SECTION 6
Cont'd

Ashuelot River
8/29/01

HEADER DATA MISSING

Sampling team	RMST 1	RMST 2	ST 1	ST 2	ST 3	ST 4
Team Members	G Comstock & G Carlson	E Ducharme & G Berlandi				
DO/Temp Meter SN	01C0218AB	01C0218AM	01C0218AD	01C0218AM	98M0304AD	98M0312AF
pH Meter SN			10732	–	12979	14166
Spec Cond. SN			01C0665AD	–	00D0152AH	00C0771AD

DO/TEMP METER

				RMST 1	RMST 2	ST 1	ST 2	ST 3	ST 4
		PASS	Calibration Elevation (ft)	[illegible]	300				
Calibration Check 1	OK		Time	6:00	[illegible]				
	OK	FAIL	Temp (c)	[illegible]	[illegible]				
	OK		% Sat reading (full Sat)	[illegible]	[illegible]				
	OK	PASS	Temp (degrees C)	20.1	20.1				
	OK	PASS	Group check (all probes in same bucket) DO (mg/L)	7.44	7.49				
			Comments						
Calibration Check 2	OK		Time	6:49	6:49				
	MISSING	#VALUE!	Temp (c)	19.8	-				
	MISSING		% Sat reading (full Sat)	-	-				
Group Check (all probes in same bucket)	OK	PASS	Temp (degrees C)	19.8	19.9				
	OK	PASS	DO (mg/L)	6.39	6.38				
			Comments	No sound in recalibrate					
Calibration Check 3	MISSING		Time	-	-				
	MISSING	#VALUE!	Temp (c)	-	-				
	MISSING		% Sat reading (full Sat)	-	-				
	OK	PASS	Temp (degrees C)	20.6	20.6				
	OK	PASS	Group check (all probes in same bucket) DO (mg/L)	6.12	6.13				
			Comments						
Calibration Check 1		PASS	Calibration Elevation (ft)			300	300	300	300
	MISSING		Time			-	-	-	-
	MISSING	PASS	Temp (c)			-	-	-	-
	MISSING		% Sat reading (full Sat)			98.5	98.1	99.1	98.1
	MISSING	PASS	Temp (degrees C)			21.9	21.9	21.9	21.8
	MISSING	PASS	Group check (all probes in same bucket) DO (mg/L)			6.50	6.54	6.61	6.73
			Comments			All new membranes			
Calibration Check 2	MISSING		Time			–	–	–	–
	MISSING	PASS	Temp (c)						
	MISSING		% Sat reading (full Sat)						
	MISSING	PASS	Temp (degrees C)				20.9	20.8	20.8
	MISSING	PASS	Group check (all probes in same bucket) DO (mg/L)				7.09	7.20	7.26
			Comments						
			% Sat reading (full Sat)						
Recal & Bucket Check			Temp (degrees C)						
			mg/L						
Calibration Check 3	OK		Time				15:00		
	MISSING	PASS	Temp (c)						
	MISSING		% Sat reading (full Sat)						
	MISSING	PASS	Temp (degrees C)			24.5	24.6	no meter	24.6
	MISSING	PASS	Group check (all probes in same bucket) DO (mg/L)			7.60	7.58	–	7.61
			Comments						

pH METER

						ST 1	ST 2	ST 3	ST 4
Calibration Check 1 (Pre-sampling)	OK		Time			9:20	9:20	9:20	9:20
	OK		Slope (%)			97.6	99.1	98.1	97.1
	OK		pH reading using 6.0 buffer			6.06	6.01	5.98	6.09
	OK	PASS	pGroup Check (all probes in one bucket)			6.57	6.39	6.66	6.52
			Comments			-	-	-	-
Calibration Check 2 (mid-sampling)	MISSING		Time						
	MISSING		Slope (%)					98.4 / 96.8	
	MISSING		pH reading using 6.0 buffer						
	OK	PASS	pH Group Check (all probes in one bucket)			6.75	6.88	7.15	6.62
	MISSING	PASS	pH Group Check (all probes in one bucket) (2nd reading)			6.88	6.81	–	6.86
			Comments					Faulty meter	
Calibration Check 3 (Post-sampling)	OK		Time			15:00	15:00	15:00	15:00
	MISSING		Slope (%)			-	-	-	-
	MISSING		pH reading using 6.0 buffer						
	MISSING	PASS	pH Group Check (all probes in one bucket)			7.02	6.98	-	7.03
			Comments			-	-	Faulty meter	-

CONDUCTIVITY

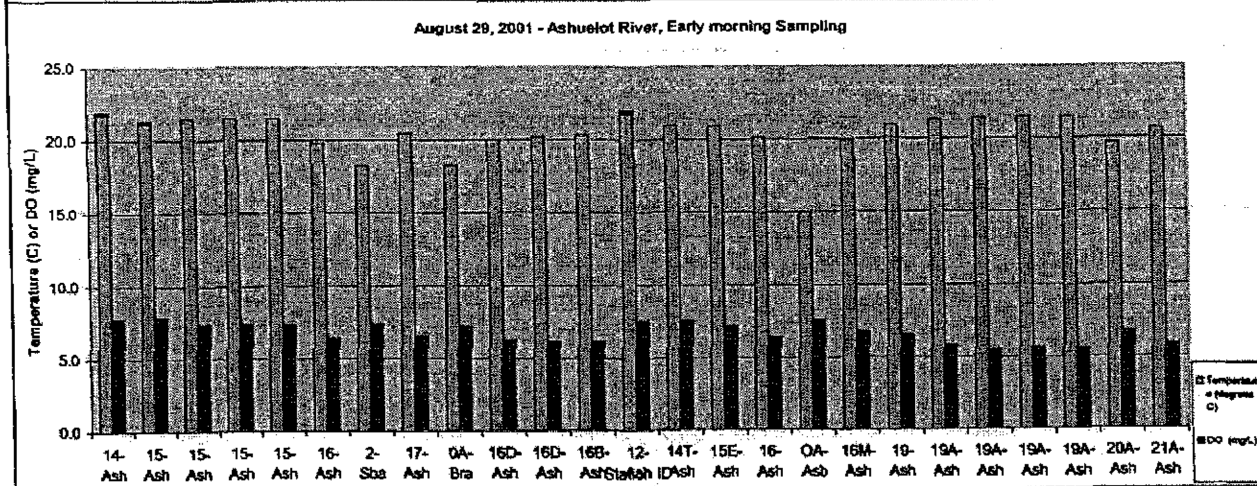
						ST 1	ST 2	ST 3	ST 4
Calibration Check 1 (Pre-sampling)	OK		Time			15:11	15:11	15:11	15:11
	OK	PASS	Bucket Conductivity Check µS/cm			277.7	283.5	284.3	275.8
			Comments						

Station	Sampler(1)	Sampler(2)	Feet from shore	Location	Total depth (feet)	Depth of measurement (feet)	Depth of measurement	Date	Time	Temperature (degrees C)	DO (mg/L)	DO meter SN	Notes
14-Ash	[illegible]	[illegible]	[illegible]	15 yds	4	Surface		8/29/01	06:20	21.9	7.79	[illegible]	Duckweed- Both banks
15-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	5	Surface		8/29/01	06:35	21.3	7.88	[illegible]	Duckweed- Both banks
15-Ash	[illegible]	[illegible]	1	Mid-Channel	9	5.5		8/29/01	06:35	21.5	7.48	[illegible]	Duckweed - Both banks + deposits on surface
15-Ash	[illegible]	[illegible]	1	Mid-Channel	9	3		8/29/01	06:35	21.5	7.48	[illegible]	-
15-Ash	[illegible]	[illegible]	1	Mid-Channel	9	3		8/29/01	06:38	21.5	7.38	[illegible]	one foot > bottom
16-Ash	[illegible]	[illegible]	[illegible]	[illegible]	3	Surface		8/29/01	06:49	19.8	6.39	[illegible]	Duckweed
2-Sba	[illegible]	[illegible]	[illegible]	Mid-Channel	2	Surface		8/29/01	07:10	18.3	7.46	[illegible]	Rooted macrophytes, clear. No duckweed
17-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	3	Surface		8/29/01	07:22	20.4	6.51	[illegible]	No duckweed - water looks hazy. Some rooted macrophytes
0A-Bra	[illegible]	[illegible]	[illegible]	Mid-Channel	[illegible]	Surface		8/29/01	07:29	18.3	7.35	[illegible]	No duckweed, clear. Bottom periphyton. Foam upstream.
16D-Ash	[illegible]	[illegible]	[illegible]	Mid-stream	[illegible]	Surface		8/29/01	08:43	20.0	6.32	[illegible]	No duckweed. Bottom periphyton
16D-Ash	[illegible]	[illegible]	[illegible]	Mid-stream	[illegible]	[illegible]		8/29/01	08:51	20.2	6.14	[illegible]	-
16B-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	[illegible]	Surface		8/29/01	[illegible]	20.3	6.11	[illegible]	Duckweed downstream of WWTF
12-Ash	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Top foot		8/29/01	06:53	21.9	7.87	[illegible]	Solid duckweed out at 12-ash - Lots of Duckweed--50' starting from bridge and going upstream - stinky too
14T-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	[illegible]	Top foot		8/29/01	08:28	20.9	7.49	[illegible]	Some duckweed in patches
15E-Ash	[illegible]	[illegible]	[illegible]	[illegible]	8	Top foot		8/29/01	08:39	20.8	7.10	[illegible]	Some duckweed in patches
16-Ash	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Top foot		8/29/01	6:49	20.3	6.78	[illegible]	Some duckweed along bank
0A-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	0.5	Surface		8/29/01	07:56	15.0	7.62	[illegible]	-
16M-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	1.5 - 2	Surface		8/29/01	07:20	19.8	6.78	[illegible]	-
19-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	0.5	Surface		8/29/01	07:40	20.9	6.83	[illegible]	-
19A-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	[illegible]	Surface		8/29/01	07:46	21.3	5.99	[illegible]	-
19A-Ash	[illegible]	[illegible]	1	Mid-Channel	[illegible]	5		8/29/01	07:52	21.4	5.83	[illegible]	-
19A-Ash	[illegible]	[illegible]	1	Mid-Channel	7	3.5		8/29/01	07:57	21.3	5.64	[illegible]	-
19A-Ash	[illegible]	[illegible]	2	Mid-Channel	7	1.75		8/29/01	08:03	21.5	5.58	[illegible]	-
20A-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	4	Surface		8/29/01	08:14	19.7	6.73	[illegible]	-
21A-Ash	[illegible]	[illegible]	[illegible]	Mid-Channel	4	Top foot		8/29/01	08:29	20.6	6.85	[illegible]	-
Meter check 16-Ash	[illegible]	[illegible]	-	-	-	Top foot		8/29/01	-	19.9	6.38	[illegible]	ENTER METER CHECK DATA HERE
16-Ash	[illegible]	[illegible]	[illegible]	[illegible]	3	Top foot		8/29/01	6:49	20.3	6.33	[illegible]	ENTER ORIGINAL DATA HERE
Do Temperature readings fall within +/- 0.5 degrees C and do DO readings fall within +/- 0.2 mg/L										PASS	PASS		

	Temperature (degrees C)	DO (mg/L)
[illegible]	25	25
Min	15.0	5.58
Max	21.9	7.88
Range	6.9	2.30
Average	20.4	6.75
St. Dev	1.5	0.75
Median	20.8	6.78

[illegible] Time is out of sequence. Time [illegible] 9:06 in [illegible] was out of sequence as listed on data sheet.

Double checked data [illegible]



Sampling Team Data, 20010829.xls[EMST Data

8/29/01		Ashuelot TMDL			Field Duplicate Checks				
Station	Date	Sample Time	Field Measurement Time	Temp (degrees C)	DO (mg/L)	DO (% sat)	Conductivity (uS/cm)	pH	Rep (Y/N)
20A-Ash	8/29/01	12:45	12:50	21.3	7.43		96.6	6.85	N
20A-Ash	8/29/01	12:55	--	21.7	7.43		96.8	6.75	Y
				0.4	0		0.1%	0.1	
				PASS	PASS		PASS	PASS	
19A-Ash	8/29/01	14:08	14:12	--	--		134.5	6.97	N
19A-Ash	8/29/01			23.5	8.00		134.5	6.97	Y
							0.0%	0	--
							PASS	PASS	
19A-Ash	8/29/01	--	13:40	24.2	7.34		--	--	N
19A-Ash	8/29/01	--	13:40	23.9	7.59		--	--	Y
				0.3	0.25				
				PASS	PASS				

Ashuelot TMDL		Field Summary							
29-Aug-01	Temp (degrees C)	DO (mg/L)	DO (% sat)	Conductivity (uS/cm)	pH				
n=	29	27	0	22	22				
Min	19.7	4.25	0.00	71.4	6.37				
Max	24.2	8.58	0.00	828.0	7.26				
Range	4.5	4.33	0.0	756.6	0.89				
Average	22.10	7.02	#DIV/0!	251.8	6.84				
St. Dev.	1.17	0.94	#DIV/0!	187.2	0.21				
Median	21.8	7.11	#NUM!	230.6	6.85				

29-Aug-01
Ashuelot River

Station	Sampler	Sampler	Date	Waterbody Name	Rep (Y/N)	Sample Time	Distance from Mid-Channel (ft)	Distance from Bank (ft)	Lab Accession #
21-Ash	G. Carlson	A. Dunlap	[illegible]	Ashuelot R	N	13:11			[illegible]
20A-Ash (Dup 2)	G. Carlson	A. Dunlap	[illegible]	Ashuelot R	Y	12:55			[illegible]
20A-Ash (Dup 1)	G. Carlson	A. Dunlap	[illegible]	Ashuelot R	N	12:45			[illegible]
19A-Ash (Dup 2)	D. Soule	K. Callahan	[illegible]	Ashuelot R	Y	10:32			[illegible]
19A-Ash (Dup 1)	D. Soule	K. Callahan	[illegible]	Ashuelot R	N	12:55			[illegible]
19-Ash	D. Soule	K. Callahan	[illegible]	Ashuelot R	N	13:12	6	4	[illegible]
17-Ash	G. Carlson	A. Dunlap	[illegible]	Ashuelot R	N	12:15			[illegible]
6A-Bra	D. Soule	K. Callahan	[illegible]	[illegible]	N	10:20	2	4	[illegible]
16N-Ash	S. Dunbarton	G. Berlandi	[illegible]	[illegible]	N	12:21	Mid-channel	6	[illegible]
6A-Ash	S. Dunbarton	G. Berlandi	[illegible]	[illegible]	N	12:31	Mid-channel	8	[illegible]
16D-Ash	K. Perkins	T. Cronan	[illegible]	[illegible]	N	11:32			[illegible]
Keene WWTF	K. Perkins	T. Cronan	[illegible]	Effluent	N	11:00	Composite		[illegible]
16B-Ash	K. Perkins	T. Cronan	[illegible]	[illegible]	N	13:36			[illegible]
3-Shr	G. Carlson	A. Dunlap	[illegible]	[illegible]	N	10:55			[illegible]
16-Ash	D. Soule	K. Callahan	[illegible]	Ashuelot R	N	11:16	15	8	[illegible]
16C-Ash	S. Dunbarton	G. Berlandi	[illegible]	[illegible]	N	11:05	25	15	[illegible]
15-Ash	K. Perkins	T. Cronan	[illegible]	[illegible]	N	10:35		30	[illegible]
14T-Ash	G. Carlson	A. Dunlap	[illegible]	[illegible]	N	10:30			[illegible]
W. Swanzey WWTF	K. Perkins	T. Cronan	[illegible]	Effluent	N	10:00	Composite		[illegible]
14-Ash	S. Dunbarton	G. Berlandi	[illegible]	[illegible]	N	10:25	50	18	[illegible]
12-Ash	D. Soule	K. Callahan	[illegible]	Ashuelot R	N	10:00			[illegible]
Bottle Blank #1	G. Comstock		[illegible]	[illegible]	N	12:40	NA	NA	[illegible]
Bucket Blank #1	G. Comstock		[illegible]	[illegible]	N	12:50	NA	NA	[illegible]
Bucket Blank versus QAPP standard									
Bottle Blank versus QAPP standard									
ISCO Blank, Keene WWTF	S. Larson	T. Cronan	[illegible]	[illegible]	N	13:20	NA	NA	[illegible]
ISCO Blank, W. Swanzey WWTF	S. Larson	T. Cronan	[illegible]	[illegible]	N	13:30	NA	NA	[illegible]
ISCO Blank versus QAPP standard									
ISCO Blank versus QAPP standard									

Station	BOD20	BOD5	CBOD (calculated)	Chlor-a	NO2-N & NO3-N	NH3-N	TKN	ORG N (calculated)	TSS	Ortho-P	T. Phos	ORG P (calculated)	TOC
Units	mg/L	mg/L	mg/L	mg/m³	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
21-Ash	2.46	NS	1.67	1.87	0.025	0.05	0.5	0.25	1	0.005	0.011	0.01	3.5
20A-Ash (Dup 2)	1.5	NS	1.74	1.36	0.025	0.05	0.3	0.25	1	0.005	0.011	0.01	3
20A-Ash (Dup 1)	1.5	NS	1.90	1.45	0.05	0.05	0.3	0.25	1.5	0.005	0.012	0.01	3.3
19A-Ash (Dup 2)	1.5	NS	1.55	2.30	0.025	0.05	0.2	0.15	1.5	0.005	0.009	0.00	2.6
19A-Ash (Dup 1)	1.5	NS	1.22	1.59	0.025	0.05	0.3	0.25	1.5	0.005	0.009	0.00	3.5
19-Ash	1.5	NS	1.20	0.98	0.025	0.05	0.3	0.15	1	0.005	0.009	0.00	3.3
17-Ash	1.5	NS	1.51	1.09	0.05	0.5	0.8	0.30	1.0	0.005	0.015	0.01	3.4
6A-Bra	2.4	NS	1.74	3.6	0.21	0.10	0.4	0.30	1	0.005	0.013	0.01	2.8
16N-Ash	1.5	NS	1.56	2.25	0.12	0.05	0.2	0.15	2	0.005	0.014	0.01	3
6A-Ash	2.84	NS	2.06	0.21	0.37	0.1	0.3	0.20	4.5	0.005	0.027	0.02	3.1
16D-Ash	3.60	NS	2.77	1.44	0.13	0.10	0.3	0.20	3.5	0.005	0.016	0.01	3.1
Keene WWTF	10.20	*	8.62	1.58	15	0.6	4.8	4.20	8.5	2.95	3.25	0.30	11.7
16B-Ash	5.40	NS	7.77	3.45	4.51	0.18	1.1	1.60	3.5	0.022	0.035	0.06	5.2
3-Shr	3.5	NS	1.42	3.73	0.10	0.16	0.3	0.20	2	0.010	0.02	0.02	3.7
16-Ash	2.8	NS	2.27	3.34	1.77	0.05	0.4	0.35	4.5	0.246	0.287	0.04	3.6
16C-Ash	2.9	NS	3.41	6.04	1.93	0.1	0.5	0.40	1	0.252	0.31	0.05	3.5
15-Ash	3.5	NS	3.79	10.48	1.94	0.05	0.5	0.45	4.5	0.200	0.265	0.06	3.9
14T-Ash	2.8	NS	2.06	6.97	1.60	0.05	0.6	0.55	1.5	0.201	0.244	0.04	4
W. Swanzey WWTF	164	24	46.47	237.6	0.025	31.4	45	13.60	253	4.95	5.49	0.74	37.2
14-Ash	9.5	NS	8.48	69.64	1.86	0.2	0.9	0.70	9	0.136	0.277	0.14	4.1
12-Ash	8.5	NS	4.43	23.77	1.15	0.1	0.5	0.40	4	0.110	0.191	0.08	4.1
Bottle Blank #1	2.4	NS	-1.13	0.05	0.05	0.1	0.1		2.5	0.005	0.005		0.3
Bucket Blank #1	2.4	NS	0.67	0.05	0.05	0.1	0.1		1.3	0.005	0.005		0.5
Bucket Blank versus QAPP standard	PASS	NO DATA		NO DATA	PASS	PASS	PASS		NO DATA	PASS	PASS		PASS
Bottle Blank versus QAPP standard	PASS	NO DATA		NO DATA	PASS	PASS	NO DATA		NO DATA	PASS	PASS		NO DATA
ISCO Blank, Keene WWTF					0.05	0.1	0.1			0.005	0.008		0.7
ISCO Blank, W. Swanzey WWTF					0.05	0.1	0.1			0.003	0.01		0.3
ISCO Blank versus QAPP standard					PASS	FAIL	PASS						
ISCO Blank versus QAPP standard					PASS	FAIL	FAIL						

* Results reported as < RDL. Half the RDL used for avg calcs and model input.

