Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: October-05

		Jar Test Data				Filter Data	Filter Operation Data									Disinfection and CT Values: First Disinfection Sequence					Second Disinfection Sequence						Microbiological Examination and System Pressure					
Date	Raw Water Treated 1000 Gallons	Coagulant Mg/L Alum	Polymer	pH Caustic		Complete Applicable Blanks Each Month	Number Of Filters Used	Filter Hours = Col. 54 x Hours Run	Average Length Filter Run - Hours	Rate-Of-Flow Gauges Working	Loss-Of-Head Gauges Working	Turbidimeters Working	Backwash Rate gpm/ft2	Backwash Water Used-- 1000Gallons		Free Chlorine End of Sequence	Contact Time In Minutes	End of Sequence	Calculated	Required	Free Chlorine End of Sequence	Contact Time In Minutes	End of Sequence	Calculated	Required	Total Inactivation Ratio (Ct Calc/Ct Req.)	Raw	Plant Effluent	Distribution System	Free Chlorine mg/L At Point of Sampling &	Static Pressure (psi)	Location of sampling point in distribution system. MUST VARY WITHIN SYSTEM.
																C	T	pH	CT	CT	C	T	pH	CT	CT								
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	
1	2467	18	0	6.5		(a) Type of Filters Gravity (X)	2	36	18	2	4	2	16.07	211							3.04	68	7.05	207	9	23						
2	2378	18	0	6.5			2	36	18	2	4	2	16.07	105							2.05	68	6.94	139	7	19.9						
3	2569	17	0	6.4		Pressure ( )	2	36	18	2	4	2	16.07	109							2.39	68	7.16	163	9	18.1				2.2		10-3-05 Rocky Top (I-40)
4	2254	17	0	6.5			2	34	17	2	4	2	16.07	105							2.71	68	7.28	184	13	14.2				2.2		10-3-05 Rocky Top (southend)
5	2483	16	0	6.6		(b) Number of Filters ___2____	2	36	18	2	4	2	16.07	105							3.02	68	7.37	205	9	22.8						
6	2394	17	0	6.4			2	36	18	2	4	2	16.07	109							2.84	68	7.24	193	9	21.5						
7	2352	17	0	6.6		(c) Filter Area-- ft2 (Each) ___280_____	2	36	18	2	4	2	16.07	215							2.69	68	7.41	183	14	13.1						
8	2470	18	0	6.5			2	36	18	2	4	2	16.07	105							2.16	68	7.38	147	13	11.3						
9	2349	21	0	6.4		(d) Total Area-- ft2 ___560_____	2	36	18	2	4	2	16.07	215							2.97	68	7.53	202	17	11.9				1.4		10-10-05 Dollar General Mkt.
10	2455	18	0	6.5			2	36	18	2	4	2	16.07	105							2.90	68	7.08	197	14	14.1				2.2		10-10-05 McDonalds
11	2475	15	0	6.3		(e) Filter Rate gpm/ft2 _4 gpm/ft2_____	2	36	18	2	4	2	16.07	105							2.47	68	7.21	168	13	12.9						
12	2452	15	0	6.4			2	36	18	2	4	2	16.07	109							2.76	68	7.23	188	14	13.4				1.8		10-11-05 Tenn. Tech. Center
13	2540	17	0	6.4		(f) Total Rated Filter Capacity _2240_____	2	36	18	2	4	2	16.07	215							2.94	68	7.22	200	14	14.3				2.2		10-11-05 836 Unaka St.
14	2533	17	0	6.5		GPM __2240_____	2	36	18	2	4	2	16.07	105							2.48	68	7.32	169	13	13						
[illegible]	2480	17	0	6.5			2	36	18	2	4	2	16.07	211							2.89	68	7.08	197	14	14						
[illegible]	2489	17	0	6.5			2	36	18	2	4	2	16.07	109							2.88	68	7.19	196	14	14						
[illegible]	2539	17	0	6.5			2	36	18	2	4	2	16.07	211							2.23	68	7.09	152	13	11.7				2.1		10-17-05 325 Haster Dr. (special)
18	2485	16	0	6.4			2	36	18	2	4	2	16.07	105							2.57	68	7.11	175	13	13.4				2.2		10-18-05 Wendell's Mkt.
19	2095	17	0	6.4			2	32	16	2	4	2	16.07	222							2.98	68	7.15	203	14	14.5				2.2		10-18-05 Oakdale Fuel Center
20	2689	16	0	6.5			2	40	20	2	4	2	16.07	109							3.02	68	7.11	205	14	14.7				2.2		10-19-05 Emory Cove (special)
21	2572	16	0	6.5			2	36	18	2	4	2	16.07	0							2.91	68	7.28	198	14	14.1						
22	2424	15	0	6.5			2	36	18	2	4	2	16.07	215							3.02	68	7.30	205	14	14.7						
23	2549	16	0	6.4			2	36	18	2	4	2	16.07	109							2.88	68	7.30	196	14	14						
24	2496	16	0	6.5			2	36	18	2	4	2	16.07	219							2.60	68	7.21	177	18	9.82				1.9		10-24-05 Riverfront Park
25	2495	15	0	6.5			2	36	18	2	4	2	16.07	105							2.32	68	7.33	158	18	8.76				2.2		10-24-05 Cracker Barrel
26	2572	15	0	6.4			2	36	18	2	4	2	16.07	113							3.72	68	7.30	253	19	13.3						
27	2508	18	0	6.3			2	36	18	2	4	2	16.07	218							2.86	68	7.32	194	18	10.8						
28	2498	16	0	6.4			2	36	18	2	4	2	16.07	218							3.03	68	7.32	206	19	10.8						
29	2522	17	0	6.4			2	36	18	2	4	2	16.07	0							2.58	68	7.18	175	18	9.75						
30	2452	17	0	6.4			2	36	18	2	4	2	16.07	215							2.56	68	7.45	174	18	9.67						
31	2504	16	0	6.4			2	36	18	2	4	2	16.07	105							3.04	68	7.40	207	19	10.9						
Total	76540	518	0	200			62	1114	557	62	124	62	498.2	4402																		
Avg.	2469	17	NA	6			2	36	18	2	4	2	16	142																		
Max.	2689	21	0	6.6			2	40	20	2	4	2	16.07	222																		
Min.	2095	15	0	6.3			2	32	16	2	4	2	16.07	0																		

Cost of Production
(a) Cost of Personnel _____
(b) Cost of Chemicals _____
(c) Cost of Energy _____
(d) Insurance & Misc. Cost _____
(e) Total Production Cost _____
(f) Cost Per MG Water Treated _____

Remarks:

