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

Station: 3DAL10001 | Project: Dale Hollow | Location: Obey River, Mile 7.0

State: Tennessee | Latitude: 36º 32" 13.4' | Quad: Dale Hollow Dam, TN-KY
County: Clay | Longitude: 85º 27" 24.9' | HUC: 05130105

Sample Date: 17 Jun 2013 | Water Surface Elevation = 508.5 ft | Stream Flow = 1520 cfs

Results of Laboratory Analyses

Sample Depth ft		0.0
Alkalinity, Tot	mg/L	82
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	172
Solids, Tot Diss	mg/L	320
Solids, Tot Susp	mg/L	<0.250
Solids, Vol	mg/L	64.0
Solids, Vol Diss	mg/L	64.0
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	
Kjeldahl N, Tot	mg/L	0.550
NO3+NO2, Tot	mg/L	0.319
Phosphorus, Tot	mg/L	
Phosphorus, Diss	mg/L	
OrthoPhosphate, D	mg/L	<0.05
Organic Carbon, T	mg/L	<1.00
Hardness, Tot	mg/L	95.4
Sulfate, Tot	mg/L	19.2
Calcium, Tot	mg/L	29.4
Magnesium, Tot	mg/L	5.33
Sodium, Tot	mg/L	2.88
Potassium, Tot	mg/L	1.13
Chloride, Tot	mg/L	4.66
Arsenic, Tot	ug/L	0.3
Barium, Tot	ug/L	21.2
Beryllium, Tot	ug/L	<0.002
Cadmium, Tot	ug/L	0.009
Chromium, Tot	ug/L	0.4
Cobalt, Tot	ug/L	0.07
Copper, Tot	ug/L	0.6
Iron, Tot	ug/L	7.0
Iron, Diss	ug/L	<2.0
Lead, Tot	ug/L	0.3
Lead, Diss	ug/L	0.2
Manganese, Tot	ug/L	27.7
Manganese, Diss	ug/L	5.4
Thallium, Tot	ug/L	<0.002
Molybdenum, Tot	ug/L	0.3
Nickel, Tot	ug/L	0.4
Silver, Tot	ug/L	<0.002
Vanadium, Tot	ug/L	0.2
Zinc, Tot	ug/L	1.7
Zinc, Diss	ug/L	4.6
Antimony, Tot	ug/L	0.1
Aluminum, Tot	ug/L	6.2
Aluminum, Diss	ug/L	<2.0
Selenium, Tot	ug/L	0.2
Mercury, Tot	ug/L	0.015

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	9.6	49.3	8.7	76.6	196.0	7.5	

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

Station: 3DAL10011 | Project: Dale Hollow | Location: Wolf River, Mile 22.7

State: Tennessee | Latitude: 36º 35" 1' | Quad: Moodyville, TN-KY
County: Pickett | Longitude: 85º 7" 5' | HUC: 05130105

Sample Date: 19 Jun 2013 | Water Surface Elevation = | Stream Flow =

Results of Laboratory Analyses			Profile Measurements							
			Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample Depth ft		0.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	124	0.0	22.1	71.8	8.6	98.7	320.0	8.1	
Alkalinity, Phenol	mg/L	0								
Solids, Tot	mg/L	244								
Solids, Tot Diss	mg/L	240								
Solids, Tot Susp	mg/L	1.00								
Solids, Vol	mg/L	208								
Solids, Vol Diss	mg/L	208								
Solids, Vol Susp	mg/L	<4.00								
Ammonia N, Tot	mg/L	0.0296								
Kjeldahl N, Tot	mg/L	0.440								
NO3+NO2, Tot	mg/L	0.773								
Phosphorus, Tot	mg/L									
Phosphorus, Diss	mg/L	0.025								
OrthoPhosphate, D	mg/L	<0.05								
Organic Carbon, T	mg/L	<1.00								
Hardness, Tot	mg/L	155.7								
Sulfate, Tot	mg/L	33.6								
Calcium, Tot	mg/L	47.4								
Magnesium, Tot	mg/L	9.06								
Sodium, Tot	mg/L	4.94								
Potassium, Tot	mg/L	1.79								
Chloride, Tot	mg/L	7.73								
Arsenic, Tot	ug/L	0.5								
Barium, Tot	ug/L	47.4								
Beryllium, Tot	ug/L	<0.002								
Cadmium, Tot	ug/L	0.01								
Chromium, Tot	ug/L	0.9								
Cobalt, Tot	ug/L	0.2								
Copper, Tot	ug/L	0.5								
Iron, Tot	ug/L	91.2								
Iron, Diss	ug/L									
Lead, Tot	ug/L	0.3								
Lead, Diss	ug/L									
Manganese, Tot	ug/L	14.2								
Manganese, Diss	ug/L									
Thallium, Tot	ug/L	<0.002								
Molybdenum, Tot	ug/L	0.3								
Nickel, Tot	ug/L	0.5								
Silver, Tot	ug/L	<0.002								
Vanadium, Tot	ug/L	0.6								
Zinc, Tot	ug/L	1.4								
Zinc, Diss	ug/L									
Antimony, Tot	ug/L	<0.002								
Aluminum, Tot	ug/L	96.7								
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: 3DAL10012 | Project: Dale Hollow | Location: Spring Creek, Mile 2.7

State: Kentucky | Latitude: 36º 38" 6' | Quad: Albany, KY-TN
County: Clinton | Longitude: 85º 8" 43' | HUC: 05130105