[illegible]	BOD20	BOD5	CBOD (calculated)	Chlor-a	NO2-N & NO3-N	NH3-N	TKN	ORG N (calculated)	TSS	Ortho-P	T. Phos	ORG P (calculated)	TOC
[illegible]	21	2	21	21	21	21	21		21	21	21		21
[illegible]	19	0	17	21	21	21	21		21	21	21		21
Min	1.50	[illegible]	1.22	0.98	[illegible]	[illegible]	[illegible]		1.00	0.01	0.01		2.60
Max	10.20	[illegible]	8.62	237.60	15.00	31.40	45.00		253.00	4.95	5.49		37.20
[illegible]	5.70	[illegible]	2.17	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	2.15	[illegible]	[illegible]	[illegible]	[illegible]		15.16	[illegible]	[illegible]		5.36
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	2.77	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]

4C

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River Site / Town: See Below Contact: Gregg Comstock (x2983)

Comments: Collected By & Phone# See "Other / Notes" below

	Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD 20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a	Other / Notes (Put Names of samplers here)	Lab ID # (For Lab Use Only)
1	12-Ash Ashuelot River- Coombs Rd. Covered Bridge, Winchester	8/29/01 10:30	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	D. Soule K. Callahan	
2	14-Ash Ashuelot River, Approx. 100 ft upstream of Covered Bridge, Swanzey	8/29/01 10:25	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	S. Duchaine G. Bardaudi	A29667-2
3	1st Sample of composite → W. Swanzey WWTF Effluent	8/29/01 10:00	6	Aq	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	K. Perkins T. Croteau	A29667-3 08/29 10:00
4	14T-Ash, Denman Thompson Highway Bridge, Swanzey	8/29/01 10:30	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	A. Doulos G. Carlson	A29667-4 08/29 10:30

Relinquished By [signature] Date and Time 8/29/01 18:40 Received By Locked Storage

Relinquished By Locked Storage Date and Time 8/30/01 7:00 Received By _____

Relinquished By _____ Date and Time _____ Received For Laboratory By [signature]

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other: _____

 Data Reviewed By _____ Date _____

Section No.: 22.0
Revision No.: 1
Date: 1-17-01

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River Site / Town: See Below Contact: Gregg Comstock (x2983)

Comments: Collected By & Phone# See "Other / Notes" below

	Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD 20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a	Other / Notes (Put Names of samplers here)	Lab ID # (For Lab Use Only)
5	15-Ash Ashuelot River, Thompson Covered Bridge, Homestead Woolen Impoundment, Swanzey.	8/29/01 10:35	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	K. Perkins T Croteau	A29662-5 08/29 10:3
6	15E-Ash Ashuelot River, Dirt Road off of Sawyer's Crossing Road, Swanzey.	8/29/01 11:05	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	S. Dochanne G. Benlandi	A29663-6 08/29 11:1
7	16-Ash Ashuelot River, Cresson Bridge (covered bridge off of Sawyer's Crossing Road), Swanzey	8/29/01 11:10	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	D. Soule K. Callahan	A29664-7 08/29 11:1
8	2-Sba South Branch Ashuelot River, Rte 32 bridge, Swanzey.	8/29/01 10:55	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	A. Doulon G. Carlson	A29665-8 08/29 10:
9	16B-Ash Ashuelot River, Approximately 50 feet upstream of confluence with S. Branch Ashuelot River, Swanzey.	8/29/01 13:20	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	K. Perkins T. Crotteau	A29666-9 08/29 13:

Relinquished By G Comstock Date and Time 8/29/01 15:40 Received By Rodney Stevens

Relinquished By R. Stevens Date and Time 8/29/01 Received By

Relinquished By Date and Time **Received For Laboratory By**

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other:

Page 2 of 6 Data Reviewed By Date

Section No.: 22.0
Revision No.: 1
Date: 1-17-01

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River Site / Town: See Below Contact: Gregg Comstock (x2983)

Comments: Collected By & Phone# See "Other / Notes" below

	Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD 20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a	Other / Notes (Put Names of samplers here)	Lab ID # (For Lab Use Only)
	1st Sample for composite															
10	Keene WWTF Effluent	8/28/01 11:00	6	Aq	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	K. Perkins T Croteau	
11	BucketB#1 Field Bucket Blank	8/29/01 12:50	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	G. Comstock	
12	BottleB#1 Field Bottle Blank	8/29/01 12:40	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	G. Comstock	
13	16D-Ash Ashuelot River, Approximately 50 feet upstream of Keene WWTF outfall pipe, Swanzey	8/29/01 13:32	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	K. Perkins T. Croteau	

Relinquished By G Comstock Date and Time 8/29/01 18:10 Received By L. Stanley

Relinquished By Stanley Date and Time 8/30/01 Received By

Relinquished By Date and Time **Received For Laboratory By** W. Rake

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other:

Page 3 of 6 Data Reviewed By Date

Section No.: 22.0
Revision No.: 1
Date: 1-17-01

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River Site / Town: See Below Contact: Gregg Comstock (x2983)

Comments: Collected By & Phone# See "Other / Notes" below

	Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD 20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a	Other / Notes (Put Names of samplers here)	Lab ID # (For Lab Use Only)
14	0A-Asb Ash Swamp Brook, Railroad bed/bike path bridge approximately 200 feet upstream from confluence with Ashuelot River, Swanzey	8/29/01 12:31	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	G. Barlandi S. Ducharme	A29647-14 08/29 12:31
15	16M-Ash Ashuelot River, Approximately 50 feet upstream of Ash Swamp Brook confluence, Swanzey	8/29/01 12:21	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	G. Barlandi S. Ducharme	A29647-15 08/29 12:21
16	0A-Bra The Branch River, Approximately 100 feet upstream of confluence with Ashuelot River, Keene	8/29/01 10:24	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	D. Soole K. Callahan	
17	17-Ash Ashuelot River, Foot bridge off of Martel Ave., Keene	8/29/01 12:45	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	A. Doulon G. Carlson	

Page 1 of 1 Relinquished By G Comstock Date and Time 8/29/01 18:40 Received By L. Stonage

Relinquished By L. Stonage Date and Time 8/30/01 Received By

Relinquished By Date and Time **Received For Laboratory By** LD Frost

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other:

Page 4 of 6 Data Reviewed By Date

Section No.: 2
Revision No.:
Date: 1-17-01

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River Site / Town: See Below Contact: Gregg Comstock (x2983)

Comments: Collected By & Phone# See "Other / Notes" below

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD 20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a	Other / Notes (Put Names of samplers here)	Lab ID # (For Lab Use Only)
19-Ash Ashuelot River West Street Bridge Keene	8/29/01 13:12	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	D. Soule K. Callahan	A21657-18
19A-Ash – DUP1 Ashuelot River Foot bridge across West Street dam impoundment, Keene	8/29/01 13:55	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	D. Soule K. Callahan	A21657-19
19A-Ash – DUP2 Ashuelot River Foot bridge across West Street dam impoundment, Keene	8/29/01 14:12	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	D. Soule K. Callahan	A21657-20

Relinquished By G. Comstock Date and Time 8/29/01 18:40 Received By K. Stonage

Relinquished By K. Stonage Date and Time 8/30/01 Received By

Relinquished By Date and Time **Received For Laboratory By** K. Stonage

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other:

Data Reviewed By Date

Section No.: 22.(
Revision No.: 1
Date: 1-17-01

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River Site / Town: See Below Contact: Gregg Comstock (x2983)

Comments: Collected By & Phone# See "Other / Notes" below

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD 20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a	Other / Notes (Put Names of samplers here)	Lab ID # (For Lab Use Only)
20A-Ash – DUP1 Ashuelot River Stone Arch Bridge 200 feet upstream of Rte 12A.	8/29/01 12:45	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	A. Donlon G. Carlson	
20A-Ash – DUP2 Ashuelot River Stone Arch Bridge 200 feet upstream of Rte 12A.	8/29/01 12:55	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	A. Donlon G. Carlson	
21-Ash Ashuelot River East Surry Road bridge, Surry	8/29/01 13:15	6	Aq		Y	Y	Y	Y	Y	Y	Y	Y	Y	A. Donlon G. Carlson	A27667-22 08/29 13:15

Page 1 of 1 Relinquished By G Comstock Date and Time 8/29/01 19:40 Received By L. Stenger

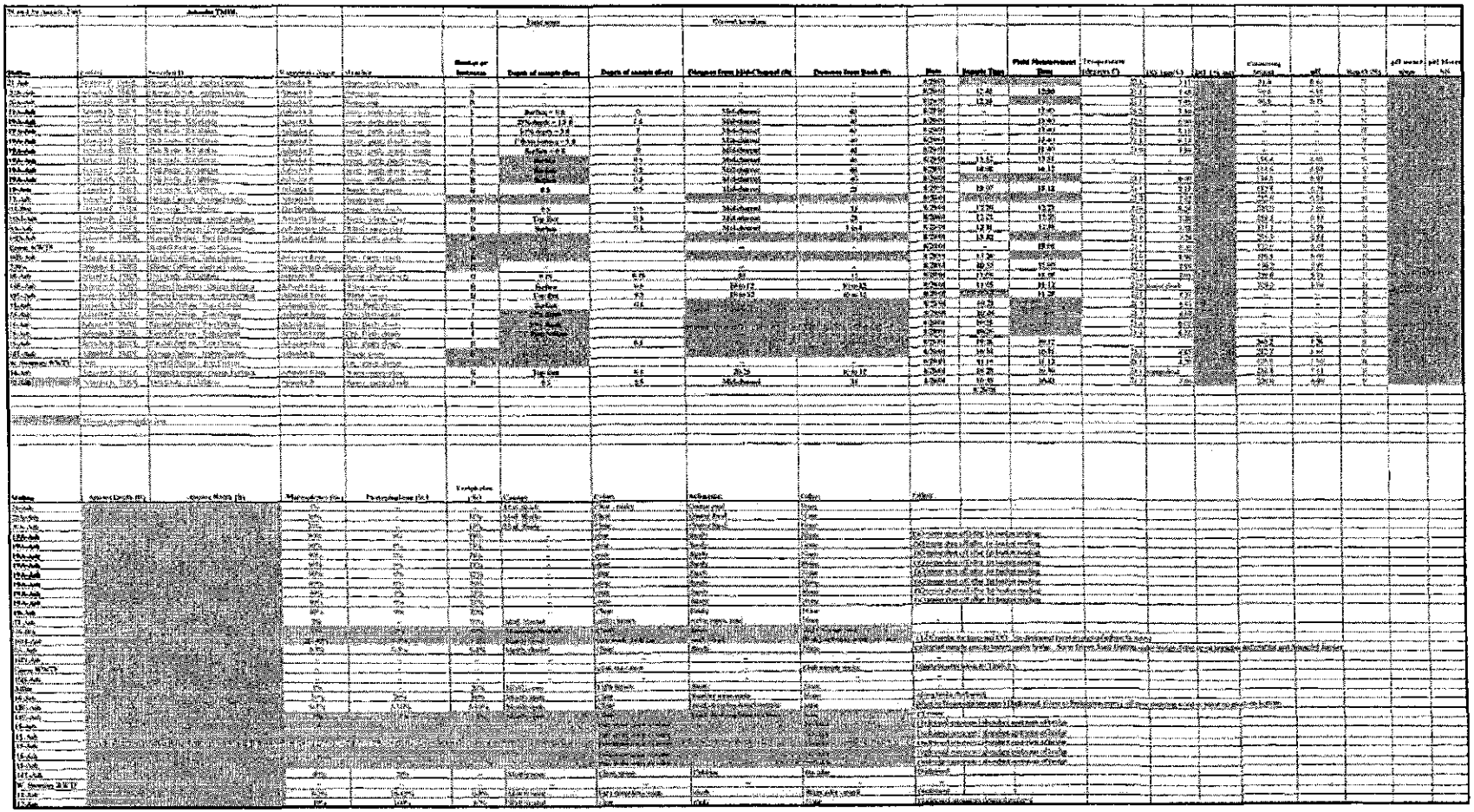
Relinquished By L. Stenger Date and Time 8/30/01 Received By

Relinquished By Date and Time **Received For Laboratory By** W. Rock

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other:

Page 6 of 6 Data Reviewed By Date

Section No.: 22
Revision No.: 1
Date: 1-17-01



State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-23
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 13:15
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 21-ASH E SURRY RD BRDG
Descript : TMDL RIVER STUDIES
Site : SURRY
Collectby: A DONLON/G CARLSON
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.4	mg/L		
Chlorophyll "A"	1.07	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	<1	mg/L	1	160.2
T. PHOSPHORUS	.011	mg/L	.005	365.3
Total Organic Carbon	3.5	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-22
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:55
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 20A-ASH DUP2 ASH RIV STONE ARC BR
Descript : TMDL RIVER STUDIES
Site : RT 12A
Collectby: A DONLON/G CARLSON
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	1.26	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.08	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	3	mg/L	1	160.2
T. PHOSPHORUS	.011	mg/L	.005	365.3
Total Organic Carbon	3	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Harworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-21
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:45
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 20A-ASH DUP1 STONE ARCH BRDG 200F
Descript : TMDL RIVER STUDIES
Site : RT 12A
Collectby: A DONLON/G CARLSON
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	1.45	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.08	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	1.5	mg/L	1	160.2
T. PHOSPHORUS	.011	mg/L	.005	365.3
Total Organic Carbon	3.3	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Hanover

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-20
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 14:12
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 19A-ASH DUP2 FT BRDG ACR W ST DAM
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: D SOULE/K CALLAHAN
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	2.16	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	1.5	mg/L	1	160.2
T. PHOSPHORUS	.009	mg/L	.005	365.3
Total Organic Carbon	3.6	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Garry Howarth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-19
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 13:55
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 19A-ASH DUP1 FT BRDG ACRO W ST DA
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: D SOULE/K CALLAHAN
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	1.59	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	1.5	mg/L	1	160.2
T. PHOSPHORUS	.009	mg/L	.005	365.3
Total Organic Carbon	3.5	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Harworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A29667-18
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 13:12
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 19-ASH WEST ST BRDG
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: D SOULE/K CALLAHAN
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	.93	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	<1	mg/L	1	160.2
T. PHOSPHORUS	.009	mg/L	.005	365.3
Total Organic Carbon	3.3	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A29667-17
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:15
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 17-ASH FOOT BRDG OFF MARTEL AVE
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: A DONLON/G CARLSON
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	1.99	mg/M3	.01	
NITROGEN,AMMONIA-N	.2	mg/L	.1	350.1
NITROGEN,NO3+NO2	.07	mg/L	.05	353.2
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	1	mg/L	1	160.2
T. PHOSPHORUS	.015	mg/L	.005	365.3
Total Organic Carbon	3.4	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Hanover

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A29667-16
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 10:24
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 0A-BRA BRANCH RIV APP 100FT UP CO
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: D SOULE/K CALLAHAN
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.4	mg/L		
Chlorophyll "A"	3.6	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.21	mg/L	.05	353.2
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	<1	mg/L	1	160.2
T. PHOSPHORUS	.013	mg/L	.005	365.3
Total Organic Carbon	2.8	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Harry Harworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-15
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:21
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 16M-ASH APP 50FT UP SWAMP BK CONF
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: G BERLANDI/S DUCHARME
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	2.35	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.12	mg/L	.05	353.2
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	8	mg/L	1	160.2
T. PHOSPHORUS	.014	mg/L	.005	365.3
Total Organic Carbon	3	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Harry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-14
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:31
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 0A-ASB SWAMP BK RAILBED/BIKPATH A
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: G BERLANDI/S DUCHARME
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.8	mg/L		
Chlorophyll "A"	6.19	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.37	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L	1	160.2
T. PHOSPHORUS	.027	mg/L	.005	365.3
Total Organic Carbon	3.1	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Hanover

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-13
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 13:32
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 16D-ASH APP 50FT UP KEENE WWTF OU
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: K PERKINS/T CROTEAU
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.6	mg/L		
Chlorophyll "A"	3.44	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.13	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	3.5	mg/L	1	160.2
T. PHOSPHORUS	.016	mg/L	.005	365.3
Total Organic Carbon	3.1	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Howarth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit

ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram

> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-10
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2001 11:00
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 1ST SAMP COMP WWTF EFFLU
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: K PERKINS/T CROTEAU
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	10.2	mg/L		405.1
BOD-5	< 6	mg/L		
Chlorophyll "A"	1.78	mg/M3	.01	350.1
NITROGEN,AMMONIA-N	.6	mg/L	.1	353.2
NITROGEN,NO3+NO2	15	mg/L	.5	351.2
NITROGEN,TKN	4.8	mg/L	.1	365.3
PHOSPHORUS,D.ORTHO	2.89	mg/L	.05	160.2
RESIDUE.T. SUSPENDED	6.5	mg/L	1	365.3
T. PHOSPHORUS	3.25	mg/L	.005	SM5310B
Total Organic Carbon	11.7	mg/L	.5	

Report Comments: BOD on sample -10 Used 100/300 mL dilution

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Hanover

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit

ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram

> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-9
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 13:26
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 16B-ASH APP 50FT UP CONFLU S BRAN
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: K PERKINS/T CROTEAU
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	5.4	mg/L		
Chlorophyll "A"	3.65	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	4.55	mg/L	.05	353.2
NITROGEN,TKN	1.1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.898	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	3.5	mg/L	1	160.2
T. PHOSPHORUS	.955	mg/L	.005	365.3
Total Organic Carbon	5.2	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-8
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 10:55
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 2-SBA S BRANCH ASHU RIV RTE 32 BR
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: A DONLON/G CARLSON
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	2.73	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	.16	mg/L	.05	353.2
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	2	mg/L	1	160.2
T. PHOSPHORUS	.02	mg/L	.005	365.3
Total Organic Carbon	3.2	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Harry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-7
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 11:10
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 16-ASH CRESS BRDGE COV BRDG OFF S
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: D SOULE/K CALLAHAN
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.8	mg/L		
Chlorophyll "A"	3.84	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	1.77	mg/L	.05	353.2
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.246	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L	1	160.2
T. PHOSPHORUS	.287	mg/L	.005	365.3
Total Organic Carbon	3.8	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-6
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 11:05
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 15E-ASH ASH RIVE DIRT RD OFF SAWY
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: S DUCHARME/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.9	mg/L		
Chlorophyll "A"	6.04	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	1.93	mg/L	.05	353.2
NITROGEN,TKN	.5	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.257	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	<1	mg/L	1	160.2
T. PHOSPHORUS	.31	mg/L	.005	365.3
Total Organic Carbon	3.5	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit

ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram

> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A29667-5
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 10:35
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 15-ASH THOM COV BRDG HOME WOOL IM
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: K PERKINS/T CROTEAU
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.5	mg/L		
Chlorophyll "A"	10.43	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	1.54	mg/L	.05	353.2
NITROGEN,TKN	.5	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.206	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L	1	160.2
T. PHOSPHORUS	.265	mg/L	.005	365.3
Total Organic Carbon	3.9	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Hawor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-4
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 10:30
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 14T-ASH DENMAN THOMP HWY BRDG
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: A DONLON/G CARLSON
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.8	mg/L		
Chlorophyll "A"	6.92	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	1.5	mg/L	.05	353.2
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.201	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	1.5	mg/L	1	160.2
T. PHOSPHORUS	.244	mg/L	.005	365.3
Total Organic Carbon	4	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Hawor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-3
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2001 10:00
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 1ST COMP SAMPLE WWTF EFFL
Descript : TMDL RIVER STUDIES
Site : W SWANZEY
Collectby: K PERKINS/T CROTEAU
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	> 144	mg/L		
BOD-5	< 24	mg/L		405.1
Chlorophyll "A"	237.6	mg/M3	.01	
NITROGEN,AMMONIA-N	31.4	mg/L	5	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	45	mg/L	1	351.2
PHOSPHORUS,D.ORTHO	4.95	mg/L	.05	365.3
RESIDUE.T. SUSPENDED	253	mg/L	1	160.2
T. PHOSPHORUS	5.69	mg/L	.005	365.3
Total Organic Carbon	31.2	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-2
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 10:25
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 14-ASH APP 100FT UP COV BRDG
Descript : TMDL RIVER STUDIES
Site : SWANZEY
Collectby: S DUCHARME/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	> 9.5 **SAMPLE DEPLETED**	mg/L		
Chlorophyll "A"	69.64	mg/M3	.01	
NITROGEN,AMMONIA-N	.2	mg/L	.1	350.1
NITROGEN,NO3+NO2	1.16	mg/L	.05	353.2
NITROGEN,TKN	.9	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.136	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	9	mg/L	1	160.2
T. PHOSPHORUS	.277	mg/L	.005	365.3
Total Organic Carbon	4.3	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit

ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram

> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-1
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 10:30
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : 12-ASH COOMBS RD COV BRDG
Descript : TMDL RIVER STUDIES
Site : WINCHESTER
Collectby: D SOULE/K CALLAHAN
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	4.7	mg/L		
Chlorophyll "A"	23.77	mg/M3	.01	
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	1.15	mg/L	.05	353.2
NITROGEN,TKN	.5	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.116	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	4	mg/L	1	160.2
T. PHOSPHORUS	.191	mg/L	.005	365.3
Total Organic Carbon	4.1	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Haworth

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A29667-12
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:40
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : BOTTLEB#1 FIELD BOTTLE BLANK
Descript : TMDL RIVER STUDIES
Site :
Collectby: G COMSTOCK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	.36	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	<.1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	2.5	mg/L	1	160.2
T. PHOSPHORUS	<.005	mg/L	.005	365.3
Total Organic Carbon	<.5	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Harry Stewart

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A29667-11
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/29/2001 12:50
Log in Date : 08/30/2001 07:35
Completion Date: 09/26/2001
Misc ID :

Locator : BUCKETB#1 FIELD BUCKET BLANK
Descript : TMDL RIVER STUDIES
Site :
Collectby: G COMSTOCK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	< 2.4	mg/L		
Chlorophyll "A"	.36	mg/M3	.01	
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,NO3+NO2	<0.05	mg/L	.05	353.2
NITROGEN,TKN	.1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.005	mg/L	.005	365.3
RESIDUE.T. SUSPENDED	1.5	mg/L	1	160.2
T. PHOSPHORUS	<.005	mg/L	.005	365.3
Total Organic Carbon	.5	mg/L	.5	SM5310B

