

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: 36° 32' 13.4'

Quad: Dale Hollow Dam, TN-KY

County: Clay

Longitude: 85° 27' 24.9'

HUC: 05130105

Sample Date: 19 Aug 2014

Water Surface Elevation = 508.7 ft

Stream Flow = 1590 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 80	0.0	10.0	50.0	4.8	42.7	201.0	7.3	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 138								
Solids, Tot Diss	mg/L 138								
Solids, Tot Susp	mg/L <2.00								
Solids, Vol	mg/L 130								
Solids, Vol Diss	mg/L 120								
Solids, Vol Susp	mg/L 2.0								
Ammonia N, Tot	mg/L 0.0363								
Kjeldahl N, Tot	mg/L 1.7								
NO3+NO2, Tot	mg/L 0.391								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.2								
Hardness, Tot	mg/L 94.2								
Sulfate, Tot	mg/L 16.6								
Calcium, Tot	mg/L 29.3								
Magnesium, Tot	mg/L 5.12								
Sodium, Tot	mg/L 2.69								
Potassium, Tot	mg/L 1.05								
Chloride, Tot	mg/L 4.31								
Arsenic, Tot	ug/L 0.3								
Barium, Tot	ug/L 22.5								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.5								
Cobalt, Tot	ug/L <0.2								
Copper, Tot	ug/L 0.68								
Iron, Tot	ug/L 12.0								
Iron, Diss	ug/L <7.0								
Lead, Tot	ug/L 0.4								
Lead, Diss	ug/L 0.4								
Manganese, Tot	ug/L 69.4								
Manganese, Diss	ug/L 34.5								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.3								
Nickel, Tot	ug/L 2.3								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L <0.2								
Zinc, Tot	ug/L 3.2								
Zinc, Diss	ug/L 4.0								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L <7.0								
Selenium, Tot	ug/L 0.2								
Mercury, Tot	ug/L 0.033								

United States Army Corps of Engineers

Station: 3DAL10001

State: Tennessee

County: Clay

Sample Date: 19 Aug 2014

Nashville District

Project: Dale Hollow

Latitude: 36° 32" 13.4'

Longitude: 85° 27" 24.9'

Water Surface Elevation = 512.1 ft

CELRN-EC-H / Water Management Section

Location: Obey River, Mile 7.0

Quad: Dale Hollow Dam, TN-KY

HUC: 05130105

Stream Flow = 3280 cfs

(No Laboratory Analyses)

Profile Measurements										
Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F			
ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l			
0.0	10.2	50.4	6.7	59.8	198.0	7.3				

Water Quality Physical / Chemical Data Report

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Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL10011

Project: Dale Hollow

Location: Wolf River, Mile 22.7

State: Tennessee

Latitude: 36° 35" 1'

Quad: Moodyville, TN-KY

County: Pickett

Longitude: 85° 7" 5'

HUC: 05130105

Sample Date: 21 Aug 2014

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 130	0.0	23.7	74.7	7.1	83.9	370.0	8.0	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 310								
Solids, Tot Diss	mg/L 307								
Solids, Tot Susp	mg/L 3.00								
Solids, Vol	mg/L 40								
Solids, Vol Diss	mg/L 40								
Solids, Vol Susp	mg/L <1.0								
Ammonia N, Tot	mg/L 0.0578								
Kjeldahl N, Tot	mg/L 1.6								
NO3+NO2, Tot	mg/L 0.426								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.0								
Hardness, Tot	mg/L 168								
Sulfate, Tot	mg/L 44.3								
Calcium, Tot	mg/L 50.4								
Magnesium, Tot	mg/L 10.3								
Sodium, Tot	mg/L 7.45								
Potassium, Tot	mg/L 1.46								
Chloride, Tot	mg/L 11.0								
Arsenic, Tot	ug/L 0.5								
Barium, Tot	ug/L 68.0								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.54								
Cobalt, Tot	ug/L 0.2								
Copper, Tot	ug/L 0.5								
Iron, Tot	ug/L 90.6								
Iron, Diss	ug/L								
Lead, Tot	ug/L 0.6								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 25.1								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.2								
Nickel, Tot	ug/L 3.5								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.4								
Zinc, Tot	ug/L 1.1								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.4								
Mercury, Tot	ug/L								

