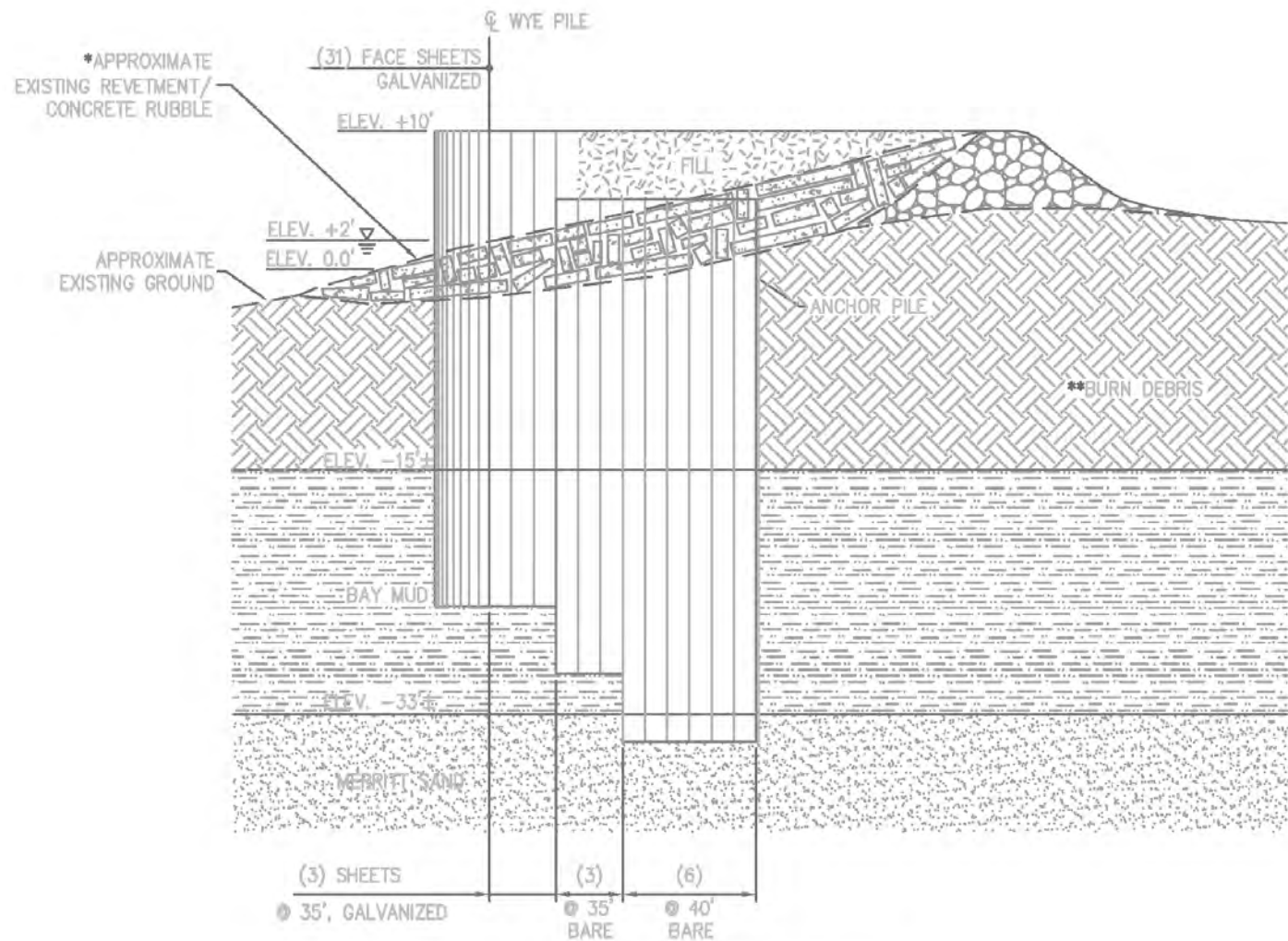


- 2010 Land Surface
- 1946 Land Surface
- 1939 Land Surface
- IR Site 1 Boundary

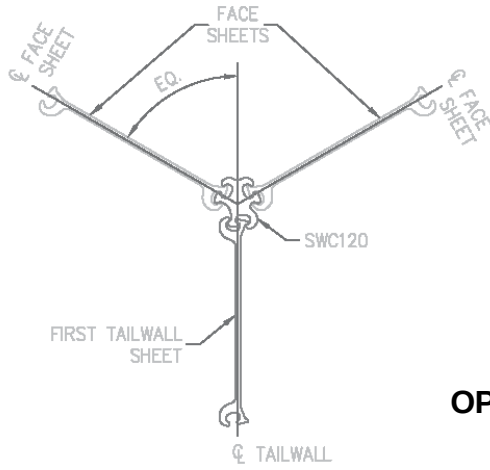
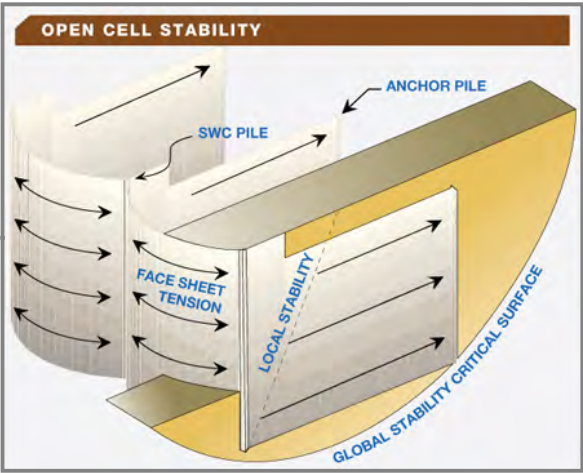
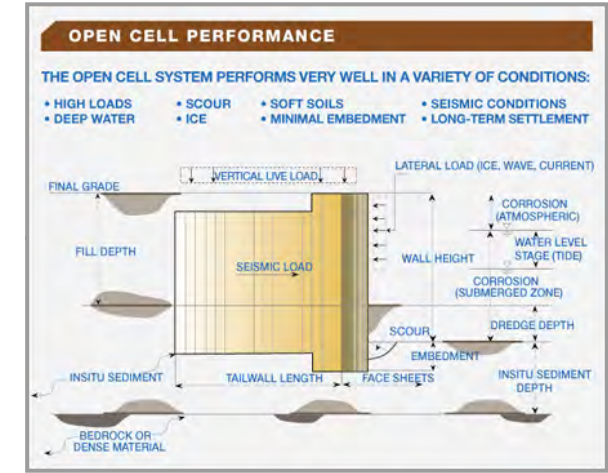


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PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY				DWN BY: SFW		DATUM: NAD27		DATE: JANUARY 2013	
TITLE: 2005 Aerial Photo with 1939, 1946, and 2010 Land Surfaces and IR Site 1 Boundary				CHK'D BY: PAG		REV. NO.: 1		PROJECT NO.: N62473-08-D-8816-CTO-002	
				PROJECTION: CA SP III FT		SCALE: 1 inch = 400 feet		FIGURE No.: 2-7	

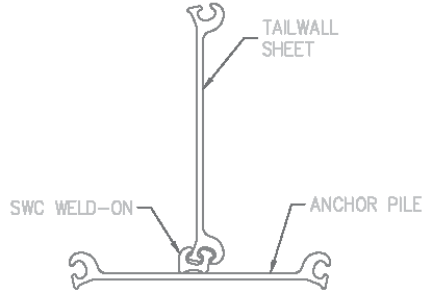
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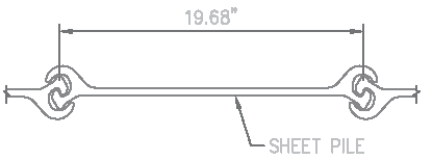
TYPICAL SECTION



WYE PILE
SWC120 + PS27.5



ANCHOR PILE
SWC WELD-ON + PS27.5



SHEET PILE
PS27.5

GENERAL NOTES
SHEET PILES
 Sheet piles shall be PS27.5 as manufactured by Chaparral per ASTM A328 with chemistry meeting ASTM A572 requirements, minimum interlock tensile strength of 20,000 pounds per inch, and minimum interlock swing angle of 7 degrees. Sheet piles shall be installed full length without splices. The face sheets and first 4 tailwall sheet shall be hot dipped galvanized. Sheet piles shall be new.

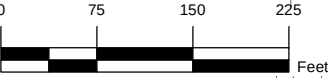
SWC120 PILES
 The SWC120 connection piles shall be supplied by Pile Pro, with interlock capacities matching the sheet piles. The minimum yield stress shall be 55 ksi and the minimum tensile stress shall be 75 ksi. Fabrication of the connector piles shall be completed such that the finished sheet pile will not bind during driving. Carbon equivalency, per AWS D1.1, shall not exceed 0.52.

POTENTIAL INTERFERENCE
 The existing soils contain debris that may interfere with the pile driving operation. The Contractor shall review site conditions and make own assessment of pile driving interferences.

OPEN CELL WIB

BURN AREA

SAN FRANCISCO BAY



Open Cell images provided by PND Engineers



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DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III Ft.
SCALE: 1 inch = 150 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: OPEN CELL WASTE ISOLATION BULKHEAD

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-8

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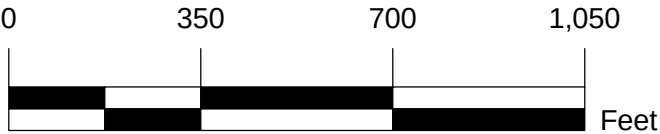


Legend

- Vertical Well, 2011
- Sloped Well, 2011
- Monitoring Well, 2004
- IR-1 site boundary
- 1% Tidal Efficiency
- 10% Tidal Efficiency
- 80% Tidal Efficiency
- <1% Tidal Efficiency
- 1-10% Tidal Efficiency
- 10-80% Tidal Efficiency
- 80-100% Tidal Efficiency
- Burn Area

Notes:

1. Observed tidal efficiencies in percent are shown next to well locations.



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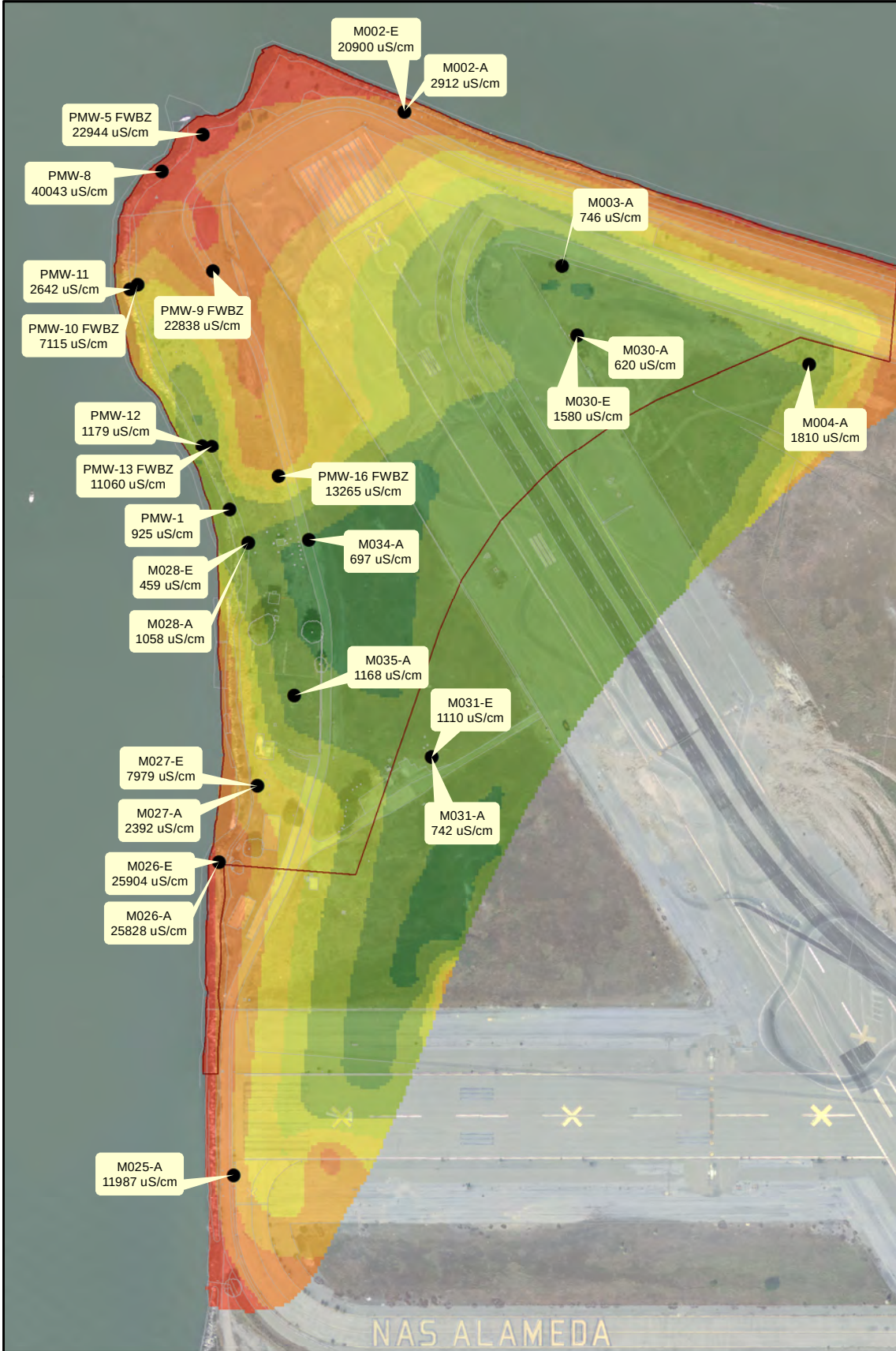
DWN BY: LMS
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: TIDAL EFFICIENCY MAP
FIRST WATER BEARING ZONE

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: -
FIGURE NO.: 2-9

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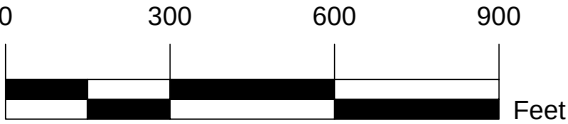


Legend

- Well Locations
- 0 - 1,000 uS/cm
- 1,000.1 - 2,000 uS/cm
- 2,000.1 - 4,000 uS/cm
- 4,000.1 - 6,000 uS/cm
- 6,000.1 - 10,000 uS/cm
- 10,000.1 - 15,000 uS/cm
- 15,000.1 - 25,000 uS/cm
- 25,000.1 - 50,000 uS/cm

Notes:

- Conductivity values shown in callout are the average of all conductivity readings available for each well location. This value was used for the grid interpolation.
- Bay water conductivity set to 50,000 uS/cm (Buchanan 2004).



REFERENCE:
Buchanan, Paul A., 2004, Specific-Conductance and Water-Temperature Data for San Francisco Bay, California, for Water Year 2003. IEP Newsletter: Interagency Ecological Program for the San Francisco Estuary, Volume 17, Number 3, Summer 2004, p. 11-15.



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DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT:
BURN AREA FOCUSED FEASIBILITY STUDY

TITLE:
CONDUCTIVITY MAP
FIRST AND SECOND WATER BEARING ZONES

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: -
FIGURE NO.: 2-10

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OAKLAND
INNER
HARBOR

SAN
FRANCISCO
BAY

Legend

- TRENCHES, COMPLETED 2010
- SLOPED BORING, COMPLETED 2010
- VERTICAL BORING, COMPLETED 2010
- ▲ SLOPED BORING, COMPLETED 2011
- ◆ SLOPED WELL, COMPLETED 2011
- VERTICAL BORING, COMPLETED 2011
- VERTICAL NESTED WELL, COMPLETED 2011



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U.S. Department of the Navy
BRAC PMO West
San Diego, California

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

DWN BY: SFW

DATUM: NAD27

DATE: JANUARY 2013

TITLE: BORINGS AND TRENCHES LOCATION MAP

CHK'D BY: PAG

REV. NO.: 1

PROJECT NO.: N62473-08-D-8816-CTO-002

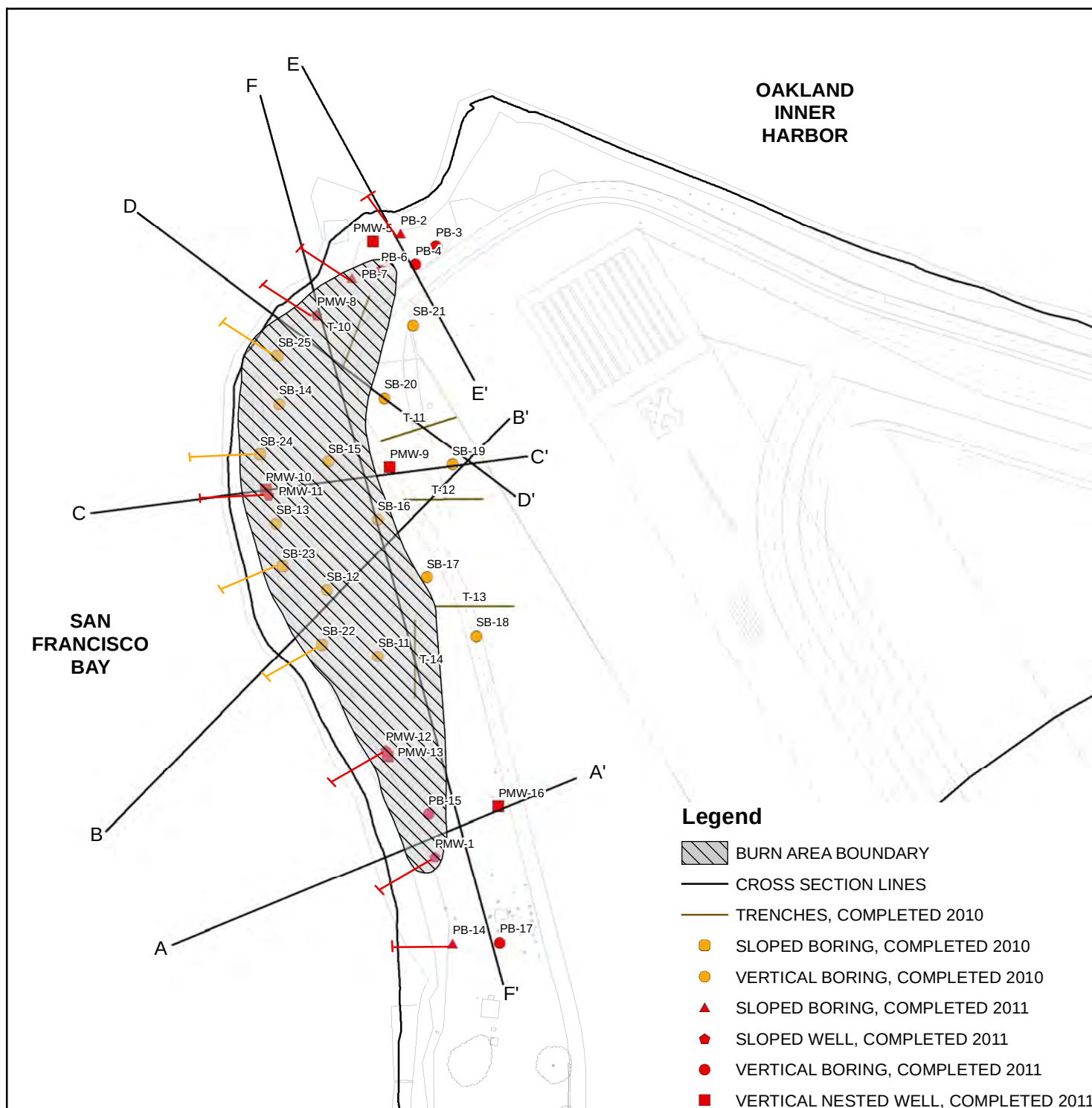
PROJECTION: CA SP III FT

SCALE: 1 inch = 200 feet

FIGURE No.:

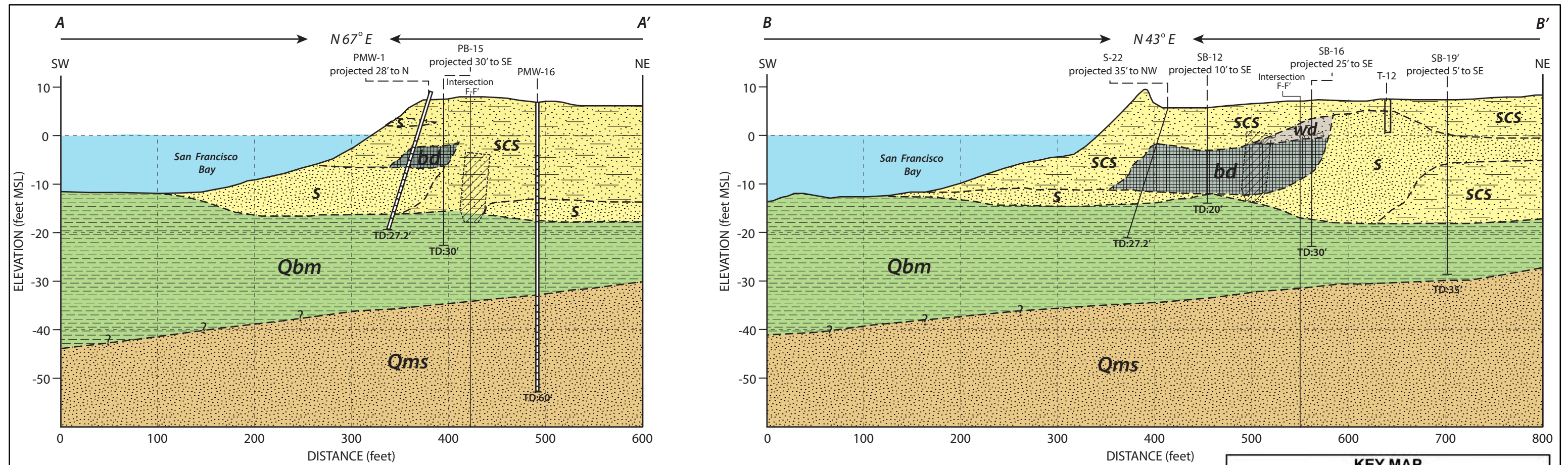
2-11

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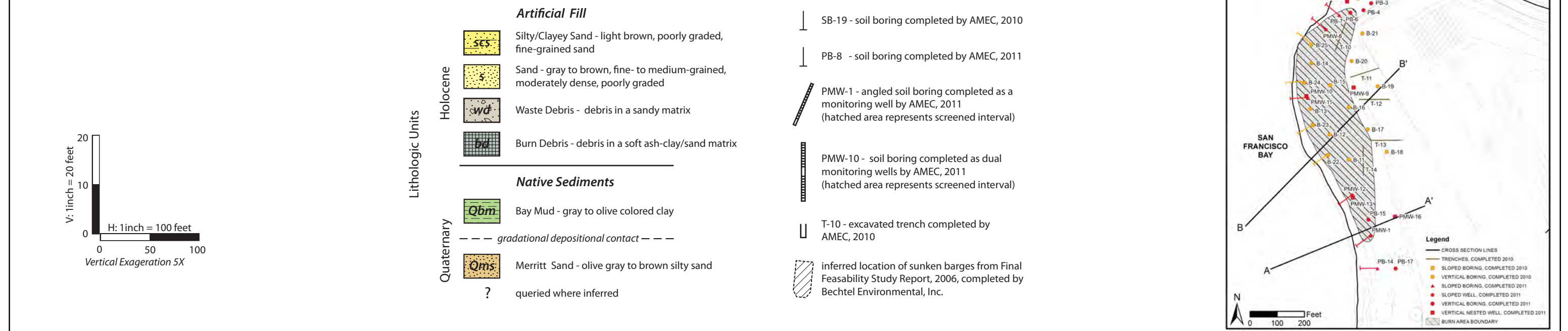


AMEC 9210 Sky Park Court, Suite 200 San Diego, CA 92123						CLIENT: U.S. Department of the Navy BRAC PMO West San Diego, California			
PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY				DWN BY: SFW		DATUM: NAD27		DATE: JANUARY 2013	
TITLE: GEOLOGIC CROSS SECTION LOCATION MAP				CHK'D BY: PAG		REV. NO.: 1		PROJECT NO.: N62473-08-D-8816-CTO-002	
				PROJECTION: CA SP III FT		SCALE: 1 inch = 200 feet		FIGURE No.: 2-12	

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LEGEND



NOTES:
 1. MSL - Mean Sea Level, NAVD 1988
 2. Contact between Bay Mud and Merritt Sand based on review of deeper borings surrounding burn area.



