

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD10001

Project: Old Hickory

Location: Cumberland River, Mile 215.7

State: Tennessee

Latitude: 36° 17" 59'

Quad: Goodlettsville, TN

County: Davidson

Longitude: 86° 39" 49'

HUC: 05130202

Sample Date: 20 Jun 2012

Water Surface Elevation = 386.7 ft

Stream Flow = 6000 cfs

(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	26.1	79.0	5.3	65.3	213.0	7.6	

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD10050

Project: Old Hickory

Location: Drakes Creek, Mile 4.9

State: Tennessee

Latitude: 36° 19" 0'

Quad: Hendersonville, TN

County: Sumner

Longitude: 86° 36" 19'

HUC: *

Sample Date: 20 Jun 2012

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 150	0.0	28.3	82.9	12.0	153.6	414.0	8.2	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 263								
Solids, Tot Diss	mg/L 263								
Solids, Tot Susp	mg/L <4.00								
Solids, Vol	mg/L 126								
Solids, Vol Diss	mg/L 126								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.260								
NO3+NO2, Tot	mg/L 0.112								
Phosphorus, Tot	mg/L 0.0971								
Phosphorus, Diss	mg/L 0.0913								
OrthoPhosphate, D	mg/L 0.0640								
Organic Carbon, T	mg/L 2.40								
Hardness, Tot	mg/L 207								
Sulfate, Tot	mg/L 57.8								
Calcium, Tot	mg/L 63.1								
Magnesium, Tot	mg/L 11.9								
Sodium, Tot	mg/L 6.17								
Potassium, Tot	mg/L 1.54								
Chloride, Tot	mg/L 10.9								
Arsenic, Tot	ug/L 0.9								
Barium, Tot	ug/L 30.9								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L 0.6								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L 1.0								
Iron, Tot	ug/L 61.3								
Iron, Diss	ug/L 10.0								
Lead, Tot	ug/L 1.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 36.1								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L 0.8								
Nickel, Tot	ug/L 2.9								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.83								
Zinc, Tot	ug/L 1.8								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 55.4								
Aluminum, Diss	ug/L 9.1								
Selenium, Tot	ug/L <0.5								
Mercury, Tot	ug/L								

United States Army Corps of Engineers
Station: 30LD10054
State: Tennessee
County: Sumner
Sample Date: 20 Jun 2012

Nashville District
Project: Old Hickory
Latitude: 36° 26" 44'
Longitude: 86° 19" 55'
Water Surface Elevation =

CELNRN-EC-H / Water Management Section
Location: Bledsoe Creek, Mile 10.3
Quad: Bethpage, TN
HUC: *
Stream Flow =

(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	28.5	83.3	11.0	141.3	283.0	8.3	

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD10056

Project: Old Hickory

Location: Bartons Creek, Mile 7.1

State: Tennessee

Latitude: 36° 15" 12'

Quad: Hunters Point, TN

County: Wilson

Longitude: 86° 19" 54'

HUC: *

Sample Date: 20 Jun 2012

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 140	0.0	26.6	79.9	10.5	130.6	358.0	8.1	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 210								
Solids, Tot Diss	mg/L 210								
Solids, Tot Susp	mg/L <4.00								
Solids, Vol	mg/L 99.0								
Solids, Vol Diss	mg/L 99.0								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.210								
NO3+NO2, Tot	mg/L 0.0673								
Phosphorus, Tot	mg/L 0.0529								
Phosphorus, Diss	mg/L 0.0435								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 3.30								
Hardness, Tot	mg/L 171								
Sulfate, Tot	mg/L 31.6								
Calcium, Tot	mg/L 56.4								
Magnesium, Tot	mg/L 7.36								
Sodium, Tot	mg/L 7.79								
Potassium, Tot	mg/L 0.928								
Chloride, Tot	mg/L 10.5								
Arsenic, Tot	ug/L 0.7								
Barium, Tot	ug/L 27.7								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L 0.6								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L 0.8								
Iron, Tot	ug/L 56.9								
Iron, Diss	ug/L 19.1								
Lead, Tot	ug/L 1.2								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 15.9								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L 0.7								
Nickel, Tot	ug/L 2.5								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.8								
Zinc, Tot	ug/L 1.6								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 48.0								
Aluminum, Diss	ug/L 8.1								
Selenium, Tot	ug/L <0.5								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Station: 30LD10057

