

















US Army Corps of Engineers

Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-8-12 to 11-14-12

Table with columns: Reading Date, Wind Direction, Wind Speed, Particulates (µg/m³) [Upwind, Downwind, CDF Contribution, M1, M2, M3, M4], Naphthalene (µg/m³) [Upwind, Downwind, CDF Contribution, M1, M2, M3, M4]. Rows contain hourly data from 11/9/12 12:45 AM to 11/10/12 2:30 AM.







US Army Corps  
of Engineers®

Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-8-12 to 11-14-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )								Naphthalene (µg/m <sup>3</sup> )							
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4		
11/11/12 3:30 AM	211.00	8.80	8.80	0.00	0.00	0.00	8.20	8.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 3:45 AM	200.00	8.10	8.90	10.50	1.60	10.50	8.10	8.90	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:00 AM	211.00	6.80	9.20	10.50	1.30	10.50	9.10	9.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:15 AM	209.00	6.60	9.40	10.70	1.30	10.70	8.90	9.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:30 AM	208.00	6.90	9.40	9.90	0.50	9.90	9.30	9.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:45 AM	205.00	6.70	9.30	9.20	0.00	9.20	9.50	9.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:00 AM	207.00	7.60	9.20	8.70	0.00	8.70	9.50	9.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:15 AM	198.00	8.80	9.70	8.10	0.00	8.10	9.50	9.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:30 AM	202.00	7.40	9.80	8.30	0.00	8.30	9.50	9.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:45 AM	197.00	7.60	10.20	8.80	0.00	8.80	10.10	10.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:00 AM	204.00	9.00	10.00	9.70	0.00	9.70	10.00	10.00	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:15 AM	209.00	8.00	9.60	9.80	0.20	9.80	10.10	9.60	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:30 AM	203.00	6.90	10.20	9.60	0.00	9.60	10.10	10.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:45 AM	195.00	7.70	11.40	8.90	0.00	8.90	9.90	11.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:00 AM	195.00	7.50	8.70	8.40	0.00	8.40	10.90	8.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:15 AM	199.00	5.20	8.60	8.10	0.00	8.10	10.80	8.60	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:30 AM	191.00	6.20	7.80	7.90	0.10	7.90	10.90	7.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:45 AM	190.00	7.60	7.80	8.80	1.00	8.80	11.50	7.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:00 AM	192.00	8.10	8.20	9.70	1.50	9.70	11.80	8.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:15 AM	196.00	6.80	8.70	10.50	1.80	10.50	12.00	8.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:30 AM	191.00	7.30	9.10	10.70	1.60	10.70	11.90	9.10	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:45 AM	198.00	7.40	9.50	10.70	1.20	10.70	11.70	9.50	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 9:00 AM	184.00	8.10	9.60	10.50	0.90	10.50	12.00	9.60	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 9:15 AM	194.00	10.40	9.70	8.80	0.00	8.80	11.80	9.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 9:30 AM	188.00	8.10	10.00	7.70	0.00	7.70	12.30	10.00	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 9:45 AM	204.00	8.60	10.10	7.10	0.00	7.10	12.20	10.10	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 10:00 AM	190.00	9.70	10.70	7.00	0.00	7.00	12.40	10.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 10:15 AM	200.00	10.40	9.70	7.50	0.00	7.50	12.90	9.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 10:30 AM	200.00	11.50	8.30	7.40	0.00	7.40	16.50	8.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 10:45 AM	202.00	9.30	7.60	7.10	0.00	7.10	16.30	7.60	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 11:00 AM	200.00	10.70	7.80	6.80	0.00	6.80	16.10	7.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 11:15 AM	197.00	10.10	7.90	6.50	0.00	6.50	15.80	7.90	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 11:30 AM	192.00	10.90	8.10	6.70	0.00	6.70	16.60	8.10	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 11:45 AM	200.00	11.00	8.30	7.30	0.00	7.30	15.00	8.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 12:00 PM	210.00	9.40	9.40	8.30	0.00	8.30	15.60	9.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 12:15 PM	203.00	12.90	9.80	8.10	0.00	8.10	13.40	9.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 12:30 PM	201.00	11.30	10.80	9.30	0.00	9.30	13.60	10.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 12:45 PM	204.00	10.80	10.80	9.80	0.00	9.80	13.40	10.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 1:00 PM	201.00	11.10	11.50	11.40	0.00	11.40	14.20	11.50	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 1:15 PM	197.00	10.00	13.00	13.50	0.50	13.50	15.20	13.00	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 1:30 PM	195.00	8.80	14.30	14.30	0.00	14.30	15.50	14.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 1:45 PM	196.00	12.40	14.50	15.10	0.60	15.10	15.50	14.50	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 2:00 PM	197.00	11.70	15.30	15.00	0.00	15.00	17.10	15.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 2:15 PM	199.00	10.10	15.80	14.70	0.00	14.70	15.60	15.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 2:30 PM	206.00	13.50	15.30	14.80	0.00	14.80	14.80	15.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 2:45 PM	195.00	12.80	17.20	17.10	0.00	17.10	17.80	17.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 3:00 PM	204.00	9.60	17.00	17.20	0.20	17.20	23.90	17.00	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 3:15 PM	198.00	9.00	16.00	17.00	1.00	17.00	15.70	16.00	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 3:30 PM	203.00	10.20	15.80	16.10	0.30	16.10	14.20	15.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 3:45 PM	207.00	11.90	15.80	17.30	1.50	17.30	14.20	15.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:00 PM	207.00	12.20	16.50	18.50	2.00	18.50	14.10	16.50	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:15 PM	200.00	11.70	15.70	17.90	2.20	17.90	14.10	15.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:30 PM	195.00	12.80	15.80	16.20	0.40	16.20	13.60	15.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 4:45 PM	193.00	10.80	15.10	16.00	0.90	16.00	16.10	15.10	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:00 PM	199.00	10.70	15.30	14.40	0.00	14.40	17.40	15.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:15 PM	191.00	11.10	15.40	13.60	0.00	13.60	17.70	15.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:30 PM	190.00	9.80	16.90	14.70	0.00	14.70	19.10	16.90	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 5:45 PM	209.00	10.20	17.80	14.30	0.00	14.30	17.30	17.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:00 PM	196.00	8.30	17.00	14.50	0.00	14.50	16.80	17.00	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:15 PM	198.00	10.90	16.40	14.20	0.00	14.20	16.60	16.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:30 PM	195.00	6.70	15.70	16.30	0.60	16.30	17.10	15.70	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 6:45 PM	203.00	9.00	15.20	16.00	0.80	16.00	17.90	15.20	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:00 PM	200.00	9.70	13.80	14.40	0.60	14.40	17.10	13.80	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:15 PM	236.00	8.30	12.50	13.40	0.90	13.40	17.20	12.50	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:30 PM	265.00	7.90	12.40	12.60	0.20	12.60	18.20	12.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 7:45 PM	276.00	3.50	8.50	14.00	5.50	10.20	14.00	9.90	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:00 PM	297.00	4.40	8.50	10.10	1.60	8.50	10.10	9.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:15 PM	278.00	3.60	8.50	11.40	2.90	7.80	11.40	9.40	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/11/12 8:30 PM	271.00	4.80	8.50	9.20	0.70	7.60	9.20	9.30	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
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Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-8-12 to 11-14-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )								Naphthalene (µg/m <sup>3</sup> )							
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4		
11/13/12 5:00 AM	286.00	2.50	0.70	7.30	6.60	7.20	7.30	7.90	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:15 AM	291.00	3.40	0.90	7.20	6.30	6.80	7.20	7.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:30 AM	293.00	3.70	0.90	8.10	7.20	7.00	8.10	8.20	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:45 AM	277.00	3.20	0.70	7.30	6.60	6.50	7.30	7.60	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:00 AM	279.00	3.50	0.90	7.30	6.40	7.40	7.30	7.50	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:15 AM	285.00	3.90	0.80	7.20	6.40	7.70	7.20	7.70	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:30 AM	292.00	2.50	0.60	8.50	7.90	7.80	8.50	8.10	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:45 AM	288.00	2.70	0.90	8.30	7.40	7.70	8.30	8.10	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:00 AM	292.00	2.70	0.80	8.60	7.80	7.90	8.60	9.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:15 AM	282.00	2.70	0.70	8.80	8.10	8.50	8.80	9.30	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:30 AM	301.00	3.00	0.70	9.30	8.60	8.40	9.30	9.90	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:45 AM	290.00	2.10	0.40	9.60	9.20	9.20	9.60	9.60	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:00 AM	288.00	2.40	1.10	9.80	8.70	8.50	9.80	9.80	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:15 AM	284.00	1.60	-3.30	10.40	13.70	8.40	10.40	9.90	-3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:30 AM	279.00	2.70	-3.40	11.00	14.40	8.40	11.00	9.00	-3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:45 AM	288.00	2.80	-2.80	13.60	16.40	8.40	13.60	8.80	-2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:00 AM	289.00	2.70	-1.20	15.90	17.10	9.10	15.90	8.30	-1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:15 AM	291.00	3.80	-1.40	15.70	17.10	8.60	15.70	7.40	-1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:30 AM	310.00	3.10	-1.20	15.40	16.60	9.70	15.40	7.90	-1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:45 AM	300.00	3.30	-0.50	15.20	15.70	11.00	15.20	7.90	-0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 10:00 AM	284.00	2.60	-0.80	14.00	14.80	8.70	14.00	9.10	-0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 10:15 AM	260.00	4.00	8.00	8.60	0.60	8.60	12.00	8.00	-9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 10:45 AM	277.00	3.50	-9.40	10.70	20.10	9.50	10.70	8.30	-9.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 11:00 AM	304.00	3.90	-19.80	9.20	29.00	9.60	9.20	7.70	-19.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 11:15 AM	277.00	3.70	-19.80	8.10	27.90	9.20	8.10	6.80	-19.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 11:30 AM	289.00	3.60	-0.20	7.60	7.80	9.10	7.60	5.90	-0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 11:45 AM	270.00	2.70	0.60	8.00	7.40	9.50	8.00	6.70	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 12:00 PM	258.00	2.90	6.70	8.90	2.20	8.90	6.50	6.70	-413.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 12:15 PM	317.00	3.10	-413.60	6.20	419.80	9.30	6.20	6.70	-413.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 12:30 PM	353.00	2.50	-8.70	5.70	14.40	9.60	5.70	6.20	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 12:45 PM	62.00	1.40	9.90	6.70	0.00	9.90	5.40	6.70	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 1:00 PM	230.00	1.50	5.90	9.00	3.10	9.00	5.90	5.90	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 1:15 PM	329.00	2.50	-8.70	5.10	13.80	9.10	5.10	5.20	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 1:30 PM	239.00	1.70	5.20	9.50	4.30	9.50	5.10	5.20	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 1:45 PM	281.00	0.80	-8.70	5.30	14.00	9.70	5.30	4.90	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 2:00 PM	269.00	1.50	5.70	9.50	3.80	9.50	5.50	5.70	-8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 2:15 PM	252.00	4.10	6.20	9.60	3.40	9.60	5.70	6.20	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 2:30 PM	192.00	0.70	6.70	0.00	0.00	0.00	5.80	6.70	5.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 2:45 PM	247.00	1.90	5.60	10.00	4.40	10.00	6.10	5.60	5.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 3:00 PM	248.00	1.60	6.40	10.00	3.60	10.00	5.60	6.40	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 3:15 PM	329.00	0.90	6.10	5.90	0.00	9.80	5.90	6.70	6.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 3:30 PM	200.00	2.20	7.50	11.00	3.50	11.00	9.90	7.50	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 3:45 PM	236.00	2.00	7.60	10.90	3.30	10.90	7.80	7.60	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 4:00 PM	223.00	2.20	6.80	10.50	3.70	10.50	7.50	6.80	5.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 4:15 PM	163.00	1.80	9.60	5.10	0.00	10.20	9.60	8.70	5.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 4:30 PM	254.00	2.60	7.70	10.20	2.50	10.20	8.70	7.70	5.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 4:45 PM	257.00	1.30	8.20	10.10	1.90	10.10	9.50	8.20	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:00 PM	251.00	2.00	7.40	10.50	3.10	10.50	7.40	7.40	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:15 PM	251.00	1.80	6.90	10.30	3.40	10.30	9.20	6.90	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:30 PM	228.00	1.60	7.90	9.30	1.40	9.30	10.70	7.90	6.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 5:45 PM	225.00	1.40	11.60	9.90	0.00	9.90	13.70	11.60	6.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:00 PM	221.00	1.30	12.50	11.00	0.00	11.00	12.80	12.50	6.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:15 PM	245.00	2.50	14.20	11.20	0.00	11.20	14.60	14.20	6.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:30 PM	234.00	1.50	16.00	11.20	0.00	11.20	19.30	16.00	7.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 6:45 PM	229.00	1.20	18.10	12.00	0.00	12.00	26.60	18.10	8.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:00 PM	212.00	1.10	18.00	12.80	0.00	12.80	22.60	18.00	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:15 PM	224.00	1.40	25.10	14.80	0.00	14.80	21.70	25.10	8.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:30 PM	199.00	1.20	24.50	16.60	0.00	16.60	19.20	24.50	10.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 7:45 PM	203.00	2.00	19.30	13.50	0.00	13.50	21.70	19.30	11.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:00 PM	199.00	1.50	18.00	15.00	0.00	15.00	26.10	18.00	10.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:15 PM	170.00	1.50	31.30	13.30	0.00	17.70	31.30	17.60	13.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:30 PM	181.00	1.80	18.20	16.00	0.00	16.00	30.40	18.20	12.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 8:45 PM	186.00	1.60	19.40	16.30	0.00	16.30	26.30	19.40	14.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:00 PM	179.00	1.60	23.60	11.50	0.00	19.40	23.60	19.80	11.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:15 PM	205.00	1.50	18.90	18.30	0.00	18.30	25.30	18.90	25.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:30 PM	196.00	1.60	18.70	18.30	0.00	18.30	22.40	18.70	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 9:45 PM	199.00	2.20	18.10	18.40	0.30	18.40	22.90	18.10	22.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 10:00 PM	188.00	1.50	19.30	18.00	0.00	18.00	25.50	19.30	23.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 10:15 PM	184.00	1.60	20.80	18.50	0.00	18.50	26.50	20.80	23.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/13/12 10:30 PM	180.00	1.70	20.30	20.30														