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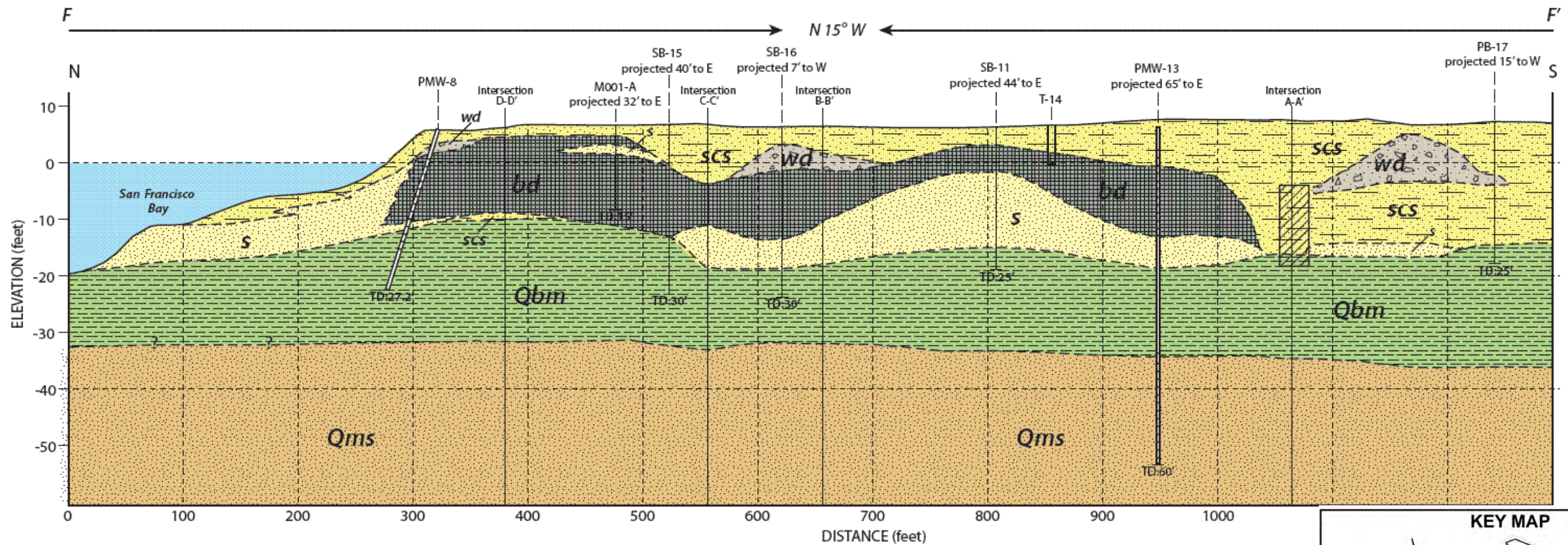
DWN BY: MEK
 CHK'D BY: PAG
 DATUM: NAD27 / NAVD 1988
 PROJECTION: CA SP III Ft.
 SCALE: As shown

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
 TITLE: GEOLOGIC CROSS SECTIONS A-A' AND B-B'

DATE: JANUARY 2013
 PROJECT NO.: N62473-08-D-8816-CTO-002
 REV. NO.: 1
 FIGURE NO.: 2-13

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LEGEND

Artificial Fill

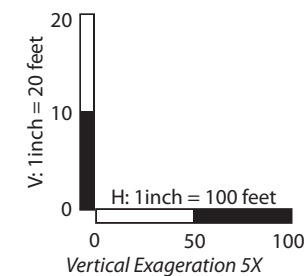
- SCS** Silty/Clayey Sand - light brown, poorly graded, fine-grained sand
- S** Sand - gray to brown, fine- to medium-grained, moderately dense, poorly graded
- wd** Waste Debris - debris in a sandy matrix
- bd** Burn Debris - debris in a soft ash-clay/sand matrix

Native Sediments

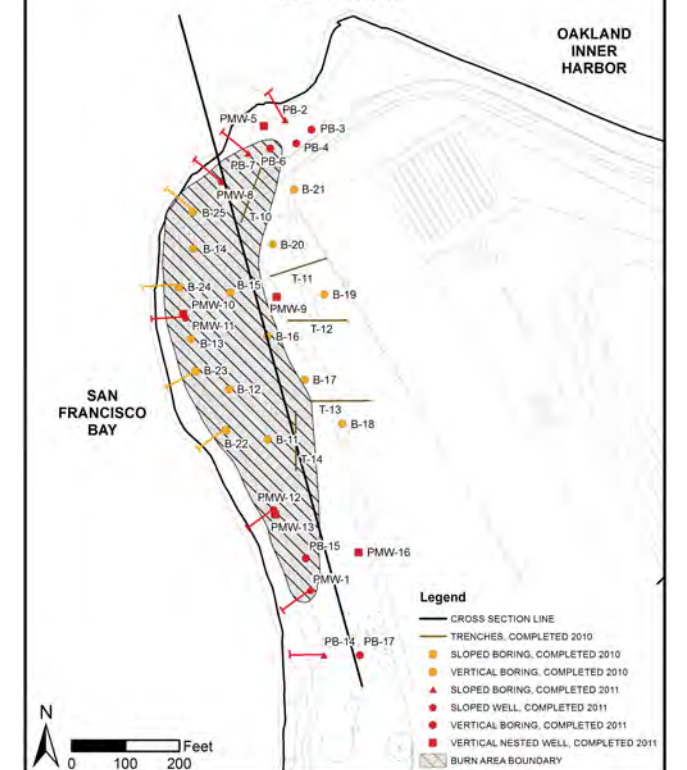
- Qbm** Bay Mud - gray to olive colored clay
- gradational depositional contact ---
- Qms** Merritt Sand - olive gray to brown silty sand
- ? queried where inferred

- PMW-1 - angled soil boring completed as a monitoring well by AMEC, 2011 (hatched area represents screened interval)
- PMW-10 - soil boring completed as dual monitoring wells by AMEC, 2011 (hatched area represents screened interval)
- T-10 - excavated trench completed by AMEC, 2010
- inferred location of sunken barges from Final Feasibility Study Report, 2006, completed by Bechtel Environmental, Inc.

- SB-19 - soil boring completed by AMEC, 2010
- PB-8 - soil boring completed by AMEC, 2011
- M001-A - soil boring completed by TetraTech, 1999
- M028-E - soil boring completed by TetraTech, 1999



KEY MAP



NOTES:
1. MSL - Mean Sea Level, NAVD 1988
2. Contact between Bay Mud and Merritt Sand based on review of deeper borings surrounding burn area.



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DWN BY: MEK
CHK'D BY: PAG
DATUM: NAD27 / NAVD1988
PROJECTION: CA SP III Fl.
SCALE: As Shown

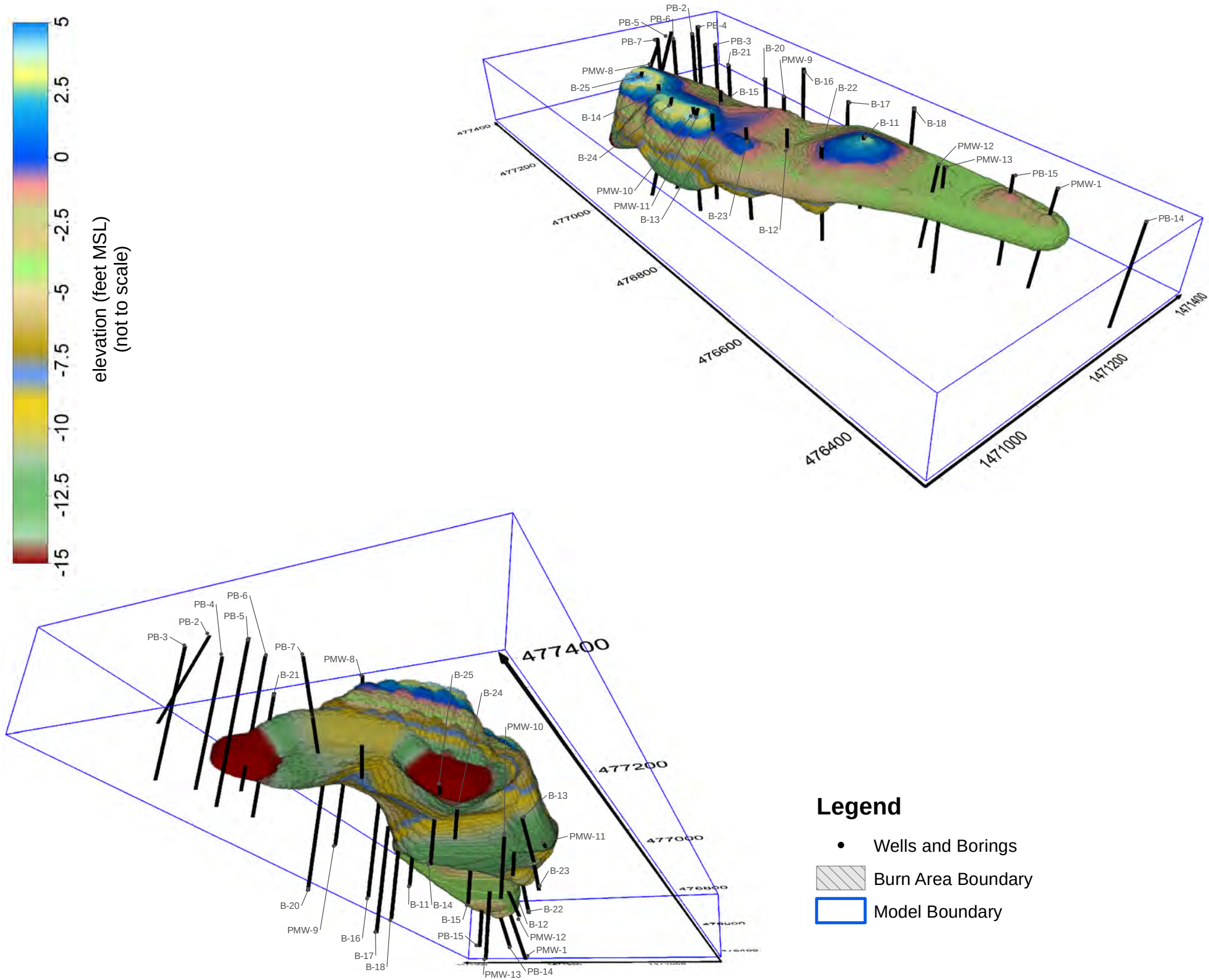
PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: GEOLOGIC CROSS SECTION F-F'

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1

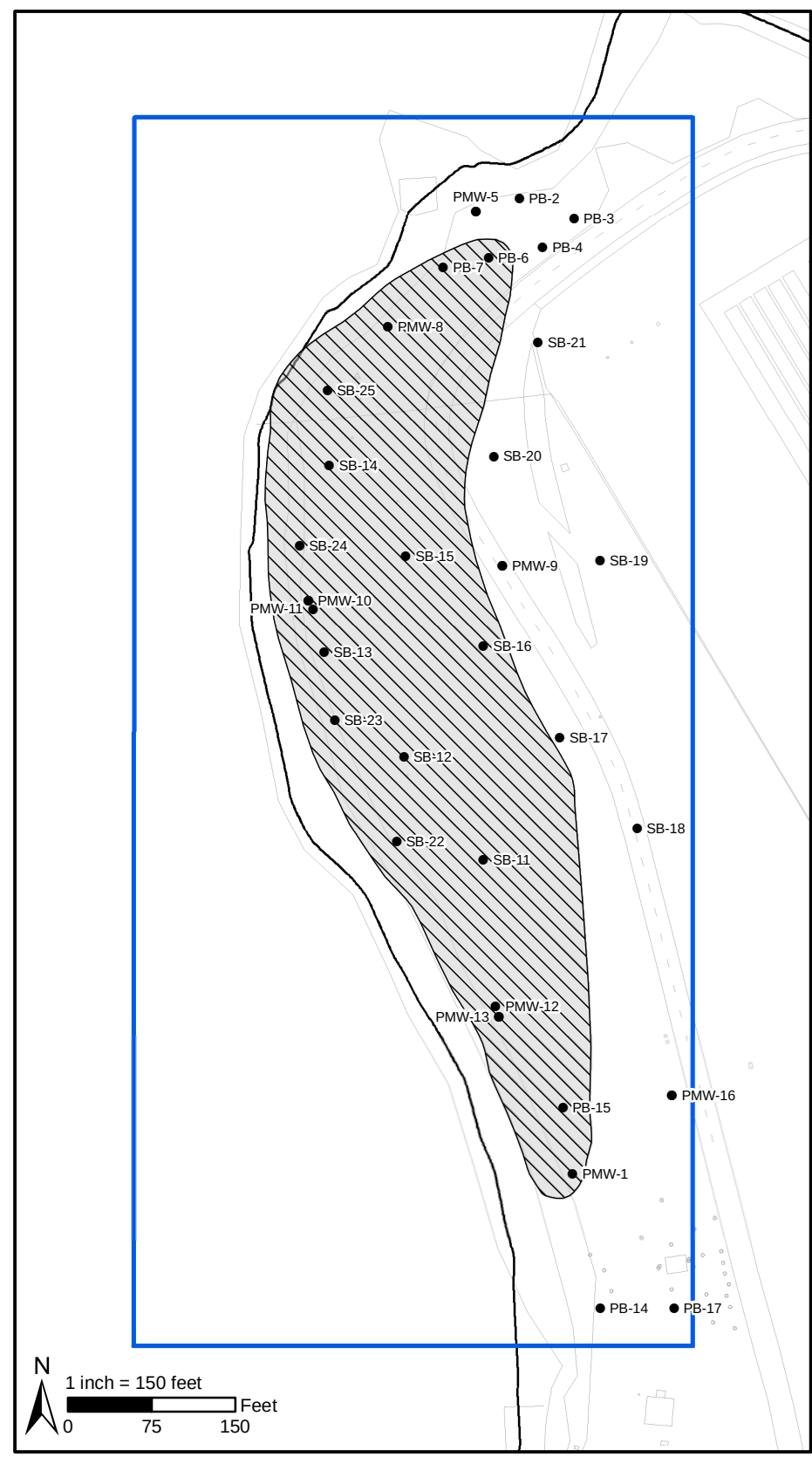
FIGURE NO.:

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Legend

- Wells and Borings
- Burn Area Boundary
- Model Boundary



NOTES:
 1. 3D volume rendering and contouring represents the approximate burn layer limits.
 2. Based on trenching and boring data, the burn layer volume was estimated using isotropic data metric interpolation.



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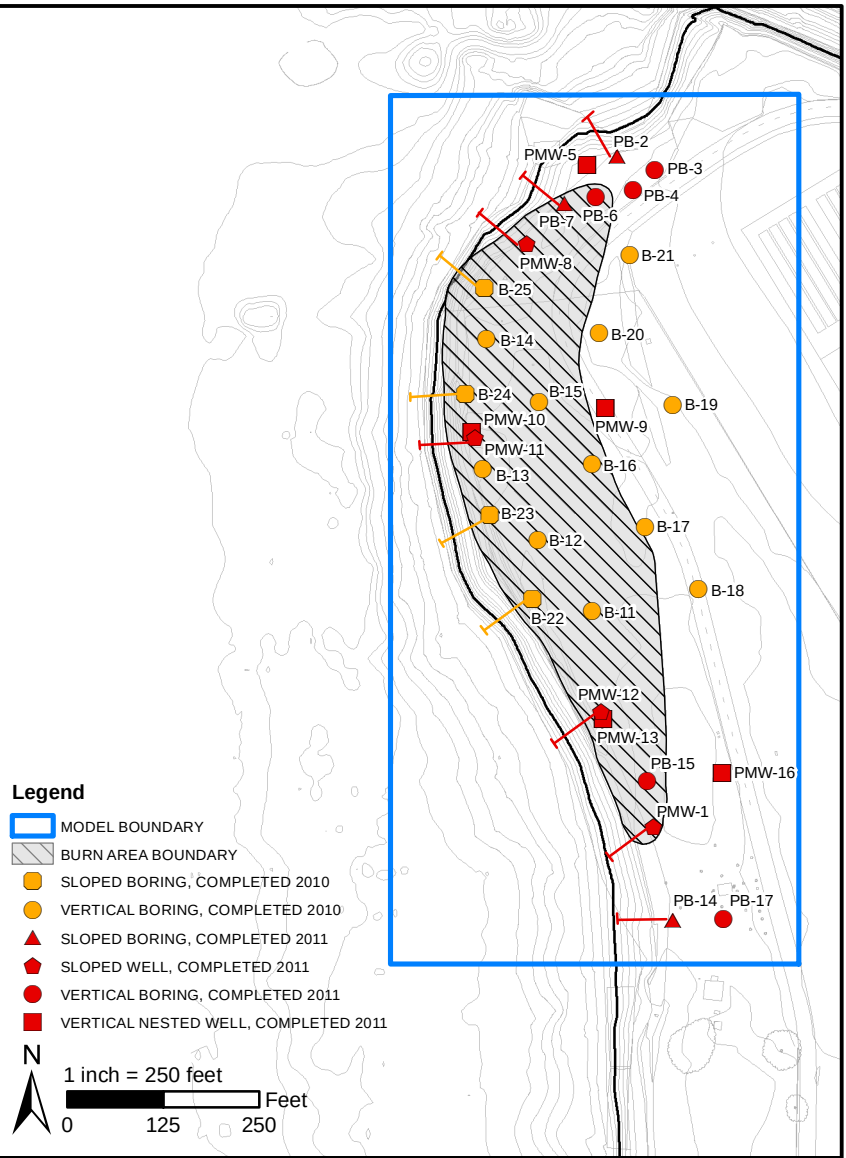
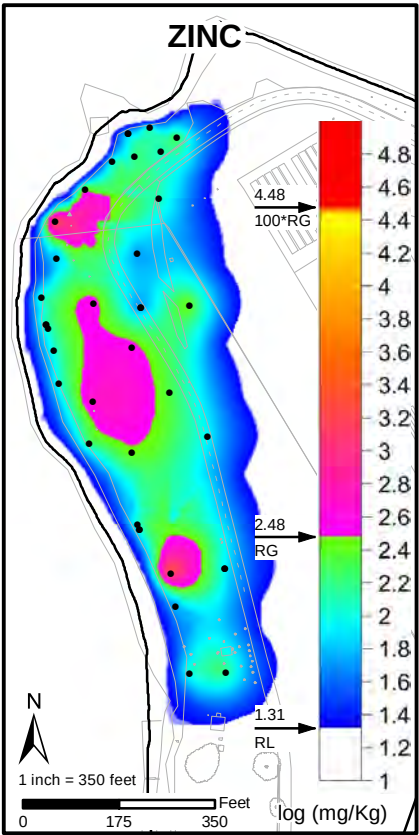
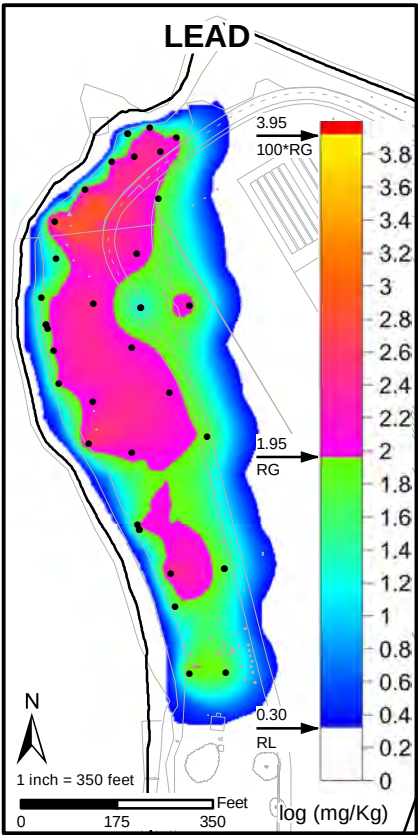
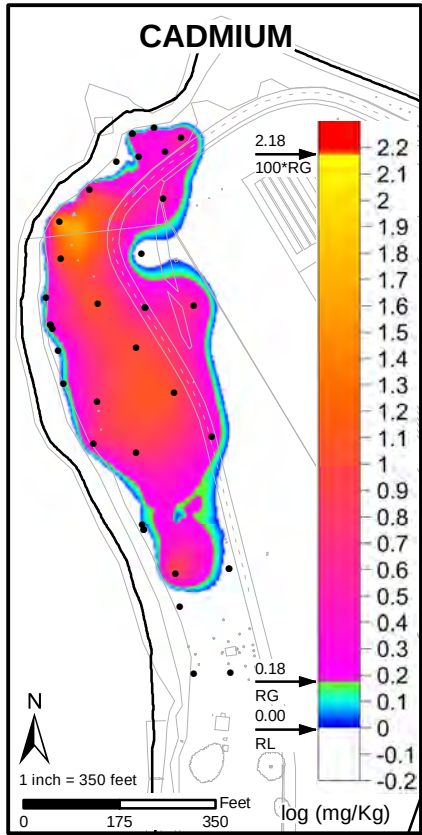
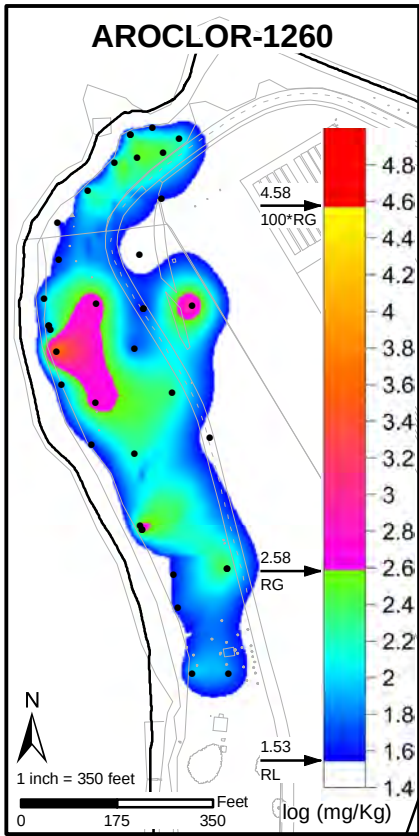
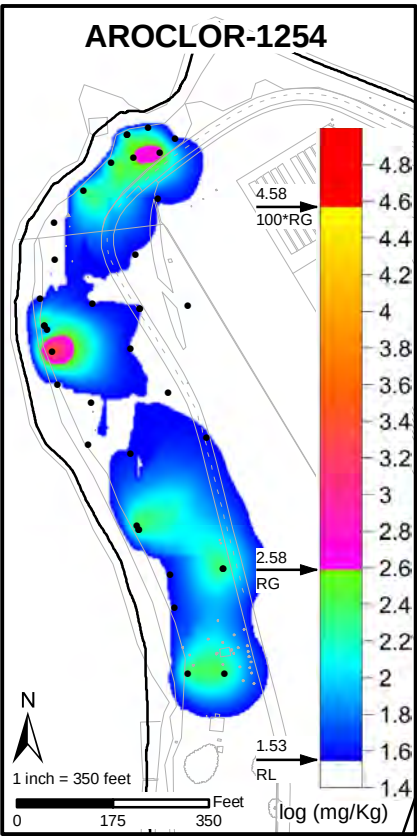
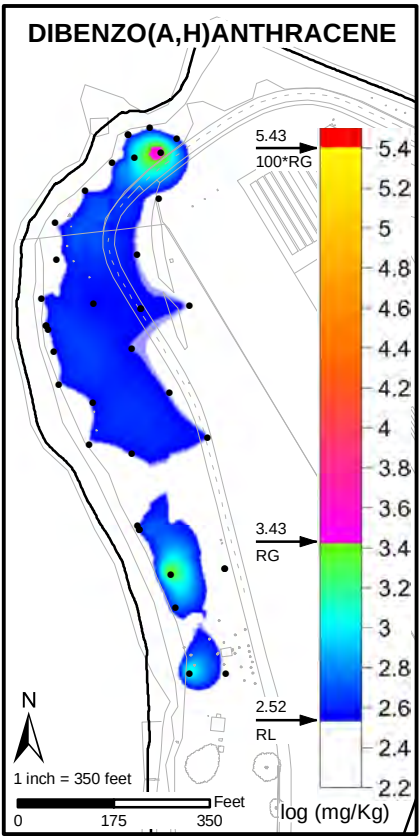
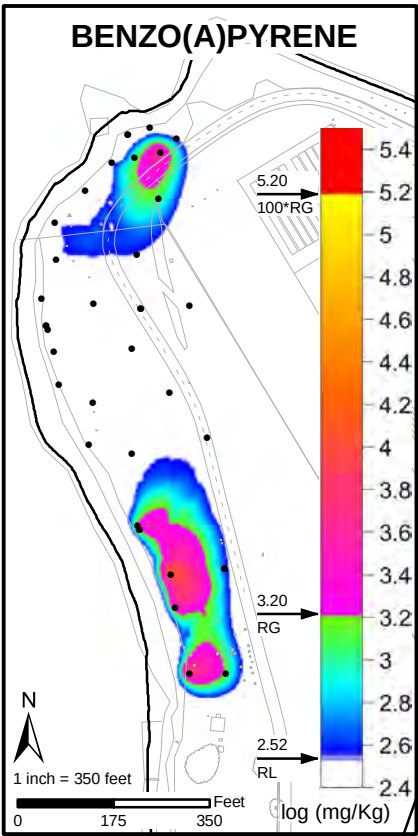
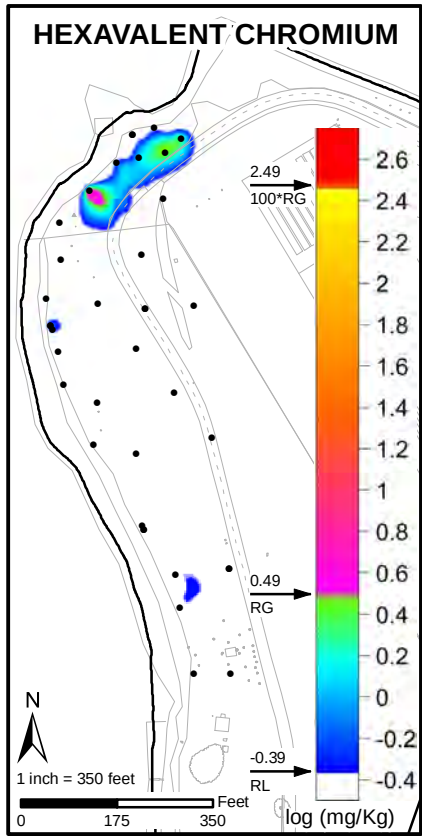
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 CHK'D BY: PAG
 DATUM: NAD27 / NAVD88
 PROJECTION: CA SP III FT
 SCALE: As Shown

PROJECT: **BURN AREA FOCUSED FEASIBILITY STUDY**

TITLE: **Burn Debris Volume Rendering**

DATE: **JANUARY 2013**
 PROJECT NO.: N62473-08-D-8816-CTO-002
 REV. NO.: **1**
 FIGURE NO.: **2-16**

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NOTES:

In the scale bars, the color breaks from white to blue signify the Remediation Limit (RL); from green to pink the Remediation Goal (RG); from yellow to red 100 times the Remediation Goal (100*RG).

The RG for hexavalent chromium is 3.1 milligrams per kilogram (mg/Kg).
The RG for benzo(a)pyrene is 1.6 mg/Kg.
The RG for dibenzo(a,h)anthracene is 2.7 mg/Kg.
The RG for aroclor-1254 is 0.38 mg/Kg.
The RG for aroclor-1260 is 0.38 mg/Kg.
The RG for cadmium is 1.50 mg/Kg.
The RG for lead is 88.32 mg/Kg.
The RG for zinc is 300 mg/Kg.

NOTES:

Chemical and radiological goals are cited per Tables 8-1, 8-2, and 8-3 of the Final Record of Decision for Installation Restoration Site 1, 1943-1956 Disposal Area, Alameda Point, Alameda, California.



