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: 36º 52" 19.9' | Quad: Wolf Creek Dam, KY
County: Russell | Longitude: 85º 8" 57.4' | HUC: 05130103

Sample Date: 30 Jul 2012 | Water Surface Elevation = | Stream Flow = 7340 cfs

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	58
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	105
Solids, Tot Diss	mg/L	105
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	111
Solids, Vol Diss	mg/L	111
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.130
NO3+NO2, Tot	mg/L	0.337
Phosphorus, Tot	mg/L	<0.0200
Phosphorus, Diss	mg/L	<0.0200
OrthoPhosphate, D	mg/L	<0.0500
Organic Carbon, T	mg/L	1.80
Hardness, Tot	mg/L	71.9
Sulfate, Tot	mg/L	32.6
Calcium, Tot	mg/L	18.1
Magnesium, Tot	mg/L	6.46
Sodium, Tot	mg/L	5.86
Potassium, Tot	mg/L	1.37
Chloride, Tot	mg/L	3.93
Arsenic, Tot	ug/L	<1.0
Barium, Tot	ug/L	20.2
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	<1.0
Iron, Tot	ug/L	<20.0
Iron, Diss	ug/L	<20.0
Lead, Tot	ug/L	1.2
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	23.5
Manganese, Diss	ug/L	7.3
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	<1.0
Nickel, Tot	ug/L	1.5
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	1.4
Zinc, Diss	ug/L	1.2
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	<20.0
Aluminum, Diss	ug/L	<20.0
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	0.016

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	15.3	59.6	5.7	57.0	179.5	6.4	0.5

United States Army Corps of Engineers
Nashville District
CELRN-EC-H / Water Management Section

Station: 3WOL10024
Project: Wolf Creek
Location: Cumberland River, Mile 427.0

State: Kentucky
County: Cumberland
Latitude: 36° 47" 11'
Longitude: 85° 21" 54'
Quad: Burkesville, KY
HUC: 05130103

Sample Date: 30 Jul 2012
Water Surface Elevation =
Secchi Disk =

(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	18.0	64.3	9.1	95.6	182.3	6.9	0.2

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL10026 | Project: Wolf Creek | Location: Pitman Creek, Mile 4.9

State: Kentucky | Latitude: 37° 2" 40' | Quad: Somerset, KY
County: Pulaski | Longitude: 84° 35" 51' | HUC: 05130103

Sample Date: 31 Jul 2012 | Water Surface Elevation = | Secchi Disk =

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	142
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	259
Solids, Tot Diss	mg/L	259
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	234
Solids, Vol Diss	mg/L	234
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.460
NO3+NO2, Tot	mg/L	5.65
Phosphorus, Tot	mg/L	1.21
Phosphorus, Diss	mg/L	1.07
OrthoPhosphate, D	mg/L	1.06
Organic Carbon, T	mg/L	3.10
Hardness, Tot	mg/L	182
Sulfate, Tot	mg/L	36.8
Calcium, Tot	mg/L	56.3
Magnesium, Tot	mg/L	10.1
Sodium, Tot	mg/L	18.3
Potassium, Tot	mg/L	4.58
Chloride, Tot	mg/L	20.1
Arsenic, Tot	ug/L	9.0
Barium, Tot	ug/L	33.8
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	1.8
Iron, Tot	ug/L	67.8
Iron, Diss	ug/L	<20.0
Lead, Tot	ug/L	1.3
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	15.2
Manganese, Diss	ug/L	10.8
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	1.3
Nickel, Tot	ug/L	3.2
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	9.3
Zinc, Diss	ug/L	8.6
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	57.6
Aluminum, Diss	ug/L	<20.0
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	

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	25.1	77.2	9.8	118.7	450.0	8.1	

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL10029 | Project: Wolf Creek | Location: Big South Fork Cumberland River, Mile 45.0

State: Kentucky | Latitude: 36° 40" 5' | Quad: Barthell, KY
County: McCreary | Longitude: 84° 32" 53' | HUC: 05130104

Sample Date: 31 Jul 2012 | Water Surface Elevation = | Secchi Disk =

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	32
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	60.0
Solids, Tot Diss	mg/L	60.0
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	117
Solids, Vol Diss	mg/L	117
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.290
NO3+NO2, Tot	mg/L	0.0986
Phosphorus, Tot	mg/L	<0.0200
Phosphorus, Diss	mg/L	0.0223
OrthoPhosphate, D	mg/L	<0.0500
Organic Carbon, T	mg/L	3.70
Hardness, Tot	mg/L	43.2
Sulfate, Tot	mg/L	20.5
Calcium, Tot	mg/L	10.5
Magnesium, Tot	mg/L	4.08
Sodium, Tot	mg/L	2.95
Potassium, Tot	mg/L	1.53
Chloride, Tot	mg/L	1.82
Arsenic, Tot	ug/L	<1.0
Barium, Tot	ug/L	20.0
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	1.0
Iron, Tot	ug/L	328.0
Iron, Diss	ug/L	170.0
Lead, Tot	ug/L	<1.0
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	32.2
Manganese, Diss	ug/L	19.6
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	<1.0
Nickel, Tot	ug/L	1.4
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	2.6
Zinc, Diss	ug/L	4.8
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	241.0
Aluminum, Diss	ug/L	80.3
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	

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	30.4	86.7	8.4	111.3	110.0	8.0	

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL10030 | Project: Wolf Creek | Location: Cumberland River, Mile 562.4

State: Kentucky | Latitude: 36° 50" 14' | Quad: Cumberland Falls, KY
County: McCreary | Longitude: 84° 20" 39' | HUC: 05130101

Sample Date: 31 Jul 2012 | Water Surface Elevation = | Secchi Disk =

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	92
Alkalinity, Phenol	mg/L	8
Solids, Tot	mg/L	207
Solids, Tot Diss	mg/L	207
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	148
Solids, Vol Diss	mg/L	148
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.290
NO3+NO2, Tot	mg/L	0.178
Phosphorus, Tot	mg/L	<0.0200
Phosphorus, Diss	mg/L	0.0217
OrthoPhosphate, D	mg/L	<0.0500
Organic Carbon, T	mg/L	3.00
Hardness, Tot	mg/L	134
Sulfate, Tot	mg/L	90.1
Calcium, Tot	mg/L	29.1
Magnesium, Tot	mg/L	14.9
Sodium, Tot	mg/L	23.8
Potassium, Tot	mg/L	2.68
Chloride, Tot	mg/L	5.44
Arsenic, Tot	ug/L	<1.0
Barium, Tot	ug/L	34.0
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	1.3
Iron, Tot	ug/L	69.0
Iron, Diss	ug/L	<20.0
Lead, Tot	ug/L	<1.0
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	21.5
Manganese, Diss	ug/L	12.3
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	<1.0
Nickel, Tot	ug/L	2.1
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	1.6
Zinc, Diss	ug/L	2.1
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	71.5
Aluminum, Diss	ug/L	<20.0
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	