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____
Signature

Certificate Number _____

CMOR OCT-05.xls

TVA-00006222

Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: February-06

Date	Raw Water Treated (1000 gals)	Finished Water Pumped to System (1000 gals)	Physical and Chemical Characteristics: Raw Water Temperature C	Turbidity: Raw	Finished Water Turbidity: 2 AM	8 AM	11 AM	2 PM	6 PM	10 PM	Chlorine Residual (mg/l): On Top of Filter	Lowest Plant Effluent	Alkalinity (mg/l): Total Raw	Phenolphthalein	Total Finished	pH: Raw	Finished	Hardness (mg/l): Raw	Finished	Free CO^2 (mg/l): Raw	Finished	Iron (mg/l): Raw	Finished	Dist. System	Manganese (mg/l): Finished	Dist. System	Phosphate (mg/l): Finished	Dist. System	Fluoride (mg/l): Finished	Dist. System
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2424	2190	8	2.49		0.25	0.12	0.10	0.07	0.06		3.18	11	0	15	7.10	7.57	14	14	2	0		0.01	0.04	0.001		0.53	0.46	0.98	0.93
2	2362	2212	7	1.98		0.23	0.07	0.10	0.08	0.06		2.98	11	0	15	7.07	7.63	13	14	2	0		0.01	0.01	0.001		0.61	0.40	0.98	0.88
3	2362	2230	8	2.08		0.08	0.08	0.06	0.07	0.06		3.09	11	0	16	7.20	7.53	13	14	1	1		0.01	0.02	0.001		0.36	0.42	0.86	0.81
4	2394	2164	8	2.68		0.17	0.06	0.06	0.06	0.06		2.62	12	0	15	7.24	7.79	14	14	2	0		0.01	0.01	0.001		0.38	0.45	0.90	0.79
5	2418	2152	8	5.73		0.09	0.22	0.17	0.18	0.07		3.37	11	0	13	7.27	7.38	13	13	1	1		0.00	0.01	0.001		0.36	0.41	0.90	0.72
6	2448	2214	8	4.55		0.10	0.10	0.10	0.23	0.15		2.60	11	0	14	7.29	7.61	13	13	1	0		0.01	0.02	0.001		0.39	0.44	1.10	0.84
7	2355	2231	8	3.06		0.12	0.06	0.07	0.07	0.06		3.20	10	0	12	7.32	7.20	14	14	1	2		0.03	0.01	0.001		0.45	0.53	1.18	1.15
8	2271	2059	6	2.01		0.15	0.07	0.10	0.07	0.06		3.32	10	0	12	7.22	7.15	14	15	1	2		0.01	0.02	0.001		0.41	0.47	1.01	0.96
9	2380	2145	6	2.20		0.13	0.16	0.08	0.10	0.06		3.21	10	0	13	7.26	7.58	14	14	1	0		0.01	0.00	0.001		0.59	0.48	1.00	1.01
10	2466	2241	6	2.27		0.14	0.16	0.08	0.25	0.18		2.91	11	0	13	7.24	7.52	15	15	1	0		0.01	0.01	0.001		0.38	0.52	1.02	1.00
11	2364	2231	6	1.98		0.09	0.09	0.06	0.06	0.06		2.51	11	0	12	7.31	7.39	15	14	1	1		0.01	0.02	0.001		0.40	0.50	1.06	1.03
12	2594	2327	7	1.58		0.10	0.20	0.10	0.06	0.05		3.31	11	0	12	7.19	7.26	13	13	1	1		0.01	0.02	0.001		0.49	0.47	1.03	1.00
13	2420	2407	6	1.56		0.18	0.07	0.08	0.07	0.07		3.42	11	0	13	7.21	7.20	15	15	1	2		0.01	0.01	0.000		0.32	0.37	0.90	0.93
14	2483	2188	4	1.46		0.20	0.18	0.16	0.06	0.06		3.14	11	0	10	7.01	6.89	15	15	2	3		0.01	0.02	0.001		0.38	0.42	0.89	0.97
15	2921	2647	5	1.35	0.06	0.20	0.08	0.06	0.06	0.06		2.60	12	0	14	7.22	7.38	15	15	2	1		0.01	0.02	0.001		0.37	0.44	1.05	1.03
16	3214	2974	6	1.25		0.08	0.10	0.08	0.07	0.06		3.48	12	0	14	7.32	7.50	15	15	1	0		0.01	0.01	0.001		0.40	0.45	1.08	0.99
[illegible]	164	1852	6	1.55		0.18	0.05	0.06	0.05	0.05		2.94	12	0	13	7.12	7.03	14	15	2	3		0.01	0.02	0.001		0.30	0.53	0.91	0.87
[illegible]	2080	2040	6	2.34		0.08	0.08	0.06	0.08	0.06		3.27	11	0	13	7.31	7.56	15	16	1	0		0.01	0.03	0.000		0.38	0.43	1.16	0.87
19	2102	1910	6	2.67		0.12	0.11	0.07	0.10	0.07		3.20	11	0	12	7.26	7.57	15	16	1	0		0.02	0.00	0.001		0.41	0.56	0.92	0.85
20	2422	2206	7	2.90		0.11	0.16	0.11	0.08	0.07		2.91	11	0	12	7.07	7.21	16	17	2	2		0.01	0.01	0.001		0.46	0.50	1.02	0.80
21	2220	2066	6	1.51		0.08	0.07	0.07	0.20	0.08		2.59	11	0	13	7.14	7.44	15	17	2	1		0.01	0.02	0.001		0.48	0.52	0.97	0.94
22	2051	2014	6	1.79		0.11	0.06	0.06	0.06	0.05		3.12	12	0	13	7.19	7.41	16	17	2	1		0.01	0.01	0.001		0.43	0.47	1.06	0.95
23	2089	1855	8	2.85		0.08	0.06	0.19	0.07	0.08		2.94	11	0	14	7.17	7.56	15	16	2	0		0.00	0.00	0.000		0.64	0.41	1.14	0.98
24	2116	1891	8	4.36		0.10	0.09	0.20	0.07	0.06		3.52	11	0	13	7.18	7.21	15	16	1	2		0.00	0.01	0.001		0.40	0.49	0.96	0.84
25	2169	2124	8	3.31		0.07	0.06	0.06	0.06	0.06		2.74	11	0	13	7.26	7.39	16	16	1	1		0.01	0.02	0.001		0.51	0.44	1.09	0.96
26	2353	2025	8	2.40		0.15	0.09	0.07	0.06	0.06		2.47	10	0	13	7.27	7.61	13	13	1	0		0.01	0.01	0.001		0.45	0.46	1.07	0.90
27	2118	1884	8	1.63		0.15	0.08	0.06	0.06	0.06		2.88	10	0	13	7.21	7.53	13	13	1	0		0.01	0.02	0.001		0.43	0.47	0.95	0.92
28	2092	1969	7	1.59		0.09	0.10	0.06	0.06	0.06		3.35	10	0	12	7.19	7.43	13	13	1	1		0.01	0.01	0.000		0.49	0.46	0.97	0.94
29																														
30																														
31																														
Total	65852	60448	191	67.13	0.06	3.63	2.83	2.53	2.51	1.94	0	84.87	307	0	367	201.84	207.53	401	412	38	25	0	0.28	0.41	0.024	0	12.20	12.97	28.16	25.86
Ave.	2352	2159	6.8	2.40	0.1	0.13	0.10	0.09	0.09	0.07	NA	3.0	11	NA	13	7.21	7.41	14	15	1.4	0.9	NA	0.01	0.01	0.001	NA	0.44	0.46	1.01	0.92
Max.	3214	2974	8	5.73	0.06	0.25	0.22	0.20	0.25	0.18	0	3.52	12	0	16	7.32	7.79	16	17	2	3	0	0.03	0.04	0.001	0	0.64	0.56	1.18	1.15
Min.	2051	1852	4	1.25	0.06	0.07	0.05	0.06	0.05	0.05	0	2.47	10	0	10	7.01	6.89	13	13	1	0	0	0.00	0.00	0.000	0	0.30	0.37	0.86	0.72