US Army Corps  
of Engineers®

Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-15-12 to 11-22-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )							Naphthalene (µg/m <sup>3</sup> )						
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4
11/17/12 1:30 AM	207.00	1.60	52.80	65.20	12.40	65.20	56.50	52.80	60.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 1:45 AM	205.00	1.20	54.30	63.80	9.50	63.80	56.20	54.30	59.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:00 AM	211.00	1.20	54.20	65.30	11.10	65.30	56.90	54.20	60.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:15 AM	263.00	0.30	53.00	63.30	10.30	63.30	55.70	53.00	77.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:30 AM	348.00	0.50	75.80	56.10	0.00	63.40	56.10	56.90	75.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:45 AM	241.00	0.60	56.30	64.80	8.50	64.80	57.30	56.30	74.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:00 AM	196.00	0.80	55.90	63.60	7.70	63.60	57.20	55.90	72.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:15 AM	181.00	0.80	54.70	64.50	9.80	64.50	58.50	54.70	71.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:30 AM	217.00	0.50	58.60	63.50	4.90	63.50	57.50	58.60	70.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:45 AM	211.00	0.60	58.90	63.20	4.30	63.20	57.90	58.90	70.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:00 AM	195.00	0.50	58.10	62.90	4.80	62.90	58.90	58.10	67.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:15 AM	170.00	1.00	58.80	65.50	6.70	61.10	58.80	57.60	65.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:30 AM	164.00	2.30	59.30	65.00	5.70	67.40	59.30	56.60	65.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:45 AM	181.00	1.40	58.60	63.50	4.90	63.50	58.60	58.60	67.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:00 AM	163.00	1.50	63.00	67.70	4.70	65.60	63.00	55.90	67.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:15 AM	158.00	2.30	63.00	68.60	5.60	64.80	63.00	56.70	68.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:30 AM	179.00	0.60	62.10	69.10	7.00	62.00	62.10	55.10	69.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:45 AM	228.00	0.70	54.80	65.90	11.10	65.90	64.40	54.80	67.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 6:00 AM	165.00	2.40	61.20	64.40	3.20	72.00	61.20	56.30	64.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 6:15 AM	184.00	1.30	54.30	72.10	17.80	72.10	61.60	54.30	65.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 6:30 AM	176.00	1.40	57.70	65.30	7.60	68.50	57.70	54.90	65.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 6:45 AM	184.00	1.30	54.00	59.00	5.00	59.00	58.60	54.00	64.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 7:00 AM	173.00	1.40	70.50	61.30	0.00	60.50	70.50	57.50	61.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 7:15 AM	174.00	1.90	60.10	60.60	0.50	61.10	60.10	58.20	60.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 7:30 AM	170.00	2.10	60.30	61.10	0.80	61.80	60.30	58.10	61.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 7:45 AM	186.00	1.60	54.70	62.20	7.50	62.20	57.20	54.70	60.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 8:00 AM	222.00	0.70	55.70	57.30	1.60	57.30	58.70	55.70	92.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 8:15 AM	170.00	1.60	60.90	105.10	44.20	57.70	60.90	56.40	105.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 8:30 AM	174.00	2.10	58.30	116.30	58.00	58.40	58.30	53.00	116.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 8:45 AM	172.00	3.10	57.10	115.20	58.10	58.00	57.10	50.70	115.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 9:00 AM	176.00	3.70	53.70	113.90	60.20	56.00	53.70	49.50	113.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 9:15 AM	170.00	4.00	53.30	110.30	57.00	55.40	53.30	47.50	110.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 9:30 AM	165.00	3.60	52.30	105.10	52.80	53.70	52.30	47.00	105.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 9:45 AM	177.00	2.50	49.90	102.00	52.10	53.00	49.90	45.70	102.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 10:00 AM	185.00	1.90	42.40	49.10	6.70	49.10	49.70	42.40	101.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 10:15 AM	209.00	1.80	41.80	46.30	4.50	46.30	47.00	41.80	54.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 10:30 AM	191.00	2.50	41.00	46.80	5.80	46.80	45.10	41.00	56.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 10:45 AM	190.00	3.10	59.60	43.60	0.00	43.60	41.90	59.60	52.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 11:00 AM	227.00	2.80	60.30	39.20	0.00	39.20	37.50	60.30	48.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 11:15 AM	235.00	2.90	62.60	37.50	0.00	37.50	39.00	62.60	48.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 11:30 AM	209.00	3.20	91.90	34.10	0.00	34.10	38.30	91.90	37.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 11:45 AM	235.00	2.30	99.60	32.80	0.00	32.80	35.40	99.60	38.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 12:00 PM	211.00	3.00	125.60	27.90	0.00	27.90	28.10	125.60	36.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 12:15 PM	204.00	3.00	150.60	28.90	0.00	28.90	27.40	150.60	31.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 12:30 PM	176.00	4.70	23.40	30.10	6.70	26.50	23.40	154.80	30.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 12:45 PM	209.00	3.60	148.80	22.40	0.00	22.40	22.60	148.80	26.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 1:00 PM	186.00	2.20	146.90	23.00	0.00	23.00	22.60	146.90	26.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 1:15 PM	172.00	1.80	22.80	24.90	2.10	21.80	22.80	144.10	24.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 1:30 PM	145.00	2.00	21.60	25.50	3.90	21.40	21.60	139.00	25.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 1:45 PM	210.00	2.30	129.30	18.00	0.00	18.00	17.90	129.30	21.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:00 PM	154.00	1.30	19.30	21.50	2.20	18.20	19.30	124.10	21.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:15 PM	109.00	0.30	20.00	19.70	0.00	17.60	20.00	121.90	19.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:30 PM	225.00	2.80	117.80	18.80	0.00	18.80	19.70	117.80	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 2:45 PM	158.00	1.70	19.20	19.40	0.20	19.30	19.20	116.20	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:00 PM	193.00	2.40	111.80	17.60	0.00	17.60	18.50	111.80	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:15 PM	98.00	2.80	26.30	42.20	15.90	43.20	26.30	122.30	42.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:30 PM	106.00	1.90	27.10	28.90	1.80	23.60	27.10	123.20	28.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 3:45 PM	128.00	3.40	24.80	30.90	6.10	21.90	24.80	130.70	30.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:00 PM	136.00	4.00	27.00	35.50	8.50	24.30	27.00	137.40	35.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:15 PM	118.00	3.30	30.10	35.50	5.40	27.50	30.10	2008.00	35.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:30 PM	82.00	2.70	29.40	20009.70	19980.30	29.40	33.90	20009.70	35.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 4:45 PM	93.00	2.40	35.90	40.40	4.50	28.90	35.90	20010.20	40.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:00 PM	106.00	2.80	37.80	55.20	17.40	29.10	37.80	20009.90	55.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:15 PM	104.00	2.90	37.70	69.70	32.00	28.70	37.70	20009.80	69.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:30 PM	98.00	2.80	40.60	75.50	34.90	27.80	40.60	20011.30	75.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 5:45 PM	85.00	2.50	26.80	20010.30	19983.50	26.80	37.90	20010.30	77.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 6:00 PM	104.00	2.60	40.20	79.30	39.10	24.90	40.20	20011.20	79.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/12 6:15 PM	110.00	2.00	47.30	85.70	38.40	24.90										





