

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3WOL10001

Project: Wolf Creek

Location: Cumberland River, Mile 460.4

State: Kentucky

Latitude: 36° 52" 19.9'

Quad: Wolf Creek Dam, KY

County: Russell

Longitude: 85° 8" 57.4'

HUC: 05130103

Sample Date: 05 Nov 2013

Water Surface Elevation = 549.5 ft

Stream Flow = 5680 cfs

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	0.0	Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
Alkalinity, Tot mg/L	64	0.0	16.6	61.9	7.5	77.2	180.0	7.2	
Alkalinity, Phenol mg/L	0								
Solids, Tot mg/L	108								
Solids, Tot Diss mg/L	152								
Solids, Tot Susp mg/L	4.00								
Solids, Vol mg/L	41.0								
Solids, Vol Diss mg/L	37.0								
Solids, Vol Susp mg/L	<4.00								
Ammonia N, Tot mg/L	0.149								
Kjeldahl N, Tot mg/L	0.280								
NO3+NO2, Tot mg/L	0.200								
Phosphorus, Tot mg/L	0.0158								
Phosphorus, Diss mg/L	0.0032								
OrthoPhosphate, D mg/L	<0.05								
Organic Carbon, T mg/L	<1.00								
Hardness, Tot mg/L	75.5								
Sulfate, Tot mg/L	28.3								
Calcium, Tot mg/L	20.0								
Magnesium, Tot mg/L	6.20								
Sodium, Tot mg/L	5.71								
Potassium, Tot mg/L	1.64								
Chloride, Tot mg/L	3.92								
Arsenic, Tot ug/L	1.4								
Barium, Tot ug/L	25.7								
Beryllium, Tot ug/L	<0.2								
Cadmium, Tot ug/L	<0.2								
Chromium, Tot ug/L	0.3								
Cobalt, Tot ug/L	0.2								
Copper, Tot ug/L	1.0								
Iron, Tot ug/L	211.0								
Iron, Diss ug/L	28.4								
Lead, Tot ug/L	0.4								
Lead, Diss ug/L	0.4								
Manganese, Tot ug/L	781.0								
Manganese, Diss ug/L	686.0								
Thallium, Tot ug/L	<0.2								
Molybdenum, Tot ug/L	0.4								
Nickel, Tot ug/L	1.3								
Silver, Tot ug/L	<0.2								
Vanadium, Tot ug/L	<0.2								
Zinc, Tot ug/L	4.8								
Zinc, Diss ug/L	2.6								
Antimony, Tot ug/L	<0.2								
Aluminum, Tot ug/L	3.8								
Aluminum, Diss ug/L	<2.0								
Selenium, Tot ug/L	0.33								
Mercury, Tot ug/L	<0.005								

CELNRN-EC-H / Water Management Section

Location: Little South Fork Cumberland River, Mile 5.2

Quad: Nevelsville, KY
HUC: 05130104

Stream Flow =

Profile Measurements

[illegible]

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3WOL10036

Project: Wolf Creek

Location: Rockcastle River, Mile 24.4

State: Kentucky
County: RockcastleLatitude: 37° 10" 17'
Longitude: 84° 17" 45'Quad: Billows, KY
HUC: 05130102

Sample Date: 06 Nov 2013

Water Surface Elevation =

Stream Flow = 171 cfs

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	0.0	Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
Alkalinity, Tot	mg/L 90	0.0	12.9	55.2	9.6	91.3	241.0	7.6	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 146								
Solids, Tot Diss	mg/L 162								
Solids, Tot Susp	mg/L 2.00								
Solids, Vol	mg/L 66.0								
Solids, Vol Diss	mg/L 66.0								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L 0.0253								
Kjeldahl N, Tot	mg/L 0.180								
NO3+NO2, Tot	mg/L 0.271								
Phosphorus, Tot	mg/L 0.0067								
Phosphorus, Diss	mg/L 0.004								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.40								
Hardness, Tot	mg/L 113.7								
Sulfate, Tot	mg/L 21.9								
Calcium, Tot	mg/L 33.7								
Magnesium, Tot	mg/L 7.17								
Sodium, Tot	mg/L 5.55								
Potassium, Tot	mg/L 2.76								
Chloride, Tot	mg/L 7.78								
Arsenic, Tot	ug/L 0.3								
Barium, Tot	ug/L 23.6								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.6								
Cobalt, Tot	ug/L <0.2								
Copper, Tot	ug/L 0.7								
Iron, Tot	ug/L 123.0								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 12.5								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L <0.2								
Nickel, Tot	ug/L 1.2								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.3								
Zinc, Tot	ug/L 0.9								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L 53.4								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.2								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3WOL10040

