

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: 23 Aug 2012

Water Surface Elevation = 387 ft

Stream Flow = 4000 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	27.5	81.5	6.7	84.6	212.0	7.8	

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: 23 Aug 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 172	0.0	27.2	81.0	13.8	173.4	452.0	8.2	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 262								
Solids, Tot Diss	mg/L 258								
Solids, Tot Susp	mg/L 4.00								
Solids, Vol	mg/L 138								
Solids, Vol Diss	mg/L 138								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.220								
NO3+NO2, Tot	mg/L 0.148								
Phosphorus, Tot	mg/L 0.103								
Phosphorus, Diss	mg/L 0.0900								
OrthoPhosphate, D	mg/L 0.0586								
Organic Carbon, T	mg/L 2.10								
Hardness, Tot	mg/L 217								
Sulfate, Tot	mg/L 50.1								
Calcium, Tot	mg/L 67.4								
Magnesium, Tot	mg/L 11.8								
Sodium, Tot	mg/L 6.54								
Potassium, Tot	mg/L 1.43								
Chloride, Tot	mg/L 9.44								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 27.9								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L 1.0								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L <0.5								
Iron, Tot	ug/L 45.1								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.6								
Lead, Diss	ug/L 0.6								
Manganese, Tot	ug/L 15.9								
Manganese, Diss	ug/L 8.7								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L 0.7								
Nickel, Tot	ug/L 3.6								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.8								
Zinc, Tot	ug/L 1.2								
Zinc, Diss	ug/L 1.9								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L <20.0								
Aluminum, Diss	ug/L <20.0								
Selenium, Tot	ug/L <0.5								
Mercury, Tot	ug/L								

United States Army Corps of Engineers
Station: 30LD10054
State: Tennessee
County: Sumner
Sample Date: 23 Aug 2012

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

CELRN-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	25.6	78.1	10.9	133.2	385.0	8.1	

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD10055

Project: Old Hickory

Location: Cedar Creek, Mile 7.0

State: Tennessee

Latitude: 36° 13" 53'

Quad: Hermitage, TN

County: Wilson

Longitude: 86° 30" 22'

HUC: *

Sample Date: 23 Aug 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 220	0.0	22.6	72.7	11.0	127.4	474.0	8.0	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 281								
Solids, Tot Diss	mg/L 277								
Solids, Tot Susp	mg/L 4.00								
Solids, Vol	mg/L 141								
Solids, Vol Diss	mg/L 141								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.200								
NO3+NO2, Tot	mg/L 0.174								
Phosphorus, Tot	mg/L 0.0929								
Phosphorus, Diss	mg/L 0.0876								
OrthoPhosphate, D	mg/L 0.0501								
Organic Carbon, T	mg/L 2.60								
Hardness, Tot	mg/L 238								
Sulfate, Tot	mg/L 38.9								
Calcium, Tot	mg/L 80.7								
Magnesium, Tot	mg/L 8.86								
Sodium, Tot	mg/L 4.86								
Potassium, Tot	mg/L 1.06								
Chloride, Tot	mg/L 5.94								
Arsenic, Tot	ug/L <0.5								
Barium, Tot	ug/L 33.8								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L 0.7								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L <0.5								
Iron, Tot	ug/L 44.3								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.6								
Lead, Diss	ug/L 0.7								
Manganese, Tot	ug/L 12.5								
Manganese, Diss	ug/L 9.0								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 4.2								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.6								
Zinc, Tot	ug/L 1.3								
Zinc, Diss	ug/L 1.8								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L <20.0								
Aluminum, Diss	ug/L <20.0								
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: 30LD10057

Project: Old Hickory

Location: Spring Creek, Mile 5.8

State: Tennessee

Latitude: 36° 16" 36'

Quad: Hunters Point, TN

County: Wilson

Longitude: 86° 16" 31'

HUC: 05130201

Sample Date: 23 Aug 2012

Water Surface Elevation =

Stream Flow =

(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	23.7	74.7	11.5	135.9	328.0	8.0	