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Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-15-12 to 11-22-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )								Naphthalene (µg/m <sup>3</sup> )							
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4		
11/18/12 2:15 AM	161.00	0.80	33.70	45.60	11.90	34.40	33.70	62.50	45.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 2:30 AM	249.00	0.60	60.50	31.90	0.00	31.90	32.30	60.50	49.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 2:45 AM	270.00	1.10	49.50	36.10	0.00	35.70	36.10	60.80	49.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 3:00 AM	168.00	1.10	34.00	44.10	10.10	12841.40	34.00	60.90	44.10	0.80	0.00	0.00	0.00	0.00	0.80	0.00		
11/18/12 3:15 AM	198.00	1.20	42.50	12841.30	12798.80	12841.30	34.20	42.50	46.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 3:30 AM	213.00	1.50	61.30	12841.40	12780.10	12841.40	34.10	61.30	42.70	0.50	0.00	0.00	0.00	0.00	0.50	0.00		
11/18/12 3:45 AM	158.00	2.00	33.30	41.20	7.90	12841.50	33.30	61.50	41.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:00 AM	160.00	1.50	31.30	43.20	11.90	12841.20	31.30	50.80	43.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:15 AM	167.00	1.40	31.60	41.90	10.30	12841.50	31.60	26.70	41.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:30 AM	177.00	1.20	30.50	44.10	13.60	12841.60	30.50	26.80	44.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:45 AM	188.00	1.00	26.60	12841.40	12814.80	12841.40	30.40	26.60	41.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:00 AM	201.00	1.10	26.00	12841.60	12815.60	12841.60	30.50	26.00	40.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:15 AM	183.00	1.20	26.20	12841.60	12815.40	12841.60	31.30	26.20	39.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:30 AM	173.00	1.30	30.90	39.50	8.60	12841.20	30.90	26.70	39.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:45 AM	177.00	1.50	31.40	40.30	8.90	12841.50	31.40	27.90	40.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:00 AM	160.00	1.90	31.50	40.90	9.40	12841.10	31.50	27.90	40.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:15 AM	163.00	2.00	31.40	44.50	13.10	12841.40	31.40	27.80	44.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:30 AM	156.00	3.20	32.70	57.10	24.40	12841.50	32.70	27.30	57.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:45 AM	156.00	3.90	38.40	53.50	15.10	12841.30	38.40	27.90	53.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 7:00 AM	163.00	2.60	39.50	42.30	2.80	12841.40	39.50	27.90	42.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 7:15 AM	167.00	2.40	28.70	48.40	19.70	12841.30	28.70	27.80	48.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 7:30 AM	168.00	2.30	28.10	37.60	9.50	12841.50	28.10	27.40	37.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 7:45 AM	165.00	2.60	30.90	38.80	7.90	12841.20	30.90	25.50	38.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 8:00 AM	165.00	2.40	31.60	38.80	7.20	12841.40	31.60	25.80	38.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 8:15 AM	167.00	2.50	30.90	39.00	8.10	12841.30	30.90	25.50	39.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 8:30 AM	167.00	2.90	29.60	38.40	8.80	46.20	29.60	25.20	38.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 8:45 AM	180.00	3.30	24.70	44.70	20.00	44.70	28.50	24.70	38.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 9:00 AM	171.00	4.10	26.40	34.50	8.10	41.80	26.40	24.40	34.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 9:15 AM	165.00	3.50	25.10	31.50	6.40	41.30	25.10	24.40	31.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 9:30 AM	189.00	4.00	24.20	40.30	16.10	40.30	22.10	24.20	29.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 9:45 AM	180.00	4.30	24.10	38.60	14.50	38.60	21.00	24.10	27.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 10:00 AM	179.00	4.00	20.30	25.70	5.40	37.50	20.30	23.70	25.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 10:15 AM	172.00	3.90	18.60	24.80	6.20	37.00	18.60	23.10	24.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 10:30 AM	194.00	3.20	23.10	36.60	13.50	36.60	18.00	23.10	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 10:45 AM	191.00	3.80	24.30	37.20	12.90	37.20	19.20	24.30	22.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 11:00 AM	170.00	3.80	17.30	22.00	4.70	37.10	17.30	24.30	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 11:15 AM	197.00	3.60	24.00	35.40	11.40	35.40	16.20	24.00	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 11:30 AM	187.00	3.80	24.50	35.50	11.00	35.50	16.00	24.50	20.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 11:45 AM	183.00	3.00	25.70	33.10	7.40	33.10	14.20	25.70	19.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 12:00 PM	172.00	3.20	14.20	18.50	4.30	33.80	14.20	26.10	18.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 12:15 PM	165.00	3.20	23.10	18.20	0.00	33.20	23.10	25.80	18.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 12:30 PM	166.00	2.90	13.80	16.80	3.00	33.30	13.80	26.10	16.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 12:45 PM	181.00	3.80	26.10	32.20	6.10	32.20	13.30	26.10	16.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 1:00 PM	204.00	2.90	26.10	31.70	5.60	31.70	12.10	26.10	14.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 1:15 PM	170.00	3.80	11.80	13.80	2.00	30.10	11.80	25.70	13.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 1:30 PM	164.00	3.10	11.60	15.90	4.30	30.80	11.60	25.60	15.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 1:45 PM	200.00	3.00	24.50	29.70	5.20	29.70	11.20	24.50	15.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 2:00 PM	183.00	3.20	24.50	0.00	0.00	0.00	10.00	24.50	14.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 2:15 PM	169.00	3.80	9.70	14.70	5.00	28.40	9.70	24.40	14.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 2:30 PM	179.00	3.60	10.70	13.50	2.80	27.60	10.70	24.50	13.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 2:45 PM	180.00	3.40	23.70	26.80	3.10	26.80	8.40	23.70	11.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 3:00 PM	155.00	2.60	9.00	11.30	2.30	27.30	9.00	23.90	11.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 3:15 PM	177.00	3.40	8.40	11.90	3.50	27.90	8.40	24.00	11.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 3:30 PM	187.00	3.50	24.00	27.00	3.00	27.00	8.70	24.00	13.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 3:45 PM	158.00	3.30	8.10	8.00	0.00	26.70	8.10	23.70	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:00 PM	176.00	3.00	8.10	9.60	1.50	27.30	8.10	23.80	9.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:15 PM	157.00	2.90	8.40	12.60	4.20	26.90	8.40	23.80	12.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:30 PM	186.00	2.40	23.90	17.00	0.00	17.00	9.50	23.90	13.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 4:45 PM	159.00	2.60	10.00	15.20	5.20	17.60	10.00	23.90	15.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:00 PM	178.00	1.40	10.10	22.30	12.20	17.50	10.10	24.00	22.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:15 PM	145.00	1.80	10.70	22.20	11.50	17.50	10.70	24.00	22.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:30 PM	146.00	1.80	11.20	20.90	9.70	17.60	11.20	24.50	20.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 5:45 PM	159.00	1.70	11.00	21.60	10.60	18.10	11.00	24.50	21.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:00 PM	164.00	1.80	11.20	21.40	10.20	18.70	11.20	24.30	21.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:15 PM	165.00	1.60	14.30	20.40	6.10	19.40	14.30	28.50	20.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:30 PM	166.00	1.60	16.80	20.30	3.50	20.90	16.80	28.30	20.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 6:45 PM	168.00	1.40	17.50	21.70	4.20	21.70	17.50	28.10	21.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/18/12 7:00 PM	160.00	1.10	19.70	22.50	2.80													



