

1.73722	56.24	190.1	50	0.948	0	0	0.013	3.00E-04
1.67855	58.26	200.2	60	1.162	0	0	0.013	3.00E-04
1.6216	60.35	209.7	70	1.376	0	0	0.013	3.00E-04
1.56781	62.46	218.8	80	1.589	0	0	0.013	3.00E-04
1.51755	64.58	227.6	90	1.803	0	0	0.013	3.00E-04

count: 9

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9:54:58 AM. amb fills: 2

/ Case UM3. 9/14/2016 9:55:52 AM
04; ambient file C:\Plumes\ Diffuser table record 1:00 -----

Ambient Table:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Decay	Far-sp	Far-dir	Disprsn	Density
m	m/s	deg	psu	C	kg/kg	s-1	m/s	deg	m0.67/s2	sigma-T
0	0.126	90	23.74	13.38	0	0	0.126	90	0.0003	17.67
3	0.126	90	26.7	12.86	0	0	0.126	90	0.0003	20.04
6	0.126	90	27.42	12.48	0	0	0.126	90	0.0003	20.66
8	0.126	90	27.47	12.26	0	0	0.126	90	0.0003	20.74
9	0.126	90	27.56	12.27	0	0	0.126	90	0.0003	20.81
10	0.126	90	27.67	12.29	0	0	0.126	90	0.0003	20.89
11	0.126	90	28.01	12.15	0	0	0.126	90	0.0003	21.18
12	0.126	90	29.69	12	0	0	0.126	90	0.0003	22.5
13	0.126	90	29.81	11.99	0	0	0.126	90	0.0003	22.59
14	0.126	90	30.09	11.47	0	0	0.126	90	0.0003	22.9
15	0.126	90	30.33	10.79	0	0	0.126	90	0.0003	23.21
16	0.126	90	30.38	10.67	0	0	0.126	90	0.0003	23.27
17	0.126	90	30.43	10.57	0	0	0.126	90	0.0003	23.32
18	0.126	90	30.48	10.51	0	0	0.126	90	0.0003	23.37
19	0.126	90	30.5	10.46	0	0	0.126	90	0.0003	23.4
20	0.126	90	30.56	10.37	0	0	0.126	90	0.0003	23.46
20.5	0.126	90	30.64	10.26	0	0	0.126	90	0.0003	23.54
22	0.126	90	30.64	10.26	0	0	0.126	90	0.0003	23.54
23	0.126	90	30.64	10.26	0	0	0.126	90	0.0003	23.54
23.5	0.126	90	30.64	10.26	0	0	0.126	90	0.0003	23.54

Diffuser table:

P-dia	P-elev	V-angle	H-angle	Ports	Spacing	AcuteMZ	ChrcMZ	P-depth	Ttl-flo	Eff-sal	Temp	Polutnt
(m)	(m)	(deg)	(deg)	()	(m)	(m)	(m)	(m)	(MGD)	(psu)	(C)	(%)
0.1524	0.38	45	80	35	3.66	8.41	84.12	22.78	37.2	1.00E-04	23.7	100

Simulation:

Froude	number:	12.91;	effleunt	density	(sigma-T)	-2.567;	effleunt	velocity	2.553(m/s);		
	Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	CL-diln	x-posn	y-posn	Time	Distance
	0	22.78	0.126	0.152	100	1	1	0	0	0.0;	0.00
	10	22.72	0.126	0.183	82.03	1.213	1	0.00958	0.0548	0.0342;	0.06
	20	22.66	0.126	0.221	67.3	1.473	1	0.021	0.121	0.0839;	0.12
	30	22.58	0.126	0.267	55.21	1.79	1	0.0345	0.202	0.156;	0.20
	40	22.48	0.126	0.322	45.29	2.177	1.088	0.0505	0.299	0.259;	0.30
	50	22.37	0.126	0.387	37.15	2.648	1.314	0.0693	0.416	0.407;	0.42
	60	22.24	0.126	0.464	30.48	3.222	1.585	0.091	0.557	0.616;	0.56
	70	22.08	0.126	0.554	25	3.922	1.911	0.116	0.723	0.904;	0.73
	80	21.9	0.126	0.66	20.51	4.776	2.301	0.143	0.914	1.289;	0.93
	90	21.7	0.126	0.782	16.83	5.816	2.77	0.171	1.129	1.792;	1.14
	100	21.47	0.126	0.922	13.8	7.085	3.331	0.202	1.37	2.434;	1.38
	110	21.22	0.126	1.081	11.32	8.631	4.004	0.233	1.636	3.241;	1.65
	120	20.94	0.126	1.262	9.289	10.52	4.812	0.265	1.928	4.235;	1.95
	130	20.64	0.126	1.467	7.62	12.81	5.781	0.296	2.247	5.445;	2.27
	140	20.31	0.126	1.697	6.251	15.61	6.944	0.327	2.594	6.898;	2.61
	150	19.94	0.126	1.955	5.128	19.03	8.333	0.358	2.971	8.627;	2.99
	160	19.55	0.126	2.247	4.207	23.19	9.991	0.387	3.384	10.67;	3.41
	170	19.12	0.126	2.574	3.451	28.26	11.97	0.415	3.836	13.07;	3.86
	180	18.66	0.126	2.941	2.831	34.45	14.31	0.443	4.333	15.88;	4.36
	190	18.16	0.126	3.352	2.323	41.99	17.1	0.469	4.883	19.15;	4.91
	197	17.79	0.126	3.667	2.022	48.23	19.43	0.486	5.304	21.76;	5.33
	200	17.61	0.126	3.825	1.905	51.18	20.8	0.494	5.516	23.1;	5.54
	210	16.9	0.126	4.515	1.563	62.38	26.59	0.523	6.352	28.52;	6.37
	220	16.03	0.126	5.464	1.282	76.04	35.14	0.554	7.399	35.55;	7.42
		15.23				89					8.41
	228	15.2	0.126	6.459	1.094	89.09	45.53	0.58	8.422	42.59;	8.44
	230	14.98	0.126	6.748	1.052	92.68	48.93	0.587	8.708	44.58;	8.73
	235	14.4	0.126	7.572	0.953	102	56.87	0.603	9.48	50.01;	9.50
	240	13.95	0.126	8.553	0.878	111	60.24	0.617	10.14	54.71;	10.16
	244	13.74	0.126	9.222	0.841	115.9	61.84	0.623	10.47	57.06;	10.49
	250	13.51	0.126	10.02	0.805	121.1	63.1	0.631	10.9	60.09;	10.92
	260	13.24	0.126	10.98	0.774	125.9	63.36	0.642	11.51	64.53;	11.53
	270	13.07	0.126	11.61	0.76	128.4	63.36	0.651	12.03	68.29;	12.05
	280	12.97	0.126	12.03	0.752	129.6	63.36	0.659	12.5	71.63;	12.52
	290	12.92	0.126	12.26	0.748	130.3	63.36	0.666	12.94	74.8;	12.96
	297	12.91	0.126	12.32	0.747	130.5	63.36	0.671	13.24	76.99;	13.26
Const	Eddy	Diffusivity	Farfield	dispersion	based	on	wastefield	width	of	134.87 m	
	conc	dilutn	width	distnce	time						
	(%)	(m)	(m)	(m)	(hrs)	(kg/kg)	(s-1)	/s)(m0.67/s2)			
	0.74485	130.9	135.9	20	0.0149	0	0	0.126	3.00E-04		
	0.74569	130.8	137.3	30	0.0369	0	0	0.126	3.00E-04		
	0.74607	130.7	138.7	40	0.059	0	0	0.126	3.00E-04		
	0.7463	130.6	140.2	50	0.081	0	0	0.126	3.00E-04		
	0.74645	130.6	141.6	60	0.103	0	0	0.126	3.00E-04		
	0.74657	130.6	142.9	70	0.125	0	0	0.126	3.00E-04		

	0.74666	130.6	144.3	80	0.147	0	0	0.126	3.00E-04
	0.74673	130.6	145.7	90	0.169	0	0	0.126	3.00E-04

count: 8

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9:55:54 AM. amb fills: 2

/ Case UM3. 06; 9/14/2016 ambient file 9:56:57 AM C:\Plumes\ Diffuser table record 1:00 -----

Ambient Table:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Decay	Far-sp	Far-dir	Disprsn	Density
m	m/s	deg	psu	C	kg/kg	s-1	m/s	deg	m0.67/s2	sigma-T
0	0.044	90	23.74	13.38	0	0	0.044	90	0.0003	17.67
3	0.044	90	26.7	12.86	0	0	0.044	90	0.0003	20.04
6	0.044	90	27.42	12.48	0	0	0.044	90	0.0003	20.66
8	0.044	90	27.47	12.26	0	0	0.044	90	0.0003	20.74
9	0.044	90	27.56	12.27	0	0	0.044	90	0.0003	20.81
10	0.044	90	27.67	12.29	0	0	0.044	90	0.0003	20.89
11	0.044	90	28.01	12.15	0	0	0.044	90	0.0003	21.18
12	0.044	90	29.69	12	0	0	0.044	90	0.0003	22.5
13	0.044	90	29.81	11.99	0	0	0.044	90	0.0003	22.59
14	0.044	90	30.09	11.47	0	0	0.044	90	0.0003	22.9
15	0.044	90	30.33	10.79	0	0	0.044	90	0.0003	23.21
16	0.044	90	30.38	10.67	0	0	0.044	90	0.0003	23.27
17	0.044	90	30.43	10.57	0	0	0.044	90	0.0003	23.32
18	0.044	90	30.48	10.51	0	0	0.044	90	0.0003	23.37
19	0.044	90	30.5	10.46	0	0	0.044	90	0.0003	23.4
20	0.044	90	30.56	10.37	0	0	0.044	90	0.0003	23.46
20.5	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
22	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
23	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
23.5	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54

