

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: 11 Sep 2012

Water Surface Elevation = 387.9 ft

Stream Flow = 8700 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	26.3	79.3	5.9	73.0	219.0	7.8	

United States Army Corps of Engineers

Nashville District

CELNRN-EC-H / Water Management Section

Station: 30LD10001

Project: Old Hickory

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HUC: 05130202

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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	82	0.0	26.5	79.7	8.2	101.8	218.0	8.1	
Alkalinity, Phenol	mg/L	0								
Solids, Tot	mg/L	139								
Solids, Tot Diss	mg/L	132.2								
Solids, Tot Susp	mg/L	6.80								
Solids, Vol	mg/L	121								
Solids, Vol Diss	mg/L	113								
Solids, Vol Susp	mg/L	8								
Ammonia N, Tot	mg/L	<0.200								
Kjeldahl N, Tot	mg/L	0.550								
NO3+NO2, Tot	mg/L	0.0491								
Phosphorus, Tot	mg/L	0.0478								
Phosphorus, Diss	mg/L	0.0379								
OrthoPhosphate, D	mg/L	<0.0500								
Organic Carbon, T	mg/L	3.30								
Hardness, Tot	mg/L	93.5								
Sulfate, Tot	mg/L	23.1								
Calcium, Tot	mg/L	28.2								
Magnesium, Tot	mg/L	5.64								
Sodium, Tot	mg/L	4.89								
Potassium, Tot	mg/L	1.61								
Chloride, Tot	mg/L	4.74								
Arsenic, Tot	ug/L	1.0								
Barium, Tot	ug/L	27.4								
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	1.4								
Iron, Tot	ug/L	96.1								
Iron, Diss	ug/L	<20.0								
Lead, Tot	ug/L	0.8								
Lead, Diss	ug/L	0.6								
Manganese, Tot	ug/L	107.0								
Manganese, Diss	ug/L	2.0								
Thallium, Tot	ug/L	<0.5								
Molybdenum, Tot	ug/L	0.7								
Nickel, Tot	ug/L	1.2								
Silver, Tot	ug/L	<0.5								
Vanadium, Tot	ug/L	1.1								
Zinc, Tot	ug/L	1.1								
Zinc, Diss	ug/L	1.2								
Antimony, Tot	ug/L	<0.5								
Aluminum, Tot	ug/L	51.1								
Aluminum, Diss	ug/L	<20.0								
Selenium, Tot	ug/L	0.6								
Mercury, Tot	ug/L	0.005								

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: 11 Sep 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 184	0.0	22.8	73.0	12.3	143.0	458.0	8.1	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 289								
Solids, Tot Diss	mg/L 289								
Solids, Tot Susp	mg/L <4.00								
Solids, Vol	mg/L 125								
Solids, Vol Diss	mg/L 125								
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 0.364								
Phosphorus, Tot	mg/L 0.0845								
Phosphorus, Diss	mg/L 0.0729								
OrthoPhosphate, D	mg/L 0.0668								
Organic Carbon, T	mg/L 2.10								
Hardness, Tot	mg/L 225								
Sulfate, Tot	mg/L 50.6								
Calcium, Tot	mg/L 71.1								
Magnesium, Tot	mg/L 11.6								
Sodium, Tot	mg/L 6.17								
Potassium, Tot	mg/L 1.61								
Chloride, Tot	mg/L 8.86								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 32.4								
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 1.3								
Iron, Tot	ug/L 42.5								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.6								
Lead, Diss	ug/L 0.6								
Manganese, Tot	ug/L 19.6								
Manganese, Diss	ug/L 13.4								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L 0.6								
Nickel, Tot	ug/L 2.3								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.9								
Zinc, Tot	ug/L 0.8								
Zinc, Diss	ug/L 1.5								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 40.6								
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: 11 Sep 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	19.5	67.1	10.0	109.2	438.0	8.0	

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: 11 Sep 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 224	0.0	19.2	66.6	7.8	84.7	508.0	7.9	
Alkalinity, Phenol	mg/L 0								
Solids, Tot	mg/L 339								
Solids, Tot Diss	mg/L 339								
Solids, Tot Susp	mg/L <4.00								
Solids, Vol	mg/L 159								
Solids, Vol Diss	mg/L 159								
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 0.391								
Phosphorus, Tot	mg/L 0.119								
Phosphorus, Diss	mg/L 0.113								
OrthoPhosphate, D	mg/L 0.0944								
Organic Carbon, T	mg/L 2.90								
Hardness, Tot	mg/L 256								
Sulfate, Tot	mg/L 40.5								
Calcium, Tot	mg/L 87.9								
Magnesium, Tot	mg/L 8.88								
Sodium, Tot	mg/L 4.57								
Potassium, Tot	mg/L 1.98								
Chloride, Tot	mg/L 5.88								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 37.3								
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 1.3								
Iron, Tot	ug/L 58.2								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.5								
Lead, Diss	ug/L 0.83								
Manganese, Tot	ug/L 21.3								
Manganese, Diss	ug/L 16.6								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 2.8								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 1.1								
Zinc, Tot	ug/L 1.0								
Zinc, Diss	ug/L 1.8								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 43.4								
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: 11 Sep 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	20.3	68.5	6.6	73.2	451.0	7.8	