Water Quality Physical / Chemical Data Report

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Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL10012

Project: Dale Hollow

Location: Spring Creek, Mile 2.7

State: Kentucky

Latitude: 36° 38" 6'

Quad: Albany, KY-TN

County: Clinton

Longitude: 85° 8" 43'

HUC: 05130105

Sample Date: 21 Aug 2014

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 166	0.0	21.8	71.2	9.4	107.3	549.0	8.2	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 436								
Solids, Tot Diss	mg/L 432								
Solids, Tot Susp	mg/L 4.00								
Solids, Vol	mg/L 55								
Solids, Vol Diss	mg/L 50								
Solids, Vol Susp	mg/L 5.0								
Ammonia N, Tot	mg/L 0.0578								
Kjeldahl N, Tot	mg/L 1.4								
NO3+NO2, Tot	mg/L 1.64								
Phosphorus, Tot	mg/L 0.034								
Phosphorus, Diss	mg/L 0.025								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 1.9								
Hardness, Tot	mg/L 218								
Sulfate, Tot	mg/L 47.9								
Calcium, Tot	mg/L 67.3								
Magnesium, Tot	mg/L 12.2								
Sodium, Tot	mg/L 26.0								
Potassium, Tot	mg/L 2.18								
Chloride, Tot	mg/L 39.1								
Arsenic, Tot	ug/L 0.8								
Barium, Tot	ug/L 41.3								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.4								
Cobalt, Tot	ug/L 0.3								
Copper, Tot	ug/L 0.5								
Iron, Tot	ug/L 65.1								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 18.0								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.5								
Nickel, Tot	ug/L 4.5								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.6								
Zinc, Tot	ug/L 1.7								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 1.1								
Mercury, Tot	ug/L								

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Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL10014

Project: Dale Hollow

Location: East Fork Obey River, Mile 12.6

State: Tennessee

Latitude: 36° 25" 0'

Quad: Riverton, TN

County: Fentress

Longitude: 85° 1" 38'

HUC: 05130105

Sample Date: 21 Aug 2014

Water Surface Elevation = 30 ft

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 80	0.0	20.9	69.6	8.5	95.4	267.0	7.7	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 194								
Solids, Tot Diss	mg/L 194								
Solids, Tot Susp	mg/L <2.00								
Solids, Vol	mg/L 55								
Solids, Vol Diss	mg/L 50								
Solids, Vol Susp	mg/L 5.0								
Ammonia N, Tot	mg/L 0.0417								
Kjeldahl N, Tot	mg/L 1.3								
NO3+NO2, Tot	mg/L 0.182								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 1.2								
Hardness, Tot	mg/L 118								
Sulfate, Tot	mg/L 53.1								
Calcium, Tot	mg/L 36.0								
Magnesium, Tot	mg/L 6.78								
Sodium, Tot	mg/L 4.62								
Potassium, Tot	mg/L 1.26								
Chloride, Tot	mg/L 5.94								
Arsenic, Tot	ug/L <0.2								
Barium, Tot	ug/L 35.3								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.5								
Cobalt, Tot	ug/L 0.3								
Copper, Tot	ug/L 0.5								
Iron, Tot	ug/L 75.4								
Iron, Diss	ug/L								
Lead, Tot	ug/L 0.4								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 37.5								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L <0.2								
Nickel, Tot	ug/L 3.1								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L <0.2								
Zinc, Tot	ug/L 1.8								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.3								
Mercury, Tot	ug/L								

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Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL10015

Project: Dale Hollow

Location: West Fork Obey River, Mile 7.5

State: Tennessee

Latitude: 36° 24" 7'

Quad: Alpine, TN

County: Overton

Longitude: 85° 10" 40'