State: Tennessee

County: Wilson

Sample Date: 20 Jun 2012

Nashville District

Project: Old Hickory

Latitude: 36° 16" 36'

Longitude: 86° 16" 31'

Water Surface Elevation =

CELRN-EC-H / Water Management Section

Location: Spring Creek, Mile 5.8

Quad: Hunters Point, TN

HUC: 05130201

Stream Flow =

(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	27.2	81.0	3.6	45.2	292.0	7.7			

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD10059

Project: Old Hickory

Location: Caney Fork River, Mile 7.3

State: Tennessee

Latitude: 36° 13' 6.9'

Quad: Gordonsville, TN

County: Smith

Longitude: 85° 56' 56.4'

HUC: 05130108

Sample Date: 20 Jun 2012

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 74	0.0	16.8	62.2	9.2	95.2	160.0	7.4	0.4
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 102								
Solids, Tot Diss	mg/L 102								
Solids, Tot Susp	mg/L <4.00								
Solids, Vol	mg/L 61.0								
Solids, Vol Diss	mg/L 61.0								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.0800								
NO3+NO2, Tot	mg/L 0.579								
Phosphorus, Tot	mg/L 0.0367								
Phosphorus, Diss	mg/L 0.0284								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 2.00								
Hardness, Tot	mg/L 79.1								
Sulfate, Tot	mg/L 7.86								
Calcium, Tot	mg/L 25.4								
Magnesium, Tot	mg/L 3.80								
Sodium, Tot	mg/L 1.79								
Potassium, Tot	mg/L 1.09								
Chloride, Tot	mg/L 3.07								
Arsenic, Tot	ug/L <0.5								
Barium, Tot	ug/L 18.1								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L <0.5								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L <0.5								
Iron, Tot	ug/L 38.0								
Iron, Diss	ug/L 17.7								
Lead, Tot	ug/L 0.8								
Lead, Diss	ug/L								
Manganese, Tot	ug/L 27.4								
Manganese, Diss	ug/L								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 1.3								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L <0.5								
Zinc, Tot	ug/L 0.8								
Zinc, Diss	ug/L								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 26.9								
Aluminum, Diss	ug/L <8.0								
Selenium, Tot	ug/L <0.5								
Mercury, Tot	ug/L								

United States Army Corps of Engineers	Nashville District	CELRN-EC-H / Water Management Section
Station: 30LD10062	Project: Old Hickory	Location: Goose Creek, Mile 4.5
State: Tennessee	Latitude: 36° 23" 2.5'	Quad: Hartsville, TN
County: Trousdale	Longitude: 86° 7" 44'	HUC: 05130201
Sample Date: 20 Jun 2012	Water Surface Elevation =	Stream Flow =

(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	30.4	86.7	6.8	90.1	351.0	7.9	

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20002

Project: Old Hickory

Location: Cumberland River, Mile 216.9

State: Tennessee

Latitude: 36° 17" 29'