Analyst Comments: CHLOROPHYLL RESULTS BY LYMNOLOGY LAB

Authorized Signature: Larry Harwood

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

2001 Ashuelot River BOD Lab Results and CBOD calcs						Project # 05-0022512								
Collection Date 8/29/2001														
	Test, mg/L													
	RDL <2.4	RDL 0.1	RDL 0.1/0.5	RDL 0.005	RDL 0.005	RDL 0.5	RDL 0.005			mLs used in	20d NO3+NO2 Dilution			
Sample #	BOD20	TKN	NH_3	NO_3+NO_2	TP	TOC	ortho-P	20d NO3	20d NO3+NO2	20d BOD	Correction	N Uptake	NBOD	CBOD
A29667-1	4.7	0.52	0.06	1.15	0.191	4.092	0.116		1.01	250	1.212	0.062	0.28	4.42
-2	*10.44*	0.87	0.2	1.16	0.277	4.295	0.136		1.33	250	1.596	0.436	1.99	8.45
-3	*162*	45.2	31.4	0.02	5.69	31.227	4.95		1.67	10	50.1	50.08	228.87	-66.87
-4	2.8	0.4	0.03	1.5	0.244	4.009	0.201		1.22	250	1.464	-0.036	-0.16	2.96
-5	3.5	0.5	0.05	1.54	0.265	3.851	0.206		1.23	250	1.476	-0.064	-0.29	3.79
-6	2.9	0.5	0.06	1.93	0.31	3.488	0.257		1.51	250	1.812	-0.118	-0.54	3.44
-7	2.8	0.43	0.05	1.77	0.287	3.802	0.246		1.39	250	1.668	-0.102	-0.47	3.27
-8	2.04	0.3	0.11	0.16	0.02	3.175	0.002		0.246	250	0.2952	0.1352	0.62	1.42
-9	5.4	1.1	0.14	4.55	0.955	5.192	0.898		3.36	250	4.032	-0.518	-2.37	7.77
-10	10.2	4.8	0.6	15	3.25	11.738	2.89		5.48	100	16.44	1.44	6.58	3.62
-11	0.84	0.07	0.02	0.01	0.001	0.451	0		0.04	250	0.048	0.038	0.17	0.67
-12	0.72	0.01	0	0.004	0.001	0.232	0		0.35	250	0.42	0.416	1.90	-1.18
-13	3.6	0.3	0.07	0.13	0.016	3.053	0.001		0.26	250	0.312	0.182	0.83	2.77
-14	2.8	0.3	0.13	0.37	0.027	3.05	0.003		0.44	250	0.528	0.158	0.72	2.08
-15	2.16	0.22	0.05	0.12	0.014	2.951	0		0.21	250	0.252	0.132	0.60	1.56
-16	2.4	0.4	0.08	0.21	0.013	2.826	0		0.295	250	0.354	0.144	0.66	1.74
-17	2.16	0.4	0.17	0.07	0.015	3.364	0		0.218	250	0.2616	0.1916	0.88	1.28
-18	1.68	0.2	0.01	0.03	0.009	3.345	0		0.08	250	0.096	0.066	0.30	1.38
-19	1.8	0.3	0.01	0.02	0.009	3.46	0		0.03	250	0.036	0.016	0.07	1.73
-20	1.92	0.2	0.01	0.02	0.009	3.577	0		0.03	250	0.036	0.016	0.07	1.85
-21	2.04	0.3	0.01	0.08	0.011	3.289	0		0.1	250	0.12	0.04	0.18	1.86
-22	1.92	0.3	0	0.08	0.011	2.992	0		0.1	250	0.12	0.04	0.18	1.74
-23	2.4	0.3	0.03	0.02	0.011	3.487	0		0.15	250	0.18	0.16	0.73	1.67
	BOD results for samples # A29667-1 and # A29667-2 may be low; sample went to depletion.													
	Workgroup	TOC08300	TP083001	TKN09180	TKN092001									
	MH09190	NH091201	OP083001	FIA083001	NH091801									

Project:	Ashuelot River TMDL					Date:		8/29/01	
Waterbody Name:						Time Begin		14:55	
Station ID:	Cobb St.					Time End:		15:12	
Station Description:									
Staff Names:	KE, JB								
River Width (ft)	20.5								
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
10	0								
10.5	0.5	0.15	0.03			0.03	0.15	0.00	0.00
11	1	0.3							
11.5	1.5	0.1	0.13			0.13	0.21	0.03	0.03
12	2	0.35							
12.5	2.5	0.4	0.24			0.24	0.38	0.09	0.12
13	3	0.35							
13.5	3.5	0.45	0.26			0.26	0.44	0.11	0.24
14	4	0.5							
14.5	4.5	0.6	0.48			0.48	0.58	0.28	0.51
15	5	0.6							
15.5	5.5	0.65	0.46			0.46	0.60	0.28	0.79
16	6	0.5							
16.5	6.5	0.7	0.63			0.63	0.64	0.40	1.19
17	7	0.65							
17.5	7.5	0.7	0.71			0.71	0.68	0.48	1.67
18	8	0.65							
18.5	8.5	0.65	0.76			0.76	0.64	0.48	2.15
19	9	0.6							
19.5	9.5	0.65	0.71			0.71	0.68	0.48	2.63
20	10	0.8							
20.5	10.5	0.75	0.98			0.98	0.75	0.74	3.37
21	11	0.7							
21.5	11.5	0.75	0.51			0.51	0.71	0.36	3.73
22	12	0.65							
22.5	12.5	0.65	0.43			0.43	0.64	0.27	4.01
23	13	0.6							
23.5	13.5	0.6	0.51			0.51	0.58	0.29	4.30
24	14	0.5							
24.5	14.5	0.5	0.34			0.34	0.51	0.17	4.47
25	15	0.55							
25.5	15.5	0.55	0.22			0.22	0.56	0.12	4.60
26	16	0.6							
26.5	16.5	0.5	0.30			0.30	0.50	0.15	4.75
27	17	0.4							
27.5	17.5	0.4	0.26			0.26	0.43	0.11	4.86
28	18	0.5							
28.5	18.5	0.45	0.17			0.17	0.45	0.08	4.93
29	19	0.4							
29.5	19.5	0.35	0.16			0.16	0.31	0.05	4.98
30	20	0.15							
30.5	20.5	0	0			0.00	0.04	0.00	4.98
Duplicates					RPD				
19.5	9.5	0.65	0.69						
29.5	19.5	0.35	0.19						
19.5	9.5	0.65	0.71		0.0%	2.9%			
29.5	19.5	0.35	0.16		0.0%	17.1%			

Project:	Ashuelot River TMDL					Date:		8/29/01		
Waterbody Name:	South Branch Ashuelot River					Time Begin		12:15		
Station ID:	2-Sba					Time End:		12:35		
Station Description:										
Staff Names:	KE, JB									
River Width (ft)	36.5									
Distance Readings										
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated	
5	0	0.00								
5.75	0.75	0.30	0.00			0.00	0.38	0.00	0.00	
6.5	1.5	0.40								
7.25	2.25	0.60	0.10			0.10	0.90	0.09	0.09	
8	3	0.80								
8.75	3.75	1.00	0.11			0.11	1.46	0.16	0.25	
9.5	4.5	1.10								
10.25	5.25	1.20	0.12			0.12	1.80	0.22	0.47	
11	6	1.30								
11.75	6.75	1.40	0.09			0.09	2.14	0.19	0.66	
12.5	7.5	1.60								
13.25	8.25	1.70	0.12			0.12	2.57	0.31	0.97	
14	9	1.85								
14.75	9.75	1.85	0.09			0.09	2.76	0.25	1.22	
15.5	10.5	1.80								
16.25	11.25	1.75	0.14			0.14	2.63	0.37	1.58	
17	12	1.70								
17.75	12.75	1.65	0.13			0.13	2.48	0.32	1.90	
18.5	13.5	1.60								
19.25	14.25	1.55	0.17			0.17	2.33	0.40	2.30	
20	15	1.50								
20.75	15.75	1.50	0.19			0.19	2.25	0.43	2.73	
21.5	16.5	1.50								
22.25	17.25	1.45	0.17			0.17	2.21	0.38	3.10	
23	18	1.50								
23.75	18.75	1.45	0.20			0.20	2.21	0.44	3.55	
24.5	19.5	1.50								
25.25	20.25	1.45	0.27			0.27	2.18	0.59	4.13	
26	21	1.40								
26.75	21.75	1.40	0.27			0.27	2.10	0.57	4.70	
27.5	22.5	1.40								
28.25	23.25	1.40	0.18			0.18	2.08	0.37	5.08	
29	24	1.35								
29.75	24.75	1.30	0.19			0.19	1.99	0.38	5.45	
30.5	25.5	1.35								
31.25	26.25	1.40	0.19			0.19	2.08	0.40	5.85	
32	27	1.40								
32.75	27.75	1.35	0.10			0.10	2.08	0.21	6.06	
33.5	28.5	1.45								
34.25	29.25	1.45	0.02			0.02	2.18	0.04	6.10	
35	30	1.45								
35.75	30.75	1.00	0.00			0.00	1.29	0.00	6.10	
36.5	31.5	0.00								
Duplicates					RPD					
19.25	14.25	1.55	0.18							
34.25	29.25	1.40	0.04							
19.25	14.25	1.55	0.17		0.0%	5.7%				
34.25	29.25	1.45	0.02		-3.5%	66.7%				

Project:		Ashuelot River TMDL				Date:		8/29/01		
Waterbody Name:		Ashuelot RIVr				Time Begin		15:30		
Station ID:		21-Ash				Time End:		--		
Station Description:		Old Stone Arch Bridge								
Staff Names:		KE, JB								
River Width (ft)		36								
Distance Readings										
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated	
7	0	0								
7.75	0.75	0.1	0.00			0	0.13	0.00	0.00	
8.5	1.5	0.15								
9.25	2.25	0.2	0.03			0.03	0.32	0.01	0.01	
10	3	0.3								
10.75	3.75	0.35	0.01			0.01	0.53	0.01	0.01	
11.5	4.5	0.4								
12.25	5.25	0.5	0.03			0.03	0.75	0.02	0.04	
13	6	0.6								
13.75	6.75	0.65	0.05			0.05	0.99	0.05	0.09	
14.5	7.5	0.75								
15.25	8.25	0.8	0.03			0.03	1.20	0.04	0.12	
16	9	0.85								
16.75	9.75	0.95	0.05			0.05	1.41	0.07	0.19	
17.5	10.5	1								
18.25	11.25	1.05	0.09			0.09	1.58	0.14	0.34	
19	12	1.1								
19.75	12.75	1.1	0.05			0.05	1.71	0.09	0.42	
20.5	13.5	1.25								
21.25	14.25	1.25	0.08			0.08	1.97	0.16	0.58	
22	15	1.5								
22.75	15.75	1.4	0.07			0.07	2.18	0.15	0.73	
23.5	16.5	1.5								
24.25	17.25	1.6	0.10			0.1	2.38	0.24	0.97	
25	18	1.65								
25.75	18.75	1.75	0.10			0.1	2.59	0.26	1.23	
26.5	19.5	1.75								
27.25	20.25	1.75	0.09			0.09	2.63	0.24	1.46	
28	21	1.75								
28.75	21.75	1.75	0.09			0.09	2.61	0.23	1.70	
29.5	22.5	1.7								
30.25	23.25	1.6	0.06			0.06	2.40	0.14	1.84	
31	24	1.5								
31.75	24.75	1.6	0.06			0.06	2.23	0.13	1.98	
32.5	25.5	1.45								
33.25	26.25	1.4	0.08			0.08	2.08	0.17	2.14	
34	27	1.3								
34.75	27.75	1.1	0.07			0.07	1.78	0.12	2.27	
35.5	28.5	1.25								
36.25	29.25	1.2	0.06			0.06	1.80	0.11	2.37	
37	30	1.15								
37.75	30.75	0.65	0.05			0.05	1.43	0.07	2.45	
38.5	31.5	0.95								
39.25	32.25	0.8	0.03			0.03	1.20	0.04	2.48	
40	33	0.65								
40.75	33.75	0.6	0.01			0.01	0.73	0.01	2.49	
41.5	34.5	0.1								
42.25	35.25	0.15	-0.02			-0.02	0.15	0.00	2.49	
43	36	0								
Duplicates					RPD					
20.5	13.5	1.25	0.07							
36.25	29.25	1.2	0.05							
20.5	13.5	1.25	--		0.0%	--				
36.25	29.25	1.2	0.06		0.0%	18.2%				

Project:	Ashuelot River TMDL					Date:	8/29/01			
Waterbody Name:	Ashuelot River					Time Begin	10:20			
Station ID:	12-Ash					Time End:	11:15			
Station Description:	2 ft downstream of Rte 10 crossing									
Staff Names:	KE, JB									
River Width (ft)	77									
Distance Readings										
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated	
6	0	0.00								
7.5	1.5	1.35	-0.03			-0.03	3.15	-0.09	-0.09	
9	3	1.50								
10.5	4.5	1.65	0.10			0.1	5.2875	0.53	0.43	
12	6	2.25								
13.5	7.5	2.45		0.10	0.10	0.1	7.35	0.74	1.17	
15	9	2.65								
16.5	10.5	2.80		0.10	0.06	0.08	8.2125	0.66	1.83	
18	12	2.70								
19.5	13.5	2.80		0.11	0.07	0.09	8.4	0.76	2.58	
21	15	2.90								
22.5	16.5	2.80		0.11	0.08	0.095	8.3625	0.79	3.38	
24	18	2.65								
25.5	19.5	2.80		0.11	0.02	0.065	8.2875	0.54	3.92	
27	21	2.80								
28.5	22.5	2.80		0.12	0.06	0.09	8.2125	0.74	4.65	
30	24	2.65								
31.5	25.5	2.50		0.13	0.07	0.1	7.5375	0.75	5.41	
33	27	2.50								
34.5	28.5	2.55		0.14	0.10	0.12	7.575	0.91	6.32	
36	30	2.60								
37.5	31.5	2.60		0.14	0.02	0.08	7.875	0.63	6.95	
39	33	2.80								
40.5	34.5	2.70		0.18	0.13	0.155	8.175	1.27	8.21	
42	36	2.70								
43.5	37.5	2.70		0.17	0.09	0.13	8.175	1.06	9.28	
45	39	2.80								
46.5	40.5	2.70		0.14	0.08	0.11	8.2125	0.90	10.18	
48	42	2.75								
49.5	43.5	2.80		0.20	0.09	0.145	8.4	1.22	11.40	
51	45	2.85								
52.5	46.5	2.85		0.20	0.12	0.16	8.5875	1.37	12.77	
54	48	2.90								
55.5	49.5	2.90		0.21	0.11	0.16	8.5875	1.37	14.15	
57	51	2.75								
58.5	52.5	2.85		0.19	0.14	0.165	8.3625	1.38	15.53	
60	54	2.70								
61.5	55.5	2.65		0.14	0.09	0.115	7.9125	0.91	16.44	
63	57	2.55								
64.5	58.5	2.55		0.14	0.06	0.1	7.6125	0.76	17.20	
66	60	2.60								
67.5	61.5	2.45		0.08	0.07	0.075	7.3125	0.55	17.75	
69	63	2.35								
70.5	64.5	2.45		0.10	0.07	0.085	7.2375	0.62	18.36	
72	66	2.40								
73.5	67.5	2.25		0.10	0.06	0.08	6.6375	0.53	18.89	
75	69	1.95								
76.5	70.5	1.95	0.07			0.07	5.8875	0.41	19.30	
78	72	2.00								
79.5	73.5	1.60	0.09			0.09	4.675	0.44	19.74	
81	75	1.30	0.04							
82.5	76.5	0.00	0.00			0	0.975	0.00	19.74	
							RPD			
Duplicates										
34.5	28.5	2.5		0.17	0.10					
64.5	58.5	2.55		0.12	0.06					
34.5	28.5	2.55		0.14	0.10		19.4%	0.0%		
64.5	58.5	2.55		0.14	0.06		-15.4%	0.0%		

Project:	Ashuelot River TMDL					Date:	6/29/01			
Weterbody Name:	Ashuelot River					Time Begin	13:20:00 PM			
Station ID:	17-Ash					Time End:				
Station Description:	10 meters upstream of old gauge									
Staff Names:	KS, SS									
River Width (ft)	44									
Distance Readings										
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 60% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	Confidence low
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated	
6	0	0								
7	1	0.25	-0.06			-0.06	0.55	-0.03	-0.03	
8	2	0.60								
9	3	0.80	0.02			0.02	1.625	0.03	0.00	
10	4	1.05								
11	5	1.20	0.02			0.02	2.375	0.05	0.05	
12	6	1.30								
13	7	1.45	0.05			0.05	2.875	0.14	0.19	
14	8	1.55								
15	9	1.60	0.04			0.04	3.25	0.13	0.32	
16	10	1.75								
17	11	1.70	0.09			0.09	3.525	0.32	0.64	
18	12	1.90								
19	13	1.95	0.1			0.1	3.8	0.38	1.02	
20	14	1.80								
21	15	1.90	0.1			0.1	3.725	0.37	1.39	
22	16	1.85								
23	17	1.90	0.07			0.07	3.775	0.26	1.65	
24	18	1.90								
25	19	1.95	0.03			0.03	3.85	0.12	1.77	
26	20	1.90								
27	21	1.90	0.05			0.05	3.8	0.19	1.96	layer of slime removed
28	22	1.90								
29	23	1.90	0.07			0.07	3.8	0.27	2.23	
30	24	1.90								
31	25	1.90	0.06			0.06	3.8	0.23	2.45	
32	26	1.90								
33	27	1.85	0.02			0.02	3.7	0.07	2.53	
34	28	1.80								
35	29	1.70	0.02			0.02	3.4	0.07	2.60	30 sec. average
36	30	1.60								
37	31	1.50	0			0	3.1	0.00	2.60	" " "
38	32	1.60								
39	33	1.60	0.03			0.03	3.075	0.09	2.69	" " "
40	34	1.35								
41	35	1.20	0.01			0.01	2.45	0.02	2.71	" " "
42	36	1.15								
43	37	1.10	0			0	2.175	0.00	2.71	" " "
44	38	1.00								
45	39	0.90	0.04			0.04	1.7	0.07	2.78	" " "
46	40	0.80								
47	41	0.60	-0.02			-0.02	1.25	-0.03	2.76	" " "
48	42	0.70								
49	43	0.60	-0.05			-0.05	1.25	-0.06	2.69	" " "
50	44	0.60								
Duplicates							RPD			
25	19	1.95	0.08							
45	39	0.90	0.00							
25	19	1.95	0.03		0.0%	90.9%				
45	39	0.90	0.04		0.0%	200.0%				

Project:	Ashuelot River TMDL					Date:		8/29/01	
Waterbody Name:	The Branch					Time Begin		14:27	
Station ID:	AO - BRA					Time End:		15:07	
Station Description:	~1000 ft upstream of confl with Ashuelot River								
Staff Names:	JGA, RO								
River Width (ft)	21.7								
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
1	0	0.00							
1.5	0.5	0.16	0.55			0.55	0.1275	0.07	0.07
2	1	0.19							
2.5	1.5	0.20	0.75			0.75	0.21	0.16	0.23
3	2	0.25							
3.5	2.5	0.26	0.87			0.87	0.27	0.23	0.46
4	3	0.31							
4.5	3.5	0.32	0.94			0.94	0.315	0.30	0.76
5	4	0.31							
5.5	4.5	0.33	1.13			1.13	0.335	0.38	1.14
6	5	0.37							
6.5	5.5	0.40	1.13			1.13	0.3825	0.43	1.57
7	6	0.39							
7.5	6.5	0.38	1.14			1.14	0.41	0.47	2.04
8	7	0.42							
8.5	7.5	0.42	1.18			1.18	0.4275	0.50	2.54
9	8	0.43							
9.5	8.5	0.43	1.27			1.27	0.4375	0.56	3.10
10	9	0.44							
10.5	9.5	0.44	1.29			1.29	0.4325	0.56	3.65
11	10	0.43							
11.5	10.5	0.43	1.26			1.26	0.4325	0.54	4.20
12	11	0.43							
12.5	11.5	0.44	1.30			1.3	0.415	0.54	4.74
13	12	0.40							
13.5	12.5	0.42	1.27			1.27	0.415	0.53	5.27
14	13	0.42							
14.5	13.5	0.40	1.25			1.25	0.3925	0.49	5.76
15	14	0.40							
15.5	14.5	0.37	1.18			1.18	0.3775	0.45	6.20
16	15	0.37							
16.5	15.5	0.40	1.19			1.19	0.3975	0.47	6.68
17	16	0.40							
17.5	16.5	0.41	1.17			1.17	0.38	0.44	7.12
18	17	0.39							
18.5	17.5	0.39	1.14			1.14	0.34	0.39	7.51
19	18	0.33							
19.5	18.5	0.35	0.97			0.97	0.315	0.31	7.81
20	19	0.31							
20.5	19.5	0.30	1.01			1.01	0.28	0.28	8.10
21	20	0.29							
21.5	20.5	0.24	0.96			0.96	0.18	0.17	8.27
22	21	0.24							
22.7	21.7	0	0			0	0	0.00	8.27
Duplicates									
					RPD				
10.5	9.5	0.43	1.30						
20.5	19.5	0.30	1.03						
10.5	9.5	0.44	1.29		-2.3%	0.8%			
20.5	19.5	0.30	1.01		0.0%	2.0%			