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	31.7	89.1	10.6	143.4	376.0	9.0	

United States Army Corps of Engineers
Nashville District
CELRN-EC-H / Water Management Section

Station: 3WOL10035
Project: Wolf Creek
Location: Little South Fork Cumberland River, Mile 5.2

State: Kentucky
County: Wayne
Latitude: 36° 48" 0'
Longitude: 84° 35" 47'
Quad: Nevelsville, KY
HUC: 05130104

Sample Date: 31 Jul 2012
Water Surface Elevation =
Secchi Disk =

(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	28.8	83.8	8.4	108.4	369.0	8.2	

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 | Latitude: 37° 10" 17' | Quad: Billows, KY
County: Rockcastle | Longitude: 84° 17" 45' | HUC: 05130102

Sample Date: 31 Jul 2012 | Water Surface Elevation = | Secchi Disk =

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	72
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	103
Solids, Tot Diss	mg/L	103
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	110
Solids, Vol Diss	mg/L	110
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.310
NO3+NO2, Tot	mg/L	0.408
Phosphorus, Tot	mg/L	<0.0200
Phosphorus, Diss	mg/L	<0.0200
OrthoPhosphate, D	mg/L	<0.0500
Organic Carbon, T	mg/L	4.40
Hardness, Tot	mg/L	84.5
Sulfate, Tot	mg/L	17.5
Calcium, Tot	mg/L	25.3
Magnesium, Tot	mg/L	5.16
Sodium, Tot	mg/L	3.95
Potassium, Tot	mg/L	2.40
Chloride, Tot	mg/L	5.77
Arsenic, Tot	ug/L	<1.0
Barium, Tot	ug/L	22.3
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	1.2
Iron, Tot	ug/L	204.0
Iron, Diss	ug/L	90.4
Lead, Tot	ug/L	1.0
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	35.3
Manganese, Diss	ug/L	21.2
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	<1.0
Nickel, Tot	ug/L	2.6
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	2.6
Zinc, Diss	ug/L	2.4
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	201.0
Aluminum, Diss	ug/L	47.1
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	

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	26.2	79.2	8.1	100.0	196.0	7.8	

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL10037 | Project: Wolf Creek | Location: Buck Creek, Mile 12.4

State: Kentucky | Latitude: 37° 3" 38' | Quad: Dykes, KY
County: Pulaski | Longitude: 84° 25" 35' | HUC: 05130103

Sample Date: 31 Jul 2012 | Water Surface Elevation = | Secchi Disk =

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	122
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	146
Solids, Tot Diss	mg/L	146
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	132
Solids, Vol Diss	mg/L	132
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.290
NO3+NO2, Tot	mg/L	0.457
Phosphorus, Tot	mg/L	0.0262
Phosphorus, Diss	mg/L	0.0338
OrthoPhosphate, D	mg/L	<0.0500
Organic Carbon, T	mg/L	3.40
Hardness, Tot	mg/L	129
Sulfate, Tot	mg/L	9.98
Calcium, Tot	mg/L	40.4
Magnesium, Tot	mg/L	6.74
Sodium, Tot	mg/L	3.30
Potassium, Tot	mg/L	2.78
Chloride, Tot	mg/L	6.14
Arsenic, Tot	ug/L	<1.0
Barium, Tot	ug/L	27.7
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	3.4
Iron, Tot	ug/L	45.1
Iron, Diss	ug/L	<20.0
Lead, Tot	ug/L	<1.0
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	10.9
Manganese, Diss	ug/L	4.9
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	<1.0
Nickel, Tot	ug/L	2.2
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	3.4
Zinc, Diss	ug/L	1.8
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	50.6
Aluminum, Diss	ug/L	<20.0
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	

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	27.9	82.2	9.7	123.3	269.0	8.4	

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: 01 Aug 2012 | Water Surface Elevation = | Secchi Disk =

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	166
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	241
Solids, Tot Diss	mg/L	241
Solids, Tot Susp	mg/L	<4.00
Solids, Vol	mg/L	144
Solids, Vol Diss	mg/L	144
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	<0.200
Kjeldahl N, Tot	mg/L	0.290
NO3+NO2, Tot	mg/L	2.96
Phosphorus, Tot	mg/L	0.117
Phosphorus, Diss	mg/L	0.119
OrthoPhosphate, D	mg/L	0.0666
Organic Carbon, T	mg/L	2.10
Hardness, Tot	mg/L	200
Sulfate, Tot	mg/L	25.4
Calcium, Tot	mg/L	67.0
Magnesium, Tot	mg/L	7.89
Sodium, Tot	mg/L	8.78
Potassium, Tot	mg/L	1.73
Chloride, Tot	mg/L	15.1
Arsenic, Tot	ug/L	<1.0
Barium, Tot	ug/L	34.9
Beryllium, Tot	ug/L	<1.0
Cadmium, Tot	ug/L	<1.0
Chromium, Tot	ug/L	<1.0
Cobalt, Tot	ug/L	<1.0
Copper, Tot	ug/L	<1.0
Iron, Tot	ug/L	71.7
Iron, Diss	ug/L	<20.0
Lead, Tot	ug/L	<1.0
Lead, Diss	ug/L	<1.0
Manganese, Tot	ug/L	16.8
Manganese, Diss	ug/L	8.7
Thallium, Tot	ug/L	<1.0
Molybdenum, Tot	ug/L	<1.0
Nickel, Tot	ug/L	3.3
Silver, Tot	ug/L	<1.0
Vanadium, Tot	ug/L	<1.0
Zinc, Tot	ug/L	3.4
Zinc, Diss	ug/L	3.5
Antimony, Tot	ug/L	<1.0
Aluminum, Tot	ug/L	86.5
Aluminum, Diss	ug/L	<20.0
Selenium, Tot	ug/L	<20.0
Mercury, Tot	ug/L	

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	20.0	68.0	8.9	98.1	425.0	8.2	

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20002 | Project: Wolf Creek | Location: Cumberland River, Mile 461.4

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

Sample Date: 30 Jul 2012 | Water Surface Elevation = 683.8 ft | Secchi Disk = 3.4 m