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD10058

Project: Old Hickory

Location: Round Lick Creek, Mile 8.3

State: Tennessee

Latitude: 36° 10" 13.2'

Quad: New Middleton, TN

County: Smith

Longitude: 86° 5" 26'

HUC: 05130201

Sample Date: 23 Aug 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 110	0.0	23.3	73.9	9.0	105.6	240.0	8.0	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 125								
Solids, Tot Diss	mg/L 121								
Solids, Tot Susp	mg/L 4.00								
Solids, Vol	mg/L 71.0								
Solids, Vol Diss	mg/L 71.0								
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.200								
NO3+NO2, Tot	mg/L <0.0200								
Phosphorus, Tot	mg/L 0.0583								
Phosphorus, Diss	mg/L 0.0517								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 3.60								
Hardness, Tot	mg/L 107								
Sulfate, Tot	mg/L 12.9								
Calcium, Tot	mg/L 34.4								
Magnesium, Tot	mg/L 5.03								
Sodium, Tot	mg/L 5.20								
Potassium, Tot	mg/L 0.123								
Chloride, Tot	mg/L 6.63								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 18.9								
Beryllium, Tot	ug/L <0.5								
Cadmium, Tot	ug/L <0.5								
Chromium, Tot	ug/L 0.9								
Cobalt, Tot	ug/L <0.5								
Copper, Tot	ug/L <0.5								
Iron, Tot	ug/L 56.3								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.7								
Lead, Diss	ug/L 0.6								
Manganese, Tot	ug/L 14.4								
Manganese, Diss	ug/L 5.6								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 2.0								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.9								
Zinc, Tot	ug/L 2.6								
Zinc, Diss	ug/L 2.8								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L <20.0								
Aluminum, Diss	ug/L <20.0								
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
County: TrousdaleLatitude: 36° 23' 2.5"
Longitude: 86° 7' 44"Quad: Hartsville, TN
HUC: 05130201

Sample Date: 23 Aug 2012

Water Surface Elevation =

Stream Flow =

(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	10.0	123.3	363.0	8.0	

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: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 0.8 m