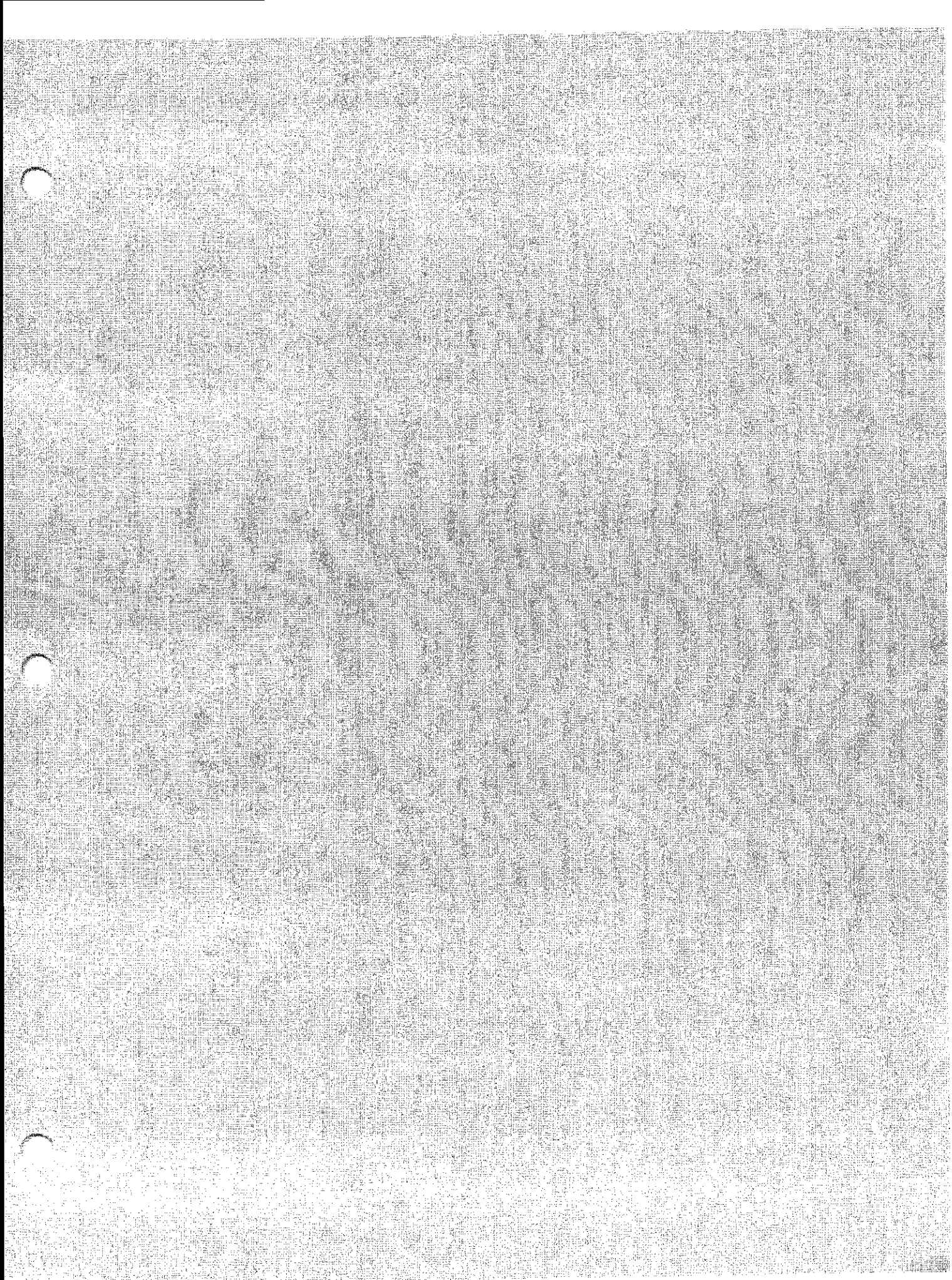
Project:	Ashuelot River TMDL					Date:		8/29/01	
Waterbody Name:	Ash Swamp Brook					Time Begin		13:31	
Station ID:	AO - ASB					Time End:		13:47	
Station Description:	~ 50' U.S. of confluence								
Staff Names:	JGA, RO								
River Width (ft)	6.2								
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
0.8	0	0							
1.1	0.3	0.18	0.25			0.25	0.087	0.02	0.02
1.4	0.6	0.22							
1.7	0.9	0.24	0.46			0.46	0.1425	0.07	0.09
2	1.2	0.25							
2.3	1.5	0.25	0.41			0.41	0.1515	0.06	0.15
2.6	1.8	0.26							
2.9	2.1	0.24	0.69			0.69	0.141	0.10	0.25
3.2	2.4	0.20							
3.5	2.7	0.23	0.95			0.95	0.141	0.13	0.38
3.8	3	0.28							
4.1	3.3	0.28	1.13			1.13	0.1695	0.19	0.57
4.4	3.6	0.29							
4.7	3.9	0.30	0.94			0.94	0.1785	0.17	0.74
5	4.2	0.30							
5.3	4.5	0.30	0.93			0.93	0.171	0.16	0.90
5.6	4.8	0.24							
5.9	5.1	0.23	0.71			0.71	0.144	0.10	1.00
6.2	5.4	0.26							
6.5	5.7	0.12	0.16			0.16	0.087	0.01	1.02
7	6.2	0.00							
Duplicates					RPD				
6.5	5.7	0.12	0.16						
6.5	5.7	0.12	0.16		0.0%	0.0%			

Project:	Ashuelot River TMDL					Date:	8/29/01			
Waterbody Name:	Ashuelot River					Time Begin	12:12			
Station ID:	16D-Ash					Time End:	13:00			
Station Description:	~1/2 mile U.S. of WWTP									
Staff Names:	JGA, RO									
River Width (ft)	50.6									
Distance Readings										
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated	
0.6	0	0				0	0	0.00	0.00	
2	1.4	0.45								
3	2.4	0.55	0.18			0.18	0.975	0.18	0.18	
4	3.4	0.4								
5	4.4	0.35	0.2			0.2	0.765	0.15	0.33	
6	5.4	0.43								
7	6.4	0.47	0.3			0.3	0.97	0.29	0.62	
8	7.4	0.57								
9	8.4	0.6	0.41			0.41	1.23	0.50	1.12	
10	9.4	0.66								
11	10.4	0.63	0.43			0.43	1.845	0.79	1.92	
12	11.4	0.14								
13	12.4	1.32	0.42			0.42	2.445	1.03	2.94	
14	13.4	1.11								
15	14.4	1.22	0.36			0.36	2.425	0.87	3.82	
16	15.4	1.3								
17	16.4	1.29	0.33			0.33	2.595	0.86	4.67	
18	17.4	1.31								
19	18.4	1.38	0.27			0.27	2.705	0.73	5.40	
20	19.4	1.34								
21	20.4	1.33	0.29			0.29	2.565	0.74	6.15	
22	21.4	1.19								
23	22.4	1.12	0.32			0.32	2.235	0.72	6.86	
24	23.4	1.1								
25	24.4	1.17	0.46			0.46	2.3	1.06	7.92	
26	25.4	1.16								
27	26.4	1.2	0.51			0.51	2.41	1.23	9.15	
28	27.4	1.26								
29	28.4	1.23	0.34			0.34	2.36	0.80	9.95	
30	29.4	1								
31	30.4	0.82	0.46			0.46	1.685	0.78	10.73	
32	31.4	0.79								
33	32.4	0.64	0.46			0.46	1.305	0.60	11.33	
34	33.4	0.6								
35	34.4	0.6	0.52			0.52	1.165	0.61	11.93	
36	35.4	0.63								
37	36.4	0.63	0.5			0.5	1.035	0.52	12.45	
38	37.4	0.48								
39	38.4	0.4	0.48			0.48	0.85	0.39	12.84	
40	39.4	0.42								
41	40.4	0.36	0.42			0.42	0.735	0.31	13.15	
42	41.4	0.35								
43	42.4	0.35	0.38			0.38	0.69	0.26	13.41	
44	43.4	0.33								
45	44.4	0.32	0.27			0.27	0.65	0.18	13.59	
46	45.4	0.33								
47	46.4	0.3	0.45			0.45	0.605	0.27	13.86	
48	47.4	0.28								
49	48.4	0.24	0.42			0.42	0.525	0.22	14.08	
50	49.4	0.29								
51	50.4	0.26	0.2			0.2	0.385	0.07	14.15	
51.6	50.6	0.1								
Duplicates					RPD					
33	32.4	0.68	0.46							
13	12.4	1.32	0.40							
33	32.4	0.64	0.46		3.1%	0.0%				
13	12.4	1.32	0.42		0.0%	4.9%				

Project:	Ashuelot River TMDL	Date:	8/29/01
Waterbody Name:	Ashuelot River	Time Begin	10:40
Station ID:	14T-Ash	Time End:	11:30
Station Description:	~1000 ft. U.S. of bridge, 1/2 way between bridge and dam upstream		
Staff Names:	JGA, RO		
River Width (ft)	32.2		

Distance Readings

Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated	
5.30	0	0								Duckweed present
6.00	0.7	0.14	0.38			0.38	0.17	0.06	0.06	Very conspicuous
6.75	1.45	0.17								in ponded areas.
7.50	2.2	0.21	0.71			0.71	0.29	0.20	0.27	Other macrophytes as well (floating pondweed)
8.25	2.95	0.17								
9.00	3.7	0.21	0.08			0.08	0.33	0.03	0.29	
9.75	4.45	0.29								
10.50	5.2	0.60	0.96			0.96	0.76	0.72	1.02	
11.25	5.95	0.52								
12.00	6.7	0.60	1.49			1.49	0.85	1.26	2.28	
12.75	7.45	0.64								
13.50	8.2	0.40	1.81			1.81	0.68	1.24	3.51	
14.25	8.95	0.48								
15.00	9.7	0.47	1.56			1.56	0.79	1.22	4.73	
15.75	10.45	0.68								
16.50	11.2	0.63	1.26			1.26	0.76	0.97	5.70	
17.25	11.95	0.28								
18.00	12.7	0.44	1.85			1.85	0.60	1.11	6.81	
18.75	13.45	0.44								
19.50	14.2	0.81	2.1			2.1	0.89	1.87	8.69	turbulence
20.25	14.95	0.72								Repeated measurement location with offset at 20.25' on tape
20.25	14.95	0.83	1.95			1.95	0.41	0.97	9.66	
21.00	15.7	0.83								Check with team re: appropriate correction - assumption that the locational data is correct and only the data collection is of
21.75	16.45	0.81	1.70			1.7	0.92	1.59	11.15	Decided split the area equations and delete the overlapping areas.
22.50	17.2	0.81								Assumption that the different depths represent a rock--site description says substrate is cobbles.
23.25	17.95	0.81	1.08			1.08	1.11	1.19	12.34	
24.00	18.7	0.72								
24.75	19.45	0.71	1.05			1.05	1.16	1.21	13.56	
25.50	20.2	0.90								
26.25	20.95	0.76	0.97			0.97	1.21	1.17	14.73	
27.00	21.7	0.80								
27.75	22.45	0.80	1.42			1.42	1.29	1.82	16.56	
28.50	23.2	1.02								
29.25	23.95	1.03	1.54			1.54	1.55	2.38	18.93	
30.00	24.7	1.04								
30.75	25.45	1.04	1.46			1.46	1.50	2.18	21.11	
31.50	26.2	0.89								
32.25	26.95	0.90	1.28			1.28	1.32	1.69	22.79	
33.00	27.7	0.82								
33.75	28.45	0.76	0.83			0.83	1.11	0.92	23.72	
34.50	29.2	0.62								
35.25	29.95	0.34	0.62			0.62	0.86	0.53	24.25	
36.00	30.7	0.43								
36.75	31.45	0.46	0.29			0.29	0.59	0.17	24.42	
37.50	32.2	0.25								



ASHUELOT RIVER TMDL

DO/Temp Meter Calibration / Group Meter Agreement Field Sheet

Date: 8/28/2002

Calibration Elevation 500 ft , Calibration Value Setting 98 %sat

CHECK 1 (Pre-EMST) Air Temperature C	Meter Serial Number 025237		Meter Serial Number 025238		Meter Serial Number		Meter Serial Number	
Military Time (Hours : Minutes)	6:07		5:59		:		:	
Temperature (degrees C)	18.1 C		18.0 C		C		C	
Initial calibration chamber reading	98.3 %sat	——mg/L	98.5 %sat	——mg/L	%sat	——mg/L	%sat	——mg/L
Zero Standard	.1 %sat	.01 mg/L	1.3 %sat	.12 mg/L	%sat	mg/L	%sat	mg/L
GROUP BUCKET DO reading	41.6 %sat	3.76 mg/L	42.6 %sat	3.86 mg/L	%sat	mg/L	%sat	mg/L

CHECK 2 (Pre-pmST) Air Temperature C	Meter Serial Number 025237		Meter Serial Number 025238		Meter Serial Number 025239		Meter Serial Number 025240	
Military Time (Hours : Minutes)	11:00		10:59		11:02		11:04	
Temperature (degrees C)	24.2 C		25.2 C		25.1 C		25.2 C	
Initial calibration chamber reading	%sat	——mg/L	%sat	——mg/L	%sat	——mg/L	%sat	——mg/L
Zero Standard	0.0 %sat	0.00 mg/L	- .2 %sat	- .03 mg/L	.3 %sat	.02 mg/L	0.0 %sat	0.00 mg/L
GROUP BUCKET DO reading	%sat	mg/L	%sat	mg/L	%sat	mg/L	%sat	mg/L

CHECK 3 (End of day) Air Temperature C	Meter Serial Number 025237		Meter Serial Number 025238		Meter Serial Number 025239		Meter Serial Number 025240	
Military Time (Hours : Minutes)	14:52		14:55		15:04		15:06	
Temperature (degrees C)	29.7 C		31.1 C		32.4 C		32.1 C	
Initial calibration chamber reading	%sat	——mg/L	%sat	——mg/L	%sat	——mg/L	%sat	——mg/L
Zero Standard	0.0 %sat	0.00 mg/L	0.2 %sat	0.01 mg/L	0.0 %sat	0.00 mg/L	0.0 %sat	0.00 mg/L
GROUP BUCKET DO reading	79.7 %sat	7.05 mg/L	74.0 %sat	6.6 mg/L	74.0 %sat	6.50 mg/L	75.0 %sat	6.20 mg/L

Missing Information

DO temp meter agreement

DATE: 8/28/02	ASHUELOT RIVER TMDL													
	EMST Data													
Station ID	Waterbody Name	EMST Members Initials	Bucket or Instream	Approx. Width of River (feet)	Approx. Depth of River (feet)	Sample Depth from Surface (feet)	Sample Distance from River Right Bank (feet)	Sample Time	Temp (C)	DO % Sat	DO (mg/L)	Post-sample Storage Chamber Reading % sat	DO Meter Serial #	DO Meter Calibration Value Setting % sat
12-Ash	Ashuelot River	RR, PF	Bucket	45	2	1	15	6:42	20.5	61.8	5.5	Missing info	SN 025237	98
12-Ash Field Replicate	Ashuelot River													
14-Ash	Ashuelot River	SD,GB	Bucket	100	3	1	6	6:37	20.5	63.8	5.72	93	SN 025238	98
14-Ash Field Replicate	Ashuelot River													
West Swanzey WWTF	24 Hour Composite	NA												
14T-Ash	Ashuelot River	RR, PF	Bucket	85	2	1	20	7:05	19.4	71.8	6.62	Missing info	SN 025237	98
14T-Ash Field Replicate	Ashuelot River													
15-Ash	Ashuelot River	SD,GB	Instream	120	0.5	1	66	7:01	20.3	58.2	5.27	98.9	SN 025238	98
		SD,GB	Instream	120	1.4	1	66	7:00	20.3	58.2	5.27	98.9	SN 025238	98
		SD,GB	Instream	120	2.75	1	66	6:56	20.2	62.1	5.61	98.9	SN 025238	98
		SD,GB	Instream	120	4.5	1	66	6:54	19.2	56.6	5.22	98.9	SN 025238	98
15-Ash Field Replicate	Ashuelot River						66							
15E-Ash	Ashuelot River	RR, PF	Bucket	30	4	1	5	7:23	19.7	66.6	6.06	Missing info	SN 025237	98
15E-Ash Field Duplicate	Ashuelot River													
16-Ash	Ashuelot River	RR, PF	Bucket	50	4	1	5	7:44	19.3	63.4	5.84	Missing info	SN 025237	98
16-Ash Field Duplicate	Ashuelot River													
2-SBA	South Branch Ashuelot River	SD, GB	Bucket	45	1.5	1	15	7:42	16.8	65.5	6.38	98.6	SN 025238	98
2-SBA Field Duplicate	South Branch Ashuelot River													
16B-Ash	Ashuelot River	SD,GB	Instream	50	4	1	25	8:21	19.5	64.9	5.95	99.2	SN 025238	98
16B-Ash Field Duplicate	Ashuelot River													
Keene WWTF	24 Hour Composite	NA												
16D-Ash	Ashuelot River	SD,GB	Instream	50	0.5	1	30	8:38	19.2	64.8	5.96		SN 025238	98
		SD,GB	Instream	50	0.85	1	30	8:38	19.2	63.1	5.83		SN 025238	98
		SD,GB	Instream	50	1.7	1	30	8:34	19.2	66.5	6.15		SN 025238	98
		SD,GB	Instream	50	2.4	1	30	8:31	19.2	60.9	5.62	100.4	SN 025238	98
OA-Ash	Ash Swamp Brook	RR, PF	Bucket	7.5	0.33	1	3	8:21	15.7	7.45 mg/L	74.5 mg/L		SN 025237	98
16M-Ash	Ashuelot River	RR, PF	Bucket	50	4	1	15	8:32	18.4	65.4	6.02		SN 025237	98
OA-Bra	The Branch	SD, GB	Bucket	45	2.5	1	10	10:04	19.4	69.3	6.37		SN 025238	98
17-Ash	Ashuelot River	SD, GB	Bucket	42	2	1	12	9:53	19.4	70.2	6.46	101.5	SN 025238	98
19-Ash	Ashuelot River	RR, PF	Bucket	40	1.5	1	20	10:05	19.9	72.5	6.6		SN 025237	98
19A-Ash *	Ashuelot River	RR, PF	Instream		0.5	1		9:45	20.4	48.8	4.4		SN 025237	98
		RR, PF	Instream		2.1	1		9:50	20.3	50.3	4.56		SN 025237	98
		RR, PF	Instream		4.2	1		9:51	20.2	61.2	5.55		SN 025237	98
		RR, PF	Instream		7.4	1		9:54	20.2	66.6	6.05		SN 025237	98
20A-Ash	Ashuelot River	RR, PF	Bucket			1		9:00	18.5	72	6.2		SN 025237	98
21-Ash	Ashuelot River	SD,GB	Bucket	45	4	1	21	9:23	19.7	65.1	5.97	94.4	SN 025238	98
Bucket Blank														
Bottle Blank														
missing/questionable/incorrect data														

* 19A-Ash : double checked profile depths for accuracy

* OA-Ash : data questionable, likely incorrect

DATE: AUGUST 28, 2002 ASHUELOT RIVER TMDL
PMST Data

Station ID	Waterbody Name	PMST Members Initials	Approx. Depth of River (feet)	Approx. Width of River (feet)	Bucket or Instream	Sample Depth from Surface (feet)	Sample Distance from River Right Bank (feet)	Sample Time	Field Measurement Time	Temp (C)	DO % sat	DO mg/L	Post-sample Storage Chamber Reading % sat	DO Meter Serial #	DO Meter Calibration Value Setting % sat	Aquatic Plant Growth (%)	Macrophytes (%)	Phytoplankton (%)	Periphyton (%)	Vegetated Canopy (%)	Weather % Cloud Cover	Water Color	Substrate Type	Odor	Other Comments / Observations
12-Ash	Ashuelot River	BR, MR	2	45	B	0.5	15	12:10	12:15	22.3	91.2	7.8			[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		sandy/rocky		
12-Ash Field Replicate	Ashuelot River	BR, MR	2	45	B	0.5	10	12:12	12:18	22.8	91.2	7.8			[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		sandy/rocky		
14-Ash	Ashuelot River	GB, PF	4	78	B	0.5	15	12:08	12:21	22.1	[illegible]	6.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	light brown	sandy/rocky	none	
14-Ash Field Replicate	Ashuelot River	GB, PF	4	78	B	0.5	10	12:08	12:29	22.5	[illegible]	6.3		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	light brown	sandy/rocky	none	
West Swanzey WWTF	24 Hour Composite	NA																							
14T-Ash	Ashuelot River	MJ, SS	1	55	B	0.5	20	11:45	12:13	20.8	99.5	8.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy/cobble	none	
14T-Ash Field Replicate	Ashuelot River	MJ, SS	2	35	B	0.5	10	11:50	12:17	20.9	99.3	8.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy/cobble	none	
15-Ash	Ashuelot River	JC, PF	5.5	120	I	0.5	60	11:40	12:07	21.3	76.8	6.7		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	cobbles, gravel-mid channel; s	none	
			5.5	130	I	1.25	65	11:40	12:04	20.3	74.8	6.6		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	cobbles, gravel-mid channel; silt, sand sides of channel		
			5.5	130	I	2.6	60	11:40	12:06	20.5	74.8	6.6		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	cobbles, gravel-mid channel; silt, sand sides of channel		
			5.5	120	I	4.5	60	11:40	12:08	20.3	79.8	7.1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	cobbles, gravel-mid channel; silt, sand sides of channel		
15-Ash Field Replicate	Ashuelot River																								
15E-Ash	Ashuelot River	BR, MR	4	38	B	0.5	5	12:58	13:05	23.9	[illegible]	7.6			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sand		
15E-Ash Field Duplicate	Ashuelot River	BR, MR	4	38	B	0.5	5	13:00	13:11	23.9	[illegible]	7.6			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sand		
16-Ash	Ashuelot River	GB, PF	4	30	B	0.5	15	12:45	12:54	20.6	68.3	6.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	tea colored	sandy, mucky	none	
16-Ash Field Duplicate	Ashuelot River	GB, PF	4	30	B	0.5	15	12:58	13:05	20.6	80.4	7.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	tea colored	sandy, mucky	none	
2-SBA	South Branch Ashuelot River	MJ, SS	1.5	45	B	0.5	15	12:39	12:49	20.9	92.1	8.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy	none	
2-SBA Field Duplicate	South Branch Ashuelot River	MJ, SS	1.5	45	B	0.5	15	12:54	13:17	22.7	96.6	8.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy	none	
16B-Ash	Ashuelot River	JC, PF	4	50	I	0.5	35	12:46	12:47	21.6	80.5	7.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
			4	55	I	1	30	12:46	12:49	21.3	77.8	6.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
			4	60	I	2	35	12:46	12:51	20.7	76.8	6.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
			4	50	I	3	35	12:46	12:51	20.5	72.8	6.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
16B-Ash Field Duplicate	Ashuelot River	JC, PF	4	50	I	0.5	30		12:59	21.4	71.8	6.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
			4	40	I	1	35		13:01	21.3	77.0	6.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
			4	40	I	2	30		13:02	20.8	76.0	6.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
			4	40	I	3	30		13:05	20.4	65.0	5.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	tea (WWTF?)	sand, silt	WWTF	
Keene WWTF	24 Hour Composite	NA																							
16D-Ash	Ashuelot River	JC, PF	4.5	40	I	0.5			13:20	20.9	80.8	7.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear (organic)	clay, silt, sand	none	bluegill, [illegible] present
					I	1.5			13:22	20.5	76.0	6.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear (organic)	clay, silt, sand	none	bluegill, [illegible] present
					I	3			13:24	20.3	74.8	6.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear (organic)	clay, silt, sand	none	bluegill, [illegible] present
					I	5			13:26	20.1	72.0	6.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear (organic)	clay, silt, sand	none	bluegill, [illegible] present
0A-Ash	Ash Swamp Brook	BR, MR	0.1	3.5	B	0.5	3	13:48			83.2	7.2	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy	none	
16M-Ash	Ashuelot River	BR, MR	4	38	B	0.5	5	14:00	14:05	20.5	84.5	7.6	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy	none	
0A-Bra	The Branch	GB, PF	2.5	25	B	0.5	3	13:28		19.8	77.2	7.1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	tea colored	sandy	none	
17-Ash	Ashuelot River	GB, PF	2	45	B	0.5	10	13:00		21.8	81.8	7.2		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	tea colored	sandy	none	distance taken from river right
19-Ash	Ashuelot River	MJ, SS	1.5	28	B	0.5	8	13:40	13:49	22.4	96.6	8.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy	none	
19A-Ash	Ashuelot River	MJ, SS		48	B	1	20	11:32	14:00	23	111.5	9.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	sandy	none	
20A-Ash	Ashuelot River	JC, PF	3	38	B	0.5	30	14:02	14:05	21.4	91.8	8.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	gravel, sand, cobble	none	[illegible] fish present
21-Ash	Ashuelot River	JC, PF	3	40	B	0.5	35		14:26	23.3	[illegible]	6.9	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	clear	gravel, sand, silt	none	[illegible] fish present, in bar?
Bucket Blank																									
Bottle Blank																									

