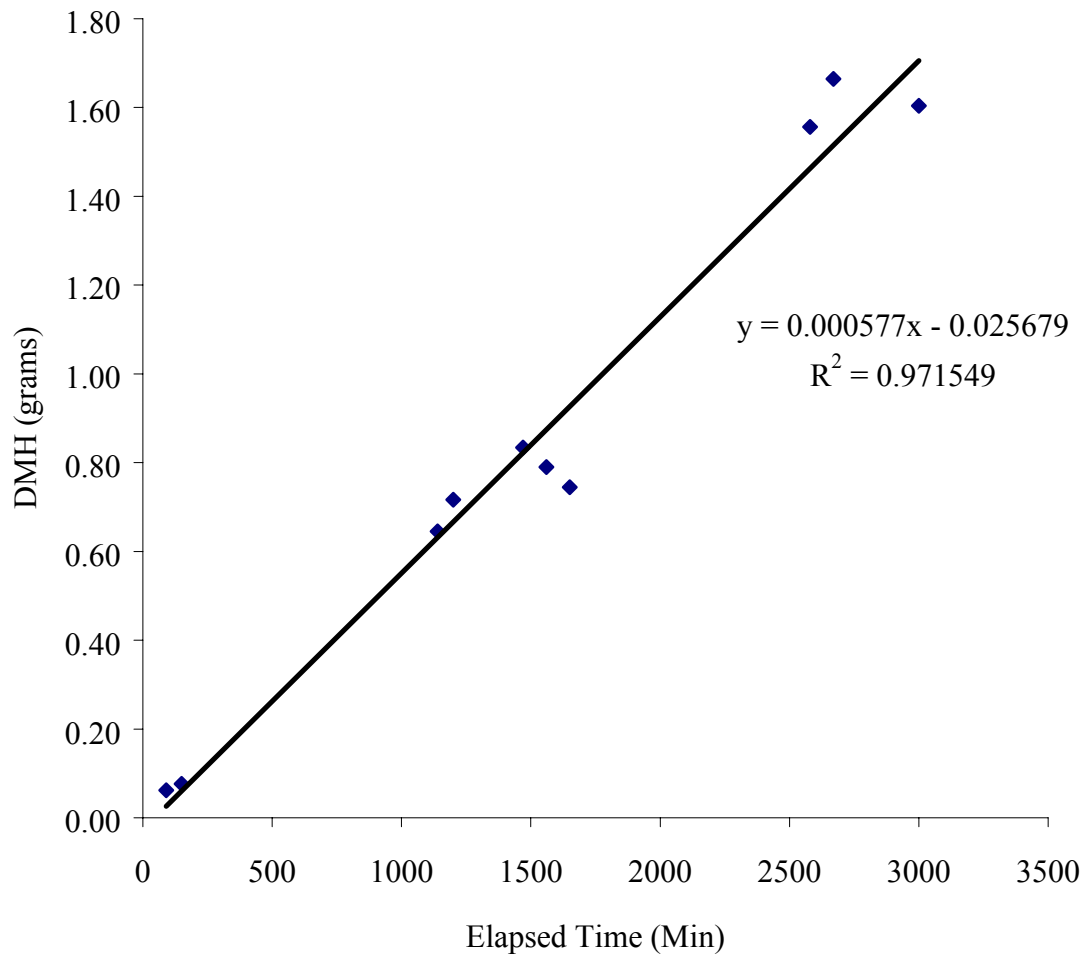


Continuous System 1: HPLC Data

Time	Elapsed Time	Peak Area	Conc. (M)	Avg Conc. (M)	S	Summary			
						Elapsed Time	Conc. (M)	Conc. (mM)	grams appear
1/27/03 2:30 PM	0	471.42966	2.61E-04	2.50E-04	1.6E-05	1	2.50E-04	0.250	0.001
	0	428.01162	2.39E-04			90	1.28E-04	0.128	0.062
1/27/03 4:00 PM	90	213.10362	1.30E-04	1.28E-04	3.7E-06	150	9.47E-05	0.095	0.076
		202.78871	1.25E-04			1140	1.05E-04	0.105	0.645
1/27/03 5:00 PM	150	152.87346	1.00E-04	9.47E-05	7.5E-06	1200	1.11E-04	0.111	0.716
		131.95018	8.94E-05			1470	1.05E-04	0.105	0.834
1/28/03 9:30 AM	1140	162.04681	1.05E-04	1.05E-04	7.7E-07	1560	9.41E-05	0.094	0.790
		164.19815	1.06E-04			1650	8.39E-05	0.084	0.745
1/28/03 10:30 AM	1200	183.77235	1.16E-04	1.11E-04	6.6E-06	2580	1.12E-04	0.112	1.557
		165.35463	1.06E-04			2670	1.16E-04	0.116	1.665
1/28/03 3:00 PM	1470	165.81049	1.07E-04	1.05E-04	1.5E-06	3000	9.94E-05	0.099	1.604
		161.55263	1.04E-04						
1/28/03 4:30 PM	1560	143.09161	9.51E-05	9.41E-05	1.4E-06				
		139.24036	9.31E-05						
1/28/03 6:00 PM	1650	119.14951	8.30E-05	8.39E-05	1.3E-06				
		122.78199	8.48E-05						
1/29/03 9:30 AM	2580	179.37682	1.13E-04	1.12E-04	1.8E-06				
		174.38318	1.11E-04						
1/29/03 11:00 AM	2670	185.01425	1.16E-04	1.16E-04	5.2E-07				
		183.57091	1.16E-04						
1/29/03 4:30 PM	3000	151.98607	9.95E-05	9.94E-05	2.6E-07				
		151.26005	9.92E-05						

ContSyst. 1 Appearance of DMH



**Continuous System 1:
Chemiluminescence Data**

Elapsed Time (Min)	Conc. (mM)	grams BCDMH
0	0.0898	6.68
90	0.0172	6.66
150	0.1217	6.49
1140	0.0253	6.39
1200	0.0063	6.60
1470	0.0419	6.06
1560	0.0460	5.95
1650	0.0151	6.43
2580	0.0237	6.06
2670	0.0429	5.52
3000	0.0440	5.34

Turner Designs: TD-20/20 Luminometer

Ver. 2020-1E 1098

Delay Time: (sec)	2
Integrate Time: (sec)	4
Number of Replicates:	1
Sensitivity Level %:	1
Standard Reading:	1.76
Injection Volume #1: (ul)	50
Injection Volume #2: (ul)	50
Average Blank:	0.252
Mode:	STD

The following tables contain the continuous stream data. Each column represents a series of luminescence readings, taken every 0.2 seconds. Five series of measurements (5 columns) were taken from each sample. The first number in the columns represents the blank sample that was obtained prior to the addition of the BCDMH briquette. The instrument was programmed to collect measurements for four seconds with a two second delay. The peak maximums, usually seen around 0.6 seconds were averaged. Average peak maximums and BCDMH concentrations are seen below each sample

Continuous System 1 (page 1 of 7)									
0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
0	0	0.087	0	17.6	8.078	0	0	1.004	0
0	0	0.141	0	16.95	7.354	0	0	1.072	0
729.9	1523	368.3	1231	1259	36.43	322.6	92.74	3.039	0
7826	7154	6050	7890	7469	1534	1466	1435	1456	1315
2535	2467	2278	2518	2514	636.9	621.1	643.3	621.7	586.2
2327	2277	2086	2332	2319	593	581	585	577.4	548.4
2122	2073	1898	2119	2114	546.3	537.8	544.1	534.3	508
1924	1878	1721	1922	1919	504	495.6	504	492.6	467.7
1745	1700	1558	1734	1740	464.5	455.7	465.5	453.8	430
1582	1539	1411	1571	1579	427.3	418.6	429.8	417.5	394.8
1434	1393	1277	1424	1432	392.7	384.2	396.5	384	362.6
1300	1261	1157	1291	1300	360.8	352.3	365.1	352.6	332.3
1179	1142	1048	1171	1179	331.3	322.8	336.2	323.9	304.8
1069	1034	949.7	1062	1071	304	295.3	309.5	297.5	279.2
969.6	937.1	860.8	963.5	973.1	279.2	270.5	284.9	272.9	255.7
880.1	849.3	780.5	874.6	884.2	256.3	247.8	262	250.3	234.1
798.8	769.9	708.1	794.1	803.6	235	226.8	241.2	229.8	214.5
725.4	698	642.8	721.2	730.7	215.6	207.4	221.9	210.7	196.5
659	633.3	583.2	655.3	664.6	197.6	190	204.1	193.2	179.6
598.5	574.4	529.7	595.1	604.4	181.2	173.9	187.8	177.1	164.3
543.7	521.3	481.5	540.8	550.1	166.5	158.8	172.8	162.4	150.4
494.4	473.3	437.6	491.8	500.8	152.6	145.5	158.8	149	137.5
449.7	429.9	397.7	447.3	456.3	140.8	132.9	146	136.5	125.8
409	390.6	361.7	407.2	415.6	128.3	127.7	134.3	125	121.2
372.2	354.8	329.1	370.3	378.8	123.5	117.2	123.4	120.7	111.6
338.8	322.6	299.6	337.3	345.2	114	107.9	119.7	111.3	102.6
308.5	293.3	272.7	307.2	314.8	105	99.13	110.8	102.5	94.23
280.8	266.8	248.3	279.5	287.1	96.67	91.08	102.4	94.35	86.62
255.9	242.6	226.1	254.9	261.9	89.03	83.67	94.58	86.87	79.62
233.1	220.9	206.1	232.1	239.2	82.02	76.93	87.39	79.97	73.21
Samp1 r0	Samp2 r0	Samp3 r0	Samp4 r0	Samp5 r0	Samp6 r0	Samp7 r0	Samp8 r0	Samp9 r0	Samp10 r0
1/27/2003 14:30					1/27/2003 16:00				
Average Peak Max			7277.8		Average Peak Max			1441.2	
BCDMH Conc.			0.08975		BCDMH Conc.			0.01718	

Continuous System 1 (page 2 of 7)

0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	
0	0	0.007	0	3.419	0	0.023	0	0	0	0	
0	0	0.062	0	3.214	0	0.064	0	0.064	0	0	
20.69	12.6	0.444	17.07	69.97	97.18	49.45	278.1	342.8	396.7	396.7	
1114	1026	1034	1036	981	2477	2276	1759	2013	1932	1932	
522.4	494.7	483.8	480.5	457.9	461.5	408.3	432.9	543.3	435.8	435.8	
484.8	458.7	448.1	447	431.5	423.8	374.6	396.3	422.1	400.7	400.7	
446.4	421.3	412	413.1	400.3	386.7	342.2	361.9	383.1	366.9	366.9	
409.3	386.7	377.2	379.9	368.5	351.8	311.4	329.8	351	335.1	335.1	
374.7	354.3	345	348.8	338.5	320.2	283.1	300.4	321.3	305.9	305.9	
342.5	324.5	315.3	319.9	310.4	291	257.5	273.4	293.8	279.5	279.5	
313.1	297	287.7	292.9	284.5	264.6	234.1	248.7	269	255.3	255.3	
285.8	271.4	262.4	268.4	260.2	240.7	212.9	226.4	246.2	233	233	
261	248.2	239.5	245.7	238.4	219	193.4	206	225	212.7	212.7	
237.8	226.6	218.2	224.7	217.9	199.2	175.8	187.3	206	194.2	194.2	
217.1	207	198.8	205.6	199.1	181	159.6	170.6	188.5	177.5	177.5	
198	189	181.1	187.9	182.2	164.5	145	155.2	172.2	162.1	162.1	
180.5	172.7	165	171.8	166.4	149.7	131.8	141.1	157.6	147.7	147.7	
164.7	157.7	150.3	157.1	151.9	135.9	125.7	128.2	144.2	134.8	134.8	
150	143.7	136.7	143.5	138.9	123.6	115	122.7	131.8	129.2	129.2	
136.7	131.2	124.4	131.2	126.6	118.4	104.9	112.3	126.7	118.3	118.3	
124.4	125.7	119.3	125.9	121.7	108.4	95.73	102.6	116.6	108.6	108.6	
119.5	115.5	109.3	115.8	111.8	98.95	87.36	93.74	107.1	99.59	99.59	
109.6	105.8	99.94	106.2	102.5	90.34	79.76	85.59	98.4	91.26	91.26	
100.3	96.95	91.37	97.43	93.99	82.46	72.81	78.18	90.45	83.63	83.63	
91.84	88.87	83.54	89.43	86.19	75.32	66.43	71.45	83.11	76.63	76.63	
84.06	81.46	76.37	82.08	79.06	68.78	60.67	65.24	76.39	70.25	70.25	
76.94	74.65	69.85	75.32	72.49	62.79	55.36	59.61	70.22	64.39	64.39	
70.44	68.46	63.93	69.15	66.5	57.4	50.6	54.49	64.59	59.02	59.02	
64.54	62.79	58.46	63.49	61.01	52.39	46.19	49.76	59.36	54.15	54.15	
59.13	57.6	53.49	58.33	55.98	47.84	42.17	45.52	54.62	49.59	49.59	
Samp11 rt	Samp12 rt	Samp13 rt	Samp14 rt	Samp15 rt	Samp16 rt	Samp17 rt	Samp18 rt	Samp19 rt	Samp20 rt		
1/27/2003 17:00					1/28/2003 9:30						
Average Peak Max				1038.2	Average Peak Max				2091.4		
BCDMH Conc.				0.01217	BCDMH Conc.				0.02527		

Continuous System 1 (page 3 of 7)

0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
0.944	0.834	0	0	0	3.194	0	0	0	0	0
0.861	0.82	0	0	0	2.961	0	0	0	0	0
15.99	4.739	4.836	49.65	27.51	449.3	1766	1597	141.2	1045	
638	458.4	627.9	547.8	546.2	3592	3184	3775	2729	3603	
339.7	293.9	315.6	302.2	298.6	644.8	623.4	643.6	698.2	638.8	
308.9	265.2	286.6	275.9	272.1	588.2	567.1	587.4	574	578.9	
279.7	238.8	259.1	250.9	246.2	535	513.3	531.2	513.3	525.1	
253.1	214.9	233.9	227.6	221.5	486.2	464.2	481.8	465.1	476.3	
228.9	193.2		206.7	200.1	441.5	420.3	437.1	422	432.2	
207.2	173.7	190.7	187.4	180.8	400.9	380.3	396.5	383.1	391.8	
187.2	156.1	172.3	170.4	163.5	364.4	344.1	359.7	347.7	355.6	
169	140.4	155.6	154.5	147.6	330.9	311.7	326.3	315.6	322.4	
153.1	125.9	140.5	140.2	133.3	300.7	282.1	296.1	286.5	292.5	
138.3	119.2	126.7	127.3	126.5	273	255.2	268.7	260.1	265.6	
125.1	108	120.5	121.7	115	248.1	231	243.4	236.3	240.9	
119.3	97.55	109.6	111.2	104.4	225.3	209.1	220.9	214.6	218.7	
108.7	88.14	99.48	101.4	94.75	204.7	189.3	200.3	194.8	198.4	
98.84	79.67	90.23	92.53	86.01	186.1	171.5	181.7	177	180	
89.84	72	81.88	84.39	78.07	169	155.1	165	160.6	163.3	
81.67	65.1	74.31	76.96	70.88	153.7	140.5	149.6	146	148.2	
74.24	58.83	67.5	70.22	64.34	139.4	127.1	135.6	132.6	134.2	
67.51	53.19	61.23	64.07	58.44	126.5	120.9	129	126.6	127.9	
61.37	48.09	55.6	58.49	53.05	121.1	110.2	117.5	115.8	116.8	
55.82	43.49	50.43	53.34	48.18	110.7	100.3	107.3	105.7	106.4	
50.77	39.31	45.79	48.7	43.71	101	91.13	97.68	96.52	97	
46.15	35.55	41.56	44.41	39.71	92.18	82.87	89.05	88.18	88.4	
41.96	32.13	37.71	40.53	36.05	84.14	75.4	81.15	80.59	80.63	
38.15	29.03	34.25	37.01	32.71	76.8	68.59	73.98	73.71	73.56	
34.71	26.26	31.09	33.75	29.68	70.09	62.41	67.43	67.38	66.86	
31.55	23.74	28.21	30.8	26.96	64.02	56.76	61.46	61.65	60.98	
Samp21 rt	Samp22 rt	Samp23 rt	Samp24 rt	Samp25 rt	Samp26 rt	Samp27 rt	Samp28 rt	Samp29 rt	Samp30 rt	
1/28/2003 10:30					1/28/2003 14:00					
Average Peak Max			563.66		Average Peak Max			3376.6		
BCDMH Conc.			0.00627		BCDMH Conc.			0.04125		