Results of Laboratory Analyses

Sample Depth ft		0.0	65.0	130.0
Alkalinity, Tot	mg/L	56	50	54
Alkalinity, Phenol	mg/L	1	0	0
Solids, Tot	mg/L	103	86.0	105
Solids, Tot Diss	mg/L	103	86.0	105
Solids, Tot Susp	mg/L	<4.00	<4.00	<4.00
Solids, Vol	mg/L	123	117	146
Solids, Vol Diss	mg/L	123	117	146
Solids, Vol Susp	mg/L	<4.00	<4.00	<4.00
Ammonia N, Tot	mg/L	<0.200	<0.200	<0.200
Kjeldahl N, Tot	mg/L	<0.0700	<0.0700	0.100
NO3+NO2, Tot	mg/L	<0.0200	0.436	0.439
Phosphorus, Tot	mg/L	<0.0200	<0.0200	<0.0200
Phosphorus, Diss	mg/L	<0.0200	<0.0200	0.0226
OrthoPhosphate, D	mg/L	<0.0500	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.30	2.00	2.10
Hardness, Tot	mg/L	74.2	69.6	74.3
Sulfate, Tot	mg/L	34.1	31.2	31.1
Calcium, Tot	mg/L	18.7	17.6	19.2
Magnesium, Tot	mg/L	6.70	6.22	6.38
Sodium, Tot	mg/L	6.38	5.31	5.18
Potassium, Tot	mg/L	1.44	1.34	1.38
Chloride, Tot	mg/L	3.88	3.69	3.61
Arsenic, Tot	ug/L	<1.0	<1.0	<1.0
Barium, Tot	ug/L	20.4	20.3	16.2
Beryllium, Tot	ug/L	<1.0	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	<1.0	<1.0
Copper, Tot	ug/L	1.2	1.2	1.0
Iron, Tot	ug/L	<20.0	<20.0	<20.0
Iron, Diss	ug/L	<20.0	<20.0	<20.0
Lead, Tot	ug/L	<1.0	<1.0	<1.0
Lead, Diss	ug/L	<1.0	<1.0	<1.0
Manganese, Tot	ug/L	3.7	9.0	234.0
Manganese, Diss	ug/L	1.1	3.8	<1.0
Thallium, Tot	ug/L	<1.0	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0	<1.0
Nickel, Tot	ug/L	1.4	1.6	1.6
Silver, Tot	ug/L	<1.0	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0	<1.0
Zinc, Tot	ug/L	1.0	1.1	1.2
Zinc, Diss	ug/L	<1.0	2.0	2.7
Antimony, Tot	ug/L	<1.0	<1.0	<1.0
Aluminum, Tot	ug/L	<20.0	<20.0	<20.0
Aluminum, Diss	ug/L	<20.0	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0	<20.0
Mercury, Tot	ug/L	0.036	0.02	0.031

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	30.1	86.1	8.1	107.1	191.5	8.3	0.7
5.0	30.0	86.0	8.1	106.6	192.0	8.3	0.8
10.0	29.4	84.9	8.2	107.7	190.6	8.3	1.4
15.0	29.3	84.7	8.3	107.8	190.7	8.4	2.0
20.0	29.1	84.3	8.2	106.4	191.1	8.3	2.5
25.0	27.8	82.0	6.5	82.6	197.3	7.9	2.8
30.0	23.5	74.3	7.8	92.4	195.7	7.4	3.6
35.0	21.4	70.5	7.1	80.2	191.6	7.1	3.4
40.0	18.4	65.1	3.9	41.9	184.2	6.6	0.9
45.0	16.8	62.2	2.4	24.4	181.5	6.4	0.5
50.0	15.7	60.2	2.3	23.4	180.0	6.4	0.4
55.0	14.9	58.8	2.6	25.4	178.0	6.3	0.4
60.0	13.4	56.0	3.6	34.6	171.6	6.3	0.3
65.0	12.0	53.5	4.7	43.1	170.2	6.3	0.3
70.0	10.9	51.7	4.4	39.8	171.1	6.2	0.3
75.0	10.7	51.2	4.3	38.4	171.6	6.2	0.3
80.0	10.5	50.9	4.4	39.7	172.0	6.2	0.2
85.0	10.4	50.7	4.2	37.3	172.9	6.2	0.3
90.0	10.3	50.5	4.2	37.0	173.2	6.3	0.2
95.0	10.3	50.5	3.9	35.1	173.6	6.3	0.2
100.0	10.2	50.3	4.2	37.0	173.3	6.3	0.2
105.0	10.2	50.3	4.1	36.7	173.2	6.4	0.2
110.0	10.1	50.3	4.1	36.5	173.4	6.4	0.2
115.0	10.1	50.1	4.0	35.4	173.1	6.4	0.2
120.0	9.9	49.8	3.6	31.8	175.2	6.4	0.2
125.0	9.9	49.7	3.2	28.4	175.3	6.4	0.2
130.0	9.8	49.7	3.1	27.7	176.3	6.4	0.2
135.0	9.8	49.7	3.1	27.2	176.3	6.5	0.2
140.0	9.8	49.7	2.8	24.9	176.2	6.5	0.2

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 | Latitude: 36° 53" 56.5' | Quad: Jamestown, KY
County: Russell | Longitude: 85° 1" 13' | HUC: 05130103

Sample Date: 30 Jul 2012 | Water Surface Elevation = 683.8 ft | Secchi Disk = 3 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	31.3	88.3	8.2	111.2	196.1	8.5	0.5
5.0	31.0	87.8	8.3	111.4	197.2	8.5	1.0
10.0	29.9	85.7	8.6	113.9	195.3	8.6	1.6
15.0	29.6	85.3	8.6	112.5	195.4	8.6	2.5
20.0	29.0	84.2	8.2	105.7	207.1	8.4	4.2
25.0	27.5	81.5	6.2	78.0	240.2	7.6	5.2
30.0	23.6	74.5	5.3	62.3	229.5	7.2	4.7
35.0	21.7	71.0	4.8	54.3	220.0	7.0	2.1
40.0	18.7	65.6	2.7	28.8	211.2	6.8	0.7
45.0	17.2	63.0	2.1	22.2	208.0	6.7	0.5
50.0	15.7	60.2	2.0	20.4	192.0	6.6	0.3
55.0	14.8	58.7	2.3	22.8	186.0	6.6	0.4
60.0	13.1	55.7	3.0	28.2	179.0	6.6	0.3
65.0	12.1	53.7	3.1	28.6	175.6	6.5	0.3
70.0	11.2	52.1	2.8	25.9	173.7	6.5	0.3
75.0	10.6	51.1	3.1	27.5	172.6	6.4	0.2
80.0	10.4	50.8	3.0	27.2	172.4	6.4	0.2
85.0	10.4	50.6	3.0	27.2	172.2	6.4	0.2
90.0	10.3	50.5	3.1	27.4	171.9	6.4	0.2
95.0	10.2	50.4	3.1	27.9	172.9	6.4	0.2
100.0	10.2	50.3	3.3	29.1	173.2	6.4	0.2
105.0	10.1	50.2	3.5	30.7	174.7	6.5	0.2
110.0	10.0	50.0	3.6	31.7	174.4	6.5	0.2
115.0	10.0	49.9	3.6	31.5	175.9	6.5	0.2
120.0	9.9	49.8	3.3	29.2	177.4	6.5	0.2
125.0	9.9	49.7	3.2	28.0	177.4	6.5	0.2
130.0	9.8	49.7	3.1	26.9	177.6	6.5	0.2
135.0	9.8	49.7	3.0	26.5	178.3	6.5	0.2
140.0	9.8	49.7	2.9	25.6	178.4	6.5	0.2