Results of Laboratory Analyses

Profile Measurements

Sample	Depth ft	0.0	30.0	60.0	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	82	82	88	0.0	31.1	88.0	13.2	177.5	206.9	9.1	10.9
Alkalinity, Phenol	mg/L	14	0	0	5.0	29.8	85.7	14.3	188.3	204.9	9.1	20.7
Solids, Tot	mg/L	102	112.2	118	10.0	27.9	82.3	11.5	146.2	206.9	8.8	21.9
Solids, Tot Diss	mg/L	98.0	103	114	15.0	27.4	81.4	7.4	94.1	210.2	8.3	17.0
Solids, Tot Susp	mg/L	4.00	9.20	4.00	20.0	27.4	81.2	7.0	88.3	210.7	8.1	15.0
Solids, Vol	mg/L	57.0	126	84.0	25.0	27.0	80.7	4.4	55.1	212.2	7.5	8.5
Solids, Vol Diss	mg/L	57.0	120	84.0	30.0	26.9	80.4	3.0	37.4	214.6	7.3	5.8
Solids, Vol Susp	mg/L	<4.00	6.00	<4.00	35.0	26.8	80.2	2.7	33.7	215.3	7.2	4.8
Ammonia N, Tot	mg/L	<0.200	<0.200	<0.200	40.0	26.7	80.0	2.7	33.4	216.4	7.2	4.3
Kjeldahl N, Tot	mg/L	0.510	0.580	0.290	45.0	26.5	79.8	2.9	36.3	216.9	7.2	4.4
NO3+NO2, Tot	mg/L	<0.0200	0.0928	0.408	50.0	26.5	79.6	2.7	33.8	217.4	7.2	4.5
Phosphorus, Tot	mg/L	0.0669	0.0761	0.0790	55.0	26.3	79.3	1.7	20.6	219.9	7.1	3.1
Phosphorus, Diss	mg/L	0.0252	0.0498	0.0565	60.0	26.1	79.1	0.8	10.4	221.3	7.0	2.7
OrthoPhosphate, D	mg/L	<0.0500	<0.0500	<0.0500	65.0	26.1	79.0	0.8	9.4	221.1	7.0	3.0
Organic Carbon, T	mg/L	3.70	2.90	2.90	68.0	26.1	79.0	0.8	9.3	221.3	7.0	3.0
Hardness, Tot	mg/L	90.9	89.6	94.8								
Sulfate, Tot	mg/L	21.6	21.4	21.1								
Calcium, Tot	mg/L	27.1	26.8	28.9								
Magnesium, Tot	mg/L	5.65	5.50	5.50								
Sodium, Tot	mg/L	4.79	4.78	4.57								
Potassium, Tot	mg/L	1.73	1.65	1.79								
Chloride, Tot	mg/L	4.63	4.53	4.54								
Arsenic, Tot	ug/L	1.1	1.2	1.0								
Barium, Tot	ug/L	20.1	28.7	39.3								
Beryllium, Tot	ug/L	<0.5	<0.5	<0.5								
Cadmium, Tot	ug/L	<0.5	<0.5	<0.5								
Chromium, Tot	ug/L	0.52	0.7	0.6								
Cobalt, Tot	ug/L	<0.5	<0.5	<0.5								
Copper, Tot	ug/L	<0.5	0.6	0.6								
Iron, Tot	ug/L	41.1	156.0	108.0								
Iron, Diss	ug/L	<20.0	<20.0	<20.0								
Lead, Tot	ug/L	<0.5	<0.5	<0.5								
Lead, Diss	ug/L	<0.5	<0.5	<0.5								
Manganese, Tot	ug/L	55.8	194.0	345.0								
Manganese, Diss	ug/L	1.3	8.2	108.0								
Thallium, Tot	ug/L	<0.5	<0.5	<0.5								
Molybdenum, Tot	ug/L	0.7	0.7	0.7								
Nickel, Tot	ug/L	1.6	1.8	2.0								
Silver, Tot	ug/L	<0.5	<0.5	<0.5								
Vanadium, Tot	ug/L	1.2	1.3	1.1								
Zinc, Tot	ug/L	0.7	1.0	0.8								
Zinc, Diss	ug/L	<0.5	0.5	0.8								
Antimony, Tot	ug/L	<0.5	<0.5	<0.5								
Aluminum, Tot	ug/L	<20.0	<20.0	<20.0								
Aluminum, Diss	ug/L	<20.0	<20.0	<20.0								
Selenium, Tot	ug/L	<0.5	<0.5	<0.5								
Mercury, Tot	ug/L	0.017	0.023	0.019								

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: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 0.7 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	29.8	85.7	12.2	160.9	209.2	9.0	13.6
5.0	27.4	81.4	7.2	90.9	214.5	8.1	18.5
10.0	27.0	80.6	5.1	63.7	217.8	7.6	14.0
15.0	26.8	80.2	4.7	58.4	218.3	7.5	9.9
20.0	26.6	79.9	3.1	38.3	224.9	7.3	9.2
25.0	26.5	79.6	4.2	52.5	222.3	7.4	8.4
30.0	26.4	79.5	5.4	66.6	218.4	7.5	9.9
35.0	26.3	79.3	5.0	61.4	218.5	7.4	9.3
40.0	26.1	79.0	3.1	38.8	220.0	7.2	7.0
45.0	26.0	78.8	2.3	28.1	221.8	7.1	4.8
50.0	25.9	78.7	1.5	18.5	222.6	7.0	3.8
55.0	25.9	78.6	1.0	12.1	223.4	7.0	3.2
60.0	25.9	78.6	0.8	9.4	223.6	7.0	3.1
65.0	25.9	78.6	0.7	8.3	224.0	7.0	3.1
70.0	25.9	78.5	0.5	5.7	224.2	7.0	2.9
74.0	25.8	78.5	0.4	5.2	226.2	7.0	15.9

CELRN-EC-H / Water Management Section

Location: Cumberland River, Mile 236.0

Quad: Laguardo, TN
HUC: 05130201

Secchi Disk = 0.8 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: 23 Aug 2012