Date: 9/25/02 ASHUELOT RIVER TMDL FIELD DUPLICATE and REPLICATE DATA

Station ID # / Name / Sampling Replicate Number	Waterbody Name	Sample Time	Water Temp - Degrees C	DO mg/L	DO % sat	Lab Sample ID #	BOD-5 mg/l	BOD-20 mg/l	CBOD (calculated) mg/l	CHLOROPHYLL "A" ug/l	NO3 mg/l as N	NO2 mg/l as N	NITROGEN, AMMONIA NH3 mg/l as N	NITROGEN, TKN mg/l as N	ORG N (calculated) mg/l	RESIDUE, T SUSPENDED mg/L	PHOSPHORUS,D ,ORTHO mg/L as P	PHOSPHORUS,T OTAL mg/l as P	ORG P (calculated) mg/l	TOC mg/L	BOD* mg/l
12-Ash	Ashuelot River	12:12	21.8	7.12	80.8	A46793-1		20.4	18.76	19.02	0.98	0.026	0.05	0.4	0.35	4.5	0.007	0.143	0.05	5.3	1.71
12-Ash Field Replicate	Ashuelot River	12:12	22.6	7.01	81.2	A46793-2		21.7	20.02	4.66	1	0.026	0.05	0.3	0.25	2.5	0.008	0.146	0.05	4	
14-Ash	Ashuelot River	12:08	22.6	6.1	70.6	A46793-3		18.6	21.72	13.64	1.15	0.035	0.1	0.9	0.80	11	0.141	0.213	0.07	6.4	1.13
14-Ash Field Replicate	Ashuelot River	12:08	22.6	6.08	69.7	A46793-4		8.8	9.3	3.82	1.16	0.029	0.1	1	0.90	6	0.14	0.243	0.10	4.7	
West Swanzey WWTF	24 Hour Composite					A46793-5	10	128	45.67	7.85	4.58	1.13	3.4	4.7	1.30	4.5	5.67	5.517	4.15	11.5	
West Swanzey WWTF	Laboratory Duplicate					A46793-6	9	51													
14T-Ash	Ashuelot River	11:45	20.8	6.81	97.3	A46793-6		5.2	0.28	5.23	1.43	0.025	0.05	0.4	0.35	2	0.21	0.29	0.09	3.9	
14T-Ash Field Replicate	Ashuelot River	11:45	20.8	6.91	100.5	A46793-7		4	1.83	2.67	1.42	0.025	0.05	0.6	0.45	4.5	0.211	0.278	0.07	3.6	
19-Ash	Ashuelot River	12:02	21.3	6.7	76	A46793-8		8	5.53	4.93	1.45	0.025	0.05	0.4	0.35	6.5	0.209	0.263	0.05	4.1	1.05
15Ash Field Replicate	Ashuelot River	[redacted]				A46793-9		4.9	1.95	7.06	1.46	0.025	0.05	0.4	0.35	3.5	0.21	0.262	0.05	3.7	
15E-Ash	Ashuelot River	12:50	23.4	7.39	86.4	A46793-10		3.4	0.78	3.97	1.39	0.025	0.05	0.3	0.25	3	0.196	0.256	0.04	3.3	0.8
15E-Ash Field Duplicate	Ashuelot River	13:00	23.9	7.56	89	A46793-11		6.8	3.46	7.24	1.36	0.025	0.05	0.3	0.25	4	0.189	0.242	0.04	3.4	
16-Ash	Ashuelot River	12:48	20.4	6.87	80.7	A46793-12		3.6	1.66	1.29	0.026	0.05	0.3	0.25	4	0.245	0.268	0.02	3.2	0.61
16-Ash Field Duplicate	Ashuelot River	12:58	20.4	7.26	85.4	A46793-13		6.4	2.48	3.04	1.33	0.026	0.05	0.6	0.55	4.5	0.263	0.287	0.02	3.8	
2-SSA	South Branch Ashuelot River	12:39	20.9	8.22	96.9	A46793-14		3	0.57	2.2	0.13	0.026	0.05	0.2	0.15	4	0.006	0.015	0.01	2.6	
2-SSA Field Duplicate	South Branch Ashuelot River	12:54	22.7	8.35	99.7	A46793-15		2.8		2.2	0.13	0.025	0.05	0.1	0.05	4.5	0.005	0.015	0.01	2.6	
19E-Ash (surface)	Ashuelot River	12:47	21.6	7.1	81	A46793-16		6	0.33	2.97	4.67	0.026	0.1	0.8	0.70	4.5	1.09	1.132	0.07	5.5	
19E-Ash Field Duplicate (surface)	Ashuelot River	12:58	21.4	6.8	78	A46793-17		6.7	2.76	2.97	5.34	0.025	0.1	1	0.90	5	1.17	1.23	0.06	6.4	
Keene WWTF	24 Hour Composite					A46793-18	12	40	3.73	0.6	14.98	0.08	0.2	2.8	2.40	7.5	3.72	3.77	0.05	11.5	
Keene WWTF	Laboratory Duplicate					A46793-19	7	28	-70.47												
Reactor Blank						A46793-26		0.8		0.42	<0.05	<0.05	0.1	40.1		7.5	0.01	0.003		0.1	
Bottle Blank						A46793-29		0.2		0.36	<0.05	<0.05	0.1	40.1		7.5	0.01	0.001		0.1	

[redacted]
SOD* samples collected and analyzed by EPA from 9/23 - 9/25/02

Quality Assurance Review / QA/QC Samples		Water Temp - Degrees C	DO mg/L	DO % sat	Lab Sample ID #	BOD-5	BOD-20	CBOD	CHLOROPHYLL "A"	NO3	NO2	NITROGEN, AMMONIA NH3	NITROGEN, TKN	ORG N (calculated)	RESIDUE, T SUSPENDED	PHOSPHORUS,D ,ORTHO	PHOSPHORUS,T OTAL	ORG P (calculated)	TOC	BOD*
12-Ash	Ashuelot River	[redacted]	0.11	0.4	A46793-1		1.3		[redacted]	0.01	0	0	0.1	0.1	2	0.002	0.003		2.3	
12-Ash Field Replicate	Ashuelot River				A46793-2															
14-Ash	Ashuelot River	0.3	0.05	1.1	A46793-3		[redacted]		[redacted]	0.01	0	0	0.1	0.1	[redacted]	0.001	0.03		0.7	
14-Ash Field Replicate	Ashuelot River				A46793-4															
West Swanzey WWTF	24 Hour Composite				A46793-5	[redacted]	[redacted]													
West Swanzey WWTF	Laboratory Duplicate				A46793-6															
14T-Ash	Ashuelot River	0.1	0	3.2	A46793-6		1.2		[redacted]	0.01	0	0	0.1	0.1	2.5	0.001	0.014		0.3	
14T-Ash Field Replicate	Ashuelot River				A46793-7															
19-Ash	Ashuelot River	[redacted]	[redacted]	[redacted]	A46793-8		3.1		[redacted]	0	0	0	0	0	2	0.001	0.001		0.4	
15-Ash Field Replicate	Ashuelot River				A46793-9															
15E-Ash	Ashuelot River	0.6	0.19	2.6	A46793-10		3.4		3.27	0.01	0	0	0	0	1	0.003	0.007		0.1	
15E-Ash Field Duplicate	Ashuelot River				A46793-11															
16-Ash	Ashuelot River	0	1.17	13.7	A46793-12		1.6		3.04	0.04	0	0	0.3	0.3	0.6	0.016	0.019		0.6	
16-Ash Field Duplicate	Ashuelot River				A46793-13															
2-SSA	South Branch Ashuelot River	1.6	0.13	0.8	A46793-14		0.2		0	0	0	0	0.1	0.1	0.5	0	0		0.1	
2-SSA Field Duplicate	South Branch Ashuelot River				A46793-15															
19E-Ash (surface)	Ashuelot River	0.2	0.3	3	A46793-16		0.7		0	0.47	0	0	0.2	0.2	0.6	0.11	0.008		0.8	
19E-Ash Field Duplicate (surface)	Ashuelot River				A46793-17															
Keene WWTF	24 Hour Composite				A46793-18	5	12													
Keene WWTF	Laboratory Duplicate				A46793-19															

[redacted]

Date: 8/28/02 ASHUELOT RIVER TMDL FIELD DUPLICATE and REPLICATE DATA AVERAGES FOR EACH SITE

Station ID #	Waterbody Name	Water Temp Degrees C	DO mg/L	DO % sat	BOD-5 mg/L	BOD-20 mg/L	CBOD (calculated) mg/L	CHLOROPHYLL "A" ug/l	NO3 mg/L	NO2 mg/L
12-Ash	Ashuelot River	22.4	7.7	81		21.05		12	1	0.025
14-Ash	Ashuelot River	22.7	6.1	73.4		14.3		6.63	1.16	0.025
West Swanzey WWTF	24 Hour Composite				9.5	89.5		7.65	4.39	1.13
14T-Ash	Ashuelot River	20.9	8.91	96.9		4.6		4.45	1.43	0.025
15-Ash	Ashuelot River	21.5	6.7	78		6.45		6	1.45	0.025
15E-Ash	Ashuelot River	23.7	7.5	87.7		10.2		5.6	1.39	0.025
16-Ash	Ashuelot River	20.4	6.7	73.55		4.5		3.04	1.31	0.025
2-SBA	South Branch Ashuelot River	21.8	8.3	94.15		2.9		2.2	0.13	0.025
18B-Ash (surface)	Ashuelot River	21.5	7	79.5		6.35		2.97	5.11	0.025
Keene WWTF	24 Hour Composite				9.5	34		0.025	14.98	0.08

Station ID #	NITROGEN AMMONIA NH3 mg/L	NITROGEN TKN mg/L	ORG N (calculated) mg/L	RESIDUE, T. SUSPENDED mg/L	PHOSPHORUS,D. ORTHO mg/L	PHOSPHORUS,T OTAL mg/L	ORG P (calculated) mg/L	TOC mg/L	SOD*
12-Ash	0.05	0.35	0.3	3.5	0.098	0.145	0.05	5.15	1.71
14-Ash	0.1	0.95	0.85	6	0.14	0.228	0.085	5.05	1.13
West Swanzey WWTF	3.4	4.7	1.3	4.5	5.67	5.517	-0.15	11.5	
14T-Ash	0.05	0.45	0.4	3.25	0.21	0.283	0.075	3.75	
15-Ash	0.05	0.4	0.35	4.6	0.21	0.263	0.05	3.9	1.05
15E-Ash	0.05	0.3	0.25	3.5	0.198	0.239	0.04	3.35	0.8
16-Ash	0.05	0.45	0.4	4.25	0.254	0.278	0.02	3.5	0.61
2-SBA	0.05	0.15	0.1	4.25	0.015	0.015	0.01	2.55	
18B-Ash (surface)	0.1	0.9	0.8	4.75	1.181	1.181	0.085	6	
Keene WWTF	0.2	2.6	2.4	7.5	3.77	3.77	0.05	11.5	

15-Ash cap not recorded on field sheet

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other: TMDL EPA # / Project #: 05-0022512 (TMDL)

System Name: Ashuelot River TMDL Site / Town: Keene Contact: Peg Foss x5448

Comments: Collected By & Phone#

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD20	TSS	TKN	NH3	NO2+NO3	TP	Diss P	TOC	Chlora	Other / Notes	Lab ID # (For Lab Use Only)
12-Ash	8/28/02 12:10		AQ		X	X	X	X	X	X	X	X	X	M. Racine R. Richard	A46793-1 08/28 12:10
12-Ash Field Rep	12:10													M Racine R. Richard	A46793-2 08/28 12:10
14-Ash	12:08													P. Foss G. Berlandi	A46793-3 08/28 12:08
14-Ash Field Rep	12:08													P. Foss G. Berlandi	A46793-4 08/28 12:08
W Swanzey WWTF	1:00			X										T. Crotean R. Gilbreth	A46793-5 08/28 13:00
14T-Ash	11:45													M Jones S. Sand	A46793-6 08/28 11:45
14T-Ash Field Rep	11:45													M. Jones S. Sand	A46793-7 08/28 11:45

Relinquished By Peg Foss Date and Time 8/29/02 18:00 Received By Storage

Relinquished By Storage Date and Time 8/29/02 0600 Received By

Relinquished By Date and Time Received For Laboratory By WRocco

Section No.: 22.0
Revision No.: 1
Date: 1-17-01
Page 1 of 1

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other:

Data Reviewed By Date

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

rogram / Client ID: π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other:_____ EPA # / Project #: 05-002251-2

ystem Name: Ashuelot River TMDL Site / Town: Keene Contact: Peg Foss x5448

omments:_____ Collected By & Phone# _____

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlora				Other / Notes	Lab ID # (For Lab Use Only)
15-Ash	8/28/02 11:49		AQ		X	X	X	X	X	X	X	X	X				J. Cunningham P. Piszczek	A46793-8 08/28 11:49
15-Ash Field Rep	11:49																J. Cunningham P. Piszczek	A46793-9 08/28 11:49
15E-Ash	12:50																M Racine R. Richard	A46793-10 08/28 12:50
15E-Ash Field Dup	13:00																M. Racine R. Richard	A46793-11 08/28 13:00
16Ash	12:45																P Foss G. Berlandi	A46793-12 08/28 12:45
16-Ash Field Dup	12:58																P. Foss G Berlandi	A46793-13 08/28 12:58
2-SBA	12:39																M Jones S. Sand	A46793-14

Relinquished By Peg Foss Date and Time 8/28/02 18:00 Received By Storage

Relinquished By Storage Date and Time 8/29/02 0600 Received By _____

Relinquished By _____ Date and Time _____ **Received For Laboratory By** _____

Section No.: 22.0
Revision No.: 1
Date: 1-17-01
Page 1 of 1

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other: _____

Data Reviewed By _____ Date _____

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

rogram / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other:_____ EPA # / Project #: 05002512

ystem Name: Ashuelot River mpl Site / Town: Keene Contact: Peg Foss x5448

omments:_____ Collected By & Phone# _____

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chloride				Other / Notes	Lab ID # (For Lab Use Only)
Field 2-SBA Dup	8/28/02 12:54		AQ		X	X	X	X	X	X	X	X	X				M Jones S. Vard	A46793-15 08/28 12:54
16B-Ash	12:45																J. Cunningham P. Piszczek	A46793-16 08/28 12:45
Field 16B-Ash Dup	12:55																J. Cunningham P. Piszczek	A46793-17 08/28 12:55
Keene WWTP	11:00			X													T. Croteau R. Gilbreth	A46793-18 08/28 11:00
16D-Ash 16D-Ash	13:15																J Cunningham P. Piszczek	A46793-19 08/28 13:15
QA-Asb	13:37																M.Racine R. Richard	A46793-20 08/28 13:37
16m-Ash	14:00																M. Racine R. Richard	A46793-21 08/28 14:00

Relinquished By Peg Foss Date and Time 8/28/02 18:00 Received By Storage

Relinquished By Storage Date and Time 8/29/02 600 Received By _____

Relinquished By _____ Date and Time _____ **Received For Laboratory By** WBacke

Section No.: 22.0
Revision No.: 1
Date: 1-17-01
Page 1 of 1

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other: _____

 Data Reviewed By _____ Date _____

NH DES LABORATORY SERVICES LOGIN AND CUSTODY SHEET

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other:_____ EPA # / Project #: 05002512

System Name: Ashuelot River mp Site / Town: Keene Contact: Peg Foss x5418

Comments:_____ Collected By & Phone# _____

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor a			Other / Notes	Lab ID # (For Lab Use Only)
0A-BRA	8/28/02 13:58		AQ		X	X	X	X	X	X	X	X	X			P.Foss G. Berlandi	A46793-22 08/28 13:58
17-Ash	13:33															P.Foss G. Berlandi	A46793-23 08/28 13:33
19-Ash	13:35															M Jones S. Sand	A46793-24 08/28 13:35
19A-Ash	13:52															M Jones S. Sand	A46793-25 08/28 13:52
20A-Ash	14:02															J. Cunningham P. Piszczek	A46793-26 08/28 14:02
21-Ash	14:20															J Cunningham P. Piszczek	A46793-27 08/28 14:20
Bucket Blank	17:30															P. Foss	A46793-28 08/28 17:30

Relinquished By Peg Foss Date and Time 8/28/02 18:00 Received By Storage

Relinquished By Storage Date and Time 8/29/02 600 Received By _____

Relinquished By _____ Date and Time _____ Received For Laboratory By _____

Section No.: 22.0
Revision No.: 1
Date: 1-17-01
Page 1 of 1

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other: _____

Data Reviewed By _____ Date _____

(Laboratory Policy: Samples not meeting method requirements will be analyzed at the discretion of the NH DES Laboratory.)