Project: Wolf Creek

Location: Beaver Creek, Mile 21.3

State: Kentucky

Latitude: 36° 49" 5'

Quad: Parnell, KY

County: Wayne

Longitude: 84° 52" 47'

HUC: 05130103

Sample Date: 07 Nov 2013

Water Surface Elevation =

Stream Flow =

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	0.0	Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
Alkalinity, Tot	mg/L 190	0.0	13.5	56.3	11.1	107.0	447.0	8.3	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 286								
Solids, Tot Diss	mg/L 333								
Solids, Tot Susp	mg/L 3.00								
Solids, Vol	mg/L 109								
Solids, Vol Diss	mg/L 109								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L 0.0259								
Kjeldahl N, Tot	mg/L 0.230								
NO3+NO2, Tot	mg/L 2.41								
Phosphorus, Tot	mg/L 0.140								
Phosphorus, Diss	mg/L 0.126								
OrthoPhosphate, D	mg/L 0.117								
Organic Carbon, T	mg/L <1.00								
Hardness, Tot	mg/L 214.9								
Sulfate, Tot	mg/L 30.2								
Calcium, Tot	mg/L 70.9								
Magnesium, Tot	mg/L 9.19								
Sodium, Tot	mg/L 11.2								
Potassium, Tot	mg/L 2.45								
Chloride, Tot	mg/L 18.5								
Arsenic, Tot	ug/L 0.4								
Barium, Tot	ug/L 37.0								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 1.2								
Cobalt, Tot	ug/L <0.2								
Copper, Tot	ug/L 0.85								
Iron, Tot	ug/L 36.3								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 9.7								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.4								
Nickel, Tot	ug/L 0.55								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.4								
Zinc, Tot	ug/L 5.2								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L 16.7								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.6								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 3WOL20002

Project: Wolf Creek

Location: Cumberland River, Mile 461.4

State: Kentucky
County: RussellLatitude: 36° 51' 29.1"
Longitude: 85° 8' 24.7"Quad: Wolf Creek Dam, KY
HUC: 05130103