Water Surface Elevation = 445.4 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	30.7	87.3	8.2	110.3	220.1	7.8	7.7
5.0	29.6	85.3	7.9	103.7	218.5	7.6	8.0
10.0	27.5	81.5	6.6	84.3	216.7	7.3	5.5
15.0	26.6	79.8	6.2	76.8	216.1	7.3	4.2
20.0	26.1	78.9	6.5	80.3	215.5	7.3	4.9
25.0	25.4	77.7	6.1	73.7	215.5	7.2	3.8
30.0	25.0	77.0	5.5	66.8	214.9	7.1	2.2
35.0	25.0	76.9	5.4	65.2	214.8	7.1	2.0
40.0	24.9	76.8	5.2	62.8	214.7	7.1	2.0
45.0	24.9	76.8	5.2	62.5	214.7	7.1	2.2
47.0	24.9	76.8	5.1	62.2	214.8	7.1	2.3

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: 23 Aug 2012

Water Surface Elevation = 445.4 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	30.0	85.9	14.7	194.8	210.0	9.1	16.8
5.0	28.4	83.0	14.1	181.0	209.3	8.9	26.3
10.0	27.3	81.2	10.0	125.9	212.4	8.3	17.6
15.0	26.4	79.4	8.8	108.8	216.8	7.9	11.0
20.0	25.4	77.6	7.6	93.1	216.2	7.4	7.1
25.0	25.0	77.0	6.8	82.6	217.0	7.3	5.0
30.0	24.8	76.7	6.4	76.7	216.5	7.2	3.1
35.0	24.8	76.6	6.2	75.1	216.5	7.2	3.7
40.0	24.8	76.6	6.2	74.3	217.0	7.2	3.2
45.0	24.7	76.5	5.9	70.9	217.0	7.1	2.9
50.0	24.7	76.4	5.8	70.1	217.0	7.1	2.8
55.0	24.7	76.4	5.8	69.4	217.0	7.1	3.1

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD20007

Project: Old Hickory

Location: Cumberland River, Mile 263.1

State: Tennessee

Latitude: 36° 17" 57'

Quad: Hunters Point, TN

County: Wilson

Longitude: 86° 15" 49'

HUC: 05130201

Sample Date: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 1.1 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth ft	20.0	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 70	0.0	26.1	78.9	11.6	142.5	202.9	8.5	5.8
Alkalinity, Phenol	mg/L 0	5.0	24.5	76.0	11.4	136.1	201.0	8.2	14.3
Solids, Tot	mg/L 98.4	10.0	24.2	75.6	9.9	117.6	200.5	7.9	10.0
Solids, Tot Diss	mg/L 94.0	15.0	24.0	75.2	9.0	107.1	200.8	7.6	7.9
Solids, Tot Susp	mg/L 4.40	20.0	23.9	74.9	8.4	100.1	200.7	7.5	5.5
Solids, Vol	mg/L 121	25.0	23.8	74.9	8.3	98.1	201.1	7.4	5.0
Solids, Vol Diss	mg/L 121	30.0	23.8	74.8	8.2	96.6	200.9	7.4	4.8
Solids, Vol Susp	mg/L <4.00	35.0	23.8	74.8	7.9	93.8	201.2	7.4	3.7
Ammonia N, Tot	mg/L <0.200	40.0	23.7	74.7	7.9	93.2	201.0	7.4	4.2
Kjeldahl N, Tot	mg/L 0.330	45.0	23.7	74.7	7.8	92.8	201.1	7.4	3.8
NO3+NO2, Tot	mg/L 0.260	50.0	23.7	74.7	7.9	92.9	200.8	7.4	3.8
Phosphorus, Tot	mg/L 0.0295	52.0	23.7	74.7	7.9	92.8	201.0	7.4	4.3
Phosphorus, Diss	mg/L 0.0205								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 2.20								
Hardness, Tot	mg/L 84.9								
Sulfate, Tot	mg/L 22.4								
Calcium, Tot	mg/L 25.0								
Magnesium, Tot	mg/L 5.47								
Sodium, Tot	mg/L 4.87								
Potassium, Tot	mg/L 1.40								
Chloride, Tot	mg/L 4.52								
Arsenic, Tot	ug/L 0.5								
Barium, Tot	ug/L 24.7								
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 67.9								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L <0.5								
Lead, Diss	ug/L <0.5								
Manganese, Tot	ug/L 54.6								
Manganese, Diss	ug/L 0.6								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L 0.5								
Nickel, Tot	ug/L 1.8								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.6								
Zinc, Tot	ug/L 1.2								
Zinc, Diss	ug/L 0.67								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L <20.0								
Aluminum, Diss	ug/L <20.0								
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: 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: 23 Aug 2012