Program / Client ID: , π In-House, π OSA, π Pool, π Special, π Swim, π VLAP, π Other:_____ EPA # / Project #: 05002512

System Name: Ashuelot River TMDL Site / Town: Keene Contact: Peg Foss X5448

Comments:_____ Collected By & Phone# _____

Sample Location /ID	Date/Time Sampled	# of Containers	Matrix	BOD5	BOD20	TSS	TKN	NH3	NO2+NO3	TP	Ortho P	TOC	Chlor-a				Other / Notes	Lab ID # (For Lab Use Only)
Bottle Blank	8/28/02 17:40		AQ		X	X	X	X	X	X	X	X	X				P.Foss	A46793-29 08/28 17:40

Relinquished By Peg Foss Date and Time 8/28/02 18:00 Received By Storage

Relinquished By Storage Date and Time 8/29/02 0600 Received By _____

Relinquished By _____ Date and Time _____ **Received For Laboratory By** W. Locke

Section No.: 22.0
Revision No.: 1
Date: 1-17-01
Page 1 of 1

Matrix: A= Air S= Soil AQ= Aqueous (Ground Water, Surface Water, Drinking Water, Waste Water) π Other: _____

Page 5 **of** 5 Data Reviewed By_____ Date_____

DATE: 9/28/02 ASHUELOT RIVER TMDL

LABORATORY RESULTS

Station ID	Waterbody Name	Lab Sample #	BOD-5	BOD-20	CBOD (calculated)	CHLOR "A"	NO3	NO2	NH3	TKN	ORG N (calculated)	TSS	ORTHO P	TP	ORG P (calculated)	TOC	SOD*
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NHDES Reporting Detection Limits			1	3		0.2	0.05	0.005	0.1	0.4	na	2	0.01	0.0005	na	0.5	
12-Ash	Ashuelot River	346793-11		>20.4	19.71	19.92	0.99	0.025	0.05	0.4	0.35	4.5	0.097	0.143	0.05	6.3	1.71
13-Ash Field Replicate	Ashuelot River	346793-12		21.7	20.92	4.98	1	0.025	0.05	0.3	0.25	2.5	0.085	0.146	0.05	4	
14-Ash	Ashuelot River	346794-1		>18.8	21.72	13.64	1.15	0.025	0.1	0.9	0.80	11	0.141	0.213	0.07	5.4	3.13
14-Ash Field Replicate	Ashuelot River	346794-2		>9.8	9.3	3.62	1.18	0.025	0.1	1	0.90	5	0.14	0.243	0.10	4.7	
West Swanzey WWTF	24 Hour Composite	346793-9	10	128	46.67	7.85	4.59	1.13	3.4	4.7	1.30	4.5	5.67	5.517	-0.15	11.5	
West Swanzey WWTF	Laboratory Duplicate	346793-10	9	51													
14T-Ash	Ashuelot River	346793-6		6.2	0.26	6.23	1.43	0.025	0.05	0.4	0.35	2	0.21	0.29	0.08	3.9	
14T-Ash Field Replicate	Ashuelot River	346793-7		4	1.03	2.67	1.42	0.025	0.05	0.5	0.45	4.5	0.211	0.276	0.07	3.6	
15-Ash	Ashuelot River	346793-4		6	5.53	4.93	1.45	0.025	0.05	0.4	0.35	5.5	0.209	0.263	0.05	4.1	1.05
15-Ash Field Replicate	Ashuelot River	346793-5		4.9	1.68	7.06	1.45	0.025	0.05	0.4	0.35	3.5	0.21	0.262	0.05	3.7	
15E-Ash	Ashuelot River	346793-38		3.4	0.75	3.97	1.39	0.025	0.05	0.3	0.25	3	0.196	0.235	0.04	3.3	0.8
15E-Ash Field Duplicate	Ashuelot River	346793-37		6.6	3.46	7.24	1.38	0.025	0.05	0.3	0.25	4	0.199	0.242	0.04	3.4	
16-Ash	Ashuelot River	346793-32		3.6	1.68		1.29	0.025	0.05	0.3	0.25	4	0.245	0.268	0.02	3.2	0.61
16-Ash Field Duplicate	Ashuelot River	346793-33		5.4	2.48	3.04	1.33	0.025	0.05	0.6	0.55	4.5	0.253	0.287	0.02	3.8	
2-SBA	South Branch Ashuelot River	346793-15		3	0.67	2.2	0.13	0.025	0.05	0.2	0.15	4	0.005	0.015	0.01	2.6	
2-SBA Field Duplicate	South Branch Ashuelot River	346793-16		2.8		2.2	0.13	0.025	0.05	0.1	0.05	4.5	0.005	0.015	0.01	2.5	
16B-Ash	Ashuelot River	346793-30		6	0.33	2.97	4.67	0.025	0.1	0.8	0.70	4.5	1.06	1.132	0.07	5.6	
16B-Ash Field Duplicate	Ashuelot River	346793-31		6.7	2.76	2.97	5.34	0.025	0.1	1	0.90	5	1.17	1.23	0.06	6.4	
Keene WWTF	24 Hour Composite	346793-13	12	40	3.73	0.5	14.98	0.08	0.2	2.6	2.40	7.5	3.72	3.77	0.05	11.5	
Keene WWTF	Laboratory Duplicate	346793-14	7	28	-70.47												
16D-Ash	Ashuelot River	346793-35		3.7	1.60	1.91	0.18	0.025	0.05	0.3	0.25	5	0.005	0.022	0.02	3	1.23
0A-Ash	Ash Swamp Brook	346793-29		4.2	1.84	4.05	0.46	0.025	0.05	0.3	0.25	9	0.01	0.018	0.01	2.7	
16M-Ash	Ashuelot River	346793-34		2.8	0.61	1	0.09	0.025	0.05	0.2	0.15	6.5	0.005	0.008	0.00	3	
0A-Bra	The Branch	346793-21		5.6	2.4	2.21	0.19	0.025	0.2	0.6	0.40	10.5	0.005	0.014	0.01	3.9	
17-Ash	Ashuelot River	346793-3		3.4	1.21	0.8	0.08	0.025	0.1	0.2	0.10	7.5	0.005	0.01	0.01	2.9	
19-Ash	Ashuelot River	346793-24		2.6	-2.7	0.66	0.08	0.025	0.05	0.2	0.15	6.5	0.005	0.01	0.01	3	
19A-Ash	Ashuelot River	346793-25		3.5	1.36	1.72	0.07	0.025	0.05	0.2	0.15	8	0.005	0.009	0.00	2.8	0.3
20A-Ash	Ashuelot River	346793-26		2.9	0.2	2.14	0.06	0.025	0.05	0.2	0.15	6.5	0.005	0.01	0.01	3	
21-Ash	Ashuelot River	346793-27		3.1	1.21	1.37	0.025	0.025	0.05	0.2	0.15	7.5	0.005	0.009	0.00	3.6	
Bucket Blank		346793-28		0.8		0.42	<0.05	<0.05	0.1	<0.1		7.5	<0.01	0.003		0.1	
Bottle Blank		346793-17		0.2		0.36	<0.05	<0.05	0.1	<0.1		7.5	<0.01	0.001		0.1	

Detects, Lab Accident

SOD* samples collected and analyzed by EPA from 9/23 - 9/25/02

* Result reported as < RDL. Half the RDL used in avg calcs and model input.

	BASIC	BOD-5	BOD-20	CBOD (calculated)	CHLOR "A"	NO3	NO2	NH3	TKN	ORG N (calculated)	TSS	ORTHO P	TP	ORG P (calculated)	TOC	SOD
	Total Samples	29	29	29	29	29	29	29	29		29	29	29		29	29
	Detects	27	26	27	26	27	27	27	27		27	27	27		27	7
	Non-Detects	4	26	27	26	27	27	27	27		2	0	0		2	22
	Min	7.00	2.00	-70.47	0.50	0.00	0.00	0.05	0.10		2.00	0.01	0.01		2.50	0.30
	Max	12.00	128.00	46.67	19.92	14.98	1.15	3.40	4.70		11.00	5.67	5.52		11.50	1.71
	Range	5.00	126.00	116.13	19.52	14.98	1.15	3.35	4.60		9.00	5.67	5.51		9.00	1.41
	Average	9.50	13.86	2.93	4.25	1.73	0.07	0.19	0.65		5.59	0.51	0.54		4.34	0.96
	1st Qu.	2.1	23.5	17.9	4.3	2.0	0.2	0.6	0.9		2.3	1.3	1.2		2.3	0.5
	Median															

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-1
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:10
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 12-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M RACINE/R RICHARD
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	> 20.4	mg/L		
Chlorophyll "A"	19.02	mg/M3	.01	
NITRATE-N	.99	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.097	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L		160.2
T. PHOSPHORUS	.143	mg/L	.005	365.3
Total Organic Carbon	6.3	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Report Comments: TOC aliquot had inconsistant amounts of vegetation. Results of 6.1, & 3.9

Analyst Comments: Chlorophyll A results for entire round analyzed

Report Comments: by Limnology Lab

Authorized Signature: Garry Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

mple #: A46793-2
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:10
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 12-ASH FIELD REP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M RACINE/R RICHARD
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	21.7	mg/L		
Chlorophyll "A"	4.98	mg/M3	.01	
NITRATE-N	1	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.095	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	2.5	mg/L		160.2
T. PHOSPHORUS	.146	mg/L	.005	365.3
Total Organic Carbon	4	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

mple #: A46793-3
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:08
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 14-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	> 18.8	mg/L		
Chlorophyll "A"	13.64	mg/M3	.01	
NITRATE-N	1.15	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,TKN	.9	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.141	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	11	mg/L		160.2
T. PHOSPHORUS	.213	mg/L	.005	365.3
Total Organic Carbon	5.4	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

nple #: A46793-4
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:08
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 14-ASH FIELD REP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	>9.8	mg/L		
Chlorophyll "A"	3.62	mg/M3	.01	
NITRATE-N	1.16	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,TKN	1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.14	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	5	mg/L		160.2
T. PHOSPHORUS	.243	mg/L	.005	365.3
Total Organic Carbon	4.7	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

mple #: A46793-5
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:00
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : W SWANZEY WWTF
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: T CROTEAU/R GILBRETH
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	> 128 AND 51 RAN AS DUPE	mg/L		
BOD-5	10 AND 9 RAN AS DUPE	mg/L		405.1
Chlorophyll "A"	7.65	mg/M3	.01	
NITRATE-N	4.59	mg/L	.05	353.2
NITRITE-N	1.13	mg/L	.05	353.2
NITROGEN,AMMONIA-N	3.4	mg/L	.1	350.1
NITROGEN,TKN	4.7	mg/L	.5	351.2
PHOSPHORUS,D.ORTHO	5.67	mg/L	.1	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L		160.2
T. PHOSPHORUS	5.517	mg/L	.005	365.3
Total Organic Carbon	11.5	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

.mple #: A46793-6
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 11:45
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 14T-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M JONES/S SAND
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	5.2	mg/L		
Chlorophyll "A"	6.23	mg/M3	.01	
NITRATE-N	1.43	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.21	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	2	mg/L		160.2
T. PHOSPHORUS	.29	mg/L	.005	365.3
Total Organic Carbon	3.9	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-7
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 11:45
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 141-ASH FIELD REP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M JONES/S SAND
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	**4.0**	mg/L		
Chlorophyll "A"	**2.67**	mg/M3	.01	
NITRATE-N	**1.42**	mg/L	.05	353.2
NITRITE-N	**<0.05**	mg/L	.05	353.2
NITROGEN,AMMONIA-N	**<.1**	mg/L	.1	350.1
NITROGEN,TKN	**.5**	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	**.211**	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	**4.5**	mg/L		160.2
T. PHOSPHORUS	**.276**	mg/L	.005	365.3
Total Organic Carbon	**3.6**	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-8
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 11:49
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 15-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	8.0	mg/L		
Chlorophyll "A"	4.93	mg/M3	.01	
NITRATE-N	1.45	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.209	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	5.5	mg/L		160.2
T. PHOSPHORUS	.263	mg/L	.005	365.3
Total Organic Carbon	4.1	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-9
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 11:49
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 15-ASH FIELD REP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	4.9	mg/L		
Chlorophyll "A"	7.06	mg/M3	.01	
NITRATE-N	1.45	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.4	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.21	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	3.5	mg/L		160.2
T. PHOSPHORUS	.262	mg/L	.005	365.3
Total Organic Carbon	3.7	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

. .mple #: A46793-10
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:50
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 15E-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M RACINE/R RICHARD
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.4	mg/L		
Chlorophyll "A"	3.97	mg/M3	.01	
NITRATE-N	1.39	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.196	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	3	mg/L		160.2
T. PHOSPHORUS	.235	mg/L	.005	365.3
Total Organic Carbon	3.3	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth Jr
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A46793-11
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:00
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 15E-ASH FIELD DUP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M RACINE/R RICHARD
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	6.8	mg/L		
Chlorophyll "A"	7.24	mg/M3	.01	
NITRATE-N	1.38	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.199	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	4	mg/L		160.2
T. PHOSPHORUS	.242	mg/L	.005	365.3
Total Organic Carbon	3.4	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-12
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:45
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 16-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.6	mg/L		
Chlorophyll "A"	DELETED, LAB ACCIDENT	mg/M3	.01	
NITRATE-N	1.29	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.245	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	4	mg/L		160.2
T. PHOSPHORUS	.268	mg/L	.005	365.3
Total Organic Carbon	3.2	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A46793-13
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:58
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 16-ASH FIELD DUP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	5.4	mg/L		
Chlorophyll "A"	3.04	mg/M3	.01	
NITRATE-N	1.33	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.6	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.263	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L		160.2
T. PHOSPHORUS	.287	mg/L	.005	365.3
Total Organic Carbon	3.8	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

mple #: A46793-14
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:39
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 2-SBA
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M JONES/S SAND
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.0	mg/L		
Chlorophyll "A"	2.2	mg/M3	.01	
NITRATE-N	.13	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	4	mg/L		160.2
T. PHOSPHORUS	.015	mg/L	.005	365.3
Total Organic Carbon	2.6	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

mple #: A46793-15
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:54
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 2-SBA FIELD DUP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M JONES/S SAND
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.8	mg/L		
Chlorophyll "A"	2.2	mg/M3	.01	
NITRATE-N	.13	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L		160.2
T. PHOSPHORUS	.015	mg/L	.005	365.3
Total Organic Carbon	2.5	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

mple #: A46793-16
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:45
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 16B-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	6.0	mg/L		
Chlorophyll "A"	2.97	mg/M3	.01	
NITRATE-N	4.87	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,TKN	.8	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	1.06	mg/L	.02	365.3
RESIDUE.T. SUSPENDED	4.5	mg/L		160.2
T. PHOSPHORUS	1.132	mg/L	.005	365.3
Total Organic Carbon	5.6	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-17
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 12:55
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 16B-ASH FIELD DUP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	6.7	mg/L		
Chlorophyll "A"	2.97	mg/M3	.01	
NITRATE-N	5.34	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	.1	mg/L	.1	350.1
NITROGEN,TKN	1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	1.17	mg/L	.02	365.3
RESIDUE.T. SUSPENDED	5	mg/L		160.2
T. PHOSPHORUS	1.23	mg/L	.025	365.3
Total Organic Carbon	6.4	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Analyst Comments: TP Lab dupe -> 1.23 mg/L

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A46793-18
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 11:00
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : KEENE WWTP
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: T CROTEAU/R GILBRETH
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	**40 AND 28 RAN AS DUPE**	mg/L		
BOD-5	**12 AND 7 RAN AS DUPE**	mg/L		405.1
Chlorophyll "A"	**-.23**	mg/M3	.01	
NITRATE-N	**14.98**	mg/L	.5	353.2
NITRITE-N	**.08**	mg/L	.05	353.2
NITROGEN,AMMONIA-N	**.2**	mg/L	.1	350.1
NITROGEN,TKN	**2.6**	mg/L	.2	351.2
PHOSPHORUS,D.ORTHO	**3.72**	mg/L	.1	365.3
RESIDUE.T. SUSPENDED	**7.5**	mg/L		160.2
T. PHOSPHORUS	**3.77**	mg/L	.005	365.3
Total Organic Carbon	**11.5**	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

mple #: A46793-19
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:15
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 16D-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.7	mg/L		
BOD-20	3.7	mg/L		
Chlorophyll "A"	1.91	mg/M3	.01	
NITRATE-N	.18	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	5	mg/L		160.2
T. PHOSPHORUS	.022	mg/L	.005	365.3
Total Organic Carbon	3	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-20
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:37
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : OA-ASB
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M RACINE/R RICHARD
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	4.2	mg/L		
Chlorophyll "A"	4.05	mg/M3	.01	
NITRATE-N	.46	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.3	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	9	mg/L		160.2
T. PHOSPHORUS	.018	mg/L	.005	365.3
Total Organic Carbon	2.7	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

mple #: A46793-21
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 14:00
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 16M-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M RACINE/R RICHARD
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.8	mg/L		
Chlorophyll "A"	1	mg/M3	.01	
NITRATE-N	.09	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	6.5	mg/L		160.2
T. PHOSPHORUS	.008	mg/L	.005	365.3
Total Organic Carbon	3	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

.mple #: A46793-22
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:58
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : OA-BRA
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	5.6	mg/L		
Chlorophyll "A"	2.21	mg/M3	.01	
NITRATE-N	.19	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	.2	mg/L	.1	350.1
NITROGEN,TKN	.6	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	10.5	mg/L		160.2
T. PHOSPHORUS	.014	mg/L	.005	365.3
Total Organic Carbon	3.9	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit

ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram

> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-23
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:33
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 17-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS/G BERLANDI
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.4	mg/L		
Chlorophyll "A"	.6	mg/M3	.01	
NITRATE-N	.08	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	7.5	mg/L		160.2
T. PHOSPHORUS	.01	mg/L	.005	365.3
Total Organic Carbon	2.9	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A46793-24
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:35
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 19-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M JONES/S SAND
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.6	mg/L		
Chlorophyll "A"	.66	mg/M3	.01	
NITRATE-N	.06	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	6.5	mg/L		160.2
T. PHOSPHORUS	.01	mg/L	.005	365.3
Total Organic Carbon	3	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry A Haworth

Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-25
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 13:52
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 19A-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: M JONES/S SAND
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.5	mg/L		
Chlorophyll "A"	1.72	mg/M3	.01	
NITRATE-N	.07	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	8	mg/L		160.2
T. PHOSPHORUS	.009	mg/L	.005	365.3
Total Organic Carbon	2.8	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Heworth
Garry Heworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-26
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 14:02
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 20A-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	2.9	mg/L		
Chlorophyll "A"	2.14	mg/M3	.01	
NITRATE-N	.06	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	6.5	mg/L		160.2
T. PHOSPHORUS	.01	mg/L	.005	365.3
Total Organic Carbon	3	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-27
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 14:20
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : 21-ASH
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: J CUNNINGHAM/P PISZCZEK
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	3.1	mg/L		
Chlorophyll "A"	1.37	mg/M3	.01	
NITRATE-N	<0.05	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	.2	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	7.5	mg/L		160.2
T. PHOSPHORUS	.009	mg/L	.005	365.3
Total Organic Carbon	3.5	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

NHDES

Results of Laboratory Analysis

Sample #: A46793-28
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 17:30
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : BUCKET BLANK
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	.8	mg/L		
Chlorophyll "A"	.42	mg/M3	.01	
NITRATE-N	<0.05	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	<.1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	7.5	mg/L		160.2
T. PHOSPHORUS	.003	mg/L	.005	365.3
Total Organic Carbon	.1	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Gary A Haworth
Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

State of New Hampshire
Department of Environmental Services
6 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3445/3446

Results of Laboratory Analysis

Sample #: A46793-29
Category: IN HOUSE
Matrix : Aqueous
Collection Date: 08/28/2002 17:40
Log in Date : 08/29/2002 06:24
Completion Date: 11/13/2002
Misc ID :

Locator : BOTTLE BLANK
Descript : TMDL RIVER STUDIES
Site : KEENE
Collectby: P FOSS
Account #: 05-04-04
Project #: 05-0022512

PAUL PISZCZEK

Analyte	Results	Units	RDL	EPA Method
BOD-20	.2	mg/L		
Chlorophyll "A"	.36	mg/M3	.01	
NITRATE-N	<0.05	mg/L	.05	353.2
NITRITE-N	<0.05	mg/L	.05	353.2
NITROGEN,AMMONIA-N	<.1	mg/L	.1	350.1
NITROGEN,TKN	<.1	mg/L	.1	351.2
PHOSPHORUS,D.ORTHO	<.01	mg/L	.01	365.3
RESIDUE.T. SUSPENDED	7.5	mg/L		160.2
T. PHOSPHORUS	.001	mg/L	.005	365.3
Total Organic Carbon	.1	mg/L	.5	SM5310B

Client's Comments: ASHUELOT RIVER

Authorized Signature: Garry Haworth
Inorganics Supervisor

mg/L = milligrams per Liter
< = Less Than
pCi/L = pico Curies per Liter
RDL = Reporting Detection Limit
ug/L = micrograms per Liter
BDL = Below Detection Limit
mg/kg = milligrams per Kilogram
> = Greater Than
ug/kg = micrograms per Kilogram
P-A = Present/Absent

2002 Ashuelot River BOD Lab Results and CBOD calcs													
Collection Date 8/28/02													
	Test, mg/L												
	RDL <2.4	RDL 0.1	RDL 0.1	RDL 0.005	RDL 0.005	RDL 0.5	RDL 0.005			20d NO3+NO2			
Sample #	BOD20	TKN	NH_3	NO_3+NO_2	TP	TOC	ortho-P	20d NO3+NO2	mLs used in 20d BOD	Dilution	N UPTAKE	NBOD	CBOD
A46793-1	20.4	0.4	0.05	1.02	0.143	6.3	0.097	1.17	300	1.17	0.15	0.69	19.71
-2	21.7	0.3	0.05	1.03	0.146	4	0.095	1.2	300	1.2	0.17	0.78	20.92
-3	18.8	0.9	0.1	1.18	0.213	5.4	0.141	0.54	300	0.54	-0.64	-2.92	21.72
-4	9.8	1	0.1	1.18	0.243	4.7	0.14	1.29	300	1.29	0.11	0.50	9.30
-5	89.5	4.7	3.4	1.19	5.517	11.5	5.67	10.78	300	10.78	9.59	43.83	45.67
-6	5.2	0.4	0.05	1.46	0.29	3.9	0.21	2.54	300	2.54	1.08	4.94	0.26
-7	4	0.5	0.05	1.45	0.276	3.6	0.211	2.1	300	2.1	0.65	2.97	1.03
-8	8	0.4	0.05	1.48	0.263	4.1	0.209	2.02	300	2.02	0.54	2.47	5.53
-9	4.9	0.4	0.05	1.48	0.262	3.7	0.21	2.12	300	2.12	0.64	2.92	1.98
-10	3.4	0.3	0.05	1.42	0.235	3.3	0.196	2	300	2	0.58	2.65	0.75
-11	6.8	0.3	0.05	1.41	0.242	3.4	0.199	2.14	300	2.14	0.73	3.34	3.46
-12	3.6	0.3	0.05	1.32	0.268	3.2	0.245	1.74	300	1.74	0.42	1.92	1.68
-13	5.4	0.6	0.05	1.36	0.287	3.8	0.263	2	300	2	0.64	2.92	2.48
-14	3	0.2	0.05	0.16	0.015	2.6	0.005	0.67	300	0.67	0.51	2.33	0.67
-15	2.8	0.1	0.05	0.16	0.015	2.5	0.005	0.7	300	0.7	0.54	2.47	0.33
-16	6	0.8	0.1	4.9	1.132	5.6	1.06	5.61	300	5.61	0.71	3.24	2.76
-17	6.7	1	0.1	5.37	1.23	6.4	1.17	6.02	300	6.02	0.65	2.97	3.73
-18	34	2.6	0.2	15.1	3.77	11.5	3.72	37.96	300	37.96	22.86	104.47	-70.47
-19	3.7	0.3	0.05	0.21	0.022	3	0.005	0.65	300	0.65	0.44	2.01	1.69
-20	4.2	0.3	0.05	0.49	0.018	2.7	0.01	1.05	300	1.05	0.56	2.56	1.64
-21	2.8	0.2	0.05	0.12	0.008	3	0.005	0.6	300	0.6	0.48	2.19	0.61
-22	5.6	0.6	0.2	0.22	0.014	3.9	0.005	0.92	300	0.92	0.70	3.20	2.40
-23	3.4	0.2	0.1	0.11	0.01	2.9	0.005	0.59	300	0.59	0.48	2.19	1.21
-24	2.6	0.2	0.05	0.1	0.01	3	0.005	1.26	300	1.26	1.16	5.30	-2.70
-25	3.5	0.2	0.05	0.1	0.009	2.8	0.005	0.57	300	0.57	0.47	2.15	1.35
-26	2.9	0.2	0.05	0.1	0.01	3	0.005	0.69	300	0.69	0.59	2.70	0.20
-27	3.1	0.2	0.05	0.05	0.009	3.5	0.005	0.463	300	0.463	0.41	1.89	1.21
	An entry of zero means the result was either zero or a negative number												