Quad: Goodlettsville, TN

County: Davidson

Longitude: 86° 38" 41'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.0 m

Results of Laboratory Analyses

Profile Measurements

Sample	Depth ft	0.0	15.0	65.0	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	68	74	78	0.0	31.9	89.4	13.8	187.2	199.0	9.2	6.3
Alkalinity, Phenol	mg/L	16	8	0	5.0	31.0	87.8	15.1	202.0	197.0	9.3	13.8
Solids, Tot	mg/L	99.0	159	146	10.0	28.7	83.7	11.9	153.3	202.0	9.0	16.9
Solids, Tot Diss	mg/L	99.0	154.6	146	15.0	27.3	81.1	5.0	62.9	214.0	7.6	12.8
Solids, Tot Susp	mg/L	<4.00	4.40	<4.00	20.0	26.4	79.5	3.2	39.7	216.0	7.4	8.2
Solids, Vol	mg/L	73.0	142	98.0	25.0	26.2	79.2	3.0	37.1	215.0	7.3	6.3
Solids, Vol Diss	mg/L	73.0	142	98.0	30.0	25.9	78.6	2.6	31.9	215.0	7.2	5.0
Solids, Vol Susp	mg/L	<4.00	<4.00	<4.00	35.0	25.7	78.3	2.1	25.7	214.0	7.1	3.8
Ammonia N, Tot	mg/L	<0.200	<0.200	0.310	40.0	25.4	77.7	1.5	18.3	214.0	7.0	2.7
Kjeldahl N, Tot	mg/L	0.640	0.540	0.450	45.0	25.3	77.5	1.0	12.2	214.0	7.0	1.5
NO3+NO2, Tot	mg/L	<0.0200	<0.0200	0.151	50.0	25.0	77.0	0.7	8.5	213.0	6.9	1.2
Phosphorus, Tot	mg/L	0.0448	0.0412	0.0830	55.0	24.8	76.6	0.6	7.2	214.0	6.9	0.9
Phosphorus, Diss	mg/L	0.0313	0.0241	0.0695	60.0	24.7	76.5	0.4	4.8	213.0	6.9	0.8
OrthoPhosphate, D	mg/L				65.0	24.6	76.3	0.3	3.6	214.0	6.9	0.8
Organic Carbon, T	mg/L	3.70	3.40	2.40	69.0	24.3	75.7	0.1	1.2	217.0	6.9	0.8
Hardness, Tot	mg/L	87.7	91.7	92.2								
Sulfate, Tot	mg/L	26.8	27.2	26.1								
Calcium, Tot	mg/L	24.6	26.3	26.2								
Magnesium, Tot	mg/L	6.38	6.33	6.51								
Sodium, Tot	mg/L	5.82	5.74	5.90								
Potassium, Tot	mg/L	1.55	1.55	1.58								
Chloride, Tot	mg/L	4.38	4.43	4.52								
Arsenic, Tot	ug/L	0.84	0.9	1.1								
Barium, Tot	ug/L	21.2	21.9	28.0								
Beryllium, Tot	ug/L	<0.5	<0.5	<0.5								
Cadmium, Tot	ug/L	<0.5	<0.5	<0.5								
Chromium, Tot	ug/L	<0.5	<0.5	<0.5								
Cobalt, Tot	ug/L	<0.5	<0.5	<0.5								
Copper, Tot	ug/L	1.4	1.1	1.4								
Iron, Tot	ug/L	30.6	56.6	116.0								
Iron, Diss	ug/L	<8.0	<8.0	10.4								
Lead, Tot	ug/L	3.5	3.7	3.5								
Lead, Diss	ug/L	3.5	3.4	3.3								
Manganese, Tot	ug/L	62.0	72.6	259.0								
Manganese, Diss	ug/L	1.8	2.6	72.2								
Thallium, Tot	ug/L	<0.5	<0.5	<0.5								
Molybdenum, Tot	ug/L	0.6	0.6	0.6								
Nickel, Tot	ug/L	1.5	1.6	1.7								
Silver, Tot	ug/L	<0.5	<0.5	<0.5								
Vanadium, Tot	ug/L	0.8	0.8	0.9								
Zinc, Tot	ug/L	2.0	1.3	1.5								
Zinc, Diss	ug/L	1.1	1.0	1.7								
Antimony, Tot	ug/L	<0.5	<0.5	<0.5								
Aluminum, Tot	ug/L	38.7	53.3	97.1								
Aluminum, Diss	ug/L	24.1	18.5	13.6								
Selenium, Tot	ug/L	<0.5	<0.5	<0.5								
Mercury, Tot	ug/L	0.02	0.013	0.007								

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20003

Project: Old Hickory

Location: Cumberland River, Mile 221.2

State: Tennessee

Latitude: 36° 14" 41'

Quad: Hermitage, TN

County: Davidson

Longitude: 86° 36" 50'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 0.9 m

(No Laboratory Analyses)

Profile Measurements

Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
0.0	27.1	80.8	9.1	114.1	211.0	8.5	11.9
5.0	26.8	80.2	7.7	96.1	212.0	8.1	11.4
10.0	26.7	80.1	7.3	90.9	212.0	8.0	11.2
15.0	26.6	79.9	6.7	83.3	213.0	7.9	11.5
20.0	26.6	79.9	6.8	84.6	213.0	7.9	11.8
25.0	26.4	79.5	5.4	66.9	213.0	7.6	9.8
30.0	26.3	79.3	5.0	61.9	213.0	7.5	9.2
35.0	26.1	79.0	3.6	44.4	213.0	7.3	5.6
40.0	25.5	77.9	1.0	12.2	215.0	7.0	2.1
45.0	25.1	77.2	0.8	9.7	213.0	6.9	1.4
50.0	24.5	76.1	0.4	4.8	212.0	6.9	0.8
55.0	24.2	75.6	0.1	1.2	214.0	6.9	1.0
60.0	23.9	75.0	0.0	0.0	219.0	7.0	0.8
65.0	23.6	74.5	0.0	0.0	222.0	7.0	0.8
70.0	23.5	74.3	0.0	0.0	223.0	7.0	0.9
73.0	23.3	73.9	0.0	0.0	224.0	7.1	0.9