HUC: 05130105

Sample Date: 21 Aug 2014

Water Surface Elevation =

Stream Flow = 12 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 138	0.0	22.5	72.5	8.5	98.3	558.0	8.1	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 414								
Solids, Tot Diss	mg/L 414								
Solids, Tot Susp	mg/L <2.00								
Solids, Vol	mg/L 75								
Solids, Vol Diss	mg/L 60								
Solids, Vol Susp	mg/L 4.0								
Ammonia N, Tot	mg/L 0.0437								
Kjeldahl N, Tot	mg/L 1.6								
NO3+NO2, Tot	mg/L 0.563								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 1.5								
Hardness, Tot	mg/L 212								
Sulfate, Tot	mg/L 94.3								
Calcium, Tot	mg/L 63.7								
Magnesium, Tot	mg/L 12.8								
Sodium, Tot	mg/L 13.2								
Potassium, Tot	mg/L 1.39								
Chloride, Tot	mg/L 14.1								
Arsenic, Tot	ug/L 0.4								
Barium, Tot	ug/L 32.8								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.6								
Cobalt, Tot	ug/L 0.3								
Copper, Tot	ug/L 0.5								
Iron, Tot	ug/L 35.3								
Iron, Diss	ug/L								
Lead, Tot	ug/L 0.4								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 19.8								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.35								
Nickel, Tot	ug/L 4.5								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.3								
Zinc, Tot	ug/L 0.8								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.5								
Mercury, Tot	ug/L								

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Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL10028

Project: Dale Hollow

Location: Big Eagle Creek, Mile 5.3

State: Tennessee

Latitude: 36° 28' 43.9'

Quad: Alpine, TN

County: Overton

Longitude: 85° 14' 29.7'

HUC: 05130105

Sample Date: 21 Aug 2014

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 160	0.0	20.8	69.4	8.1	90.7	419.0	8.1	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 322								
Solids, Tot Diss	mg/L 318								
Solids, Tot Susp	mg/L 4.00								
Solids, Vol	mg/L 65								
Solids, Vol Diss	mg/L 50								
Solids, Vol Susp	mg/L 6.0								
Ammonia N, Tot	mg/L 0.0432								
Kjeldahl N, Tot	mg/L 1.6								
NO3+NO2, Tot	mg/L 0.911								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 1.4								
Hardness, Tot	mg/L 190								
Sulfate, Tot	mg/L 35.5								
Calcium, Tot	mg/L 60.2								
Magnesium, Tot	mg/L 9.61								
Sodium, Tot	mg/L 11.5								
Potassium, Tot	mg/L 1.44								
Chloride, Tot	mg/L 18.8								
Arsenic, Tot	ug/L 0.5								
Barium, Tot	ug/L 34.6								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.5								
Cobalt, Tot	ug/L <0.2								
Copper, Tot	ug/L 0.4								
Iron, Tot	ug/L 38.6								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 11.6								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.4								
Nickel, Tot	ug/L 3.7								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.5								
Zinc, Tot	ug/L 0.7								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.5								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Nashville District

CELNRN-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: 19 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 5.5 m