Sample Date: 05 Nov 2013

Water Surface Elevation = 690.2 ft

Secchi Disk = 3.6 m

Results of Laboratory Analyses

Results of Laboratory Analyses					Profile Measurements							
Sample	Depth ft	0.0	90.0	140.0	Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
Alkalinity, Tot	mg/L	58	60	72	0.0	18.9	66.0	6.4	69.1	185.0	7.6	1.5
Alkalinity, Phenol	mg/L	0	0	0	5.0	18.9	66.0	6.4	69.1	185.0	7.2	2.1
Solids, Tot	mg/L	106	104	108	10.0	18.8	65.8	6.4	68.9	185.0	7.3	2.3
Solids, Tot Diss	mg/L	136	139	144	15.0	18.7	65.7		6.2	184.0	7.2	2.4
Solids, Tot Susp	mg/L	1.00	3.00	3.00	20.0	18.7	65.7	6.1	65.6	185.0	7.2	2.0
Solids, Vol	mg/L	69.0	64.0	55.0	25.0	18.7	65.7	6.1	65.6	185.0	7.2	2.0
Solids, Vol Diss	mg/L	69.0	64.0	55.0	30.0	18.7	65.7	6.1	65.6	184.0	7.2	1.8
Solids, Vol Susp	mg/L	<4.00	<4.00	<4.00	35.0	18.7	65.7	6.0	64.5	185.0	7.2	1.9
Ammonia N, Tot	mg/L	0.0676	0.0626	0.323	40.0	18.7	65.7	6.0	64.5	184.0	7.2	1.9
Kjeldahl N, Tot	mg/L	0.290	0.440	0.450	45.0	18.7	65.7	6.0	64.5	185.0	7.2	2.1
NO3+NO2, Tot	mg/L	0.156	0.274	0.0573	50.0	18.7	65.7	6.0	64.5	185.0	7.2	2.1
Phosphorus, Tot	mg/L	<0.002	<0.002	0.0424	55.0	18.7	65.7	6.0	64.5	184.0	7.2	2.7
Phosphorus, Diss	mg/L	<0.002	<0.002	0.0168	60.0	18.6	65.5	6.0	64.4	185.0	7.2	2.8
OrthoPhosphate, D	mg/L	<0.05	<0.05	<0.05	65.0	18.6	65.5	6.0	64.4	185.0	7.2	1.9
Organic Carbon, T	mg/L	<1.00	<1.00	2.20	70.0	18.6	65.5	6.0	64.4	185.0	7.2	2.3
Hardness, Tot	mg/L	73.6	72.7	76.4	75.0	18.6	65.5	6.0	64.4	184.0	7.2	2.0
Sulfate, Tot	mg/L	35.5	31.0	24.7	80.0	18.6	65.5	6.0	64.4	184.0	7.2	1.8
Calcium, Tot	mg/L	18.9	18.8	20.2	85.0	18.6	65.5	6.0	64.4	184.0	7.2	1.9
Magnesium, Tot	mg/L	6.41	6.25	6.30	90.0	17.7	63.9	0.8	8.4	176.0	6.7	0.9
Sodium, Tot	mg/L	6.60	6.37	5.48	95.0	16.6	61.9	0.0	0.0	173.0	6.7	0.8
Potassium, Tot	mg/L	1.68	1.63	1.54	100.0	16.4	61.5	0.0	0.0	175.0	6.7	0.8
Chloride, Tot	mg/L	4.19	4.27	3.43	105.0	16.3	61.3	0.0	0.0	175.0	6.7	0.8
Arsenic, Tot	ug/L	0.4	0.4	2.5	110.0	15.9	60.6	0.0	0.0	174.0	6.7	0.8
Barium, Tot	ug/L	23.2	22.4	31.9	115.0	15.5	59.9	0.0	0.0	176.0	6.7	0.7
Beryllium, Tot	ug/L	<0.2	<0.2	<0.2	120.0	15.1	59.2	0.0	0.0	182.0	6.8	0.7
Cadmium, Tot	ug/L	<0.2	<0.2	<0.2	125.0	14.3	57.7	0.0	0.0	183.0	6.8	0.8
Chromium, Tot	ug/L	0.3	0.4	0.3	130.0	13.8	56.8	0.0	0.0	182.0	6.8	0.8
Cobalt, Tot	ug/L	<0.2	<0.2	0.5	135.0	13.3	55.9	0.0	0.0	180.0	6.8	0.8
Copper, Tot	ug/L	0.8	0.7	0.7	140.0	13.2	55.8	0.0	0.0	179.0	6.8	0.8
Iron, Tot	ug/L	29.0	38.5	457.0	145.0	13.2	55.8	0.0	0.0	179.0	6.8	0.8
Iron, Diss	ug/L	5.3	8.0	87.4	150.0	13.2	55.8	0.0	0.0	180.0	6.8	0.8
Lead, Tot	ug/L	0.5	0.4	0.3								
Lead, Diss	ug/L	0.4	0.49	0.4								
Manganese, Tot	ug/L	11.6	26.5	1780.0								
Manganese, Diss	ug/L	4.3	29.6	1930.0								
Thallium, Tot	ug/L	<0.2	<0.2	<0.2								
Molybdenum, Tot	ug/L	0.3	0.3	0.6								
Nickel, Tot	ug/L	1.0	1.0	1.5								
Silver, Tot	ug/L	<0.2	<0.2	<0.2								
Vanadium, Tot	ug/L	0.2	0.2	<0.2								
Zinc, Tot	ug/L	2.6	2.1	2.2								
Zinc, Diss	ug/L	3.6	6.3	2.2								
Antimony, Tot	ug/L	0.2	<0.2	<0.2								
Aluminum, Tot	ug/L	<2.0	<2.0	<2.0								
Aluminum, Diss	ug/L	<2.0	<2.0	<2.0								
Selenium, Tot	ug/L	0.3	0.3	0.3								
Mercury, Tot	ug/L	0.159	0.079	0.042								