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11-15-12 to 11-22-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )								Naphthalene (µg/m <sup>3</sup> )							
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4		
11/19/12 3:00 AM	181.00	2.40	15.80	31.40	15.60	31.40	28.30	15.80	32.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:15 AM	174.00	2.50	27.60	34.20	6.60	31.00	27.60	15.70	34.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:30 AM	173.00	2.70	27.90	33.60	5.70	31.70	27.90	15.50	33.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:45 AM	172.00	2.80	28.70	34.50	5.80	31.90	28.70	15.70	34.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 4:00 AM	177.00	2.60	30.20	34.30	4.10	31.20	30.20	15.50	34.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 4:15 AM	176.00	2.30	28.50	34.20	5.70	30.30	28.50	15.70	34.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 4:30 AM	186.00	2.60	15.80	30.10	14.30	30.10	28.30	15.80	33.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 4:45 AM	187.00	2.50	15.70	30.70	15.00	30.70	27.90	15.70	33.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 5:00 AM	171.00	2.60	28.50	34.80	6.30	30.70	28.50	15.70	34.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 5:15 AM	181.00	2.30	15.50	30.30	14.80	30.30	28.10	15.50	33.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 5:30 AM	174.00	1.90	31.20	33.90	2.70	31.10	31.20	15.70	33.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 5:45 AM	181.00	2.30	15.70	30.20	14.50	30.20	29.40	15.70	32.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:00 AM	192.00	1.90	15.90	30.60	14.70	30.60	33.90	15.90	33.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:15 AM	191.00	2.10	15.90	33.30	17.40	33.30	27.40	15.90	33.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:30 AM	183.00	1.80	15.80	8290.50	8274.70	8290.50	28.00	15.80	31.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:45 AM	174.00	1.90	27.90	33.10	5.20	9421.30	27.90	15.80	33.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:00 AM	188.00	2.10	15.70	9421.30	9405.60	9421.30	31.20	15.70	32.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:15 AM	182.00	2.10	15.80	9421.30	9405.50	9421.30	31.10	15.80	32.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:30 AM	182.00	2.40	15.60	9421.50	9405.90	9421.50	36.60	15.60	30.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:45 AM	183.00	2.00	15.70	9421.40	9405.70	9421.40	38.20	15.70	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 8:00 AM	177.00	1.20	35.30	31.30	0.00	9421.50	35.30	15.80	31.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 8:15 AM	179.00	1.80	31.40	33.50	2.10	9421.40	31.40	15.90	33.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 8:30 AM	185.00	2.00	15.80	9421.50	9405.70	9421.50	40.80	15.80	36.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 8:45 AM	191.00	2.20	16.00	9421.50	9405.50	9421.50	34.40	16.00	34.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 9:00 AM	198.00	2.00	15.70	9421.50	9405.80	9421.50	33.10	15.70	35.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 9:15 AM	176.00	2.00	38.50	32.30	0.00	25.10	38.50	16.30	32.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 9:30 AM	182.00	2.90	16.50	21.20	4.70	21.20	35.30	16.50	32.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 9:45 AM	182.00	2.60	16.30	20.20	3.90	20.20	44.80	16.30	32.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 10:00 AM	192.00	2.40	16.60	19.00	2.40	19.00	36.40	16.60	32.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 10:15 AM	197.00	2.70	16.40	18.30	1.90	18.30	37.70	16.40	32.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 10:30 AM	210.00	3.10	16.50	18.00	1.50	18.00	37.90	16.50	32.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 10:45 AM	182.00	3.80	16.20	17.70	1.50	17.70	35.70	16.20	28.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 11:00 AM	194.00	4.50	16.40	19.20	2.80	19.20	37.30	16.40	28.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 11:15 AM	192.00	3.40	16.10	19.20	3.10	19.20	30.20	16.10	28.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 11:30 AM	207.00	5.10	16.60	19.20	2.60	19.20	30.80	16.60	25.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 11:45 AM	215.00	3.80	15.90	19.20	3.30	19.20	29.80	15.90	25.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 12:00 PM	195.00	4.00	15.90	19.20	3.30	19.20	28.80	15.90	23.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 12:15 PM	203.00	3.20	15.90	14.20	0.00	14.20	33.30	15.90	25.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 12:30 PM	211.00	4.80	15.10	13.40	0.00	13.40	26.30	15.10	21.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 12:45 PM	215.00	5.50	15.10	11.60	0.00	11.60	21.70	15.10	19.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 1:00 PM	213.00	7.20	14.70	10.40	0.00	10.40	19.00	14.70	19.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 1:15 PM	215.00	4.60	15.00	10.10	0.00	10.10	20.80	15.00	19.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 1:30 PM	205.00	5.10	15.10	10.80	0.00	10.80	19.50	15.10	18.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 1:45 PM	196.00	3.70	15.00	11.60	0.00	11.60	20.90	15.00	18.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 2:00 PM	202.00	5.80	15.30	11.90	0.00	11.90	24.40	15.30	19.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 2:15 PM	210.00	3.60	15.10	11.60	0.00	11.60	20.60	15.10	19.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 2:30 PM	199.00	4.00	15.30	11.20	0.00	11.20	19.70	15.30	19.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 2:45 PM	215.00	4.70	15.50	11.80	0.00	11.80	20.60	15.50	20.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:00 PM	212.00	5.10	15.70	12.50	0.00	12.50	21.30	15.70	20.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:15 PM	202.00	5.30	16.00	13.20	0.00	13.20	29.00	16.00	22.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:30 PM	197.00	4.40	16.60	15.10	0.00	15.10	25.80	16.60	24.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 3:45 PM	199.00	5.50	16.70	15.80	0.00	15.80	27.00	16.70	24.80	0.00	4.50	4.50	4.50	0.00	0.00	0.00		
11/19/12 4:00 PM	207.00	4.10	17.10	16.20	0.00	16.20	27.80	17.10	24.80	0.00	4.90	4.90	4.90	0.00	0.00	0.00		
11/19/12 4:15 PM	187.00	4.50	17.30	16.70	0.00	16.70	30.50	17.30	25.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 4:30 PM	220.00	3.80	18.20	18.20	0.00	18.20	43.20	18.20	25.50	0.00	0.00	0.00	0.00	8.70	0.00	0.00		
11/19/12 4:45 PM	184.00	4.50	17.80	17.20	0.00	17.20	26.90	17.80	25.50	0.00	0.00	0.00	7.10	0.00	0.00	0.00		
11/19/12 5:00 PM	201.00	3.40	18.30	9.60	0.00	9.60	29.70	18.30	26.00	0.00	0.00	0.00	0.00	5.50	0.00	0.00		
11/19/12 5:15 PM	189.00	2.50	18.60	8.70	0.00	8.70	32.10	18.60	28.40	0.00	0.00	0.00	0.00	6.30	0.00	0.00		
11/19/12 5:30 PM	190.00	3.20	18.80	9.90	0.00	9.90	29.00	18.80	27.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 5:45 PM	180.00	3.20	19.30	11.40	0.00	11.40	33.00	19.30	26.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:00 PM	174.00	2.70	33.20	27.40	0.00	11.90	33.20	19.70	27.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:15 PM	183.00	3.60	20.50	12.30	0.00	12.30	32.10	20.50	28.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:30 PM	172.00	3.40	34.20	27.60	0.00	12.80	34.20	20.50	27.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 6:45 PM	175.00	3.50	38.30	28.40	0.00	13.00	38.30	20.80	28.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:00 PM	180.00	3.00	21.10	14.60	0.00	14.60	40.40	21.10	28.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:15 PM	182.00	3.50	21.30	15.90	0.00	15.90	37.20	21.30	29.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:30 PM	195.00	3.50	21.40	17.00	0.00	17.00	39.80	21.40	29.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/19/12 7:45 PM	196.00	5.40	22.30	17.60	0.00	17.60	37.30	22.30	29.30									