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20004 | Project: Wolf Creek | Location: Cumberland River, Mile 487.0

State: Kentucky | Latitude: 36° 56" 14' | Quad: Jabez, KY
County: Wayne | Longitude: 84° 54" 10' | HUC: 05130103

Sample Date: 30 Jul 2012 | Water Surface Elevation = 683.8 ft | Secchi Disk = 3 m

Results of Laboratory Analyses

Sample Depth ft		0.0	60.0	110.0
Alkalinity, Tot	mg/L	62	52	50
Alkalinity, Phenol	mg/L	2	0	0
Solids, Tot	mg/L	121	119	102
Solids, Tot Diss	mg/L	121	119	102
Solids, Tot Susp	mg/L	<4.00	<4.00	<4.00
Solids, Vol	mg/L	165	144	87.0
Solids, Vol Diss	mg/L	165	144	87.0
Solids, Vol Susp	mg/L	<4.00	<4.00	<4.00
Ammonia N, Tot	mg/L	<0.200	<0.200	<0.200
Kjeldahl N, Tot	mg/L	<0.0700	<0.0700	<0.0700
NO3+NO2, Tot	mg/L	<0.0200	0.388	0.432
Phosphorus, Tot	mg/L	<0.0200	<0.0200	<0.0200
Phosphorus, Diss	mg/L	<0.0200	0.0279	0.0261
OrthoPhosphate, D	mg/L	<0.0500	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.40	2.00	2.10
Hardness, Tot	mg/L	81.2	77.6	72.1
Sulfate, Tot	mg/L	39.3	38.0	32.7
Calcium, Tot	mg/L	20.0	18.7	17.9
Magnesium, Tot	mg/L	7.58	7.47	6.68
Sodium, Tot	mg/L	8.22	7.23	5.73
Potassium, Tot	mg/L	1.54	1.46	1.41
Chloride, Tot	mg/L	3.81	3.53	3.53
Arsenic, Tot	ug/L	<1.0	<1.0	<1.0
Barium, Tot	ug/L	21.6	21.1	16.8
Beryllium, Tot	ug/L	<1.0	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	<1.0	<1.0
Copper, Tot	ug/L	1.3	1.1	1.1
Iron, Tot	ug/L	<20.0	23.9	<20.0
Iron, Diss	ug/L	<20.0	<20.0	<20.0
Lead, Tot	ug/L	<1.0	<1.0	<1.0
Lead, Diss	ug/L	<1.0	<1.0	<1.0
Manganese, Tot	ug/L	7.3	42.3	109.0
Manganese, Diss	ug/L	<1.0	2.7	1.4
Thallium, Tot	ug/L	<1.0	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0	<1.0
Nickel, Tot	ug/L	1.4	1.7	1.4
Silver, Tot	ug/L	<1.0	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0	<1.0
Zinc, Tot	ug/L	<1.0	1.1	1.3
Zinc, Diss	ug/L	<1.0	1.1	<1.0
Antimony, Tot	ug/L	<1.0	<1.0	<1.0
Aluminum, Tot	ug/L	<20.0	<20.0	<20.0
Aluminum, Diss	ug/L	<20.0	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0	<20.0
Mercury, Tot	ug/L			

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	31.7	89.0	8.2	111.9	213.0	8.6	0.8
5.0	30.9	87.5	8.5	113.6	212.4	8.6	0.9
10.0	30.3	86.5	8.6	114.7	208.4	8.7	1.7
15.0	30.1	86.2	8.5	113.2	209.1	8.7	2.4
20.0	28.8	83.9	6.9	89.2	254.8	8.0	4.3
25.0	26.8	80.2	4.1	51.4	291.2	7.3	4.7
30.0	23.5	74.3	0.3	3.2	299.7	6.9	2.7
35.0	20.3	68.6	0.8	8.7	236.0	6.8	1.0
40.0	18.0	64.5	1.3	13.2	218.9	6.7	0.6
45.0	16.6	61.8	1.1	11.1	211.5	6.6	0.5
50.0	15.7	60.2	1.3	13.0	204.4	6.6	0.5
55.0	14.4	58.0	1.3	12.4	200.5	6.6	0.4
60.0	13.1	55.5	1.1	10.2	192.5	6.5	0.4
65.0	12.1	53.8	1.0	9.5	185.8	6.5	0.4
70.0	11.5	52.7	1.1	10.4	182.1	6.4	0.4
75.0	11.3	52.3	1.2	11.2	180.4	6.4	0.4
80.0	11.2	52.1	1.3	12.1	178.9	6.4	0.3
85.0	10.8	51.5	1.9	16.9	176.9	6.4	0.3
90.0	10.6	51.0	2.3	21.1	174.5	6.5	0.2
95.0	10.3	50.6	2.6	23.6	173.2	6.5	0.3
100.0	10.2	50.3	2.7	24.2	172.5	6.5	0.3
105.0	10.1	50.2	2.7	24.1	171.2	6.5	0.2
110.0	10.1	50.2	2.7	24.0	171.6	6.5	0.2
114.0	10.1	50.1	2.6	23.4	172.2	6.5	0.2

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20005 | Project: Wolf Creek | Location: Cumberland River, Mile 509.3

State: Kentucky | Latitude: 36° 58" 54' | Quad: Frazer, KY
County: Pulaski | Longitude: 84° 41" 5' | HUC: 05130103

Sample Date: 31 Jul 2012 | Water Surface Elevation = 683.7 ft | Secchi Disk = 2.5 m