Water Surface Elevation = 445.4 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	24.9	76.8	7.7	93.4	208.8	7.5	2.6
5.0	23.7	74.6	7.1	84.1	207.5	7.3	5.8
10.0	23.7	74.6	7.1	83.7	207.7	7.3	6.2
15.0	23.6	74.6	7.1	83.3	207.6	7.3	7.6
20.0	23.7	74.6	7.1	84.3	206.5	7.3	6.6
25.0	23.7	74.6	7.1	84.3	206.6	7.3	5.9
30.0	23.7	74.6	7.2	84.8	206.7	7.3	6.1
35.0	23.7	74.6	7.2	85.0	206.4	7.4	6.3
39.0	23.7	74.6	7.2	85.1	206.5	7.4	7.0

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: SmithLatitude: 36° 14" 54'
Longitude: 85° 57" 18'Quad: Gordonsville, TN
HUC: 05130201

Sample Date: 23 Aug 2012

Water Surface Elevation = 445.4 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	23.1	73.6	5.4	62.8	212.4	7.3	1.7
5.0	23.1	73.5	5.3	62.0	212.8	7.2	2.6
10.0	23.1	73.5	5.3	62.1	212.8	7.2	2.3
15.0	23.1	73.5	5.3	62.4	212.7	7.2	2.5
19.0	23.0	73.5	5.4	63.3	212.7	7.2	2.3

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: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 2.5 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	14.7	58.5	8.9	87.7	170.6	7.4	0.4
5.0	14.7	58.5	8.9	87.5	170.6	7.2	0.5
10.0	14.7	58.4	8.9	87.5	170.6	7.2	0.5
15.0	14.6	58.4	8.8	87.0	170.6	7.2	0.5

CELNRN-EC-H / Water Management Section

Location: Drakes Creek, Mile 1.9

Quad: Hendersonville, TN
HUC: 05130201

Secchi Disk = 0.7 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: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 1.2 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 74	0.0	23.1	73.7	6.1	71.5	201.8	7.3	1.9
Alkalinity, Phenol	mg/L 0	5.0	22.9	73.2	6.1	70.9	201.6	7.2	3.2
Solids, Tot	mg/L 98.2	10.0	22.8	73.1	6.1	71.3	201.5	7.2	3.2
Solids, Tot Diss	mg/L 91.0	15.0	22.7	72.8	6.2	71.5	201.3	7.2	3.3
Solids, Tot Susp	mg/L 7.20	20.0	22.6	72.7	6.2	71.4	201.0	7.2	2.8
Solids, Vol	mg/L 108	25.0	22.6	72.6	6.2	71.2	201.1	7.2	2.7
Solids, Vol Diss	mg/L 108	30.0	22.5	72.6	6.2	71.6	200.6	7.2	2.7
Solids, Vol Susp	mg/L <4.00								
Ammonia N, Tot	mg/L <0.200								
Kjeldahl N, Tot	mg/L 0.280								
NO3+NO2, Tot	mg/L 0.357								
Phosphorus, Tot	mg/L 0.0313								
Phosphorus, Diss	mg/L <0.0200								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 2.40								
Hardness, Tot	mg/L 85.2								
Sulfate, Tot	mg/L 23.6								
Calcium, Tot	mg/L 24.6								
Magnesium, Tot	mg/L 5.80								
Sodium, Tot	mg/L 4.89								
Potassium, Tot	mg/L 1.44								
Chloride, Tot	mg/L 4.50								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 24.5								
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 0.7								
Iron, Tot	ug/L 102.0								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L <0.5								
Lead, Diss	ug/L <0.5								
Manganese, Tot	ug/L 103.0								
Manganese, Diss	ug/L 1.5								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L 0.5								
Nickel, Tot	ug/L 1.8								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.5								
Zinc, Tot	ug/L 1.4								
Zinc, Diss	ug/L <0.5								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L <20.0								
Aluminum, Diss	ug/L <20.0								
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: 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: 23 Aug 2012