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CHK'D BY:

PAG

DATUM:

NAD27

PROJECTION:

CA SP III FT

SCALE:

AS SHOWN

PROJECT:

BURN AREA FOCUSED FEASIBILITY STUDY

TITLE:

Remediation Goal Exceedances
Ground Surface to 1-foot Below Ground Surface

DATE:

JANUARY 2013

PROJECT NO.:

N62473-08-D-8816-CTO-002

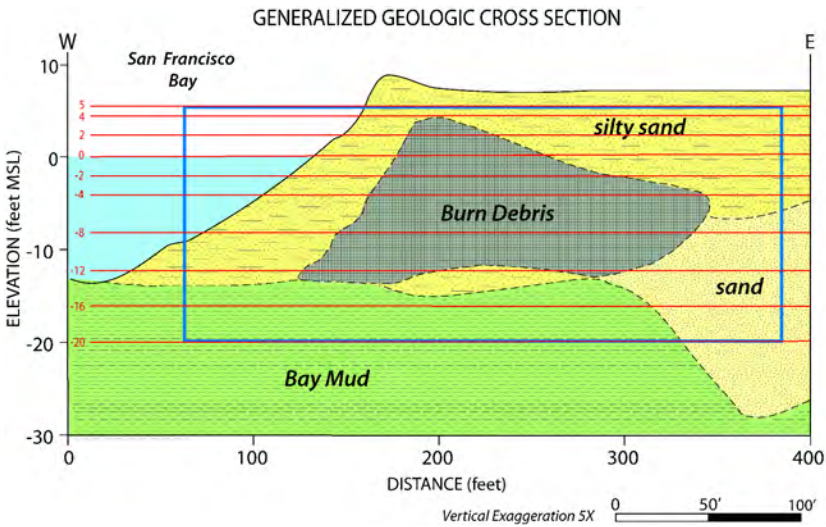
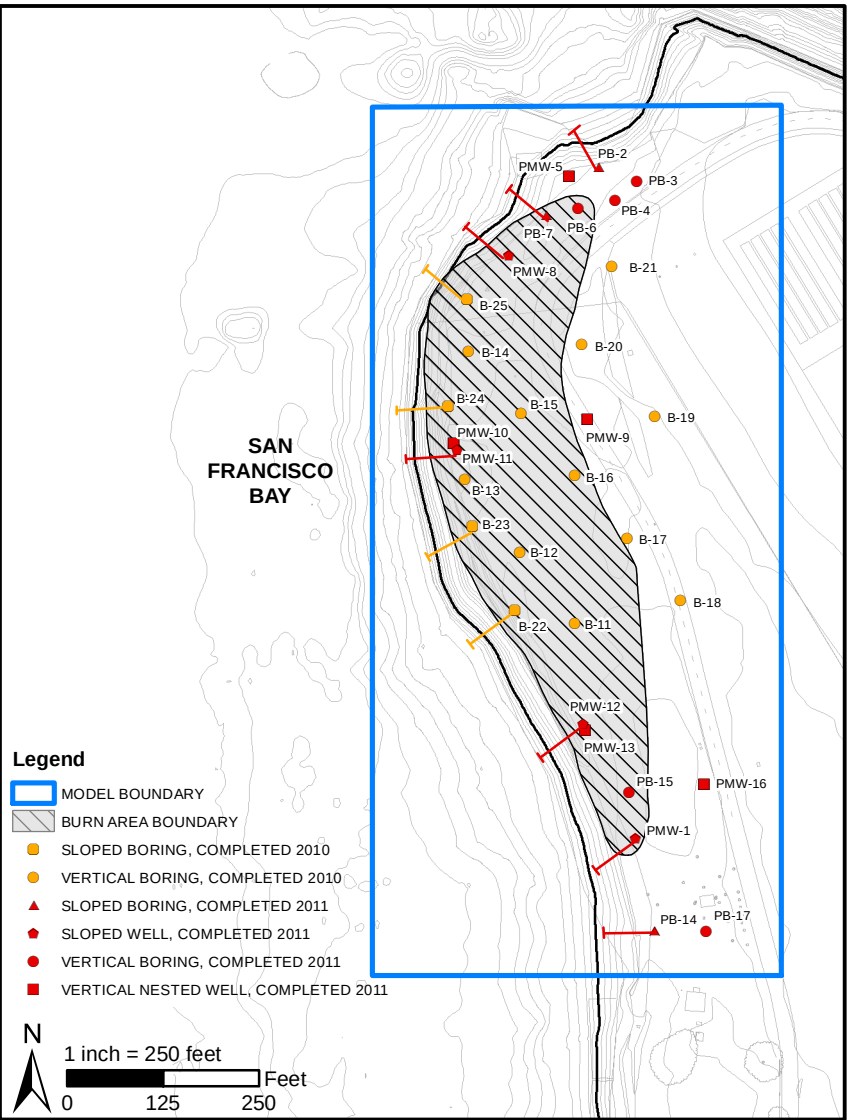
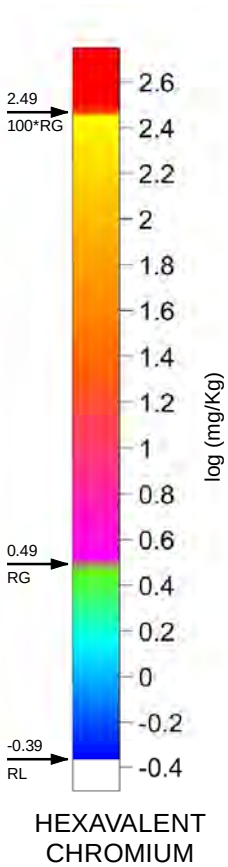
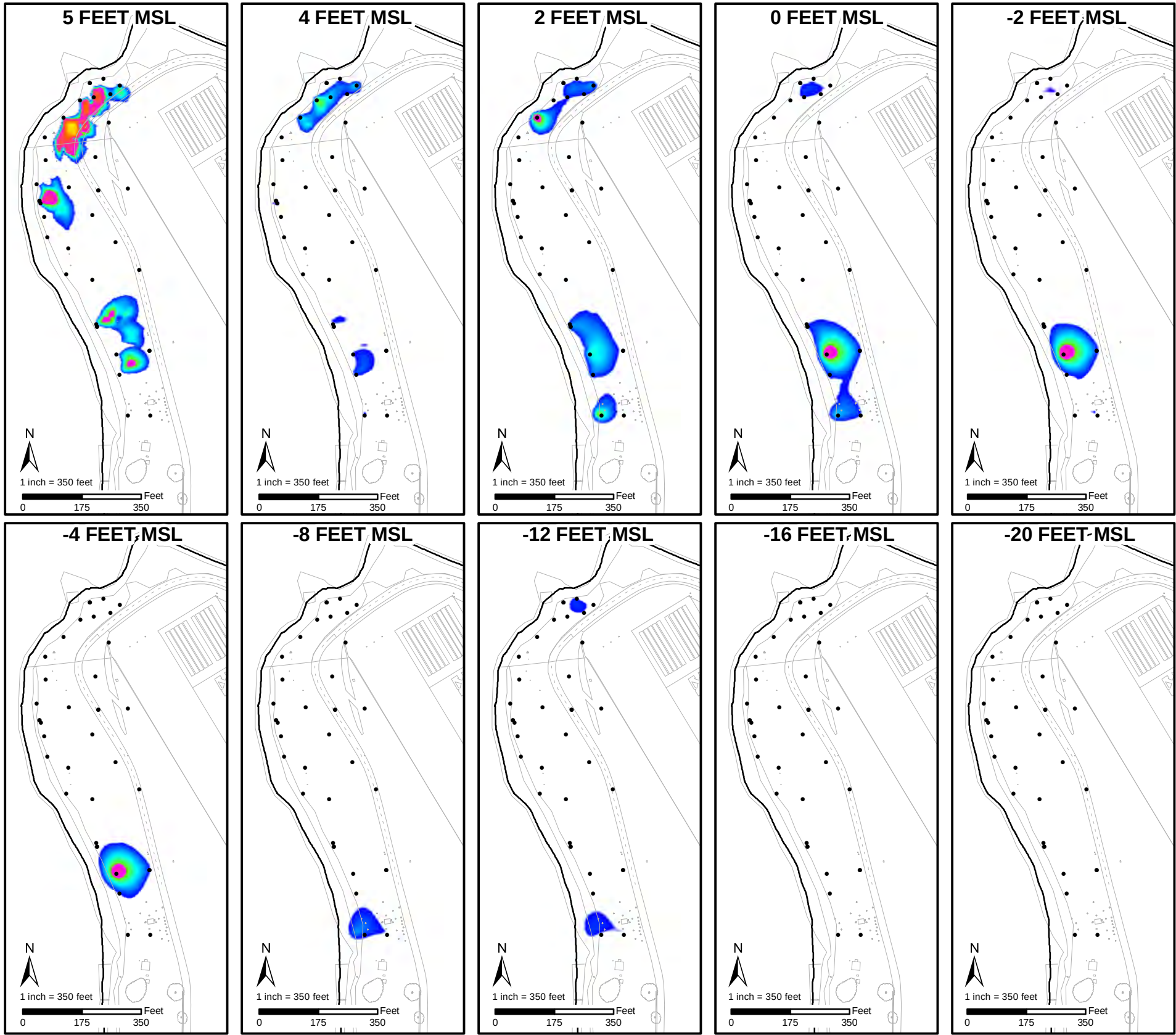
REV. NO.:

1

FIGURE NO.:

2-17

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NOTES:
1. The remediation goal (RG) for hexavalent chromium is 3.1 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for hexavalent chromium analysis across the set of samples is 0.41 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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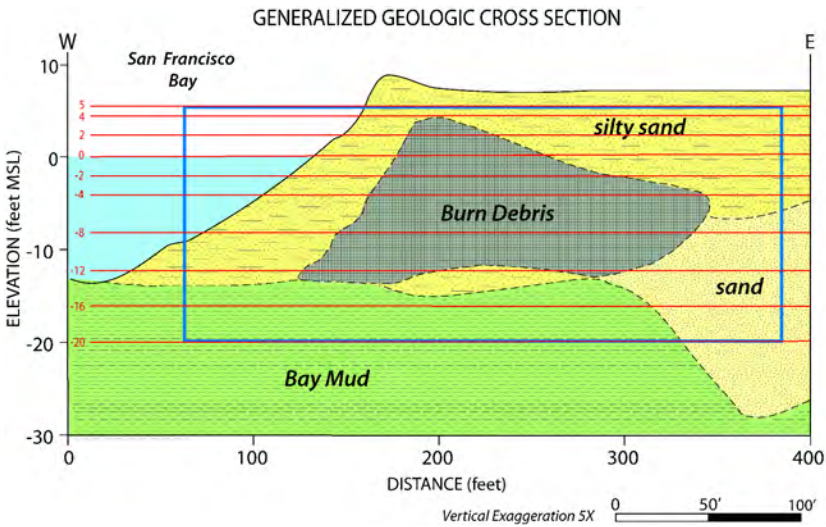
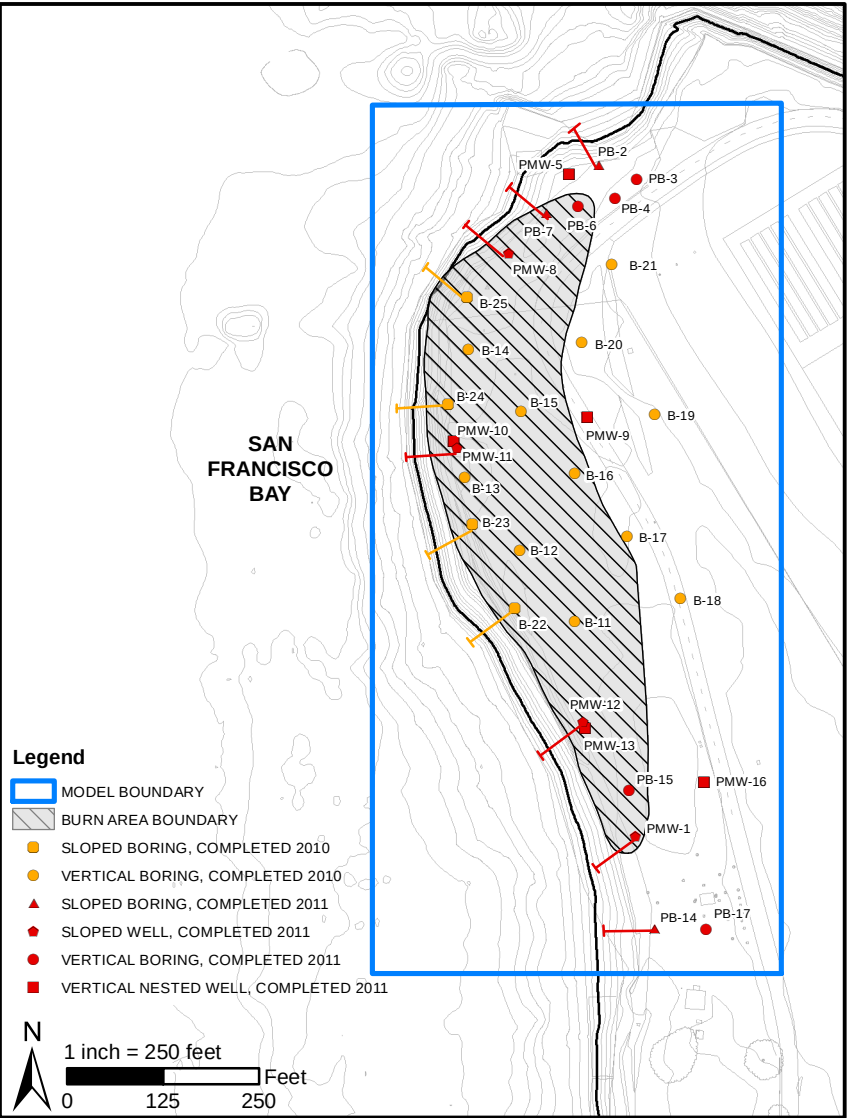
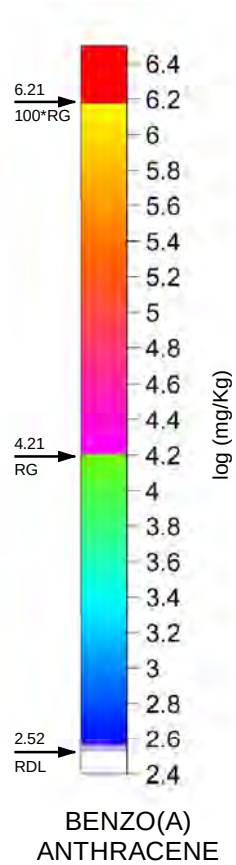
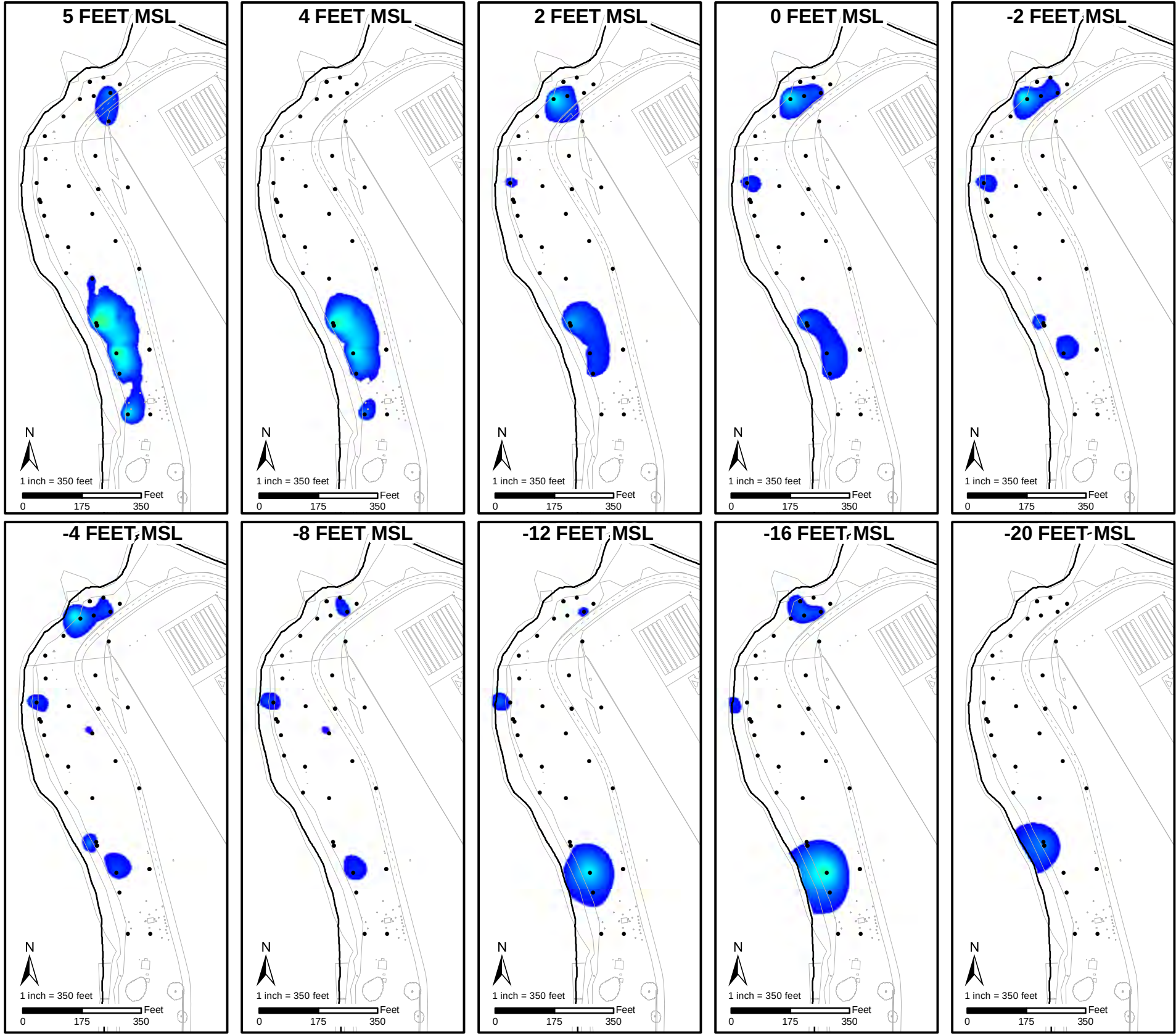


DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: AS SHOWN

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
TITLE: Hexavalent Chromium - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-18

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NOTES:
1. The remediation goal (RG) for benzo(a)anthracene is 16.4 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for benzo(a)anthracene analysis across the set of samples is 330 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.
4. Exceedences for benzo(a)anthracene were not detected.



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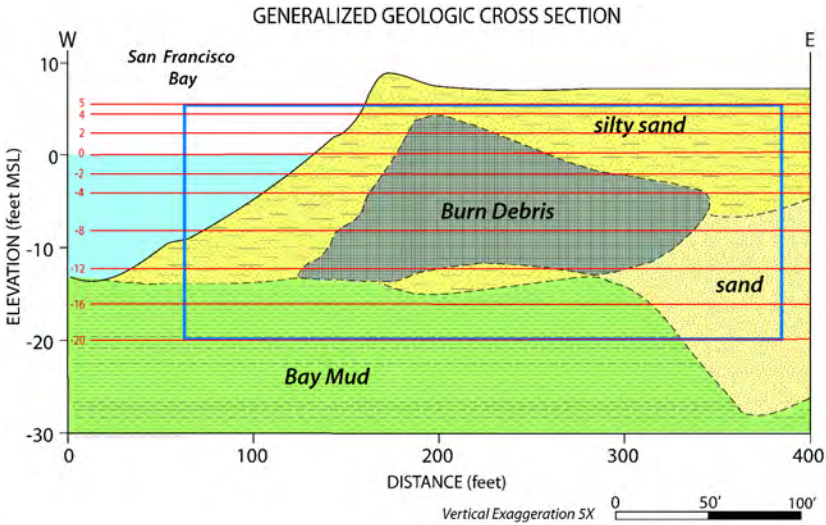
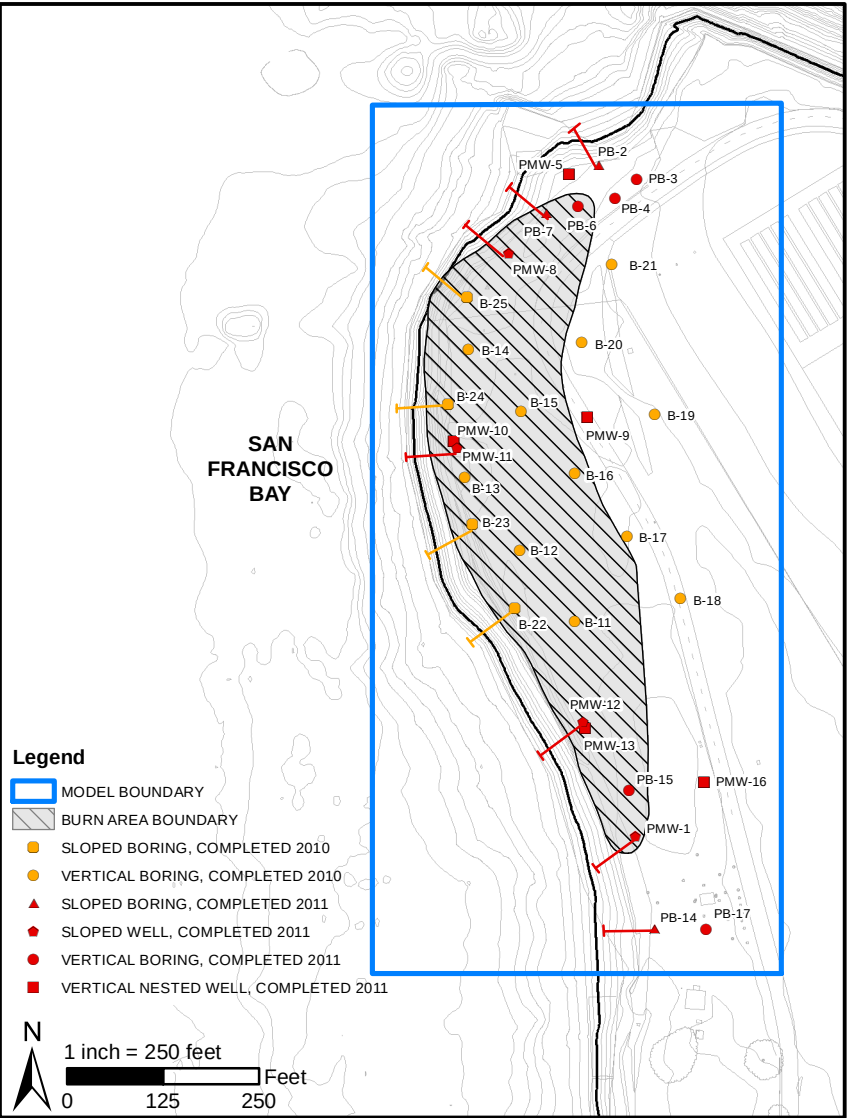
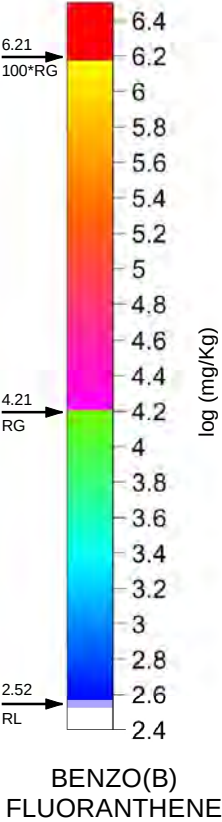
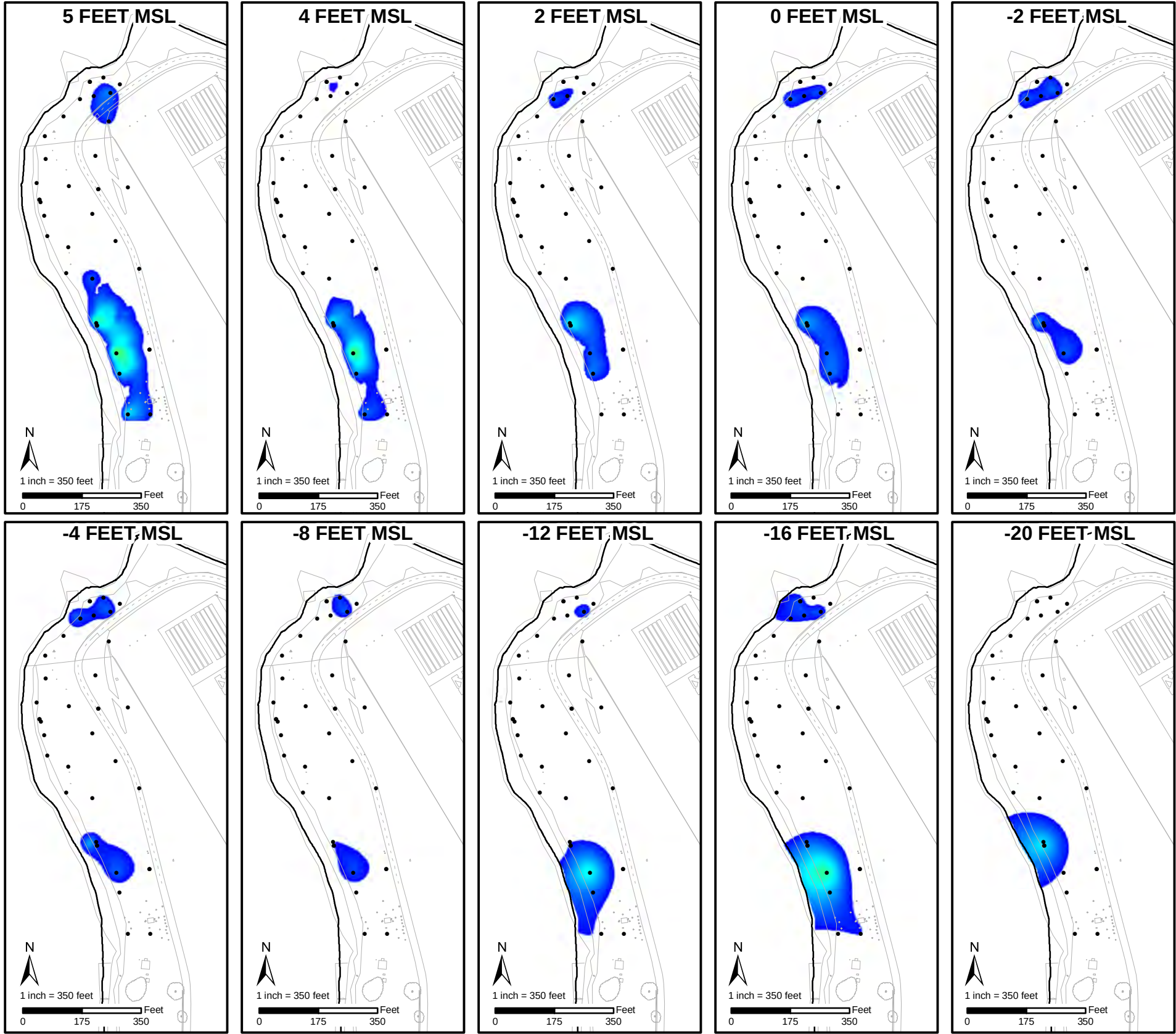
DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: AS SHOWN

PROJECT:
BURN AREA FOCUSED FEASIBILITY STUDY

TITLE:
Benzo(a)anthracene - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

DATE:
JANUARY 2013
PROJECT NO.:
N62473-08-D-8816-CTO-002
REV. NO.:
1
FIGURE NO.:
2-19

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NOTES:
1. The remediation goal (RG) for benzo(b)fluoranthene is 16.4 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for benzo(b)fluoranthene analysis across the set of samples is 330 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.
4. Exceedances for benzo(b)fluoranthene were not detected.