Sample Date: 19 Jun 2013 | Water Surface Elevation = | Stream Flow =

Results of Laboratory Analyses			Profile Measurements							
			Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample Depth ft		0.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	150	0.0	22.2	72.0	11.7	134.5	492.0	8.6	
Alkalinity, Phenol	mg/L	6								
Solids, Tot	mg/L	364								
Solids, Tot Diss	mg/L	345								
Solids, Tot Susp	mg/L	43.0								
Solids, Vol	mg/L	85.0								
Solids, Vol Diss	mg/L	80.0								
Solids, Vol Susp	mg/L	5.00								
Ammonia N, Tot	mg/L	0.0282								
Kjeldahl N, Tot	mg/L	<0.320								
NO3+NO2, Tot	mg/L	2.06								
Phosphorus, Tot	mg/L									
Phosphorus, Diss	mg/L	0.056								
OrthoPhosphate, D	mg/L	<0.05								
Organic Carbon, T	mg/L	2.50								
Hardness, Tot	mg/L	205.9								
Sulfate, Tot	mg/L	47.3								
Calcium, Tot	mg/L	63.5								
Magnesium, Tot	mg/L	11.5								
Sodium, Tot	mg/L	21.7								
Potassium, Tot	mg/L	1.73								
Chloride, Tot	mg/L	35.5								
Arsenic, Tot	ug/L	0.7								
Barium, Tot	ug/L	31.6								
Beryllium, Tot	ug/L	<0.002								
Cadmium, Tot	ug/L	0.02								
Chromium, Tot	ug/L	2.7								
Cobalt, Tot	ug/L	0.2								
Copper, Tot	ug/L	0.49								
Iron, Tot	ug/L	38.6								
Iron, Diss	ug/L									
Lead, Tot	ug/L	0.2								
Lead, Diss	ug/L									
Manganese, Tot	ug/L	7.2								
Manganese, Diss	ug/L									
Thallium, Tot	ug/L	<0.002								
Molybdenum, Tot	ug/L	0.5								
Nickel, Tot	ug/L	0.4								
Silver, Tot	ug/L	<0.002								
Vanadium, Tot	ug/L	1.1								
Zinc, Tot	ug/L	1.3								
Zinc, Diss	ug/L									
Antimony, Tot	ug/L	<0.002								
Aluminum, Tot	ug/L	44.0								
Aluminum, Diss	ug/L									
Selenium, Tot	ug/L	1.5								
Mercury, Tot	ug/L									

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

Station: 3DAL10014 | Project: Dale Hollow | Location: East Fork Obey River, Mile 12.6

State: Tennessee | Latitude: 36º 25" 0' | Quad: Riverton, TN
County: Fentress | Longitude: 85º 1" 38' | HUC: 05130105

Sample Date: 19 Jun 2013 | Water Surface Elevation = | Stream Flow =

Results of Laboratory Analyses			Profile Measurements							
			Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample Depth ft		0.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	46	0.0	17.8	64.0	9.3	98.2	168.0	7.7	
Alkalinity, Phenol	mg/L	0								
Solids, Tot	mg/L	126								
Solids, Tot Diss	mg/L	<0.500								
Solids, Tot Susp	mg/L	<0.250								
Solids, Vol	mg/L	126								
Solids, Vol Diss	mg/L	126								
Solids, Vol Susp	mg/L	<4.00								
Ammonia N, Tot	mg/L	0.0258								
Kjeldahl N, Tot	mg/L	<0.320								
NO3+NO2, Tot	mg/L	0.203								
Phosphorus, Tot	mg/L									
Phosphorus, Diss	mg/L	0.013								
OrthoPhosphate, D	mg/L	<0.05								
Organic Carbon, T	mg/L	<1.00								
Hardness, Tot	mg/L	73.6								
Sulfate, Tot	mg/L	36.7								
Calcium, Tot	mg/L	22.0								
Magnesium, Tot	mg/L	4.54								
Sodium, Tot	mg/L	2.57								
Potassium, Tot	mg/L	1.19								
Chloride, Tot	mg/L	3.23								
Arsenic, Tot	ug/L	0.1								
Barium, Tot	ug/L	24.8								
Beryllium, Tot	ug/L	0.009								
Cadmium, Tot	ug/L	0.01								
Chromium, Tot	ug/L	0.3								
Cobalt, Tot	ug/L	0.56								
Copper, Tot	ug/L	0.4								
Iron, Tot	ug/L	61.2								
Iron, Diss	ug/L									
Lead, Tot	ug/L	0.2								
Lead, Diss	ug/L									
Manganese, Tot	ug/L	58.9								
Manganese, Diss	ug/L									
Thallium, Tot	ug/L	<0.002								
Molybdenum, Tot	ug/L	0.05								
Nickel, Tot	ug/L	3.3								
Silver, Tot	ug/L	<0.002								
Vanadium, Tot	ug/L	0.1								
Zinc, Tot	ug/L	2.7								
Zinc, Diss	ug/L									
Antimony, Tot	ug/L	<0.002								
Aluminum, Tot	ug/L	113.0								
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: 3DAL10015 | Project: Dale Hollow | Location: West Fork Obey River, Mile 7.5

State: Tennessee | Latitude: 36º 24" 7' | Quad: Alpine, TN
County: Overton | Longitude: 85º 10" 40' | HUC: 05130105