Water Surface Elevation = 445.4 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	33.5	92.3	5.8	80.7	223.5	7.3	2.2
5.0	33.4	92.2	5.8	81.2	223.4	7.3	2.7
10.0	33.4	92.2	5.8	81.3	223.2	7.3	3.5
14.0	33.4	92.2	5.8	81.4	223.2	7.2	2.9

United States Army Corps of Engineers

Nashville District

CELRN-EC-H / Water Management Section

Station: 30LD20023

Project: Old Hickory

Location: Cumberland River, Mile 310.6

State: Tennessee
County: Smith

Latitude: 36° 15" 17.5'
Longitude: 85° 55" 28'

Quad: Carthage, TN
HUC: 05130106

Sample Date: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 0.8 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	7.4	86.1	205.6	7.2	1.7	
5.0	22.6	72.6	7.4	85.6	205.5	7.3	1.7	
15.0	22.6	72.6	7.6	88.1	205.6	7.3	1.9	

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: 23 Aug 2012

Water Surface Elevation = 445.4 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	22.0	71.6	6.9	78.7	200.2	7.5	1.6
5.0	21.9	71.5	6.8	78.0	200.0	7.3	2.4
10.0	21.9	71.4	6.8	78.1	200.1	7.3	2.4
15.0	21.9	71.4	6.9	78.4	199.8	7.3	2.3
20.0	21.8	71.3	6.8	77.8	200.7	7.3	2.3
25.0	21.8	71.3	6.9	78.1	199.3	7.3	2.2
30.0	21.9	71.5	6.8	77.7	199.4	7.3	2.4
35.0	21.9	71.5	6.8	77.5	200.6	7.3	2.4
40.0	21.9	71.5	6.8	77.6	200.0	7.3	2.4
45.0	21.9	71.5	6.8	77.7	199.7	7.3	2.5
50.0	21.9	71.4	6.8	77.6	199.5	7.3	2.5
52.0	21.9	71.4	6.8	77.7	200.4	7.3	2.7

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: SmithLatitude: 36° 17" 54.6'
Longitude: 86° 0" 13'Quad: Dixon Springs, TN
HUC: 05130201

Sample Date: 23 Aug 2012

Water Surface Elevation = 445.4 ft

Secchi Disk = 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	23.0	73.4	5.6	65.0	203.8	7.3	2.0
5.0	23.0	73.3	5.6	64.9	204.0	7.2	3.2
10.0	23.0	73.3	5.6	64.8	203.9	7.2	3.0
15.0	23.0	73.3	5.6	64.6	203.7	7.2	3.0
20.0	23.0	73.3	5.6	64.8	203.5	7.2	2.6
22.0	23.0	73.3	5.6	64.6	203.9	7.2	2.2

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: 23 Aug 2012

Water Surface Elevation = 445.4 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	19.3	66.7	7.9	86.0	187.0	7.4	1.1
5.0	19.3	66.7	7.9	86.0	187.0	7.3	1.5
10.0	19.2	66.6	7.9	85.8	186.8	7.3	1.6
15.0	19.3	66.7	7.9	85.6	186.9	7.3	1.5
20.0	19.3	66.7	8.0	86.4	187.0	7.4	1.9
25.0	19.3	66.7	8.0	86.6	188.1	7.4	1.5
27.0	19.3	66.7	8.0	87.0	188.2	7.4	1.5