Results of Laboratory Analyses

Sample Depth ft		0.0	30.0	100.0
Alkalinity, Tot	mg/L	72	74	54
Alkalinity, Phenol	mg/L	4	0	0
Solids, Tot	mg/L	129	155	103
Solids, Tot Diss	mg/L	129	155	103
Solids, Tot Susp	mg/L	<4.00	<4.00	<4.00
Solids, Vol	mg/L	65.0	70.0	106
Solids, Vol Diss	mg/L	65.0	70.0	106
Solids, Vol Susp	mg/L	<4.00	<4.00	<4.00
Ammonia N, Tot	mg/L	<0.200	<0.200	<0.200
Kjeldahl N, Tot	mg/L	0.150	0.230	<0.0700
NO3+NO2, Tot	mg/L	<0.0200	0.250	0.451
Phosphorus, Tot	mg/L	<0.0200	0.0208	<0.0200
Phosphorus, Diss	mg/L	<0.0200	<0.0200	0.0243
OrthoPhosphate, D	mg/L	<0.0500	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.70	3.10	2.20
Hardness, Tot	mg/L	92.2	96.6	74.9
Sulfate, Tot	mg/L	47.2	50.3	32.1
Calcium, Tot	mg/L	22.7	24.2	18.5
Magnesium, Tot	mg/L	8.62	8.80	6.95
Sodium, Tot	mg/L	11.6	13.1	5.55
Potassium, Tot	mg/L	1.78	2.11	1.45
Chloride, Tot	mg/L	4.63	5.39	3.36
Arsenic, Tot	ug/L	<1.0	<1.0	<1.0
Barium, Tot	ug/L	25.0	30.1	16.4
Beryllium, Tot	ug/L	<1.0	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	<1.0	<1.0
Copper, Tot	ug/L	1.7	1.2	1.0
Iron, Tot	ug/L	<20.0	105.0	29.3
Iron, Diss	ug/L	<20.0	<20.0	<20.0
Lead, Tot	ug/L	<1.0	<1.0	<1.0
Lead, Diss	ug/L	<1.0	<1.0	<1.0
Manganese, Tot	ug/L	9.5	63.1	207.0
Manganese, Diss	ug/L	2.6	4.2	39.8
Thallium, Tot	ug/L	<1.0	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0	<1.0
Nickel, Tot	ug/L	1.5	2.2	1.5
Silver, Tot	ug/L	<1.0	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0	<1.0
Zinc, Tot	ug/L	<1.0	1.5	1.2
Zinc, Diss	ug/L	<1.0	1.0	1.3
Antimony, Tot	ug/L	<1.0	<1.0	<1.0
Aluminum, Tot	ug/L	<20.0	58.6	<20.0
Aluminum, Diss	ug/L	<20.0	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0	<20.0
Mercury, Tot	ug/L			

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	30.3	86.6	8.9	118.5	252.0	8.8	2.0
5.0	30.2	86.4	9.0	118.9	252.1	8.8	2.5
10.0	30.2	86.3	8.9	118.3	252.0	8.8	3.1
15.0	29.9	85.8	8.9	118.0	251.4	8.8	4.7
20.0	29.7	85.5	8.2	107.8	251.6	8.6	4.5
25.0	25.6	78.2	2.9	35.7	261.4	7.0	2.4
30.0	23.6	74.5	0.4	4.4	283.9	6.9	2.3
35.0	19.3	66.8	0.0	0.4	229.5	6.8	1.3
40.0	17.1	62.8	0.0	0.4	218.3	6.7	1.0
45.0	15.8	60.4	0.0	0.4	212.0	6.6	0.8
50.0	14.1	57.4	0.1	0.4	204.3	6.6	0.7
55.0	12.6	54.7	0.1	0.4	195.3	6.5	0.6
60.0	11.6	52.9	0.3	2.9	184.6	6.4	0.5
65.0	11.0	51.9	0.7	6.0	178.9	6.4	0.4
70.0	10.9	51.6	0.6	5.0	177.9	6.4	0.4
75.0	10.8	51.4	0.5	4.4	176.9	6.4	0.4
80.0	10.7	51.3	0.4	3.9	177.2	6.4	0.4
85.0	10.7	51.3	0.3	3.1	177.6	6.4	0.4
90.0	10.7	51.2	0.3	2.6	177.2	6.4	0.3
95.0	10.7	51.2	0.2	1.8	177.0	6.4	0.4
100.0	10.6	51.1	0.2	1.3	177.0	6.4	0.4
105.0	10.6	51.1	0.1	0.9	177.5	6.5	0.4
107.0	10.6	51.1	0.1	0.8	176.6	6.5	0.4

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20006 | Project: Wolf Creek | Location: Cumberland River, Mile 519.0

State: Kentucky | Latitude: 37° 0" 7.7' | Quad: Somerset, KY
County: Pulaski | Longitude: 84° 34" 27.8' | HUC: 05130103

Sample Date: 31 Jul 2012 | Water Surface Elevation = 683.7 ft | Secchi Disk = 2.6 m

Results of Laboratory Analyses

Sample Depth ft		0.0	70.0
Alkalinity, Tot	mg/L	79	60
Alkalinity, Phenol	mg/L	8	0
Solids, Tot	mg/L	169	112
Solids, Tot Diss	mg/L	169	106
Solids, Tot Susp	mg/L	<4.00	6.00
Solids, Vol	mg/L	69.0	64.0
Solids, Vol Diss	mg/L	69.0	64
Solids, Vol Susp	mg/L	<4.00	<4.00
Ammonia N, Tot	mg/L	<0.200	0.400
Kjeldahl N, Tot	mg/L	0.0800	0.140
NO3+NO2, Tot	mg/L	<0.0200	0.319
Phosphorus, Tot	mg/L	<0.0200	0.0498
Phosphorus, Diss	mg/L	<0.0200	<0.0200
OrthoPhosphate, D	mg/L	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.70	2.30
Hardness, Tot	mg/L	97.1	77.1
Sulfate, Tot	mg/L	50.5	31.5
Calcium, Tot	mg/L	23.9	19.2
Magnesium, Tot	mg/L	9.13	7.12
Sodium, Tot	mg/L	13.0	5.72
Potassium, Tot	mg/L	1.91	1.50
Chloride, Tot	mg/L	4.78	3.30
Arsenic, Tot	ug/L	<1.0	<1.0
Barium, Tot	ug/L	28.3	29.1
Beryllium, Tot	ug/L	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	<1.0
Copper, Tot	ug/L	1.4	1.1
Iron, Tot	ug/L	<20.0	264.0
Iron, Diss	ug/L	<20.0	<20.0
Lead, Tot	ug/L	<1.0	<1.0
Lead, Diss	ug/L	<1.0	<1.0
Manganese, Tot	ug/L	23.4	1590.0
Manganese, Diss	ug/L	42.5	1630.0
Thallium, Tot	ug/L	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0
Nickel, Tot	ug/L	1.6	2.5
Silver, Tot	ug/L	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0
Zinc, Tot	ug/L	<1.0	1.7
Zinc, Diss	ug/L	<1.0	1.0
Antimony, Tot	ug/L	<1.0	<1.0
Aluminum, Tot	ug/L	<20.0	175.0
Aluminum, Diss	ug/L	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0
Mercury, Tot	ug/L		