Continuous System 1 (page 4 of 7)

0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
5.377	0	0	0	0.462	5.156	0	0	0	0	0
4.938	0	0	0	0.393	4.608	0	0	0	0	0
694.5	1380	1171	1498	226.3	701.1	539.9	1200	281.9	1107	
3603	3143	3219	3550	3631	3964	3559	3911	3663	3641	
596.5	570.1	569.3	566	589.9	596.7	555.4	578.7	552.3	586.5	
546	522.5	521	519.7	542.7	544.1	506.4	530.8	503.1	537.1	
497.4	476.8	475.2	474.9	496.3	495.4	460.5	485.3	460.2	491.1	
453	434.6	432.7	434.1	453.3	450.9	418.1	443	420	448.5	
412.4	395.9	394.3	396.5	414.1	410.7	380.1	403.9	383.1	409.6	
375.3	360.5	359.2	361.9	377.8	373.8	345.3	368	349.7	374.3	
341.9	328.7	327.1	330.6	344.9	340.4	313.6	335.5	319.1	342	
310.6	299.4	297.7	302.1	315	310	285.1	305.9	290.9	312.5	
282.6	272.7	271.4	276.1	287.6	282.1	259.4	278.9	265.4	285.7	
257.4	248.3	247	251.9	262.6	256.9	235.9	254.2	242.2	261.1	
234.6	226.1	224.7	230.3	239.6	234	214.3	231.8	220.8	238.6	
213.5	206.1	204.7	210.2	218.7	212.9	194.8	211.3	201.7	218.1	
194.6	187.7	186.4	192.1	199.5	194	177.1	192.7	183.9	199.2	
177	171	169.6	175.4	182	176.5	160.9	175.7	167.8	182	
161.4	155.6	154.2	160	166	160.6	146.4	160.1	153	166.4	
146.8	141.6	140.5	146.3	151.5	146.1	133	145.9	139.6	152.2	
133.7	129	127.6	133.4	138.1	133	126.9	132.7	127.3	138.8	
127.6	123.4	122.2	127.9	126	127.1	116.1	127.1	122.1	126.7	
117.1	113.1	112	117.9	121	116.4	105.9	116.5	112.1	121.9	
106.9	103.4	102.3	107.8	111.1	106.4	96.7	106.6	102.7	112	
97.72	94.59	93.51	98.8	101.7	97.2	88.29	97.51	94.12	102.8	
89.4	86.5	85.41	90.56	93.17	88.86	80.58	89.25	86.26	94.28	
81.72	79.1	78.05	83.07	85.39	81.23	73.58	81.72	79.1	86.44	
74.79	72.37	71.35	76.18	78.18	74.25	67.22	74.79	72.53	79.29	
68.39	66.2	65.24	69.89	71.63	67.9	61.4	68.44	66.49	72.75	
62.55	60.57	59.63	64.12	65.65	62.08	56.07	62.68	61.03	66.74	
Samp31 r0	Samp32 r0	Samp33 r0	Samp34 r0	Samp35 r0	Samp36 r0	Samp37 r0	Samp38 r0	Samp39 r0	Samp40 r0	
1/28/2003 15:00					1/28/2003 16:30					
Average Peak Max			3429.2		Average Peak Max			3747.6		
BCDMH Conc.			0.0419		BCDMH Conc.			0.046		

Continuous System 1 (page 5 of 7)

0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
214.3	323.3	190.7	120.3	266.3	168	37.05	502.4	35.52	52.52	
1232	1167	1369	1297	1290	2009	2064	1709	2406	1617	
479.1	493.1	499.5	449.7	486.7	424.3	470	410.1	461.9	464.9	
439.9	453	458.2	417.7	449.7	389.7	388.8	373.1	424.5	422.6	
404.8	416.8	420.9	386.2	416	358.1	356.4	340.1	388	383.1	
372	382.7	386.5	355.9	384.3	329	327.6	310	354.1	347.8	
341.6	351.2	355	327.7	355	302.6	300.9	282.7	322.5	315.9	
313.4	322.2	326	301.7	327.9	278.3	275.9	257.7	293.9	287.1	
288	295.6	299.5	277.3	303	256	253.3	235.3	268	260.9	
264.2	271.3	275.1	255.1	279.8	235.3	232	214.6	244.3	237.2	
242.5	248.8	252.4	234.3	258.1	216.5	213	195.9	222.8	215.7	
222.6	228	231.9	215.4	238.4	199.1	195.3	178.7	202.9	196.1	
204	209.2	212.7	197.9	220.1	183.3	178.9	162.9	184.9	178.1	
187.3	191.6	195.2	181.8	203.1	168.3	163.7	148.5	168.6	161.8	
171.7	175.8	179.3	167	187.5	155	150.1	135.4	153.6	147.1	
157.4	161	164.5	153.3	172.8	142.5	137.5	123.4	140	133.5	
144.3	147.3	150.8	140.7	159.4	131	126.1	118.4	127.5	127.4	
132	135	138.3	129	147	126.6	121.4	108.6	122	116.3	
127.1	123.5	126.8	124.6	135.5	116.8	112	99.41	111.8	106.3	
116.9	119	122.3	115	124.8	108.1	103	90.95	102.2	97.02	
107.8	109.7	112.8	106	121.2	99.87	94.76	83.25	93.53	88.54	
99.07	100.8	103.8	97.62	112.5	92.21	87.15	76.19	85.51	80.77	
91.12	92.63	95.59	89.92	104.1	85.15	80.2	69.69	78.22	73.71	
83.81	85.12	87.93	82.82	96.33	78.68	73.79	63.75	71.52	67.26	
77.07	78.25	80.95	76.33	89.11	72.7	67.88	58.34	65.41	61.36	
70.88	71.89	74.48	70.32	82.47	67.15	62.5	53.32	59.81	55.98	
65.19	66.07	68.54	64.76	76.33	62.04	57.51	48.77	54.68	51.09	
59.93	60.72	63.07	59.69	70.63	57.35	52.91	44.6	50.02	46.6	
Samp41 r	Samp42 r	Samp43 r	Samp44 r	Samp45 r	Samp46 r	Samp47 r	Samp48 r	Samp49 r	Samp50 r	
1/28/2003 18:00					1/29/2003 9:30					
Average Peak Max				1271	Average Peak Max				1961	
BCDMH Conc.				0.01507	BCDMH Conc.				0.02365	

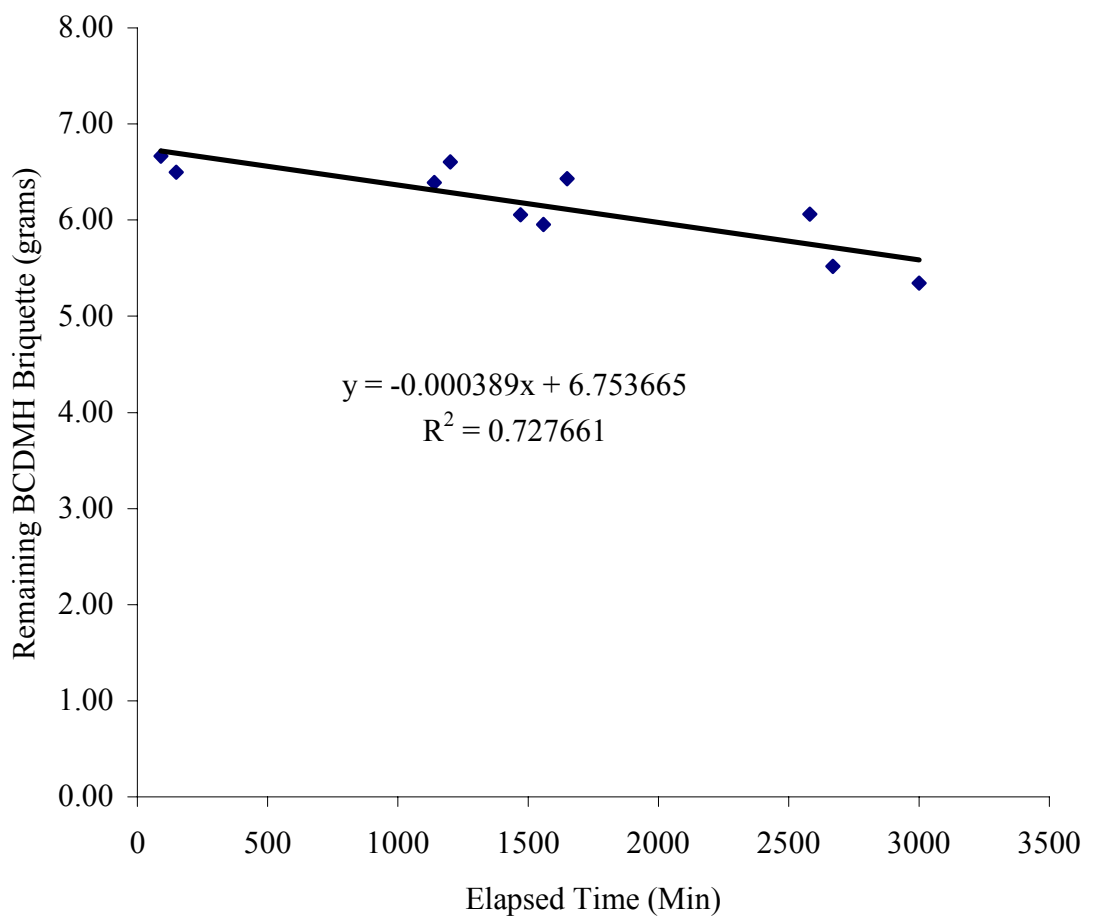
Continuous System 1 (page 6 of 7)

0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
7.146	0	0	0	0.049	0.253	0.308	0.076	0.198	0.308	
6.379	0	0	0	0.09	0.294	0.39	0.116	0.253	0.362	
26.98	97.62	77	23.65	167.2	19.03	3.149	0.595	29.1	26.53	
3457	4139	3341	3695	2913	5904	3559	3719	3875	3660	
777.5	749.6	570.2	735.4	725.3	594.4	599.7	539.5	568.3	573.4	
699.4	699.9	526.9	671.2	657.6	552.6	537.7	503.2	525.2	511.4	
635.1	639.3	481	607.5	599.7	510.9	492.3	459	479.2	466.4	
573	579	436.1	547.5	543.2	470.8	449.3	415.1	434.8	423.8	
516.6	523.4	394.5	493.3	491.4	433.7	409.2	374.5	393.8	384.5	
465.1	472.8	355.9	444.6	444.1	399.3	372.3	337.6	356.4	349.1	
418.9	426.8	321.1	400.8	401.4	367.9	338.7	304.1	322.6	316.9	
377	385.2	289.7	361.1	362.8	338.7	308.2	274	291.8	287.7	
339.2	347.4	261.2	325.5	327.7	312	280.3	246.8	263.9	260.9	
305.5	313.5	235.4	293.5	296.3	287.5	255	222.2	238.5	236.9	
274.9	282.8	212.5	264.7	267.8	264.8	232	200.1	215.9	215.1	
247.5	255.2	191.7	238.5	242.1	244	211	180.2	195.2	195.4	
222.6	230.3	172.8	215.2	218.8	224.9	191.9	162.2	176.6	177.4	
200.4	207.5	155.8	193.9	197.7	207.5	174.4	145.8	159.7	161.6	
180.4	187.3	140.7	175	178.8	191.4	158.6	131.3	144.4	147.1	
162.4	168.9	127.1	157.7	161.8	176.3	144.2	124.2	130.8	133.8	
146.2	152.5	120.7	142.1	146.2	162.7	131.1	112.6	124.2	127.7	
131.7	137.5	109.7	128.1	132.3	149.9	125.4	102	113.2	117.3	
124.6	124	99.64	121.7	126	138.2	114.9	92.36	102.9	106.9	
113	117.9	90.47	110.6	114.8	127.5	105	83.64	93.66	97.76	
102.4	107.2	82.19	100.3	104.5	123.7	96.07	75.78	85.25	89.43	
92.77	97.32	74.7	90.99	95.14	114.8	87.85	68.77	77.63	81.8	
84.11	88.29	67.91	82.59	86.64	106.4	80.42	62.39	70.73	74.88	
76.26	80.19	61.78	74.99	78.94	98.59	73.66	56.61	64.46	68.61	
69.21	72.85	56.21	68.15	71.97	91.42	67.46	51.38	58.78	62.89	
62.84	66.22	51.18	61.96	65.66	84.75	61.82	46.69	53.59	57.64	
Samp51 r	Samp52 r	Samp53 r	Samp54 r	Samp55 r	Samp106	Samp107	Samp108	Samp109	Samp110	
1/29/2003 11:00					1/29/2003 14:00					
Average Peak Max				3509	Average Peak Max				4143.4	
BCDMH Conc.				0.04289	BCDMH Conc.				0.05078	

Continuous System 1 (page 7 of 7)

0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
2.052	0	0.159	2.71	0	0.172	1.307	0.076	0.117	2.934	
1.901	0.036	0.214	2.518	0.008	0.117	1.321	0.131	0.199	2.715	
397.3	408.8	60.85	29.15	351.4	0.226	1.567	0.09	0.213	2.442	
3376	3686	3573	3790	3558	3129	3230	3206	2842	3564	
529.9	506.1	517.4	497.2	517.1	482.4	459.1	478.4	457.6	484.2	
477.9	464.7	470.7	460	474.3	438.3	417.5	433.9	411.5	443.4	
434.1	422	427.2	419	430.8	395.7	376	390.7	369.7	401.4	
392.2	381.5	386.4	379.3	389.4	355.6	337	350.1	330.9	361.3	
354.4	344.5	348.9	342.6	351.6	319	301.7	313.5	296	324.1	
319.6	310.8	314.9	309.2	317.4	286.2	269.8	280.4	264.5	291.1	
288.6	280.1	284.5	279	285.6	256.6	241.4	250.9	236.7	261.3	
260.4	252.7	256.5	251.6	257.9	230.2	215.7	224.4	211.3	234.5	
234.9	228.1	231.9	226.9	233	206.4	193	200.6	188.9	210.4	
212.2	205.6	209.1	204.8	210.2	185.1	172.5	179.6	168.9	188.9	
191.4	185.3	188.9	184.5	190	166.2	154.4	160.7	150.9	169.7	
173	167.2	170.5	166.7	171.6	149	138.1	143.8	135	152.2	
156	150.8	154.1	150.2	154.9	133.7	123.6	128.5	126.6	136.7	
140.9	136	139	135.4	139.8	126	116.9	121.1	114.1	122.7	
127.5	129	125.6	128.2	126.4	114	105.1	109.3	102.6	116.6	
121.2	117.3	119.4	116.6	120.2	102.9	94.63	98.46	92.28	105.2	
110.3	106.3	108.8	105.7	109.5	92.93	85.2	88.71	83.06	95.07	
100.2	96.5	98.8	95.91	99.47	83.94	76.79	79.93	74.81	85.92	
91.18	87.61	89.82	87.06	90.39	75.9	69.23	72.09	67.42	77.7	
82.97	79.61	81.66	79.08	82.23	68.64	62.44	65.05	60.76	70.32	
75.49	72.34	74.29	71.84	74.81	62.12	56.34	58.69	54.75	63.66	
68.73	65.79	67.58	65.31	68.08	56.26	50.89	53	49.43	57.66	
62.62	59.83	61.54	59.35	62.02	50.94	45.96	47.91	44.6	52.24	
57.06	54.44	56.05	54.03	56.47	46.21	41.53	43.29	40.28	47.35	
52.04	49.59	51.08	49.16	51.45	41.89	37.54	39.12	36.39	42.92	
47.51	45.17	46.52	44.73	46.91	37.98	33.95	35.41	32.86	38.93	
Samp111	Samp112	Samp113	Samp114	Samp115	Samp116	Samp117	Samp118	Samp119	Samp120	
1/29/2003 16:30					1/29/2003 16:30					
Average Peak Max			3596.6		Average Peak Max			3194.2		
BCDMH Conc.			0.04398		BCDMH Conc.			0.03898		