Diffuser table:

P-dia	P-elev	V-angle	H-angle	Ports	Spacing	AcuteMZ	ChrcMZ	P-depth	Ttl-flo	Eff-sal	Temp	Polutnt
(m)	(m)	(deg)	(deg)	()	(m)	(m)	(m)	(m)	(MGD)	(psu)	(C)	(%)
0.1524	0.38	45	80	35	3.66	8.41	84.12	22.78	18.5	1.00E-04	23.7	100

Simulation:

Froude	number:	6.419;	effleunt	density	(sigma-T)	-2.567;	effleunt	velocity	1.27(m/s);		
	Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	CL-diln	x-posn	y-posn	Time	Distance
	0	22.78	0.044	0.152	100	1	1	0	0	0.0;	0.00
	10	22.72	0.044	0.182	82.03	1.213	1	0.00962	0.0549	0.0691;	0.06
	20	22.66	0.044	0.22	67.3	1.473	1	0.021	0.121	0.169;	0.12
	30	22.57	0.044	0.264	55.21	1.79	1	0.0344	0.199	0.311;	0.20
	40	22.47	0.044	0.316	45.29	2.177	1.104	0.0499	0.291	0.513;	0.30
	50	22.35	0.044	0.376	37.15	2.648	1.338	0.0677	0.4	0.795;	0.41
	60	22.21	0.044	0.445	30.48	3.222	1.624	0.0876	0.524	1.181;	0.53
	70	22.03	0.044	0.522	25	3.922	1.971	0.11	0.666	1.699;	0.68
	80	21.81	0.044	0.608	20.51	4.776	2.396	0.133	0.823	2.378;	0.83
	90	21.55	0.044	0.703	16.83	5.816	2.915	0.158	0.995	3.245;	1.01
	100	21.26	0.044	0.808	13.8	7.085	3.549	0.183	1.178	4.317;	1.19
	110	20.91	0.044	0.924	11.32	8.631	4.324	0.208	1.369	5.614;	1.38
	120	20.52	0.044	1.052	9.289	10.52	5.269	0.233	1.569	7.162;	1.59
	130	20.07	0.044	1.195	7.62	12.81	6.422	0.256	1.778	8.991;	1.80
	140	19.57	0.044	1.357	6.251	15.61	7.826	0.279	1.996	11.15;	2.02
	150	19	0.044	1.541	5.128	19.03	9.534	0.302	2.227	13.68;	2.25
	160	18.37	0.044	1.749	4.207	23.19	11.61	0.323	2.473	16.66;	2.49
	170	17.67	0.044	1.984	3.451	28.26	14.14	0.343	2.737	20.15;	2.76
	180	16.88	0.044	2.253	2.831	34.45	17.21	0.363	3.023	24.24;	3.04
	190	16.02	0.044	2.565	2.323	41.99	20.92	0.382	3.337	29.04;	3.36
	200	15.06	0.044	2.931	1.905	51.18	25.41	0.4	3.685	34.71;	3.71
	210	14.01	0.044	3.406	1.563	62.38	30.71	0.418	4.079	41.47;	4.10
	212	13.8	0.044	3.532	1.502	65	31.83	0.422	4.166	42.99;	4.19
	214	13.58	0.044	3.672	1.444	67.53	33.08	0.426	4.256	44.59;	4.28
	220	12.94	0.044	4.302	1.301	74.92	37.75	0.437	4.551	49.91;	4.57
	229	12.45	0.044	5.322	1.201	81.17	43.13	0.447	4.824	54.94;	4.84
	230	12.41	0.044	5.433	1.194	81.68	43.68	0.448	4.85	55.41;	4.87
	240	12.09	0.044	6.461	1.146	85.07	48.49	0.455	5.079	59.66;	5.10
	250	11.89	0.044	7.367	1.126	86.57	52.06	0.461	5.255	62.96;	5.28
	260	11.79	0.044	8.147	1.12	87.09	52.06	0.464	5.358	64.89;	5.38
	270	11.74	0.044	8.813	1.117	87.34	52.06	0.467	5.431	66.25;	5.45
	280	11.71	0.044	9.381	1.115	87.48	52.06	0.469	5.488	67.33;	5.51
	290	11.68	0.044	9.852	1.113	87.58	52.06	0.47	5.537	68.24;	5.56
	300	11.67	0.044	10.22	1.113	87.64	52.06	0.472	5.58	69.05;	5.60
	310	11.66	0.044	10.49	1.112	87.68	52.06	0.473	5.62	69.8;	5.64
	320	11.65	0.044	10.65	1.112	87.71	52.06	0.474	5.658	70.5;	5.68
	329	11.65	0.044	10.71	1.112	87.71	52.06	0.475	5.691	71.12;	5.71
Const	Eddy	Diffusivity	Farfield	dispersion	based	on	wastefield	width	of	133.26	m
	conc	dilutn	width	distance	time						
	(%)	(m)	(m)	(hrs)	(kg/kg)	(s-1)	i/s)(m0.67/s2)				
	1.1092	87.92	135	10	0.0271	0	0	0.044	3.00E-04		
	1.11062	87.8	139.1	20	0.0902	0	0	0.044	3.00E-04		
	1.11108	87.77	143.1	30	0.153	0	0	0.044	3.00E-04		
	1.11117	87.76	146.9	40	0.216	0	0	0.044	3.00E-04		
	1.11047	87.82	150.6	50	0.28	0	0	0.044	3.00E-04		