**US Army Corps  
of Engineers®**

Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-15-12 to 11-22-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )							Naphthalene (µg/m <sup>3</sup> )						
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4
11/21/12 4:30 AM	227.00	1.20	83.80	48.60	0.00	48.60	123.20	83.80	95.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 4:45 AM	225.00	1.30	83.50	49.60	0.00	49.60	197.60	83.50	86.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:00 AM	243.00	1.60	83.50	49.60	0.00	49.60	197.60	83.50	86.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:15 AM	245.00	1.60	61.20	42.00	0.00	42.00	146.70	61.20	42.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:30 AM	231.00	1.20	57.50	40.90	0.00	40.90	115.40	57.50	42.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:45 AM	202.00	1.60	57.50	47.20	0.00	47.20	110.00	57.50	57.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:00 AM	253.00	1.70	61.70	56.60	0.00	56.60	109.30	61.70	38.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:15 AM	239.00	1.80	0.00	57.60	0.00	57.60	108.40	0.00	42.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:30 AM	208.00	1.70	65.10	61.10	0.00	61.10	87.20	65.10	46.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:45 AM	210.00	1.80	60.00	56.60	0.00	56.60	113.20	60.00	54.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:00 AM	203.00	1.30	60.00	50.20	0.00	50.20	105.20	60.00	54.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:15 AM	223.00	2.50	54.70	64.50	9.80	64.50	107.30	54.70	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:30 AM	207.00	2.20	45.90	51.90	6.00	51.90	93.00	45.90	34.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:45 AM	212.00	2.00	44.40	35.90	0.00	35.90	73.50	44.40	38.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:00 AM	215.00	1.70	51.10	28.10	0.00	28.10	79.90	51.10	34.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:15 AM	232.00	1.80	51.10	33.30	0.00	33.30	91.10	51.10	31.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:30 AM	241.00	2.00	54.00	30.40	0.00	30.40	87.70	54.00	34.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:45 AM	231.00	1.90	53.80	29.10	0.00	29.10	96.90	53.80	33.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:00 AM	180.00	2.00	58.40	26.90	0.00	26.90	107.60	58.40	43.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:15 AM	216.00	2.40	63.50	24.70	0.00	24.70	89.50	63.50	38.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:30 AM	208.00	2.30	65.70	17.60	0.00	17.60	86.50	65.70	44.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:45 AM	214.00	2.70	62.40	13.50	0.00	13.50	91.70	62.40	48.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 10:00 AM	210.00	2.70	51.60	12.20	0.00	12.20	44.70	51.60	16.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 10:15 AM	205.00	2.70	45.30	12.20	0.00	12.20	51.30	45.30	16.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 10:30 AM	208.00	3.30	31.90	14.50	0.00	14.50	28.40	31.90	16.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 10:45 AM	215.00	3.60	31.80	18.30	0.00	18.30	31.30	31.80	2.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 11:00 AM	210.00	3.60	26.70	14.80	0.00	14.80	22.20	26.70	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 11:15 AM	231.00	3.20	24.00	13.50	0.00	13.50	17.60	24.00	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 11:30 AM	208.00	3.50	23.80	10.50	0.00	10.50	19.20	23.80	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 11:45 AM	193.00	3.40	23.50	10.60	0.00	10.60	18.30	23.50	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 12:00 PM	213.00	4.60	23.00	10.50	0.00	10.50	20.00	23.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 12:15 PM	208.00	4.10	22.90	10.10	0.00	10.10	16.70	22.90	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 12:30 PM	194.00	3.40	22.60	10.60	0.00	10.60	16.50	22.60	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 12:45 PM	236.00	3.50	22.60	11.10	0.00	11.10	16.60	22.60	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 1:00 PM	198.00	5.40	22.90	12.20	0.00	12.20	17.10	22.90	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 1:15 PM	227.00	4.10	22.70	11.80	0.00	11.80	15.40	22.70	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 1:30 PM	222.00	3.80	22.50	12.30	0.00	12.30	15.60	22.50	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 1:45 PM	234.00	5.30	22.50	12.60	0.00	12.60	16.10	22.50	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 2:00 PM	221.00	4.30	22.40	12.60	0.00	12.60	16.60	22.40	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 2:15 PM	257.00	4.60	22.50	12.30	0.00	12.30	16.40	22.50	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 2:30 PM	221.00	3.70	23.00	12.20	0.00	12.20	17.10	23.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 2:45 PM	230.00	5.00	23.30	11.80	0.00	11.80	17.80	23.30	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 3:00 PM	243.00	6.00	23.10	11.30	0.00	11.30	17.40	23.10	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 3:15 PM	236.00	4.60	23.90	13.30	0.00	13.30	21.80	23.90	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 3:30 PM	245.00	4.10	24.20	14.20	0.00	14.20	22.50	24.20	2.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 3:45 PM	228.00	5.60	24.60	15.70	0.00	15.70	23.20	24.60	2.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 4:00 PM	227.00	4.40	25.10	18.10	0.00	18.10	24.40	25.10	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 4:15 PM	209.00	4.20	24.90	18.50	0.00	18.50	0.00	24.90	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 4:30 PM	196.00	3.90	24.10	16.10	0.00	16.10	21.10	24.10	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 4:45 PM	211.00	4.20	0.00	15.90	0.00	15.90	21.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:00 PM	211.00	3.30	0.00	16.20	0.00	16.20	21.70	0.00	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:15 PM	187.00	3.10	24.90	16.20	0.00	16.20	23.60	24.90	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:30 PM	195.00	2.60	25.60	17.60	0.00	17.60	26.90	25.60	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 5:45 PM	185.00	3.80	27.70	18.10	0.00	18.10	28.30	27.70	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:00 PM	196.00	2.70	29.00	18.90	0.00	18.90	29.00	29.00	5.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:15 PM	192.00	2.70	29.90	19.40	0.00	19.40	29.20	29.90	6.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:30 PM	193.00	2.40	29.90	20.60	0.00	20.60	30.60	29.90	5.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 6:45 PM	199.00	2.10	29.90	22.60	0.00	22.60	32.60	29.90	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:00 PM	198.00	2.20	0.00	24.10	0.00	24.10	33.90	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:15 PM	190.00	2.60	30.90	23.20	0.00	23.20	35.30	30.90	5.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:30 PM	189.00	3.10	31.70	23.50	0.00	23.50	34.90	31.70	6.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 7:45 PM	206.00	3.40	31.80	22.50	0.00	22.50	32.20	31.80	6.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:00 PM	207.00	2.90	31.50	22.00	0.00	22.00	31.70	31.50	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:15 PM	200.00	3.40	31.60	22.40	0.00	22.40	29.40	31.60	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:30 PM	202.00	3.40	32.00	21.90	0.00	21.90	27.80	32.00	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 8:45 PM	206.00	3.70	0.00	21.50	0.00	21.50	27.10	0.00	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:00 PM	210.00	3.10	32.20	21.40	0.00	21.40	26.80	32.20	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:15 PM	213.00	3.40	32.50	21.60	0.00	21.60	26.50	32.50	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/21/12 9:30 PM	204.00															





# IHC CDF Dredge Project : Air Monitoring Alarm Response Log

Air Monitoring Station:  M1       M2       M3       M4

Cerex Unit (Naphthalene)     Thermo Unit (Particles)     PID Monitor

Date & Time of alarm: 11/19/2012 6:30 AM

Email sent to site Technician (  Yes or No ).