Results of Laboratory Analyses

Profile Measurements

Sample	Depth ft	0.0	75.0	130.0	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	86	88	90	0.0	27.6	81.7	8.1	102.5	201.0	8.5	0.8
Alkalinity, Phenol	mg/L	2	0	0	5.0	27.4	81.3	8.1	102.1	201.0	8.5	1.2
Solids, Tot	mg/L	140	144	150	10.0	27.4	81.3	8.1	102.1	200.0	8.4	1.9
Solids, Tot Diss	mg/L	140	144	147	15.0	27.3	81.1	8.1	101.9	200.0	8.4	2.0
Solids, Tot Susp	mg/L	<2.00	<2.00	3.00	20.0	26.4	79.5	8.1	100.4	202.0	8.3	4.4
Solids, Vol	mg/L	170	130	45	25.0	22.3	72.1	8.0	92.1	205.0	7.8	8.6
Solids, Vol Diss	mg/L	85	110	25	30.0	18.5	65.3	6.0	64.2	203.0	7.3	5.8
Solids, Vol Susp	mg/L	2.0	6.0	3.0	35.0	15.8	60.4	5.2	52.7	202.0	7.1	3.0
Ammonia N, Tot	mg/L	0.129	0.104	0.0499	40.0	13.8	56.8	4.9	47.5	200.0	6.9	2.0
Kjeldahl N, Tot	mg/L	2.0	1.7	1.7	45.0	12.7	54.9	4.8	45.4	199.0	6.8	1.4
NO3+NO2, Tot	mg/L	<0.01	0.0705	0.373	50.0	11.6	52.9	5.0	46.2	199.0	6.8	1.1
Phosphorus, Tot	mg/L	<0.01	<0.01	<0.01	55.0	11.1	52.0	4.9	44.7	198.0	6.8	0.9
Phosphorus, Diss	mg/L	<0.01	<0.01	<0.01	60.0	10.6	51.1	4.7	42.4	198.0	6.7	0.8
OrthoPhosphate, D	mg/L	<0.05	<0.05	<0.05	65.0	10.3	50.5	4.5	40.3	198.0	6.7	0.6
Organic Carbon, T	mg/L	2.2	2.1	1.8	70.0	10.0	50.0	4.1	36.4	198.0	6.7	0.6
Hardness, Tot	mg/L	91.3	91.9	94.5	75.0	9.7	49.5	3.5	30.9	198.0	6.6	0.7
Sulfate, Tot	mg/L	16.0	16.1	16.5	80.0	9.6	49.3	3.2	28.2	198.0	6.6	0.7
Calcium, Tot	mg/L	28.3	28.5	29.3	85.0	9.3	48.7	3.3	28.8	198.0	6.7	0.7
Magnesium, Tot	mg/L	5.03	5.04	5.19	90.0	9.1	48.4	3.4	29.6	198.0	6.7	0.6
Sodium, Tot	mg/L	2.53	2.53	2.67	95.0	8.9	48.0	3.3	28.6	199.0	6.7	0.6
Potassium, Tot	mg/L	1.01	1.01	1.09	100.0	8.7	47.7	3.2	27.6	199.0	6.7	0.6
Chloride, Tot	mg/L	4.01	4.00	4.25	105.0	8.6	47.5	3.0	25.8	199.0	6.7	0.6
Arsenic, Tot	ug/L	0.5	0.4	0.4	110.0	8.4	47.1	3.0	25.6	200.0	6.7	0.5
Barium, Tot	ug/L	19.5	20.4	24.1	115.0	8.3	46.9	3.0	25.6	200.0	6.8	0.6
Beryllium, Tot	ug/L	<0.2	<0.2	<0.2	120.0	8.2	46.8	2.9	24.7	200.0	6.8	0.5
Cadmium, Tot	ug/L	<0.2	<0.2	<0.2	125.0	8.1	46.6	2.8	23.8	200.0	6.8	0.5
Chromium, Tot	ug/L	0.2	<0.2	<0.2	130.0	8.1	46.6	2.7	22.9	200.0	6.8	0.5
Cobalt, Tot	ug/L	<0.2	<0.2	<0.2	135.0	8.1	46.6	2.4	20.4	203.0	6.8	0.5
Copper, Tot	ug/L	0.4	0.4	0.3								
Iron, Tot	ug/L	<7.0	<7.0	8.5								
Iron, Diss	ug/L	<7.0	<7.0	<7.0								
Lead, Tot	ug/L	<0.2	<0.2	<0.2								
Lead, Diss	ug/L	<0.2	<0.2	<0.2								
Manganese, Tot	ug/L	4.4	6.3	428.0								
Manganese, Diss	ug/L	1.8	4.4	262.0								
Thallium, Tot	ug/L	<0.2	<0.2	<0.2								
Molybdenum, Tot	ug/L	0.7	0.6	0.4								
Nickel, Tot	ug/L	2.1	2.2	2.1								
Silver, Tot	ug/L	<0.2	<0.2	<0.2								
Vanadium, Tot	ug/L	0.4	0.4	<0.2								
Zinc, Tot	ug/L	0.3	<0.2	0.2								
Zinc, Diss	ug/L	0.2	0.4	0.7								
Antimony, Tot	ug/L	<0.2	<0.2	<0.2								
Aluminum, Tot	ug/L	<7.0	<7.0	<7.0								
Aluminum, Diss	ug/L	<7.0	<7.0	<7.0								
Selenium, Tot	ug/L	<0.2	0.2	<0.2								
Mercury, Tot	ug/L	0.126	0.139	0.051								

Water Quality Physical / Chemical Data Report

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United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL20003

Project: Dale Hollow

Location: Obey River, Mile 16.7

State: Tennessee

Latitude: 36° 32' 48.9'

Quad: Dale Hollow Dam, TN-KY

County: Clay

Longitude: 85° 23' 25.1'

