

FOHIRU09

LOCATION: Approximately 25 yards downstream of Carlton Road.

Latitude 41° 06' 51.00"

Longitude -75° 18' 42.30"

FIELD CHEMISTRY:

SITE ID	SAMPLE DATE	TEMP C	SpC mScm	DO mg/l	pH su	ORP mV	DO % sat.	COND mS/cm	TDS mg/l
FOHIRU09	4/12/03	8.44	219	11.39	7.47	351	97.30	150	142
FOHIRU09	5/18/03	15.58	240	9.31	7.33	259	93.60	197	156
FOHIRU09	6/28/03	20.01	204	9.15	7.47	257	100.70	185	133
FOHIRU09	7/19/03	20.99	223	8.53	7.26	332	95.80	206	145
FOHIRU09	8/14/03	21.89	212	8.23	7.42	328	94.00	200	138
FOHIRU09	9/29/03	15.30	159	9.66	7.46	385	96.40	130	104
FOHIRU09	10/17/03	11.80	188	10.73	7.49	338	99.20	141	122
FOHIRU09	11/29/03	6.77	166	11.69	7.41	305	95.80	108	108
FOHIRU09	12/16/03	3.13	157	12.76	8.39	312	95.20	91	102
FOHIRU09	1/26/04	1.48	216	12.39	7.87	342	88.30	119	141
FOHIRU09	2/23/04	4.21	241	13.56	8.06	261	104.10	145	157
FOHIRU09	3/11/04	5.59	230	12.67	8.68	309	100.80	145	149
wshed min.		0.01	29	5.42	5.47	46	57.70	1	19
wshed max.		26.25	548	14.37	8.99	561	113.10	388	356
wshed avg.		10.04	146	10.97	7.50	304	96.14	104	95

Temperatures that exceed Specific Water Quality Criteria in Chapter 93 of Title 25 of the PA Code are shown in red. SpC is specific conductance. DO is dissolved oxygen. ORP is oxidation reduction potential. COND is conductivity. TDS is total dissolved solids. Refer to Sampling and Analysis Plan under Phase I study results for quality assurance/quality control information.

LABORATORY DATA:

SITE ID	SAMPLE DATE	pH	NITRATE	NITRITE	TOTAL SUPSENDED	TOTAL PHOSPHORUS	FECAL COLIFORM
		su	mg/l	mg/l	SOLIDS mg/l	mg/l	CFU/100ml
FOHIRU09	8/14/03	6.93	0.94	0.04	<1.0	0.16	17
FOHIRU09*	8/10/04	7.35	0.56	0.025	ND	ND	30
Wshed min		5.47	0.10	0.005	1.0	0.01	0
Wshed max		8.19	1.51	0.050	13.0	0.90	5700
Wshed avg		6.85	0.50	0.019	2.7	0.11	

* MONROE COUNTY WATER QUALITY STUDY RESULTS 2004

If the number of sample results where the analytical parameter was not detected exceeded 20% of the sample pool, they were not included in the calculated watershed average. If the number of non-detect samples was less than 20% of the sample pool, ½ of the detection limit was used to represent those samples in the calculated watershed average. Refer to Sampling and Analysis Plan under Phase I of study results for quality assurance/quality control information.

BENTHIC MACROINVERTEBRATES:

The following table compares trending results of the EPA/County scoring schemes for repeat sites (1995 through 2004).