NEW HAMP RE DES LABORATORY BOD mg/L

Analyst				D.O. g/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
Blank			BOD DAY #	1	2	3				
mL sample		Date/Time								
300		829021030	INITIAL	7.6	7.7	7.7	23			
pH units		903021112	5	7.4			21	0.2	0	0.2
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13		7.4			0.3	0	0.3
Final slope										
QC True	3.4									
Lot VHG2000			20			7.8	21	-0.1	0	-0.1

NO3-
NO2-

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
Seed Blank			BOD DAY #	1	2	3				
mL sample		Date/Time								
300		829021030	INITIAL	7.6	7.7	7.6	23			
pH units		903021112	5	7.2			21	0.4	0	0.4
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13		7.1		21	0.6	0	0.6
Final slope	1.13									
QC True	3.4									
Lot VHG2000		918020930	20			6.4	21	1.2	-0.1	1.3

NO3-<0.05
NO2-0.3

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
Seed QC @ 3.4		Date/Time	BOD DAY #	1	2	3				
mL sample										
300		829021030	INITIAL	7.7			23			
pH units		903021112	5	3.6			21	4.1	0.4	3.7
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									
Lot VHG2000		918020930	20							

109 % rec

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	**D.O. mg/L reaerated**	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-1			BOD DAY #	1	2	3				
mL sample		Date/Time								
250		829021030	INITIAL	8.9		8.8	21			
pH units	7.0	903021112	5	5.3			20	3.6	0.2	4.08
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13	2.1		0.0		**8.2/8.1**	6.8 / 8.6	
Final slope	1.13									
QC True	3.4								>15.0 / ≥16.9	>
Lot VHG2000		918020930	20	0.0		0.0	21	>	16.9	-0.1	20.4

duckweed
NO3-0.33
NO2-0.84

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst		Date/Time	BOD DAY #	D.O. mg/L T°C 1	2	3	D.O. mg/L reaerated	Total Depletion	Seed - Blank Correction	Final BOD	QC Notes
A46793-1 du											
mL sample											
250		829021030	INITIAL	8.8		8.8	20				
pH units	7.0	903021112	5	3.7			20		4.1	0.2	4.68 duckweed
Chlorine mg/L											
Initial slope	1.16	911021100	12 or 13	0.0		0.0	21	8.0/8.0	8.8 / 8.8		
Final slope	1.13										
QC True	3.4										> NO3-<0.05
Lot VHG2000		918020930	20	0.0		0.0	21	>	16.8	-0.1	20.28 NO2-<0.05

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst		Date/Time	BOD DAY #	D.O. mg/L T°C 1	2	3	D.O. mg/L reaerated	Total Depletion	Seed - Blank Correction	Final BOD	QC Notes
A46793-2											
mL sample											
250		829021030	INITIAL	8.7		8.7	20				
pH units	7.0	903021112	5	0.2		5.9	20	7.0 / 7.1	5.65	0.2	6.54 duckweed
Chlorine mg/L											
Initial slope	1.16	911021100	12 or 13	1.0		1.5		8.1 / 8.0	14.5 / 8.4	0	#VALUE!
Final slope	1.13										
QC True	3.4								21.4/14.7		NO3-1.66
Lot VHG2000		918020930	20	1.2		1.7	21		18.0	-0.1	21.72 NO2-1.04

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst		Date/Time	BOD DAY #	D.O. mg/L T°C 1	2	3	D.O. mg/L reaerated	Total Depletion	Seed - Blank Correction	Final BOD	QC Notes
A46793-3											
mL sample											
250		829021030	INITIAL	8.4		8.5	20			greater than	
pH units	7.1	903021112	5	0.0		5.0	20	7.2 / 7.3	5.95	0.2	6.9 duckweed
Chlorine mg/L											
Initial slope	1.16	911021100	12 or 13	0		0		7.2 / 7.3			
Final slope	1.13										
QC True	3.4									greater tha	NO3-<0.05
Lot VHG2000		918020930	20	0		0.0	21	>	15.6	-0.1	18.84 NO2-0.53

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst		Date/Time	BOD DAY #	D.O. mg/L T°C 1	2	3	D.O. mg/L reaerated	Total Depletion	Seed - Blank Correction	Final BOD	QC Notes
A46793-4											
mL sample											
250		829021030	INITIAL	8.2		8.1	20				
pH units	7.1	903021112	5	6.3			20		0.9	0.2	0.84
Chlorine mg/L											
Initial slope	1.16	911021100	12 or 13								
Final slope	1.13										
QC True	3.4									greater tha	NO3-1.22
Lot VHG2000		918020930	20			0.0	21	>	8.1	-0.1	9.84 NO2-0.7

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst D.O. mg/L T°C D.O. mg/L Total Depletion Seed - Blank Final BOD QC

A46793-5			BOD DAY #						reaerated		Correction		Notes
mL sample		Date/Time		1	2	3							
15		829021030	INITIAL	7.8	7.7	7.7	22						NO3-4.0
pH units	7.8 adj 7.5	903021112	5	6.9			20		0.9		0.4	10	NO2 - 1.6
Chlorine mg/L	YES												
Initial slope	1.16	911021100	12 or 13		4.5		21		3.2		0.6	52	
Final slope	1.13												
QC True	3.4											greater tha	NO3-<1
Lot VHG2000		918020930	20			0.0	21	>	7.7		1.3	128	NO2-<0.5

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst						D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-5			BOD DAY #					reaerated		Correction		Notes
mL sample		Date/Time		1	2	3						
30		829021030	INITIAL	7.8	7.7	7.7	21					NO3-4.0
pH units	7.8 adj 7.5	903021112	5	6.5			20		1.3	0.4	9	NO2 - 1.6
Chlorine mg/L	YES											
Initial slope	1.16	911021100	12 or 13		2.8	2.9	8.3	8.3/8.2	4.9	0.6	43	
Final slope	1.13											
QC True	3.4								6.6/6.2			NO3-10.5
Lot VHG2000		918020930	20		6.6	6.8	21		6.4	1.3	51	NO2-<0.5

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst						D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-6		Date/Time	BOD DAY #					reaerated		Correction		Notes
mL sample				1	2	3						
250		829021030	INITIAL	10.1		10.2	21					
pH units	7.4	903021112	5	8.9			20		1.2	0.2	1.2	
Chlorine mg/L												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-2.1
Lot VHG2000		918020930	20			6.0	21		4.2	-0.1	5.16	NO2-0.44

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst						D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-7			BOD DAY #					reaerated		Correction		Notes
mL sample		Date/Time		1	2	3						
250		829021030	INITIAL	9.8		9.7	21					
pH units	7.4	903021112	5	9.0			21		0.8	0.2	0.72	
Chlorine mg/L												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-1.62
Lot VHG2000		918020930	20			6.5	21		3.2	-0.1	3.95	NO2-0.48

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst						D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-8			BOD DAY #					reaerated		Correction		Notes
mL sample		Date/Time		1	2	3						

250		829021030	INITIAL	8.5		8.5	20					
pH units	7.1	903021112	5	7.4			21		1.0	0.2	1.08	
Chlorine mg/L												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-1.51
Lot VHG2000		918020930	20			1.9	21		6.6	-0.1	8.04	NO2-0.51

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-9		Date/Time	BOD DAY #	1	2	3				
mL sample										
250		829021030	INITIAL	9.6		9.6	20			
pH units	7.0	903021112	5	8.6			21	1.0	0.2	0.96
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-1.63
Lot VHG2000		918020930	20			5.6	21	4.0	-0.1	4.92 NO3-0.49

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-10			BOD DAY #	1	2	3				
mL sample		Date/Time								
250		829021030	INITIAL	9.1		9.1	20			
pH units	7.2	903021112	5	8.1			21	1.0	0.2	0.96
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-1.45
Lot VHG2000		918020930	20			6.4	21	2.7	-0.1	3.36 NO2-0.55

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-10	**w/3.4 spike**		BOD DAY #	1	2	3				
mL sample		Date/Time								
250		829021030	INITIAL	9.1			20			
pH units	7.2	903021112	5	4.4			21	4.7	4.7 - 1.0 / 3.4	equals 109 % rec
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									
Lot VHG2000			20							

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-11		Date/Time	BOD DAY #	1	2	3				
mL sample		829021030								
250			INITIAL	9.1		9.1	20			
pH units	7.1	903021112	5	6.9			21	2.2	0.2	2.4

Chlorine mg/												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-1.46
Lot VHG2000		918020930	20			3.5	21		5.6	-0.1	6.84	NO2-0.84

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-11 dup			BOD DAY #			reaerated		Correction		Notes
mL sample		Date/Time		1	2	3				
250		829021030	INITIAL	9.2		9.2	20			
pH units	7.1	903021112	5	7.6			21	1.6	0.4	1.44
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-1.42
Lot VHG2000		918020930	20			6.1	21	3.1	-0.1	3.84 NO2-0.56

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-12		Date/Time	BOD DAY #			reaerated		Correction		Notes
mL sample				1	2	3				
250		829021030	INITIAL	8.3		8.4	21			
pH units	7.0	903021112	5	7.8			21	0.5	0.4	0.12
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-01.57
Lot VHG2000		918020930	20			5.5	21	2.9	-0.1	3.6 NO2-0.17

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-13			BOD DAY #			reaerated		Correction		Notes
mL sample		Date/Time		1	2	3				
250		829021030	INITIAL	8.9		9.0	21			
pH units	7.1	903021112	5	7.8			21	1.1	0.2	1.08
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-1.57
Lot VHG2000		918020930	20			4.6	21	4.4	-0.1	5.4 NO2-0.43

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C	D.O. mg/L	Total Depletio	Seed - Blank	Final BOD	QC
A46793-14			BOD DAY #			reaerated		Correction		Notes
mL sample		Date/Time		1	2	3				
250		829021030	INITIAL	9.0		9.0	21			
pH units	6.9	903021112	5	8.3			21	0.7	0.2	0.6
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							

Final slope	1.13											
QC True	3.4											NO3-0.18
Lot VHG2000		918020930	20			6.6	21		2.4	-0.1	3.0	NO2-0.49

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst						D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-15		Date/Time	BOD DAY #	1	2	3						
mL sample												
250		829021030	INITIAL	9.0		8.8	22					
pH units	6.9	903021112	5.	8.3			21		0.7	0.2	0.6	
Chlorine mg/L												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-0.20
Lot VHG2000		918020930	20			6.6	21		2.2	-0.1	2.76	NO2-0.50

NEW HAMPSHIRE DES LABORATORY BOD mg/L

	7.1											
	1.16											
	1.13											
	3.4											

NEW HAMPSHIRE DES LABORATORY BOD mg/L

7.1

1.16
1.13
3.4

7.1

1.16
1.13
3.4

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst		Date/Time	BOD DAY #	D.O. mg/L			T°C	D.O. mg/L Total Depletio reaerated		Seed - Blank Correction	Final BOD	QC Notes
A46793-16				1	2	3						
mL sample												
250	7.1	829021030	INITIAL	9.2	9.2	9.3	23					
pH units		903021112	5	8			20		1.2	0.2	1.2	
Chlorine mg/L												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-5.35
Lot VHG2000		918020930	20			4.4	22		4.9	-0.1	6	NO2-0.26

5.61

7.1

1.16
1.13
3.4

	7.1											
	1.16											
	1.13											
	3.4											

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-17		Date/Time	BOD DAY #	1	2	3							
mL sample													
250	7.1	829021030	INITIAL	8.8		8.8	22						
pH units		903021112	5	7.5			21			1.3	0.2	1.32	
Chlorine mg/L													
Initial slope	1.16	911021100	12 or 13										
Final slope	1.13												
QC True	3.4												NO3-5.96
Lot VHG2000		918020930	20			3.3	21			5.5	-0.1	6.72	NO2-0.06

6.92

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-18		Date/Time	BOD DAY #	1	2	3							
mL sample													
15		829021030	INITIAL	7.8	7.6	7.8	23						NO3- 15.2
pH units	7.3	903021112	5	6.8			20			1.0	0.4	12	NO2 - <1.0
Chlorine mg/L													
Initial slope	1.16	911021100	12 or 13		5.7		21			1.9	0.6	26	
Final slope	1.13												
QC True	3.4												NO3-19.4
Lot VHG2000		918020930	20			4.5	21			3.3	1.3	40	NO2-<1.0

19.43

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst	0						D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-18			BOD DAY #										
mL sample		Date/Time		1	2	3							
30	7.3	829021030	INITIAL	7.7	7.7	7.8	22						NO3-15.6
pH units		903021112	5	6.6			20			1.1	0.4	7	NO2 - <0.5
Chlorine mg/L													
Initial slope	1.13	911021100	12 or 13		4.4					1.9	0.6	13	
Final slope	3.4												
QC True													NO3-18.5
Lot VHG2000		918020930	20			3.7	21			4.1	1.3	28	NO2-<0.5

37.8

18.5

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-19			BOD DAY #										
mL sample		Date/Time		1	2	3							
250		829021030	INITIAL	9.5		9.6	22						

pH units	6.8	903021112	5	8.7			21		0.8	0.2	0.72		
Chlorine mg/L													
Initial slope	1.13	911021100	12 or 13										
Final slope	3.4												
QC True													NO3-0.22
Lot VHG2000		918020930	20			6.6	21		3.0	-0.1	3.72	NO2-0.43	.65

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-20			BOD DAY #	1	2	3							
mL sample		Date/Time											
250		829021030	INITIAL	10.0		9.9	21						
pH units	7.3	903021112	5	9.1			21		0.9	0.2	0.84		
Chlorine mg/L													
Initial slope	1.16	911021100	12 or 13										
Final slope	1.13												
QC True	3.4												NO3-1.02
Lot VHG2000		918020930	20			6.5	21		3.4	-0.1	4.2	NO2-<0.05	1.05

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-20	w/3.4 spk	Date/Time	BOD DAY #	1	2	3							
mL sample													
250		829021030	INITIAL	9.9			22						
pH units	7.3	903021112	5	5.2			21		4.7	4.7 - 0.9 / 3.4	equals		112% rec
Chlorine mg/L													
Initial slope	1.16	911021100	12 or 13										
Final slope	1.13												
QC True	3.4												
Lot VHG2000		918020930	20										

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-21			BOD DAY #	1	2	3							
mL sample		Date/Time											
250		829021030	INITIAL	8.5		8.6	22						
pH units	6.8	903021112	5	7.9			21		0.6	0.2	0.48		
Chlorine mg/L													
Initial slope	1.16	911021100	12 or 13										
Final slope	1.13												
QC True	3.4												NO3-0.12
Lot VHG2000		918020930	20			6.4	21		2.2	-0.1	2.76	NO2-0.42	.53

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst							D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-21dup			BOD DAY #	1	2	3							
mL sample		Date/Time											
250		829021030	INITIAL	8.6		8.5	21						
pH units	6.8	903021112	5	7.9			21		0.7	0.2	0.6		
Chlorine mg/L													

4dv .65 Avg .59 .60

Initial slope	1.16	911021100	12 or 13										
Final slope	1.13												
QC True	3.4												NO3-0.16
Lot VHG2000		918020930	20			6.1	21		2.4	-0.1	3		NO2-0.49

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-22		Date/Time	BOD DAY #				reaerated	Correction		Notes
mL sample				1	2	3				
250		829021030	INITIAL	8.8		8.7	22			
pH units	6.8	903021112	5	7.5			22	1.3	0.2	1.32
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-0.37
Lot VHG2000		918020930	20			4.1	21	4.6	-0.1	5.64	NO2-0.55

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-23			BOD DAY #				reaerated	Correction		Notes
mL sample		Date/Time		1	2	3				
250		829021030	INITIAL	8.8		8.8	21			
pH units	6.8	903021112	5	8.1			22	0.7	0.2	0.6
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-0.13
Lot VHG2000		918020930	20			6.1	21	2.7	-0.1	3.36	NO2-0.46

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-24			BOD DAY #				reaerated	Correction		Notes
mL sample		Date/Time		1	2	3				
250		829021030	INITIAL	8.7		8.6	22			
pH units	6.9	903021112	5	8.3			22	0.4	0.2	0.24
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-0.77
Lot VHG2000		918020930	20			6.5	21	2.1	-0.1	2.64	NO3-0.49

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-25		Date/Time	BOD DAY #				reaerated	Correction		Notes
mL sample		829021030		1	2	3				
250		903021112	INITIAL	9.2		9.2	22			
pH units	7.1		5	8.8			22	0.4	0.2	0.24
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									

QC True	3.4											NO3-0.07
Lot VHG2000		918020930	20		4	21		2.8	-0.1	3.48		0.50

.57

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-26		Date/Time	BOD DAY #				reaerated	Correction		Notes
mL sample		829021030		1	2	3				
250		903021112	INITIAL	9.1		9.1	22			
pH units	7.0		5	8.6			22	0.5	0.2	0.36
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-0.23
Lot VHG2000		918020930	20			6.8	21.2	2.3	-0.1	2.88 NO2-0.46

.69

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-27		Date/Time	BOD DAY #				reaerated	Correction		Notes
mL sample		829021030		1	2	3				
250		903021112	INITIAL	8.5		8.5	22			
pH units	7.0		5	7.9			22	0.6	0.2	0.48
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-<0.1
Lot VHG2000		918020930	20			6.0	21.3	2.5	-0.1	3.12 NO2-0.46

.463

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-27	w 3.4 spk	Date/Time	BOD DAY #				reaerated	Correction		Notes
mL sample		829021030		1	2	3				
250		903021112	INITIAL	8.6			22			
pH units	7.0		5	4.3			22	4.3	4.3 - 0.6 / 3.7	equals 109 %rec
Chlorine mg/L										
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									
Lot VHG2000		918020930	20							

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst				D.O. mg/L	T°C		D.O. mg/L Total Depletio	Seed - Blank	Final BOD	QC
A46793-28		Date/Time	BOD DAY #				reaerated	Correction		Notes
mL sample		829021030		1	2	3				
250		903021112	INITIAL	8.5		8.6	22			
pH units			5	8.1			22	0.4	0.2	0.24
Chlorine mg/L	5.8 - 6.6									
Initial slope	1.16	911021100	12 or 13							
Final slope	1.13									
QC True	3.4									NO3-<0.05
Lot VHG2000		918020930	20			8.0	21	0.6	-0.1	0.84 NO2-<0.05

NEW HAMPSHIRE DES LABORATORY BOD mg/L

Analyst						D.O. mg/L	T°C	D.O. mg/L reaerated	Total Depletio	Seed - Blank Correction	Final BOD	QC Notes
A46793-29		Date/Time	BOD DAY #	1	2	3						
mL sample		829021030										
250		903021112	INITIAL	9.0		8.9	24					
pH units	5.8 - 6.7		5	8.9			22		0.1	0.2	-0.12	
Chlorine mg/L												
Initial slope	1.16	911021100	12 or 13									
Final slope	1.13											
QC True	3.4											NO3-<0.05
Lot VHG2000		918020930	20			8.8	21		0.1	-0.1	0.24	NO2-<0.05

Project:		Ashuelot River TMDL				Date:		8/28/02	
Waterbody Name:		Ashuelot Rivr				Time Begin			
Station ID:		21-Ash				Time End:			
Station Description:		Old Stone Arch Bridge					Outputs		
Staff Names:						Total Flow	0.66	cfs	
River Width (ft)	37					Ave Depth	1.02	ft	
						Total Area	36.54	sq feet	
						Ave Vel	0.018	fps	
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
2	0	0.00							
2.75	0.75	0.05	0.00			0	0.20625	0.00	0.00
3.5	1.5	0.15							
4.25	2.25	0.20	-0.01			-0.01	0.375	0.00	0.00
5	3	0.25							
5.75	3.75	0.30	-0.01			-0.01	0.61875	-0.01	-0.01
6.5	4.5	0.42							
7.25	5.25	0.51	0.00			0	0.90375	0.00	-0.01
8	6	0.60							
8.75	6.75	0.70	0.01			0.01	1.185	0.01	0.00
9.5	7.5	0.78							
10.25	8.25	0.90	0.02			0.02	1.39125	0.03	0.03
11	9	0.91							
11.75	9.75	0.99	0.03			0.03	1.54125	0.05	0.08
12.5	10.5	1.02							
13.25	11.25	1.08	0.03			0.03	1.62	0.05	0.12
14	12	1.02							
14.75	12.75	1.20	0.04			0.04	1.8825	0.08	0.20
15.5	13.5	1.25							
16.25	14.25	1.32	0.03			0.03	2.08875	0.06	0.26
17	15	1.40							
17.75	15.75	1.45	0.02			0.02	2.26125	0.05	0.31
18.5	16.5	1.50							
19.25	17.25	1.58	0.01			0.01	2.475	0.02	0.33
20	18	1.65							
20.75	18.75	1.72	0.00			0	2.66625	0.00	0.33
21.5	19.5	1.77							
22.25	20.25	1.85	0.00			0	2.6925	0.00	0.33
23	21	1.79							
23.75	21.75	1.75	0.01			0.01	2.53125	0.03	0.36
24.5	22.5	1.68							
25.25	23.25	1.64	0.01			0.01	2.325	0.02	0.38
26	24	1.53							
26.75	24.75	1.50	0.02			0.02	2.025	0.04	0.42
27.5	25.5	1.24							
28.25	26.25	1.42	0.03			0.03	2.04	0.06	0.48
29	27	1.38							
29.75	27.75	1.26	0.04			0.04	1.815	0.07	0.56
30.5	28.5	1.19							
31.25	29.25	1.20	0.03			0.03	1.65375	0.05	0.60
32	30	1.10							
32.75	30.75	1.01	0.03			0.03	1.3425	0.04	0.65
33.5	31.5	0.92							
34.25	32.25	0.73	0.02			0.02	0.8475	0.02	0.66
35	33	0.75							
35.75	33.75	0.03	0.02			0.02	0.04875	0.00	0.66
36.5	34.5	0.05							
37	35	0.00	0.00			0	0	0.00	0.66