Technician responded to the alarm: Scott Peterson

1. Alarm cause by:

- |                                     |                             |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/>            | Loss of Power               |
| <input type="checkbox"/>            | Loss of Radio Communication |
| <input type="checkbox"/>            | Out of Calibration          |
| <input type="checkbox"/>            | UV Alignment                |
| <input checked="" type="checkbox"/> | Blockage in Air Tube        |
| <input type="checkbox"/>            | Air Quality                 |
| <input type="checkbox"/>            | Other:                      |

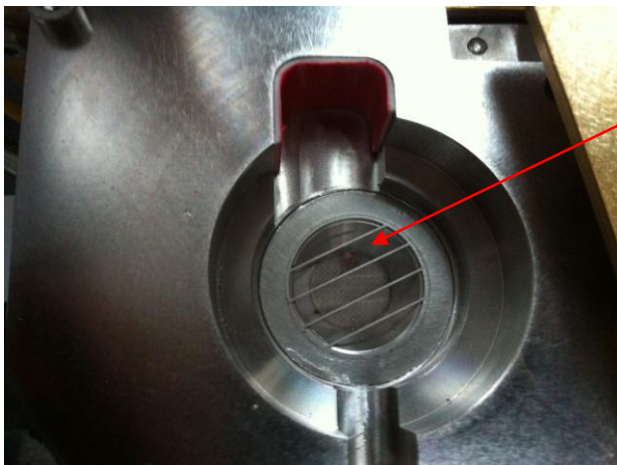
2. Corrective Actions taken (  Yes or No ).

3. Dredging suspended ( Yes or  No ).

4. Alarm logged in air monitoring action spreadsheet. (  Yes or No ).

## ***Description of Action Taken:***

M4 Thermo Unit alarm was caused by spiders inside of the naphelometer and paper filter. The spiders were vacuumed out of the inlet tube and naphelometer. Unit was recalibrated at 9:15 AM 11/19/12 and inspected at 3:30 PM 11/1/12 to confirm proper function.



Spiders



# IHC CDF Dredge Project : Air Monitoring Alarm Response Log

Air Monitoring Station:  M1       M2       M3       M4

Cerex Unit (Naphthalene)     Thermo Unit (Particles)     PID Monitor

Date & Time of alarm: 11/18/2012 3:00 AM

Email sent to site Technician ( Yes or No ).

Technician responded to the alarm: Scott Peterson

1. Alarm cause by:

- |                                     |                             |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/>            | Loss of Power               |
| <input type="checkbox"/>            | Loss of Radio Communication |
| <input type="checkbox"/>            | Out of Calibration          |
| <input type="checkbox"/>            | UV Alignment                |
| <input checked="" type="checkbox"/> | Blockage in Air Tube        |
| <input type="checkbox"/>            | Air Quality                 |
| <input type="checkbox"/>            | Other:                      |

2. Corrective Actions taken ( Yes or No ).

3. Dredging suspended ( Yes or No ).

4. Alarm logged in air monitoring action spreadsheet. ( Yes or No ).

## ***Description of Action Taken:***

M4 Thermo Unit alarm was caused by spiders inside of the naphelometer and paper filter. The spiders were vacuumed out of the inlet tube and naphelometer. Unit was recalibrated at 7:00 AM 11/18/12 and inspected at 11:00 AM 11/18/12 to confirm proper function.



Spiders





# IHC CDF Dredge Project : Air Monitoring Alarm Response Log

Air Monitoring Station:  M1  M2  M3  M4

Cerex Unit (Naphthalene)  Thermo Unit (Particles)  PID Monitor

Date & Time of alarm: 11/17/2012 7:45 AM Email sent to site Technician (  Yes or No ).

Technician responded to the alarm: Scott Peterson

1. Alarm cause by:

- |                                     |                             |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/>            | Loss of Power               |
| <input type="checkbox"/>            | Loss of Radio Communication |
| <input checked="" type="checkbox"/> | Out of Calibration          |
| <input type="checkbox"/>            | UV Alignment                |
| <input type="checkbox"/>            | Blockage in Air Tube        |
| <input type="checkbox"/>            | Air Quality                 |
| <input type="checkbox"/>            | Other:                      |

2. Corrective Actions taken (  Yes or No ).

3. Dredging suspended ( Yes or  No ).

4. Alarm logged in air monitoring action spreadsheet. (  Yes or No ).

## ***Description of Action Taken:***

M4 Thermo Unit alarmed for a high particle readings. The units naphelometer was recalibrated at 9:30 AM 11/17/12 and inspected at 11:00 AM 11/17/12 to confirm proper function.

# IHC CDF Dredge Project : Air Monitoring Alarm Response Log

Air Monitoring Station:  M1  M2  M3  M4

Cerex Unit (Naphthalene)  Thermo Unit (Particles)  PID Monitor

Date & Time of alarm: 11/15/2012 9:30 PM

Email sent to site Technician ( Yes or No ).

1. Alarm cause by:

- |                                     |                             |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/>            | Loss of Power               |
| <input type="checkbox"/>            | Loss of Radio Communication |
| <input type="checkbox"/>            | Out of Calibration          |
| <input type="checkbox"/>            | UV Alignment                |
| <input checked="" type="checkbox"/> | Blockage in Air Tube        |
| <input type="checkbox"/>            | Air Quality                 |
| <input type="checkbox"/>            | Other:                      |

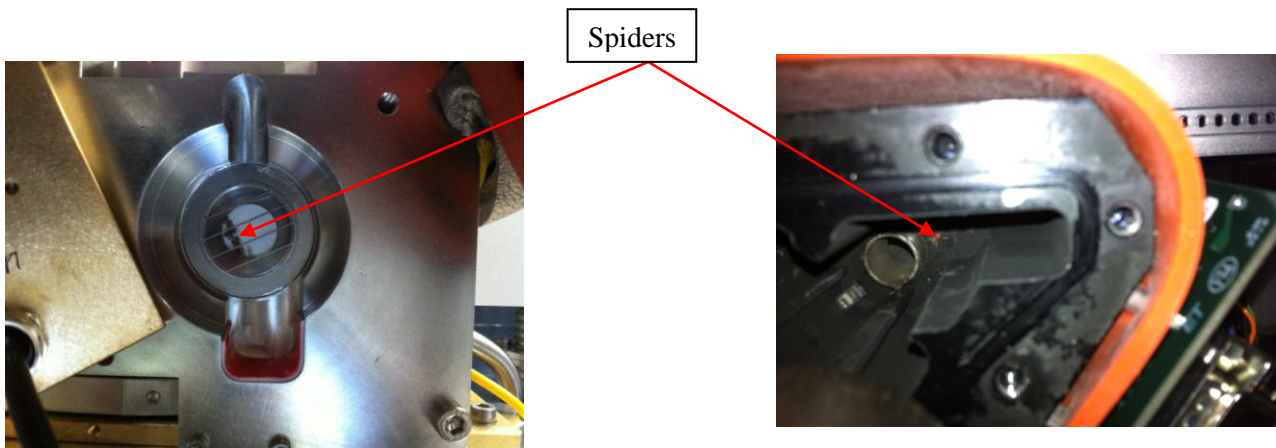
2. Corrective Actions taken ( Yes or No ).

3. Dredging suspended (Yes or  No).

4. Alarm logged in air monitoring action spreadsheet. ( Yes or No ).

## ***Description of Action Taken:***

M4 Thermo Unit alarm was caused by spiders inside of the naphelometer and paper filter. The spiders were vacuumed out of the inlet tube and naphelometer. Unit was recalibrated at 7:30 AM 11/16/12 and inspected at 9:00 AM 11/16/12 to confirm proper function.