Date	Chemicals Used: Pounds Per 24 hours: Polymer - Coagulant	Disinfect. - Post	Disinfect. - Pre	Caustic - pH adjust.	Fluoride	Taste and Odor	Alum	Aqua Mag	Calculated Dose (mg/l): Polymer - Coagulant Aid	Chlorine	Caustic - pH adjust.	Fluoride .18	Fluoride	Alum	Aqua Mag
1	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
1		88		56	109		145	51.3	NA	4.4	2.8	0.97	5.39	7.2	2.54
2		88		54	80		145	51.3	NA	4.5	2.7	0.73	4.06	7.4	2.60
3		75		51	80		155	51.3	NA	3.8	2.6	0.73	4.06	7.9	2.60
4		100		51	80		145	57.0	NA	5.0	2.6	0.72	4.01	7.3	2.85
5		88		51	85		161	51.3	NA	4.4	2.5	0.76	4.21	8.0	2.54
6		75		54	95		150	51.3	NA	3.7	2.6	0.84	4.65	7.3	2.51
7		81		51	93		150	45.6	NA	4.1	2.6	0.85	4.74	7.6	2.32
8		81		48	90		161	45.6	NA	4.3	2.5	0.86	4.75	8.5	2.41
9		75		48	93		171	51.3	NA	3.8	2.4	0.84	4.69	8.6	2.58
10		88		54	97		150	39.9	NA	4.3	2.6	0.85	4.72	7.3	1.94
11		69		54	94		150	51.3	NA	3.5	2.7	0.86	4.77	7.6	2.60
12		88		56	94		177	51.3	NA	4.1	2.6	0.78	4.35	8.2	2.37
13		88		56	92		129	51.3	NA	4.4	2.8	0.82	4.56	6.4	2.54
14		81		62	87		161	45.6	NA	3.9	3.0	0.76	4.20	7.8	2.20
15		88		78	113		166	57.0	NA	3.6	3.2	0.83	4.64	6.8	2.34
16		119		86	125		177	57.0	NA	4.4	3.2	0.84	4.66	6.6	2.13
[illegible]		81		67	95		150	51.3	NA	4.5	3.7	0.95	5.26	8.3	2.84
[illegible]		81		56	80		150	34.2	NA	4.7	3.2	0.83	4.61	8.6	1.97
19		75		56	75		139	45.6	NA	4.3	3.2	0.77	4.28	7.9	2.60
20		81		67	94		139	51.3	NA	4.0	3.3	0.84	4.65	6.9	2.54
21		71		56	88		134	51.3	NA	3.8	3.0	0.86	4.75	7.2	2.77
22		69		67	92		139	45.6	NA	4.0	3.9	0.97	5.38	8.1	2.67
23		75		56	78		139	45.6	NA	4.3	3.2	0.81	4.48	8.0	2.62
24		69		59	84		161	74.1	NA	3.9	3.3	0.86	4.76	9.1	4.20
25		100		67	92		161	45.6	NA	5.5	3.7	0.92	5.09	8.9	2.52
26		85		70	92		161	45.6	NA	4.3	3.6	0.84	4.69	8.2	2.32
27		65		62	88		139	51.3	NA	3.7	3.5	0.90	4.98	7.9	2.90
28		69		67	84		145	51.3	NA	4.0	3.8	0.87	4.81	8.3	2.94
29									NA	NA	NA	NA	NA	NA	NA
30									NA	NA	NA	NA	NA	NA	NA
31									NA	NA	NA	NA	NA	NA	NA
Total	0	2293	0	1660	2549	0	4250	1402	0	117	85	23.44	130.20	218	72
Ave.	NA	81.9	NA	59.3	91.0	NA	151.8	50.1	NA	4.2	3.0	0.84	4.65	7.8	2.57
Max.	0	119	0	86	125	0	177	74.1	0	5.5	3.9	0.97	5.39	9.1	4.20
Min.	0	65	0	48	75	0	129	34.2	0	3.5	2.4	0.72	4.01	6.4	1.94

Chemicals Used	Brand	Analysis	Cost: Per LB.	Per Month
Alum	PBS		$0.0364	$154.70
Caustic	ADC	20%	$0.095	$157.70
Chlorine	ADC	12.50%	$0.0580	$147.84
Fluoride	ADC		$0.240	$611.76
Aqua Mag	ADC		$0.7018	$984.00

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____

Signature

Certificate Number _____

CMOR FEB-06.xls

TVA-00006223

Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: November-05

		Jar Test Data				Filter Data	Filter Operation Data									Disinfection and CT Values: First Disinfection Sequence					Second Disinfection Sequence						Microbiological Examination and System Pressure					
Date	Raw Water Treated 1000 Gallons	Coagulant Mg/L Alum	Polymer	pH Caustic		Complete Applicable Blanks Each Month	Number Of Filters Used	Filter Hours = Col. 54 x Hours Run	Average Length Filter Run - Hours	Rate-Of-Flow Gauges Working	Loss-Of-Head Gauges Working	Turbidimeters Working	Backwash Rate gpm/ft2	Backwash Water Used-- 1000Gallons		Free Chlorine End of Sequence C	Contact Time In Minutes T	End of Sequence pH	Calculated CT	Required CT	Free Chlorine End of Sequence C	Contact Time In Minutes T	End of Sequence pH	Calculated CT	Required CT	Total Inactivation Ratio (Ct Calc/Ct Req.)	Raw	Plant Effluent	Distribution System	Free Chlorine mg/L At Point of Sampling &	Static Pressure (psi)	Location of sampling point in distribution system. MUST VARY WITHIN SYSTEM.
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	
1	2563	16	0	6.4		(a) Type of Filters Gravity (X)	2	36	18	2	4	2	16.07	222							2.75	68	7.39	187	14	13.4						
2	2439	16	0	6.4			2	36	18	2	4	2	16.07	109							3.22	68	7.19	219	14	15.6						
3	2441	20	0	6.6		Pressure ( )	2	36	18	2	4	2	16.07	218							2.63	68	7.28	179	14	12.8						
4	2384	20	0	6.6			2	36	18	2	4	2	16.07	215							2.41	68	7.62	164	16	10.2				2.2		11-7-05 Riverfront Park
5	2593	19	0	6.6		(b) Number of Filters ___2____	2	36	18	2	4	2	16.07	105							2.87	68	7.48	195	14	13.9				2.2		11-7-05 Dollar General Mkt.
6	2448	16	0	6.7			2	36	18	2	4	2	16.07	109							2.95	68	7.60	201	17	11.8				2.2		11-7-05 Bullard Ford Rd. Substation (s)
7	2650	17	0	6.5		(c) Filter Area-- ft2 (Each) ___280_____	2	36	18	2	4	2	16.07	113							2.69	68	7.29	183	14	13.1						
8	2430	16	0	6.5			2	36	18	2	4	2	16.07	218							2.87	68	7.31	195	14	13.9				2.2		11-8-05 Oakdale Fuel Center
9	2308	21	0	6.4		(d) Total Area-- ft2 ___560_____	2	34	17	2	4	2	16.07	109							2.96	68	7.18	201	14	14.4				2.2		11-8-05 Wendell's Market
10	2448	19	0	6.5			2	36	18	2	4	2	16.07	109							1.74	68	7.18	118	12	9.86						
11	1924	19	0	6.6		(e) Filter Rate gpm/ft2 _4 gpm/ft2_____	2	36	18	2	4	2	16.07	207							2.63	68	7.25	179	14	12.8						
12	2596	19	0	6.6			2	36	18	2	4	2	16.07	195							2.58	68	7.43	175	13	13.5						
13	2624	18	0	6.5		(f) Total Rated Filter Capacity _2240_____	2	42	21	2	4	2	16.07	316							2.46	68	7.38	167	13	12.9				2.2		11-14-05 Tenn. Tech. Center
14	2812	16	0	6.5		GPM __2240_____	2	42	21	2	4	2	16.07	105							2.54	68	7.17	173	13	13.3				2.2		11-14-05 836 Unaka St.
[illegible]	2427	19	0	6.6			2	36	18	2	4	2	16.07	215							2.31	68	7.33	157	13	12.1						
[illegible]	2366	18	0	6.6			2	36	18	2	4	2	16.07	0							2.57	68	7.33	175	13	13.4				2.1		11-15-05 213 Woolsy Rd.
17	2494	18	0	6.7			2	38	19	2	4	2	16.07	328							2.89	68	7.29	197	19	10.3				2.2		11-15-05 113 Foster Ave.
18	2784	20	0	6.6			2	36	18	2	4	2	16.07	285							2.49	68	7.26	169	18	9.41						
19	3119	18	0	6.7			2	48	24	2	4	2	16.07	210							2.48	68	7.15	169	18	9.37						
20	2529	17	0	6.5			2	36	18	2	4	2	16.07	304							2.62	68	7.53	178	33	5.4						
21	2637	20	0	6.4			2	42	21	2	4	2	16.07	374							2.48	68	6.87	169	22	7.67				2.2		11-21-05 1839 S. Roane St.
22	3204	20	0	6.5			2	48	24	2	4	2	16.07	113							2.67	68	7.17	182	27	6.72				2.2		11-21-05 1811 S. Roane St.
23	2448	17	0	6.6			2	36	18	2	4	2	16.07	312							2.59	68	7.44	176	27	6.52						
24	3224	19	0	6.5			2	48	24	2	4	2	16.07	406							2.68	68	7.03	182	27	6.75						
25	3336	19	0	6.5			2	48	24	2	4	2	16.07	101							2.28	68	6.99	155	21	7.38				2.2		11-28-05 Brenway Subdivision (n)
26	2444	18	0	6.4			2	36	18	2	4	2	16.07	207							2.58	68	7.02	175	27	6.5						
27	2561	18	0	6.4			2	36	18	2	4	2	16.07	86							2.12	68	6.89	144	21	6.86						
28	2563	18	0	6.3			2	38	19	2	4	2	16.07	152							2.94	68	6.95	200	23	8.69						
29	3173	17	0	6.6			2	48	24	2	4	2	16.07	257							2.60	68	7.12	177	27	6.55						
30	2893	15	0	6.7			2	44	22	2	4	2	16.07	152							3.09	68	6.93	210	15	14						
31								0														68		####		####						
Total	78862	543	0	196			60	1168	584	60	120	60	482.1	5852																		
Avg.	2628.7	18	NA	7			2	38	19	2	4	2	16	195																		
Max.	3336	21	0	6.7			2	48	24	2	4	2	16.07	406																		
Min.	1924	15	0	6.3			2	0	17	2	4	2	16.07	0																		