CELNRN-EC-H / Water Management Section

Location: Cumberland River, Mile 236.0

Quad: Laguardo, TN
HUC: 05130201

Secchi Disk = 1.0 m

Profile Measurements

[illegible]

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20005

Project: Old Hickory

Location: Cumberland River, Mile 241.0

State: Tennessee

Latitude: 36° 19" 40'

Quad: Laguardo, TN

County: Wilson

Longitude: 86° 25" 5'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 0.6 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	30.1	86.2	7.7	101.5	204.0	7.7	3.6
5.0	29.3	84.7	6.9	89.8	204.0	7.5	3.2
10.0	28.4	83.1	5.7	73.1	205.0	7.3	2.1
15.0	28.0	82.4	5.5	70.0	204.0	7.3	2.7
20.0	27.4	81.3	5.5	69.3	204.0	7.3	1.7
25.0	25.9	78.6	5.5	67.6	203.0	7.2	1.4
30.0	24.7	76.5	5.3	63.8	200.0	7.1	1.1
35.0	24.0	75.2	4.8	57.0	200.0	7.1	1.0
40.0	23.7	74.7	4.7	55.5	200.0	7.0	1.0
45.0	23.6	74.5	4.6	54.3	200.0	7.0	1.0
48.0	23.6	74.5	4.5	53.1	200.0	7.0	1.0

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20006

Project: Old Hickory

Location: Cumberland River, Mile 245.0

State: Tennessee

Latitude: 36° 19" 40'

Quad: Laguardo, TN

County: Wilson

Longitude: 86° 23" 22'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 0.9 m

(No Laboratory Analyses)

Profile Measurements

Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
0.0	29.7	85.5	9.8	128.4	204.0	8.4	6.1
5.0	29.2	84.6	9.7	126.0	204.0	8.3	10.3
10.0	28.3	82.9	7.5	96.0	205.0	7.8	7.9
15.0	26.5	79.7	6.5	80.7	204.0	7.6	4.2
20.0	25.5	77.9	6.6	80.5	201.0	7.5	3.6
25.0	24.8	76.6	6.5	78.3	199.0	7.4	2.5
30.0	24.0	75.2	5.9	70.1	198.0	7.2	1.5
35.0	23.6	74.5	5.6	66.1	197.0	7.2	1.2
40.0	23.5	74.3	5.4	63.6	197.0	7.1	1.2
45.0	23.4	74.1	5.3	62.3	197.0	7.1	1.2
50.0	23.3	73.9	5.1	59.8	197.0	7.1	1.4
53.0	23.3	73.9	4.7	55.1	199.0	7.1	1.4

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20008

Project: Old Hickory

Location: Cumberland River, Mile 278.7

State: Tennessee
County: TrousdaleLatitude: 36° 22" 25'
Longitude: 86° 10" 37'Quad: Bellwood, TN
HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.5 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	25.5	77.9	9.6	117.1	196.0	8.1	2.4
5.0	24.0	75.2	9.7	115.2	195.0	8.1	9.9
10.0	24.0	75.2	9.4	111.7	195.0	7.9	9.9
15.0	23.9	75.0	9.2	109.1	196.0	7.8	10.2
20.0	23.7	74.7	8.0	94.5	196.0	7.5	9.3
25.0	23.5	74.3	7.8	91.8	196.0	7.5	8.8
30.0	23.4	74.1	7.4	87.0	195.0	7.4	8.3
35.0	23.3	73.9	6.9	80.9	197.0	7.3	9.5

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20009

Project: Old Hickory

Location: Cumberland River, Mile 308.2

State: Tennessee

Latitude: 36° 14" 54'

Quad: Gordonsville, TN

County: Smith

Longitude: 85° 57" 18'

HUC: 05130201

Sample Date: 19 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.1 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	22.8	73.0	5.0	58.1	193.0	7.2	2.4
5.0	22.7	72.9	4.9	56.9	194.0	7.2	3.1
10.0	22.7	72.9	4.9	56.9	193.0	7.2	3.1
15.0	22.7	72.9	4.9	56.9	193.0	7.2	3.2