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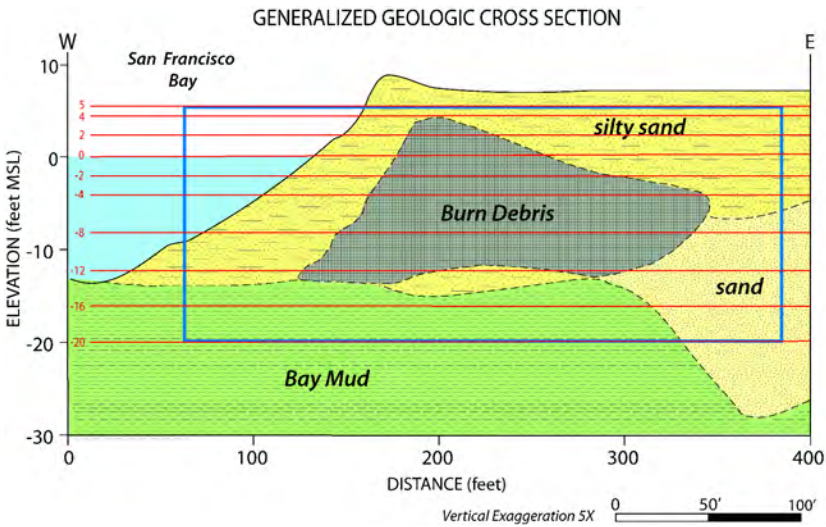
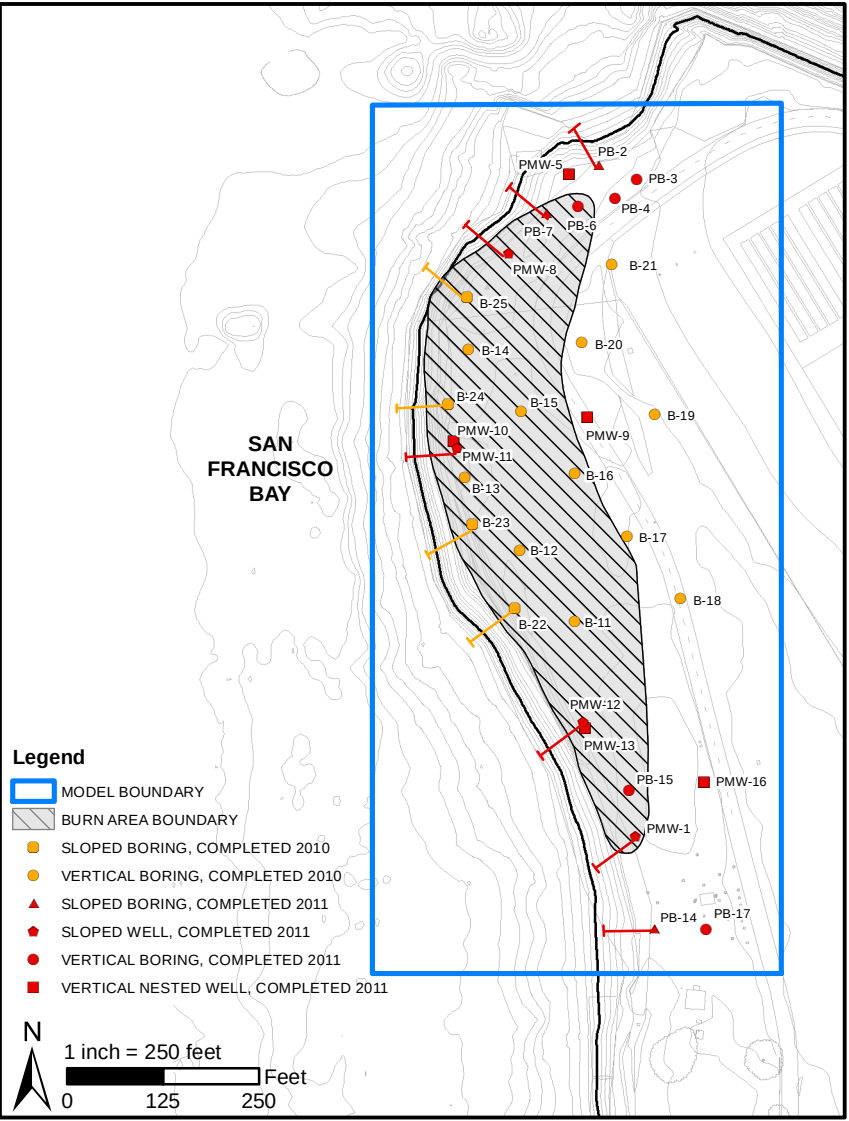
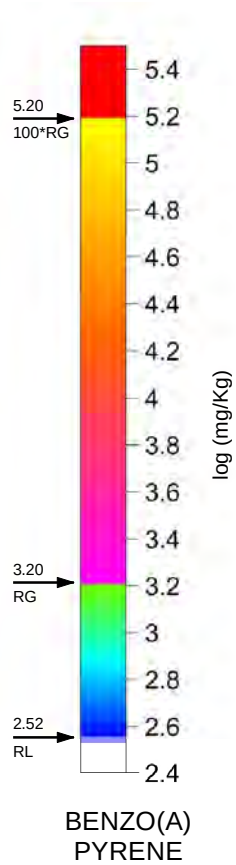
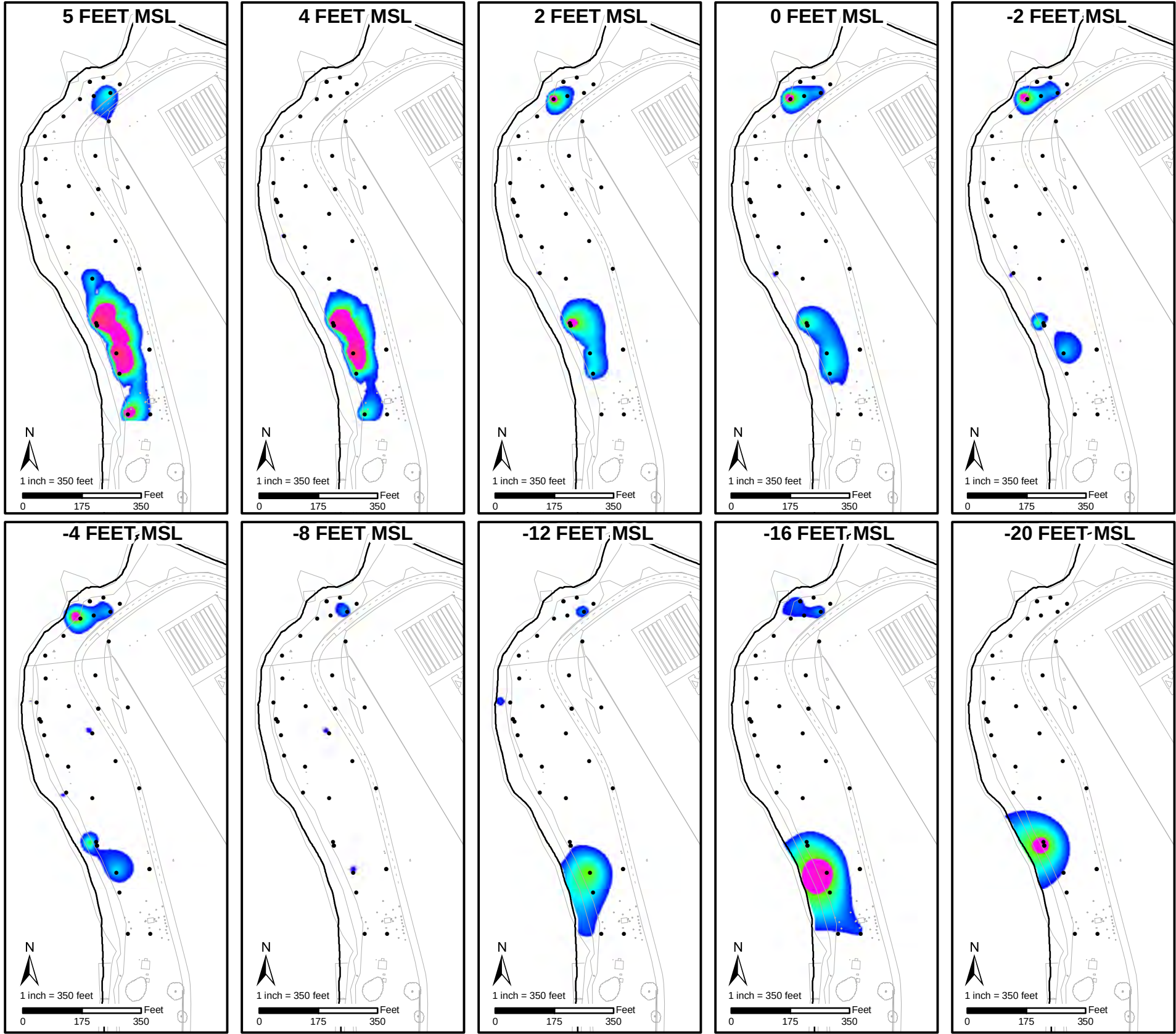


DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: AS SHOWN

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
TITLE: Benzo(b)fluoranthene - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-20

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NOTES:
1. The remediation goal (RG) for benzo(a)pyrene is 1.6 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for benzo(a)pyrene analysis across the set of samples is 330 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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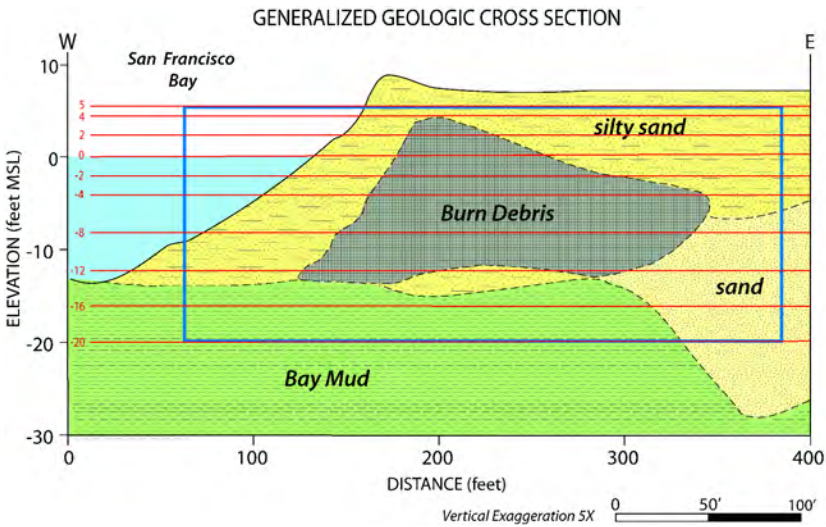
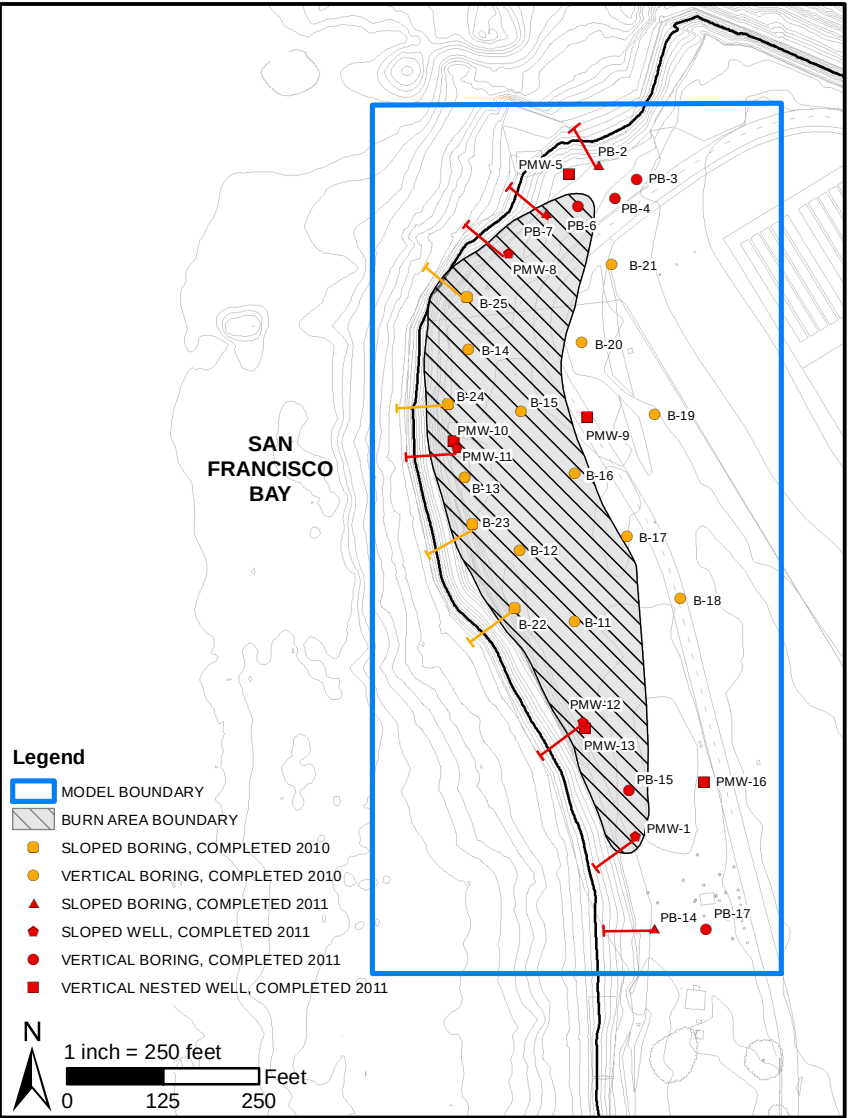
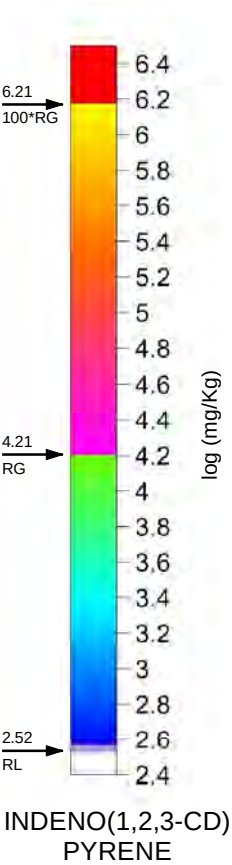
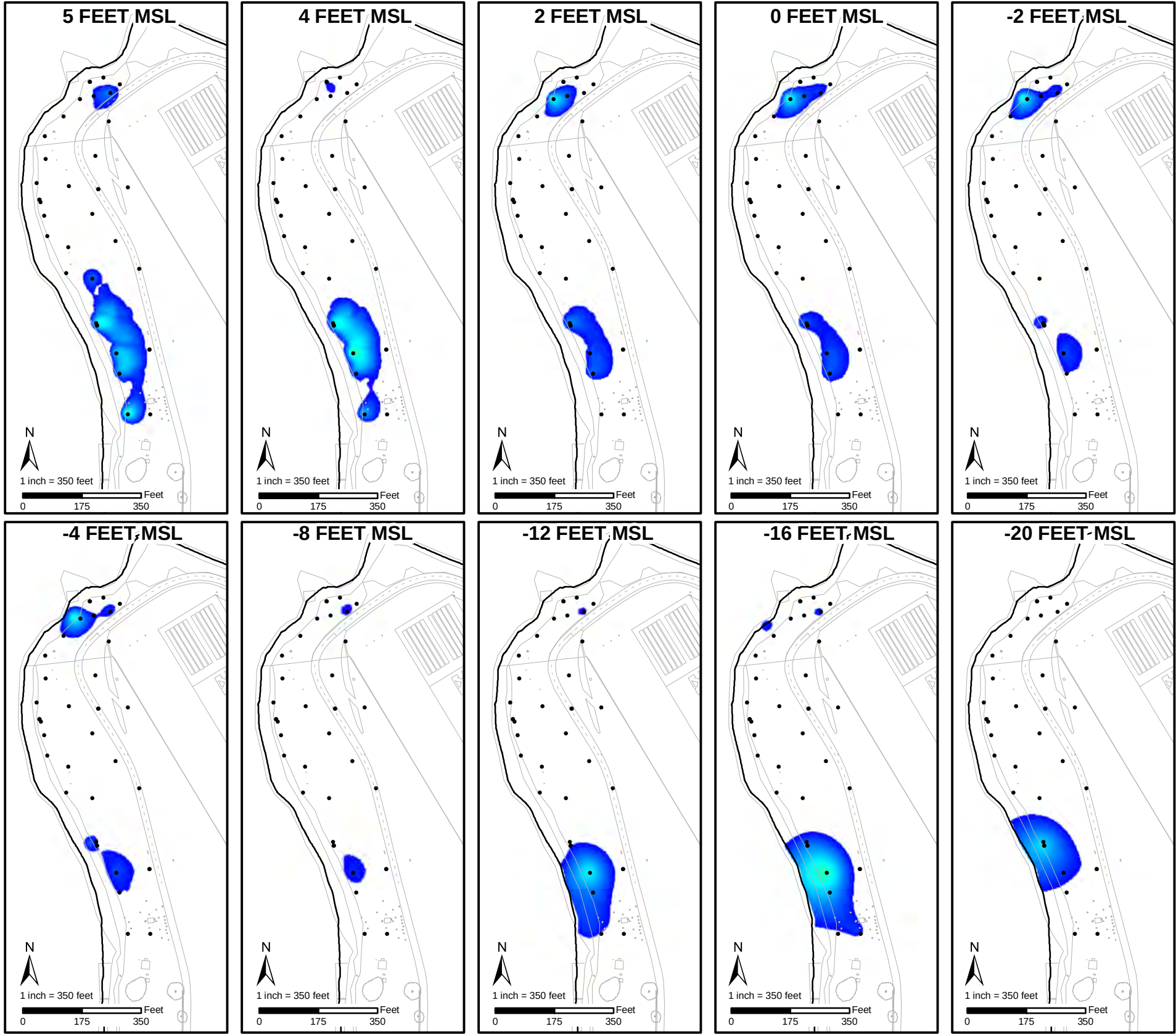
DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: Benzo(a)pyrene - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-21

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NOTES:
1. The remediation goal (RG) for indeno(1,2,3-cd)pyrene is 16.4 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for indeno(1,2,3-cd)pyrene analysis across the set of samples is 330 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.
4. Exceedances for indeno(1,2,3-cd)pyrene were not detected.



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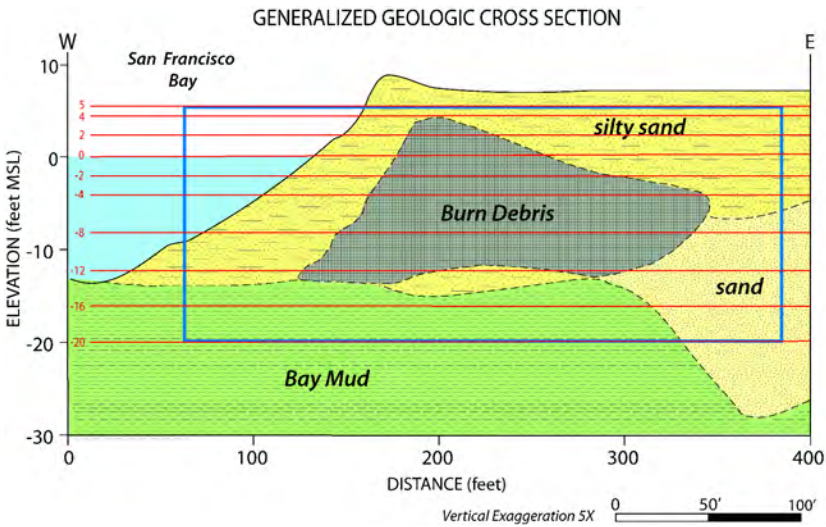
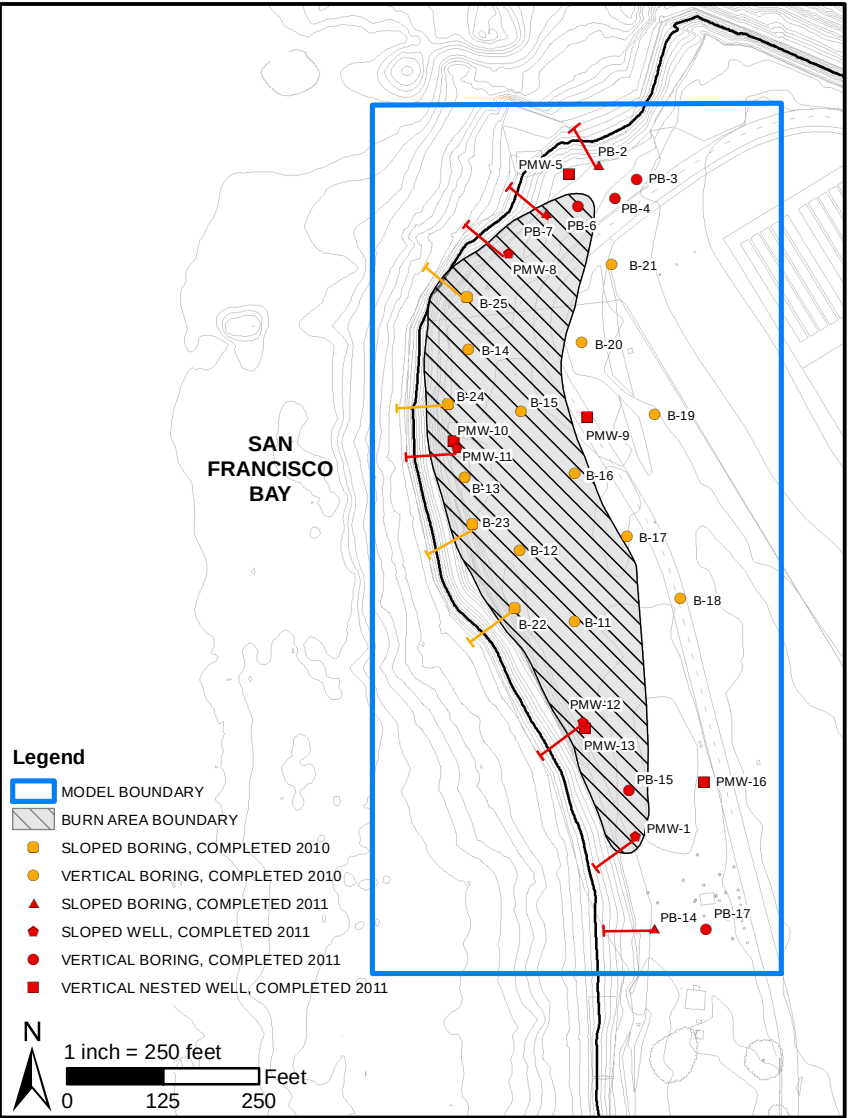
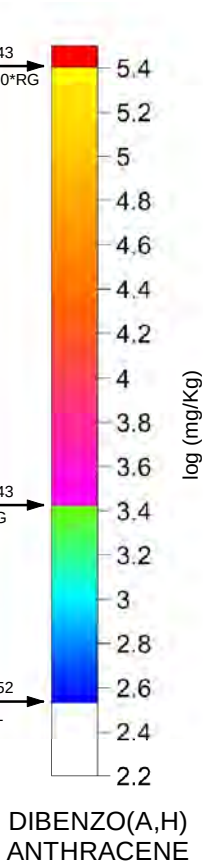
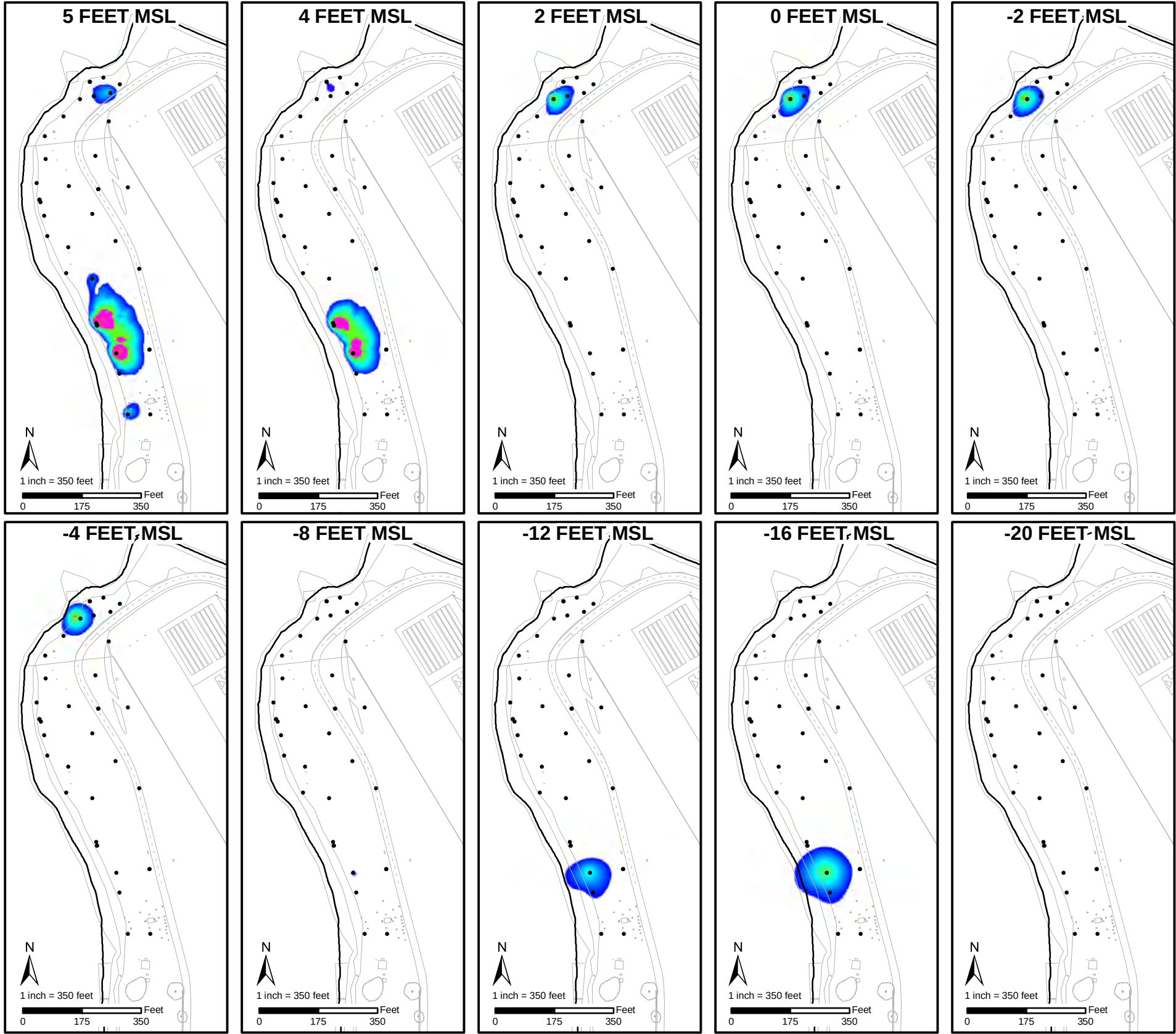


DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
TITLE: Indeno(1,2,3-cd)pyrene - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-22

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NOTES:
1. The remediation goal (RG) for dibenzo(a,h)anthracene is 2.7 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for dibenzo(a,h)anthracene analysis across the set of samples is 330 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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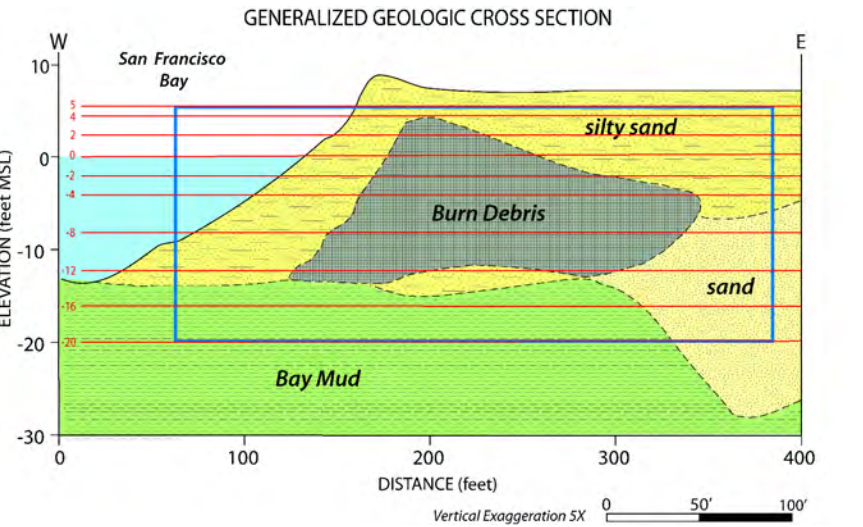
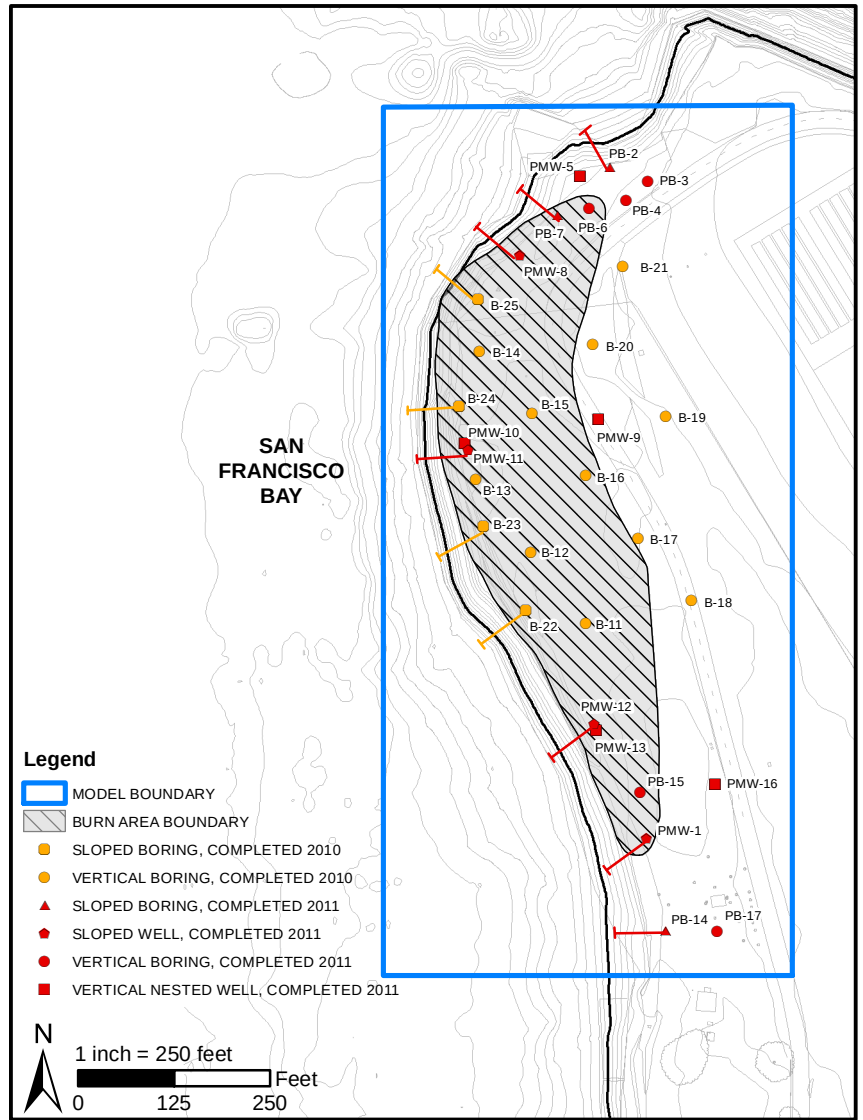
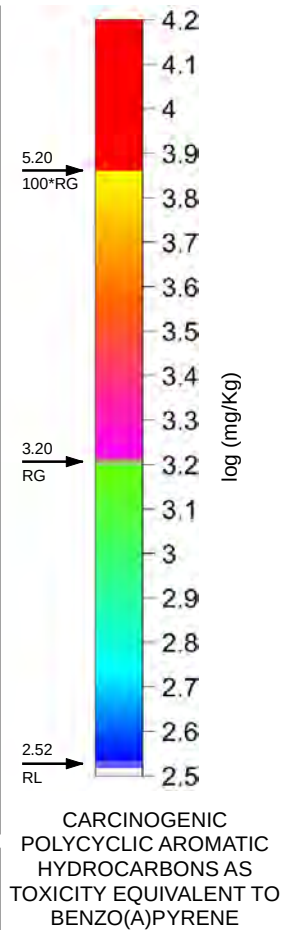
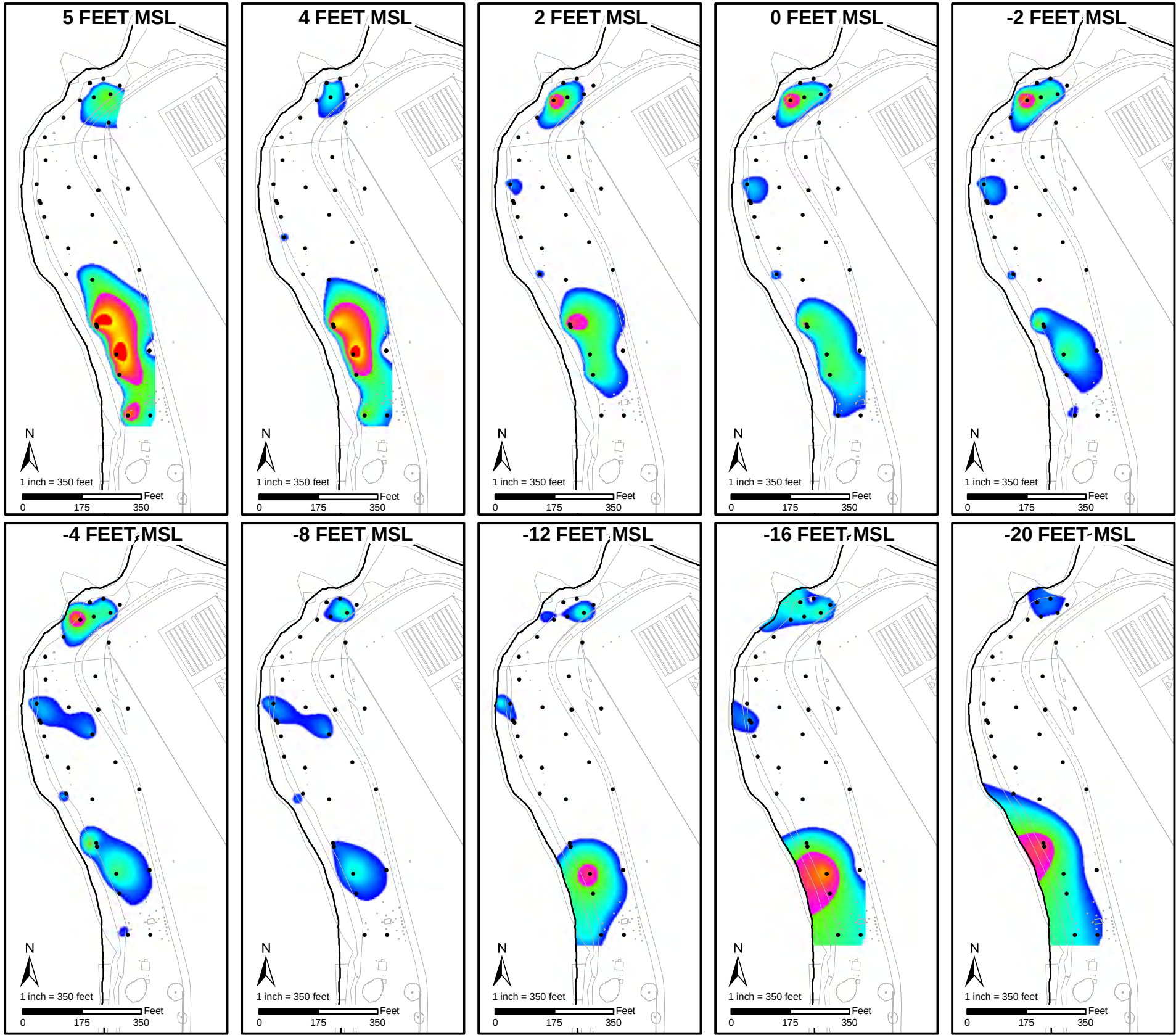


DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
TITLE: Dibenzo(a,h)anthracene - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-23

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NOTES:

1. The remediation goal (RG) for benzo(a)pyrene is 1.6 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for benzo(a)pyrene analysis across the set of samples is 330 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT:

BURN AREA FOCUSED FEASIBILITY STUDY

TITLE:

SOIL CONCENTRATIONS IN BURN AREA
CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
AS TOXICITY EQUIVALENT TO BENZO(A)PYRENE

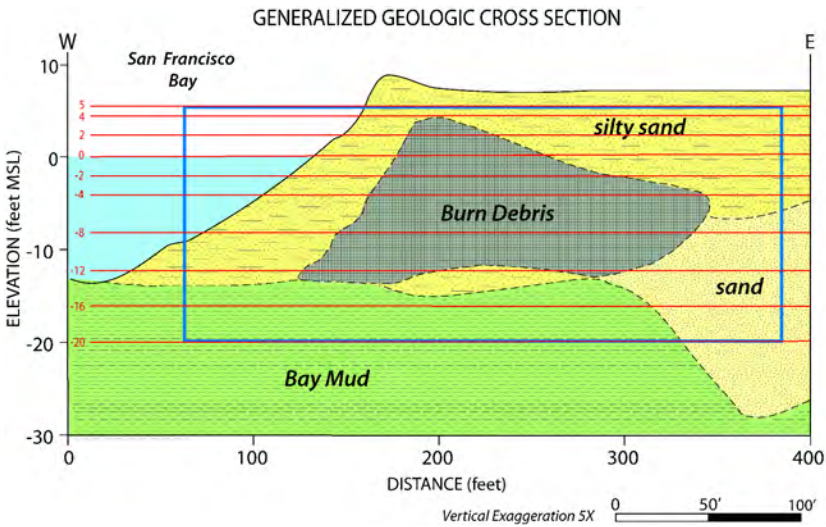
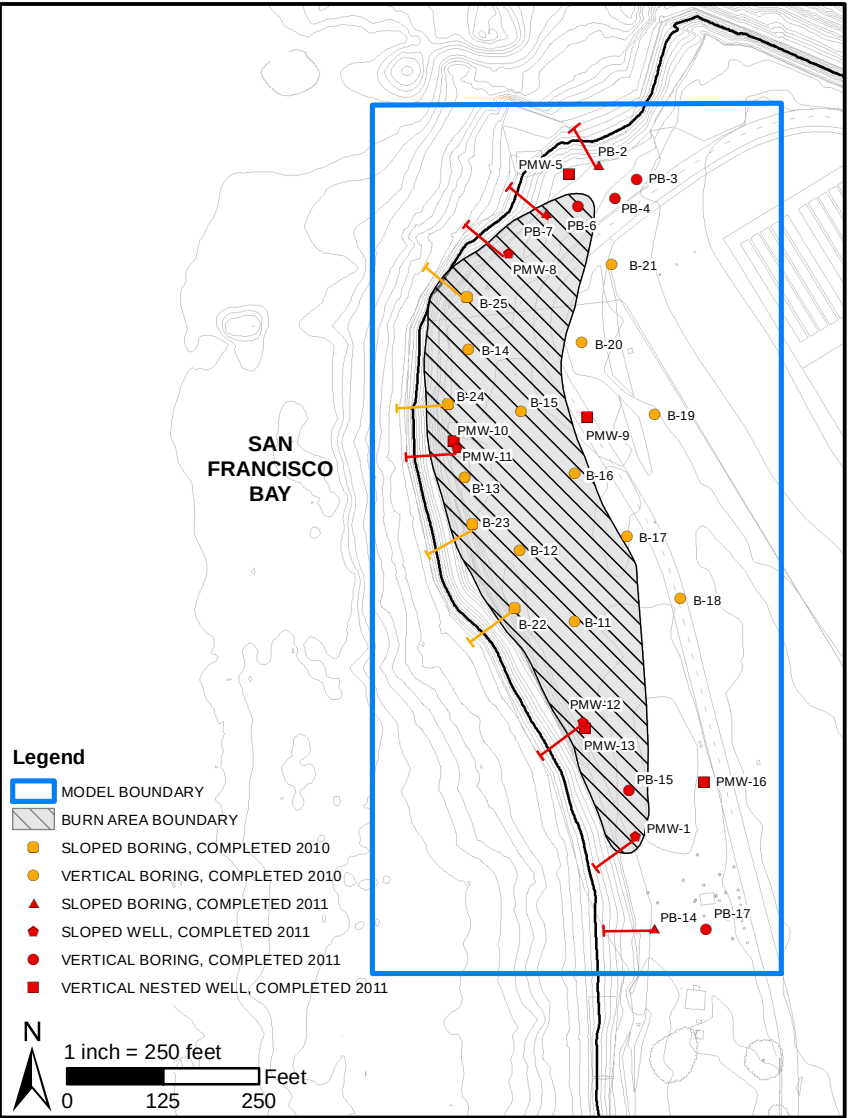
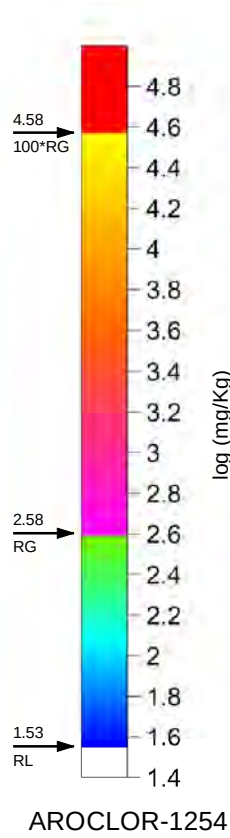
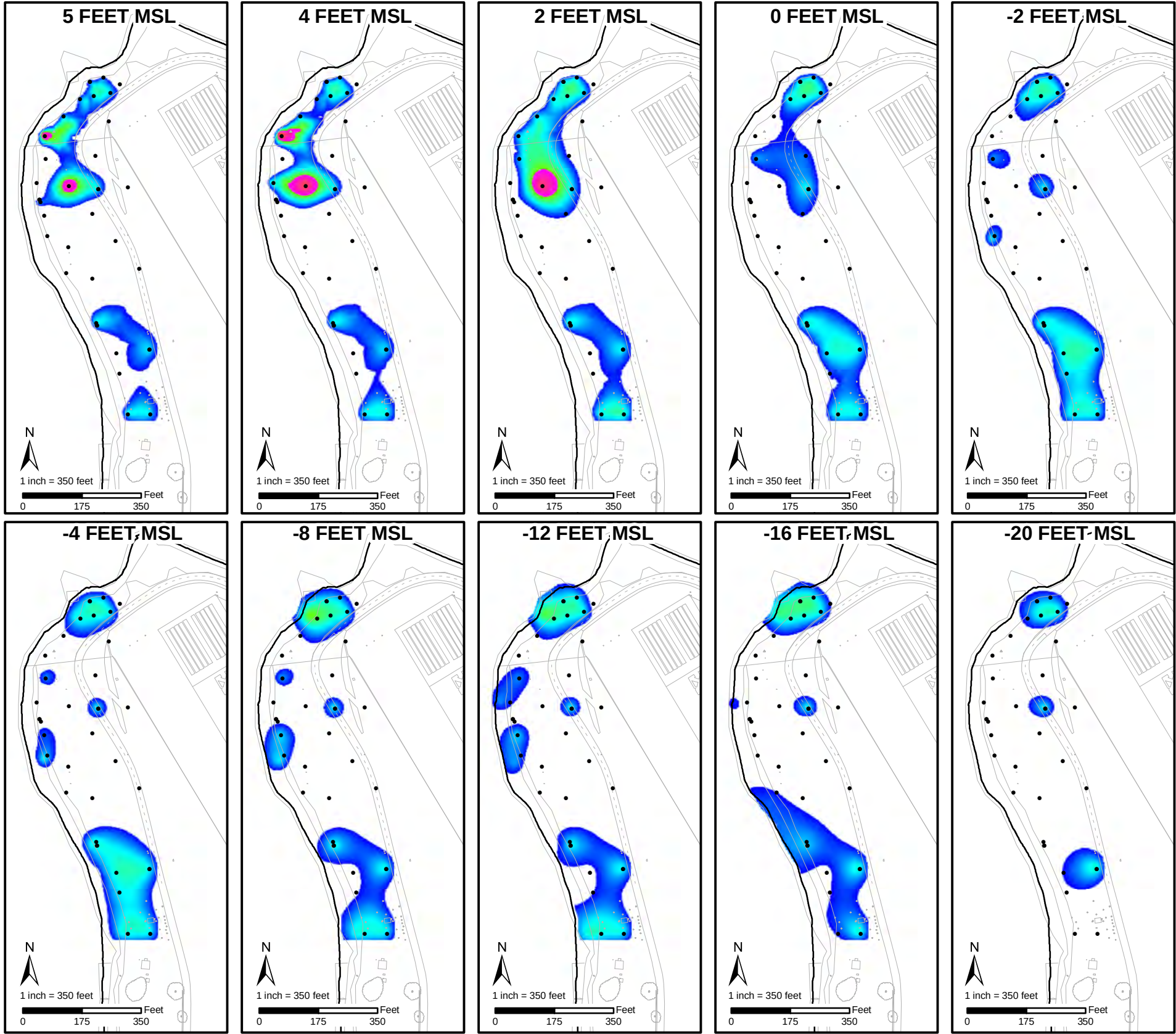
DATE:
JANUARY 2013

PROJECT NO.:
N62473-08-D-8816-CTO-002

REV. NO.:
1

FIGURE NO.:
2-24

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NOTES:
1. The remediation goal (RG) for aroclor-1254 is 0.38 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for aroclor-1254 analysis across the set of samples is 34 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: Aroclor-1254 - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

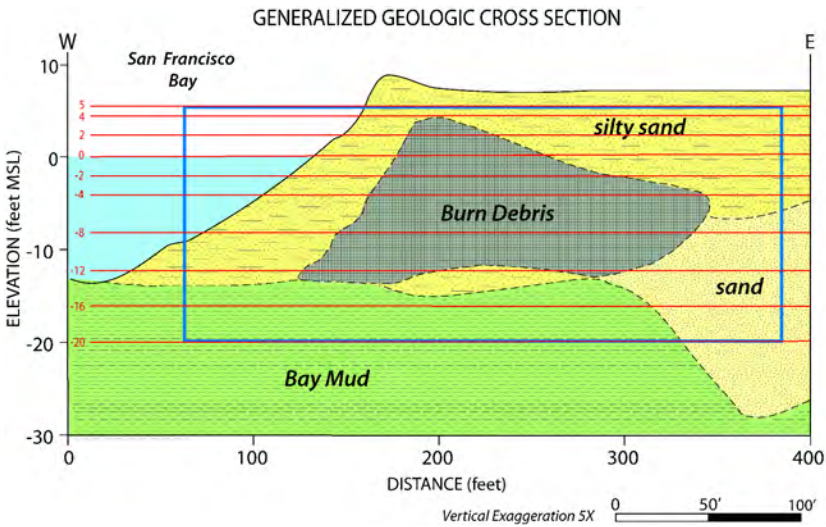
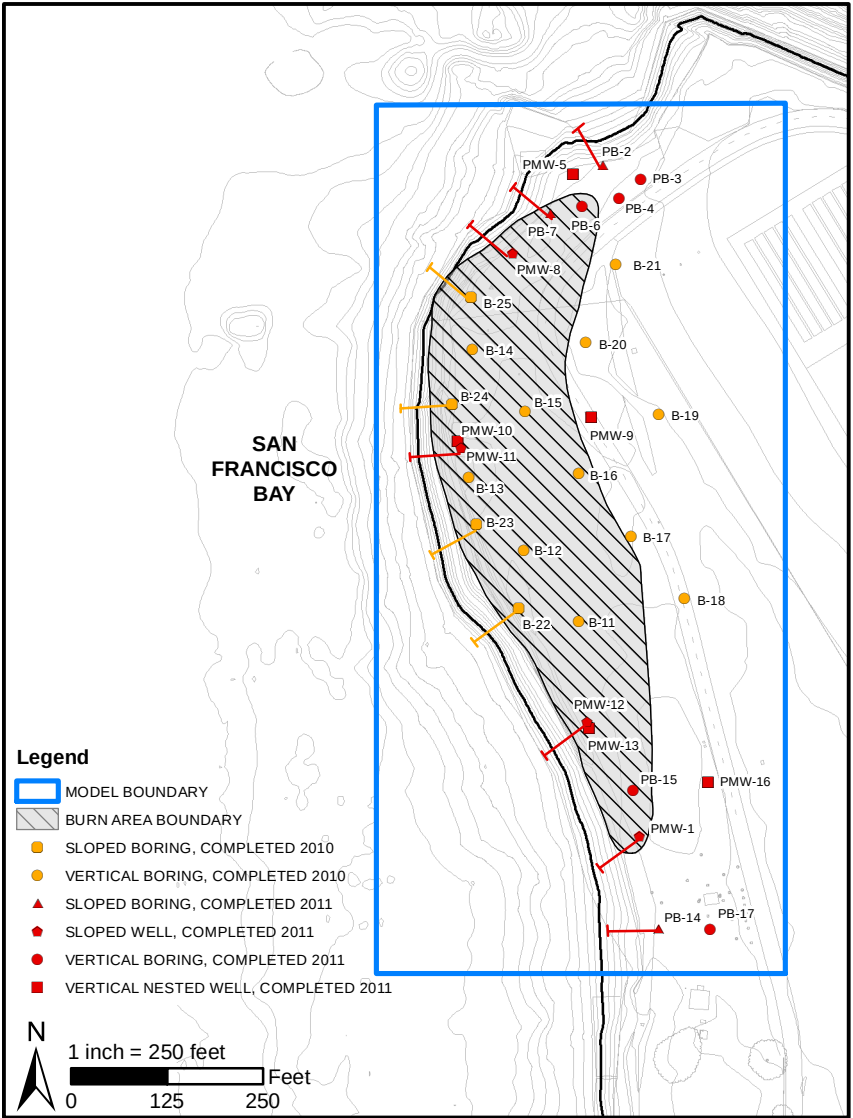
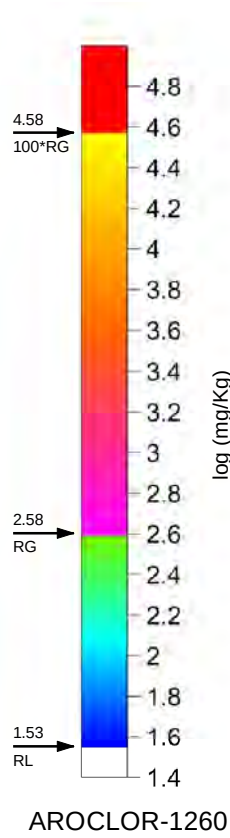
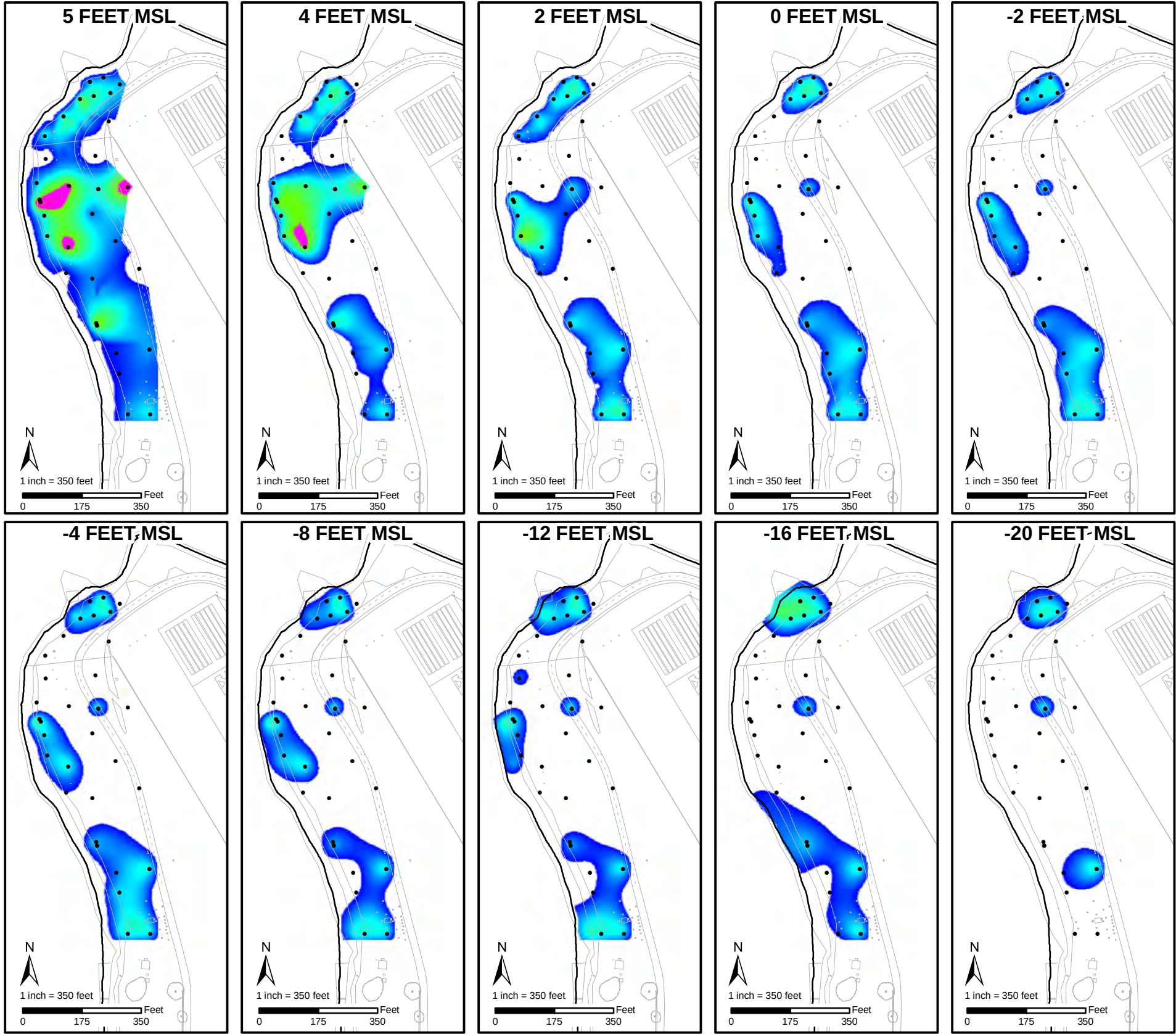
DATE: JANUARY 2013