Site #	Site Name	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995
PARACR03	Paradise Creek	33	31								31
BUTZRU01	Butz Run	29	23								
CRANCR01	Cranberry Creek (Paradise)	29									
PARACR04	Paradise Creek	33	31								
DEHOCR04	Devils Hole Creek	31	31								
CRANCR03	Cranberry Creek (Paradise)	21	23								
SWIFCR06	Swiftwater Creek	21	23								
SWIFCR02	Swiftwater Creek	25	27								
FOHIRU01	Forest Hills Run	29	25								
PARACR01	Paradise Creek	29	29								
FOHIRU04	Forest Hills Run	25	19	25	29	25	27	27	23	31	
FOHIRU09	Forest Hills Run	15	17								
SWIFCR07	Swiftwater Creek	29	25	29	33						
SWIFCR05	Swiftwater Creek	33	23	25	29	27	25	29	21	25	19
SWIFCR03	Swiftwater Creek	29	29	25	29	29	17	27	19	27	23

The range 35 - 29 is considered optimal. The range 28 - 14 is the slightly to moderately impaired category, and any site with a total score of less than 14 is considered severely impaired.

HABITAT ANALYSIS:

2003

FOHIRU09 197 Optimal Water reaches base of both lower banks and minimal amount of channel substrate is exposed.
Well developed riffle and run.
Only 3 of the 4 velocity/depth regimes present.

2004

FOHIRU09 195 Optimal Water reaches base of both lower banks and minimal amount of channel substrate is exposed.
Less than 5% of the bottom affected by sediment deposition.
Occurrence of riffles relatively frequent.

MACROINVERTEBRATE IDENTIFICATIONS

2003 MONROE COUNTY WATER QUALITY STUDY

SITE ID: FOHIRU09

Insecta		Philopotamidae		Simuliidae	56
Ephemeroptera		Polycentropodidae		Tabanidae	
Baetidae	5	Psychomyiidae		Dixidae	
Baetiscidae		Beraeidae		Collembola	
Caenidae		Brachycentridae		Poduridae	
Ephemerellidae		Lepidostomatidae		Nemertea	
Ephemeridae		Helicopsychidae		Nematoda	
Heptageniidae		Leptoceridae		Nematomorpha	
Leptophlebiidae		Limnephilidae		Annelida	
Metretopodidae		Molannidae		Hirudinea	
Neophemeridae		Odontoceridae		Oligochaeta	
Oligoneuriidae		Phryganeidae		Lumbriculida	
Polymitarcyidae		Sericostomatidae		Lumbriculidae	
Potamanthidae		Uenoidae		Tubificida	
Siphonuridae		Glossosomatidae		Platyhelminthes	
Tricorythidae		Hydroptilidae		Turbellaria	
Odonata		Rhyacophilidae	1	Planariidae	
Aeshnidae		Lepidoptera		Mollusca	
Cordulegastridae		Pyralidae		Bivalva	
Corduliidae		Coleoptera		Unionidae	
Gomphidae		Dytiscidae		Sphaeriidae	46
Libellulidae		Gyrinidae		Cyrenidae	
Macromiidae		Halplidae		Corbiculidae	
Calopterygidae		Noteridae		Gastropoda	
Coenagrionidae		Elmidae	2	Ancylidae	6
Lestidae		Hydraenidae		Physidae	1
Plecoptera		Hydrophilidae		Planorbidae	
Capniidae		Limnichidae		Bulimidae	
Chloroperlidae		Psephenidae		Limnaeidae	
Leuctridae		Ptilodactylidae		Crustacea	

