

Appendix VI. Fluorescent Whitening Agents, Alternative Microbial Indicators, Microbial Source Tracking, Fecal Coliform, and Field Parameters at "Hot Spots" April 2006

Sample Site	Date	Days with no rain prior to sampling	Rainfall for last 5 days (inches)	Fecal Coliform (CFU/100 mL)	<i>Enterococcus</i> spp. (CFU/100 mL)	<i>Escherichia coli</i> (CFU/100 mL)	<i>Clostridium perfringens</i> (CFU/100 mL)	FWA	MST	ABC Fecal Coliform (CFU/100 mL)	Water Temp (°C)	pH (S.U.)	Spec Cond (µmhos/cm)	DO (mg/L)	Turbidity (NTU)	Flow (cms)
LFCNE3AVE	4/25/2006	2	0.7	4,800	3,300	5,100	31	NM	NM	NM	21.77	7.36	203	7.57	2.36	0.0015
	5/2/2006	4	0.35	3,700	1,300	1,200	111	ND	Negative	NM	17.52	7.30	269	8.43	2.29	0.0013
	5/9/2006	0	0.06	43,000	17,000	5,200	96	NM	Negative	84,000	22.77	7.24	287	6.80	5.59	0.0042
LFCNE5AVE	4/25/2006	2	0.7	2,100	900	1,400	43	NM	NM	NM	22.31	7.45	270	7.18	3.14	0.0009
	5/2/2006	4	0.35	2,500	1,200	1,900	76	ND	NM	NM	17.28	7.46	295	8.50	3.10	0.0003
	5/9/2006	0	0.06	19,000	22,000	6,800	200	NM	NM	>34000	23.45	7.27	251	5.51	6.26	0.0008
LFCNE25	4/25/2006	2	0.7	8,400	6,800	6,800	8	NM	NM	NM	21.56	7.31	178	6.85	2.32	0.0019
	5/2/2006	4	0.35	2,600	3,200	1,800	24	ND	NM	NM	17.31	7.22	290	7.59	2.42	0.0017
	5/9/2006	0	0.06	62,000	24,000	5,900	176	NM	NM	128,000	22.55	7.18	251	5.79	8.58	0.0030
LHATWALDO	4/25/2006	2	0.7	710	480	310	43	NM	NM	NM	21.57	7.54	194	7.65	5.33	0.0157
	5/2/2006	4	0.35	800	2,500	1,600	12	Weak Positive/Moderate Positive	NM	NM	17.40	7.65	251	8.46	5.31	0.0129
	5/9/2006	0	0.06	400	1,800	800	98	NM	NM	790	22.22	7.41	271	7.35	8.84	0.0308
SWBNE10	4/25/2006	2	0.7	800	460	290	10	NM	NM	NM	24.82	6.92	315	0.91	2.57	0.0003
	5/2/2006	4	0.35	5,600	550	2,300	62	Weak Positive	Positive ( <i>esp</i> gene, <i>Bacteroides</i> spp., polyomavirus)	NM	22.49	7.11	364	0.77	3.11	0.0001
	5/9/2006	0	0.06	76,000	11,000	36,000	186	NM	Positive ( <i>esp</i> gene)	140,000	26.58	7.15	224	1.00	16.20	0.0005
ROSEUNIV	4/25/2006	2	0.7	2,300	3,600	950	40	NM	NM	NM	23.88	7.15	283	6.20	2.11	0.0016
	5/2/2006	4	0.35	1,100	1,300	590	76	ND	NM	NM	18.08	7.16	288	6.63	2.17	0.0014
	5/9/2006	0	0.06	45,000	23,000	17,000	215	NM	NM	51,000	26.09	7.17	233	3.61	16.20	0.0010
ROSESE7	4/25/2006	2	0.7	2,500	2,300	600	5	NM	NM	NM	22.47	7.79	342	7.23	1.14	0.0039
	5/2/2006	4	0.35	1,100	1,500	1,100	210	ND	NM	NM	18.44	7.88	329	7.88	0.79	0.0037
	5/9/2006	0	0.06	43,000	16,000	18,000	221	NM	NM	132,000	23.61	7.51	2.63	5.23	8.40	0.0041
ROSESE9	4/25/2006	2	0.7	1,100	1,700	570	18	NM	NM	NM	22.25	7.76	364	7.26	1.14	0.0061
	5/2/2006	4	0.35	1,200	1,200	970	11	ND	NM	NM	18.62	7.85	363	8.15	0.85	0.0055
	5/9/2006	0	0.06	37,000	21,000	20,000	157	NM	NM	80,000	23.75	7.50	266	5.46	10.30	0.0075
SWB331	5/2/2006	4	0.35	330	NM	NM	NM	Strong Positive	NM	NM	21.89	7.41	670	7.85	1.53	0.2865
	5/9/2006	0	0.06	NM	NM	NM	NM	NM	NM	NM	25.47	6.99	823	7.91	1.65	NM
HOGNW53	5/3/2006	5	0	NM	NM	NM	NM	ND	NM	NM	Too low for measurements					
	5/10/2006	0	0.16	440	NM	NM	NM	NM	NM	110	32.14	8.37	428	9.83	1.20	NM
HOGNW23	4/26/2006	3	0.7	3,000	2,900	260	4	NM	NM	NM	22.18	7.67	205	7.31	1.53	0.0574
	5/3/2006	5	0	1,100	1,600	260	9	ND	NM	NM	18.00	7.78	267	8.46	2.05	0.0442