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20009

Project: Old Hickory

Location: Cumberland River, Mile 308.2

State: Tennessee
County: Smith

Latitude: 36° 14" 54'
Longitude: 85° 57" 18'

Quad: Gordonsville, TN
HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.4 m

(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	20.5	68.9	7.5	83.5	189.0	7.5	1.3	
5.0	20.5	68.9	7.4	82.4	189.0	7.1	1.3	
10.0	20.2	68.4	7.6	84.1	188.0	7.1	1.3	
15.0	20.0	68.0	8.0	88.2	188.0	7.2	1.1	
18.0	20.0	68.0	8.0	88.2	188.0	7.2	1.2	

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20012

Project: Old Hickory

Location: Caney Fork River, Mile 0.9

State: Tennessee

Latitude: 36° 14" 18.8'

Quad: Gordonsville, TN

County: Smith

Longitude: 85° 55" 32.6'

HUC: 05130201

Sample Date: 19 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 2.2 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	20.9	69.6	9.0	101.0	181.0	7.6	0.2
5.0	20.1	68.2	9.1	100.5	181.0	7.5	0.4
10.0	19.9	67.8	9.0	99.0	181.0	7.5	0.7
15.0	19.9	67.8	9.0	99.0	181.0	7.5	0.8

CELNRN-EC-H / Water Management Section

Location: Drakes Creek, Mile 1.9

Quad: Hendersonville, TN
HUC: 05130201

Secchi Disk = 0.9 m

Profile Measurements

[illegible]

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20016

Project: Old Hickory

Location: Cumberland River, Mile 292.4

State: Tennessee

Latitude: 36° 15' 51'

Quad: Dixon Springs, TN

County: Smith

Longitude: 86° 4' 12'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.3 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	15.0	Depth ft	Water Temp deg C	Water Temp deg F	Dis Oxygen mg/l	Dis Oxygen % sat	Spec Cond umho/cm	pH units	Chloro a F ug/l
Alkalinity, Tot	mg/L 64	0.0	24.2	75.6	7.5	89.4	198.0	7.5	3.4
Alkalinity, Phenol	mg/L 0	5.0	23.1	73.6	7.4	86.5	198.0	7.4	8.0
Solids, Tot	mg/L 115	10.0	22.9	73.2	7.1	82.7	198.0	7.4	7.8
Solids, Tot Diss	mg/L 115	15.0	22.9	73.2	6.9	80.4	198.0	7.3	7.1
Solids, Tot Susp	mg/L <4.00	20.0	22.9	73.2	6.9	80.4	198.0	7.3	6.7
Solids, Vol	mg/L 105	25.0	22.9	73.2	6.8	79.2	198.0	7.3	6.6
Solids, Vol Diss	mg/L 105	30.0	22.9	73.2	6.8	79.2	198.0	7.3	8.1
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L 0.210								
Kjeldahl N, Tot	mg/L 0.400								
NO3+NO2, Tot	mg/L 0.309								
Phosphorus, Tot	mg/L 0.0340								
Phosphorus, Diss	mg/L								
OrthoPhosphate, D	mg/L								
Organic Carbon, T	mg/L 2.70								
Hardness, Tot	mg/L 82.7								
Sulfate, Tot	mg/L 27.3								
Calcium, Tot	mg/L 23.0								
Magnesium, Tot	mg/L 6.14								
Sodium, Tot	mg/L 6.40								
Potassium, Tot	mg/L 1.47								
Chloride, Tot	mg/L 5.06								
Arsenic, Tot	ug/L <0.5								
Barium, Tot	ug/L 22.5								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L <0.5								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L 0.8								
Iron, Tot	ug/L 67.8								
Iron, Diss	ug/L								
Lead, Tot	ug/L 3.7								
Lead, Diss	ug/L 3.4								
Manganese, Tot	ug/L 51.8								
Manganese, Diss	ug/L 3.0								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 1.5								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L <0.5								
Zinc, Tot	ug/L 3.1								
Zinc, Diss	ug/L 1.5								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 46.9								
Aluminum, Diss	ug/L								
Selenium, Tot	ug/L <0.5								
Mercury, Tot	ug/L								

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20019

Project: Old Hickory

Location: Gallatin Fossil Plant Discharge, Mile 0.3

State: Tennessee

Latitude: 36° 18" 50.6'