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3WOL20003

Project: Wolf Creek

Location: Cumberland River, Mile 469.7

State: Kentucky
County: RussellLatitude: 36° 53' 56.5'
Longitude: 85° 1' 13'Quad: Jamestown, KY
HUC: 05130103

Sample Date: 05 Nov 2013

Water Surface Elevation = 690.2 ft

Secchi Disk = 2.9 m

(No Laboratory Analyses)

Profile Measurements

Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
0.0	18.9	66.0	7.0	75.5	189.0	7.5	3.1
5.0	18.8	65.8	6.9	74.3	189.0	7.4	3.2
10.0	18.8	65.8	6.7	72.2	189.0	7.4	3.0
15.0	18.8	65.8	6.6	71.1	189.0	7.3	2.5
20.0	18.7	65.7	6.6	70.9	189.0	7.3	2.7
25.0	18.7	65.7	6.6	70.9	189.0	7.3	2.8
30.0	18.7	65.7	6.6	70.9	189.0	7.3	2.3
35.0	18.7	65.7	6.6	70.9	189.0	7.3	2.4
40.0	18.7	65.7	6.6	70.9	189.0	7.3	2.4
45.0	18.7	65.7	6.6	70.9	189.0	7.3	2.5
50.0	18.7	65.7	6.6	70.9	189.0	7.3	2.3
55.0	18.7	65.7	6.6	70.9	189.0	7.3	2.3
60.0	18.7	65.7	6.6	70.9	189.0	7.3	2.5
65.0	18.7	65.7	6.6	70.9	189.0	7.3	2.2
70.0	18.7	65.7	6.6	70.9	189.0	7.3	2.3
75.0	18.7	65.7	6.6	70.9	189.0	7.3	2.1
80.0	18.6	65.5	6.5	69.7	188.0	7.3	1.6
85.0	18.1	64.6	3.6	38.2	182.0	7.0	1.4
90.0	16.9	62.4	0.1	1.0	163.0	6.8	1.0
95.0	16.6	61.9	0.0	0.0	163.0	6.8	1.0
100.0	16.2	61.2	0.0	0.0	163.0	6.7	0.9
105.0	15.6	60.1	0.0	0.0	169.0	6.8	0.9
110.0	15.3	59.5	0.0	0.0	171.0	6.8	0.9
115.0	15.0	59.0	0.0	0.0	171.0	6.8	0.9
120.0	14.7	58.5	0.0	0.0	173.0	6.8	0.9
125.0	14.1	57.4	0.0	0.0	174.0	6.8	0.8
130.0	13.6	56.5	0.0	0.0	175.0	6.8	0.8
135.0	13.0	55.4	0.0	0.0	177.0	6.8	0.8
140.0	12.7	54.9	0.0	0.0	178.0	6.9	0.9
145.0	12.2	54.0	0.0	0.0	181.0	6.9	0.9