HUC: 05130105

Sample Date: 19 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 4.2 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	28.1	82.6	8.2	104.6	200.0	8.5	1.5
5.0	27.8	82.0	8.2	104.1	200.0	8.5	2.0
10.0	27.4	81.3	8.4	105.9	200.0	8.5	2.8
15.0	27.3	81.1	8.4	105.7	200.0	8.5	3.2
20.0	27.1	80.8	8.3	104.1	200.0	8.5	4.0
25.0	24.7	76.5	8.6	103.5	201.0	8.1	7.4
30.0	19.5	67.1	7.9	86.3	199.0	7.6	6.2
35.0	15.8	60.4	5.7	57.7	199.0	7.2	3.4
40.0	13.9	57.0	4.9	47.6	198.0	7.1	3.1
45.0	12.7	54.9	4.0	37.9	198.0	7.0	1.6
50.0	12.0	53.6	3.5	32.6	197.0	6.9	1.3
55.0	11.2	52.2	3.0	27.4	197.0	6.9	1.1
60.0	10.7	51.3	2.1	19.0	197.0	6.8	1.1
65.0	10.2	50.4	1.8	16.1	196.0	6.7	0.8
70.0	10.0	50.0	1.4	12.4	197.0	6.8	0.8
75.0	9.9	49.8	1.4	12.4	197.0	6.8	0.8
80.0	9.7	49.5	1.4	12.4	197.0	6.8	0.8
85.0	9.4	48.9	1.6	14.0	198.0	6.8	0.7
90.0	9.2	48.6	1.4	12.2	199.0	6.7	0.7
95.0	9.0	48.2	1.5	13.0	200.0	6.8	0.6
100.0	8.7	47.7	1.7	14.6	201.0	6.8	0.6
105.0	8.5	47.3	1.7	14.6	201.0	6.8	0.6
110.0	8.5	47.3	1.6	13.7	202.0	6.8	0.5
115.0	8.4	47.1	1.3	11.1	204.0	6.9	0.5
120.0	8.4	47.1	1.1	9.4	205.0	6.9	0.6
122.0	8.4	47.1	1.1	9.4	205.0	6.9	0.6

CELNRN-EC-H / Water Management Section

Location: Obey River, Mile 27.7

Quad: Dale Hollow Reservoir SE, TN-KY
HUC: 05130105

Secchi Disk = 3.6 m

Profile Measurements

[illegible]

Water Quality Physical / Chemical Data Report

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United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3DAL20005

Project: Dale Hollow

Location: Obey River, Mile 33.0

State: Tennessee

Latitude: 36° 35" 46.6'

Quad: Dale Hollow Reservoir SE, TN-KY

County: Clay

Longitude: 85° 17" 1.7'

HUC: 05130105

Sample Date: 19 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 4.2 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	28.0	82.4	8.6	109.5	197.0	8.6	1.5
5.0	27.5	81.5	8.6	108.6	196.0	8.5	1.8
10.0	27.3	81.1	8.7	109.5	196.0	8.5	2.4
15.0	27.2	81.0	8.6	108.1	196.0	8.5	2.8
20.0	27.2	81.0	8.5	106.8	196.0	8.5	2.8
25.0	26.8	80.2	8.2	102.3	197.0	8.3	3.5
30.0	21.8	71.2	7.4	84.4	199.0	7.6	8.2
35.0	17.4	63.3	5.4	56.5	189.0	7.2	7.9
40.0	13.6	56.5	2.4	23.2	186.0	7.0	3.5
45.0	13.2	55.8	0.7	6.7	184.0	6.8	2.6
50.0	12.0	53.6	0.0	0.0	183.0	6.8	1.1
55.0	11.3	52.3	0.0	0.0	186.0	6.7	1.1
60.0	10.8	51.4	0.0	0.0	188.0	6.7	1.0
65.0	10.3	50.5	0.0	0.0	193.0	6.8	0.8
70.0	10.1	50.2	0.0	0.0	195.0	6.8	0.8
75.0	10.0	50.0	0.0	0.0	197.0	6.8	0.7
80.0	9.8	49.6	0.0	0.0	200.0	6.8	0.7
85.0	9.6	49.3	0.0	0.0	204.0	6.8	0.6