Sample Date: 19 Jun 2013 | Water Surface Elevation = | Stream Flow =

Results of Laboratory Analyses			Profile Measurements							
			Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample Depth ft		0.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	172	0.0	18.5	65.3	9.2	98.5	558.0	8.2	
Alkalinity, Phenol	mg/L	2								
Solids, Tot	mg/L	434								
Solids, Tot Diss	mg/L	<0.500								
Solids, Tot Susp	mg/L	1.00								
Solids, Vol	mg/L	63.0								
Solids, Vol Diss	mg/L	63.0								
Solids, Vol Susp	mg/L	<4.00								
Ammonia N, Tot	mg/L	0.0350								
Kjeldahl N, Tot	mg/L	0.700								
NO3+NO2, Tot	mg/L	1.37								
Phosphorus, Tot	mg/L									
Phosphorus, Diss	mg/L	0.030								
OrthoPhosphate, D	mg/L	<0.05								
Organic Carbon, T	mg/L	<1.00								
Hardness, Tot	mg/L	264.0								
Sulfate, Tot	mg/L	86.7								
Calcium, Tot	mg/L	78.5								
Magnesium, Tot	mg/L	16.5								
Sodium, Tot	mg/L	13.8								
Potassium, Tot	mg/L	1.89								
Chloride, Tot	mg/L	13.6								
Arsenic, Tot	ug/L	0.4								
Barium, Tot	ug/L	32.0								
Beryllium, Tot	ug/L	<0.002								
Cadmium, Tot	ug/L	0.05								
Chromium, Tot	ug/L	1.4								
Cobalt, Tot	ug/L	0.3								
Copper, Tot	ug/L	1.1								
Iron, Tot	ug/L	81.7								
Iron, Diss	ug/L									
Lead, Tot	ug/L	0.8								
Lead, Diss	ug/L									
Manganese, Tot	ug/L	8.0								
Manganese, Diss	ug/L									
Thallium, Tot	ug/L	<0.002								
Molybdenum, Tot	ug/L	0.6								
Nickel, Tot	ug/L	0.7								
Silver, Tot	ug/L	<0.002								
Vanadium, Tot	ug/L	0.6								
Zinc, Tot	ug/L	5.2								
Zinc, Diss	ug/L									
Antimony, Tot	ug/L	<0.002								
Aluminum, Tot	ug/L	109.0								
Aluminum, Diss	ug/L									
Selenium, Tot	ug/L	0.66								
Mercury, Tot	ug/L									

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

Station: 3DAL10028 | Project: Dale Hollow | Location: Big Eagle Creek, Mile 5.3

State: Tennessee | Latitude: 36º 28" 43.9' | Quad: Alpine, TN
County: Overton | Longitude: 85º 14" 29.7' | HUC: 05130105

Sample Date: 19 Jun 2013 | Water Surface Elevation = | Stream Flow =

Results of Laboratory Analyses			Profile Measurements							
			Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample Depth ft		0.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	148	0.0	19.8	67.6	9.6	105.4	364.0	8.3	
Alkalinity, Phenol	mg/L	0								
Solids, Tot	mg/L	262								
Solids, Tot Diss	mg/L	246								
Solids, Tot Susp	mg/L	<0.250								
Solids, Vol	mg/L	147								
Solids, Vol Diss	mg/L	147								
Solids, Vol Susp	mg/L	<4.00								
Ammonia N, Tot	mg/L	0.0200								
Kjeldahl N, Tot	mg/L	<0.320								
NO3+NO2, Tot	mg/L	1.20								
Phosphorus, Tot	mg/L									
Phosphorus, Diss	mg/L	0.040								
OrthoPhosphate, D	mg/L	<0.05								
Organic Carbon, T	mg/L	<1.00								
Hardness, Tot	mg/L	170.9								
Sulfate, Tot	mg/L	25.6								
Calcium, Tot	mg/L	55.0								
Magnesium, Tot	mg/L	8.16								
Sodium, Tot	mg/L	6.72								
Potassium, Tot	mg/L	1.34								
Chloride, Tot	mg/L	12.5								
Arsenic, Tot	ug/L	0.4								
Barium, Tot	ug/L	26.9								
Beryllium, Tot	ug/L	<0.002								
Cadmium, Tot	ug/L	0.01								
Chromium, Tot	ug/L	1.3								
Cobalt, Tot	ug/L	0.2								
Copper, Tot	ug/L	0.4								
Iron, Tot	ug/L	37.3								
Iron, Diss	ug/L									
Lead, Tot	ug/L	0.2								
Lead, Diss	ug/L									
Manganese, Tot	ug/L	6.9								
Manganese, Diss	ug/L									
Thallium, Tot	ug/L	<0.002								
Molybdenum, Tot	ug/L	0.3								
Nickel, Tot	ug/L	0.2								
Silver, Tot	ug/L	<0.002								
Vanadium, Tot	ug/L	0.6								
Zinc, Tot	ug/L	0.7								
Zinc, Diss	ug/L									
Antimony, Tot	ug/L	0.05								
Aluminum, Tot	ug/L	33.3								
Aluminum, Diss	ug/L									
Selenium, Tot	ug/L	0.6								
Mercury, Tot	ug/L									

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

Station: 3DAL20002 | Project: Dale Hollow | Location: Obey River, Mile 7.7

State: Tennessee | Latitude: 36° 32" 24.1' | Quad: Dale Hollow Dam, TN-KY
County: Clay | Longitude: 85° 26" 46' | HUC: 05130105