CELNRN-EC-H / Water Management Section

Location: Cumberland River, Mile 509.3

Quad: Frazer, KY
HUC: 05130103

Secchi Disk = 1.6 m

Profile Measurements

Sample				Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample	Depth	ft		ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	80	86	0.0	18.8	65.8		6.5	248.0	7.6	2.1
Alkalinity, Phenol	mg/L	0	0	5.0	18.8	65.8	6.4	68.9	248.0	7.5	2.1
Solids, Tot	mg/L	156	172	10.0	18.8	65.8	6.2	66.8	248.0	7.5	1.6
Solids, Tot Diss	mg/L	196	209	15.0	18.8	65.8	6.1	65.7	248.0	7.5	1.6
Solids, Tot Susp	mg/L	4.00	13.0	20.0	18.8	65.8	6.0	64.6	248.0	7.4	1.6
Solids, Vol	mg/L	120	127	25.0	18.8	65.8	6.2	66.8	248.0	7.4	1.5
Solids, Vol Diss	mg/L	116	123	30.0	18.7	65.7	6.0	64.5	248.0	7.4	1.4
Solids, Vol Susp	mg/L	<4.00	<4.00	35.0	18.7	65.7	6.0	64.5	248.0	7.4	1.5
Ammonia N, Tot	mg/L	0.0835	0.402	40.0	18.7	65.7	6.0	64.5	248.0	7.4	1.6
Kjeldahl N, Tot	mg/L	1.30	14.9	45.0	18.7	65.7	6.0	64.5	248.0	7.4	1.6
NO3+NO2, Tot	mg/L	0.157	0.276	50.0	18.7	65.7	6.0	64.5	248.0	7.4	1.6
Phosphorus, Tot	mg/L	<0.002	<0.002	55.0	18.7	65.7	6.0	64.5	248.0	7.4	1.6
Phosphorus, Diss	mg/L	<0.002	<0.002	60.0	18.7	65.7	6.1	65.6	249.0	7.4	1.6
OrthoPhosphate, D	mg/L	<0.05	<0.05	65.0	18.7	65.7	6.1	65.6	248.0	7.4	1.6
Organic Carbon, T	mg/L	<1.00	2.60	70.0	18.7	65.7	6.1	65.6	248.0	7.4	1.7
Hardness, Tot	mg/L	100.4	102.6	75.0	18.7	65.7	6.1	65.6	247.0	7.4	1.9
Sulfate, Tot	mg/L	45.1	46.3	80.0	17.8	64.0	4.6	48.6	288.0	7.3	0.9
Calcium, Tot	mg/L	25.1	25.0	85.0	17.2	63.0	4.1	42.8	307.0	7.2	0.9
Magnesium, Tot	mg/L	9.16	9.75	90.0	16.7	62.1	3.7	38.2	317.0	7.2	0.8
Sodium, Tot	mg/L	11.1	13.0	95.0	16.4	61.5	3.2	32.8	323.0	7.2	0.9
Potassium, Tot	mg/L	2.15	2.26	100.0	16.2	61.2	2.9	29.6	324.0	7.2	0.9
Chloride, Tot	mg/L	4.76	5.16	105.0	15.2	59.4	0.0	0.0	277.0	7.1	1.2
Arsenic, Tot	ug/L	0.6	1.1	110.0	12.3	54.1	0.0	0.0	204.0	7.2	1.7
Barium, Tot	ug/L	28.9	44.0	112.0	12.1	53.8	0.0	0.0	212.0	7.2	2.3
Beryllium, Tot	ug/L	<0.2	<0.2								
Cadmium, Tot	ug/L	<0.2	<0.2								
Chromium, Tot	ug/L	0.4	0.4								
Cobalt, Tot	ug/L	<0.2	0.8								
Copper, Tot	ug/L	0.9	0.9								
Iron, Tot	ug/L	66.7	174.0								
Iron, Diss	ug/L										
Lead, Tot	ug/L	0.4	0.6								
Lead, Diss	ug/L										
Manganese, Tot	ug/L	41.9	2350.0								
Manganese, Diss	ug/L										
Thallium, Tot	ug/L	<0.2	<0.2								
Molybdenum, Tot	ug/L	0.4	0.5								
Nickel, Tot	ug/L	1.0	2.3								
Silver, Tot	ug/L	<0.2	<0.2								
Vanadium, Tot	ug/L	0.3	0.4								
Zinc, Tot	ug/L	2.2	2.5								
Zinc, Diss	ug/L										
Antimony, Tot	ug/L	<0.2	<0.2								
Aluminum, Tot	ug/L	19.7	114.0								
Aluminum, Diss	ug/L										
Selenium, Tot	ug/L	0.4	0.5								
Mercury, Tot	ug/L										