Continuous System 1: Decomposition of 6.68 gram BCDMH
Briquette



APPENDIX B

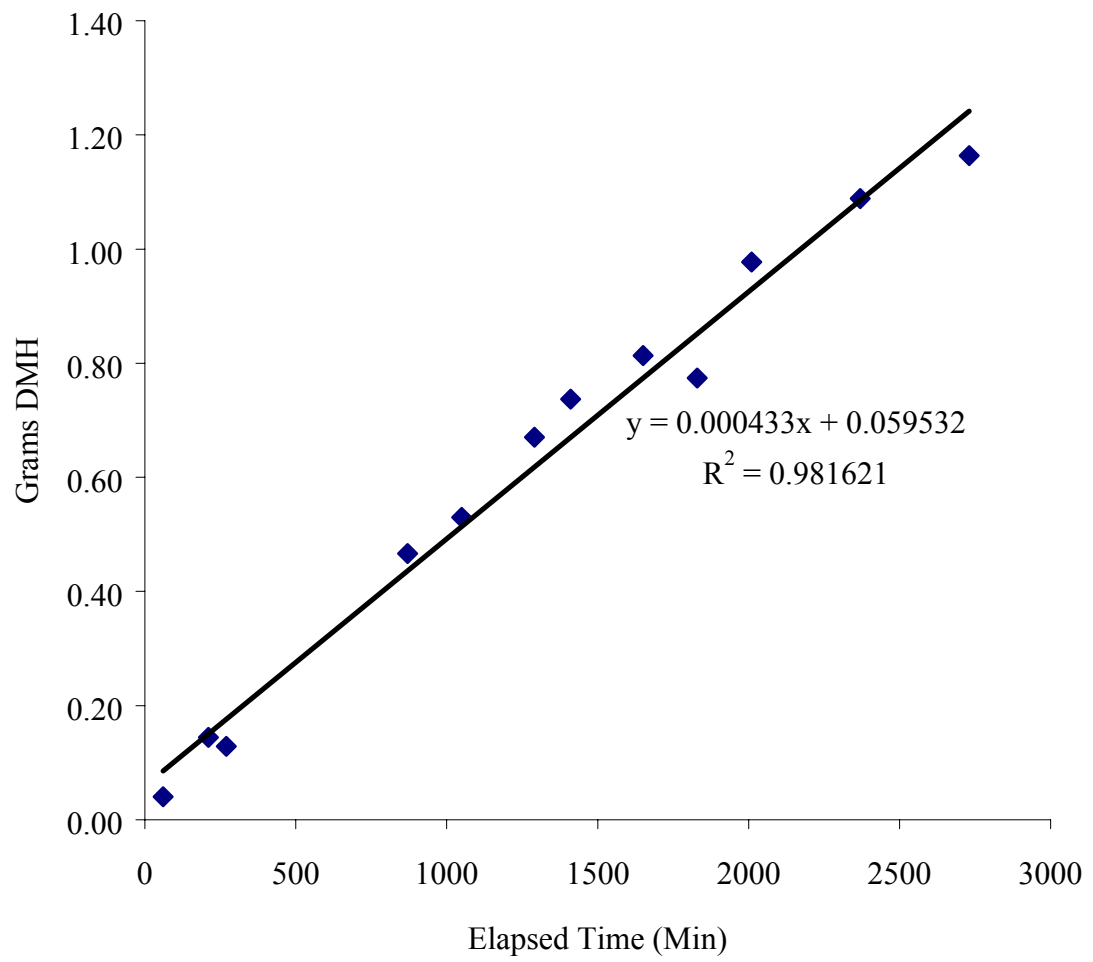
Continuous System 2: Synthetic Bangladesh Groundwater Contaminated with As (III)

HPLC Data Compilation.....	82
Appearance of DMH Graph.....	83
Chemiluminescence Data Compilation.....	84
Disappearance of BCDMH Graph.....	92

Continuous System 2: HPLC Data

Time	Elapsed Time	Peak Area	Conc. (M)	Avg. Conc. (M)	S	Summary			
						Elapsed Time	Conc. (M)	Conc. (mM)	g am appear
3/23/03 9:30 PM	60	189.52037	1.31E-04	1.26E-04	7.8E-06	60	1.26E-04	0.126	0.0405
		172.07666	1.20E-04			210	1.28E-04	0.128	0.1445
3/24/03 12:00 AM	210	184.45918	1.28E-04	1.28E-04	4.8E-06	270	8.83E-05	0.088	0.1283
		173.61386	1.21E-04			870	9.96E-05	0.100	0.4663
3/24/03 1:00 AM	270	122.97758	8.91E-05	8.83E-05	1.1E-06	1050	9.38E-05	0.094	0.5300
		120.518	8.75E-05			1290	9.65E-05	0.097	0.6701
3/24/03 11:00 AM	870	139.48245	9.95E-05	9.96E-05	1.7E-07	1410	9.71E-05	0.097	0.7369
		139.86549	9.97E-05			1650	9.16E-05	0.092	0.8135
3/24/03 2:00 PM	1050	130.85442	9.40E-05	9.38E-05	3.4E-07	1830	7.86E-05	0.079	0.7744
		130.09406	9.36E-05			2010	9.04E-05	0.090	0.9774
3/24/03 6:00 PM	1290	135.09787	9.67E-05	9.65E-05	2.7E-07	2370	8.54E-05	0.085	1.0885
		134.48492	9.63E-05			2730	7.92E-05	0.079	1.1639
3/24/03 8:00 PM	1410	136.8815	9.79E-05	9.71E-05	1.0E-06				
		134.56683	9.64E-05						
3/25/03 12:00 AM	1650	128.18837	9.24E-05	9.16E-05	1.1E-06				
		125.82835	9.09E-05						
3/25/03 3:00 AM	1830	100.13084	7.47E-05	7.86E-05	5.6E-06				
		112.73135	8.26E-05						
3/25/03 6:00 AM	2010	127.53211	9.20E-05	9.04E-05	2.2E-06				
		122.50165	8.88E-05						
3/25/03 12:00 PM	2370	113.62439	8.32E-05	8.54E-05	3.1E-06				
		120.5332	8.75E-05						
3/25/03 6:00 PM	2730	111.27964	8.17E-05	7.92E-05	3.5E-06				
		103.45602	7.68E-05						

DMH Appearance on Continuous System 2



Continuous System 2: Chemiluminescence Data		
Elapsed Time (Min)	Conc. (mM)	grams BCDMH
60	0.0470	4.701
210	0.0389	4.647
870	0.0241	4.517
1050	0.0355	4.352
1290	0.0233	4.425
1410	0.0269	4.346
1650	0.0225	4.353
1830	0.0211	4.338
2010	0.0254	4.212
2370	0.0340	3.913
2730	0.0357	3.741

Turner Designs: TD-20/20 Luminometer	
Ver. 2020-1E 1098	
Delay Time: (sec)	2
Integrate Time: (sec)	4
Number of Replicates:	1
Sensitivity Level %:	1
Standard Reading:	1.76
Injection Volume #1: (ul)	50
Injection Volume #2: (ul)	50
Average Blank:	0.036
Mode:	STD

The following tables contain the continuous stream data. Each column represents a series of luminescence readings, taken every 0.2 seconds. Five series of measurements (5 columns) were taken from each sample. The first number in the columns represents the blank sample that was obtained prior to the addition of the BCDMH briquette. The instrument was programmed to collect measurements for four seconds with a two second delay. The peak maximums, usually seen around 0.6 seconds were averaged. Average peak maximums and BCDMH concentrations are seen below each sample

Continuous System 2 (page 1 of 7)									
0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.672	0.113	2.81	0.073	0.113	0.414	0.537	0.264	0.291	0.291
0.645	0.154	2.592	0.1	0.141	0.455	0.565	0.291	0.346	0.36
237.5	137	352.5	426.8	245.7	386.3	625.6	288	764.2	1178
4939	3602	3906	3475	3292	4279	4081	2433	2594	2560
877.9	805.4	849	873	800.9	701.1	700.1	690.7	717	694.7
804	746.1	782.3	807.4	740.4	647.6	645.2	633.8	659.2	635.7
733.1	682.2	716.2	742.4	678.4	592.3	591.2	579	601	582.2
666	619.1	654.3	678.7	618.2	540.1	540.7	526.5	546.7	531.1
604.1	561.1	596	619.1	563	492.1	494.3	478.5	495.9	484.5
548.1	508.1	542.9	564.1	511.8	448.2	451.4	434.8	449.8	441.3
497.2	459.9	495	514	465.6	410.2	412.1	394.9	407.8	402
450.9	416.1	451.5	467.2	423.1	373.1	376.4	358.6	369.5	366.3
409	376.6	411.2	422.9	384.5	339.8	343.9	325.6	335.2	333.8
371.4	340.7	374.7	384.8	349.6	309.5	314.1	296.1	303.8	304
337.2	308.3	341.5	350.8	318.1	281.9	287.1	268.8	275.7	277.3
306.1	278.9	311.3	319.7	289.2	256.8	262.6	244.3	250	252.7
277.8	252.5	283.8	291.7	263.1	233.9	239.9	221.9	226.8	230.3
252.5	228.6	259.1	265.9	239.2	213.2	219.4	201.4	205.5	209.9
229.4	206.8	236.2	242.5	217.7	194.3	200.6	183.1	186.4	191.3
208.2	187.5	215.5	221.2	197.8	177.1	183.7	166.5	169.2	174.7
188.9	169.5	196.7	201.6	180.1	161.6	167.8	151.2	153.7	159.1
171.7	153.5	179.6	184	163.8	147.1	153.7	137.6	139.5	145.2
156.2	139	163.8	167.9	149.1	134.3	140.6	125	126.4	132.4
141.8	126	149.7	153.2	135.8	128.5	128.6	119.8	120.8	126.7
129	120.1	136.6	139.9	123.5	117.7	123.7	109.7	110.4	116.4
123.2	109.6	124.6	127.6	118.5	108.2	114	100.3	100.8	106.7
112.9	99.82	120	122.4	108.6	99.19	104.8	91.74	91.93	97.76
103.1	90.93	110.4	112.5	99.32	91	96.38	83.94	83.92	89.65
94.29	82.84	101.4	103.2	90.94	83.48	88.65	76.79	76.65	82.25
86.23	75.58	93.11	94.68	83.23	76.67	81.59	70.33	70.04	75.48
Samp1 r0	Samp2 r0	Samp3 r0	Samp4 r0	Samp5 r0	Samp6 r0	Samp7 r0	Samp8 r0	Samp9 r0	Samp10 r0
3/23/2003 21:30					3/24/2003 0:00				
Average Peak Max			3842.8		Average Peak Max			3189.4	
BCDMH Conc. (mM)			0.04704		BCDMH Conc. (mM)			0.03892	

Continuous System 2 (page 2 of 7)

0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.456	0.729	9.421	0.415	0.415	0.32	0.347	0.512	0.443	0.279	
0.51	0.784	8.328	0.469	0.483	0.347	0.416	0.553	0.498	0.347	
568.8	370.9	178.2	302.3	473.7	103.2	571.3	1.403	38.17	0.306	
1933	2216	1910	1777	2147	3237	2820	2876	2807	2836	
604.8	653.5	640.1	585.3	610.4	602.3	564.3	539.3	572.2	577.1	
551.3	598.6	587.6	534.7	558.7	570.7	523.3	498.7	526.6	534.8	
498.3	544.2	536	485.8	508.2	534.3	482	458.4	482	490.2	
448.1	491.8	486.6	439.4	460.7	496.3	440.7	418.5	438.8	446.7	
402.2	443.7	440.7	396.8	417.3	459.9	402.3	381.2	396.3	405.3	
361	400	398.7	358	377.4	426.7	366.4	347	359.3	368.4	
323.9	360.7	360.7	322.8	339.7	394.7	333.9	315.5	325.6	333	
290.5	324.9	326.3	291.1	307.2	365.1	304.3	286.7	295	302.1	
260.8	291.4	295.4	262.4	277.7	337.7	277.2	260.7	267.6	274.1	
234	262.7	267.3	236.8	251.2	312.2	250.6	237.2	242.4	248.7	
210.3	236.7	241.9	213.6	227.5	288.9	228.4	215.5	219.6	225.4	
188.7	213.5	219	192.5	205.9	267	207.9	196.1	199.1	204.6	
169.3	192.5	198.2	173.7	186.2	247	189.5	178.3	180.5	185.4	
152.1	173.4	179.7	156.8	168.8	228.7	172.8	162.1	163.5	168.4	
136.5	156.5	162.5	141.2	152.7	211.4	157.5	147.6	148.2	152.8	
128.5	141.2	146.9	127.5	138.2	195.6	143.8	134.2	134.2	138.3	
116.3	127.3	133.3	121	125.1	181	130.9	128.2	127.8	125.4	
105	120.9	126.7	110	119.3	167.3	125.4	117.8	116.7	120	
94.88	109.9	115.6	99.76	108.8	154.8	115.2	107.4	106.4	109.7	
85.76	99.64	105.3	90.49	99.07	143.2	105.6	98.23	96.9	99.99	
77.58	90.44	95.96	82.15	90.23	132.6	96.77	89.87	88.36	91.17	
70.2	82.05	87.46	74.62	82.22	128.7	88.79	82.28	80.65	83.22	
63.56	74.54	79.79	67.76	74.89	119.5	81.43	75.34	73.56	75.95	
57.53	67.74	72.78	61.59	68.3	111.3	74.71	69.02	67.12	69.38	
52.1	61.56	66.44	55.98	62.28	103.4	68.6	63.25	61.28	63.38	
47.25	55.97	60.69	50.9	56.82	96.07	63.01	58.02	55.99	57.91	
Samp11 r0	Samp12 r0	Samp13 r0	Samp14 r0	Samp15 r0	Samp16 r0	Samp17 r0	Samp18 r0	Samp19 r0	Samp20 r0	
3/24/2003 11:00					3/24/2003 14:00					
Average Peak Max			1996.6		Average Peak Max			2915.2		
BCDMH Conc. (mM)			0.02409		BCDMH Conc. (mM)			0.03551		

Continuous System 2 (page 3 of 7)

0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.99	0.484	1.305	0.141	0.333	0.822	3.151	0.685	2.538	0.141	
0.949	0.525	1.291	0.183	0.374	0.781	2.892	0.713	2.442	0.195	
241.1	110.2	80.64	217	204.4	41.61	200.8	18.5	91.82	132.7	
2176	2098	2042	1774	1576	2676	1754	2266	2147	2259	
607	583.3	563.3	581.3	557.1	625.3	618.4	610.6	546.2	597.1	
555	534.8	515.6	534.2	509.6	575.3	566	562.2	503.7	550.3	
503.6	486.9	468.8	486.4	464.5	524.4	516.5	514.6	463.4	504.3	
456.9	441.3	424.6	440.5	421.3	474.1	468.6	466.7	424.5	459.7	
412.9	398.9	383.9	398.1	381.4	428.3	424.3	423.4	388.6	418	
372.7	360.4	346.7	359.5	345	386.7	384.2	384	355.1	379.9	
336.6	325.4	313	324.5	311.9	349.4	347.5	348	324.6	344.8	
303.5	293.9	282.4	292.8	281.9	315.4	314.6	315.4	296.6	313.2	
273.7	265.2	255.1	264.1	254.5	284.9	284.6	285.7	271.9	284.4	
247.2	239.5	230.2	238.1	229.9	257.4	257.7	259.1	248.7	258.5	
223.1	216.3	207.8	214.9	207.8	232.4	233.2	234.8	227.2	234.9	
201.2	195.2	187.8	193.8	187.8	209.8	211.2	212.8	207.6	213.4	
181.5	176.3	169.5	175	169.8	189.4	191.3	192.9	189.7	193.8	
163.8	159.4	153.1	157.7	153.4	170.9	173.3	174.7	173.3	176.1	
147.9	144.1	138.1	142.4	138.3	154.3	157	158.4	158.4	160	
133.4	130.1	124.7	128.5	124.9	139.3	142	143.7	144.8	145.3	
126.6	123.6	118.8	122	119.1	125.7	128.7	130.3	132.3	132	
115.1	112.6	108.1	110.9	108.5	119.6	122.8	124.1	126.9	126	
104.5	102.3	98.21	100.7	98.54	108.8	112.1	113.4	117.1	115.3	
94.85	93.01	89.28	91.35	89.58	98.82	102.2	103.4	107.2	105.3	
86.19	84.56	81.15	82.98	81.41	89.77	93.18	94.28	98.38	96.14	
78.31	76.97	73.79	75.37	74.03	81.51	85.01	86	90.36	87.82	
71.19	70.04	67.14	68.52	67.35	74.1	77.57	78.48	83	80.23	
64.76	63.76	61.13	62.3	61.33	67.4	70.81	71.63	76.28	73.38	
58.93	58.1	55.67	56.66	55.82	61.29	64.7	65.43	70.08	67.07	
53.61	52.94	50.72	51.56	50.83	55.8	59.15	59.77	64.43	61.37	
Samp21	rt Samp22	rt Samp23	rt Samp24	rt Samp25	rt Samp26	rt Samp27	rt Samp28	rt Samp29	rt Samp30	rt
3/24/2003 18:00					3/24/2003 20:00					
Average Peak Max			1933.2		Average Peak Max			2220.4		
BCDMH Conc. (mM)			0.0233		BCDMH Conc. (mM)			0.02687		