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Sample Site	Date	Days with no rain prior to sampling	Rainfall for last 5 days (inches)	Fecal Coliform (CFU/100 mL)	<i>Enterococcus</i> spp. (CFU/100 mL)	<i>Escherichia coli</i> (CFU/100 mL)	<i>Clostridium perfringens</i> (CFU/100 mL)	FWA	MST	ABC Fecal Coliform (CFU/100 mL)	Water Temp (°C)	pH (S.U.)	Spec Cond (µmhos/cm)	DO (mg/L)	Turbidity (NTU)	Flow (cms)
	5/10/2006	0	0.16	5,300	3,700	2,500	2	NM	NM	7,600	22.63	7.58	261	7.11	2.64	0.0634
HOGGHSNASH	4/26/2006	3	0.7	19,000	16,000	9,700	ND	NM	NM	NM	21.39	7.21	219	6.98	2.92	0.0007
	5/3/2006	5	0	53,000	10,000	33,000	220	ND	Negative	NM	18.26	7.49	225	7.63	3.43	too low
	5/10/2006	0	0.16	44,000	24,000	15,000	77	NM	Negative	16,000	21.54	7.43	222	7.65	3.91	NM
HOGGHSN	4/26/2006	3	0.7	72,000	9,900	5,400	0	NM	NM	NM	21.03	7.50	285	7.89	1.96	0.0043
	5/3/2006	5	0	10,000	9,600	7,500	59	ND	NM	NM	18.13	7.51	288	8.34	1.37	0.0008
	5/10/2006	0	0.16	23,000	15,000	5,700	30	NM	NM	12,000	21.60	7.37	247	6.19	4.72	0.0005
HOGNW16	4/26/2006	3	0.7	24,000	3,600	6,400	123	NM	NM	NM	21.96	7.69	242	7.46	1.62	0.0686
	5/3/2006	5	0	2,700	6,700	2,400	66	ND	NM	NM	17.30	7.84	291	8.39	1.72	0.0402
	5/10/2006	0	0.16	6,800	12,000	3,100	51	NM	NM	4,600	21.86	7.60	264	6.95	8.11	0.0975
RATUSHOG	4/26/2006	3	0.7	3,400	3,700	1,400	29	NM	NM	NM	22.38	7.55	341	6.52	NM	0.0081
	5/3/2006	5	0	1,400	2,300	1,700	5	ND	NM	NM	17.43	7.66	344	8.18	1.09	0.0066
	5/10/2006	0	0.16	7,300	2,000	3,800	3	NM	NM	5,200	21.51	7.38	295	6.67	1.73	0.0195
HOGUSRAT	4/26/2006	3	0.7	97,000	4,800	5,400	6	NM	NM	NM	22.41	7.73	280	7.57	1.63	0.0736
	5/3/2006	5	0	1,600	3,700	2,000	25	ND	NM	NM	17.61	7.87	70	8.75	1.42	0.0661
	5/10/2006	0	0.16	3,900	6,500	2,000	96	NM	NM	1,500	21.70	7.63	281	7.39	2.80	0.1361
HOGNW8	5/3/2006	5	0	1,700	NM	NM	NM	ND	NM	NM	16.69	7.86	290	8.43	1.67	0.0723
ELIZUNIV	4/26/2006	3	0.7	3,700	1,600	420	20	NM	NM	NM	23.60	7.07	326	1.03	1.45	0.0003
	5/3/2006	5	0	1,900	1,400	290	2	Weak Positive	Positive ( <i>esp</i> gene, <i>Bacteroids</i> spp.)	NM	22.51	7.07	369	0.31	2.37	too low
	5/10/2006	0	0.16	74,000	15,000	8,400	1	NM	Positive ( <i>esp</i> gene, polyomavirus)	4,800	25.42	7.16	253	0.82	2.97	0.0005
ELIZARBOR	4/26/2006	3	0.7	6,200	6,800	800	52	NM	NM	NM	22.00	7.29	384	4.63	1.00	0.0006
	5/3/2006	5	0	12,000	7,900	8,600	68	Weak Positive/ND	Negative	NM	21.17	7.38	385	4.59	0.82	0.0002
	5/10/2006	0	0.16	19,000	8,100	4,200	92	NM	NM	6,700	23.37	7.30	301	4.33	7.76	0.0003
ELIZ309NW23	4/26/2006	3	0.7	6,800	9,800	3,500	133	NM	NM	NM	22.22	7.16	354	4.45	1.15	0.0008
	5/3/2006	5	0	3,900	7,800	4,200	65	ND	NM	NM	20.35	7.12	288	5.52	0.98	0.0045
	5/10/2006	0	0.16	23,000	6,200	2,600	40	NM	NM	2,700	23.68	7.14	253	4.28	4.33	0.0029
ELIZNW23	4/26/2006	3	0.7	76,000	7,300	2,500	ND	NM	NM	NM	22.86	7.15	346	3.85	1.35	0.0017
	5/3/2006	5	0	6,000	7,000	5,800	63	ND	NM	NM	20.99	7.30	339	4.39	1.21	0.0015
	5/10/2006	0	0.16	25,000	8,600	4,000	150	NM	NM	3,800	24.05	7.13	246	3.24	1.91	0.0021
	4/26/2006	3	0.7	12,000	10,000	4,900	23	NM	NM	NM	22.32	7.47	347	7.05	1.23	0.0050