CELNRN-EC-H / Water Management Section

Location: Cumberland River, Mile 519.0

Quad: Somerset, KY
HUC: 05130103

Secchi Disk = 1.8 m

Profile Measurements

[illegible]

CELNRN-EC-H / Water Management Section

Location: Big South Fork Cumberland River, Mile 2.3

Quad: Burnside, KY
HUC: 05130104

Secchi Disk = 1.6 m

Profile Measurements

[illegible]

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 3WOL20010

Project: Wolf Creek

Location: Pitman Creek, Mile 2.1

State: Kentucky

Latitude: 37° 0" 55.3'

Quad: Somerset, KY

County: Pulaski

Longitude: 84° 36" 26.9'

HUC: 05130103

Sample Date: 06 Nov 2013

Water Surface Elevation = 690.2 ft

Secchi Disk = 1.7 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	25.0	Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
Alkalinity, Tot	mg/L 78	0.0	18.7	65.7	6.5	69.9	252.0	7.6	1.6
Alkalinity, Phenol	mg/L 0	5.0	18.7	65.7	6.5	69.9	253.0	7.5	2.4
Solids, Tot	mg/L 156	10.0	18.6	65.5	6.4	68.7	252.0	7.5	2.2
Solids, Tot Diss	mg/L 194	15.0	18.6	65.5	6.4	68.7	252.0	7.5	2.6
Solids, Tot Susp	mg/L 2.00	20.0	18.6	65.5	6.4	68.7	252.0	7.5	2.3
Solids, Vol	mg/L 93.0	25.0	18.6	65.5	6.4	68.7	252.0	7.5	2.1
Solids, Vol Diss	mg/L 93.0	30.0	18.6	65.5	6.4	68.7	253.0	7.5	2.6
Solids, Vol Susp	mg/L <4.00	35.0	18.6	65.5	6.4	68.7	253.0	7.5	2.3
Ammonia N, Tot	mg/L 0.0911	40.0	18.6	65.5	6.5	69.7	254.0	7.5	2.2
Kjeldahl N, Tot	mg/L 0.250	45.0	18.5	65.3	6.4	68.5	254.0	7.5	2.1
NO3+NO2, Tot	mg/L 0.169	50.0	18.5	65.3	6.4	68.5	255.0	7.5	2.0
Phosphorus, Tot	mg/L <0.002	55.0	16.5	61.7	7.1	169.6	297.0	7.6	3.0
Phosphorus, Diss	mg/L <0.002								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.10								
Hardness, Tot	mg/L 100.8								
Sulfate, Tot	mg/L 45.9								
Calcium, Tot	mg/L 25.6								
Magnesium, Tot	mg/L 8.95								
Sodium, Tot	mg/L 11.3								
Potassium, Tot	mg/L 2.10								
Chloride, Tot	mg/L 4.96								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 28.9								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.4								
Cobalt, Tot	ug/L <0.2								
Copper, Tot	ug/L 0.9								
Iron, Tot	ug/L 61.4								
Iron, Diss	ug/L								
Lead, Tot	ug/L 0.46								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 15.9								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.41								
Nickel, Tot	ug/L 1.0								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.3								
Zinc, Tot	ug/L 2.2								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L 24.2								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.4								
Mercury, Tot	ug/L								