Continuous System 2 (page 4 of 7)

0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.278	0.237	0.278	0.36	0.551	4.545	0.459	0.404	0.486	0.362
0.319	0.278	0.319	0.387	0.592	4.27	0.514	0.473	0.528	0.418
225.8	221.4	325	273.6	452.4	376.4	551.4	416.3	273.2	297.1
2117	1840	1784	1982	1623	2267	1709	1611	1651	1552
605.2	587.6	522.1	580.5	513.8	557.6	556.7	519.6	511	522.1
555.1	538.5	480.1	536.9	470.8	515.6	512.9	476.3	466.7	479.9
505.4	490.7	439.9	492.9	430.3	471.6	469.2	435.9	425.7	438.3
458.2	444.3	401.5	450.3	393	429.1	426.9	396.6	386.4	398.8
414.8	401.7	365.4	410.2	358	389	387.3	360.3	350.2	362.2
375.2	362.6	332.4	373.3	325.8	353.2	351	326.8	317.2	328.4
339.1	327.4	302.3	339.4	296.3	320.5	318	296.6	286.9	297.7
305	295.2	275	308.6	269.5	290.8	288.1	268.8	259.7	269.6
275.5	266.5	249.9	280.7	245	262.2	260.8	243.8	235	244.3
249.3	240.3	226.9	255.1	222.8	237.8	236.7	221	212.5	221.2
225.3	216.8	206.2	232.1	202.6	215.5	214.1	200.3	192.1	200.3
203.7	195.5	187.3	211.1	184.3	195.4	194.1	181.7	173.7	181.7
184.3	176.4	170.1	192	167.4	177.3	175.9	164.6	156.9	164.3
166.6	159.2	154.6	174.5	152.4	160.5	159.4	149.2	142.1	149
150.7	143.6	140.4	158.7	138.5	145.7	144.3	135.2	128.3	135
136.3	129.4	127.5	144.2	125.9	131.9	130.5	128.8	122.2	128.3
123.2	122.8	121.9	131.4	120.4	125.9	124.5	117.9	111.3	117
117.4	111.6	111.5	125.4	110.2	114.9	113.7	107.2	101.2	106.6
107	101.2	101.8	114.8	100.6	104.8	103.5	97.74	92.05	97.04
97.26	91.79	92.96	104.9	91.94	95.52	94.35	89.1	83.74	88.37
88.47	83.28	84.9	95.96	84.01	87.1	85.96	81.25	76.13	80.53
80.48	75.6	77.57	87.74	76.77	79.47	78.42	74.18	69.32	73.39
73.08	68.64	70.89	80.25	70.19	72.53	71.5	67.74	63.13	66.93
66.53	62.35	64.79	73.46	64.22	66.23	65.23	61.82	57.46	61.01
60.6	56.64	59.26	67.24	58.68	60.44	59.56	56.46	52.32	55.65
55.22	51.5	54.21	61.54	53.65	55.21	54.35	51.59	47.68	50.75
Samp31 r	Samp32 r	Samp33 r	Samp34 r	Samp35 r	Samp36 r	Samp37 r	Samp38 r	Samp39 r	Samp40 r
3/25/2003 0:00					3/25/2003 3:00				
Average Peak Max			1869.2		Average Peak Max			1758	
BCDMH Conc. (mM)			0.0225		BCDMH Conc. (mM)			0.02112	

Continuous System 2 (page 5 of 7)

0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.28	0.307	0.417	0.252	0.142	0.568	0.389	0.499	0.375	0.293	
0.321	0.335	0.472	0.307	0.197	0.609	0.444	0.54	0.417	0.362	
192.8	260.5	225	431.8	381.5	674.1	1179	405.8	159.3	219.1	
2642	1834	1901	2048	2109	3154	2839	2746	2629	2601	
612.7	611.9	527.5	605.4	607	514.6	503.1	509.7	496.4	494.5	
562.7	561.1	483.3	557.8	558.3	476.1	464.9	470.1	458.4	454.5	
511.9	511.3	441.8	510.2	510.5	438	426.8	430.9	420.2	417.5	
464.4	463.3	402.5	463.8	464.7	401.3	389.8	392.3	383.2	381.9	
420.4	419	366.8	421.5	422.3	367.3	355.5	357.4	349	348.4	
380	378.9	333.8	382.5	383.3	336	324	325.3	317.4	317.7	
341.8	342.4	303.9	346.8	347.9	307.5	295.4	296	289.1	289.1	
308.9	309.1	276.7	314.6	316.5	281.4	269.4	268.8	263.1	263.9	
279.2	279.4	251.7	285.5	287.1	257.3	245.5	244.7	239.5	240.9	
252.5	252.5	229.1	258.8	260.7	235.6	223.8	222.7	218.1	219.7	
228.3	228.1	208.5	234.9	236.8	215.6	204.6	202.7	198.6	200.3	
206.3	206.1	189.9	213.2	214.9	197.5	186.8	184.6	181.6	182.7	
186.6	186.3	172.5	193.4	195.1	181	170.3	168.1	165.4	166.8	
168.7	168.4	157.2	175.6	177.2	165.7	155.3	153.1	150.6	152	
152.5	151.9	142.9	159.1	160.7	152	141.8	138.8	137.2	138.5	
137.9	137.4	130	144.5	145.9	139.1	129.5	126.5	124.8	126.5	
124.7	124.2	124.5	131.1	132.7	127.6	124.3	121.4	119.9	121.5	
119.1	118.4	114.1	125	126.6	123	114.2	111.3	109.9	111.6	
108.5	107.9	104.3	114.3	115.8	113.5	104.8	101.9	100.7	102.3	
98.73	98.03	95.4	104.2	105.7	104.5	96.14	93.34	92.14	93.76	
89.82	89.12	87.22	95.07	96.45	96.32	88.22	85.47	84.41	85.94	
81.73	81.12	79.8	86.74	88.07	88.75	81.02	78.29	77.32	78.86	
74.43	73.79	73.03	79.18	80.46	81.82	74.42	71.75	70.87	72.34	
67.78	67.14	66.84	72.31	73.48	75.42	68.36	65.77	64.95	66.41	
61.75	61.16	61.18	66.04	67.17	69.59	62.83	60.3	59.58	60.9	
56.27	55.69	55.99	60.34	61.41	64.22	57.74	55.54	54.65	55.9	
Samp41	rt Samp42	rt Samp43	rt Samp44	rt Samp45	rt Samp46	rt Samp47	rt Samp48	rt Samp49	rt Samp50	rt
3/25/2003 6:00					3/25/2003 6:00					
Average Peak Max			2106.8		Average Peak Max			2793.8		
BCDMH Conc. (mM)			0.02546		BCDMH Conc. (mM)			0.034		

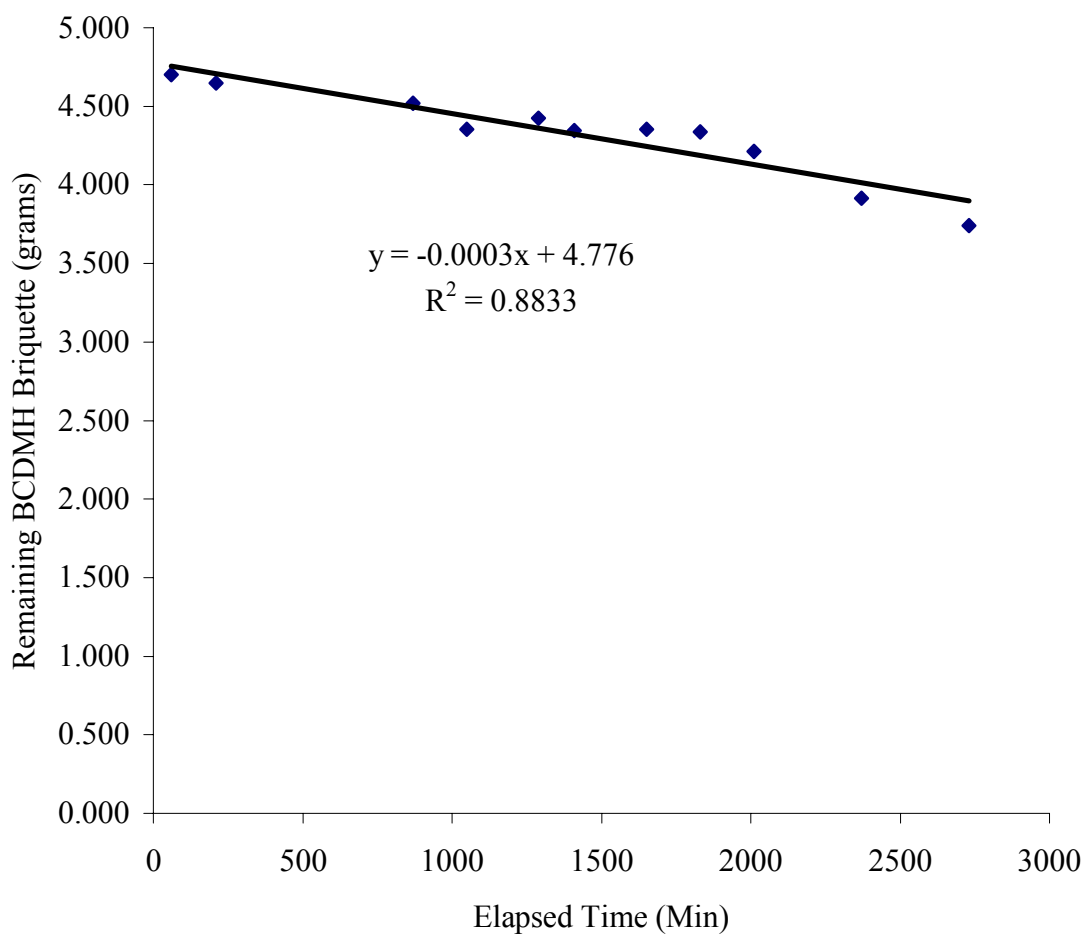
Continuous System 2 (page 6 of 7)

0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
5.369	0.429	0.347	0.141	0.182	0.155	0.811	0.305	0.401	0.346	
4.78	0.497	0.374	0.196	0.278	0.196	0.866	0.374	0.415	0.374	
911.3	99.03	41.89	136.3	0.976	51.79	2.069	121.4	149.5	46.68	
3498	3203	3052	2825	2077	892.1	932.9	904.2	723.8	721.5	
435.7	422	448.4	452.7	425.3	293.9	275.5	289.5	269.3	242.8	
402.3	385.9	412.5	420.9	390.3	269	248.3	266.9	246.1	220.2	
369.3	353.4	378.1	387.6	357.2	245	224.8	244.2	225.3	199.7	
338.2	322	345.3	355.4	325.6	221.8	202.9	222.1	205.7	180.9	
307.8	292.8	314.7	325.1	296.6	200.5	183	201.1	187.1	163.4	
280.8	266	286.5	296.9	270.1	180.6	165	181.7	170.2	147.5	
256.4	241.7	260.8	271.2		162.8	147.2	164.2	154.6	133	
233.7	219.5	237.6	247.1	223.6	146.4	132.5	148.1	140.4	126.3	
213.2	199.6	216.2	225.5	203.7	131.7	125.2	133.3	127.3	114.8	
194.4	181.2	196.8	205.9	185.1	124.5	113.4	126.4	121.6	104	
177.4	164.8	179.3	187.8	168.4	112.8	102.5	114.7	111.2	94.37	
161.9	149.8	163.2	171.4	153.4	101.9	92.71	103.8	101.3	85.59	
147.9	136.1	148.4	156.7	139.4	92.16	83.79	94.01	92.34	77.63	
135.1	123.6	135.3	142.7	126.8	83.34	75.82	85.11	84.22	70.47	
123.3	118.4	123	130.4	121.4	75.39	68.56	77.13	76.78	63.95	
118.5	108.4	118.1	124.9	111.2	68.18	62.03	69.87	70.07	58.08	
109	99.09	108.3	114.8	101.7	61.71	56.19	63.32	63.89	52.75	
100.1	90.53	99.14	105.5	92.98	55.85	50.85	57.39	58.32	47.9	
91.96	82.76	90.74	96.77	85	50.57	46.02	52.01	53.2	43.51	
84.49	75.66	83.08	88.73	77.75	45.82	41.67	47.13	48.56	39.52	
77.64	69.23	76.07	81.45	71.14	41.5	37.72	42.77	44.33	35.89	
71.39	63.35	69.67	74.73	65.08	37.57	34.15	38.76	40.47	32.63	
65.69	57.97	63.88	68.57	59.59	34.06	30.93	35.17	36.94	29.66	
60.44	53.07	58.52	62.95	54.54	30.9	28.04	31.89	33.73	26.94	
55.61	48.58	53.63	57.82	49.92	27.99	25.38	28.95	30.8	24.48	
51.22	44.48	49.21	53.08	45.73	25.35	23	26.27	28.13	22.28	
Samp51 rt Samp52 rt Samp53 rt Samp54 rt Samp55 r					Samp56 rt Samp57 rt Samp58 rt Samp59 rt Samp60 rt					
3/25/2003 18:00					3/25/2003 5:30:00 AM					
Average Peak Max			2931		Average Peak Max			834.9		
BCDMH Conc. (mM)			0.03571		BCDMH Conc. (mM)			0.00964		

Continuous System 2 (pg 7 of 7)

0.036	0.036	0.036	0.036	0.036
0.237	0.511	0	0.128	0.142
0.278	0.552	0.361	0.196	0.224
7.533	107	77.87	137.1	0.142
987.6	697.1	775	785.2	675.9
238	239.5	254.6	273.4	232.5
220.1	218.2	232.7	252.7	210.9
202.6	198.3	212.5	232.4	191.4
185.4	179.7	193.6	212.5	173.4
169.9	163	176.4	194.2	157.3
155.3	147.7	160.6	176.9	142.5
141.9	133.7	146	161.4	129.1
129.6	127.3	132.9	146.3	123.1
124.7	116	126.9	133.2	112.3
114.8	105.6	116.1	127.1	102.3
105.4	96.09	106	116.3	93.14
96.83	87.45	96.89	106.2	84.83
88.9	79.6	88.52	96.95	77.26
81.65	72.48	80.88	88.53	70.42
75.05	65.98	73.95	80.87	64.15
68.99	60.13	67.6	73.9	58.45
63.42	54.74	61.84	67.52	53.25
58.31	49.88	56.54	61.71	48.52
53.63	45.43	51.71	56.41	44.22
49.32	41.4	47.28	51.56	40.32
45.35	37.71	43.26	47.17	36.73
41.71	34.37	39.55	43.13	33.47
38.36	31.32	36.2	39.42	30.48
35.3	28.53	33.12	36.07	27.77
32.46	25.98	30.27	32.99	25.29
29.87	23.71	27.71	30.17	23.04
Samp61 r	Samp62 r	Samp63 r	Samp64 r	Samp65 r
3/2562003 6:00:00 AM				
Average Peak Max			784.16	
BCDMH Conc. (mM)			0.00901	