Cost of Production
(a) Cost of Personnel _____
(b) Cost of Chemicals _____
(c) Cost of Energy _____
(d) Insurance & Misc. Cost _____
(e) Total Production Cost _____
(f) Cost Per MG Water Treated _____

Remarks:

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____
Signature

Certificate Number _____

CMOR NOV-05.xls

TVA-00006224

Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: March-06

Date	Raw Water Treated (1000 gals)	Finished Water Pumped to System (1000 gals)	Physical and Chemical Characteristics: Raw Water Temperature C	Turbidity: Raw	Finished Water Turbidity: 2 AM	8 AM	11 AM	2 PM	6 PM	10 PM	Chlorine Residual (mg/l): On Top of Filter	Lowest Plant Effluent	Alkalinity (mg/l): Total Raw	Phenolphthalein	Total Finished	pH: Raw	Finished	Hardness (mg/l): Raw	Finished	Free CO^2 (mg/l): Raw	Finished	Iron (mg/l): Raw	Finished	Dist. System	Manganese (mg/l): Finished	Dist. System	Phosphate (mg/l): Finished	Dist. System	Fluoride (mg/l): Finished	Dist. System
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2148	1920	8	1.40		0.17	0.10	0.06	0.09	0.08		3.38	11	0	6	7.13	7.54	14	13	2	0		0.01	0.01	0.001		0.38	0.41	0.85	0.80
2	2090	1860	10	1.53		0.15	0.11	0.05	0.15	0.06		3.21	12	0	7	7.15	7.52	13	13	2	0		0.01	0.02	0.001		0.39	0.44	1.06	0.86
3	2135	2086	10	1.57		0.08	0.08	0.06	0.06	0.06		2.72	11	0	13	7.11	7.27	14	15	2	1		0.01	0.01	0.001		0.48	0.58	0.96	0.83
4	2285	1886	10	1.63		0.14	0.06	0.05	0.06	0.06		2.76	12	0	11	7.13	7.55	15	15	2	0		0.00	0.02	0.001		0.40	0.56	0.95	0.96
5	2094	1969	10	1.38		0.12	0.06	0.09	0.07	0.06		2.86	11	0	13	7.16	7.60	16	17	1	0		0.01	0.02	0.001		0.39	0.60	0.87	0.89
6	2204	1945	9	1.39		0.15	0.06	0.07	0.10	0.05		2.90	11	0	13	7.30	7.05	17	16	1	2		0.01	0.02	0.001		0.41	0.48	0.96	0.86
7	2217	2026	9	1.34		0.16	0.05	0.06	0.06	0.06		2.76	12	0	14	7.17	7.30	17	18	2	1		0.01	0.01	0.000		0.98	1.62	1.00	0.90
8	1972	1841	9	1.16		0.12	0.09	0.06	0.06	0.06		2.77	12	0	16	7.28	7.51	15	15	1	1		0.01	0.00	0.000		1.11	1.01	0.92	0.93
9	2080	1866	9	1.27		0.14	0.13	0.07	0.10	0.09		2.45	12	0	15	7.33	7.47	16	15	1	0		0.01	0.01	0.001		0.43	0.50	1.01	0.90
10	2167	2046	10	1.24		0.11	0.05	0.05	0.05	0.06		3.20	12	0	15	7.23	7.18	16	15	2	2		0.01	0.02	0.001		0.46	0.52	1.40	0.92
11	1928	1927	10	2.83		0.09	0.05	0.05	0.05	0.05		3.01	13	0	16	7.38	7.16	17	17	1	2		0.01	0.01	0.001		0.42	0.56	1.12	0.98
12	2180	1909	13	3.18		0.15	0.12	0.07	0.06	0.05		2.51	13	0	16	7.24	7.22	15	15	2	2		0.01	0.02	0.001		0.45	0.52	1.01	0.89
13	2191	1982	14	2.83		0.15	0.10	0.07	0.08	0.08		2.66	13	0	14	7.22	7.07	15	14	2	2		0.01	0.01	0.001		0.43	0.49	1.01	0.96
14	2115	1803	14	42.00		0.15	0.07	0.06	0.06	0.07		3.27	12	0	14	7.28	7.18	14	14	1	2		0.01	0.02	0.000		0.46	0.50	1.10	0.99
15	2352	1978	13	33.30		0.25	0.11	0.07	0.06	0.06		3.02	14	0	6	7.30	7.08	14	14	1	0		0.01	0.01	0.001		0.49	0.49	1.11	0.98
16	2158	1930	13	10.90		0.15	0.20	0.07	0.08	0.06		3.00	11	0	11	7.16	7.17	12	12	1	1		0.01	0.03	0.001		0.47	0.50	1.09	1.01
[illegible]	[illegible]016	1876	13	8.39		0.12	0.12	0.08	0.07	0.06		3.12	11	0	11	7.04	7.05	14	14	2	2		0.01	0.02	0.001		0.41	0.57	0.97	1.00
[illegible]	[illegible]2172	1964	12	5.45		0.10	0.06	0.06	0.06	0.05		2.74	11	0	12	7.15	7.59	13	14	1	0		0.01	0.02	0.001		0.44	0.52	1.03	1.02
19	1952	1745	12	4.73		0.05	0.07	0.06	0.13	0.06		3.24	10	0	12	7.09	7.44	13	14	2	1		0.01	0.01	0.001		0.42	0.50	1.10	1.00
20	2122	1897	13	3.74		0.06	0.06	0.11	0.06	0.04		2.89	11	0	11	7.10	7.16	14	14	2	1		0.01	0.02	0.001		0.36	0.47	1.04	0.97
21	2074	1857	13	2.82		0.05	0.06	0.05	0.08	0.04		3.23	11	0	14	7.20	7.47	15	16	1	0		0.00	0.04	0.001		0.78	0.63	1.32	1.00
22	2172	1946	13	2.71		0.09	0.05	0.04	0.08	0.04		2.92	11	0	14	7.24	7.48	15	15	1	0		0.00	0.00	0.000		0.63	0.59	1.04	1.00
23	2200	1949	9	2.80		0.08	0.05	0.05	0.13	0.05		3.08	11	0	13	7.38	7.32	13	13	1	1		0.01	0.01	0.001		0.53	0.56	1.07	1.01
24	1885	1824	10	2.58		0.11	0.06	0.04	0.05	0.05		3.18	11	0	13	7.26	7.40	14	13	1	1		0.01	0.02	0.001		0.49	0.54	1.05	0.99
25	2336	2009	10	2.43		0.08	0.04	0.04	0.04	0.04		2.53	10	0	11	7.33	7.29	14	16	1	1		0.01	0.03	0.001		0.42	0.54	1.00	1.00
26	1783	1713	9	2.47		0.08	0.05	0.05	0.06	0.06		3.10	10	0	12	7.29	7.26	14	14	1	1		0.01	0.02	0.001		0.47	0.50	1.02	0.98
27	2071	1889	9	1.90		0.10	0.10	0.05	0.10	0.05		3.19	11	0	11	7.02	7.45	12	13	2	0		0.01	0.01	0.000		0.50	0.49	0.97	1.18
28	2046	1846	10	1.85		0.15	0.06	0.05	0.05	0.05		2.98	10	0	10	7.31	7.53	12	12	1	0		0.01	0.02	0.001		0.49	0.52	1.07	1.03
29	2097	1859	10	1.82		0.08	0.05	0.06	0.08	0.05		3.30	11	0	13	7.15	7.51	13	12	1	0		0.01	0.04	0.001		0.52	0.47	0.90	0.97
30	2022	1894	10	2.01		0.10	0.13	0.08	0.06	0.06		2.95	11	0	13	7.19	7.31	13	13	1	1		0.01	0.02	0.001		0.50	0.49	0.98	1.01
31	1996	1786	10	3.37		0.11	0.06	0.06	0.09	0.07		2.84	11	0	12	7.18	7.35	12	12	1	1		0.01	0.02	0.001		0.49	0.52	1.03	0.96
Total	65260	59028	334	158.02	0	3.64	2.46	1.89	2.33	1.78	0	91.77	353	0	382	223.50	227.48	441	443	43	26	0	0.28	0.54	0.026	0	15.60	17.69	32.01	29.78
Ave.	2105	1904	10.8	5.10	NA	0.12	0.08	0.06	0.08	0.06	NA	3.0	11	NA	12	7.21	7.34	14	14	1.4	0.8	NA	0.01	0.02	0.001	NA	0.50	0.57	1.03	0.96
Max.	2352	2086	14	42.00	0	0.25	0.20	0.11	0.15	0.09	0	3.38	14	0	16	7.38	7.60	17	18	2	2	0	0.01	0.04	0.001	0	1.11	1.62	1.40	1.18
Min.	1783	1713	8	1.16	0	0.05	0.04	0.04	0.04	0.04	0	2.45	10	0	6	7.02	7.05	12	12	1	0	0	0.00	0.00	0.000	0	0.36	0.41	0.85	0.80