Project:	Ashuelot River TMDL					Date:	8/28/02		
Waterbody Name:	Ashuelot Rivr					Time Begin			
Station ID:	17-Ash					Time End:			
Station Description:							Outputs		
Staff Names:						Total Flow	2.42	cfs	
River Width (ft)						Ave Depth	1.20	ft	
						Total Area	46.00	sq feet	
						Ave Vel	0.053	fps	
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
2	0	0.00							
2.8	0.8	0.20	0.00			0	0.428	0.00	0.00
3.6	1.6	0.67							
4.4	2.4	0.90	0.01			0.01	1.4	0.01	0.01
5.2	3.2	1.03							
6	4	1.10	0.09			0.09	1.748	0.16	0.17
6.8	4.8	1.14							
7.6	5.6	1.23	0.11			0.11	1.964	0.22	0.39
8.4	6.4	1.31							
9.2	7.2	1.40	0.09			0.09	2.236	0.20	0.59
10	8	1.48							
10.8	8.8	1.55	0.06			0.06	2.476	0.15	0.74
11.6	9.6	1.61							
12.4	10.4	1.67	0.06			0.06	2.684	0.16	0.90
13.2	11.2	1.76							
14	12	1.79	0.06			0.06	2.86	0.17	1.07
14.8	12.8	1.81							
15.6	13.6	1.82	0.05			0.05	2.916	0.15	1.22
16.4	14.4	1.84							
17.2	15.2	1.81	0.03			0.03	2.908	0.09	1.30
18	16	1.81							
18.8	16.8	1.84	0.09			0.09	2.936	0.26	1.57
19.6	17.6	1.85							
20.4	18.4	1.75	0.05			0.05	2.784	0.14	1.71
21.2	19.2	1.61							
22	20	1.53	0.06			0.06	2.436	0.15	1.85
22.8	20.8	1.42							
23.6	21.6	1.39	0.08			0.08	2.22	0.18	2.03
24.4	22.4	1.35							
25.2	23.2	1.31	0.06			0.06	2.112	0.13	2.16
26	24	1.31							
26.8	24.8	1.29	0.05			0.05	2.064	0.10	2.26
27.6	25.6	1.27							
28.4	26.4	1.20	0.04			0.04	1.944	0.08	2.34
29.2	27.2	1.19							
30	28	1.07	0.02			0.02	1.744	0.03	2.37
30.8	28.8	1.03							
31.6	29.6	0.97	0.02			0.02	1.552	0.03	2.40
32.4	30.4	0.91							
33.2	31.2	0.96	0.01			0.01	1.52	0.02	2.42
34	32	0.97							
34.8	32.8	0.92	0.00			0	1.464	0.00	2.42
35.6	33.6	0.85							
36.4	34.4	0.67	0.00			0	1.076	0.00	2.42
37.2	35.2	0.50							
38	36	0.30	0.00			0	0.5	0.00	2.42
38.8	36.8	0.15							
39.2	37.2	0.00	0.00			0	0.03	0.00	2.42

Project:		Ashuelot River TMDL				Date:		8/28/02		
Waterbody Name:		The Branch				Time Begin				
Station ID:		OA-Bra				Time End:				
Station Description:		~1000 ft. U.S. of confluence w/ Ashuelot					Outputs			
Staff Names:						Total Flow	3.10	cfs		
River Width (ft)						Ave Depth	0.20	ft		
						Total Area	3.88	sq feet		
						Ave Vel	0.799	fps		
Distance Readings										
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow	
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs	
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated	
1.5	0.0	0.00								
2.0	0.5	0.02	0			0	0.03	0.00	0.00	
2.5	1.0	0.07								
3.0	1.5	0.11	0.02			0.02	0.11	0.00	0.00	
3.5	2.0	0.13								
4.0	2.5	0.12	0.42			0.42	0.14	0.06	0.06	
4.5	3.0	0.17								
5.0	3.5	0.20	0.55			0.55	0.19	0.10	0.16	
5.5	4.0	0.19								
6.0	4.5	0.22	0.6			0.6	0.21	0.13	0.29	
6.5	5.0	0.22								
7.0	5.5	0.24	0.71			0.71	0.23	0.17	0.46	
7.5	6.0	0.23								
8.0	6.5	0.23	0.75			0.75	0.23	0.17	0.63	
8.5	7.0	0.23								
9.0	7.5	0.27	0.78			0.78	0.26	0.20	0.83	
9.5	8.0	0.27								
10.0	8.5	0.29	0.84			0.84	0.29	0.24	1.07	
10.5	9.0	0.29								
11.0	9.5	0.30	0.86			0.86	0.29	0.25	1.32	
11.5	10.0	0.28								
12.0	10.5	0.30	0.87			0.87	0.30	0.26	1.58	
12.5	11.0	0.30								
13.0	11.5	0.29	0.91			0.91	0.29	0.27	1.84	
13.5	12.0	0.29								
14.0	12.5	0.27	0.92			0.92	0.28	0.26	2.10	
14.5	13.0	0.30								
15.0	13.5	0.27	0.89			0.89	0.27	0.24	2.34	
15.5	14.0	0.22								
16.0	14.5	0.21	0.78			0.78	0.22	0.17	2.51	
16.5	15.0	0.25								
17.0	15.5	0.25	0.84			0.84	0.24	0.20	2.71	
17.5	16.0	0.20								
18.0	16.5	0.20	0.62			0.62	0.20	0.12	2.84	
18.5	17.0	0.19								
19.0	17.5	0.17	0.67			0.67	0.18	0.12	2.96	
19.5	18.0	0.20								
20.0	18.5	0.17	0.49			0.49	0.18	0.09	3.05	
20.5	19.0	0.18								
21.0	19.5	0.15	0.38			0.38	0.14	0.05	3.10	
21.5	20.0	0.07								
22.0	20.5	0.04	0			0	-0.38	0.00	3.10	
22.6	21.1	0.00								

Project:		Ashuelot River TMDL				Date:	8/28/02		
Waterbody Name:		Ash Swamp Brook				Time Begin			
Station ID:		OA-Asb				Time End:			
Station Description:		30 ft. U.S. of confluence w/ Ashuelot R.					Outputs		
Staff Names:						Total Flow	1.45	cfs	
River Width (ft)						Ave Depth	0.30	ft	
						Total Area	2.02	sq feet	
						Ave Vel	0.717	fps	
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
0.2	0	0.00							
0.6	0.4	0.18	-0.11			-0.11	0.134	-0.01	-0.01
1	0.8	0.31							
1.25	1.05	0.37	0.13			0.13	0.19	0.02	0.01
1.5	1.3	0.47							
1.75	1.55	0.51	0.57			0.57	0.2525	0.14	0.15
2	1.8	0.53							
2.25	2.05	0.50	0.96			0.96	0.2475	0.24	0.39
2.5	2.3	0.45							
2.75	2.55	0.43	1.16			1.16	0.21125	0.25	0.64
3	2.8	0.38							
3.25	3.05	0.37	1.12			1.12	0.18125	0.20	0.84
3.5	3.3	0.33							
3.75	3.55	0.29	1.16			1.16	0.15	0.17	1.01
4	3.8	0.29							
4.25	4.05	0.28	1.11			1.11	0.1375	0.15	1.17
4.5	4.3	0.25							
4.75	4.55	0.28	1.00			1	0.13875	0.14	1.30
5	4.8	0.30							
5.25	5.05	0.23	0.60			0.6	0.1225	0.07	1.38
5.5	5.3	0.22							
5.75	5.55	0.22	0.45			0.45	0.10875	0.05	1.43
6	5.8	0.21							
6.25	6.05	0.16	0.23			0.23	0.08	0.02	1.45
6.5	6.3	0.11							
6.95	6.75	0.09	0.04			0.04	0.06525	0.00	1.45
7.4	7.2	0.00							

Project:	Ashuelot River TMDL					Date:		8/28/02	
Waterbody Name:	Ashuelot River					Time Begin			
Station ID:	16D-Ash					Time End:			
Station Description:	~1/2 mile U.S. of WWTF						Outputs		
Staff Names:						Total Flow	10.44	cfs	
River Width (ft)						Ave Depth	1.90	ft	
						Total Area	86.48	sq feet	
						Ave Vel	0.121	fps	
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Calculated	Calculated
3.5	0	0.00							
4.5	1	0.38	0			0	0.70	0.00	0.00
5.5	2	0.64							
6.5	3	0.79	0.06			0.06	1.72	0.10	0.10
7.5	4	1.22							
8.5	5	1.24	0.1			0.1	2.71	0.27	0.37
9.5	6	1.71							
10.5	7	1.51	0.14			0.14	3.73	0.52	0.90
11.5	8	2.12							
12.5	9	2.31		0.25	0.01	0.13	4.29	0.56	1.45
13.5	10	1.83							
14.5	11	2.01		0.26	0.1	0.18	4.15	0.75	2.20
15.5	12	2.44							
16.5	13	2.44		0.26	0.13	0.195	4.95	0.96	3.16
17.5	14	2.57							
18.5	15	2.76		0.1	-0.03	0.035	5.44	0.19	3.35
19.5	16	2.78							
20.5	17	2.95		0	0.04	0.02	5.80	0.12	3.47
21.5	18	2.92							
22.5	19	2.95		-0.01	0.01	0	5.72	0.00	3.47
23.5	20	2.61							
24.5	21	2.52		-0.01	-0.01	-0.01	4.99	-0.05	3.42
25.5	22	2.33							
26.5	23	2.40		-0.06	-0.06	-0.055	4.92	-0.27	3.15
27.5	24	2.71							
28.5	25	2.94		-0.01	0.1	0.045	5.76	0.26	3.41
29.5	26	2.93							
30.5	27	2.77		0.47	0.42	0.445	5.51	2.45	5.86
31.5	28	2.54							
32.5	29	2.33		0.89	0.55	0.72	4.69	3.38	9.23
33.5	30	2.18							
34.5	31	2.19		0.31	0.1	0.205	4.32	0.89	10.12
35.5	32	2.08							
36.5	33	2.03		0.21	0.08	0.145	4.16	0.60	10.72
37.5	34	2.18							
38.5	35	2.03		-0.01	0.03	0.01	3.94	0.04	10.76
39.5	36	1.63							
40.5	37	1.18	-0.05			-0.05	2.52	-0.13	10.64
41.5	38	1.05							
42.5	39	0.92	-0.03			-0.03	2.01	-0.06	10.58
43.5	40	1.12							
44.5	41	1.15	-0.04			-0.04	2.22	-0.09	10.49
45.5	42	1.01							
47	43.5	1.02	-0.02			-0.02	2.29	-0.05	10.44
48.5	45	0.00							

Project:	Ashuelot River TMDL					Date:	8/28/02		
Waterbody Name:	South Branch Ashuelot River					Time Begin			
Station ID:	2-Sba					Time End:			
Station Description:							Outputs		
Staff Names:						Total Flow	1.72	cfs	
River Width (ft)						Ave Depth	0.67	ft	
						Total Area	6.84	sq feet	
						Ave Vel	0.251	fps	
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
1.40	0.00	0.00							
1.60	0.20	0.15	-0.02			-0.02	0.06	0.00	0.00
1.80	0.40	0.32							
2.00	0.60	0.31	0.02			0.02	0.13	0.00	0.00
2.20	0.80	0.35							
2.40	1.00	0.40	0.15			0.15	0.17	0.03	0.03
2.60	1.20	0.57							
2.80	1.40	0.58	0.15			0.15	0.22	0.03	0.06
3.00	1.60	0.50							
3.20	1.80	0.45	0.11			0.11	0.19	0.02	0.08
3.40	2.00	0.49							
3.60	2.20	0.50	0.24			0.24	0.21	0.05	0.13
3.80	2.40	0.60							
4.00	2.60	0.71	0.27			0.27	0.28	0.08	0.21
4.20	2.80	0.80							
4.40	3.00	0.84	0.28			0.28	0.33	0.09	0.30
4.60	3.20	0.83							
4.80	3.40	0.84	0.39			0.39	0.34	0.13	0.43
5.00	3.60	0.88							
5.20	3.80	1.13	0.37			0.37	0.43	0.16	0.59
5.40	4.00	1.14							
5.60	4.20	1.15	0.34			0.34	0.45	0.15	0.74
5.80	4.40	1.02							
6.00	4.60	1.14	0.34			0.34	0.43	0.15	0.89
6.20	4.80	1.02							
6.40	5.00	1.00	0.35			0.35	0.40	0.14	1.03
6.60	5.20	1.00							
6.80	5.40	1.10	0.37			0.37	0.43	0.16	1.19
7.00	5.60	1.10							
7.20	5.80	1.28	0.34			0.34	0.47	0.16	1.35
7.40	6.00	1.03							
7.60	6.20	0.98	0.33			0.33	0.39	0.13	1.48
7.80	6.40	0.90							
8.00	6.60	0.82	0.27			0.27	0.33	0.09	1.57
8.20	6.80	0.72							
8.40	7.00	0.62	0.27			0.27	0.26	0.07	1.63
8.60	7.20	0.62							
8.90	7.50	0.60	0.15			0.15	0.52	0.08	1.71
9.50	8.10	0.51							
10.00	8.60	0.31	0.03			0.03	0.36	0.01	1.72
10.50	9.10	0.31							
11.00	9.60	0.25	-0.01			-0.01	0.28	0.00	1.72
11.60	10.20	0.21							
12.25	10.85	0.15	-0.01			-0.01	0.17	0.00	1.72
12.90	11.50	0.00							

Project:	Ashuelot River TMDL	Date:	8/28/02
Waterbody Name:	Ashuelot Rivr	Time Begin	
Station ID:	14T-Ash	Time End:	
Station Description:	~1000' U.S. of bridge		Outputs
Staff Names:		Total Flow	26.98 cfs
River Width (ft)		Ave Depth	0.53 ft
		Total Area	20.30 sq feet
		Ave Vel	1.329 fps

Distance Readings

Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
1.00	0.00	0.38							
2.00	1.00	0.49	0.26			0.26	0.85	0.22	0.22
3.00	2.00	0.34							
4.00	3.00	0.52	0.39			0.39	0.98	0.38	0.60
5.00	4.00	0.58							
6.00	5.00	0.68	0.95			0.95	1.145	1.09	1.69
7.00	6.00	0.55							
8.00	7.00	0.61	0.86			0.86	1.23	1.06	2.75
9.00	8.00	0.69							
10.00	9.00	0.70	1.15			1.15	1.405	1.62	4.36
11.00	10.00	0.72							
12.00	11.00	0.70	1.26			1.26	1.415	1.78	6.15
13.00	12.00	0.71							
14.00	13.00	0.70	1.48			1.48	1.35	2.00	8.15
15.00	14.00	0.59							
16.00	15.00	0.67	1.34			1.34	1.295	1.74	9.88
17.00	16.00	0.66							
18.00	17.00	0.61	1.29			1.29	1.205	1.55	11.44
19.00	18.00	0.53							
20.00	19.00	0.57	1.46			1.46	1.14	1.66	13.10
21.00	20.00	0.61							
22.00	21.00	0.57	1.35			1.35	1.185	1.60	14.70
23.00	22.00	0.62							
24.00	23.00	0.57	1.18			1.18	1.21	1.43	16.13
25.00	24.00	0.66							
26.00	25.00	0.69	1.22			1.22	1.37	1.67	17.80
27.00	26.00	0.70							
28.00	27.00	0.67	1.02			1.02	1.31	1.34	19.13
29.00	28.00	0.58							
30.00	29.00	0.67	1.28			1.28	1.3	1.66	20.80
31.00	30.00	0.68							
32.00	31.00	0.75	1.10			1.1	1.47	1.62	22.42
33.00	32.00	0.76							
34.00	33.00	0.75	1.27			1.27	1.54	1.96	24.37
35.00	34.00	0.62							
36.00	35.00	0.69	1.15			1.15	1.46	1.68	26.05
37.00	36.00	0.72							
38.00	37.00	0.63	1.14			1.14	1.32	1.50	27.56
39.00	38.00	0.66							
40.00	39.00	0.65	0.96			0.96	1.315	1.26	28.82
41.00	40.00	0.67							
42.00	41.00	0.48	0.68			0.68	1.04	0.71	29.52
43.00	42.00	0.45							
44.00	43.00	0.40	0.39			0.39	-8.175	-3.19	26.34
45.00	44.00	0.26							
46.00	45.00	0.28	0.28			0.28	0.545	0.15	26.49
47.00	46.00	0.27							
48.00	47.00	0.28	0.55			0.55	0.52	0.29	26.78
49.00	48.00	0.21							
50.00	49.00	0.12	0.34			0.34	0.325	0.11	26.89
51.00	50.00	0.20							
52.00	51.00	0.15	0.25			0.25	0.32	0.08	26.97
53.00	52.00	0.14							
54.00	53.00	0.10	0.07			0.07	0.2	0.01	26.98
55.00	54.00	0.06							
56.00	55.00	0.00	0			0	0.03	0.00	26.98

Project:		Ashuelot River TMDL				Date:	8/28/02		
Waterbody Name:		Ashuelot Rivr				Time Begin			
Station ID:		12-Ash				Time End:			
Station Description:		2 ft downstream of Rte 10 crossing					Outputs		
Staff Names:						Total Flow	8.53	cfs	
River Width (ft)		73.5				Ave Depth	2.14	ft	
						Total Area	159.75	sq feet	
						Ave Vel	0.053	fps	
Distance Readings									
Tape	Bank	Depth	Velocity at 60% depth from surface	Velocity at 20% depth from surface	Velocity at 80% depth from surface	Average Velocity	Area	Incremental Flow	Cumulative Flow
ft	ft	ft	fps	fps	fps	fps	square feet	cfs	cfs
INPUT	Calculated	INPUT	INPUT	INPUT	INPUT	Calculated	Calculated	Caculated	Calculated
4.50	0.00	1.00							
6.00	1.50	1.26	0.00			0.00	3.91	0.00	0.00
7.50	3.00	1.69							
9.00	4.50	2.11		0.02	0.03	0.03	6.19	0.15	0.15
10.50	6.00	2.34							
12.00	7.50	2.38		0.06	0.03	0.05	7.22	0.32	0.48
13.50	9.00	2.52							
15.00	10.50	2.14		0.05	0.07	0.06	6.98	0.42	0.90
16.50	12.00	2.51							
18.00	13.50	2.48		0.07	0.02	0.05	7.49	0.34	1.24
19.50	15.00	2.52							
21.00	16.50	2.52		0.10	0.06	0.08	7.57	0.61	1.84
22.50	18.00	2.53							
24.00	19.50	2.62		0.10	0.12	0.11	7.79	0.86	2.70
25.50	21.00	2.61							
27.00	22.50	2.60		0.08	0.08	0.08	7.64	0.61	3.31
28.50	24.00	2.37							
30.00	25.50	2.52		0.10	0.08	0.09	7.53	0.68	3.99
31.50	27.00	2.63							
33.00	28.50	2.15		0.11	0.10	0.11	6.89	0.72	4.71
34.50	30.00	2.26							
36.00	31.50	2.14		0.11	0.08	0.10	6.68	0.63	5.35
37.50	33.00	2.37							
39.00	34.50	2.22		0.10	0.08	0.09	6.94	0.62	5.97
40.50	36.00	2.44							
42.00	37.50	2.36		0.09	0.06	0.08	6.95	0.52	6.49
43.50	39.00	2.11							
45.00	40.50	2.32		0.07	0.06	0.07	6.90	0.45	6.94
46.50	42.00	2.45							
48.00	43.50	2.52		0.05	0.04	0.05	7.51	0.34	7.28
49.50	45.00	2.52							
51.00	46.50	2.49		0.04	0.03	0.04	7.45	0.26	7.54
52.50	48.00	2.43							
54.00	49.50	2.30		0.03	0.02	0.03	7.00	0.17	7.72
55.50	51.00	2.30							
57.00	52.50	2.32		0.02	0.01	0.02	6.80	0.10	7.82
58.50	54.00	2.12							
60.00	55.50	2.20		0.01	0.00	0.01	6.41	0.03	7.85
61.50	57.00	2.03							
63.00	58.50	2.11		0.01	0.00	0.01	6.23	0.03	7.88
64.50	60.00	2.06							
66.00	61.50	2.06		0.03	0.02	0.03	6.17	0.15	8.04
67.50	63.00	2.05							
69.00	64.50	1.93	0.03			0.03	5.74	0.17	8.21
70.50	66.00	1.74							
72.00	67.50	1.75	0.04			0.04	5.12	0.20	8.41
73.50	69.00	1.58							
75.00	70.50	1.45	0.03			0.03	4.01	0.12	8.53
76.50	72.00	0.87							
78.00	73.50	0.00	0.00			0.00	0.65	0.00	8.53