Continuous System 2: Decomposition of 4.73 gram BCDMH Briquette



APPENDIX C

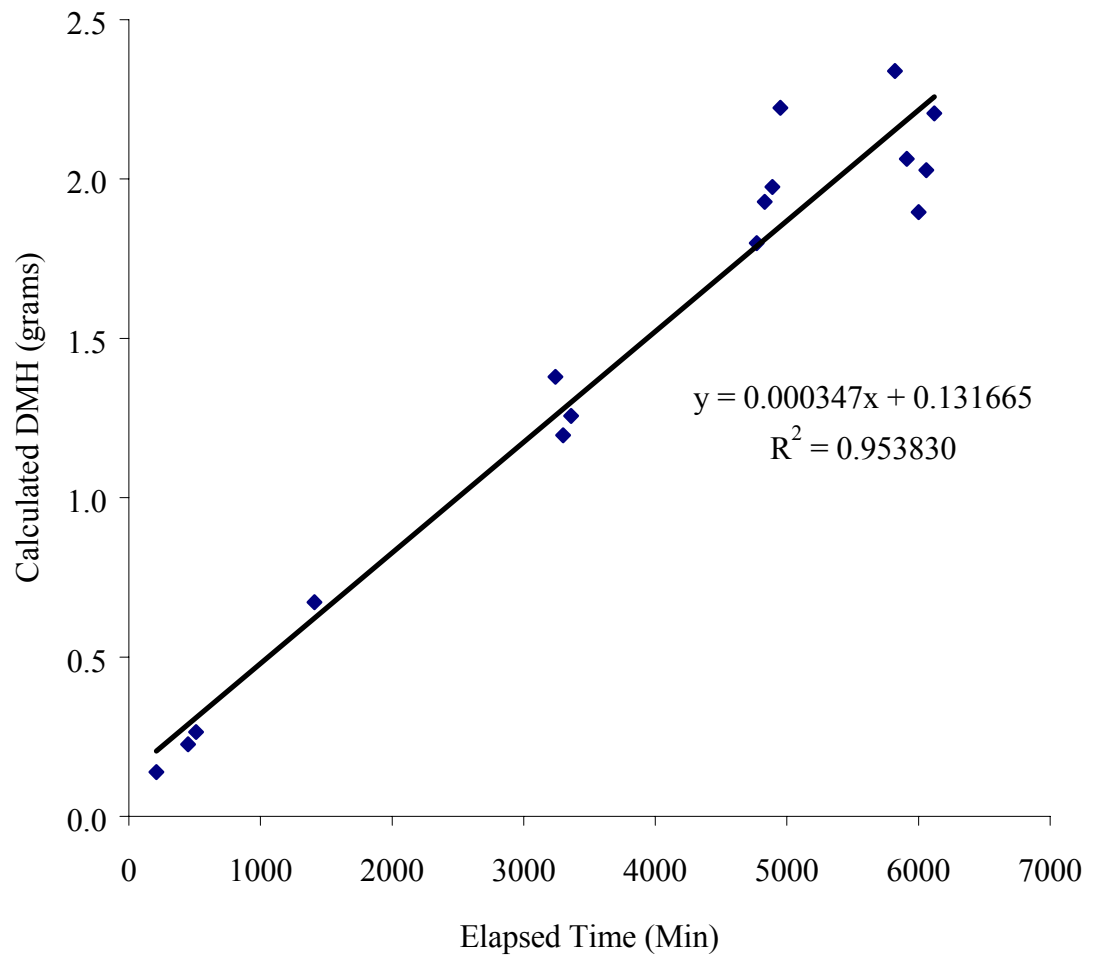
Continuous System 3: Synthetic Bangladesh Groundwater Contaminated with As (V)

HPLC Data Compilation.....	94
Appearance of DMH Graph.....	95
Chemiluminescence Data Compilation.....	96
Disappearance of BCDMH Graph.....	106

Continuous System3 HPLC

Time	Elapsed Time	Peak Area	Conc. (M)	Avg. Conc. (M)	S	Summary			
						Elapsed Time	Conc. (M)	Conc. (mM)	Grams DMH
2/5/03 10:30 AM	0	421.5232	2.36E-04	2.36E-04	9.2E-07	0	2.36E-04	0.236	
		424.1116	2.37E-04						
2/5/03 2:00 PM	210	207.4888	1.28E-04	1.23E-04	7.1E-06	210	1.23E-04	0.123	0.139
		187.6858	1.18E-04			450	9.33E-05	0.093	0.226
2/5/03 6:00 PM	450	144.6751	9.59E-05	9.33E-05	3.6E-06	510	9.64E-05	0.096	0.265
		134.5835	9.08E-05			1410	8.85E-05	0.089	0.672
2/5/03 7:00 PM	510	149.5631	9.83E-05	9.64E-05	2.7E-06	3240	7.91E-05	0.079	1.379
		142.1044	9.46E-05			3300	6.73E-05	0.067	1.195
2/6/03 10:00 AM	1410	142.7572	9.49E-05	8.85E-05	9.0E-06	3360	6.95E-05	0.069	1.256
		117.5162	8.21E-05			4770	7.01E-05	0.070	1.798
2/7/03 4:30 PM	3240	113.3547	8.00E-05	7.91E-05	1.3E-06	4830	7.42E-05	0.074	1.928
		109.6898	7.82E-05			4890	7.51E-05	0.075	1.975
2/7/03 5:30 PM	3300	91.4331	6.89E-05	6.73E-05	2.3E-06	4950	8.35E-05	0.083	2.223
		84.99134	6.57E-05			5820	7.47E-05	0.075	2.339
2/7/03 6:30 PM	3360	94.40617	7.04E-05	6.95E-05	1.4E-06	5910	6.49E-05	0.065	2.063
		90.57447	6.85E-05			6000	5.87E-05	0.059	1.896
2/8/03 6:00 PM	4770	95.73728	7.11E-05	7.01E-05	1.5E-06	6060	6.22E-05	0.062	2.028
		91.55546	6.90E-05			6120	6.70E-05	0.067	2.206
2/8/03 7:00 PM	4830	103.3804	7.50E-05	7.42E-05	1.1E-06				
		100.2514	7.34E-05						
2/8/03 8:00 PM	4890	105.3024	7.60E-05	7.51E-05	1.3E-06				
		101.7998	7.42E-05						
2/8/03 9:00 PM	4950	123.3491	8.51E-05	8.35E-05	2.3E-06				
		116.9677	8.18E-05						
2/9/03 11:30 AM	5820	102.7908	7.47E-05	7.47E-05	0.0E+00				
		102.7908	7.47E-05						
2/9/03 1:00 PM	5910	84.12411	6.53E-05	6.49E-05	5.2E-07				
		82.65978	6.45E-05						
2/9/03 2:30 PM	6000	73.62589	5.99E-05	5.87E-05	1.7E-06				
		68.7834	5.75E-05						
2/9/03 3:30 PM	6060	68.91084	5.76E-05	6.22E-05	6.6E-06				
		87.24937	6.68E-05						
2/9/03 4:30 PM	6120	87.24937	6.68E-05	6.70E-05	2.4E-07				
		87.91905	6.72E-05						

Appearance of DMH Continuous System 3



**Continuous System 3:
Chemiluminescence Data**

Elapsed Time (Min)	Conc. (mM)	grams BCDMH
0	0.127	
210	0.095	6.8287
450	0.073	6.6991
510	0.772	3.0367
1410	0.106	5.5190
3240	0.053	5.2833
3300	0.061	4.9814
3360	0.061	4.9586
4770	0.056	4.3102
4830	0.061	4.0635
4890	0.069	3.6000
4950	0.094	2.3207
5820	0.075	2.5938
5910	0.047	4.2124
6000	0.052	3.8755
6060	0.062	3.2296
6120	0.073	2.5040

Turner Designs: TD-20/20 Luminor

Ver. 2020-1E 1098

Delay Time: (sec)	2
Integrate Time: (sec)	4
Number of Replicates:	1
Sensitivity Level %:	1
Standard Reading:	1.76
Injection Volume #1: (ul)	50
Injection Volume #2: (ul)	50
Average Blank:	0.053
Mode:	STD

The following tables contain the continuous stream data. Each column represents a series of luminescence readings, taken every 0.2 seconds. Five series of measurements (5 columns) were taken from each sample. The first number in the columns represents the blank sample that was obtained prior to the addition of the BCDMH briquette. The instrument was programmed to collect measurements for four seconds with a two second delay. The peak maximums, usually seen around 0.6 seconds were averaged. Average peak maximums and BCDMH concentrations are seen below each sample

Continuous System 3 (pg 1 of 9)									
0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
0.275	0.206	0.097	1.396	0.288	1.089	0.273	0.477	0.531	0.246
0.302	0.261	0.152	1.396	0.343	1.048	0.341	0.436	0.572	0.314
63.78	0.48	421.8	1782	761.1	54.78	216.2	68.43	631.8	218.1
11006	10389	9417	10103	10457	9962	6728	7073	7417	7144
1655	1541	1657	1634	1557	647.7	626.3	572.8	691.9	529.8
1478	1376	1445	1481	1411	594.2	573.7	506.5	535.8	485.6
1337	1241	1304	1336	1276	543.9	525.2	460.4	489.2	443.3
1208	1118	1176	1204	1151	496.4	478.4	421.4	448.5	403.7
1093	1008	1061	1086	1035	454	436.3	385.2	411.1	367.9
990.4	909.3	958.5	980.6	933.9	415.1	398	352.4	376.8	335
898.1	821.1	866.2	885.8	843.5	380.1	363.3	322.5	345.6	305.4
814.8	741.9	783.4	800.9	761.5	348.3	331.7	295.3	316.8	278.2
740	670.9	708.8	724.4	688.6	319	302.9	270.3	290.7	253.8
672.5	606.9	642.2	655.9	622.9	292.6	276.6	247.8	266.5	231.5
611.6	549.5	581.8	593.8	563.5	268.2	252.9	226.9	244.8	211.1
556.4	498.2	527.7	538.3	510.2	245.9	231.2	207.8	224.7	192.6
506.9	451.7	479.1	488.1	462.4	226	211.4	190.7	206.5	175.8
461.9	409.9	435.1	442.7	419.2	207.3	193.4	174.7	189.6	160.6
421.1	372	395.5	402.3	380.4	190.5	176.9	160.6	174.2	146.4
384.3	337.8	359.7	365.2	345.5	175	161.9	147.3	160.3	133.7
350.7	307.3	327.2	332.1	313.8	160.8	148.3	135	147.2	122.2
320.4	279.4	298	302.1	285.1	148.1	135.6	123.9	135.6	117.6
292.8	254.3	271.5	275	259.2	136.1	124.1	119.9	124.4	108.2
267.6	231.3	247.4	250.2	235.7	125.2	119.8	110.9	120.6	99.33
245	210.8	225.6	228	214.4	121.2	110.5	102.3	111.7	91.23
224.2	192	205.9	207.6	195	112.3	101.8	94.49	103.2	83.85
205.1	175.1	187.9	189.3	177.5	103.8	93.69	87.28	95.46	77.12
187.9	159.5	171.5	172.6	161.9	96.04	86.28	80.69	88.29	70.92
172	145.6	156.7	157.3	147.2	88.89	79.54	74.57	81.73	65.26
157.6	132.7	143.4	143.7	134.4	82.28	73.33	68.98	75.68	60.11
Samp1 r0	Samp2 r0	Samp3 r0	Samp4 r0	Samp5 r0	Samp56 r0	Samp57 r0	Samp58 r0	Samp59 r0	Samp60 r0
2/5/2003 10:30					5 feb CC 2:00 pm				
Average Peak Max.			10274.4		Average Peak Max.			7664.8	
BCDMH Conc. (mM)			0.12701		BCDMH Conc. (mM)			0.09456	

Continuous System 3 (pg 2 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
0.162	0.323	0.283	0.081	0.296	0.271	0.231	0.068	0.61	2.437	
0.215	0.377	0.336	0.135	0.35	0.312	0.285	0.123	0.61	2.247	
2.929	49.76	842	0.82	6.235	266.6	727.5	511.3	2119	3.668	
6466	5891	5522	5927	5650	8075	5799	5764	5629	6076	
560.8	450.9	484.4	486.8	478	492.9	475.1	504.1	495.9	461.4	
512.4	412.8	443.2	435.7	428	449.4	432.7	435.9	452.1	420.3	
465.5	374.9	404.4	395.5	389.1	404.9	391.6	394.6	410.8	380.3	
422.9	340.3	368.2	359.1	354	366.8	354.1	357.1	372	343.6	
384.3	309.2	335.5	326.1	321.9	332.5	320.4	323.1	337.6	310.6	
349.1	280.5	305.7	296.3	292.6	301.4	289.8	292.5	306.6	280.9	
317.5	254.7	278.6	269.2	266.3	273.6	262.2	264.9	278.4	254.1	
288.8	231.3	253.9	244.8	242.4	248.4	237.6	240.1	253	229.8	
262.7	210.1	231.6	222.5	220.7	225.7	215.5	217.6	230.1	208.2	
238.8	190.8	211.5	202.4	201.1	205.2	195.2	197.4	209.2	188.4	
217.4	173.4	193	184.4	183.1	186.5	177.1	179.2	190.3	170.6	
198	157.5	176.3	168	167	169.8	160.6	162.5	173.3	154.6	
180.3	143.3	160.7	152.7	152.2	154.4	145.7	147.6	157.9	140.3	
164.5	130.4	147.1	139.3	138.8	140.6	132.5	134.1	143.8	127.1	
149.7	124.4	134.5	126.9	126.4	127.9	126.2	121.9	131.1	121.3	
136.3	114	122.9	121.7	121.3	122.6	115.4	116.8	125.3	110.9	
124.5	104.2	118.2	111.8	111.5	112.5	105.4	107	115	101.1	
119.3	95.33	108.9	102.5	102.2	103	96.29	97.79	105.4	92.24	
109.6	87.21	100.1	93.94	93.66	94.41	88	89.48	96.6	84.23	
100.4	79.85	92.01	86.26	85.94	86.52	80.47	81.9	88.59	76.92	
92.05	73.13	84.66	79.13	78.9	79.42	73.64	75	81.27	70.28	
84.44	66.98	77.92	72.7	72.44	72.88	67.4	68.71	74.6	64.24	
77.45	61.42	71.72	66.81	66.54	66.9	61.73	63	68.5	58.76	
71.08	56.3	66.09	61.41	61.14	61.44	56.59	57.77	62.94	53.73	
65.3	51.63	60.9	56.49	56.2	56.47	51.87	53	57.84	49.19	
59.98	47.39	56.13	51.96	51.68	51.91	47.59	48.67	53.15	45.04	
Samp111	Samp112	Samp113	Samp114	Samp115	Samp116	Samp117	Samp118	Samp119	Samp120	
5 Feb 03 6:00 PM					5 Feb 03 7:00 PM					
Average Peak Max.			5891.2		Average Peak Max.			6268.6		
BCDMH Conc. (mM)			0.07251		BCDMH Conc. (mM)			0.0772		

Continuous System 3 (pg 3 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
5.59	0.686	0.289	0.399	0.273	0.557	0.367	0.259	0.381	0.286	
5.097	0.741	0.317	0.454	0.327	0.584	0.408	0.286	0.435	0.313	
1707	34.93	32.15	3.742	78.11	692.4	107.6	247.7	383.7	620.8	
9429	9921	10217	6995	6225	3956	5402	4316	3722	4277	
624.3	540.7	547.1	532.2	309.5	274.8	287.6	293.3	283.6	296.3	
558.8	489.5	494.8	481	276.2	243.8	257.5	258.1	251.7	263.6	
501.8	441.3	446	433.2	247.9	216.5	230.8	230	224.1	234.4	
450.9	398.1	402.3	390	223.3	192.4	206.8	204.9	200	208.7	
406.6	359.5	363.7	352	201.6	171.3	185.9	182.9	178.3	185.9	
367	324.8	328.7	317.7	182.3	152.3	167.2	163.4	159.4	165.9	
331.4	293.9	297.5	287.1	165.2	135.8	150.4	146.1	142.8	148	
299.9	266	269.3	259.7	149.8	126.9	135.8	130.6	127.7	132.3	
271.4	240.8	244.1	234.8	135.9	114.1	122.2	122.8	120.4	124.1	
246	218.4	221.4	212.4	123.4	102.3	116.3	110.8	108.8	111.9	
223.3	197.8	200.9	192.4	118.1	91.82	105.9	99.84	98.08	100.6	
202.8	179.5	182	174.1	108.2	82.46	96.1	89.99	88.52	90.56	
184.2	162.8	165.3	157.6	98.82	74.1	87.33	81.19	79.91	81.61	
167.5	147.8	150	142.6	90.4	66.58	79.4	73.27	72.19	73.54	
152.4	134.1	136.3	129.2	82.78	59.87	72.21	66.14	65.26	66.28	
138.5	127.9	123.7	123.1	75.79	53.83	65.73	59.77	58.99	59.78	
126.1	117	118.5	112.3	69.4	48.43	59.87	54.01	53.35	53.93	
120.8	106.8	108.4	102.3	63.6	43.58	54.52	48.86	48.26	48.69	
110.9	97.5	99.04	93.22	58.29	39.23	49.72	44.15	43.69	43.95	
101.5	89.12	90.5	84.93	53.46	35.3	45.29	39.94	39.55	39.7	
93.02	81.43	82.77	77.43	49.04	31.79	41.31	36.16	35.81	35.82	
85.32	74.47	75.7	70.6	44.97	28.61	37.65	32.71	32.44	32.37	
78.28	68.12	69.26	64.43	41.28	25.75	34.34	29.63	29.35	29.23	
71.86	62.31	63.37	58.79	37.88	23.19	31.33	26.82	26.59	26.42	
66.01	57.04	58.02	53.66	34.74	20.88	28.58	24.29	24.08	23.85	
60.67	52.27	53.18	49.02	31.89	18.83	26.09	21.99	21.82	21.56	
Samp121	Samp122	Samp123	Samp124	Samp146	Samp126	Samp127	Samp128	Samp129	Samp130	
2/6/2003 10:00					2/7/2003 16:30					
Average Peak Max.			8557.4		Average Peak Max.			4334.6		
BCDMH Conc. (mM)			0.10566		BCDMH Conc. (mM)			0.05316		