Date	Chemicals Used — Pounds Per 24 hours: Polymer - Coagulant	Disinfect. - Post	Disinfect. - Pre.	Caustic - pH adjust.	Fluoride	Taste and Odor	Alum	Aqua Mag	Calculated Dose (mg/l): Polymer - Coagulant Aid	Chlorine	Caustic - pH adjust.	Fluoride .18	Fluoride	Alum	Aqua Mag
1	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
1		69		64	85		145	51.3	NA	3.9	3.6	0.85	4.74	8.1	2.86
2		63		58	85		139	39.9	NA	3.6	3.3	0.88	4.88	8.0	2.29
3		69		67	102		150	68.4	NA	3.9	3.8	1.03	5.73	8.4	3.84
4		69		64	93		145	45.6	NA	3.6	3.4	0.88	4.88	7.6	2.39
5		63		62	85		150	45.6	NA	3.6	3.6	0.88	4.87	8.6	2.61
6		63		64	90		161	57.0	NA	3.4	3.5	0.88	4.90	8.8	3.10
7		69		70	94		155	45.6	NA	3.7	3.8	0.92	5.08	8.4	2.47
8		56		51	58		155	57.0	NA	3.4	3.1	0.63	3.53	9.4	3.47
9		69		51	94		161	45.6	NA	4.0	2.9	0.98	5.42	9.3	2.63
10		75		54	108		150	57.0	NA	4.1	3.0	1.08	5.98	8.3	3.15
11		78		56	114		161	51.3	NA	4.9	3.5	1.28	7.09	10.0	3.19
12		66		56	108		166	51.3	NA	3.6	3.1	1.07	5.94	9.1	2.82
13		81		56	110		161	45.6	NA	4.4	3.1	1.08	6.02	8.8	2.50
14		81		64	114		225	57.0	NA	4.6	3.6	1.16	6.46	12.8	3.23
15		106		64	115		327	57.0	NA	5.4	3.3	1.06	5.86	16.7	2.91
16		75		67	105		209	45.6	NA	4.2	3.7	1.05	5.83	11.6	2.53
[illegible]		75		62	95		150	51.3	NA	4.5	3.7	1.02	5.65	8.9	3.05
[illegible]		81		70	115		161	39.9	NA	4.5	3.9	1.14	6.35	8.9	2.20
19		71		59	98		139	45.6	NA	4.4	3.6	1.08	6.02	8.5	2.80
20		81		40	106		150	51.3	NA	4.6	2.3	1.08	5.99	8.5	2.90
21		88		70	107		155	51.3	NA	5.1	4.0	1.11	6.19	9.0	2.97
22		73		67	103		177	62.7	NA	4.0	3.7	1.07	5.96	9.8	3.46
23		90		67	103		171	39.9	NA	4.9	3.7	1.06	5.89	9.3	2.17
24		63		62	100		145	45.6	NA	4.0	3.9	1.14	6.36	9.2	2.90
25		90		70	116		161	57.0	NA	4.6	3.6	1.07	5.95	8.3	2.93
26		66		70	102		118	45.6	NA	4.4	4.7	1.23	6.86	7.9	3.07
27		63		70	110		145	51.3	NA	3.6	4.1	1.15	6.37	8.4	2.97
28		75		67	109		129	57.0	NA	4.4	3.9	1.15	6.39	7.6	3.34
29		75		64	98		129	57.0	NA	4.3	3.7	1.01	5.60	7.4	3.26
30		63		62	95		139	39.9	NA	3.7	3.7	1.01	5.63	8.2	2.37
31		63		64	110		150	57.0	NA	3.8	3.8	1.19	6.61	9.0	3.42
Total	0	2269	0	1932	3137	0	4979	1573	0	129	110	32.22	179.03	283	90
Ave.	NA	73.2	NA	62.3	101.2	NA	160.6	50.7	NA	4.2	3.6	1.04	5.78	9.1	2.90
Max.	0	106	0	70	116	0	327	68.4	0	5.4	4.7	1.28	7.09	16.7	3.84
Min.	0	56	0	40	58	0	118	39.9	0	3.4	2.3	0.63	3.53	7.4	2.17

Chemicals Used	Brand	Analysis	Cost: Per LB.	Per Month
Alum	PBS		$0.0364	$181.24
Caustic	ADC	20%	$0.095	$183.54
Chlorine	ADC	12.50%	$0.0580	$181.95
Fluoride	ADC		$0.240	$752.88
Aqua Mag	ADC		$0.7018	$1,104.00