Sample Date: 17 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 3.8 m

Results of Laboratory Analyses

Sample Depth ft		0.0	70.0	140.0
Alkalinity, Tot	mg/L	84	82	84
Alkalinity, Phenol	mg/L	0	0	0
Solids, Tot	mg/L	162	176	174
Solids, Tot Diss	mg/L	355	366	397
Solids, Tot Susp	mg/L	<0.250	<0.250	<0.250
Solids, Vol	mg/L	77.0	125	75.0
Solids, Vol Diss	mg/L	77.0	125	75.0
Solids, Vol Susp	mg/L	<4.00	<4.00	<4.00
Ammonia N, Tot	mg/L	0.0646	0.0185	0.0268
Kjeldahl N, Tot	mg/L	0.310	0.320	0.340
NO3+NO2, Tot	mg/L	<0.0200	0.367	0.287
Phosphorus, Tot	mg/L			
Phosphorus, Diss	mg/L			
OrthoPhosphate, D	mg/L	<0.05	<0.05	<0.05
Organic Carbon, T	mg/L	2.30	<1.00	<1.00
Hardness, Tot	mg/L	93.9	95.5	96.4
Sulfate, Tot	mg/L	18.2	19.2	19.5
Calcium, Tot	mg/L	28.9	29.5	29.6
Magnesium, Tot	mg/L	5.29	5.31	5.47
Sodium, Tot	mg/L	2.72	2.87	2.96
Potassium, Tot	mg/L	1.12	1.13	1.16
Chloride, Tot	mg/L	4.30	4.65	4.76
Arsenic, Tot	ug/L	0.4	0.3	0.6
Barium, Tot	ug/L	18.3	19.8	23.2
Beryllium, Tot	ug/L	<0.002	<0.002	<0.002
Cadmium, Tot	ug/L	0.008	0.004	0.007
Chromium, Tot	ug/L	0.4	0.5	0.6
Cobalt, Tot	ug/L	0.08	0.07	0.09
Copper, Tot	ug/L	0.8	0.4	9.1
Iron, Tot	ug/L	6.1	4.3	8.3
Iron, Diss	ug/L	<2.0	<2.0	<2.0
Lead, Tot	ug/L	0.3	0.2	0.3
Lead, Diss	ug/L	0.2	0.2	0.2
Manganese, Tot	ug/L	4.3	7.6	195.0
Manganese, Diss	ug/L	1.0	2.4	0.8
Thallium, Tot	ug/L	0.006	<0.002	<0.002
Molybdenum, Tot	ug/L	0.5	0.3	0.19
Nickel, Tot	ug/L	0.5	0.4	0.6
Silver, Tot	ug/L	<0.002	<0.002	<0.002
Vanadium, Tot	ug/L	0.3	0.2	0.2
Zinc, Tot	ug/L	3.0	4.1	20.1
Zinc, Diss	ug/L	0.6	0.9	0.6
Antimony, Tot	ug/L	0.1	0.03	0.02
Aluminum, Tot	ug/L	9.3	4.6	<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	0.026	0.017	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	27.9	82.2	8.7	110.6	198.0	8.7	
5.0	27.6	81.7	8.8	111.3	197.0	8.6	
10.0	26.8	80.2	9.2	114.8	196.0	8.6	
15.0	25.4	77.7	10.8	131.5	196.0	8.7	
20.0	21.0	69.8		12.3	194.0	8.7	
25.0	17.5	63.5	11.3	118.6	196.0	8.4	
30.0	15.4	59.7	9.9	99.4	196.0	8.0	
35.0	14.6	58.3	9.2	90.8	196.0	7.9	
40.0	13.8	56.8	8.9	86.3	196.0	7.8	
45.0	13.0	55.4	8.3	79.1	195.0	7.7	
50.0	12.0	53.6	8.4	78.3	195.0	7.7	
55.0	11.0	51.8	8.3	75.6	194.0	7.6	
60.0	10.2	50.4	8.3	74.1	195.0	7.6	
65.0	9.9	49.8	8.1	71.8	194.0	7.6	
70.0	9.5	49.1	8.1	71.1	196.0	7.6	
75.0	9.3	48.7	8.1	70.8	194.0	7.6	
80.0	9.1	48.4	7.9	68.7	195.0	7.6	
85.0	9.0	48.2	7.7	66.8	195.0	7.5	
90.0	8.9	48.0	7.6	65.8	195.0	7.5	
95.0	8.8	47.8	7.5	64.7	195.0	7.5	
100.0	8.7	47.7	7.3	62.9	196.0	7.5	
105.0	8.6	47.5	7.1	61.0	196.0	7.5	
110.0	8.5	47.3	7.1	60.8	196.0	7.5	
115.0	8.5	47.3	6.9	59.1	197.0	7.5	
120.0	8.5	47.3	6.8	58.3	197.0	7.4	
125.0	8.4	47.1	6.7	57.3	197.0	7.4	
130.0	8.3	46.9	6.4	54.6	196.0	7.4	
135.0	8.3	46.9	6.4	54.6	197.0	7.4	
140.0	8.3	46.9	6.3	53.7	197.0	7.4	
145.0	8.3	46.9	6.0	51.2	197.0	7.4	