Continuous System 3 (pg 4 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
2.314	0.341	0.627	0.287	0.246	1.16	1.457	0.526	0.392	0.446
2.124	0.382	0.681	0.328	0.3	1.214	1.376	0.58	0.446	0.5
1.852	0.328	0.627	151.3	0.26	1.174	1049	0.526	98.05	1075
5168	4341	5343	4971	5088	6614	4188	5065	4999	3875
301.6	279.9	259.6	242.7	266	242	247	245.6	249.9	239.9
245.3	221.9	222.4	213.7	229.7	213.9	211.5	214	218.5	201
220.1	197	198.6	189.9	205.7	190.3	187.9	190.1	193.9	178.5
197.9	176.1	177.7	169.6	184.3	169.4	167.8	169.4	172.4	158.9
178.3	157.4	159	151.4	165.5	151.1	149.5	151.1	152.7	141.7
160.7	140.8	142.4	135.4	148.7	134.7	133.6	134.9	136.3	126.3
144.9	126.1	127.7	127	133.4	126.3	125.2	126.4	121.5	118.6
130.8	119	120.5	114.6	126.2	113.8	112.9	113.9	114.8	106.8
124.1	107.5	109	103.2	114.4	102.3	101.6	102.5	103.1	95.99
113	96.83	98.43	92.97	103.4	92.15	91.49	92.27	92.71	86.36
102.6	87.34	88.88	83.8	93.64	83	82.47	83.37	83.41	77.67
93.25	78.79	80.38	75.59	84.85	74.81	74.38	74.58	75.1	69.94
84.81	71.14	72.62	68.22	76.89	67.46	67.12	67.27	67.65	63
77.13	64.23	65.71	61.58	69.7	60.88	60.57	60.69	60.96	56.78
70.21	58.04	59.49	55.62	63.24	54.95	54.69	54.81	54.96	51.17
63.91	52.42	53.84	50.22	57.42	49.63	49.42	49.51	49.57	46.13
58.21	47.37	48.77	45.34	52.11	44.82	44.66	44.74	44.7	41.64
53.03	42.84	44.17	41.01	47.31	40.46	40.36	40.4	40.32	37.51
48.33	38.7	40.03	37.02	42.98	36.57	36.47	36.51	36.39	33.83
44.05	35.01	36.26	33.46	39.04	33.05	32.98	32.99	32.83	30.53
40.17	31.68	32.86	30.22	35.46	29.85	29.84	29.85	29.65	27.52
36.62	28.63	29.8	27.31	32.22	26.98	26.98	26.98	26.75	24.84
33.38	25.91	27.02	24.65	29.28	24.35	24.42	24.38	24.14	22.41
30.43	23.45	24.52	22.27	26.6	22.02	22.07	22.05	21.8	20.23
27.76	21.19	22.22	20.14	24.18	19.89	19.94	19.93	19.69	18.24
25.34	19.19	20.15	18.21	21.99	17.99	18.07	18.03	17.77	16.46
Samp131	Samp132	Samp133	Samp134	Samp135	Samp136	Samp137	Samp138	Samp139	Samp140
2/7/2003 17:30					2/7/2003 17:30				
Average Peak Max.			4982.2		Average Peak Max.			4948.2	
BCDMH Conc. (mM)			0.06121		BCDMH Conc. (mM)			0.06079	

Continuous System 3 (pg 5 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
0.47	1.558	2.55	0.277	0.47	1.767	0.436	0.476	0.965	0.273
0.47	1.476	2.371	0.319	0.511	1.604	0.476	0.531	0.952	0.313
86.79	208.8	622.3	208.2	703	128.2	30.08	865.1	57	738.6
4468	4673	4365	4757	4642	4328	5066	5398	5196	4661
304	266.1	267.5	259.1	277.7	270.7	288.9	293	269.6	327.5
267.8	234.8	235.6	227.1	244.4	235.9	252.4	257.3	238	250.8
238.2	207.6	208.5	201.3	217.3	208.6	225.4	227.5	211.3	221.3
211.8	183.8	184.3	178.5	193.4	184.5	201.3	201.8	188.3	197.2
189	162.6	163.4	158.5	172.5	163.6	180.1	179	167.7	176.1
169	144.2	145.3	140.9	153.8	145.1	161.4	159	149.5	157.6
151.1	127.9	129	124.9	137.3	128.9	144.6	141.1	133.5	141.1
135.1	119.6	120.9	117.6	128.7	120.5	129.9	125.6	125.2	126.4
127.2	107.1	108.5	105.2	115.9	108	122.6	117.5	112.8	119.3
114.9	95.7	97.15	94.16	104.1	96.59	110.9	105.4	101.4	107.9
103.6	85.59	87.07	84.37	93.65	86.46	100.2	94.32	91.3	97.39
93.39	76.57	78.07	75.55	84.26	77.46	90.51	84.48	82.24	88.04
84.24	68.54	70.03	67.76	75.85	69.44	81.82	75.69	74.1	79.59
76.08	61.38	62.82	60.77	68.31	62.27	74.03	67.87	66.78	72.02
68.71	54.95	56.38	54.51	61.53	55.86	66.94	60.86	60.22	65.22
62.07	49.27	50.63	48.89	55.47	50.12	60.62	54.61	54.34	59.07
56.08	44.11	45.44	43.89	49.96	44.98	54.86	49	49.07	53.51
50.69	39.51	40.8	39.38	44.99	40.41	49.67	43.96	44.28	48.53
45.86	35.41	36.64	35.32	40.57	36.3	44.97	39.44	40	44.05
41.42	31.71	32.87	31.7	36.54	32.58	40.72	35.44	36.13	39.94
37.43	28.42	29.52	28.45	32.94	29.28	36.87	31.8	32.62	36.22
33.86	25.46	26.5	25.52	29.7	26.28	33.38	28.54	29.47	32.88
30.59	22.8	23.75	22.89	26.74	23.62	30.25	25.6	26.62	29.87
27.65	20.44	21.32	20.54	24.08	21.24	27.38	22.97	24.08	27.14
24.99	18.29	19.13	18.43	21.7	19.07	24.8	20.63	21.76	24.61
22.6	16.37	17.15	16.53	19.53	17.15	22.44	18.53	19.65	22.38
Samp141	Samp142	Samp143	Samp144	Samp145	Samp147	Samp148	Samp149	Samp150	Samp151
2/8/2003 18:00					2/8/2003 19:00				
Average Peak Max.				4581	Average Peak Max.				4929.8
BCDMH Conc. (mM)				0.05622	BCDMH Conc. (mM)				0.06056

Continuous System 3 (pg 6 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
0.909	0.29	0.373	0.428	0.538	0.452	0.22	0.657	0.561	0.288	
0.827	0.359	0.414	0.497	0.579	0.493	0.261	0.671	0.534	0.302	
23.79	21.83	0.387	1.844	0.552	89.4	27.22	17.85	834.5	1058	
5947	5617	5440	5629	5414	9127	9039	8687	5629	5538	
299.4	330.2	370.7	295.8	260.5	410	385.9	350.5	338.5	360.7	
267.1	240.9	247.5	234.9	229.7	359.9	340.7	309.7	287.9	303.2	
237.5	212.5	215.3	208.1	204.6	317.5	300.2	273.2	255	268.4	
211.8	189.2	191.2	186	182.1	281.5	265.7	242	227.8	238.2	
188.7	168.7	170.3	166.2	162.6	250.7	235.7	215	202.4	212	
168.4	150.5	152.2	148.6	145	224	209.8	191.5	180.9	188.8	
150.3	134.3	136.2	132.9	129.4	200.5	186.9	170.8	162.1	168.6	
134.1	126.3	128	125.1	121.5	180.1	166.7	152.5	145.4	150.6	
125.8	113.8	115.6	112.9	109.4	162	148.9	136.4	130.7	135.1	
113.1	102.4	104.2	101.8	98.32	146.2	133.1	128.1	123.6	126.8	
101.7	92.22	93.96	91.74	88.4	132	125.2	115.6	112.2	114.6	
91.34	83.08	84.84	82.86	79.52	125.4	113	104.2	101.7	103.3	
82.17	74.9	76.63	74.72	71.55	114.4	101.9	93.98	92.27	93.34	
73.92	67.55	69.3	67.51	64.42	104.3	91.91	84.84	83.81	84.31	
66.55	60.98	62.71	60.99	58	95.2	83.02	76.66	76.21	76.25	
59.89	55.07	56.77	55.15	52.22	86.99	75.02	69.27	69.32	69.02	
53.94	49.73	51.41	49.87	47.05	79.59	67.83	62.69	63.13	62.51	
48.56	44.93	46.58	45.1	42.39	72.87	61.37	56.75	57.5	56.62	
43.78	40.61	42.21	40.78	38.16	66.82	55.58	51.37	52.43	51.33	
39.42	36.71	38.32	36.9	34.4	61.35	50.35	46.53	47.82	46.51	
35.52	33.2	34.77	33.38	30.97	56.34	45.63	42.14	43.68	42.18	
32.03	30.01	31.56	30.22	27.91	51.77	41.37	38.22	39.87	38.27	
28.85	27.15	28.65	27.35	25.14	47.66	37.53	34.61	36.43	34.74	
26.01	24.55	26.03	24.76	22.64	43.87	34.06	31.41	33.26	31.53	
23.42	22.21	23.66	22.42	20.4	139.8	30.92	28.51	30.42	28.63	
21.14	20.09	21.5	20.3	18.36	13102	28.07	25.86	27.82	25.99	
Samp152	Samp153	Samp154	Samp155	Samp156	Samp157	Samp158	Samp159	Samp160	Samp161	
2/8/2003 20:00					2/8/2003 21:00					
Average Peak Max.			5609.4		Average Peak Max.			7604		
BCDMH Conc. (mM)			0.06916		BCDMH Conc. (mM)			0.09381		

Continuous System 3 (pg 7 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
0.275	0.193	0.179	0.124	0.097	0.823	0.193	0.22	0.111	0.932
0.357	0.22	0.234	0.179	0.152	0.741	0.248	0.275	0.179	0.809
249.2	210.4	61.96	13.57	0.097	831.5	503.5	588.4	180.1	1239
6817	6527	7169	4758	5249	3948	3824	3707	3770	3951
317.6	287.7	256.9	235.5	256.5	199.1	197.2	216.4	189.3	205.1
280.3	253.8	227.9	202.9	225.3	172.1	173	185.8	165	178.7
250.4	225.1	202.1	178.7	198.4	150.6	152.2	164	145.1	157.4
225.2	200.3	179.8	157.8	175.5	132.6	134	145.2	128.2	138.9
203	178.7	160.2	139.7	155.3	123.2	124.3	128.8	119.5	123.1
183.9	159.9	143	123.6	137.8	109.8	110.7	120.5	106.7	115.3
166.8	143.5	128	116.3	128.6	97.66	98.43	107.9	95.2	102.9
151.5	129.1	120.8	104.1	115.3	86.97	87.56	96.53	84.95	91.94
137.8	122.2	109.2	93.27	103.2	77.49	77.98	86.43	75.84	82.23
125.8	110.9	98.64	83.63	92.49	69.11	69.44	77.42	67.79	73.56
120.6	100.7	89.19	75.05	82.99	61.63	61.89	69.42	60.59	65.87
111	91.39	80.72	67.44	74.49	54.97	55.16	62.26	54.2	59.01
101.8	82.96	73.11	60.6	66.88	49.07	49.18	55.84	48.52	52.88
93.62	75.46	66.25	54.49	60.13	43.81	43.82	50.13	43.38	47.39
86.09	68.64	60.06	49.02	54.06	39.1	39.07	45.03	38.84	42.49
79.23	62.51	54.49	44.14	48.65	34.92	34.86	40.4	34.76	38.09
72.95	56.94	49.43	39.72	43.77	31.2	31.06	36.29	31.12	34.16
67.21	51.91	44.88	35.77	39.36	27.85	27.7	32.6	27.87	30.61
61.99	47.33	40.75	32.21	35.44	24.89	24.68	29.27	24.94	27.44
57.21	43.16	37.02	29.01	31.9	22.21	22.01	26.27	22.33	24.6
52.75	39.38	33.62	26.13	28.71	19.85	19.63	23.6	19.97	22.04
48.72	35.94	30.54	23.53	25.87	17.73	17.5	21.21	17.89	19.76
45.02	32.81	27.74	21.19	23.27	15.83	15.57	19.06	16	17.72
41.58	29.95	25.18	19.09	20.95	14.14	13.88	17.1	14.35	15.9
38.41	27.34	22.89	17.19	18.86	12.64	12.38	15.36	12.83	14.23
35.48	24.94	20.78	15.48	16.99	11.31	11.05	13.8	11.49	12.76
Samp162	Samp163	Samp164	Samp165	Samp166	Samp167	Samp168	Samp169	Samp170	Samp171
2/9/2003 11:30					2/9/2003 13:00				
Average Peak Max.			6104		Average Peak Max.			3840	
BCDMH Conc. (mM)			0.07516		BCDMH Conc. (mM)			0.04701	

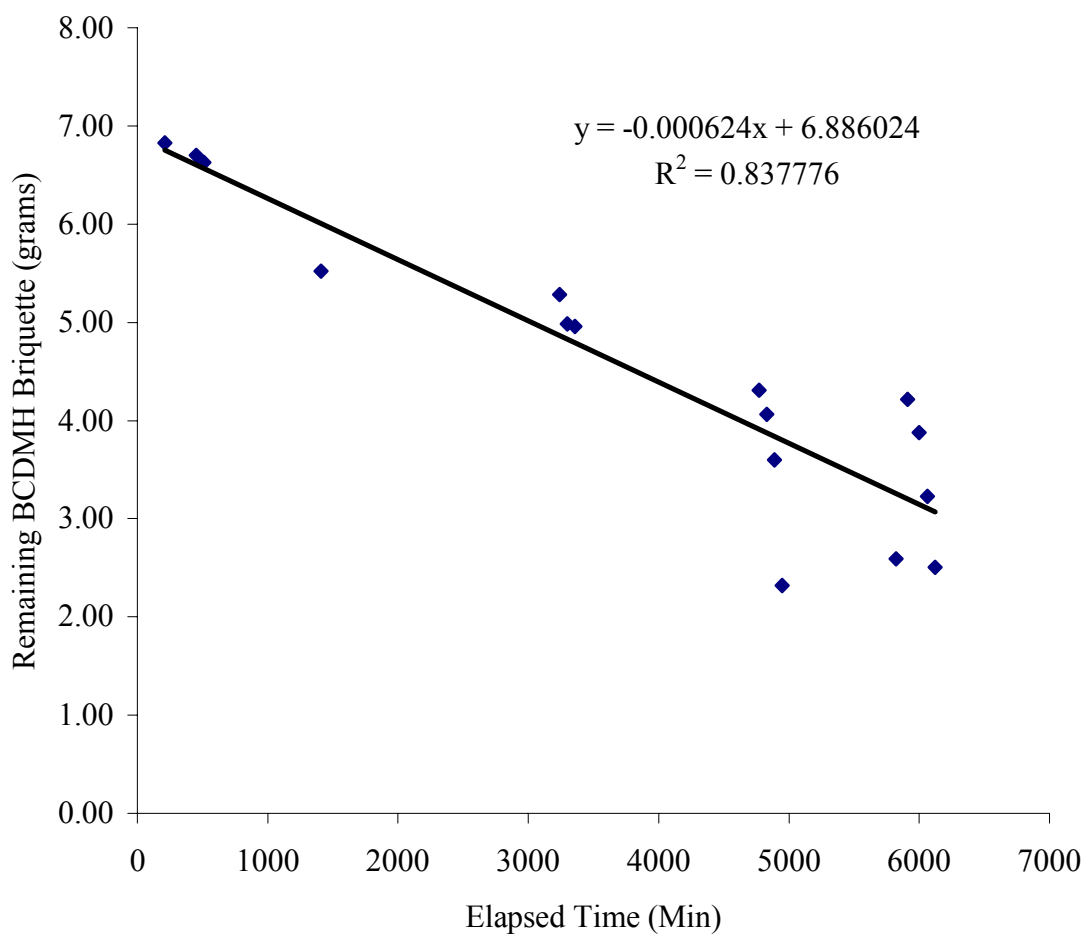
Continuous System 3 (pg 8 of 9)