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____

Signature

Certificate Number _____

CMOR MAR-06.xls

TVA-00006225

Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: December-05

		Jar Test Data				Filter Data	Filter Operation Data									Disinfection and CT Values											Microbiological Examination and System Pressure					
						Complete Applicable Blanks Each Month										First Disinfection Sequence					Second Disinfection Sequence												
Date	Raw Water Treated 1000 Gallons	Coagulant Mg/L Alum	Polymer	pH Caustic			Number Of Filters Used	Filter Hours = Col. 54 x Hours Run	Average Length Filter Run - Hours	Rate-Of-Flow Gauges Working	Loss-Of-Head Gauges Working	Turbidimeters Working	Backwash Rate gpm/ft2	Backwash Water Used-- 1000Gallons		Free Chlorine End of Sequence C	Contact Time In Minutes T	End of Sequence pH	Calculated CT	Required CT	Free Chlorine End of Sequence C	Contact Time In Minutes T	End of Sequence pH	Calculated CT	Required CT	Total Inactivation Ratio (Ct Calc/Ct Req.)	Raw	Plant Effluent	Distribution System	Free Chlorine mg/L At Point of Sampling &	Static Pressure (psi)	Location of sampling point in distribution system. MUST VARY WITHIN SYSTEM.
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	
1	2278	17	0	6.6		(a) Type of Filters Gravity (X)	2	36	18	2	4	2	16.07	148							3.26	68	7.00	222	28	7.92						
2	2421	18	0	6.5			2	36	18	2	4	2	16.07	156							3.22	68	6.82	219	23	9.52						
3	2540	21	0	6.4		Pressure ( )	2	36	18	2	4	2	16.07	66							2.98	68	7.08	203	27	7.51				2.2		12-5-05 1839 So. Roane St.
4	2598	16	0	6.5			2	36	18	2	4	2	16.07	70							3.06	68	7.02	208	28	7.43				2.2		12-5-05 1811 So. Roane St.
5	2490	16	0	6.5		(b) Number of Filters ___2____	2	36	18	2	4	2	16.07	66							2.77	68	7.31	188	27	6.98				2.2		12-6-05 200 Fairchild St. (s)
6	2416	12	0	6.6			2	36	18	2	4	2	16.07	66							3.30	68	7.28	224	28	8.01						
7	2446	16	0	6.4		(c) Filter Area-- ft2 (Each) ___280_____	2	36	18	2	4	2	16.07	133							3.22	68	7.45	219	28	7.82						
8	2526	15	0	6.4			2	36	18	2	4	2	16.07	0							3.22	68	7.34	219	28	7.82						
9	2504	11	0	6.5		(d) Total Area-- ft2 ___560_____	2	36	18	2	4	2	16.07	74							2.96	68	7.49	201	27	7.45				2.2		12-12-05 113 Foster Rd.
10	2407	10	0	6.6			2	36	18	2	4	2	16.07	133							2.45	68	7.40	167	26	6.41				2.2		12-12-05 213 Woolsey Rd.
11	2455	10	0	6.6		(e) Filter Rate gpm/ft2 _4 gpm/ft2_____	2	36	18	2	4	2	16.07	70							2.90	68	7.38	197	27	7.3						
12	2505	11	0	6.5			2	36	18	2	4	2	16.07	66							3.07	68	7.52	209	34	6.14				2.2		12-14-05 327 Margrave St.
13	2418	9	0	6.5		(f) Total Rated Filter Capacity _2240_____	2	36	18	2	4	2	16.07	70							2.10	68	7.45	143	33	4.33				2.2		12-14-05 101 North Roane St.
14	2391	9	0	6.5		GPM __2240_____ .	2	36	18	2	4	2	16.07	0							2.61	68	7.50	177	36	4.93				2.2		12-14-05 300 Roane St.
15	2440	8	0	6.6			2	36	18	2	4	2	16.07	140							3.03	68	7.48	206	37	5.57						
16	2436	8	0	6.6			2	36	18	2	4	2	16.07	0							2.74	68	7.54	186	32	5.82						
17	2365	11	0	6.5			2	36	18	2	4	2	16.07	74							2.98	68	7.51	203	33	6.14						
18	2437	13	0	6.3			2	36	18	2	4	2	16.07	74							3.58	68	7.02	243	28	8.69				2.2		12-20-05 1592 Old Harriman Hwy.
19	2435	12	0	6.4			2	36	18	2	4	2	16.07	86							3.04	68	7.34	207	28	7.38				2.2		12-20-05 641 Airport Rd.
20	2399	11	0	6.5			2	36	18	2	4	2	16.07	0							3.30	68	7.34	224	28	8.01				2.2		12-20-05 1772 Airport Rd. (s)
21	2354	11	0	6.5			2	36	18	2	4	2	16.07	152							3.26	68	7.76	222	45	4.93				2.2		12-20-05 812 North Roane St.
22	2206	10	0	6.6			2	36	18	2	4	2	16.07	0							3.28	68	7.67	223	45	4.96				2.2		12-20-05 329 Lee Village Rd. (s)
23	2512	9	0	6.5			2	36	18	2	4	2	16.07	59							3.02	68	7.86	205	45	4.56						
24	2396	10	0	6.6			2	36	18	2	4	2	16.07	98							3.02	68	7.37	205	37	5.55						
25	2510	10	0	6.6			2	36	18	2	4	2	16.07	0							2.58	68	7.59	175	42	4.18						
26	2419	10	0	6.6			2	36	18	2	4	2	16.07	78							2.89	68	7.40	197	36	5.46						
27	2448	10	0	6.6			2	36	18	2	4	2	16.07	74							2.74	68	7.43	186	36	5.18						
28	2406	9	0	6.6			2	36	18	2	4	2	16.07	82							2.90	68	7.23	197	36	5.48						
29	2313	9	0	6.5			2	34	17	2	4	2	16.07	0							2.78	68	7.31	189	36	5.25						
30	2478	9	0	6.6			2	36	18	2	4	2	16.07	82							3.01	68	7.69	205	34	6.02						
31	2365	9	0	6.5			2	36	18	2	4	2	16.07	74							2.64	68	7.51	180	32	5.61						
Total	75314	360	0	202			62	1114	557	62	124	62	498.2	2191																		
Avg.	2429.5	12	NA	7			2	36	18	2	4	2	16	71																		
Max.	2598	21	0	6.6			2	36	18	2	4	2	16.07	156																		
Min.	2206	8	0	6.3			2	34	17	2	4	2	16.07	0																		

Cost of Production
(a) Cost of Personnel _____
(b) Cost of Chemicals _____
(c) Cost of Energy _____
(d) Insurance & Misc. Cost _____
(e) Total Production Cost _____
(f) Cost Per MG Water Treated _____

Remarks:

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____
Signature

Certificate Number _____

CMOR DEC-05.xls

TVA-00006226

Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: April-06

Date	Raw Water Treated (1000 gals)	Finished Water Pumped to System (1000 gals)	Physical and Chemical Characteristics: Raw Water Temperature C	Turbidity: Raw	Finished Water Turbidity: 2 AM	8 AM	11 AM	2 PM	6 PM	10 PM	Chlorine Residual (mg/l): On Top of Filter	Lowest Plant Effluent	Alkalinity (mg/l): Total Raw	Phenolphthalein	Total Finished	pH: Raw	Finished	Hardness (mg/l): Raw	Finished	Free CO^2 (mg/l): Raw	Finished	Iron (mg/l): Raw	Finished	Dist. System	Manganese (mg/l): Finished	Dist. System	Phosphate (mg/l): Finished	Dist. System	Fluoride (mg/l): Finished	Dist. System
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	1927	1756	11	3.74		0.15	0.06	0.06	0.07	0.06		2.73	11	0	13	7.08	6.98	16	17	1	3		0.01	0.01	0.001		0.54	0.66	1.03	0.96
2	2060	1783	11	2.42		0.07	0.06	0.10	0.15	0.07		2.62	11	0	12	7.02	7.00	16	16	2	2		0.01	0.02	0.001		0.43	0.73	0.99	0.94
3	2191	1825	10	1.78		0.12	0.14	0.14	0.08	0.06		2.50	11	0	14	7.15	6.69	15	17	1	6		0.01	0.03	0.001		0.54	0.64	0.96	0.90
4	1960	1725	10	15.90		0.15	0.08	0.07	0.08	0.06		3.35	12	0	12	7.09	6.87	14	15	2	3		0.00	0.02	0.001		0.61	0.70	1.14	0.99
5	2080	1820	13	8.95		0.09	0.07	0.11	0.20	0.09		2.99	10	0	11	7.15	7.07	12	12	1	2		0.01	0.03	0.001		0.59	0.62	1.14	1.01
6	2007	1703	13	7.22		0.13	0.07	0.21	0.10	0.06		2.61	10	0	11	7.33	7.26	13	12	1	1		0.01	0.02	0.000		0.56	0.54	1.01	0.98
7	2114	1939	13	3.88		0.09	0.07	0.07	0.07	0.09		2.92	10	0	12	7.37	7.45	13	13	1	0		0.01	0.03	0.000		0.71	0.89	0.97	1.00
8	1945	1480	13	61.10		0.15	0.15	0.25	0.19	0.08		2.20	9	0	7	7.06	7.42	10	11	1	0		0.01	0.02	0.001		0.76	0.94	0.95	0.98
9	2007	1593	13	32.70		0.19	0.15	0.17	0.13	0.26		3.10	9	0	8	7.07	6.91	10	10	1	2		0.01	0.03	0.001		0.55	0.66	1.20	1.21
10	2566	2233	12	20.60		0.10	0.11	0.08	0.08	0.07		3.08	8	0	10	7.00	7.16	11	10	2	1		0.01	0.02	0.001		0.51	0.54	1.08	1.07
11	2118	1864	13	7.98		0.18	0.09	0.08	0.08	0.06		2.83	10	0	4	7.05	6.61	11	11	2	2		0.01	0.03	0.000		0.41	0.50	1.01	0.99
12	2078	1856	14	5.28		0.15	0.16	0.11	0.08	0.07		3.01	10	0	12	7.07	7.98	12	11	2	0		0.00	0.02	0.001		0.46	0.51	1.08	1.02
13	2060	1802	15	3.78		0.15	0.15	0.07	0.08	0.07		3.50	10	0	12	7.00	7.28	12	11	2	1		0.01	0.04	0.001		0.47	0.49	1.06	1.00
14	2106	2022	15	4.71		0.14	0.14	0.09	0.09	0.06		2.89	10	0	12	6.98	7.08	12	12	2	2		0.01	0.03	0.001		0.45	0.36	1.09	0.96
15	2114	1934	15	3.62		0.21	0.19	0.07	0.08	0.08		2.58	10	0	13	7.01	7.17	12	12	2	2		0.01	0.02	0.001		0.39	0.75	1.11	1.03
16	2076	1716	17	2.46		0.22	0.07	0.08	0.13	0.08		2.77	11	0	13	6.96	7.11	13	14	2	2		0.01	0.03	0.001		0.42	0.75	1.11	0.97
[illegible]	982	1899	17	3.76		0.12	0.11	0.10	0.11	0.11		2.96	11	0	13	7.21	6.98	14	14	1	3		0.01	0.02	0.001		0.40	0.60	1.14	1.14
[illegible]	2196	1989	19	2.82		0.19	0.07	0.17	0.15	0.10		2.72	11	0	14	7.30	7.04	15	15	1	3		0.00	0.01	0.000		0.41	0.53	1.18	1.13
19	2190	1941	19	2.46		0.22	0.07	0.08	0.15	0.07		2.88	12	0	14	7.34	7.05	15	15	1	3		0.01	0.01	0.001		0.42	0.51	1.07	1.12
20	2004	1905	19	2.57		0.11	0.07	0.08	0.07	0.07		2.98	12	0	13	7.31	7.01	14	15	1	3		0.00	0.01	0.000		0.56	0.66	1.10	1.08
21	1950	1827	20	3.42		0.18	0.07	0.06	0.07	0.07		2.88	12	0	14	7.33	6.99	15	15	1	3		0.01	0.01	0.000		0.51	0.56	1.06	1.08
22	2222	1915	20	22.10		0.18	0.08	0.08	0.07	0.06		3.18	11	0	14	7.27	7.03	14	14	1	3		0.01	0.02	0.000		0.47	0.52	1.00	1.04
23	2227	1848	17	18.10		0.10	0.25	0.23	0.15	0.07		2.58	11	0	11	7.13	6.78	12	12	2	3		0.01	0.03	0.001		0.49	0.54	1.13	1.28
24	1951	1797	17	11.60		0.20	0.08	0.08	0.08	0.06		2.71	10	0	11	7.25	6.90	12	11	1	3		0.01	0.01	0.001		0.52	0.51	1.04	1.15
25	1986	1737	18	4.99		0.10	0.17	0.06	0.07	0.06		2.89	11	0	11	7.18	7.16	12	12	1	1		0.01	0.02	0.001		0.45	0.54	1.25	1.30
26	1960	1790	18	3.95		0.09	0.10	0.07	0.07	0.06		2.86	12	0	12	7.18	7.18	13	13	2	2		0.01	0.03	0.000		0.36	0.50	1.02	1.14
27	2070	1850	17	15.30		0.23	0.10	0.08	0.08	0.06		2.82	11	0	10	7.12	6.97	12	12	2	2		0.01	0.02	0.001		0.46	0.53	1.21	1.15
28	1998	1665	17	5.52		0.25	0.07	0.08	0.10	0.10		2.82	10	0	12	7.17	7.17	13	15	1	2		0.01	0.02	0.001		0.33	0.48	1.07	1.08
29	2218	1985	17	4.77		0.15	0.15	0.10	0.23	0.09		3.00	10	0	11	7.09	7.32	14	15	2	1		0.01	0.01	0.001		0.37	0.45	1.14	1.19
30	2006	1913	17	3.52		0.10	0.06	0.07	0.10	0.08		2.75	11	0	12	7.10	7.61	14	15	2	0		0.00	0.01	0.000		0.49	0.58	1.24	1.24
31																														
Total	62369	55112	460	291.00	0	4.51	3.21	3.10	3.19	2.38	0	85.71	317	0	348	214.37	213.23	391	397	44	61	0	0.25	0.63	0.021	0	14.64	17.79	32.58	32.13
Ave.	2079	1837	15.3	9.70	NA	0.15	0.11	0.10	0.11	0.08	NA	2.9	11	NA	12	7.15	7.11	13	13	1.5	2.0	NA	0.01	0.02	0.001	NA	0.49	0.59	1.09	1.07
Max.	2566	2233	20	61.10	0	0.25	0.25	0.25	0.23	0.26	0	3.5	12	0	14	7.37	7.98	16	17	2	6	0	0.01	0.04	0.001	0	0.76	0.94	1.25	1.30
Min.	1927	1480	10	1.78	0	0.07	0.06	0.06	0.07	0.06	0	2.2	8	0	4	6.96	6.61	10	10	1	0	0	0.00	0.01	0.000	0	0.33	0.36	0.95	0.90

Date	Chemicals Used — Pounds Per 24 hours: Polymer - Coagulant	Disinfect. - Post	Disinfect. - Pre.	Caustic - pH adjust.	Fluoride	Taste and Odor	Alum	Aqua Mag	Calculated Dose (mg/l): Polymer - Coagulant Aid	Chlorine	Caustic - pH adjust.	Fluoride .18	Fluoride	Alum	Aqua Mag
1	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
1		63		56	100		150	45.6	NA	3.9	3.5	1.12	6.22	9.3	2.84
2		70		64	110		161	45.6	NA	4.1	3.7	1.15	6.40	9.4	2.65
3		78		59	123		252	45.6	NA	4.3	3.2	1.21	6.73	13.8	2.50
4		73		86	111		305	57.0	NA	4.5	5.3	1.22	6.79	18.7	3.49
5		68		96	111		284	57.0	NA	3.9	5.5	1.15	6.40	16.4	3.29
6		64		72	100		187	39.9	NA	3.8	4.3	1.08	5.97	11.2	2.38
7		61		78	100		171	51.3	NA	3.5	4.4	1.02	5.67	9.7	2.91
8		125		112	111		428	57.0	NA	7.7	6.9	1.23	6.84	26.4	3.51
9		125		126	117		214	57.0	NA	7.5	7.5	1.26	6.99	12.8	3.41
10		63		112	116		225	57.0	NA	2.9	5.2	0.98	5.42	10.5	2.66
11		75		112	107		150	51.3	NA	4.2	6.3	1.09	6.06	8.5	2.90
12		69		96	105		139	39.9	NA	4.0	5.5	1.09	6.06	8.0	2.30
13		94		70	110		145	45.6	NA	5.5	4.1	1.15	6.40	8.4	2.65
14		94		70	115		139	57.0	NA	5.4	4.0	1.18	6.55	7.9	3.25
15		88		70	115		145	45.6	NA	5.0	4.0	1.17	6.52	8.2	2.59
16		69		75	117		155	45.6	NA	4.0	4.3	1.22	6.76	9.0	2.63
[illegible]		64		67	113		150	57.0	NA	3.9	4.1	1.23	6.84	9.1	3.45
[illegible]		86		80	122		182	51.3	NA	4.7	4.4	1.20	6.66	9.9	2.80
19		88		67	120		209	51.3	NA	4.8	3.7	1.18	6.57	11.4	2.81
20		75		43	112		187	51.3	NA	4.5	2.6	1.21	6.70	11.2	3.07
21		75		64	120		198	51.3	NA	4.6	3.9	1.33	7.38	12.2	3.15
22		88		88	126		311	45.6	NA	4.7	4.7	1.22	6.80	16.8	2.46
23		84		102	132		268	57.0	NA	4.5	5.5	1.28	7.11	14.4	3.07
24		73		104	116		193	45.6	NA	4.5	6.4	1.28	7.13	11.9	2.80
25		81		96	104		187	57.0	NA	4.9	5.8	1.13	6.28	11.3	3.44
26		69		80	105		182	45.6	NA	4.2	4.9	1.16	6.42	11.1	2.79
27		81		94	110		198	34.2	NA	4.7	5.4	1.15	6.37	11.5	1.98
28		75		96	106		161	39.9	NA	4.5	5.8	1.15	6.36	9.7	2.39
29		119		83	123		166	62.7	NA	6.4	4.5	1.20	6.65	9.0	3.39
30		75		99	100		171	51.3	NA	4.5	5.9	1.08	5.98	10.2	3.07
31									NA	NA	NA	NA	NA	NA	NA
Total	0	2412	0	2517	3377	0	6013	1499	0	140	145	35.11	195.04	348	87
Ave.	NA	80.4	NA	83.9	112.6	NA	200.4	50.0	NA	4.7	4.8	1.17	6.50	11.6	2.89
Max.	0	125	0	126	132	0	428	62.7	0	7.7	7.5	1.33	7.38	26.4	3.51
Min.	0	61	0	43	100	0	139	34.2	0	2.9	2.6	0.98	5.42	7.9	1.98