United States Army Corps of Engineers
Station: 30LD10062
State: Tennessee
County: Trousdale
Sample Date: 11 Sep 2012

Nashville District
Project: Old Hickory
Latitude: 36° 23' 2.5'
Longitude: 86° 7' 44'
Water Surface Elevation =

CELRN-EC-H / Water Management Section
Location: Goose Creek, Mile 4.5
Quad: Hartsville, 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	20.2	68.4	9.3	102.9	412.0	8.1	

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: 11 Sep 2012

Water Surface Elevation = 445.3 ft

Secchi Disk = 0.7 m

Results of Laboratory Analyses

Profile Measurements

Sample Depth				Depth	Water Temp	Water Temp	Dis Oxygen	Dis Oxygen	Spec Cond	pH	Chloro a F	
ft		0.0	30.0	65.0	ft	deg C	deg F	mg/l	% sat	umho/cm	units	ug/l
Alkalinity, Tot	mg/L	82	82	84	0.0	28.5	83.3	13.0	166.9	215.0	8.9	14.1
Alkalinity, Phenol	mg/L	6	0	0	5.0	28.4	83.1	12.2	156.4	215.0	8.8	18.6
Solids, Tot	mg/L	123	132	136	10.0	26.8	80.2	10.1	126.0	217.0	8.6	23.0
Solids, Tot Diss	mg/L	119	116.4	124.8	15.0	26.5	79.7	7.5	93.1	219.0	8.1	16.2
Solids, Tot Susp	mg/L	4.00	15.6	11.2	20.0	26.4	79.5	6.4	79.3	220.0	7.8	14.0
Solids, Vol	mg/L	306	95.0	159	25.0	26.3	79.3	6.2	76.7	220.0	7.7	11.8
Solids, Vol Diss	mg/L	302	85.0	159	30.0	26.2	79.2	6.5	80.3	220.0	7.8	13.5
Solids, Vol Susp	mg/L	4	10	<4.00	35.0	26.2	79.2	6.1	75.3	220.0	7.7	10.3
Ammonia N, Tot	mg/L	<0.200	<0.200	<0.200	40.0	26.2	79.2	5.8	71.6	221.0	7.7	9.6
Kjeldahl N, Tot	mg/L	0.320	0.630	0.600	45.0	26.2	79.2	5.6	69.2	220.0	7.6	9.2
NO3+NO2, Tot	mg/L	<0.0200	0.208	0.0344	50.0	26.1	79.0	5.6	69.0	220.0	7.6	8.7
Phosphorus, Tot	mg/L	0.0322	0.0388	0.0488	55.0	26.1	79.0	5.6	69.0	220.0	7.6	9.0
Phosphorus, Diss	mg/L	<0.0200	0.0243	0.0242	60.0	26.1	79.0	5.4	66.6	221.0	7.6	8.5
OrthoPhosphate, D	mg/L	<0.0500	<0.0500	<0.0500	65.0	26.1	79.0	4.7	58.0	221.0	7.5	7.9
Organic Carbon, T	mg/L	3.60	3.30	3.20	70.0	26.0	78.8	1.8	22.2	222.0	7.1	5.3
Hardness, Tot	mg/L	92.0	91.9	93.0								
Sulfate, Tot	mg/L	23.2	23.1	23.2								
Calcium, Tot	mg/L	27.8	27.6	28.0								
Magnesium, Tot	mg/L	5.48	5.56	5.59								
Sodium, Tot	mg/L	4.83	4.90	4.85								
Potassium, Tot	mg/L	1.54	1.55	1.59								
Chloride, Tot	mg/L	4.73	4.69	4.73								
Arsenic, Tot	ug/L	0.9	1.0	1.0								
Barium, Tot	ug/L	23.3	26.5	30.7								
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	1.8	1.7	1.7								
Iron, Tot	ug/L	50.6	81.1	149.0								
Iron, Diss	ug/L	<20.0	<20.0	<20.0								
Lead, Tot	ug/L	0.6	0.7	0.77								
Lead, Diss	ug/L	0.6	<0.5	1.9								
Manganese, Tot	ug/L	57.9	94.5	150.0								
Manganese, Diss	ug/L	0.8	0.8	6.5								
Thallium, Tot	ug/L	<0.5	<0.5	<0.5								
Molybdenum, Tot	ug/L	0.7	0.7	0.7								
Nickel, Tot	ug/L	1.2	1.3	1.2								
Silver, Tot	ug/L	<0.5	<0.5	<0.5								
Vanadium, Tot	ug/L	1.0	1.1	1.2								
Zinc, Tot	ug/L	0.8	1.0	1.0								
Zinc, Diss	ug/L	<0.5	0.7	0.6								
Antimony, Tot	ug/L	<0.5	<0.5	<0.5								
Aluminum, Tot	ug/L	34.4	44.9	69.0								
Aluminum, Diss	ug/L	<20.0	<20.0	<20.0								
Selenium, Tot	ug/L	<0.5	<0.5	<0.5								
Mercury, Tot	ug/L	0.037	0.111	0.033								