0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
0.263	1.293	0.263	0.331	0.194	0.166	0.097	0.029	0.152	0.18
0.318	1.169	0.318	0.386	0.249	0.221	0.125	0.111	0.207	0.234
0.263	25.21	0.249	0.386	0.194	204.2	2.084	0.906	0.262	0.276
4432	4354	4548	3876	3933	5776	6027	4745	4173	4442
198.6	198.1	181.7	260	184.1	190.2	168.9	185.8	188.1	173.4
172.2	170.2	159.2	164.4	157.1	166.5	147.3	161.6	149.3	148.4
151.1	148.9	140.1	142.6	137.9	148	129.9	143.1	131.8	131.8
133.3	130.9	123.5	125.4	127.7	132.2	121.2	127.5	123.5	123.7
123.7	121.3	115.3	117.1	113.7	124.8	108.7	120.1	110.9	111.6
110.2	108	102.5	104.1	101.1	113	97.34	108.5	99.72	100.5
98.03	95.9	91.11	92.7	89.96	102.3	87.44	97.74	89.69	90.62
87.27	85.27	81.06	82.57	80.07	92.6	78.64	88.14	80.7	81.8
77.73	75.88	72.16	73.65	71.35	83.94	70.76	79.55	72.66	73.88
69.26	67.55	64.26	65.69	63.63	76.12	63.73	71.8	65.43	66.77
61.75	60.14	57.27	58.66	56.73	69.09	57.42	64.87	58.94	60.37
55.06	53.6	51.01	52.38	50.6	62.76	51.77	58.59	53.15	54.59
49.08	47.74	45.43	46.79	45.16	57.03	46.69	52.93	47.93	49.34
43.8	42.55	40.46	41.79	40.29	51.85	42.08	47.84	43.2	44.64
39.08	37.9	36.05	37.37	35.98	47.15	37.94	43.22	38.95	40.41
34.82	33.79	32.13	33.4	32.12	42.9	34.23	39.09	35.12	36.53
31.06	30.11	28.6	29.85	28.64	39.01	30.9	35.33	31.65	33.06
27.71	26.82	25.47	26.68	25.55	35.5	27.89	31.96	28.54	29.9
24.7	23.9	22.7	23.85	22.82	32.33	25.16	28.89	25.76	27.05
22.04	21.29	20.21	21.32	20.37	29.46	22.69	26.1	23.21	24.47
19.62	18.97	17.97	19.04	18.17	26.8	20.5	23.61	20.94	22.14
17.5	16.91	15.99	17.02	16.22	24.39	18.5	21.35	18.88	20.02
15.59	15.07	14.22	15.21	14.47	22.24	16.7	19.31	17.02	18.09
13.89	13.4	12.65	13.6	12.9	20.24	15.09	17.42	15.31	16.36
12.36	11.94	11.24	12.17	11.53	18.45	13.62	15.77	13.84	14.8
11	10.62	9.975	10.87	10.32	16.8	12.29	14.27	12.46	13.37
Samp172	Samp173	Samp174	Samp175	Samp176	Samp177	Samp178	Samp179	Samp180	Samp181
2/9/2003 14:30					2/9/2003 15:30				
Average Peak Max.			4228.6		Average Peak Max.			5032.6	
BCDMH Conc. (mM)			0.05184		BCDMH Conc. (mM)			0.06184	

Continuous System 3 (pg 9 of 9)

0.053	0.053	0.053	0.053	0.053
0.842	0.291	1.063	0.525	0.236
0.815	0.346	0.966	0.498	0.305
877.7	562.7	541.8	1354	0.484
6372	6314	6340	5584	5012
267.2	241.6	246.8	222.8	220.8
235.9	214.2	218.6	194.4	191.9
210.7	190.3	195	172.7	170.8
188.8	170	174.5	153.5	151.9
169.5	152.2	156.3	137	135.7
152.8	136.5	140.4	128.5	127.4
137.9	128.8	125.8	115.8	114.9
124.4	116.7	119.4	104.1	103.4
118.8	105.5	108.2	93.75	93.18
108.5	95.49	98	84.43	84.01
98.83	86.56	88.82	76.13	75.8
90.14	78.47	80.5	68.7	68.46
82.3	71.2	73.02	61.98	61.84
75.24	64.6	66.28	55.96	55.82
68.83	58.66	60.19	50.53	50.46
63	53.31	54.68	45.67	45.6
57.71	48.44	49.69	41.28	41.21
52.87	44.03	45.14	37.33	37.29
48.49	40.04	41.04	33.72	33.69
44.48	36.39	37.29	30.51	30.47
40.79	33.07	33.91	27.59	27.55
37.48	30.08	30.84	24.96	24.9
34.41	27.37	28.04	22.56	22.53
31.6	24.89	25.49	20.41	20.37
29.03	22.65	23.21	18.47	18.41
26.68	20.62	21.1	16.73	16.65
Samp182	Samp183	Samp184	Samp185	Samp186
2/9/2003 16:30				
Average Peak Max.			5924.4	
BCDMH Conc. (mM)			0.07292	

Continuous System 3: Decomposition of 7.03 gram BCDMH Briquette



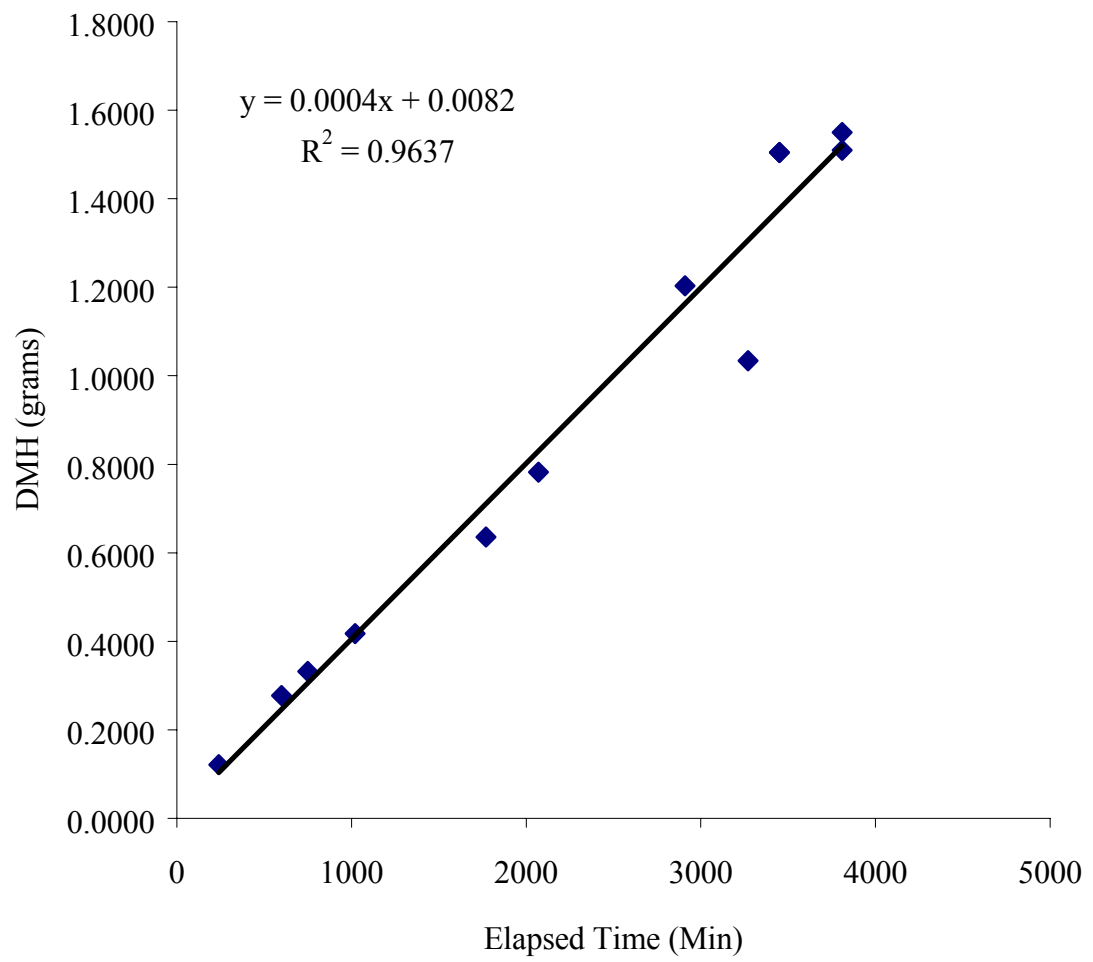
APPENDIX D

Continuous System 4: Synthetic Bangladesh Groundwater Contaminated with Fe (II) and As (III)

HPLC Data Compilation.....	108
Appearance of DMH Graph.....	109
Chemiluminescence Data Compilation.....	110
Disappearance of BCDMH Graph.....	117

Continuous System 4: HPLC Data									
Time	Elapsed Time	Peak Area	Conc. (M)	Avg. Conc. (M)	S	Summary			
						Conc. (M)	Conc. (M)	Conc. (M)	grams appear
4/1/03 6:30 PM	60	198.94981	1.37E-04	1.37E-04	1.8E-07	0.00E+00	0.000	0	0
4/1/03 9:30 PM	240	130.14191	9.36E-05	9.36E-05	1.2E-07	9.36E-05	0.094	0.1209	0.1209
4/2/03 3:30 AM	600	129.86508	9.34E-05	9.34E-05	1.2E-06	8.38E-05	0.086	0.2772	0.2772
4/2/03 6:00 AM	750	119.15475	8.67E-05	8.58E-05	1.2E-06	8.23E-05	0.082	0.3320	0.3320
4/2/03 10:30 AM	1020	116.56157	8.50E-05	8.23E-05	4.3E-06	7.60E-05	0.076	0.4171	0.4171
4/2/03 10:00 PM	1770	116.95299	8.53E-05	8.23E-05	5.6E-07	6.67E-05	0.067	0.6355	0.6355
4/3/03 3:00 AM	2070	107.42718	7.93E-05	7.60E-05	5.6E-07	7.02E-05	0.070	0.7822	0.7822
4/3/03 5:00 PM	2910	102.87354	7.64E-05	7.60E-05	1.8E-06	7.60E-05	0.077	1.2029	1.2029
4/3/03 11:00 PM	3270	101.60889	7.56E-05	6.67E-05	1.8E-06	5.88E-05	0.059	1.0339	1.0339
4/4/03 2:00 AM	3450	89.59432	6.80E-05	6.67E-05	4.5E-06	8.10E-05	0.081	1.5042	1.5042
4/4/03 8:00 AM	3810	85.50163	6.54E-05	7.02E-05	7.56E-05	8.10E-05	0.081	1.5095	1.5095
4/4/03 12:00 PM	4050	98.17405	7.34E-05	7.02E-05	1.9E-06	7.36E-05	0.074	1.5497	1.5497
4/5/03 3:00 AM	2910	88.0267	6.70E-05	7.68E-05	3.7E-06	6.70E-05	0.076	1.5497	1.5497
4/5/03 11:00 PM	3270	107.65509	7.94E-05	5.88E-05	2.6E-06	7.42E-05	0.075	1.5497	1.5497
4/4/03 2:00 AM	3450	99.44893	7.42E-05	8.28E-05	2.5E-06	6.06E-05	0.065	1.5497	1.5497
4/4/03 8:00 AM	3810	77.88215	6.06E-05	7.93E-05	2.5E-06	5.69E-05	0.055	1.5497	1.5497
4/4/03 12:00 PM	4050	71.95944	5.69E-05	7.54E-05	1.9E-06	8.10E-05	0.081	1.5497	1.5497
		112.98158	8.28E-05	7.36E-05	1.9E-06	7.18E-05	0.075	1.5497	1.5497
		107.44917	7.93E-05	7.70E-05	1.9E-06	7.70E-05	0.074	1.5497	1.5497
		101.34518	7.54E-05	7.42E-05	1.9E-06	7.42E-05	0.074	1.5497	1.5497
		95.64563	7.18E-05	7.42E-05	1.9E-06	7.42E-05	0.074	1.5497	1.5497
		103.77876	7.70E-05	7.42E-05	1.9E-06	7.42E-05	0.074	1.5497	1.5497
		99.4147	7.42E-05	7.42E-05	1.9E-06	7.42E-05	0.074	1.5497	1.5497

Appearance of DMH in Continuous System 4



Continuous System 4: Chemiluminescence Data		
Elapsed Time (Min)	Conc. (mM)	grams BCDMH
60	6.12E-03	5.043
240	-3.19E-04	5.048
630	-6.32E-04	5.049
750	3.56E-04	5.045
900	2.17E-03	5.007
1860	-7.14E-04	5.049
2160	2.28E-03	4.942
3000	6.58E-03	4.690
3360	5.57E-03	4.702
3600	8.28E-03	5.019

Turner Designs: TD-20/20 Luminometer	
Ver. 2020-1E 1098	
Delay Time: (sec)	2
Integrate Time: (sec)	4
Number of Replicates:	1
Sensitivity Level %:	1
Standard Reading:	0.274
Injection Volume #1: (ul)	50
Injection Volume #2: (ul)	50
Average Blank:	0.324
Mode:	STD

The following tables contain the continuous stream data. Each column represents a series of luminescence readings, taken every 0.2 seconds. Five series of measurements (5 columns) were taken from each sample. The first number in the columns represents the blank sample that was obtained prior to the addition of the BCDMH briquette. The instrument was programmed to collect measurements for four seconds with a two second delay. The peak maximums, usually seen around 0.6 seconds were averaged. Average peak maximums and BCDMH concentrations are seen below each sample

Continuous System 4 (pg 1 of 6)									
0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324
0.599	0.268	0.103	0.006	0.13	0.508	0.167	0	0	1.504
0.668	0.323	0.172	0.048	0.185	0.549	0.208	0	0.03	1.531
81.52	208.4	191.5	151.9	178.9	1.79	5.092	3.332	3.209	3.182
515.4	574.8	581.7	540.7	545.3	44.93	38.9	31.82	30.42	22.02
324.8	387.4	385.1	348	361.7	27.09	22.54	16.38	15.9	10.21
302.4	366.8	362.9	328.5	340.6	23.66	19.69	13.93	13.66	8.667
279.5	339.2	335.4	304.5	314.7	20.86	17.32	11.98	11.91	7.507
256.9	311.2	307.3	280.1	288.9	18.4	15.26	10.41	10.45	6.552
235.4	284.5	280.9	256.6	264.3	16.29	13.52	9.076	9.199	5.747
215.9	260	256.6	234.9	241.5	14.44	11.93	7.93	8.121	5.038
197.4	237.4	234.3	214.8	220.6	12.83	10.58	6.948	7.18	4.451
180.9	216.7	213.9	196.1	201.3	11.37	9.376	6.088	6.388	3.905
165.2	198	195.2	179.2	183.9	10.11	8.353	5.351	5.665	3.469
151.2	180.6	178.1	163.8	167.7	8.994	7.439	4.724	5.038	3.073
138.2	164.9	162.7	149.5	153.1	8.039	6.607	4.164	4.506	2.705
126.4	150.6	148.4	136.6	139.9	7.193	5.897	3.687	4.001	2.404
121.8	137.4	135.5	124.4	127.5	6.402	5.27	3.278	3.591	2.145
112.1	125.3	123.6	119.8	122.6	5.72	4.71	2.923	3.209	1.9
103	120.6	118.9	110.2	112.6	5.133	4.233	2.609	2.855	1.709
94.6	110.7	109.2	101	103.2	4.601	3.796	2.323	2.582	1.518
86.94	101.6	100.1	92.67	94.67	4.11	3.414	2.091	2.323	1.354
79.87	93.07	91.76	85.01	86.84	3.701	3.073	1.859	2.118	1.245
73.45	85.36	84.16	77.97	79.58	3.319	2.773	1.695	1.9	1.108
67.51	78.29	77.17	71.57	73.03	3.005	2.5	1.545	1.709	0.999
62.09	71.79	70.79	65.69	66.98	2.705	2.254	1.395	1.558	0.917
57.1	65.91	64.9	60.33	61.47	2.459	2.05	1.272	1.422	0.849
52.53	60.42	59.54	55.35	56.41	2.213	1.859	1.163	1.326	0.753
48.32	55.49	54.66	50.85	51.77	2.009	1.709	1.095	1.204	0.699
44.47	50.92	50.16	46.71	47.54	1.818	1.545	0.999	1.135	0.644
40.94	46.74	46.04	42.89	43.65	1.695	1.436	0.917	1.04	0.617
Samp9 r0	Samp10 r	Samp11 r	Samp12 r	Samp13 r	Samp14 r	Samp15 r	Samp16 r	Samp17 r	Samp18 r
4/1/2003 18:30					4/1/2003 21:30				
Average Peak Max			551.58		Average Peak Max			33.618	
BCDMH Conc. (mM)			0.00612		BCDMH Conc. (mM)			-0.0003189	