CELNRN-EC-H / Water Management Section

Location: Obey River, Mile 41.6

Quad: Byrdstown, TN-KY
HUC: 05130105

Secchi Disk = 5.1 m

Profile Measurements

[illegible]

CELNRN-EC-H / Water Management Section

Location: Obey River, Mile 55.8

Quad: Alpine, TN
HUC: 05130105

Secchi Disk = 1.3 m

Profile Measurements

[illegible]

CELNRN-EC-H / Water Management Section

Location: Wolf River, Mile 8.7

Quad: Byrdstown, TN-KY
HUC: 05130105

Secchi Disk = 3.2 m

Profile Measurements

[illegible]

United States Army Corps of Engineers

Nashville District

CELNRN-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: 20 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 1.4 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	10.0	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 86	0.0	27.8	82.0	8.6	109.2	247.0	8.1	11.4
Alkalinity, Phenol	mg/L 0	5.0	26.2	79.2	8.9	109.9	252.0	8.1	19.7
Solids, Tot	mg/L 196	10.0	24.2	75.6	6.3	75.1	292.0	7.5	4.5
Solids, Tot Diss	mg/L 194	15.0	23.5	74.3	3.7	43.6	292.0	7.2	2.3
Solids, Tot Susp	mg/L 2.00	20.0	22.3	72.1	0.1	1.2	314.0	7.0	1.7
Solids, Vol	mg/L 75								
Solids, Vol Diss	mg/L 60								
Solids, Vol Susp	mg/L 7.0								
Ammonia N, Tot	mg/L 0.0552								
Kjeldahl N, Tot	mg/L 1.7								
NO3+NO2, Tot	mg/L 0.0399								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.0								
Hardness, Tot	mg/L 119								
Sulfate, Tot	mg/L 34.2								
Calcium, Tot	mg/L 36.2								
Magnesium, Tot	mg/L 6.86								
Sodium, Tot	mg/L 4.56								
Potassium, Tot	mg/L 1.19								
Chloride, Tot	mg/L 6.24								
Arsenic, Tot	ug/L 0.3								
Barium, Tot	ug/L 47.2								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L <0.2								
Cobalt, Tot	ug/L 0.2								
Copper, Tot	ug/L 0.3								
Iron, Tot	ug/L 114.0								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 71.9								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.2								
Nickel, Tot	ug/L 2.6								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L <0.2								
Zinc, Tot	ug/L 0.5								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.3								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Nashville District

CELNRN-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: 20 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 1.0 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	10.0	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 110	0.0	29.9	85.8	9.3	122.2	297.0	8.2	4.1
Alkalinity, Phenol	mg/L 0	5.0	26.6	79.9	8.0	99.5	322.0	7.8	15.9
Solids, Tot	mg/L 234	10.0	24.2	75.6	3.6	42.9	374.0	7.3	4.1
Solids, Tot Diss	mg/L 229	15.0	24.1	75.4	1.1	13.1	372.0	7.1	3.4
Solids, Tot Susp	mg/L 5.00	18.0	24.0	75.2	0.7	8.3	374.0	7.1	4.9
Solids, Vol	mg/L 70								
Solids, Vol Diss	mg/L 65								
Solids, Vol Susp	mg/L 3.0								
Ammonia N, Tot	mg/L 0.0643								
Kjeldahl N, Tot	mg/L 1.7								
NO3+NO2, Tot	mg/L 0.0470								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.3								
Hardness, Tot	mg/L 138								
Sulfate, Tot	mg/L 35.8								
Calcium, Tot	mg/L 41.9								
Magnesium, Tot	mg/L 8.23								
Sodium, Tot	mg/L 6.07								
Potassium, Tot	mg/L 1.11								
Chloride, Tot	mg/L 7.78								
Arsenic, Tot	ug/L 0.7								
Barium, Tot	ug/L 57.9								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L <0.2								
Cobalt, Tot	ug/L 0.3								
Copper, Tot	ug/L 0.3								
Iron, Tot	ug/L 180.0								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 66.4								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.3								
Nickel, Tot	ug/L 3.3								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.34								
Zinc, Tot	ug/L 0.5								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.4								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL20020