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	30.5	86.9	9.2	123.0	265.1	8.9	3.2
5.0	30.5	86.9	9.2	122.5	265.2	8.9	3.2
10.0	30.5	86.9	9.2	122.4	265.2	8.9	3.8
15.0	30.1	86.3	8.9	117.6	264.5	8.8	4.9
20.0	27.8	82.0	5.6	71.2	294.6	7.5	4.5
25.0	26.2	79.1	4.2	51.8	286.6	7.2	2.9
30.0	24.8	76.6	2.1	25.1	294.5	7.0	2.3
35.0	20.1	68.2	0.1	0.6	273.9	6.8	1.6
40.0	16.3	61.3	0.0	0.4	205.4	6.6	1.3
45.0	13.9	57.1	0.1	0.5	187.5	6.5	0.9
50.0	12.8	55.0	0.0	0.4	184.4	6.4	0.8
55.0	11.8	53.2	0.1	0.4	183.1	6.4	0.7
60.0	11.4	52.5	0.0	0.4	184.7	6.4	0.6
65.0	11.2	52.2	0.0	0.3	187.7	6.4	0.6
70.0	11.2	52.1	0.0	0.3	188.4	6.5	0.7
74.0	11.2	52.2	0.0	0.4	196.1	6.5	1.1

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20007 | Project: Wolf Creek | Location: Big South Fork Cumberland River, Mile 2.3

State: Kentucky | Latitude: 36° 57" 20.5' | Quad: Burnside, KY
County: Wayne | Longitude: 84° 36" 21.6' | HUC: 05130104

Sample Date: 31 Jul 2012 | Water Surface Elevation = 683.7 ft | Secchi Disk = 2.4 m

Results of Laboratory Analyses

Sample Depth ft		0.0	70.0
Alkalinity, Tot	mg/L	70	56
Alkalinity, Phenol	mg/L	3	0
Solids, Tot	mg/L	155	121
Solids, Tot Diss	mg/L	155	121
Solids, Tot Susp	mg/L	<4.00	<4.00
Solids, Vol	mg/L	73.0	57.0
Solids, Vol Diss	mg/L	73.0	57.0
Solids, Vol Susp	mg/L	<4.00	<4.00
Ammonia N, Tot	mg/L	<0.200	<0.200
Kjeldahl N, Tot	mg/L	0.0800	<0.0700
NO3+NO2, Tot	mg/L	<0.0200	0.376
Phosphorus, Tot	mg/L	0.0346	0.0234
Phosphorus, Diss	mg/L	0.0366	<0.0200
OrthoPhosphate, D	mg/L	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.70	2.20
Hardness, Tot	mg/L	92.9	74.5
Sulfate, Tot	mg/L	46.9	31.1
Calcium, Tot	mg/L	23.0	18.6
Magnesium, Tot	mg/L	8.60	6.82
Sodium, Tot	mg/L	11.6	5.32
Potassium, Tot	mg/L	1.78	1.43
Chloride, Tot	mg/L	4.61	3.31
Arsenic, Tot	ug/L	<1.0	<1.0
Barium, Tot	ug/L	25.8	22.8
Beryllium, Tot	ug/L	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	<1.0
Copper, Tot	ug/L	1.2	1.0
Iron, Tot	ug/L	<20.0	164.0
Iron, Diss	ug/L	<20.0	23.3
Lead, Tot	ug/L	<1.0	<1.0
Lead, Diss	ug/L	<1.0	<1.0
Manganese, Tot	ug/L	11.9	805.0
Manganese, Diss	ug/L	16.9	766.0
Thallium, Tot	ug/L	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0
Nickel, Tot	ug/L	1.5	2.0
Silver, Tot	ug/L	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0
Zinc, Tot	ug/L	<1.0	1.3
Zinc, Diss	ug/L	<1.0	<1.0
Antimony, Tot	ug/L	<1.0	<1.0
Aluminum, Tot	ug/L	<20.0	50.8
Aluminum, Diss	ug/L	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0
Mercury, Tot	ug/L		

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	30.5	86.8	8.2	108.9	253.7	8.7	2.4
5.0	30.5	86.9	8.2	108.9	253.6	8.6	2.7
10.0	30.5	86.9	8.1	108.7	253.5	8.6	3.3
15.0	30.0	86.1	7.7	101.7	242.0	8.5	3.8
20.0	27.6	81.6	5.4	68.2	167.1	7.2	3.3
25.0	26.0	78.7	4.5	55.9	154.0	7.0	2.3
30.0	24.3	75.7	2.1	24.6	209.7	6.8	1.6
35.0	19.7	67.4	0.1	0.6	230.6	6.7	1.2
40.0	15.6	60.1	0.1	0.5	200.9	6.5	0.8
45.0	14.2	57.6	0.1	1.0	195.0	6.5	0.7
50.0	12.6	54.6	0.0	0.3	184.3	6.3	0.6
55.0	11.9	53.4	0.0	0.4	182.6	6.3	0.6
60.0	11.4	52.5	0.0	0.4	179.5	6.3	0.5
65.0	11.1	51.9	0.0	0.3	178.9	6.3	0.5
70.0	10.9	51.7	0.0	0.3	181.6	6.3	0.5
75.0	10.9	51.6	0.0	0.4	183.4	6.3	0.5

United States Army Corps of Engineers | Nashville District | CELRN-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: 31 Jul 2012 | Water Surface Elevation = 683.7 ft | Secchi Disk = 2.1 m