PROJECT NO.: N62473-08-D-8816-CTO-002

REV. NO.: 1

FIGURE NO.: 2-25

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NOTES:
1. The remediation goal (RG) for aroclor-1260 is 0.38 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for aroclor-1260 analysis across the set of samples is 34 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: Aroclor-1260 - Soil Concentrations in Burn Area
Chemical of Concern for Human Receptors

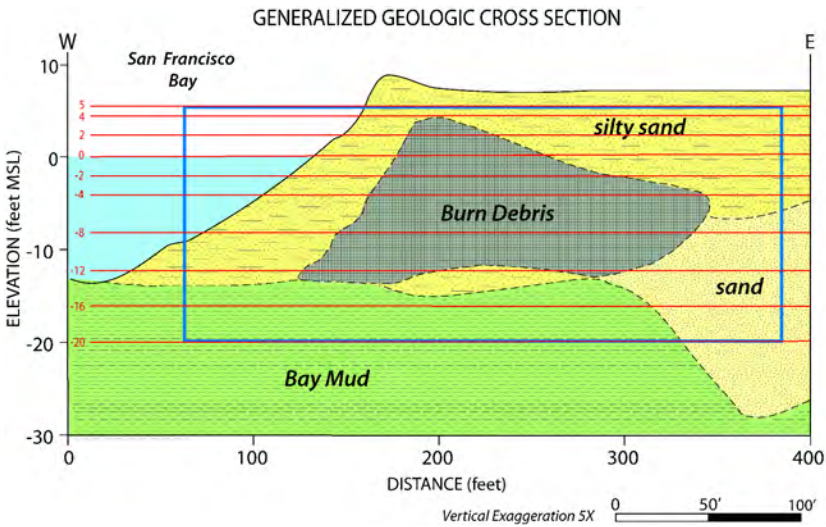
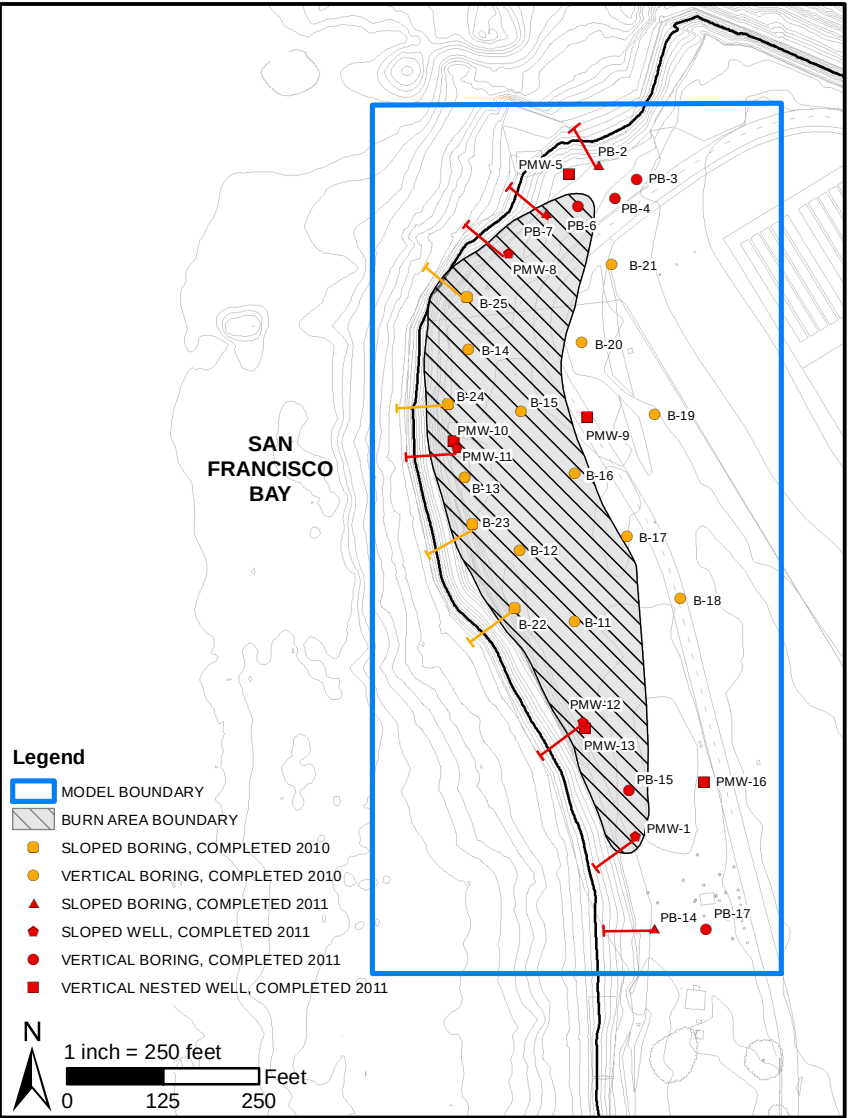
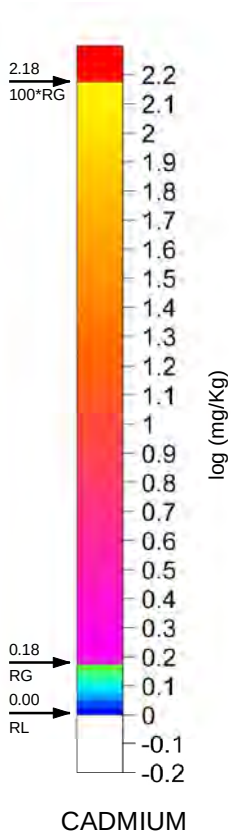
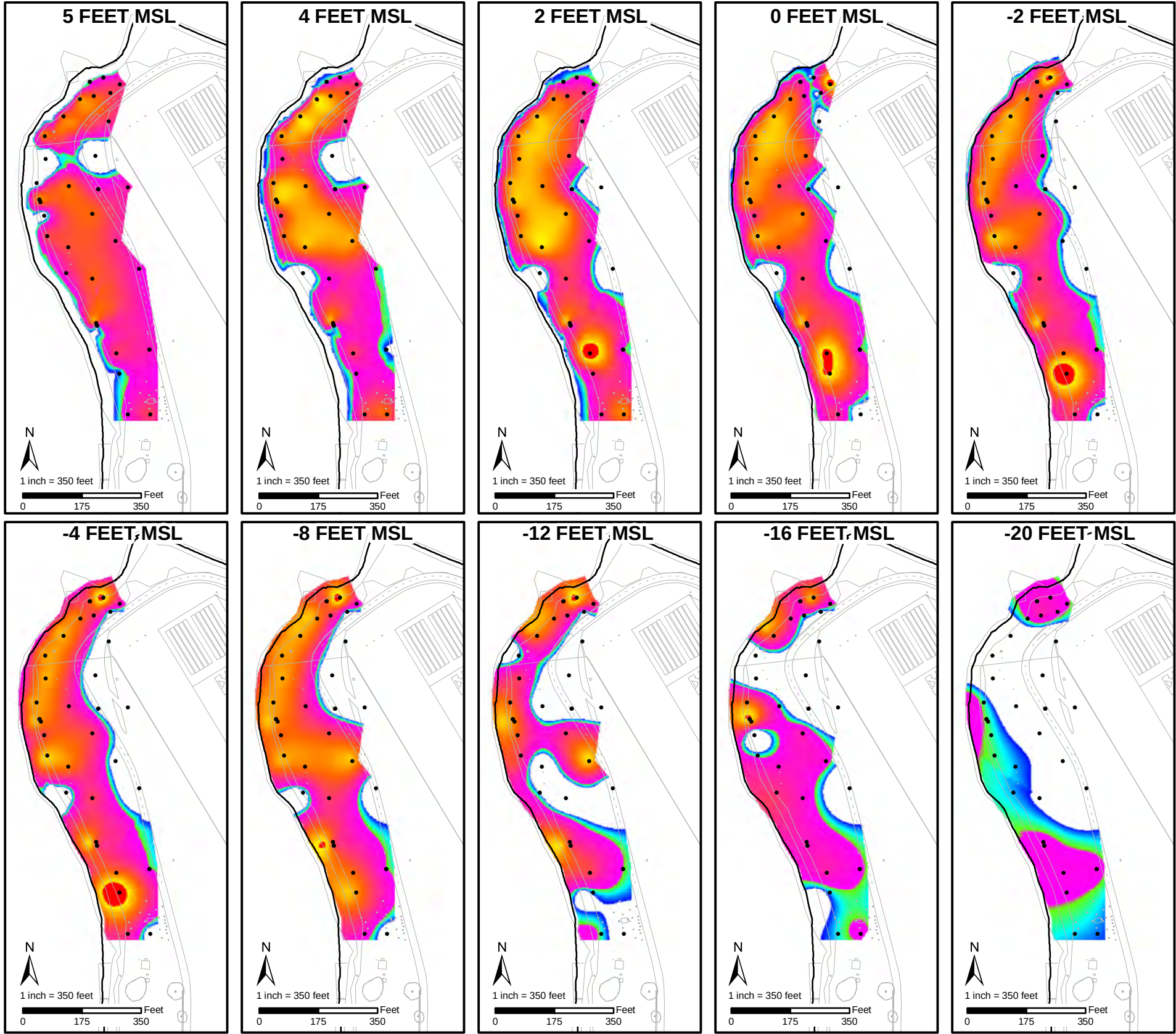
DATE: JANUARY 2013

PROJECT NO.: N62473-08-D-8816-CTO-002

REV. NO.: 1

FIGURE NO.: 2-26

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NOTES:
1. The remediation goal (RG) for cadmium is 1.50 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for cadmium analysis across the set of samples is 1 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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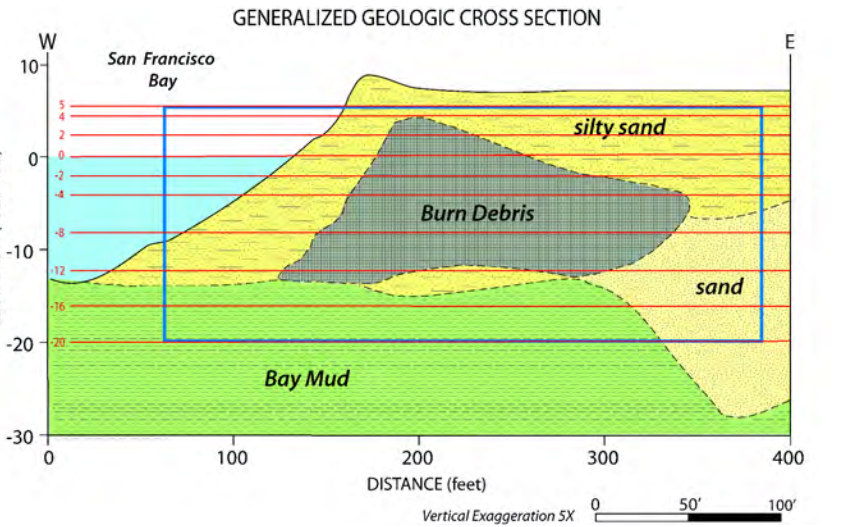
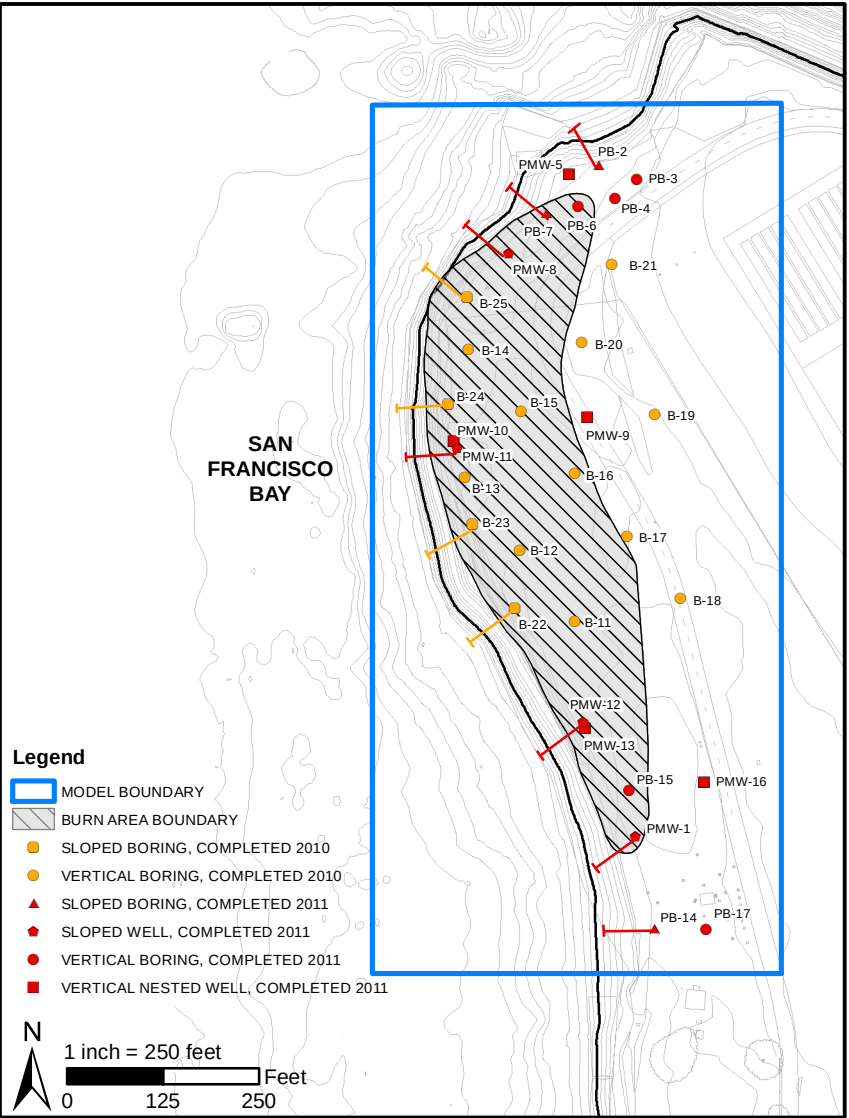
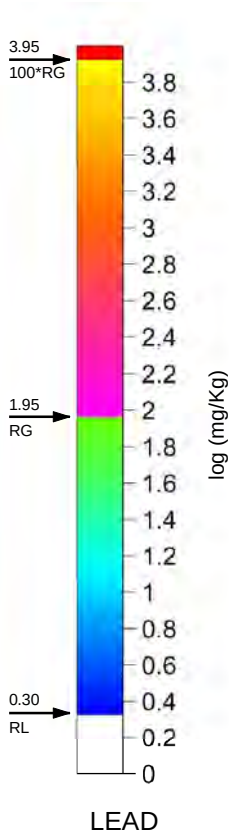
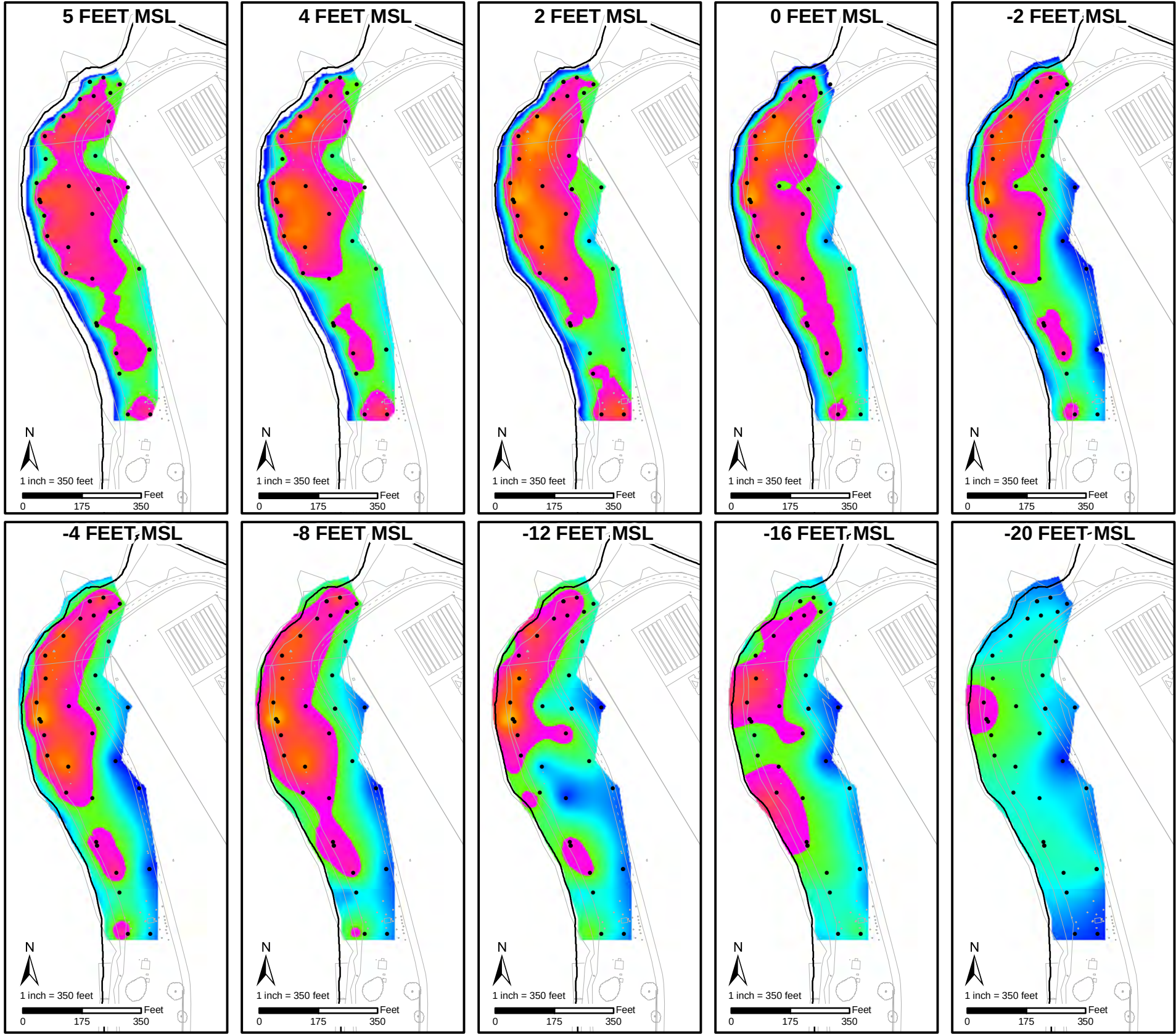
DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: Cadmium - Soil Concentrations in Burn Area
Chemical of Concern for Ecological Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-27

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NOTES:
1. The remediation goal (RG) for lead is 88.32 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for lead analysis across the set of samples is 2 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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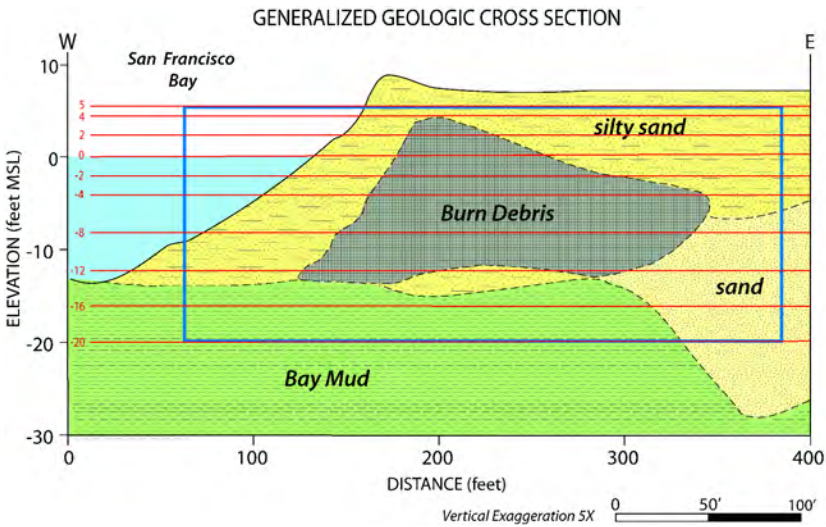
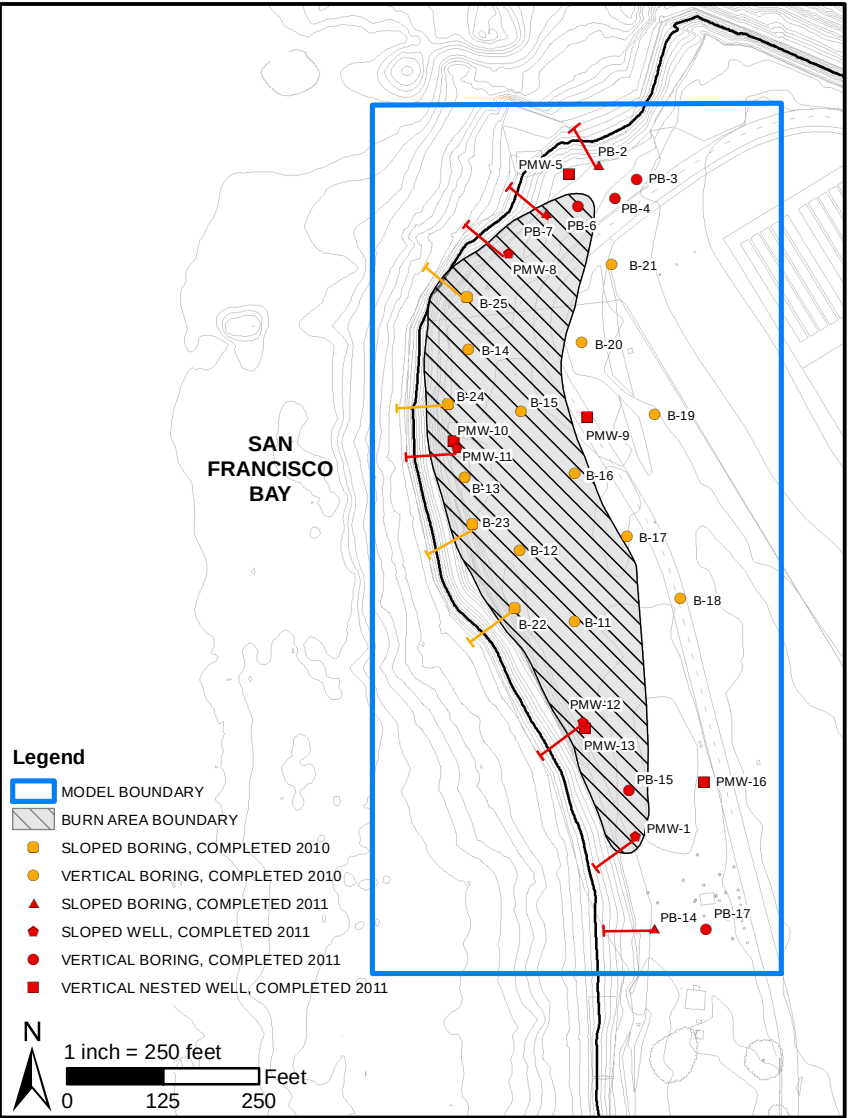
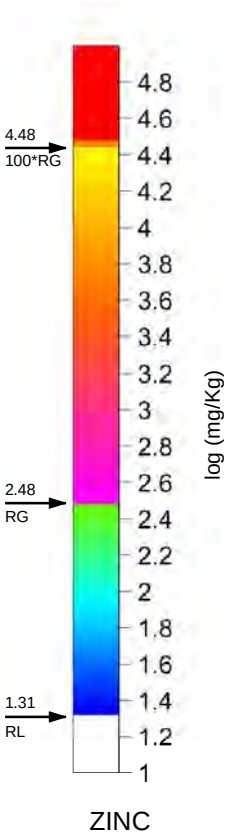
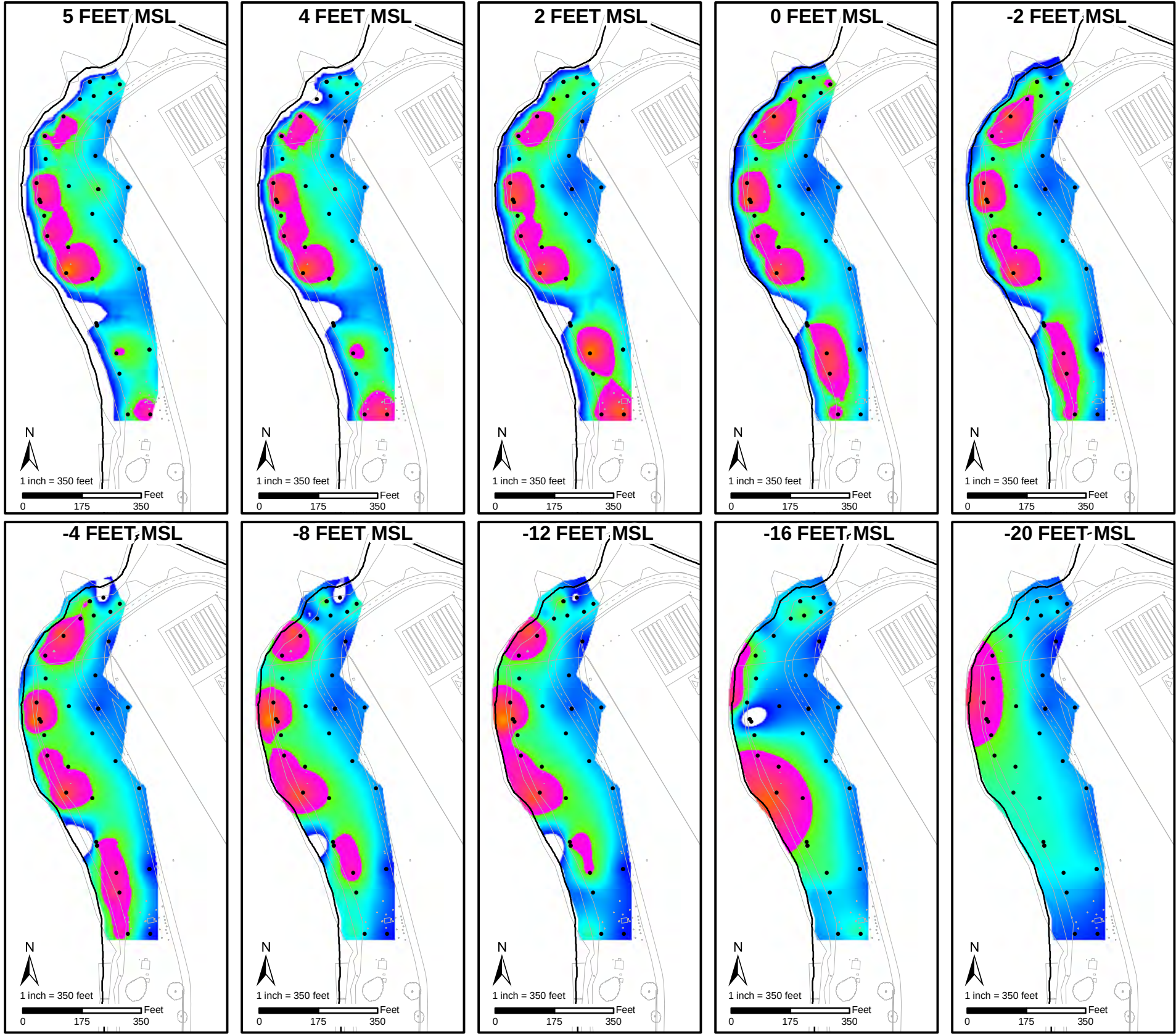
DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: Lead - Soil Concentrations in Burn Area
Chemical of Concern for Ecological Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-28