Project: Dale Hollow

Location: Spring Creek, Mile 0.5

State: Kentucky

Latitude: 36° 37" 54'

Quad: Albany, KY-TN

County: Clinton

Longitude: 85° 9" 28.9'

HUC: 05130105

Sample Date: 20 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 0.8 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	5.0	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 100	0.0	29.3	84.7	10.2	132.7	255.0	8.7	12.6
Alkalinity, Phenol	mg/L 2	5.0	27.4	81.3	7.5	94.6	350.0	8.1	7.0
Solids, Tot	mg/L 242	10.0	23.8	74.8	4.0	47.4	503.0	7.5	4.5
Solids, Tot Diss	mg/L 232								
Solids, Tot Susp	mg/L 10.0								
Solids, Vol	mg/L 130								
Solids, Vol Diss	mg/L 110								
Solids, Vol Susp	mg/L 4.0								
Ammonia N, Tot	mg/L 0.0422								
Kjeldahl N, Tot	mg/L 1.6								
NO3+NO2, Tot	mg/L 0.0729								
Phosphorus, Tot	mg/L <0.01								
Phosphorus, Diss	mg/L <0.01								
OrthoPhosphate, D	mg/L <0.05								
Organic Carbon, T	mg/L 2.5								
Hardness, Tot	mg/L 115								
Sulfate, Tot	mg/L 25.3								
Calcium, Tot	mg/L 34.9								
Magnesium, Tot	mg/L 6.82								
Sodium, Tot	mg/L 7.34								
Potassium, Tot	mg/L 1.27								
Chloride, Tot	mg/L 12.9								
Arsenic, Tot	ug/L 0.8								
Barium, Tot	ug/L 42.7								
Beryllium, Tot	ug/L <0.2								
Cadmium, Tot	ug/L <0.2								
Chromium, Tot	ug/L 0.2								
Cobalt, Tot	ug/L 0.2								
Copper, Tot	ug/L 0.3								
Iron, Tot	ug/L 184.0								
Iron, Diss	ug/L								
Lead, Tot	ug/L <0.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 54.2								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.2								
Molybdenum, Tot	ug/L 0.3								
Nickel, Tot	ug/L 2.5								
Silver, Tot	ug/L <0.2								
Vanadium, Tot	ug/L 0.6								
Zinc, Tot	ug/L 0.6								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.2								
Aluminum, Tot	ug/L <7.0								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L 0.4								
Mercury, Tot	ug/L								

Water Quality Physical / Chemical Data Report

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United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL20066

Project: Dale Hollow

Location: Mitchell Creek, Mile 1.6

State: Tennessee

Latitude: 36° 31" 50.9'

Quad: Dale Hollow Dam, TN-KY

County: Clay

Longitude: 85° 23" 28.1'

HUC: 05130105

Sample Date: 19 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 3.7 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	28.1	82.6	8.0	102.1	201.0	8.4	1.4
5.0	27.8	82.0	8.0	101.5	202.0	8.3	1.9
10.0	27.5	81.5	8.1	102.3	202.0	8.3	2.9
15.0	27.4	81.3	8.0	100.9	202.0	8.3	3.1
20.0	26.9	80.4	7.5	93.8	201.0	8.2	3.6
25.0	24.3	75.7	7.1	84.8	203.0	7.7	7.2
30.0	19.4	66.9	4.6	50.1	203.0	7.2	3.6
35.0	15.8	60.4	2.7	27.4	202.0	6.9	1.6
40.0	13.7	56.7	3.2	31.0	201.0	6.9	1.2
45.0	12.6	54.7	3.7	34.9	201.0	6.9	1.0
50.0	12.0	53.6	3.9	36.3	206.0	6.9	0.8
55.0	11.3	52.3	4.0	36.7	200.0	6.9	0.9
60.0	10.8	51.4	4.2	38.1	200.0	6.8	0.7
65.0	10.5	50.9	4.2	37.8	199.0	6.8	0.7
70.0	10.1	50.2	4.0	35.6	199.0	6.8	0.6
75.0	9.9	49.8	3.8	33.7	199.0	6.8	0.6
80.0	9.6	49.3	3.4	29.9	200.0	6.8	0.5
85.0	9.4	48.9	3.0	26.3	201.0	6.8	0.5
90.0	9.2	48.6	1.4	12.2	204.0	6.8	0.5
95.0	9.0	48.2	0.8	6.9	208.0	6.8	0.5
97.0	8.9	48.0	0.7	6.1	209.0	6.8	0.6