CELNRN-EC-H / Water Management Section

Location: Beaver Creek, Mile 5.3

Quad: Cumberland City, KY
HUC: 05130103

Secchi Disk = 2.6 m

Profile Measurements

Sample				Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
ft				ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Sample	Depth	ft	0.0	100.0							
Alkalinity, Tot	mg/L	72	96	0.0	19.0	66.2	7.0	75.7	201.0	7.5	1.7
Alkalinity, Phenol	mg/L	0	0	5.0	18.9	66.0	7.0	75.5	201.0	7.5	2.6
Solids, Tot	mg/L	112	136	10.0	18.8	65.8		6.8	201.0	7.5	2.8
Solids, Tot Diss	mg/L	159	168	15.0	18.8	65.8	6.6	71.1	202.0	7.4	2.4
Solids, Tot Susp	mg/L	1.00	3.00	20.0	18.8	65.8	6.5	70.0	201.0	7.4	2.5
Solids, Vol	mg/L	33.0	53.0	25.0	18.8	65.8	6.4	68.9	201.0	7.4	2.1
Solids, Vol Diss	mg/L	33.0	49.0	30.0	18.8	65.8	6.5	70.0	201.0	7.4	1.9
Solids, Vol Susp	mg/L	<4.00	<4.00	35.0	18.7	65.7	6.0	64.5	200.0	7.4	2.0
Ammonia N, Tot	mg/L	0.0573	0.446	40.0	18.7	65.7	6.5	69.9	200.0	7.4	2.1
Kjeldahl N, Tot	mg/L	0.280	<0.15	45.0	18.7	65.7	6.5	69.9	200.0	7.4	2.1
NO3+NO2, Tot	mg/L	0.144	0.142	50.0	18.7	65.7	6.5	69.9	200.0	7.4	2.2
Phosphorus, Tot	mg/L	<0.002	0.0361	55.0	18.7	65.7	6.6	70.9	200.0	7.4	2.5
Phosphorus, Diss	mg/L	<0.002	0.016	60.0	18.7	65.7	6.6	70.9	200.0	7.4	2.5
OrthoPhosphate, D	mg/L	<0.05	<0.05	65.0	18.7	65.7	6.6	70.9	200.0	7.4	2.3
Organic Carbon, T	mg/L	<1.00	2.20	70.0	18.7	65.7	6.5	69.9	199.0	7.4	1.9
Hardness, Tot	mg/L	85.0	98.5	75.0	18.7	65.7	6.2	66.6	201.0	7.4	1.8
Sulfate, Tot	mg/L	31.6	21.4	80.0	18.5	65.3	5.0	53.5	206.0	7.3	1.4
Calcium, Tot	mg/L	23.4	29.8	85.0	17.7	63.9	0.6	6.3	203.0	6.9	0.9
Magnesium, Tot	mg/L	6.46	5.86	90.0	16.8	62.2	0.0	0.0	184.0	6.8	0.8
Sodium, Tot	mg/L	6.14	4.75	95.0	16.5	61.7	0.0	0.0	199.0	6.9	0.7
Potassium, Tot	mg/L	1.58	1.54	100.0	15.9	60.6	0.0	0.0	230.0	7.0	0.8
Chloride, Tot	mg/L	4.15	4.29	105.0	15.5	59.9	0.0	0.0	241.0	7.0	0.8
Arsenic, Tot	ug/L	0.6	3.5	108.0	14.9	58.8	0.0	0.0	256.0	7.1	1.1
Barium, Tot	ug/L	23.2	26.6								
Beryllium, Tot	ug/L	<0.2	<0.2								
Cadmium, Tot	ug/L	<0.2	<0.2								
Chromium, Tot	ug/L	0.3	0.3								
Cobalt, Tot	ug/L	<0.2	0.5								
Copper, Tot	ug/L	0.7	0.8								
Iron, Tot	ug/L	26.3	249.0								
Iron, Diss	ug/L										
Lead, Tot	ug/L	0.37	0.4								
Lead, Diss	ug/L										
Manganese, Tot	ug/L	16.5	1220.0								
Manganese, Diss	ug/L										
Thallium, Tot	ug/L	<0.2	<0.2								
Molybdenum, Tot	ug/L	0.3	0.3								
Nickel, Tot	ug/L	0.8	1.2								
Silver, Tot	ug/L	<0.2	<0.2								
Vanadium, Tot	ug/L	0.3	0.23								
Zinc, Tot	ug/L	1.9	3.7								
Zinc, Diss	ug/L										
Antimony, Tot	ug/L	<0.2	<0.2								
Aluminum, Tot	ug/L	<2.0	<2.0								
Aluminum, Diss	ug/L										
Selenium, Tot	ug/L	0.4	0.4								
Mercury, Tot	ug/L										