1.10844	87.98	154.3	60	0.343	0	0	0.044	3.00E-04
1.10471	88.29	157.9	70	0.406	0	0	0.044	3.00E-04
1.09952	88.71	161.3	80	0.469	0	0	0.044	3.00E-04
	89		84.1					
1.09296	89.26	164.8	90	0.532	0	0	0.044	3.00E-04

count: 9

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9:56:59 AM. amb fills: 2

/ UM3. ##### 11:36:59 AM
Case 07; ambient file C:\Plumes\ Diffuser table record 1:00 -----

Ambient Table:											
Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Decay	Far-sp	Far-dir	Disprsn	Density	
m	m/s	deg	psu	C	kg/kg	s-1	m/s	deg	m0.67/s2	sigma-T	
0	0.044	90	29.87	8	0	0	0.044	90	0.0003	23.28	
0.5	0.044	90	29.9	8	0	0	0.044	90	0.0003	23.3	
2.5	0.044	90	29.9	8	0	0	0.044	90	0.0003	23.3	
4.5	0.044	90	29.9	8	0	0	0.044	90	0.0003	23.31	
7.5	0.044	90	29.9	8	0	0	0.044	90	0.0003	23.31	
9.5	0.044	90	29.91	8	0	0	0.044	90	0.0003	23.31	
12.5	0.044	90	29.91	8	0	0	0.044	90	0.0003	23.31	
15.5	0.044	90	29.91	8	0	0	0.044	90	0.0003	23.31	
17.5	0.044	90	29.93	8	0	0	0.044	90	0.0003	23.33	
19.5	0.044	90	29.94	8	0	0	0.044	90	0.0003	23.33	
21.5	0.044	90	29.94	8	0	0	0.044	90	0.0003	23.33	
23.5	0.044	90	29.99	8	0	0	0.044	90	0.0003	23.37	

Diffuser table:													
P-dia	P-elev	V-angle	H-angle	Ports	Spacing	AcuteMZ	ChrncMZ	P-depth	Ttl-flo	Eff-sal	Temp	Polutnt	
(m)	(m)	(deg)	(deg)	()	(m)	(m)	(m)	(m)	(MGD)	(psu)	(C)	(%)	
0.1524	0.38	45	80	35	3.66	8.41	84.12	22.78	12.2	1.00E-04	17.2	100	

Simulation:

Froude	number:	4.368;	effluent	density	(sigma-T)	-1.196;	effluent	velocity	0.837(m/s);				
	Step	Depth	Amb-cur	P-dia	Polutnt	Amb-den	Dilutn	x-posn	y-posn	Time	Distance		
	0	22.78	0.044	0.152	100	23.3594	1	0	0	0.0;	0.00		
	10	22.72	0.044	0.181	82.03	23.3584	1.214	0.00947	0.0542	0.103;	0.06		
	20	22.66	0.044	0.217	67.3	23.3571	1.474	0.0204	0.118	0.248;	0.12		
	30	22.57	0.044	0.257	55.21	23.3555	1.792	0.0328	0.192	0.45;	0.19		
	40	22.47	0.044	0.304	45.29	23.3536	2.179	0.0468	0.277	0.725;	0.28		
	50	22.35	0.044	0.356	37.15	23.3513	2.651	0.0621	0.374	1.092;	0.38		
	60	22.21	0.044	0.414	30.48	23.3485	3.226	0.0785	0.481	1.572;	0.49		
	70	22.04	0.044	0.478	25	23.3452	3.927	0.0955	0.597	2.18;	0.60		
	80	21.83	0.044	0.549	20.51	23.3413	4.782	0.113	0.72	2.926;	0.73		
	90	21.6	0.044	0.626	16.83	23.3368	5.824	0.13	0.848	3.825;	0.86		
	100	21.34	0.044	0.713	13.8	23.3341	7.094	0.146	0.982	4.896;	0.99		
	110	21.04	0.044	0.809	11.32	23.3335	8.643	0.162	1.122	6.159;	1.13		
	120	20.7	0.044	0.917	9.289	23.3328	10.53	0.178	1.268	7.64;	1.28		
	130	20.33	0.044	1.038	7.62	23.3321	12.83	0.193	1.422	9.371;	1.44		
	140	19.9	0.044	1.174	6.251	23.3313	15.64	0.207	1.585	11.39;	1.60		
	150	19.43	0.044	1.327	5.128	23.3304	19.06	0.22	1.759	13.73;	1.77		
	160	18.91	0.044	1.499	4.207	23.3294	23.22	0.233	1.947	16.46;	1.96		
	170	18.33	0.044	1.694	3.451	23.3283	28.3	0.245	2.15	19.63;	2.16		
	180	17.68	0.044	1.914	2.831	23.327	34.5	0.257	2.373	23.3;	2.39		
	190	16.97	0.044	2.163	2.323	23.3229	42.05	0.268	2.619	27.56;	2.63		
	200	16.18	0.044	2.445	1.905	23.3168	51.25	0.279	2.891	32.49;	2.90		
	210	15.31	0.044	2.766	1.563	23.3108	62.47	0.289	3.195	38.2;	3.21		
	220	14.35	0.044	3.13	1.282	23.3103	76.14	0.298	3.536	44.83;	3.55		
	230	13.29	0.044	3.541	1.052	23.3098	92.81	0.307	3.921	52.49;	3.93		
	232	13.07	0.044	3.63	1.011	23.3097	96.56	0.309	4.004	54.17;	4.02 merging;		
	240	12.02	0.044	4.059	0.863	23.3091	113.1	0.317	4.398	62.21;	4.41		
	250	10.37	0.044	4.76	0.708	23.3083	137.9	0.327	5.02	75.11;	5.03		
	260	8.321	0.044	5.651	0.581	23.3073	168.1	0.338	5.795	91.47;	5.80		
	268	6.334	0.044	6.522	0.496	23.3062	197	0.346	6.543	107.4;	6.55 stream limit reached;		
	270	5.783	0.044	6.765	0.476	23.306	204.9	0.349	6.749	111.9;	6.76		
	279	3.004	0.044	8.001	0.399	23.3045	244.9	0.358	7.79	134.3;	7.80 matched energy radial vel = 0.0877m/s;		
	280	2.663	0.044	8.154	0.391	23.3044	249.8	0.36	7.917	137.1;	7.93		
	284	1.226	0.044	8.801	0.361	23.3036	270	0.364	8.454	148.8;	8.46 surface, acute zone;		
Const	Eddy	Diffusivity.	Farfield	dispersion	based	on	wastefield	width	of	131.35 m			
	conc	dilutn	width	distnce	time		(kg/kg)	(s-1)	v/s)(m0.67/s2)				
	(%)		(m)	(m)	(hrs)								
	0.35976	271.4	132	10	0.00971	0	0	0	0.044	3.00E-04			
	0.36061	270.7	136.1	20	0.0728	0	0	0	0.044	3.00E-04			
	0.3608	270.6	140	30	0.136	0	0	0	0.044	3.00E-04			
	0.36086	270.5	143.9	40	0.199	0	0	0	0.044	3.00E-04			
	0.36071	270.6	147.6	50	0.262	0	0	0	0.044	3.00E-04			
	0.36016	271	151.3	60	0.325	0	0	0	0.044	3.00E-04			
	0.35908	271.9	154.8	70	0.388	0	0	0	0.044	3.00E-04			
	0.35745	273.1	158.3	80	0.452	0	0	0	0.044	3.00E-04			
		274		84.1									
	0.35539	274.8	161.7	90	0.515	0	0	0.044	3.00E-04				

count:

9

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11:37:00 AM. amb fills: 2

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Decay	Far-spd	Far-dir	Disprsn	Density
m	m/s	deg	psu	C	kg/kg	s-1	m/s	deg	m0.67/s2	sigma-T
0	0.044	90	23.74	13.38	0	0	0.044	90	0.0003	17.67
3	0.044	90	26.7	12.86	0	0	0.044	90	0.0003	20.04
6	0.044	90	27.42	12.48	0	0	0.044	90	0.0003	20.66
8	0.044	90	27.47	12.26	0	0	0.044	90	0.0003	20.74
9	0.044	90	27.56	12.27	0	0	0.044	90	0.0003	20.81
10	0.044	90	27.67	12.29	0	0	0.044	90	0.0003	20.89
11	0.044	90	28.01	12.15	0	0	0.044	90	0.0003	21.18
12	0.044	90	29.69	12	0	0	0.044	90	0.0003	22.5
13	0.044	90	29.81	11.99	0	0	0.044	90	0.0003	22.59
14	0.044	90	30.09	11.47	0	0	0.044	90	0.0003	22.9
15	0.044	90	30.33	10.79	0	0	0.044	90	0.0003	23.21
16	0.044	90	30.38	10.67	0	0	0.044	90	0.0003	23.27
17	0.044	90	30.43	10.57	0	0	0.044	90	0.0003	23.32
18	0.044	90	30.48	10.51	0	0	0.044	90	0.0003	23.37
19	0.044	90	30.5	10.46	0	0	0.044	90	0.0003	23.4
20	0.044	90	30.56	10.37	0	0	0.044	90	0.0003	23.46
20.5	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
22	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
23	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
23.5	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54

P-dia (m)	P-elev (m)	V-angle (deg)	H-angle (deg)	Ports (l)	Spacing (m)	AcuteMZ (m)	ChrmcMZ (m)	P-depth (m)	Ttl-flo (MGD)	Eff-sal (psu)	Temp (C)	Polutnt (%)
0.1524	0.38	45	80	35	3.66	8.41	84.12	22.78	12.2	1.00E-04	17.2	100

Step	Depth (m)	Amb-cur (m/s)	P-dia (m)	Polutnt (%)	Dilutn ()	CL-diln ()	x-posn (m)	y-posn (m)	Time (s)	Distance (m)
0	22.78	0.044	0.152	100	1	1	0	0	0.0;	0.00
10	22.72	0.044	0.181	82.03	1.214	1	0.00947	0.0542	0.103;	0.06
20	22.66	0.044	0.216	67.3	1.474	1	0.0204	0.118	0.248;	0.12
30	22.57	0.044	0.257	55.21	1.792	1	0.0328	0.192	0.449;	0.19
40	22.47	0.044	0.304	45.29	2.179	1.096	0.0468	0.277	0.724;	0.28
50	22.35	0.044	0.356	37.15	2.65	1.33	0.062	0.373	1.091;	0.38
60	22.21	0.044	0.414	30.48	3.226	1.616	0.0784	0.48	1.57;	0.49
70	22.04	0.044	0.478	25	3.927	1.965	0.0954	0.596	2.175;	0.60
80	21.83	0.044	0.548	20.51	4.781	2.393	0.112	0.718	2.919;	0.73
90	21.6	0.044	0.625	16.83	5.823	2.914	0.129	0.846	3.815;	0.86
100	21.34	0.044	0.711	13.8	7.093	3.551	0.146	0.98	4.881;	0.99
110	21.04	0.044	0.807	11.32	8.642	4.328	0.162	1.119	6.137;	1.13
120	20.7	0.044	0.915	9.289	10.53	5.274	0.177	1.264	7.61;	1.28
130	20.33	0.044	1.035	7.62	12.83	6.427	0.192	1.417	9.331;	1.43
140	19.9	0.044	1.172	6.251	15.63	7.829	0.206	1.579	11.34;	1.59
150	19.43	0.044	1.329	5.128	19.05	9.532	0.22	1.754	13.68;	1.77
160	18.91	0.044	1.507	4.207	23.22	11.6	0.233	1.942	16.43;	1.96
170	18.33	0.044	1.709	3.451	28.3	14.11	0.245	2.149	19.64;	2.16
180	17.69	0.044	1.939	2.831	34.49	17.16	0.257	2.376	23.39;	2.39
190	16.98	0.044	2.203	2.323	42.04	20.85	0.268	2.629	27.78;	2.64
200	16.2	0.044	2.51	1.905	51.25	25.31	0.279	2.913	32.92;	2.93
210	15.34	0.044	2.874	1.563	62.47	30.66	0.29	3.235	38.97;	3.25
220	14.42	0.044	3.324	1.282	76.14	36.98	0.3	3.605	46.14;	3.62
223	14.14	0.044	3.505	1.208	81	38.97	0.303	3.727	48.56;	3.74
225	13.95	0.044	3.645	1.161	84.07	40.37	0.305	3.812	50.25;	3.82
230	13.53	0.044	4.103	1.069	91.3	44.5	0.31	4.021	54.43;	4.03
236	13.24	0.044	4.686	1.009	96.74	48.21	0.314	4.185	57.73;	4.20
240	13.11	0.044	5.05	0.986	99.04	50.08	0.315	4.269	59.44;	4.28
250	12.88	0.044	5.861	0.957	102	53.32	0.319	4.438	62.88;	4.45
260	12.74	0.044	6.576	0.944	103.4	55.93	0.321	4.571	65.59;	4.58
270	12.64	0.044	7.214	0.937	104.2	58.63	0.324	4.68	67.81;	4.69
280	12.58	0.044	7.774	0.932	104.7	58.63	0.325	4.773	69.69;	4.78
290	12.53	0.044	8.254	0.929	105.1	58.63	0.327	4.853	71.33;	4.86
300	12.5	0.044	8.649	0.927	105.3	58.63	0.328	4.925	72.81;	4.94
310	12.48	0.044	8.958	0.926	105.4	58.63	0.33	4.992	74.16;	5.00
320	12.46	0.044	9.177	0.925	105.5	58.63	0.331	5.054	75.44;	5.06
330	12.46	0.044	9.305	0.925	105.6	58.63	0.332	5.115	76.67;	5.13
337	12.46	0.044	9.339	0.925	105.6	58.63	0.333	5.156	77.52;	5.17