Water Quality Physical / Chemical Data Report

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United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3DAL20067

Project: Dale Hollow

Location: Obey River, Mile 50.0

State: Tennessee

Latitude: 36° 30" 49.8'

Quad: Byrdstown, TN-KY

County: Pickett

Longitude: 85° 9" 28.3'

HUC: 05130105

Sample Date: 20 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 3.0 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	28.1	82.6	7.6	97.0	212.0	8.0	1.3
5.0	27.9	82.2	7.6	96.6	212.0	7.9	1.5
10.0	27.6	81.7	7.4	93.6	212.0	7.8	1.9
15.0	27.5	81.5	7.3	92.2	212.0	7.8	2.4
20.0	27.2	81.0	6.6	82.9	214.0	7.7	2.8
25.0	25.8	78.4	1.2	14.7	244.0	7.1	2.1
30.0	23.2	73.8	0.0	0.0	244.0	7.0	2.2
35.0	18.9	66.0	0.0	0.0	229.0	6.9	2.3
40.0	16.4	61.5	0.0	0.0	213.0	6.9	1.9
45.0	13.2	55.8	0.0	0.0	202.0	6.9	1.3
50.0	12.1	53.8	0.0	0.0	197.0	6.8	1.0
55.0	11.8	53.2	0.0	0.0	196.0	6.8	1.0

Water Quality Physical / Chemical Data Report

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United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 3DAL20069

Project: Dale Hollow

Location: Sulphur Creek, Mile 2.7

State: Kentucky
County: Cumberland

Latitude: 36° 38" 32.6'
Longitude: 85° 19" 13.5'

Quad: Frogue, KY-TN
HUC: 05130105

Sample Date: 19 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 3.7 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	28.0	82.4	8.3	105.7	197.0	8.5	1.7
5.0	27.6	81.7	8.4	106.3	197.0	8.4	2.1
10.0	27.4	81.3	8.5	107.2	196.0	8.4	2.7
15.0	27.3	81.1	8.4	105.7	196.0	8.5	3.0
20.0	27.3	81.1	8.1	101.9	196.0	8.3	3.2
25.0	26.9	80.4	7.3	91.3	196.0	8.1	2.9
30.0	21.4	70.5	3.1	35.1	202.0	7.2	5.6
35.0	16.9	62.4	1.2	12.4	200.0	7.0	3.2
40.0	15.2	59.4	0.1	1.0	204.0	6.9	1.7
45.0	13.4	56.1	0.0	0.0	205.0	6.8	1.5
50.0	12.2	54.0	0.0	0.0	208.0	6.8	1.4
55.0	11.6	52.9	0.0	0.0	212.0	6.8	1.9

Water Quality Physical / Chemical Data Report

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United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 3DAL20070

Project: Dale Hollow

Location: Big Eagle Creek, Mile 1.2

State: Tennessee

Latitude: 36° 30" 15.3'

Quad: Byrdstown, TN-KY

County: Pickett

Longitude: 85° 11" 46.7'

HUC: 05130105

Sample Date: 20 Aug 2014

Water Surface Elevation = 644.0 ft

Secchi Disk = 3.7 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	27.6	81.7	7.8	98.7	217.0	8.2	1.9
5.0	27.6	81.7	7.9	99.9	217.0	8.2	2.6
10.0	27.5	81.5	7.7	97.2	215.0	8.2	2.1
15.0	27.3	81.1	7.4	93.1	211.0	8.1	2.7
20.0	27.0	80.6	6.1	76.4	214.0	7.7	3.0
25.0	26.7	80.1	4.3	53.6	220.0	7.4	2.8
30.0	22.5	72.5	0.0	0.0	219.0	7.0	3.2
35.0	19.0	66.2	0.0	0.0	205.0	6.9	3.2
40.0	14.5	58.1	0.0	0.0	203.0	6.9	4.9
45.0	13.3	55.9	0.0	0.0	200.0	6.8	3.7
47.0	13.0	55.4	0.0	0.0	200.0	6.8	3.7