Continuous System 4 (pg 2 of 6)

0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324
0.29	0.235	0.208	0.208	0.235	0	0.031	0.059	1.537	0.401	
0.331	0.262	0.29	0.249	0.29	0.004	0.072	0.1	1.578	0.442	
1.846	1.395	1.3	1.873	2.323	5.628	2.057	1.126	2.344	0.921	
8.915	9.734	8.547	7.851	7.059	37.24	33.42	31.07	28.62	22.82	
2.064	2.187	1.641	1.286	0.986	19.09	16.69	14.89	13.03	9.912	
1.559	1.709	1.286	1.013	0.754	16.86	14.69	13.09	11.27	8.598	
1.3	1.45	1.109	0.849	0.645	15.06	13.03	11.55	9.816	7.517	
1.109	1.272	0.986	0.781	0.576	13.36	11.57	10.21	8.612	6.614	
0.972	1.122	0.849	0.686	0.522	11.88	10.25	9.022	7.572	5.806	
0.89	0.986	0.781	0.631	0.481	10.58	9.118	8.023	6.682	5.122	
0.795	0.89	0.726	0.59	0.467	9.419	8.119	7.12	5.916	4.547	
0.713	0.795	0.672	0.549	0.426	8.406	7.216	6.313	5.245	4.014	
0.658	0.74	0.631	0.522	0.413	7.503	6.463	5.628	4.671	3.548	
0.604	0.699	0.59	0.467	0.399	6.723	5.752	5.026	4.15	3.151	
0.576	0.645	0.535	0.453	0.372	6.012	5.149	4.506	3.699	2.796	
0.522	0.604	0.508	0.426	0.358	5.382	4.588	4.014	3.316	2.508	
0.481	0.576	0.481	0.413	0.331	4.821	4.137	3.603	2.974	2.221	
0.467	0.535	0.467	0.399	0.331	4.342	3.699	3.234	2.686	1.988	
0.44	0.494	0.426	0.372	0.331	3.904	3.343	2.919	2.426	1.783	
0.413	0.481	0.426	0.385	0.317	3.521	3.015	2.645	2.207	1.605	
0.413	0.453	0.413	0.358	0.303	3.22	2.741	2.385	1.988	1.441	
0.385	0.44	0.399	0.331	0.276	2.878	2.481	2.153	1.824	1.29	
0.358	0.399	0.372	0.331	0.262	2.604	2.262	1.947	1.701	1.167	
0.358	0.399	0.358	0.331	0.276	2.385	2.057	1.783	1.55	1.085	
0.344	0.385	0.344	0.303	0.276	2.18	1.879	1.66	1.468	1.003	
0.317	0.385	0.344	0.317	0.249	2.002	1.728	1.523	1.345	0.921	
0.303	0.358	0.317	0.303	0.262	1.838	1.591	1.386	1.277	0.852	
0.317	0.317	0.317	0.303	0.262	1.687	1.468	1.29	1.195	0.743	
0.303	0.344	0.317	0.29	0.249	1.55	1.359	1.195	1.085	0.729	
0.29	0.317	0.29	0.29	0.235	1.468	1.277	1.126	1.044	0.661	
Samp19 r	Samp20 r	Samp21 r	Samp22 r	Samp23 r	Samp25 r	Samp26 r	Samp27 r	Samp28 r	Samp29 r	
4/2/2003 3:30					4/2/2003 6:00					
Average Peak Max			8.4212		Average Peak Max			30.634		
BCDMH Conc. (mM)			-0.0006322		BCDMH Conc. (mM)			-0.00035605		

Continuous System 4 (pg 3 of 6)

0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324
0	0.031	0.154	0.277	0.126	0.029	0.098	0	0	0
0.017	0.058	0.222	0.331	0.181	0.084	0.138	0.029	0	0
59.73	55.88	37.93	49.02	59.13	0.098	0.179	0.057	0.002	0
277.8	235.8	256.2	202.1	198	1.84	2.425	1.595	1.704	1.677
156.6	134.5	150.9	126.3	119.5	1.132	1.581	0.996	1.064	1.064
143	122.6	139.5	116.1	109	0.819	1.159	0.71	0.792	0.805
130.2	117.6	127.7	106.2	98.92	0.642	0.914	0.56	0.615	0.642
124.7	107.7	121.9	97.15	89.72	0.506	0.764	0.465	0.52	0.547
114.4	98.53	111.1	88.98	81.46	0.424	0.656	0.37	0.438	0.451
104.7	90.21	100.8	81.54	74.06	0.37	0.56	0.315	0.397	0.424
95.87	82.7	91.29	74.77	67.38	0.302	0.506	0.261	0.315	0.343
87.82	75.81	82.67	68.56	61.33	0.288	0.438	0.234	0.288	0.315
80.4	69.51	74.86	62.92	55.85	0.234	0.397	0.179	0.247	0.275
73.68	63.78	67.73	57.81	50.85	0.206	0.383	0.179	0.22	0.247
67.49	58.54	61.32	53.05	46.36	0.193	0.329	0.152	0.193	0.234
61.81	53.71	55.47	48.74	42.2	0.179	0.315	0.138	0.166	0.206
56.63	49.31	50.2	44.75	38.48	0.152	0.288	0.125	0.166	0.179
51.89	45.25	45.42	41.1	35.07	0.125	0.247	0.098	0.138	0.166
47.52	41.55	41.11	37.75	31.92	0.111	0.234	0.098	0.125	0.152
43.52	38.13	37.22	34.68	29.12	0.098	0.234	0.043	0.111	0.138
39.88	35.01	33.67	31.85	26.53	0.098	0.22	0.043	0.098	0.138
36.52	32.14	30.5	29.25	24.16	0.084	0.206	0.057	0.057	0.125
33.45	29.5	27.59	26.86	22.01	0.057	0.206	0.043	0.057	0.111
30.63	27.05	24.98	24.68	20.03	0.043	0.193	0.016	0.057	0.111
28.06	24.85	22.61	22.65	18.26	0.057	0.179	0.002	0.043	0.084
25.73	22.81	20.48	20.8	16.6	0.043	0.166	0.016	0.016	0.057
23.56	20.92	18.53	19.12	15.11	0.029	0.152	0.016	0.029	0.057
21.56	19.18	16.81	17.55	13.77	0.029	0.152	0.002	0.043	0.057
19.74	17.59	15.2	16.1	12.53	0.016	0.125	-0.011	0.016	0.057
18.09	16.14	13.77	14.8	11.38	0.002	0.152	-0.011	0.002	0.043
Samp31 r	Samp32 r	Samp33 r	Samp34 r	Samp35 r	Samp36 r	Samp37 r	Samp38 r	Samp39 r	Samp40 r
4/2/2003 10:30					4/2/2003 10:30				
Average Peak Max			233.98		Average Peak Max			1.8482	
BCDMH Conc. (mM)			0.00217		BCDMH Conc. (mM)			-0.0007140	

Continuous System 4 (pg 4 of 6)

0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324
0.616	0.098	0.97	0	0	0	0	0	0	0
0.657	0.139	0.929	0.03	0	0	0.321	0	0	0
58.35	66.28	67.48	81.46	46.46	220.3	296.3	216.4	322.4	290.6
271.1	266.3	232.2	217.2	228.1	612.9	579.8	637.3	554	556.5
155.4	154.9	136.1	132.6	134.7	298.6	266	313.5	280.8	281.4
143	141.6	125	127.9	125.3	283.2	247	296.6	263.1	267.3
130.9	129.3	120.2	117.5	121.4	263.4	228.3	275.7	244.2	249.9
125.6	124.2	110.6	108.1	112	242.8	210.8	253.8	225	231.3
115.6	114.2	101.7	99.34	103	223.1	194	233	206.9	213.2
106.2	104.8	93.54	91.26	94.53	204.7	178.4	213.5	189.9	196.2
97.56	96.04	86.15	83.91	86.71	187.7	164.1	195.9	174.2	180.3
89.6	88.14	79.32	77.15	79.53	172	150.6	179.7	159.7	165.7
82.35	80.85	73.09	70.99	72.93	157.8	138.3	164.6	146.3	152
75.67	74.21	67.37	65.27	66.88	144.6	127	150.9	134.2	139.7
69.55	68.12	62.1	60.08	61.32	132.5	122.9	138.6	129.1	128.1
63.93	62.54	57.23	55.27	56.25	127.8	113.6	127	118.8	123.8
58.81	57.41	52.75	50.84	51.59	117.6	104.8	122.6	109.6	114.3
54.04	52.72	48.66	46.8	47.28	108.6	96.65	113.2	100.9	105.4
49.71	48.37	44.84	43.06	43.38	99.94	89.13	104.2	92.84	97.21
45.71	44.42	41.34	39.62	39.77	92.06	82.23	95.96	85.48	89.63
42.06	40.83	38.09	36.46	36.49	84.78	75.83	88.32	78.68	82.62
38.68	37.45	35.11	33.54	33.47	78.08	69.96	81.33	72.43	76.17
35.59	34.42	32.41	30.86	30.69	71.88	64.55	74.92	66.68	70.25
32.73	31.62	29.86	28.4	28.19	66.2	59.55	68.95	61.39	64.74
30.12	29.03	27.53	26.14	25.83	60.95	54.91	63.49	56.53	59.7
27.7	26.66	25.37	24.03	23.69	56.13	50.67	58.45	52.03	55.02
25.49	24.51	23.36	22.09	21.75	51.66	46.74	53.81	47.91	50.76
23.44	22.49	21.52	20.34	19.96	47.62	43.1	49.53	44.09	46.75
21.56	20.65	19.83	18.71	18.32	43.75	39.75	45.57	40.55	43.09
19.83	18.99	18.29	17.2	16.75	40.3	36.65	41.93	37.32	39.72
Samp41 r	Samp42 r	Samp43 r	Samp44 r	Samp45 r	Samp46 r	Samp47 r	Samp48 r	Samp49 r	Samp50 r
4/3/2003 3:00					4/3/2003 17:00				
Average Peak Max			242.98		Average Peak Max			588.1	
BCDMH Conc. (mM)			0.00228		BCDMH Conc. (mM)			0.00658	

Continuous System 4 (pg 5 of 6)

0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324
0	0	0.015	0	0	0.002	0.124	0	0	0	0
0	0	0.029	0	0.002	0.07	0.165	0	0	0	0
22.06	104.3	158.1	106.9	139.6	157.2	382.4	348.7	332.9	180.6	180.6
545.9	571.4	463	513.3	440.7	649.6	724.5	731.4	766	754.7	754.7
238.9	256	205.3	238.6	199.3	278.6	301.9	304.3	341.1	331.8	331.8
225.5	242.1	188.9	227.7	185.6	261.1	284.5	286.4	324.2	313.6	313.6
210.8	226	174.5	214.1	172	243.2	266.8	267.6	302.4	292.1	292.1
195.7	209.2	160.9	198.9	159.3	224.7	248.6	248.6	279.9	270.1	270.1
180.7	193.2	148.4	184.3	147.3	207.1	231	230.4	258.2	249.2	249.2
166.9	178	137	170.2	136.5	191	214.4	213.3	238.3	229.6	229.6
154.1	163.9	126.7	157.4	126.2	175.8	198.6	197.3	219.9	211.7	211.7
142.2	151.2	122.9	145.2	122.6	161.7	184	182.3	202.7	195.1	195.1
131.1	139.2	114.3	134.1	114.1	148.6	170.4	168.7	187.2	179.9	179.9
126.7	128.1	106	123.7	105.8	136.7	157.9	156	172.8	166	166
117.2	124.2	98.25	120.2	98.29	125.8	146.2	144.3	159.5	153	153
108.7	115.1	91.13	111.7	91.22	121.7	135.3	133.1	147.3	141	141
100.7	106.5	84.55	103.5	84.71	112.7	125.3	123.4	135.9	130.2	130.2
93.24	98.59	78.42	95.97	78.58	104.1	121.9	120	125.5	126	126
86.29	91.31	72.76	88.97	72.95	96.1	113.5	111.7	121.7	116.6	116.6
79.86	84.52	67.49	82.48	67.75	88.75	105.5	103.6	113	108.2	108.2
73.97	78.22	62.63	76.49	62.9	82.02	98.04	96.24	104.7	100.1	100.1
68.47	72.38	58.12	70.87	58.38	75.74	91.12	89.32	96.95	92.68	92.68
63.41	67.04	53.91	65.74	54.19	69.97	84.67	82.94	89.81	85.81	85.81
58.67	62.04	50.02	60.93	50.28	64.64	78.67	76.96	83.16	79.4	79.4
54.34	57.42	46.4	56.5	46.68	59.74	73.1	71.45	77.04	73.49	73.49
50.29	53.15	43.01	52.36	43.34	55.16	67.93	66.37	71.32	68.02	68.02
46.53	49.17	39.9	48.54	40.2	50.96	63.12	61.58	66.07	62.96	62.96
43.08	45.5	37	44.98	37.3	47.07	58.66	57.16	61.18	58.24	58.24
39.86	42.09	34.31	41.67	34.59	43.49	54.51	53.07	56.64	53.86	53.86
36.89	38.93	31.8	38.61	32.07	40.15	50.65	49.23	52.43	49.85	49.85
Samp51 r	Samp52 r	Samp53 r	Samp54 r	Samp55 r	Samp59 r	Samp60 r	Samp61 r	Samp62 r	Samp63 r	
4/4/2003 3:00					4/4/2003 8:00					
Average Peak Max			506.86		Average Peak Max			725.24		
BCDMH Conc. (mM)			0.00557		BCDMH Conc. (mM)			0.00828		

Continuous System 4 (pg 6 of 6)

0.324	0.324	0.324	0.324	0.324
0	0	0	0	0
0	0	0	0	0
4.211	0.208	0.058	0.099	0
45.48	43.61	39.55	34.07	32.37
15.85	15.91	14.02	11.74	9.937
13.49	13.56	11.77	9.773	8.256
11.58	11.63	9.99	8.215	6.903
9.936	9.977	8.487	6.958	5.824
8.528	8.569	7.231	5.906	4.922
7.299	7.367	6.192	5.004	4.157
6.274	6.356	5.277	4.266	3.501
5.373	5.455	4.512	3.624	2.982
4.607	4.676	3.87	3.078	2.504
3.911	4.006	3.296	2.613	2.135
3.351	3.446	2.79	2.217	1.807
2.872	2.941	2.394	1.889	1.52
2.476	2.545	2.025	1.602	1.274
2.107	2.176	1.725	1.342	1.083
1.793	1.848	1.465	1.124	0.919
1.547	1.588	1.26	0.946	0.782
1.301	1.356	1.069	0.837	0.673
1.096	1.151	0.891	0.673	0.577
0.932	1.001	0.782	0.605	0.468
0.796	0.85	0.659	0.482	0.413
0.687	0.741	0.564	0.427	0.345
0.577	0.646	0.495	0.359	0.318
0.495	0.536	0.427	0.304	0.277
0.427	0.482	0.359	0.29	0.249
0.386	0.413	0.318	0.236	0.208
0.304	0.345	0.263	0.195	0.181

Samp74 r t Samp75 r t Samp76 r t Samp77 r t Samp78 r t

4/4/03 12:00

Average Peak Max 39.016
BCDMH Conc. (mM) 0.00084

Continuous System 4: Decomposition of 5.05 grams BCDMH
Briquette