United States Army Corps of Engineers

Nashville District

CELNRN-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: 11 Sep 2012

Water Surface Elevation = 445.3 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	27.1	80.8	10.3	129.2	215.0	8.6	20.9
5.0	26.6	79.9	8.5	105.7	217.0	8.0	18.9
10.0	26.3	79.3	6.9	85.4	218.0	7.9	12.6
15.0	26.2	79.2	6.7	82.8	218.0	7.8	12.4
20.0	26.2	79.2	6.1	75.3	218.0	7.6	10.5
25.0	26.1	79.0	5.1	62.9	218.0	7.4	7.8
30.0	26.1	79.0	4.9	60.4	218.0	7.3	7.5
35.0	25.8	78.4	2.6	31.9	218.0	7.0	3.9
40.0	25.8	78.4	1.9	23.3	218.0	7.0	3.3
45.0	25.7	78.3	1.6	19.6	218.0	6.9	3.4
50.0	25.7	78.3	1.5	18.4	218.0	6.9	3.1
55.0	25.7	78.3	1.2	14.7	218.0	6.9	2.8
60.0	25.7	78.3	0.7	8.6	219.0	6.9	2.5
65.0	25.7	78.3	0.1	1.2	221.0	6.9	2.4
67.0	25.6	78.1	0.0	0.0	223.0	6.9	2.4

CELNRN-EC-H / Water Management Section

Location: Cumberland River, Mile 236.0

Quad: Laguardo, 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: 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: 11 Sep 2012

Water Surface Elevation = 445.3 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	31.5	88.7	8.7	117.3	210.0	8.0	6.4
5.0	28.4	83.1	8.4	107.7	210.0	7.9	10.5
10.0	26.3	79.3	6.6	81.7	212.0	7.5	7.1
15.0	25.2	77.4	6.0	72.8	209.0	7.4	4.6
20.0	24.7	76.5	5.8	69.8	207.0	7.3	4.1
25.0	24.3	75.7	5.2	62.1	206.0	7.2	3.1
30.0	24.2	75.6	5.1	60.8	206.0	7.1	2.6
35.0	24.1	75.4	5.0	59.5	206.0	7.1	2.4
40.0	24.1	75.4	4.7	55.9	206.0	7.1	2.0
45.0	24.0	75.2	4.3	51.1	206.0	7.0	1.9
47.0	24.0	75.2	4.2	49.9	205.0	7.0	2.1

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: 11 Sep 2012

Water Surface Elevation = 445.3 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	27.5	81.5	11.9	150.3	210.0	8.9	10.6
5.0	26.6	79.9	11.8	146.7	210.0	8.7	20.6
10.0	26.0	78.8	9.0	110.8	213.0	8.2	13.8
15.0	25.1	77.2	8.6	104.2	214.0	8.1	13.0
20.0	25.0	77.0	8.5	102.8	213.0	8.0	13.8
25.0	24.5	76.1	7.5	89.9	207.0	7.6	8.9
30.0	24.1	75.4	6.7	79.7	205.0	7.4	5.2
35.0	24.0	75.2	6.3	74.9	204.0	7.3	3.8
40.0	24.0	75.2	6.1	72.5	205.0	7.2	3.5
45.0	24.0	75.2	5.9	70.1	205.0	7.2	3.6
50.0	23.9	75.0	5.8	68.8	204.0	7.2	3.8
54.0	23.9	75.0	5.8	68.8	204.0	7.2	3.8