Chemicals Used	Brand	Analysis	Cost: Per LB.	Cost: Per Month
Alum	PBS		$0.0364	$218.87
Caustic	ADC	20%	$0.095	$239.12
Chlorine	ADC	12.50%	$0.0580	$195.87
Fluoride	ADC		$0.240	$810.48
Aqua Mag	ADC		$0.7018	$1,052.00

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____

Signature

Certificate Number _____

CMOR APR-06.xls

TVA-00006227

Name of Water Utility: Harriman Utility Board
Name of Water Treatment Plant: Harriman Water Treatment Plan
County: Roane PWSID# 0000287

Tennessee Department of Environment and Conservation
Division of Water Supply
Comprehensive Monthly Operation Report
Month-year: January-06

		Jar Test Data				Filter Data	Filter Operation Data									Disinfection and CT Values: First Disinfection Sequence					Second Disinfection Sequence						Microbiological Examination and System Pressure					
Date	Raw Water Treated 1000 Gallons	Coagulant Mg/L Alum	Polymer	pH Caustic		Complete Applicable Blanks Each Month	Number Of Filters Used	Filter Hours = Col. 54 x Hours Run	Average Length Filter Run - Hours	Rate-Of-Flow Gauges Working	Loss-Of-Head Gauges Working	Turbidimeters Working	Backwash Rate gpm/ft2	Backwash Water Used-- 1000Gallons		Free Chlorine End of Sequence	Contact Time In Minutes	End of Sequence	Calculated	Required	Free Chlorine End of Sequence	Contact Time In Minutes	End of Sequence	Calculated	Required	Total Inactivation Ratio (Ct Calc/Ct Req.)	Raw	Plant Effluent	Distribution System	Free Chlorine mg/L At Point of Sampling & Distribution	Static Pressure (psi)	Location of sampling point in distribution system. MUST VARY WITHIN SYSTEM.
																C	T	pH	CT	CT	C	T	pH	CT	CT								
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	
1	2370	8	0	6.6		(a) Type of Filters Gravity (X)	2	36	18	2	4	2	16.07	82							3.42	68	7.54	233	34	6.84						
2	2384	9	0	6.4			2	36	18	2	4	2	16.07	74							3.50	68	7.49	238	28	8.5						
3	2516	8	0	6.6		Pressure ( )	2	36	18	2	4	2	16.07	0							3.32	68	7.26	226	28	8.06				2.2		1-3-06 199 Lakeshore Dr. (special)
4	2232	8	0	6.5			2	34	17	2	4	2	16.07	78							2.72	68	7.82	185	33	5.6				2.2		1-3-06 201 Ruritan Rd.
5	2322	8	0	6.5		(b) Number of Filters ___2___	2	36	18	2	4	2	16.07	82							2.39	68	8.01	163	38	4.28				2.2		1-3-06 Riverfront Park
6	2444	8	0	6.5			2	36	18	2	4	2	16.07	78							2.46	68	7.15	167	27	6.2						
7	2408	8	0	6.5		(c) Filter Area-- ft2 (Each) ___280____	2	36	18	2	4	2	16.07	78							3.14	68	7.25	214	28	7.63						
8	2445	8	0	6.5			2	36	18	2	4	2	16.07	86							3.13	68	7.02	213	28	7.6						
9	2442	8	0	6.5		(d) Total Area-- ft2 ___560____	2	36	18	2	4	2	16.07	74							3.43	68	7.08	233	28	8.33				2.2		1-9-06 836 Unaka St.
10	2266	8	0	6.5			2	36	18	2	4	2	16.07	78							2.62	68	7.16	178	27	6.6				2.2		1-9-06 1745 Harriman Hwy.
11	2298	10	0	6.4		(e) Filter Rate gpm/ft2 _4 gpm/ft2_____	2	36	18	2	4	2	16.07	82							2.56	68	7.85	174	32	5.44						
12	2217	8	0	6.4			2	36	18	2	4	2	16.07	90							2.93	68	7.95	199	34	5.86				2.2		1-10-06 1839 S. Roane St.
13	2348	8	0	6.4		(f) Total Rated Filter Capacity _2240_____	2	36	18	2	4	2	16.07	0							2.77	68	7.27	188	27	6.98				2.2		1-10-06 327 Margrave St.
14	2150	8	0	6.4		GPM __2240_____	2	36	18	2	4	2	16.07	78							2.72	68	7.54	185	33	5.6						
15	2432	8	0	6.5			2	36	18	2	4	2	16.07	78							3.48	68	7.37	237	28	8.45						
16	2289	7	0	6.5			2	36	18	2	4	2	16.07	74							2.58	68	7.19	175	27	6.5						
17	2093	8	0	6.5			2	32	16	2	4	2	16.07	82							3.07	68	7.26	209	28	7.46				2.2		1/16/2006 1705 S. Roane St.
18	2002	10	0	6.4			2	48	24	2	4	2	16.07	94							3.72	68	7.49	253	28	9.03				2.2		1-16-06 1008 S. Roane St.
19	2536	28	0	6.3			2	42	21	2	4	2	16.07	179							2.99	68	6.96	203	23	8.84						
20	2640	23	0	6.4			2	36	18	2	4	2	16.07	0							3.31	68	7.00	225	23	9.79						
21	2420	15	0	6.5			2	36	18	2	4	2	16.07	156							2.58	68	7.15	175	27	6.5						
22	2441	13	0	6.5			2	36	18	2	4	2	16.07	0							2.96	68	7.40	201	28	7.19						
23	2184	11	0	6.5			2	36	18	2	4	2	16.07	164							2.68	68	7.01	182	27	6.75				2.2		1-24-06 3297 Airport Rd.
24	2353	15	0	6.7			2	38	19	2	4	2	16.07	191							2.74	68	7.16	186	27	6.9				2.2		1-24-06 225 Clifty Creek Rd.
25	2802	20	0	6.8			2	42	21	2	4	2	16.07	0							2.92	68	7.31	199	28	7.09						
26	2346	14	0	6.7			2	36	18	2	4	2	16.07	164							3.09	68	7.42	210	28	7.5						
27	2376	11	0	6.5			2	36	18	2	4	2	16.07	0							3.01	68	7.51	205	34	6.02						
28	2443	11	0	6.3			2	36	18	2	4	2	16.07	86							2.88	68	7.27	196	28	6.99						
29	2379	8	0	6.5			2	36	18	2	4	2	16.07	78							3.31	68	7.25	225	28	8.04						
30	2409	6	0	6.6			2	36	18	2	4	2	16.07	74							2.53	68	7.28	172	27	6.37						
31	2283	6	0	6.6			2	34	17	2	4	2	16.07	0							3.49	68	7.24	237	28	8.48						
Total	73270	329	0	202			62	1134	567	62	124	62	498.2	2380																		
Avg.	2363.5	11	NA	7			2	37	18	2	4	2	16	77																		
Max.	2802	28	0	6.8			2	48	24	2	4	2	16.07	191																		
Min.	2002	6	0	6.3			2	32	16	2	4	2	16.07	0																		

Cost of Production
(a) Cost of Personnel _____
(b) Cost of Chemicals _____
(c) Cost of Energy _____
(d) Insurance & Misc. Cost _____
(e) Total Production Cost _____
(f) Cost Per MG Water Treated _____

Remarks:

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Signature _____
Signature

Certificate Number _____

CMOR JAN-06.xls

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