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

Station: 3DAL20004 | Project: Dale Hollow | Location: Obey River, Mile 27.7

State: Tennessee | Latitude: 36° 35" 59.8' | Quad: Dale Hollow Reservoir SE, TN-KY
County: Clay | Longitude: 85° 20" 10.2' | HUC: 05130105

Sample Date: 17 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 3.7 m

Results of Laboratory Analyses

Sample Depth ft		0.0	100.0
Alkalinity, Tot	mg/L	84	86
Alkalinity, Phenol	mg/L	0	0
Solids, Tot	mg/L	164	188
Solids, Tot Diss	mg/L	405	<0.500
Solids, Tot Susp	mg/L	<0.250	<0.250
Solids, Vol	mg/L	63.0	37.0
Solids, Vol Diss	mg/L	63.0	37.0
Solids, Vol Susp	mg/L	<4.00	<4.00
Ammonia N, Tot	mg/L	0.0137	0.00855
Kjeldahl N, Tot	mg/L	0.280	0.380
NO3+NO2, Tot	mg/L	0.0676	0.396
Phosphorus, Tot	mg/L		
Phosphorus, Diss	mg/L	0.014	0.014
OrthoPhosphate, D	mg/L	<0.05	<0.05
Organic Carbon, T	mg/L	2.10	<1.00
Hardness, Tot	mg/L	90.5	95.1
Sulfate, Tot	mg/L	17.6	19.0
Calcium, Tot	mg/L	28.0	29.5
Magnesium, Tot	mg/L	5.01	5.20
Sodium, Tot	mg/L	2.55	2.83
Potassium, Tot	mg/L	0.998	1.12
Chloride, Tot	mg/L	4.11	4.65
Arsenic, Tot	ug/L	0.4	0.3
Barium, Tot	ug/L	18.9	21.2
Beryllium, Tot	ug/L	<0.002	<0.002
Cadmium, Tot	ug/L	0.003	0.006
Chromium, Tot	ug/L	0.4	0.6
Cobalt, Tot	ug/L	0.07	0.09
Copper, Tot	ug/L	0.5	1.0
Iron, Tot	ug/L	7.6	30.1
Iron, Diss	ug/L		
Lead, Tot	ug/L	0.2	0.2
Lead, Diss	ug/L		
Manganese, Tot	ug/L	3.4	69.7
Manganese, Diss	ug/L		
Thallium, Tot	ug/L	<0.002	<0.002
Molybdenum, Tot	ug/L	0.3	0.2
Nickel, Tot	ug/L	0.3	0.5
Silver, Tot	ug/L	<0.002	<0.002
Vanadium, Tot	ug/L	0.2	0.2
Zinc, Tot	ug/L	0.1	0.5
Zinc, Diss	ug/L		
Antimony, Tot	ug/L	0.01	0.1
Aluminum, Tot	ug/L	7.0	12.9
Aluminum, Diss	ug/L		
Selenium, Tot	ug/L	0.2	0.3
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	27.7	81.9	8.8	111.5	192.0	8.6	
5.0	27.0	80.6	9.0	112.7	192.0	8.6	
10.0	26.9	80.4	9.0	112.5	192.0	8.6	
15.0	26.6	79.9	9.3	115.7	191.0	8.7	
20.0	22.2	72.0		9.9	189.0	8.4	
25.0	17.7	63.9	9.4	99.0	180.0	8.0	
30.0	15.6	60.1	7.4	74.6	176.0	7.7	
35.0	14.5	58.1	6.5	64.0	173.0	7.6	
40.0	13.7	56.7	5.7	55.2	172.0	7.5	
45.0	12.9	55.2	5.4	51.4	176.0	7.5	
50.0	12.1	53.8	5.5	51.4	179.0	7.4	
55.0	11.1	52.0	5.5	50.2	186.0	7.4	
60.0	10.2	50.4	5.4	48.2	192.0	7.4	
65.0	9.9	49.8	5.0	44.3	192.0	7.4	
70.0	9.6	49.3	5.0	44.0	194.0	7.4	
75.0	9.5	49.1	4.8	42.2	195.0	7.3	
80.0	9.4	48.9	4.7	41.2	196.0	7.3	
85.0	9.3	48.7	4.8	42.0	196.0	7.3	
90.0	9.3	48.7	4.9	42.8	195.0	7.3	
95.0	9.1	48.4	4.9	42.6	196.0	7.3	
100.0	9.0	48.2	4.9	42.5	196.0	7.3	
105.0	9.0	48.2	4.9	42.5	196.0	7.3	
108.0	9.0	48.2	4.8	41.6	197.0	7.3	

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

Station: 3DAL20006 | Project: Dale Hollow | Location: Obey River, Mile 41.6

State: Tennessee | Latitude: 36º 32" 32.5' | Quad: Byrdstown, TN-KY
County: Pickett | Longitude: 85º 12" 31' | HUC: 05130105