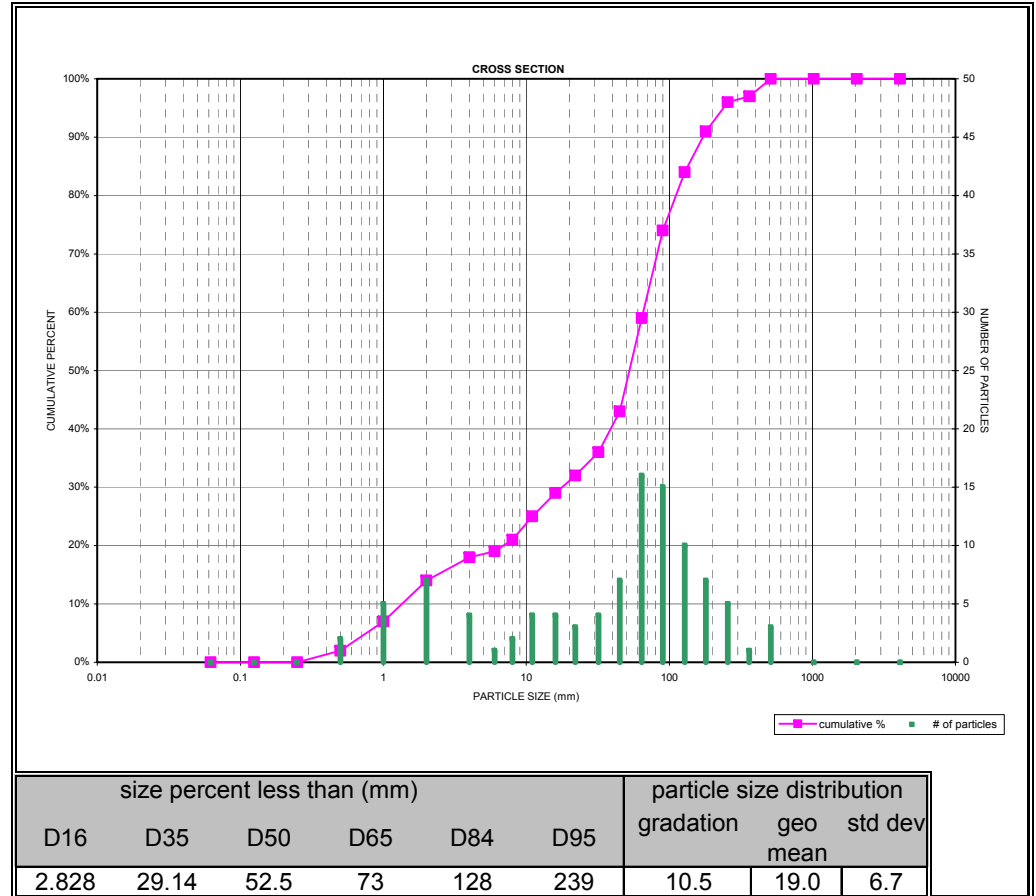
Nemouridae		Megaloptera		Amphipoda	
Peltoperlidae		Corydalidae	7	Gammaridae	2
Perlidae		Sialidae		Talitridae	
Perlodidae		Neuroptera		Isopoda	
Pteronarcyidae		Sisyridae		Asellidae	
Taeniopterygidae		Diptera		Decapoda	
Hemiptera		Ephydriidae		Cambaridae	
Belostomatidae		Athericidae		Arachnidia	
Corixidae		Tipulidae	1	Acari	
Gerridae		Empididae		Hydrachnidia	
Mesoveliidae		Blephariceridae			
Notonectidae		Ceratopogonidae			
Saldidae		Chaoboridae			
Veliidae		Chironomidae	74		
Trichoptera		Culicidae			
Hydropsychidae	243	Muscidae			