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trap      level;
merging;
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begin    overlap;
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conc (%)	dilutn	width (m)	distnce (m)	time (hrs)	(kg/kg)	(s-1)	i/s)(m0.67/s2)	
0.92264	105.8	133.9	10	0.0305	0	0	0.044	3.00E-04
0.92372	105.7	137.9	20	0.0936	0	0	0.044	3.00E-04
0.92409	105.7	141.9	30	0.157	0	0	0.044	3.00E-04
0.92413	105.7	145.7	40	0.22	0	0	0.044	3.00E-04

	0.92346	105.7	149.4	50	0.283	0	0	0.044	3.00E-04
	0.92165	105.9	153	60	0.346	0	0	0.044	3.00E-04
	0.91839	106.3	156.6	70	0.409	0	0	0.044	3.00E-04
	0.91391	106.9	160	80	0.472	0	0	0.044	3.00E-04
		107		84.1					
	0.9083	107.5	163.4	90	0.536	0	0	0.044	3.00E-04

count: 9

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9:57:51 AM. amb fills: 2

/ Case UM3. 10; 9/14/2016 ambient file 9:58:39 AM C:\Plumes\ Diffuser table record 1:00 -----

Ambient

Table:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Decay	Far-sp	Far-dir	Disprsn	Density
m	m/s	deg	psu	C	kg/kg	s-1	m/s	deg	m0.67/s2	sigma-T
0	0.044	90	23.74	13.38	0	0	0.044	90	0.0003	17.67
3	0.044	90	26.7	12.86	0	0	0.044	90	0.0003	20.04
6	0.044	90	27.42	12.48	0	0	0.044	90	0.0003	20.66
8	0.044	90	27.47	12.26	0	0	0.044	90	0.0003	20.74
9	0.044	90	27.56	12.27	0	0	0.044	90	0.0003	20.81
10	0.044	90	27.67	12.29	0	0	0.044	90	0.0003	20.89
11	0.044	90	28.01	12.15	0	0	0.044	90	0.0003	21.18
12	0.044	90	29.69	12	0	0	0.044	90	0.0003	22.5
13	0.044	90	29.81	11.99	0	0	0.044	90	0.0003	22.59
14	0.044	90	30.09	11.47	0	0	0.044	90	0.0003	22.9
15	0.044	90	30.33	10.79	0	0	0.044	90	0.0003	23.21
16	0.044	90	30.38	10.67	0	0	0.044	90	0.0003	23.27
17	0.044	90	30.43	10.57	0	0	0.044	90	0.0003	23.32
18	0.044	90	30.48	10.51	0	0	0.044	90	0.0003	23.37
19	0.044	90	30.5	10.46	0	0	0.044	90	0.0003	23.4
20	0.044	90	30.56	10.37	0	0	0.044	90	0.0003	23.46
20.5	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
22	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
23	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54
23.5	0.044	90	30.64	10.26	0	0	0.044	90	0.0003	23.54

Diffuser

table:

P-dia	P-elev	V-angle	H-angle	Ports	Spacing	AcuteMZ	ChrncMZ	P-depth	Ttl-flo	Eff-sal	Temp	Polutnt
(m)	(m)	(deg)	(deg)	()	(m)	(m)	(m)	(m)	(MGD)	(psu)	(C)	(%)
0.1524	0.38	45	80	35	3.66	8.41	84.12	22.78	18.5	1.00E-04	23.1	100

Simulation:

Froude

number:	6.437;	effleunt	density	(sigma-T)	-2.423;	effleunt	velocity	1.27(m/s);		
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	CL-diln	x-posn	y-posn	Time	Distance
	(m)	(m/s)	(m)	(%)	()	()	(m)	(m)	(s)	(m)
0	22.78	0.044	0.152	100	1	1	0	0	0.0;	0.00
10	22.72	0.044	0.182	82.03	1.213	1	0.00962	0.0549	0.0691;	0.06
20	22.66	0.044	0.22	67.3	1.473	1	0.021	0.121	0.169;	0.12
30	22.57	0.044	0.264	55.21	1.79	1	0.0344	0.199	0.312;	0.20
40	22.47	0.044	0.316	45.29	2.177	1.104	0.0499	0.292	0.514;	0.30
50	22.35	0.044	0.376	37.15	2.648	1.338	0.0677	0.4	0.795;	0.41
60	22.21	0.044	0.445	30.48	3.223	1.624	0.0877	0.524	1.182;	0.53
70	22.03	0.044	0.522	25	3.923	1.971	0.11	0.666	1.7;	0.68
80	21.81	0.044	0.609	20.51	4.777	2.396	0.133	0.824	2.38;	0.83
90	21.55	0.044	0.704	16.83	5.817	2.915	0.158	0.996	3.249;	1.01
100	21.26	0.044	0.809	13.8	7.086	3.549	0.183	1.179	4.322;	1.19
110	20.91	0.044	0.924	11.32	8.632	4.324	0.209	1.371	5.621;	1.39
120	20.52	0.044	1.053	9.289	10.52	5.269	0.233	1.571	7.172;	1.59
130	20.07	0.044	1.196	7.62	12.81	6.422	0.257	1.78	9.005;	1.80
140	19.57	0.044	1.359	6.251	15.62	7.826	0.28	1.999	11.16;	2.02
150	19	0.044	1.542	5.128	19.03	9.534	0.302	2.23	13.7;	2.25
160	18.37	0.044	1.751	4.207	23.19	11.61	0.323	2.476	16.68;	2.50
170	17.67	0.044	1.986	3.451	28.27	14.14	0.344	2.741	20.18;	2.76
180	16.88	0.044	2.256	2.831	34.45	17.21	0.364	3.028	24.28;	3.05
190	16.02	0.044	2.568	2.323	41.99	20.92	0.383	3.342	29.09;	3.36
200	15.06	0.044	2.935	1.905	51.19	25.41	0.401	3.691	34.77;	3.71
210	14.01	0.044	3.41	1.563	62.39	30.7	0.419	4.086	41.55;	4.11
212	13.8	0.044	3.536	1.502	65	31.83	0.423	4.173	43.07;	4.19
214	13.58	0.044	3.677	1.444	67.54	33.09	0.426	4.263	44.67;	4.28
220	12.95	0.044	4.309	1.302	74.9	37.74	0.438	4.558	49.99;	4.58
229	12.46	0.044	5.326	1.203	81.1	43.09	0.447	4.83	54.99;	4.85
230	12.42	0.044	5.437	1.195	81.61	43.64	0.448	4.855	55.46;	4.88
240	12.1	0.044	6.462	1.148	84.96	48.41	0.456	5.083	59.7;	5.10
250	11.9	0.044	7.364	1.128	86.47	51.98	0.462	5.26	63.01;	5.28
260	11.8	0.044	8.144	1.121	86.99	51.98	0.465	5.366	64.98;	5.39
270	11.75	0.044	8.809	1.118	87.25	51.98	0.468	5.439	66.35;	5.46
280	11.71	0.044	9.376	1.116	87.4	51.98	0.469	5.497	67.44;	5.52
290	11.69	0.044	9.845	1.115	87.49	51.98	0.471	5.546	68.36;	5.57
300	11.67	0.044	10.21	1.114	87.55	51.98	0.472	5.59	69.18;	5.61
310	11.67	0.044	10.48	1.113	87.6	51.98	0.474	5.63	69.93;	5.65
320	11.66	0.044	10.64	1.113	87.62	51.98	0.475	5.668	70.65;	5.69
329	11.66	0.044	10.7	1.113	87.63	51.98	0.476	5.702	71.27;	5.72

Const

Eddy	Diffusivity.	Farfield	dispersion	based	on	wastefield	width	of	133.25 m
conc	dilutn	width	distance	time					
(%)		(m)	(m)	(hrs)	(kg/kg)	(s-1)	v/s)(m0.67/s2)		
1.11045	87.83	135	10	0.027	0	0	0.044	3.00E-04	
1.11188	87.72	139.1	20	0.0901	0	0	0.044	3.00E-04	
1.11235	87.68	143	30	0.153	0	0	0.044	3.00E-04	
1.11243	87.67	146.9	40	0.216	0	0	0.044	3.00E-04	
1.11174	87.73	150.6	50	0.28	0	0	0.044	3.00E-04	

1.1097	87.89	154.3	60	0.343	0	0	0.044	3.00E-04
1.10597	88.2	157.8	70	0.406	0	0	0.044	3.00E-04
1.10078	88.62	161.3	80	0.469	0	0	0.044	3.00E-04
	89		84.1					
1.09421	89.17	164.7	90	0.532	0	0	0.044	3.00E-04

count: 9

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9:58:40 AM. amb fills: 2