Sample Date: 18 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 3.6 m

Results of Laboratory Analyses

Sample Depth ft		0.0	70.0
Alkalinity, Tot	mg/L	80	76
Alkalinity, Phenol	mg/L	2	0
Solids, Tot	mg/L	168	172
Solids, Tot Diss	mg/L	<0.500	<0.500
Solids, Tot Susp	mg/L	<0.250	<0.250
Solids, Vol	mg/L	59.0	95.0
Solids, Vol Diss	mg/L	59.0	95.0
Solids, Vol Susp	mg/L	<4.00	<4.00
Ammonia N, Tot	mg/L	0.0121	0.0258
Kjeldahl N, Tot	mg/L	0.400	0.520
NO3+NO2, Tot	mg/L	0.0665	0.380
Phosphorus, Tot	mg/L		
Phosphorus, Diss	mg/L	0.013	0.014
OrthoPhosphate, D	mg/L	<0.05	<0.05
Organic Carbon, T	mg/L	2.10	<1.00
Hardness, Tot	mg/L	86.8	85.5
Sulfate, Tot	mg/L	16.7	16.5
Calcium, Tot	mg/L	26.8	26.7
Magnesium, Tot	mg/L	4.82	4.57
Sodium, Tot	mg/L	2.24	2.20
Potassium, Tot	mg/L	0.984	1.03
Chloride, Tot	mg/L	3.48	3.41
Arsenic, Tot	ug/L	0.3	0.2
Barium, Tot	ug/L	17.5	19.6
Beryllium, Tot	ug/L	<0.002	<0.002
Cadmium, Tot	ug/L	0.005	0.007
Chromium, Tot	ug/L	0.4	0.5
Cobalt, Tot	ug/L	0.07	0.1
Copper, Tot	ug/L	0.5	0.58
Iron, Tot	ug/L	12.3	33.0
Iron, Diss	ug/L		
Lead, Tot	ug/L	0.3	0.25
Lead, Diss	ug/L		
Manganese, Tot	ug/L	4.9	128.0
Manganese, Diss	ug/L		
Thallium, Tot	ug/L	<0.002	<0.002
Molybdenum, Tot	ug/L	0.2	0.1
Nickel, Tot	ug/L	0.4	0.6
Silver, Tot	ug/L	<0.002	<0.002
Vanadium, Tot	ug/L	0.2	0.2
Zinc, Tot	ug/L	0.36	2.3
Zinc, Diss	ug/L		
Antimony, Tot	ug/L	0.003	<0.002
Aluminum, Tot	ug/L	16.0	28.9
Aluminum, Diss	ug/L		
Selenium, Tot	ug/L	0.2	0.2
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	27.7	81.9	8.5	107.7	184.0	8.5	
5.0	27.2	81.0	8.6	108.1	184.0	8.6	
10.0	27.1	80.8	8.6	107.9	184.0	8.6	
15.0	26.2	79.2	8.6	106.2	183.0	8.5	
20.0	24.1	75.4		8.7	185.0	8.3	
25.0	20.1	68.2	5.8	64.1	183.0	8.0	
30.0	16.4	61.5	5.8	59.5	159.0	7.6	
35.0	14.7	58.5	5.6	55.4	155.0	7.6	
40.0	13.6	56.5	5.1	49.3	154.0	7.5	
45.0	12.6	54.7	4.1	38.7	157.0	7.4	
50.0	11.8	53.2	3.6	33.4	161.0	7.4	
55.0	11.0	51.8	3.0	27.3	167.0	7.3	
60.0	10.6	51.1	2.8	25.3	170.0	7.3	
65.0	10.1	50.2	2.9	25.8	173.0	7.3	
70.0	9.9	49.8	3.0	26.6	174.0	7.3	
75.0	9.9	49.8	3.1	27.5	176.0	7.2	
80.0	9.8	49.6	3.1	27.4	175.0	7.2	

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

Station: 3DAL20007 | Project: Dale Hollow | Location: Obey River, Mile 55.8

State: Tennessee | Latitude: 36° 28" 21.3' | Quad: Alpine, TN
County: Pickett | Longitude: 85° 8" 6.8' | HUC: 05130105

Sample Date: 18 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 1.7 m

Results of Laboratory Analyses			Profile Measurements							
			Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F
Sample Depth ft		20.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	76	0.0	28.2	82.8	8.1	103.5	174.0	8.3	
Alkalinity, Phenol	mg/L	0	5.0	27.9	82.2	8.0	101.7	173.0	8.2	
Solids, Tot	mg/L	142	10.0	27.4	81.3		7.5	174.0	8.1	
Solids, Tot Diss	mg/L	<0.500	15.0	25.4	77.7	4.2	51.2	188.0	7.8	
Solids, Tot Susp	mg/L	3.00	20.0	22.7	72.9	4.9	56.9	182.0	7.7	
Solids, Vol	mg/L	59.0	25.0	20.5	68.9	4.2	46.8	154.0	7.6	
Solids, Vol Diss	mg/L	52.0	30.0	18.5	65.3	1.2	12.9	162.0	7.5	
Solids, Vol Susp	mg/L	7.00	35.0	16.3	61.3	0.0	0.0	170.0	7.3	
Ammonia N, Tot	mg/L	0.0781	40.0	16.2	61.2	0.0	0.0	173.0	7.3	
Kjeldahl N, Tot	mg/L	0.540	45.0	16.1	61.0	0.0	0.0	180.0	7.2	
NO3+NO2, Tot	mg/L	0.112								
Phosphorus, Tot	mg/L									
Phosphorus, Diss	mg/L	0.014								
OrthoPhosphate, D	mg/L	<0.05								
Organic Carbon, T	mg/L	<1.00								
Hardness, Tot	mg/L	89.4								
Sulfate, Tot	mg/L	23.1								
Calcium, Tot	mg/L	27.4								
Magnesium, Tot	mg/L	5.10								
Sodium, Tot	mg/L	2.61								
Potassium, Tot	mg/L	1.03								
Chloride, Tot	mg/L	3.49								
Arsenic, Tot	ug/L	0.5								
Barium, Tot	ug/L	22.8								
Beryllium, Tot	ug/L	0.005								
Cadmium, Tot	ug/L	0.008								
Chromium, Tot	ug/L	0.5								
Cobalt, Tot	ug/L	0.3								
Copper, Tot	ug/L	0.5								
Iron, Tot	ug/L	166.0								
Iron, Diss	ug/L									
Lead, Tot	ug/L	0.4								
Lead, Diss	ug/L									
Manganese, Tot	ug/L	125.0								
Manganese, Diss	ug/L									
Thallium, Tot	ug/L	<0.002								
Molybdenum, Tot	ug/L	0.1								
Nickel, Tot	ug/L	0.7								
Silver, Tot	ug/L	<0.002								
Vanadium, Tot	ug/L	0.3								
Zinc, Tot	ug/L	1.0								
Zinc, Diss	ug/L									
Antimony, Tot	ug/L	0.09								
Aluminum, Tot	ug/L	111.0								
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: 3DAL20008 | Project: Dale Hollow | Location: Wolf River, Mile 8.7