Results of Laboratory Analyses

Sample Depth ft		0.0	50.0
Alkalinity, Tot	mg/L	76	86
Alkalinity, Phenol	mg/L	8	0
Solids, Tot	mg/L	140	162
Solids, Tot Diss	mg/L	140	125.6
Solids, Tot Susp	mg/L	<4.00	36.4
Solids, Vol	mg/L	119	152
Solids, Vol Diss	mg/L	119	131
Solids, Vol Susp	mg/L	<4.00	21.0
Ammonia N, Tot	mg/L	<0.200	0.470
Kjeldahl N, Tot	mg/L	0.150	0.650
NO3+NO2, Tot	mg/L	<0.0200	0.339
Phosphorus, Tot	mg/L	<0.0200	0.184
Phosphorus, Diss	mg/L	<0.0200	0.107
OrthoPhosphate, D	mg/L	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.60	2.70
Hardness, Tot	mg/L	95.8	96.2
Sulfate, Tot	mg/L	48.1	29.0
Calcium, Tot	mg/L	23.9	26.1
Magnesium, Tot	mg/L	8.76	7.49
Sodium, Tot	mg/L	11.9	6.39
Potassium, Tot	mg/L	1.82	1.67
Chloride, Tot	mg/L	4.83	4.38
Arsenic, Tot	ug/L	<1.0	7.3
Barium, Tot	ug/L	25.8	33.1
Beryllium, Tot	ug/L	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	1.0
Copper, Tot	ug/L	1.7	1.2
Iron, Tot	ug/L	<20.0	1300.0
Iron, Diss	ug/L	<20.0	551.0
Lead, Tot	ug/L	<1.0	1.5
Lead, Diss	ug/L	<1.0	<1.0
Manganese, Tot	ug/L	16.1	1070.0
Manganese, Diss	ug/L	22.4	980.0
Thallium, Tot	ug/L	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0
Nickel, Tot	ug/L	1.6	2.3
Silver, Tot	ug/L	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0
Zinc, Tot	ug/L	<1.0	2.6
Zinc, Diss	ug/L	<1.0	1.1
Antimony, Tot	ug/L	<1.0	<1.0
Aluminum, Tot	ug/L	27.5	317.0
Aluminum, Diss	ug/L	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0
Mercury, Tot	ug/L		

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	30.4	86.7	10.0	133.2	257.5	9.0	3.4
5.0	30.4	86.7	10.0	133.1	257.6	9.0	4.5
10.0	30.4	86.7	9.8	130.2	257.8	9.0	6.4
15.0	30.0	86.0	7.5	99.5	265.3	8.7	4.3
20.0	28.7	83.7	5.0	65.1	319.9	7.9	2.5
25.0	26.4	79.5	2.7	33.3	352.5	7.4	1.7
30.0	23.3	74.0	0.7	8.7	296.4	7.1	1.1
35.0	20.1	68.2	0.0	0.4	249.1	6.9	0.7
40.0	16.6	62.0	0.0	0.3	271.2	6.9	1.6
45.0	14.8	58.7	0.0	0.4	247.8	6.9	1.8
50.0	13.7	56.7	0.1	0.5	231.3	6.8	2.3
53.0	12.9	55.3	0.0	0.4	213.4	6.7	1.7

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20052 | Project: Wolf Creek | Location: Beaver Creek, Mile 5.3

State: Kentucky | Latitude: 36° 52" .4' | Quad: Cumberland City, KY
County: Wayne | Longitude: 85° 1" 27.3' | HUC: 05130103

Sample Date: 30 Jul 2012 | Water Surface Elevation = 683.8 ft | Secchi Disk = 1.7 m

Results of Laboratory Analyses

Sample Depth ft		0.0	90.0
Alkalinity, Tot	mg/L	60	64
Alkalinity, Phenol	mg/L	5	0
Solids, Tot	mg/L	113	112
Solids, Tot Diss	mg/L	113	112
Solids, Tot Susp	mg/L	<4.00	<4.00
Solids, Vol	mg/L	116	132
Solids, Vol Diss	mg/L	116	132
Solids, Vol Susp	mg/L	<4.00	<4.00
Ammonia N, Tot	mg/L	<0.200	<0.200
Kjeldahl N, Tot	mg/L	<0.0700	0.250
NO3+NO2, Tot	mg/L	<0.0200	0.474
Phosphorus, Tot	mg/L	<0.0200	0.0276
Phosphorus, Diss	mg/L	<0.0200	0.0201
OrthoPhosphate, D	mg/L	<0.0500	<0.0500
Organic Carbon, T	mg/L	2.10	2.00
Hardness, Tot	mg/L	75.2	82.8
Sulfate, Tot	mg/L	31.8	28.0
Calcium, Tot	mg/L	19.6	23.0
Magnesium, Tot	mg/L	6.40	6.15
Sodium, Tot	mg/L	5.52	4.77
Potassium, Tot	mg/L	1.36	1.33
Chloride, Tot	mg/L	3.73	3.75
Arsenic, Tot	ug/L	<1.0	<1.0
Barium, Tot	ug/L	18.7	17.3
Beryllium, Tot	ug/L	<1.0	<1.0
Cadmium, Tot	ug/L	<1.0	<1.0
Chromium, Tot	ug/L	<1.0	<1.0
Cobalt, Tot	ug/L	<1.0	<1.0
Copper, Tot	ug/L	1.3	1.1
Iron, Tot	ug/L	31.2	<20.0
Iron, Diss	ug/L	<20.0	<20.0
Lead, Tot	ug/L	<1.0	<1.0
Lead, Diss	ug/L	<1.0	<1.0
Manganese, Tot	ug/L	8.3	101.0
Manganese, Diss	ug/L	<1.0	<1.0
Thallium, Tot	ug/L	<1.0	<1.0
Molybdenum, Tot	ug/L	<1.0	<1.0
Nickel, Tot	ug/L	1.4	1.8
Silver, Tot	ug/L	<1.0	<1.0
Vanadium, Tot	ug/L	<1.0	<1.0
Zinc, Tot	ug/L	1.2	2.1
Zinc, Diss	ug/L	<1.0	<1.0
Antimony, Tot	ug/L	<1.0	<1.0
Aluminum, Tot	ug/L	58.2	<20.0
Aluminum, Diss	ug/L	<20.0	<20.0
Selenium, Tot	ug/L	<20.0	<20.0
Mercury, Tot	ug/L		

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	31.2	88.2	8.0	107.4	189.0	8.5	0.4
5.0	30.6	87.1	8.0	107.5	188.2	8.5	0.8
10.0	30.0	85.9	8.2	107.8	188.7	8.5	1.7
15.0	29.8	85.6	8.1	106.9	188.2	8.5	2.7
20.0	29.2	84.5	7.8	101.9	193.3	8.4	3.5
25.0	25.3	77.6	6.4	77.4	218.9	7.4	4.3
30.0	23.1	73.5	5.5	64.4	221.2	7.1	3.4
35.0	21.4	70.5	5.0	56.3	205.7	7.0	1.8
40.0	19.5	67.1	3.7	39.8	197.7	6.8	0.8
45.0	17.1	62.9	1.5	15.4	188.1	6.7	0.5
50.0	15.8	60.4	1.0	10.0	187.6	6.6	0.5
55.0	14.4	58.0	1.2	11.5	193.9	6.6	0.5
60.0	12.9	55.2	1.3	12.6	198.4	6.6	0.4
65.0	11.8	53.2	1.4	12.5	202.6	6.6	0.4
70.0	11.3	52.4	1.8	16.5	199.4	6.6	0.4
75.0	11.0	51.9	1.6	14.4	199.4	6.5	0.3
80.0	10.6	51.1	2.6	23.3	191.8	6.5	0.3
85.0	10.5	50.8	2.8	25.3	188.7	6.5	0.3
90.0	10.4	50.7	2.3	20.8	189.8	6.5	0.3
95.0	10.4	50.7	2.1	18.5	189.9	6.5	0.3
100.0	10.3	50.6	2.0	17.7	189.2	6.5	0.4