**US Army Corps  
of Engineers®**

Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-23-12 to 11-28-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )								Naphthalene (µg/m <sup>3</sup> )							
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4		
11/26/12 2:15 AM	312.00	1.60	23.00	23.30	0.30	22.50	23.30	20.70	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 2:30 AM	291.00	2.20	24.80	24.50	0.00	22.90	24.50	21.20	24.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 2:45 AM	314.00	1.70	22.50	23.40	0.90	21.20	23.40	20.50	22.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:00 AM	317.00	1.90	22.40	23.00	0.60	20.80	23.00	21.20	22.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:15 AM	333.00	2.50	24.00	24.30	0.30	22.60	24.30	21.30	24.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:30 AM	323.00	2.70	23.90	23.40	0.00	21.90	23.40	20.70	23.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:45 AM	327.00	2.30	21.20	21.40	0.20	21.40	21.40	20.10	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:00 AM	327.00	2.20	19.50	20.90	1.40	19.90	20.90	19.50	19.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:15 AM	340.00	2.30	20.40	20.80	0.40	19.10	20.80	19.80	20.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:30 AM	318.00	2.70	20.00	21.10	1.10	19.60	21.10	19.50	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:45 AM	330.00	2.50	20.30	21.30	1.00	19.90	21.30	19.40	20.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:00 AM	320.00	2.20	19.40	20.30	0.90	18.70	20.30	19.00	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:15 AM	337.00	3.60	19.60	20.10	0.50	18.50	20.10	18.80	19.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:30 AM	337.00	3.00	20.00	21.70	1.70	19.40	21.70	19.30	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:45 AM	341.00	2.80	21.10	20.30	0.00	19.70	20.30	18.70	21.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:00 AM	342.00	2.80	19.00	20.00	1.00	19.20	20.00	18.60	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:15 AM	330.00	2.10	19.30	20.00	0.70	18.30	20.00	18.50	19.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:30 AM	326.00	2.40	22.60	19.10	0.00	18.00	19.10	18.30	22.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:45 AM	328.00	2.70	15.70	16.90	1.20	14.40	16.90	16.80	15.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 7:00 AM	319.00	2.80	15.10	13.50	0.00	13.40	13.50	16.10	15.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 7:15 AM	304.00	2.50	22.90	12.80	0.00	13.80	12.80	15.60	22.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 7:30 AM	307.00	2.60	15.20	13.00	0.00	14.70	13.00	15.50	15.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 7:45 AM	317.00	2.40	19.10	11.60	0.00	13.80	11.60	16.30	19.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 8:00 AM	304.00	2.70	47.20	14.70	0.00	22.40	14.70	16.10	47.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 8:15 AM	331.00	2.30	47.20	14.30	0.00	13.30	14.30	15.70	47.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 8:30 AM	332.00	2.80	20.90	16.20	0.00	14.40	16.20	15.90	20.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 8:45 AM	321.00	3.30	25.60	18.10	0.00	15.80	18.10	16.70	25.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 9:00 AM	331.00	4.00	19.90	15.00	0.00	10.70	15.00	19.20	19.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 9:15 AM	321.00	3.00	21.10	14.40	0.00	14.10	14.40	16.20	21.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 9:30 AM	338.00	3.80	13.10	16.20	3.10	13.40	16.20	17.60	13.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 9:45 AM	335.00	2.00	17.70	12.80	0.00	11.90	12.80	16.00	17.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 10:00 AM	329.00	3.60	13.90	13.00	0.00	12.70	13.00	16.30	13.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 10:15 AM	335.00	3.10	11.80	13.50	1.70	12.80	13.50	15.20	11.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 10:30 AM	336.00	4.80	11.80	13.30	1.50	13.30	13.30	15.50	11.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 10:45 AM	336.00	3.60	14.10	10.20	0.00	8.00	10.20	15.40	14.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 11:00 AM	336.00	3.80	7.70	8.60	0.90	7.70	8.60	15.00	7.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 11:15 AM	3.00	5.00	8.90	15.40	6.50	8.90	8.70	15.40	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 11:30 AM	2.00	5.50	9.50	14.40	4.90	9.50	7.30	14.40	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 11:45 AM	5.00	5.30	7.70	14.10	6.40	7.70	7.80	14.10	4.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 12:00 PM	3.00	4.10	7.40	14.00	6.60	7.40	7.40	14.00	8.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 12:15 PM	7.00	5.30	6.90	13.50	6.60	6.90	7.80	13.50	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 12:30 PM	11.00	6.70	5.50	12.90	7.40	5.50	5.80	12.90	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 12:45 PM	7.00	6.80	5.90	12.40	6.50	5.90	6.60	12.40	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 1:00 PM	13.00	6.90	6.00	12.70	6.70	6.00	6.40	12.70	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 1:15 PM	359.00	4.90	6.20	7.10	0.90	8.10	7.10	13.20	6.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 1:30 PM	354.00	4.70	6.10	7.80	1.70	7.10	7.80	12.50	6.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 1:45 PM	6.00	6.30	7.10	12.90	5.80	7.10	7.10	12.90	6.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 2:00 PM	4.00	4.20	6.70	12.00	5.30	6.70	7.10	12.00	6.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 2:15 PM	3.00	5.10	6.50	11.90	5.40	6.50	7.30	11.90	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 2:30 PM	6.00	4.70	6.80	11.90	5.10	6.80	6.80	11.90	6.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 2:45 PM	25.00	4.40	9.40	11.70	2.30	9.40	16.10	11.70	6.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:00 PM	0.00	3.10	9.20	12.40	3.20	9.20	9.20	12.40	7.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:15 PM	359.00	3.90	10.80	10.10	0.00	10.50	10.10	12.10	10.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:30 PM	335.00	3.30	10.40	11.20	0.80	10.50	11.20	12.00	10.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 3:45 PM	0.00	4.20	11.20	12.10	0.90	11.20	11.20	12.10	11.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:00 PM	4.00	4.80	14.60	12.60	0.00	14.60	14.10	12.60	15.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:15 PM	3.00	2.60	12.90	12.80	0.00	12.90	13.50	12.80	14.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:30 PM	2.00	2.80	12.90	12.70	0.00	12.90	14.60	12.70	18.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 4:45 PM	359.00	2.90	18.10	14.30	0.00	13.60	14.30	13.00	18.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:00 PM	355.00	3.60	18.10	14.90	0.00	13.60	14.90	13.00	18.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:15 PM	6.00	4.00	14.00	13.00	0.00	14.00	14.40	13.00	17.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:30 PM	0.00	3.90	19.40	14.50	0.00	19.40	15.70	14.50	18.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 5:45 PM	355.00	3.40	22.60	16.50	0.00	16.80	16.50	13.60	22.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:00 PM	339.00	2.30	23.30	18.30	0.00	16.40	18.30	14.10	23.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:15 PM	358.00	1.50	23.30	18.40	0.00	17.40	18.40	14.30	23.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:30 PM	342.00	1.70	22.00	19.40	0.00	17.10	19.40	13.10	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 6:45 PM	329.00	2.10	21.10	19.60	0.00	17.70	19.60	13.30	21.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 7:00 PM	335.00	2.40	22.20	19.60	0.00	19.20	19.60	13.30	22.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11/26/12 7:15 PM	0.00	2.70	21.50	13.40	0.00	21.50	23.80	13.40										



US Army Corps  
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Indiana Harbor and Canal  
Confined Disposal Facility  
Real-Time Air Monitoring Data  
11-23-12 to 11-28-12