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NOTES:
1. The remediation goal (RG) for zinc is 300 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for zinc analysis across the set of samples is 20.5 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.



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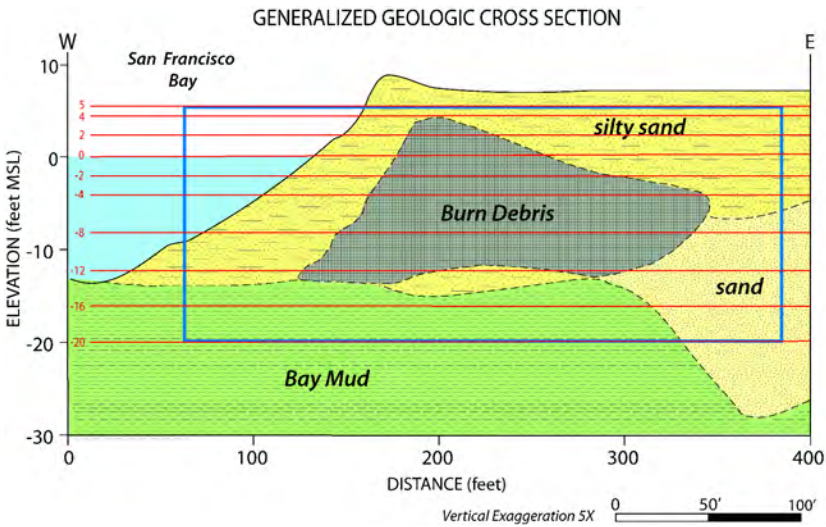
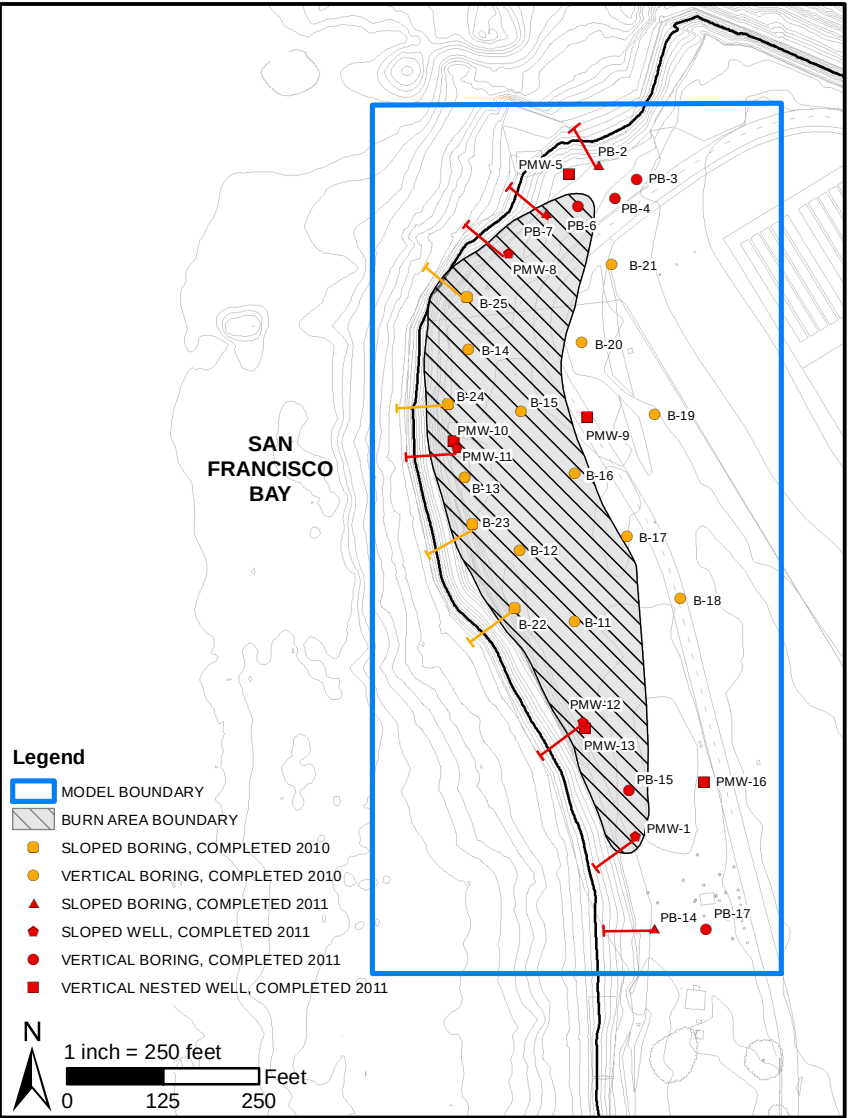
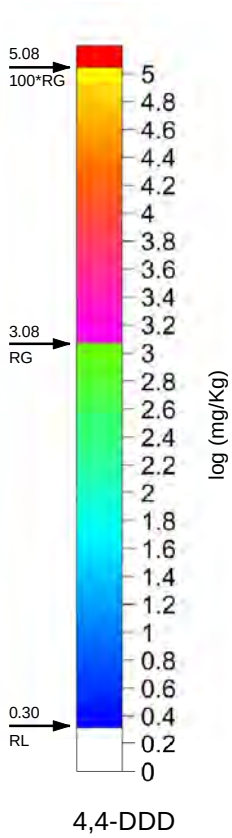
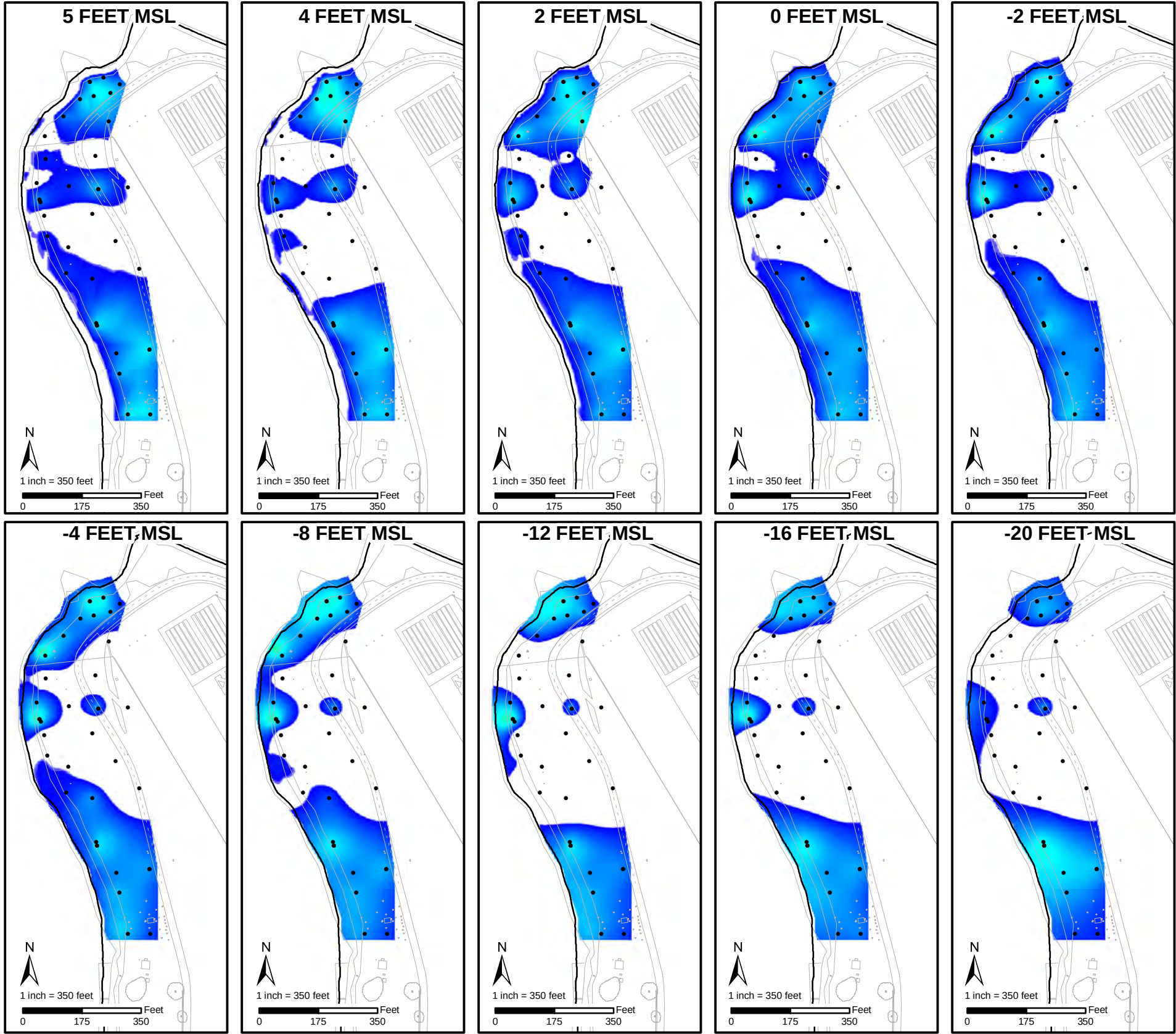
DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: Zinc - Soil Concentrations in Burn Area
Chemical of Concern for Ecological Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-29

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NOTES:
1. The remediation goal (RG) for 4,4-dichlorodiphenyldichloroethane (4,4-DDD) is 1.2 milligrams per kilogram (mg/Kg).
2. The lowest reporting limit (RL) for 4,4-DDD analysis across the set of samples is 2 mg/Kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.
4. Exceedances for 4,4-DDD were not detected.



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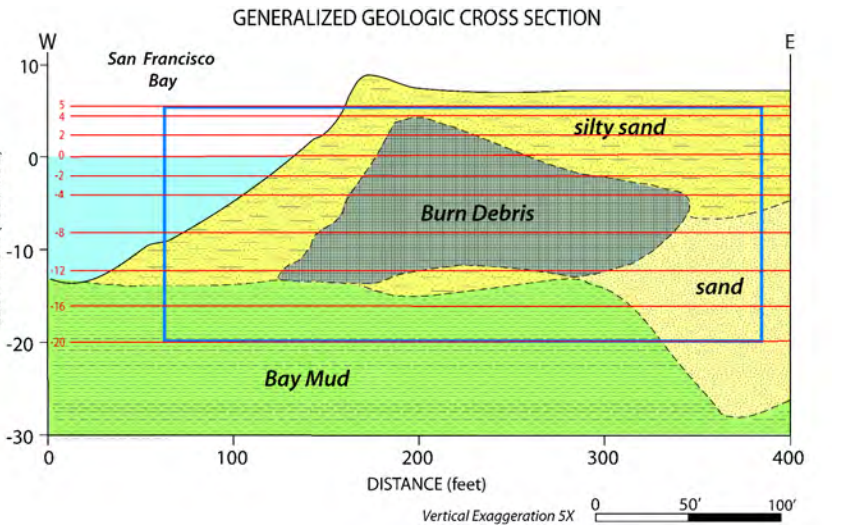
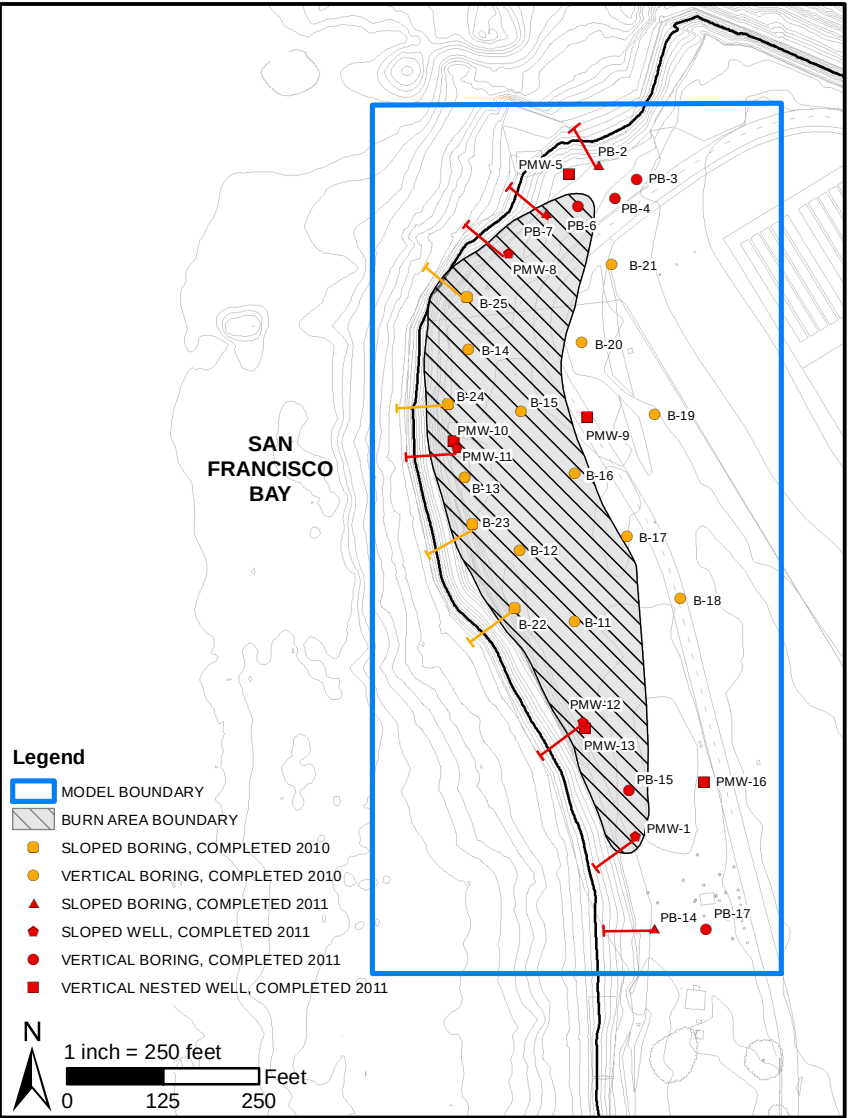
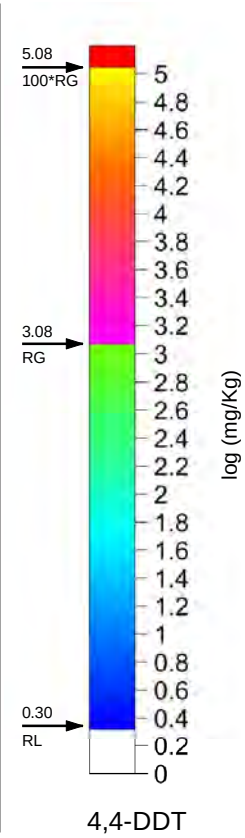
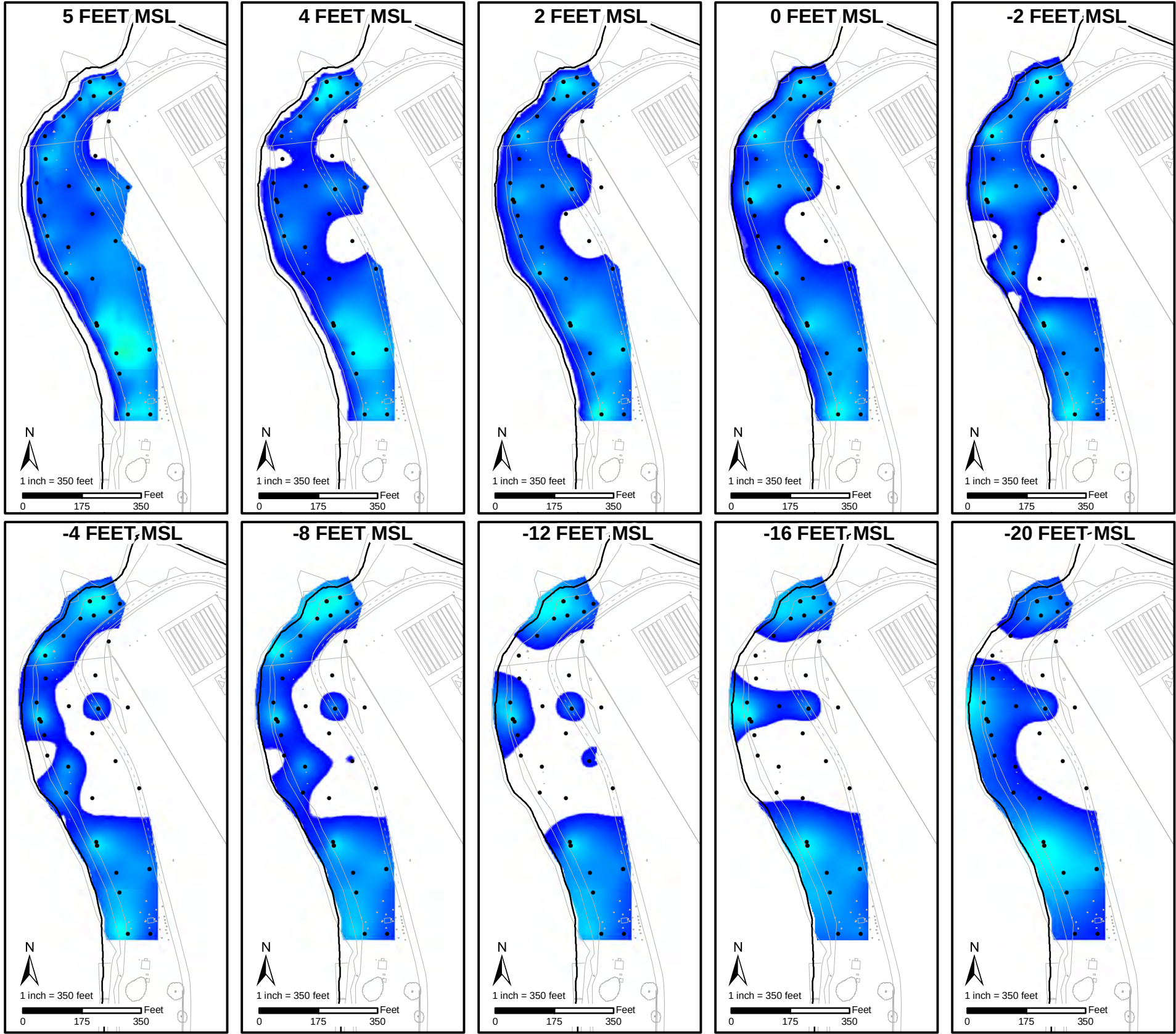


DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
TITLE: 4,4-dichlorodiphenyldichloroethane - Soil Concentrations in Burn Area Chemical of Concern for Ecological Receptors

DATE: JANUARY 2013
PROJECT NO.: N62473-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-30

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NOTES:
1. The remediation goal (RG) for 4,4-dichlorodiphenyltrichloroethane (4,4-DDT) is 1.2 milligrams per kilogram (mg/kg).
2. The lowest reporting limit (RL) for 4,4-DDT analysis across the set of samples is 2 mg/kg.
3. Contamination contouring does not extend beyond model domain as shown in key map and cross section.
4. Exceedances for 4,4-DDT were not detected.