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20053 | Project: Wolf Creek | Location: Wolf Creek, Mile 1.7

State: Kentucky | Latitude: 36° 57" 3' | Quad: Jabez, KY
County: Russell | Longitude: 84° 59" 23.5' | HUC: 05130103

Sample Date: 30 Jul 2012 | Water Surface Elevation = 683.8 ft | Secchi Disk = 2.4 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	31.5	88.6	8.1	109.8	192.4	8.4	0.6
5.0	30.6	87.1	8.4	111.8	191.9	8.5	1.0
10.0	30.1	86.2	8.3	110.2	191.8	8.5	1.9
15.0	29.8	85.7	8.2	108.0	193.8	8.4	3.2
20.0	29.3	84.7	7.8	101.7	205.0	8.3	3.9
25.0	25.8	78.4	3.4	41.8	276.0	7.2	3.7
30.0	23.5	74.3	2.6	30.1	255.6	7.0	2.6
35.0	20.9	69.6	2.5	27.4	226.3	6.9	1.3
40.0	18.9	66.0	1.8	19.4	208.0	6.7	0.8
45.0	17.2	62.9	1.2	12.4	198.6	6.6	0.6
50.0	15.3	59.5	1.4	13.8	188.2	6.6	0.5
55.0	14.2	57.5	1.6	15.7	182.0	6.5	0.5
60.0	12.6	54.6	1.3	12.0	172.1	6.5	0.5
65.0	11.4	52.5	1.8	16.0	170.1	6.5	0.4
70.0	11.0	51.7	2.4	22.0	170.1	6.5	0.4
75.0	10.7	51.3	2.5	22.9	172.1	6.4	0.4
80.0	10.5	51.0	2.1	18.8	169.5	6.4	0.3
85.0	10.4	50.6	1.1	10.2	170.2	6.4	0.3
90.0	10.3	50.5	1.0	8.9	169.8	6.4	0.3
94.0	10.2	50.3	0.5	4.7	170.5	6.4	0.3

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20055 | Project: Wolf Creek | Location: Fishing Creek, Mile 2.3

State: Kentucky | Latitude: 37° 0" 21.5' | Quad: Delmer, KY
County: Pulaski | Longitude: 84° 42" 21.5' | HUC: 05130103

Sample Date: 31 Jul 2012 | Water Surface Elevation = 683.7 ft | Secchi Disk = 2.3 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	30.8	87.4	8.2	109.3	246.2	8.6	1.0
5.0	30.4	86.8	8.3	110.0	246.7	8.6	1.2
10.0	30.3	86.5	8.2	108.8	245.4	8.6	2.0
15.0	29.9	85.7	8.0	106.1	248.2	8.6	3.3
20.0	28.5	83.3	2.9	37.9	240.5	7.4	4.4
25.0	26.7	80.0	0.6	7.6	246.7	7.1	3.4
30.0	24.1	75.3	0.1	1.5	248.7	7.0	2.1
35.0	19.7	67.5	0.0	0.4	215.9	6.9	2.2
40.0	16.6	61.9	0.0	0.4	213.5	6.8	0.9
45.0	15.6	60.0	0.0	0.4	210.2	6.7	0.8
50.0	14.3	57.7	0.0	0.4	204.9	6.7	0.7
55.0	12.6	54.7	0.0	0.3	195.3	6.7	0.7
60.0	11.8	53.2	0.0	0.3	187.3	6.6	0.5
65.0	11.5	52.7	0.0	0.3	185.3	6.6	0.5
70.0	11.1	52.0	0.0	0.3	183.0	6.5	0.5
75.0	11.0	51.9	0.0	0.3	182.2	6.5	0.5
80.0	11.0	51.8	0.0	0.3	181.5	6.5	0.5
82.0	11.0	51.8	0.0	0.3	181.5	6.5	0.5

United States Army Corps of Engineers | Nashville District | CELRN-EC-H / Water Management Section

Station: 3WOL20056 | Project: Wolf Creek | Location: Indian Creek, Mile 1.5

State: Kentucky | Latitude: 36° 50" 34.1' | Quad: Wolf Creek Dam, KY
County: Russell | Longitude: 85° 7" 44.8' | HUC: 05130103

Sample Date: 30 Jul 2012 | Water Surface Elevation = 683.8 ft | Secchi Disk = 2.4 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	29.9	85.9	8.2	108.1	190.6	8.5	0.4
5.0	29.6	85.3	8.2	108.3	190.1	8.5	0.6
10.0	29.2	84.6	8.4	109.1	190.3	8.5	1.3
15.0	29.1	84.4	8.3	108.4	190.0	8.5	2.2
20.0	29.0	84.1	8.2	107.1	190.2	8.4	2.7
25.0	27.3	81.1	8.2	103.8	192.9	8.1	4.2
30.0	24.5	76.2	7.4	89.1	197.3	7.5	4.2
35.0	20.5	68.9	4.7	52.1	183.5	7.0	0.9
40.0	18.4	65.1	3.4	36.0	179.5	6.8	0.5
45.0	17.2	62.9	2.8	29.4	181.4	6.7	0.4
50.0	15.3	59.6	2.4	24.3	177.6	6.6	0.4
55.0	14.1	57.3	3.1	29.7	175.5	6.5	0.4
60.0	12.8	55.0	4.0	37.9	171.9	6.6	0.3
65.0	12.1	53.8	4.4	40.6	169.7	6.6	0.4
70.0	11.5	52.8	4.7	43.4	169.3	6.6	0.4
75.0	10.9	51.6	4.9	44.6	170.5	6.6	0.3
80.0	10.5	50.9	4.7	41.7	171.8	6.6	0.3
85.0	10.4	50.6	4.1	36.8	172.1	6.6	0.2
90.0	10.3	50.5	4.1	36.1	172.5	6.6	0.2
95.0	10.2	50.3	3.8	34.1	172.8	6.6	0.2
100.0	10.1	50.3	3.7	33.0	173.3	6.6	0.2
105.0	10.1	50.2	3.6	32.0	173.1	6.6	0.2
110.0	10.1	50.1	3.5	31.0	173.1	6.6	0.2
115.0	10.1	50.1	3.5	30.6	173.1	6.6	0.2
120.0	10.1	50.1	3.5	30.6	173.6	6.6	0.2