Quad: Laguardo, TN

County: Sumner

Longitude: 86° 24" 12.8'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 0.8 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	32.4	90.3	5.3	72.5	202.0	7.4	1.0
5.0	32.3	90.1	5.3	72.4	202.0	7.2	1.2
10.0	32.3	90.1	5.3	72.4	202.0	7.2	1.3
13.0	32.3	90.1	5.3	72.4	202.0	7.2	1.2

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20023

Project: Old Hickory

Location: Cumberland River, Mile 310.6

State: Tennessee

Latitude: 36° 15" 17.5'

Quad: Carthage, TN

County: Smith

Longitude: 85° 55" 28'

HUC: 05130106

Sample Date: 19 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.1 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	22.5	72.5	4.8	55.5	191.0	6.9	1.8
5.0	22.5	72.5	4.7	54.3	191.0	7.1	2.4
10.0	22.4	72.3	4.7	54.2	191.0	7.1	2.5

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20025

Project: Old Hickory

Location: Cumberland River, Mile 296.5

State: Tennessee

Latitude: 36° 18" 38.2'

Quad: Dixon Springs, TN

County: Smith

Longitude: 86° 3" 58.6'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.6 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	23.6	74.5	7.1	83.7	197.0	7.5	5.0
5.0	23.2	73.8	6.7	78.5	197.0	7.4	8.3
10.0	23.1	73.6	6.6	77.1	197.0	7.3	7.4
15.0	23.1	73.6	6.5	76.0	197.0	7.3	7.9
20.0	23.1	73.6	6.4	74.8	196.0	7.3	7.7
25.0	23.1	73.6	6.4	74.8	197.0	7.3	6.9
30.0	23.1	73.6	6.3	73.6	196.0	7.3	6.4
35.0	23.1	73.6	6.4	74.8	196.0	7.3	6.2
40.0	23.1	73.6	6.3	73.6	196.0	7.3	7.1
45.0	23.1	73.6	6.3	73.6	196.0	7.3	7.0
50.0	23.1	73.6	6.3	73.6	197.0	7.3	7.2

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20026

Project: Old Hickory

Location: Cumberland River, Mile 301.8

State: Tennessee
County: Smith

Latitude: 36° 17" 54.6'
Longitude: 86° 0" 13'

Quad: Dixon Springs, TN
HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.5 m

(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	22.9	73.2	6.5	75.7	195.0	7.4	2.5	
5.0	22.6	72.7	6.4	74.1	194.0	7.3	3.5	
10.0	22.5	72.5	6.4	74.0	194.0	7.3	3.6	
15.0	22.5	72.5	6.4	74.0	194.0	7.3	3.8	
20.0	22.5	72.5	6.3	72.8	194.0	7.3	3.8	
24.0	22.5	72.5	6.3	72.8	193.0	7.3	3.5	

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20027

Project: Old Hickory

Location: Cumberland River, Mile 305.8

State: Tennessee
County: Smith

Latitude: 36° 16" 7.4'
Longitude: 85° 58" 55.9'

Quad: Carthage, TN
HUC: 05130201

Sample Date: 19 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.3 m

(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	22.6	72.7	5.5	63.7	198.0	7.3	2.2	
5.0	22.4	72.3	5.5	63.5	198.0	7.2	2.9	
10.0	22.4	72.3	5.5	63.5	198.0	7.2	2.9	
14.0	22.4	72.3	5.5	63.5	198.0	7.2	2.8	

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20027

Project: Old Hickory

Location: Cumberland River, Mile 305.8

State: Tennessee

Latitude: 36° 16" 7.4'

Quad: Carthage, TN

County: Smith

Longitude: 85° 58" 55.9'

HUC: 05130201

Sample Date: 20 Jun 2012

Water Surface Elevation = 444.9 ft

Secchi Disk = 1.3 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	22.1	71.8	5.6	64.3	192.0	7.2	1.2
5.0	22.0	71.6	5.5	63.0	192.0	7.1	2.3
10.0	21.7	71.1	5.9	67.2	190.0	7.1	2.1
15.0	21.6	70.9	6.3	71.6	191.0	7.2	1.9
20.0	21.4	70.5	6.4	72.5	191.0	7.2	1.8
23.0	21.4	70.5	6.6	74.7	191.0	7.2	1.7