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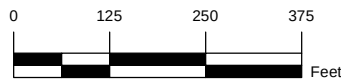


DWN BY: SFW
CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III FT
SCALE: 1 inch = 350 feet

PROJECT:
BURN AREA FOCUSED FEASIBILITY STUDY
TITLE:
4,4-dichlorodiphenyltrichloroethane - Soil Concentrations in Burn Area Chemical of Concern for Ecological Receptors

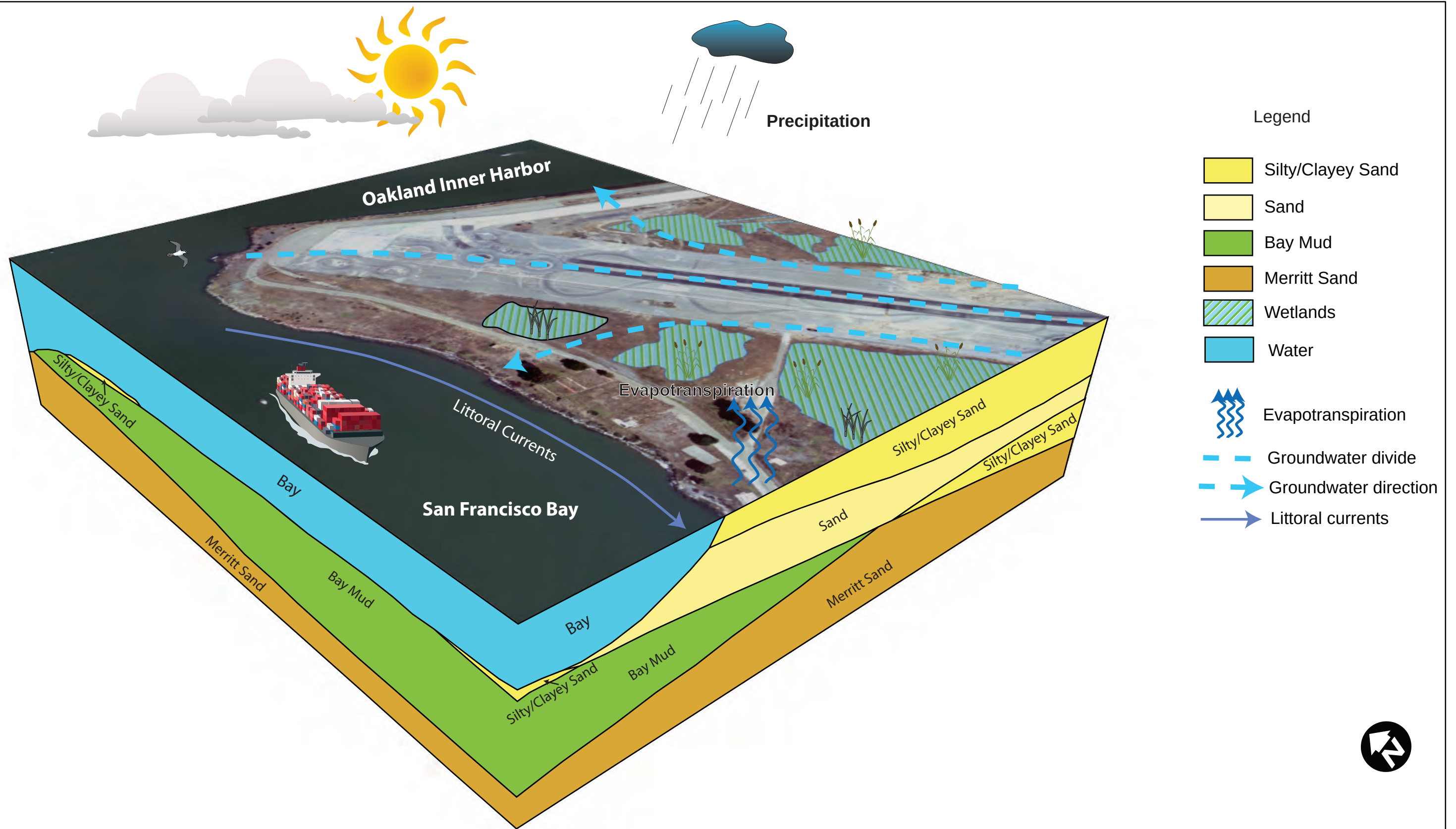
DATE:
JANUARY 2013
PROJECT NO.:
N62473-08-D-8816-CTO-002
REV. NO.:
1
FIGURE NO.:
2-31

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AMEC 7376 SW Durham Road Portland, OR, U.S.A. 97224				CLIENT: U.S. Department of the Navy BRAC PMO West San Diego, California	
PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY		DWN BY: LMS	DATUM: NAD27	DATE: JANUARY 2013	
TITLE: Mean FWBZ Groundwater Elevation Contour Map		CHK'D BY: PAG	REV. NO.: 1	PROJECT NO.: N62473-08-D-8816-CTO-002	
		PROJECTION: CA SP III FT	SCALE: 1 inch = 250 feet	FIGURE No.: 2-32	

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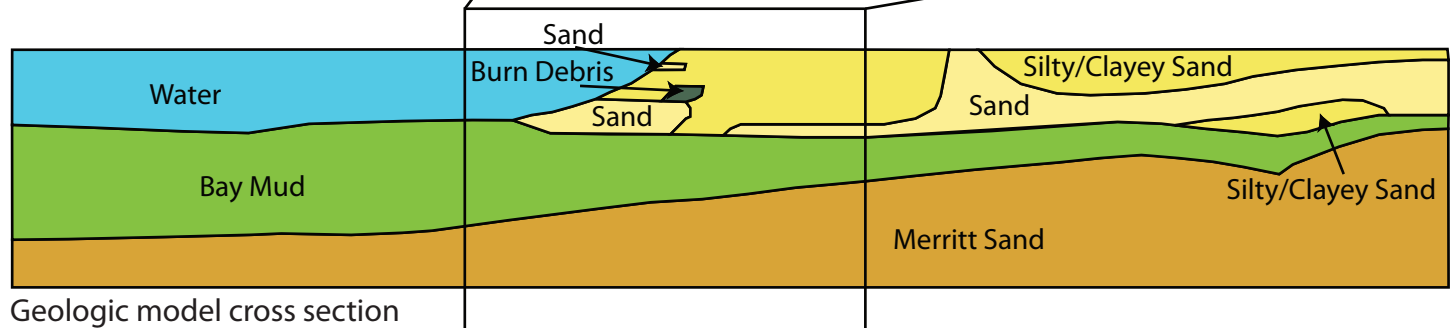
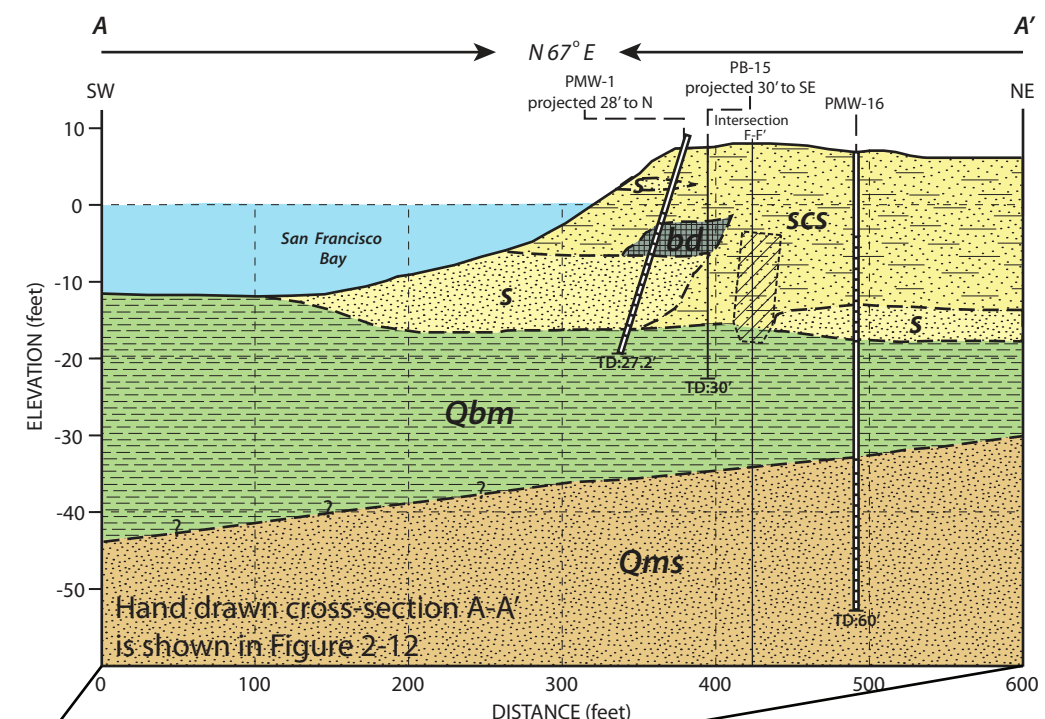
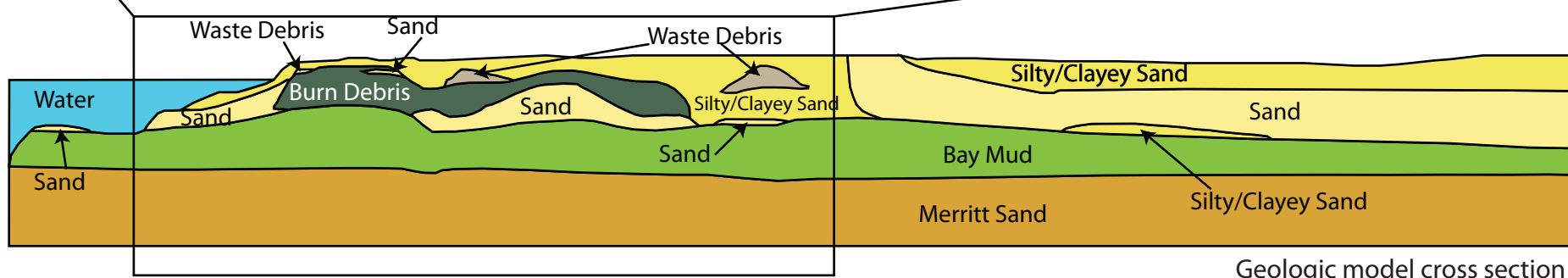
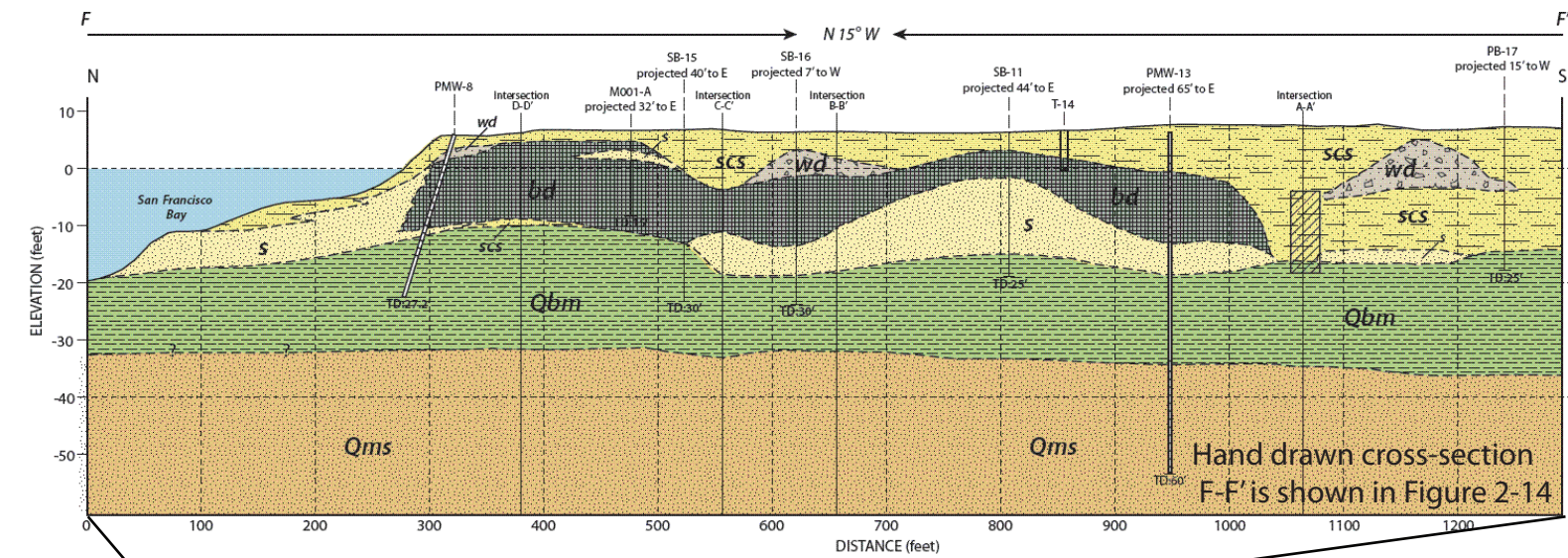
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CHK'D BY: PAG
DATUM: N/A
PROJECTION: N/A
SCALE: As shown

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: CONCEPTUAL FLOW MODEL

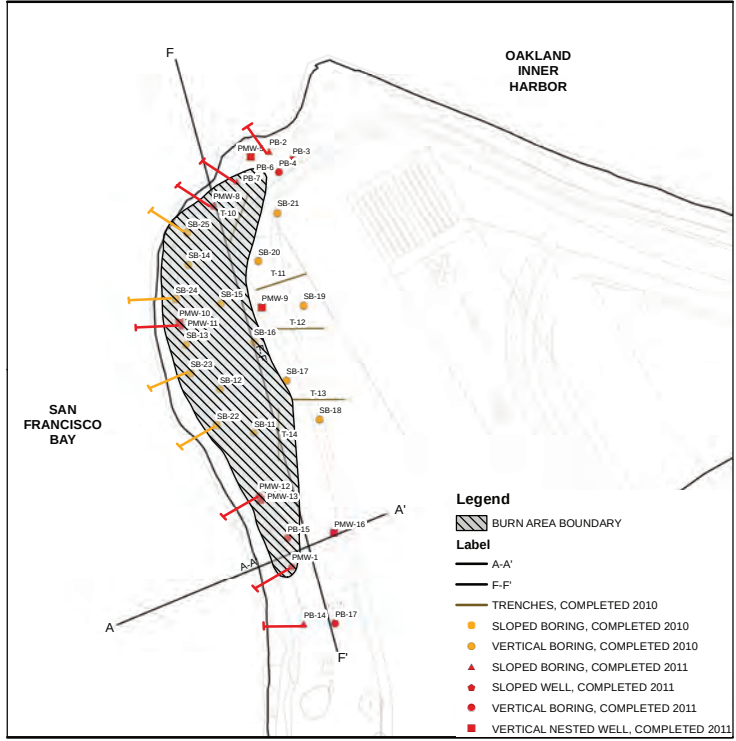
DATE: JANUARY 2013
PROJECT NO.: N624373-08-D-8816-CTO-002
REV. NO.: -
FIGURE NO.: 2-33

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Legend

- Water
- Waste Debris
- Burn Debris
- Silty/Clayey Sand
- Sand
- Bay Mud
- Merritt Sand



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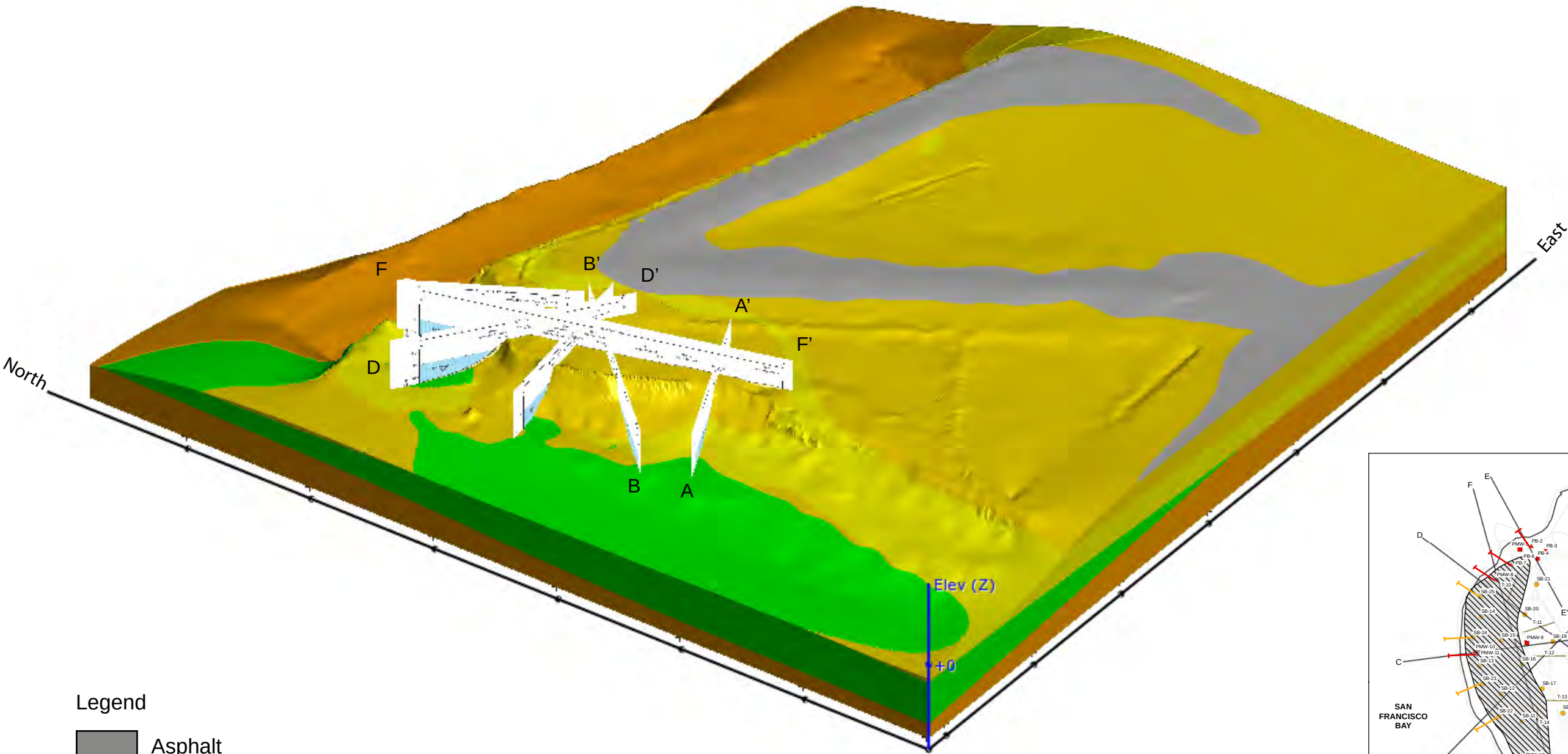


DWN BY: EME
CHK'D BY: PAG
DATUM: N/A
PROJECTION: N/A
SCALE: As shown

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY
TITLE: COMPARISON OF HAND DRAWN CROSS SECTIONS WITH 3D GEOLOGIC MODEL AT CROSS SECTIONS A-A' AND F-F'

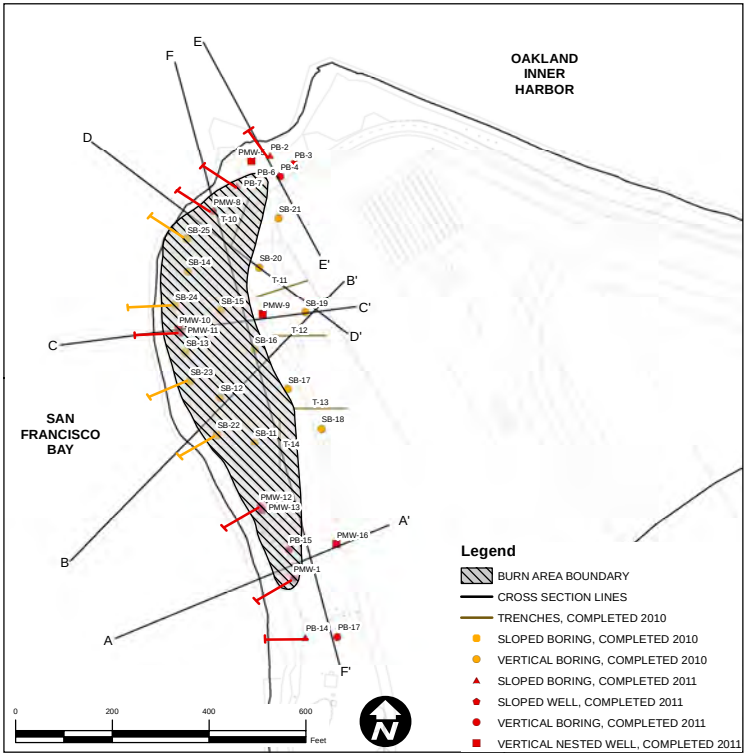
DATE: JANUARY 2013
PROJECT NO.: N624373-08-D-8816-CTO-002
REV. NO.: 1
FIGURE NO.: 2-34

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Legend

- Asphalt
- Silty/Clayey Sand
- Sand
- Bay Mud
- Merritt Sand



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CHK'D BY: PAG
DATUM: NAD27
PROJECTION: CA SP III Ft.
SCALE: 1 inch = 1,500 feet

PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY

TITLE: THREE DIMENSIONAL GEOLOGIC MODEL
REPRESENTATION AND CROSS
SECTION LOCATIONS

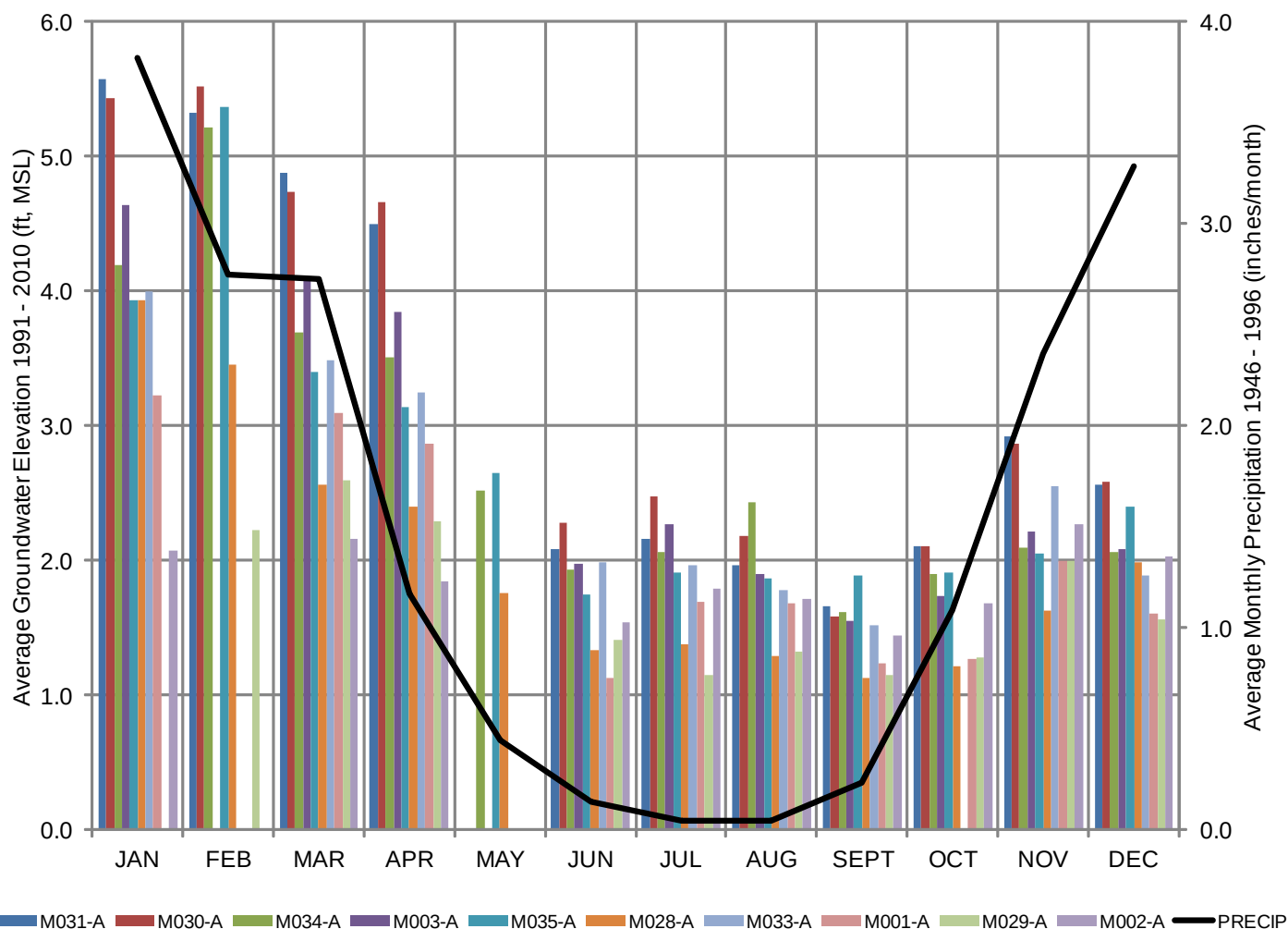
DATE: JANUARY 2013

PROJECT NO.: N62473-08-D-8816-CTO-002

REV. NO.: 1

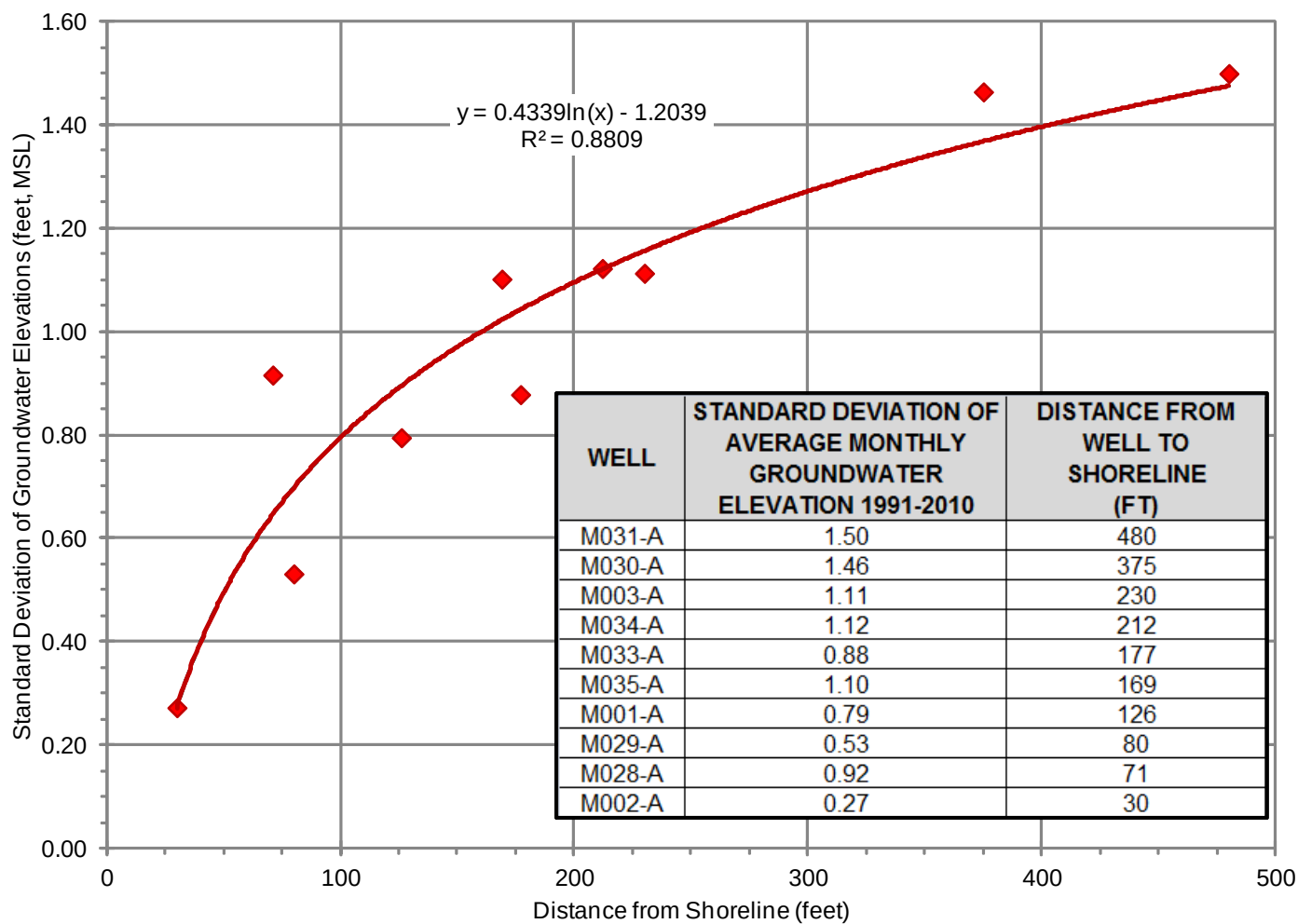
FIGURE NO.: 2-35

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PROJECT: BURN AREA FOCUSED FEASIBILITY STUDY		DWN BY: SFW	DATUM: N/A	DATE: FEBRUARY 2013	
TITLE: COMPARISON OF MEAN MONTHLY FWBZ GROUNDWATER ELEVATION AND PRECIPITATION		CHK'D BY: PAG	REV. NO.: 1	PROJECT NO.: N62473-08-D-8816-CTO-002	
		PROJECTION: N/A	SCALE: N/A	FIGURE No.: 2-36	

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PROJECT: **BURN AREA FOCUSED FEASIBILITY STUDY**

DWN BY:

SFW

DATUM:

N/A

DATE:

FEBRUARY 2013

TITLE: **RELATIONSHIP BETWEEN GROUNDWATER ELEVATION DATA STANDARD DEVIATION AND DISTANCE FROM SHORELINE**

CHK'D BY:

PAG

REV. NO.:

1

PROJECT NO.:

N62473-08-D-8816-CTO-002

PROJECTION:

N/A

SCALE:

N/A

FIGURE No.:

2-37

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