State: Tennessee | Latitude: 36º 36" 56.1' | Quad: Byrdstown, TN-KY
County: Pickett | Longitude: 85º 13" 35.5' | HUC: 05130105

Sample Date: 17 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 2.9 m

Results of Laboratory Analyses

Sample Depth ft		0.0	60.0
Alkalinity, Tot	mg/L	88	92
Alkalinity, Phenol	mg/L	4	0
Solids, Tot	mg/L	176	198
Solids, Tot Diss	mg/L	<0.500	<0.500
Solids, Tot Susp	mg/L	<0.250	<0.250
Solids, Vol	mg/L	109	84.0
Solids, Vol Diss	mg/L	109	79.0
Solids, Vol Susp	mg/L	<4.00	5.00
Ammonia N, Tot	mg/L	0.00697	0.0326
Kjeldahl N, Tot	mg/L	0.390	0.470
NO3+NO2, Tot	mg/L	0.0850	0.473
Phosphorus, Tot	mg/L		
Phosphorus, Diss	mg/L	0.013	0.014
OrthoPhosphate, D	mg/L	<0.05	<0.05
Organic Carbon, T	mg/L	2.30	<1.00
Hardness, Tot	mg/L	96.7	103.0
Sulfate, Tot	mg/L	18.3	16.8
Calcium, Tot	mg/L	30.0	32.3
Magnesium, Tot	mg/L	5.28	5.42
Sodium, Tot	mg/L	3.02	2.94
Potassium, Tot	mg/L	1.04	1.16
Chloride, Tot	mg/L	4.91	4.99
Arsenic, Tot	ug/L	0.4	0.4
Barium, Tot	ug/L	19.9	26.8
Beryllium, Tot	ug/L	<0.002	<0.002
Cadmium, Tot	ug/L	0.004	0.007
Chromium, Tot	ug/L	0.4	0.6
Cobalt, Tot	ug/L	0.09	0.2
Copper, Tot	ug/L	0.5	0.5
Iron, Tot	ug/L	9.8	40.5
Iron, Diss	ug/L		
Lead, Tot	ug/L	0.2	0.21
Lead, Diss	ug/L		
Manganese, Tot	ug/L	8.0	274.0
Manganese, Diss	ug/L		
Thallium, Tot	ug/L	<0.002	<0.002
Molybdenum, Tot	ug/L	0.2	0.06
Nickel, Tot	ug/L	0.3	0.5
Silver, Tot	ug/L	<0.002	<0.002
Vanadium, Tot	ug/L	0.3	0.2
Zinc, Tot	ug/L	0.9	0.7
Zinc, Diss	ug/L		
Antimony, Tot	ug/L	0.04	0.005
Aluminum, Tot	ug/L	11.9	13.8
Aluminum, Diss	ug/L		
Selenium, Tot	ug/L	0.3	0.4
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	29.1	84.4	9.0	116.7	204.0	8.7	
5.0	28.4	83.1	9.3	119.2	203.0	8.8	
10.0	27.7	81.9		9.4	201.0	8.8	
15.0	26.3	79.3	8.9	110.1	213.0	8.6	
20.0	23.6	74.5	6.8	80.2	247.0	7.9	
25.0	19.1	66.4	5.4	58.5	228.0	7.7	
30.0	16.3	61.3	4.0	40.9	209.0	7.5	
35.0	15.1	59.2	3.2	31.9	204.0	7.4	
40.0	13.7	56.7	1.8	17.4	202.0	7.4	
45.0	12.7	54.9	0.2	1.9	202.0	7.3	
50.0	11.8	53.2	0.2	1.9	205.0	7.3	
55.0	11.1	52.0	0.0	0.0	208.0	7.3	
60.0	10.7	51.3	0.0	0.0	211.0	7.2	
64.0	10.6	51.1	0.0	0.0	212.0	7.2	

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

Station: 3DAL20009 | Project: Dale Hollow | Location: East Fork Obey River, Mile 2.0

State: Tennessee | Latitude: 36° 27" 6.9' | Quad: Riverton, TN
County: Pickett | Longitude: 85° 5" 38.5' | HUC: 05130105