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates (µg/m <sup>3</sup> )							Naphthalene (µg/m <sup>3</sup> )						
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4
11/27/12 3:00 AM	329.00	2.50	7.70	10.20	2.50	9.20	10.20	13.30	7.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:15 AM	326.00	2.00	6.70	11.90	5.20	8.70	11.90	13.40	6.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:30 AM	317.00	2.90	6.90	10.00	3.10	8.20	10.00	13.00	6.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:45 AM	317.00	2.30	6.10	12.00	5.90	7.80	12.00	13.10	6.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:00 AM	330.00	2.00	6.70	12.50	5.80	7.10	12.50	13.00	6.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:15 AM	323.00	2.50	7.00	10.70	3.70	8.30	10.70	12.80	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:30 AM	338.00	2.70	7.00	10.90	3.90	8.80	10.90	12.90	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:45 AM	315.00	2.60	7.30	10.80	3.50	8.40	10.80	12.40	7.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:00 AM	322.00	3.00	8.20	11.60	3.40	10.60	11.60	12.30	8.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:15 AM	322.00	2.50	9.60	11.80	2.20	9.50	11.80	12.50	9.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:30 AM	320.00	2.50	9.40	12.10	2.70	9.50	12.10	12.80	9.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:45 AM	325.00	2.90	9.10	11.60	2.50	0.00	11.60	12.60	9.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:00 AM	328.00	2.90	12.20	12.70	0.50	11.00	12.70	12.70	12.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:15 AM	326.00	2.30	13.10	12.90	0.00	12.70	12.90	12.80	13.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:30 AM	334.00	2.40	14.70	12.70	0.00	13.20	12.70	12.80	14.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:45 AM	325.00	2.20	15.00	14.20	0.00	12.70	14.20	13.20	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:00 AM	316.00	2.50	20.50	12.50	0.00	11.70	12.50	12.80	20.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:15 AM	317.00	2.50	34.00	14.60	0.00	19.90	14.60	14.40	34.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:30 AM	325.00	2.50	34.80	17.20	0.00	20.20	17.20	14.50	34.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:45 AM	310.00	2.70	31.70	17.40	0.00	23.50	17.40	16.20	31.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 8:00 AM	296.00	2.10	21.30	21.50	0.20	25.60	21.50	19.40	21.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 8:15 AM	308.00	2.40	98.40	34.70	0.00	34.00	34.70	19.60	98.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 8:30 AM	312.00	3.40	49.10	36.60	0.00	25.20	36.60	19.70	49.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 8:45 AM	314.00	3.40	47.20	37.60	0.00	29.90	37.60	18.70	47.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 9:00 AM	295.00	2.90	47.60	31.90	0.00	25.30	31.90	17.80	47.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 9:15 AM	291.00	3.40	30.10	37.20	7.10	21.40	37.20	18.20	30.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 9:30 AM	318.00	2.40	44.10	34.80	0.00	27.70	34.80	19.80	44.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 9:45 AM	288.00	2.50	38.60	26.90	0.00	27.60	26.90	20.90	38.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 10:00 AM	289.00	3.20	38.60	26.70	0.00	21.10	26.70	21.60	38.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 10:15 AM	301.00	3.20	29.80	23.30	0.00	25.30	23.30	18.70	29.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 10:30 AM	276.00	2.60	33.80	31.90	0.00	25.40	31.90	19.80	33.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 10:45 AM	268.00	2.50	18.00	22.90	4.90	22.90	23.30	18.00	37.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 11:00 AM	267.00	2.60	19.30	24.30	5.00	24.30	45.00	19.30	25.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 11:15 AM	259.00	3.40	18.10	34.40	16.30	34.40	25.90	18.10	32.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 11:30 AM	251.00	3.50	17.70	19.80	2.10	19.80	35.10	17.70	21.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 11:45 AM	261.00	4.20	18.20	21.10	2.90	21.10	23.20	18.20	29.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 12:00 PM	266.00	4.60	18.20	20.30	2.10	20.30	26.80	18.20	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 12:15 PM	233.00	3.10	17.40	30.00	12.60	30.00	105.40	17.40	22.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 12:30 PM	225.00	2.40	16.90	14.60	0.00	14.60	20.60	16.90	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 12:45 PM	274.00	2.80	19.40	17.90	0.00	12.70	17.90	16.20	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 1:00 PM	252.00	3.00	16.60	14.00	0.00	14.00	16.00	16.60	13.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 1:15 PM	265.00	3.50	16.20	11.90	0.00	11.90	15.30	16.20	16.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 1:30 PM	279.00	3.90	8.20	13.70	5.50	9.80	13.70	15.10	8.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 1:45 PM	252.00	3.60	15.10	10.20	0.00	10.20	12.70	15.10	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 2:00 PM	286.00	2.30	9.50	32.50	23.00	9.60	32.50	15.10	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 2:15 PM	253.00	2.40	15.50	12.30	0.00	12.30	13.60	15.50	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 2:30 PM	264.00	2.50	15.00	9.10	0.00	9.10	12.40	15.00	5.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 2:45 PM	259.00	3.90	15.10	12.50	0.00	12.50	10.80	15.10	11.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:00 PM	234.00	3.80	16.00	13.80	0.00	13.80	13.90	16.00	24.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:15 PM	248.00	3.10	16.00	19.60	3.60	19.60	13.50	16.00	24.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:30 PM	237.00	3.20	16.80	13.90	0.00	13.90	15.80	16.80	30.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 3:45 PM	231.00	3.30	15.10	14.60	0.00	14.60	14.90	15.10	30.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:00 PM	237.00	4.10	17.40	13.70	0.00	13.70	16.10	17.40	35.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:15 PM	272.00	3.50	19.10	19.00	0.00	11.90	19.00	15.80	19.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:30 PM	243.00	3.50	16.60	19.30	2.70	19.30	13.40	16.60	46.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 4:45 PM	247.00	4.00	16.20	13.70	0.00	13.70	289.10	16.20	12.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:00 PM	257.00	2.70	16.70	13.30	0.00	13.30	21.70	16.70	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:15 PM	240.00	3.10	16.30	15.60	0.00	15.60	30.60	16.30	17.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:30 PM	237.00	3.10	16.30	16.20	0.00	16.20	61.60	16.30	30.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 5:45 PM	217.00	3.00	17.30	18.90	1.60	18.90	38.80	17.30	14.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:00 PM	222.00	1.80	17.10	20.40	3.30	20.40	20.40	17.10	16.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:15 PM	223.00	2.20	17.50	17.60	0.10	17.60	39.50	17.50	20.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:30 PM	220.00	2.40	18.40	18.60	0.20	18.60	22.20	18.40	19.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 6:45 PM	214.00	2.00	18.50	17.70	0.00	17.70	84.70	18.50	18.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:00 PM	218.00	2.20	19.20	16.70	0.00	16.70	44.50	19.20	15.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:15 PM	225.00	2.30	17.90	15.70	0.00	15.70	20.00	17.90	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:30 PM	208.00	2.20	18.00	16.50	0.00	16.50	75.60	18.00	15.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 7:45 PM	218.00	2.20	17.90	15.70	0.00	15.70	25.70	17.90	16.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/12 8:00 PM	226.00	2.														













US Army Corps  
of Engineers

Reading Date	Wind Direction Degrees Clockwise from North	Wind Speed mph	Particulates ( $\mu\text{g}/\text{m}^3$ )							Naphthalene ( $\mu\text{g}/\text{m}^3$ )						
			Upwind	Downwind	CDF Contribution	M1	M2	M3	M4	Upwind	Downwind	CDF Contribution	M1	M2	M3	M4
11/30/12 11:30 PM	138.00	2.10	49.50	45.70	0.00	41.00	49.50	61.80	45.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/30/12 11:45 PM	153.00	1.50	53.40	42.10	0.00	40.90	53.40	59.00	42.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00

# IHC CDF Dredge Project : Air Monitoring Alarm Response Log

**Air Monitoring Station:**     M1             M2             M3             M4             Dock

**Air Monitoring Instrument:**

Cerex Unit (Naphthalene)             Thermo Unit (Particles)             PID Monitor

Date & Time of alarm: 11/30/2012 1:15 PM            Email sent to site Technician?    (  Yes or  No )

Technician responded to the alarm; Scott Peterson

1. Was dredging occurring at the time of the alarm?            ( Yes or  No )

2. Alarm caused by:

- Loss of Power
- Loss of Radio Communication
- Out of Calibration
- UV Alignment
- Blockage in Air Tube
- Air Quality
- Other: Weather-Heavy fog

3. Corrective Actions taken?            (  Yes or  No )

4. Dredging suspended?            ( Yes or  No )

5. Alarm logged in air monitoring action spreadsheet?            (  Yes or  No )

***Description of Action Taken:***

M3 Thermo unit alarm was caused by dust from the loaders while off loading debris and stone into the west cell of the CDF. The on-site foreman was alerted to start watering down the gravel road where the loaders were driving. The driveway was continually watered every 30 minutes during off loading of debris.

# IHC CDF Dredge Project : Air Monitoring Alarm Response Log

**Air Monitoring Station:**     M1             M2             M3             M4             Dock

**Air Monitoring Instrument:**

Cerex Unit (Naphthalene)             Thermo Unit (Particles)             PID Monitor

Date & Time of alarm: 12/1/2012 9:00 AM            Email sent to site Technician?    ( Yes or **No**)

Technician responded to the alarm; Scott Peterson and Joe Fallon

1. Was dredging occurring at the time of the alarm?            ( Yes or **No**)

2. Alarm caused by:

- |                                     |                             |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/>            | Loss of Power               |
| <input checked="" type="checkbox"/> | Loss of Radio Communication |
| <input type="checkbox"/>            | Out of Calibration          |
| <input type="checkbox"/>            | UV Alignment                |
| <input type="checkbox"/>            | Blockage in Air Tube        |
| <input type="checkbox"/>            | Air Quality                 |
| <input type="checkbox"/>            | Other: Weather              |

3. Corrective Actions taken?            (**Yes** or No )

4. Dredging suspended?            ( Yes or **No**)

5. Alarm logged in air monitoring action spreadsheet?            ( Yes or **No**)

***Description of Action Taken:***

The program on the Administration building server stopped collecting data from the weather station at: 2012-12-01 09:15. The USGS project manager informed the JV that they were getting good data for the times after that. The data collection service was re-started at 2012-12-04 11:15. The missing data was then collected at the rate of 1 hour of data for each minute of program run time.