MONROE COUNTY WATER QUALITY STUDY			SITE ID. FOHIRU09		
Insecta		Philopotamidae	1	Simuliidae	10
Ephemeroptera		Polycentropodidae		Tabanidae	
Baetidae	2	Psychomyiidae		Dixidae	
Baetiscidae		Beraeidae		Collembola	
Caenidae		Brachycentridae		Poduridae	
Ephemerellidae		Lepidostomatidae		Nemertea	
Ephemeridae		Helicopsychidae		Nematoda	
Heptageniidae		Leptoceridae		Nematomorpha	
Leptophlebiidae		Limnephilidae		Annelida	
Metretopodidae		Molannidae		Hirudinea	
Neoephemeridae		Odontoceridae		Oligochaeta	
Oligoneuriidae		Phryganeidae	1	Lumbriculida	
Polymitarcyidae		Sericostomatidae		Lumbriculidae	
Potamanthidae		Uenoidae		Tubificida	
Siphonuridae		Glossosomatidae		Platyhelminthes	
Tricorythidae		Hydroptilidae		Turbellaria	
Odonata		Rhyacophilidae		Planariidae	
Aeshnidae		Lepidoptera		Mollusca	
Cordulegastridae		Pyralidae		Bivalva	
Corduliidae		Coleoptera		Unionidae	
Gomphidae		Dytiscidae		Sphaeriidae	12
Libellulidae		Gyrinidae		Cyrenidae	
Macromiidae		Haliplidae		Corbiculidae	
Calopterygidae		Noteridae		Gastropoda	
Coenagrionidae		Elmidae		Ancylidae	1
Lestidae		Hydraenidae		Physidae	
Plecoptera		Hydrophilidae		Planorbidae	
Capniidae		Limnichidae		Bulimidae	
Chloroperlidae		Psephenidae		Limnaeidae	
Leuctridae	1	Ptilodactylidae		Crustacea	
Nemouridae		Megaloptera		Amphipoda	
Peltoperlidae		Corydalidae	13	Gammaridae	
Perlidae		Sialidae		Talitridae	
Perlodidae		Neuroptera		Isopoda	
Pteronarcyidae		Sisyridae		Asellidae	
Taeniopterygidae		Diptera		Decapoda	
Hemiptera		Ephydriidae		Cambaridae	
Belostomatidae		Athericidae		Arachnidia	
Corixidae		Tipulidae	1	Acari	
Gerridae		Empididae		Hydrachnidia	
Mesoveliidae		Blephariceridae			
Notonectidae		Ceratopogonidae			
Saldidae		Chaoboridae			
Veliidae		Chironomidae	163		
Trichoptera		Culicidae			
Hydropsychidae	71	Muscidae			

Pebble Count (Cross Section)

FOHIRU09

Material	Size Range (mm)		Particle Count	Cumulative Percent
silt/clay	0	0.062	0	0%
very fine sand	0.062	0.13	0	0%
fine sand	0.13	0.25	0	0%
medium sand	0.25	0.5	2	2%
coarse sand	0.5	1	5	7%
very coarse sand	1	2	7	14%
very fine gravel	2	4	4	18%
fine gravel	4	6	1	19%
fine gravel	6	8	2	21%
medium gravel	8	11	4	25%
medium gravel	11	16	4	29%
coarse gravel	16	22	3	32%
coarse gravel	22	32	4	36%
very coarse gravel	32	45	7	43%
very coarse gravel	45	64	16	59%
small cobble	64	90	15	74%
medium cobble	90	128	10	84%
large cobble	128	180	7	91%
very large cobble	180	256	5	96%
small boulder	256	362	1	97%
small boulder	362	512	3	100%
medium boulder	512	1024	0	100%
large - very large boulder	1024	2048	0	100%
bedrock	2048	4096	0	100%
Total Particle Count:			100	



Pebble Count (Cross Section)

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silt/clay	0	0.062	0	0%
very fine sand	0.062	0.13	0	0%
fine sand	0.13	0.25	0	0%
medium sand	0.25	0.5	0	0%
coarse sand	0.5	1	0	0%
very coarse sand	1	2	0	0%
very fine gravel	2	4	0	0%
fine gravel	4	6	0	0%
fine gravel	6	8	0	0%
medium gravel	8	11	0	0%
medium gravel	11	16	2	2%
coarse gravel	16	22	2	4%
coarse gravel	22	32	6	10%
very coarse gravel	32	45	11	21%
very coarse gravel	45	64	13	34%
small cobble	64	90	14	48%
medium cobble	90	128	22	70%
large cobble	128	180	21	91%
very large cobble	180	256	6	97%
small boulder	256	362	3	100%
small boulder	362	512	0	100%
medium boulder	512	1024	0	100%
large - very large boulder	1024	2048	0	100%
bedrock	2048	4096	0	100%
Total Particle Count:			100	