Sample Date: 18 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 1.9 m

Results of Laboratory Analyses

Sample Depth ft		10.0
Alkalinity, Tot	mg/L	64
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	116
Solids, Tot Diss	mg/L	<0.500
Solids, Tot Susp	mg/L	<0.250
Solids, Vol	mg/L	52.0
Solids, Vol Diss	mg/L	52.0
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	0.0193
Kjeldahl N, Tot	mg/L	0.590
NO3+NO2, Tot	mg/L	0.0411
Phosphorus, Tot	mg/L	
Phosphorus, Diss	mg/L	0.012
OrthoPhosphate, D	mg/L	<0.05
Organic Carbon, T	mg/L	2.30
Hardness, Tot	mg/L	77.3
Sulfate, Tot	mg/L	19.1
Calcium, Tot	mg/L	23.7
Magnesium, Tot	mg/L	4.39
Sodium, Tot	mg/L	1.95
Potassium, Tot	mg/L	1.04
Chloride, Tot	mg/L	2.73
Arsenic, Tot	ug/L	0.4
Barium, Tot	ug/L	22.6
Beryllium, Tot	ug/L	<0.002
Cadmium, Tot	ug/L	0.005
Chromium, Tot	ug/L	0.4
Cobalt, Tot	ug/L	0.2
Copper, Tot	ug/L	0.4
Iron, Tot	ug/L	146.0
Iron, Diss	ug/L	
Lead, Tot	ug/L	0.3
Lead, Diss	ug/L	
Manganese, Tot	ug/L	78.0
Manganese, Diss	ug/L	
Thallium, Tot	ug/L	<0.002
Molybdenum, Tot	ug/L	0.12
Nickel, Tot	ug/L	0.6
Silver, Tot	ug/L	<0.002
Vanadium, Tot	ug/L	0.2
Zinc, Tot	ug/L	0.8
Zinc, Diss	ug/L	
Antimony, Tot	ug/L	0.02
Aluminum, Tot	ug/L	88.0
Aluminum, Diss	ug/L	
Selenium, Tot	ug/L	0.1
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	27.4	81.3	7.2	90.8	168.0	8.1	
5.0	27.0	80.6	6.9	86.4	168.0	8.0	
10.0	24.7	76.5		7.1	166.0	7.9	
15.0	22.2	72.0	7.9	90.8	162.0	7.9	
20.0	21.8	71.2	7.5	85.6	160.0	7.8	
25.0	20.4	68.7	4.8	53.3	160.0	7.6	
30.0	19.5	67.1	2.3	25.1	183.0	7.4	

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

Station: 3DAL20010 | Project: Dale Hollow | Location: West Fork Obey River, Mile 1.8

State: Tennessee | Latitude: 36° 26" 49.3' | Quad: Alpine, TN
County: Overton | Longitude: 85° 9" 8.9' | HUC: 05130105

Sample Date: 18 Jun 2013 | Water Surface Elevation = 650.9 ft | Secchi Disk = 1.7 m

Results of Laboratory Analyses

Sample Depth ft		10.0
Alkalinity, Tot	mg/L	74
Alkalinity, Phenol	mg/L	0
Solids, Tot	mg/L	132
Solids, Tot Diss	mg/L	<0.500
Solids, Tot Susp	mg/L	3.00
Solids, Vol	mg/L	164
Solids, Vol Diss	mg/L	164
Solids, Vol Susp	mg/L	<4.00
Ammonia N, Tot	mg/L	0.0431
Kjeldahl N, Tot	mg/L	0.400
NO3+NO2, Tot	mg/L	<0.0200
Phosphorus, Tot	mg/L	
Phosphorus, Diss	mg/L	0.014
OrthoPhosphate, D	mg/L	<0.05
Organic Carbon, T	mg/L	<1.00
Hardness, Tot	mg/L	82.4
Sulfate, Tot	mg/L	17.6
Calcium, Tot	mg/L	25.4
Magnesium, Tot	mg/L	4.61
Sodium, Tot	mg/L	1.98
Potassium, Tot	mg/L	0.975
Chloride, Tot	mg/L	2.72
Arsenic, Tot	ug/L	0.6
Barium, Tot	ug/L	19.8
Beryllium, Tot	ug/L	<0.002
Cadmium, Tot	ug/L	0.008
Chromium, Tot	ug/L	0.4
Cobalt, Tot	ug/L	0.21
Copper, Tot	ug/L	0.4
Iron, Tot	ug/L	120.0
Iron, Diss	ug/L	
Lead, Tot	ug/L	0.4
Lead, Diss	ug/L	
Manganese, Tot	ug/L	41.4
Manganese, Diss	ug/L	
Thallium, Tot	ug/L	<0.002
Molybdenum, Tot	ug/L	0.1
Nickel, Tot	ug/L	0.5
Silver, Tot	ug/L	<0.002
Vanadium, Tot	ug/L	0.4
Zinc, Tot	ug/L	0.6
Zinc, Diss	ug/L	
Antimony, Tot	ug/L	0.01
Aluminum, Tot	ug/L	86.7
Aluminum, Diss	ug/L	
Selenium, Tot	ug/L	0.1
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	28.1	82.6	7.8	99.5	175.0	8.1	
5.0	27.8	82.0		8.1	175.0	8.1	
10.0	27.1	80.8	6.6	82.8	179.0	8.0	
15.0	22.9	73.2	4.1	47.8	285.0	7.7	
20.0	22.0	71.6	0.7	8.0	279.0	7.5	
23.0	20.8	69.4	0.1	1.1	281.0	7.4	