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Sample Site	Date	Days with no rain prior to sampling	Rainfall for last 5 days (inches)	Fecal Coliform (CFU/100 mL)	<i>Enterococcus</i> spp. (CFU/100 mL)	<i>Escherichia coli</i> (CFU/100 mL)	<i>Clostridium perfringens</i> (CFU/100 mL)	FWA	MST	ABC Fecal Coliform (CFU/100 mL)	Water Temp (°C)	pH (S.U.)	Spec Cond (µmhos/cm)	DO (mg/L)	Turbidity (NTU)	Flow (cms)
ELIZNW7DS	5/3/2006	5	0	5,200	13,000	3,300	147	ND	NM	NM	19.70	7.56	332	8.02	1.50	0.0039
	5/10/2006	0	0.16	6,000	8,300	1,100	16	NM	NM	2,300	23.41	7.39	279	6.35	4.27	0.0030
TUMPORTERS	4/27/2006	0	1	1,700	2,600	770	8	NM	NM	NM	23.28	7.52	196	6.32	NM	0.0011
	5/4/2006	6	0	280	660	51	36	ND	NM	NM	22.20	7.86	343	7.82	0.83	NM
	5/11/2006	0	0.27	180,000	26,000	11,000	208	NM	NM	56,000	24.04	7.57	125	7.34	115.00	0.0112
TUMSW1	4/27/2006	0	1	21,000	9,100	1,600	1	NM	NM	NM	24.12	6.59	247	4.75	2.86	NM
	5/4/2006	6	0	900	580	190	18	Weak Positive/moderate positive	Negative	NM	22.60*	6.43*	276*	4.19*	1.57	NM
	5/11/2006	0	0.27	4,200	1,000	800	136	NM	Negative	900	24.65*	6.93*	135*	5.19*	4.49	NM
MHSW2NDAVE	4/27/2006	0	1	35,000	1,500	6,700	79	NM	NM	NM	24.93*	6.87*	14*	7.05*	8.19	NM
	5/4/2006	6	0	850	490	150	26	Weak Positive/ND	NM	NM	22.98*	6.6*	17*	8.9*	1.63	NM
	5/11/2006	0	0.27	45,000	18,000	4,900	144	NM	NM	8,800	23.82*	6.97*	4*	8.06*	2.96	NM
TUMAGH	4/27/2006	0	1	<100	<10	<10	<1.0	NM	NM	NM	23.52	7.39	467	4.52	6.28	NM
TUMSW5	4/27/2006	0	1	29,000	21,000	3,200	4	NM	NM	NM	23.25	7.29	222	4.28	6.28	0.0013
	5/4/2006	6	0	6,100	12,000	5,500	115	Weak Positive/ND	Negative	NM	22.13	7.35	404	3.53	1.77	0.0010
	5/11/2006	0	0.27	43,000	11,000	4,100	180	NM	Negative	6,600	23.45	7.25	239	3.14	14.10	0.0014
MAININF	4/27/2006	0	1	3,500,000	450,000	2,100,000	16,000	NM	NM	NM	NM					
	5/4/2006	6	0	4,100,000	2,500,000	3,600,000	76,000	NM	NM	NM						
	5/11/2006	0	0.27	10,000,000	1,200,000	2,700,000	60,000	NM	NM	21,000						
BLANK	4/27/2006	-	-	<1	<1	<1	<1.0	NM	NM	NM						
	5/4/2006	-	-	<1	<1	<1	<1.0	NM	NM	NM						
	5/11/2006	-	-	<1	<1	<1	<1.0	NM	NM	<1						

Rainfall data collected from the GRU JRK Generating Station

Microbial data was analyzed by Biological Consulting Services (except for the column titled ABC fecal coliform which was analyzed by ABC, inc) and is reported in CFU/100 mL

Fluorescent Whitening Agents analyzed by Ozark Underground Laboratory; Both sides of each cloth were analyzed. If only one result is reported both sides had the same result. Two results are listed when the sides had different results.

MST included human specific DNA markers for *esp* gene, *Bacteroides* spp, and polyomavirus. A positive indicates that at least one human specific DNA marker was present

ND = None Detected

NM = Not Measured

If flow is recorded as too low, flow was observed; however velocity or water depth were too low to measure

\*YSI probe may not have been completely submerged