United States Army Corps of Engineers

Nashville District

CELRN-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: 11 Sep 2012

Water Surface Elevation = 445.3 ft

Secchi Disk = 1.0 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 72	0.0	23.5	74.3	8.0	94.2	203.0	7.5	4.5
Alkalinity, Phenol	mg/L 0	5.0	23.1	73.6	7.8	91.2	202.0	7.5	8.5
Solids, Tot	mg/L 118	10.0	23.0	73.4	7.4	86.3	202.0	7.4	8.0
Solids, Tot Diss	mg/L 118	15.0	23.0	73.4	7.4	86.3	202.0	7.4	5.8
Solids, Tot Susp	mg/L <4.00	20.0	23.0	73.4	7.3	85.2	202.0	7.4	5.8
Solids, Vol	mg/L 120	25.0	22.9	73.2	7.3	85.0	203.0	7.4	6.0
Solids, Vol Diss	mg/L 120	30.0	22.9	73.2	7.3	85.0	203.0	7.4	5.7
Solids, Vol Susp	mg/L <4.00	35.0	22.9	73.2	7.3	85.0	203.0	7.4	5.8
Ammonia N, Tot	mg/L <0.200	40.0	22.9	73.2	7.3	85.0	203.0	7.4	6.6
Kjeldahl N, Tot	mg/L 0.190	45.0	22.9	73.2	7.3	85.0	203.0	7.3	5.3
NO3+NO2, Tot	mg/L 0.334	50.0	22.9	73.2	7.2	83.9	203.0	7.3	4.6
Phosphorus, Tot	mg/L 0.0272								
Phosphorus, Diss	mg/L <0.0200								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 2.30								
Hardness, Tot	mg/L								
Sulfate, Tot	mg/L 23.0								
Calcium, Tot	mg/L 24.8								
Magnesium, Tot	mg/L 5.45								
Sodium, Tot	mg/L 4.88								
Potassium, Tot	mg/L 1.35								
Chloride, Tot	mg/L 4.61								
Arsenic, Tot	ug/L <0.5								
Barium, Tot	ug/L 23.3								
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 1.5								
Iron, Tot	ug/L 66.9								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.6								
Lead, Diss	ug/L 0.6								
Manganese, Tot	ug/L 48.7								
Manganese, Diss	ug/L 0.7								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 1.1								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.6								
Zinc, Tot	ug/L 0.75								
Zinc, Diss	ug/L 0.5								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 49.7								
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: 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: 11 Sep 2012

Water Surface Elevation = 445.3 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	23.1	73.6	6.9	80.7	203.0	7.3	2.9
5.0	22.7	72.9	6.7	77.7	203.0	7.3	4.8
10.0	22.6	72.7	6.5	75.3	202.0	7.3	4.6
15.0	22.5	72.5	6.3	72.8	203.0	7.2	3.5
20.0	22.5	72.5	6.3	72.8	203.0	7.2	3.4
25.0	22.5	72.5	6.3	72.8	203.0	7.2	3.6
30.0	22.5	72.5	6.2	71.7	203.0	7.2	3.5
35.0	22.5	72.5	6.2	71.7	203.0	7.2	3.2
40.0	22.5	72.5	6.2	71.7	202.0	7.2	3.3

CELNRN-EC-H / Water Management Section

Location: Cumberland River, Mile 308.2

Quad: Gordonsville, TN
HUC: 05130201

Secchi Disk = 1.1 m

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	6.5	70.7	190.0	7.3	1.0
5.0	17.4	63.3	7.2	75.4	185.0	7.3	1.3
10.0	16.2	61.2	7.4	75.6	179.0	7.3	1.1
15.0	16.0	60.8	7.5	76.3	178.0	7.3	1.3
19.0	16.0	60.8	7.5	76.3	178.0	7.3	1.1

CELRN-EC-H / Water Management Section

Location: Drakes Creek, Mile 1.9

Quad: Hendersonville, TN
HUC: 05130201

Secchi Disk = 0.6 m

Profile Measurements

[illegible]

United States Army Corps of Engineers

Nashville District

CELRN-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: 11 Sep 2012

Water Surface Elevation = 445.3 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 66	0.0	22.3	72.1	5.8	66.8	201.0	7.2	2.4
Alkalinity, Phenol	mg/L 0	5.0	22.3	72.1	5.7	65.7	201.0	7.2	3.5
Solids, Tot	mg/L 117	10.0	22.3	72.1	5.7	65.7	201.0	7.2	2.9
Solids, Tot Diss	mg/L 117	15.0	22.3	72.1	5.7	65.7	201.0	7.1	3.5
Solids, Tot Susp	mg/L <4.00	20.0	22.3	72.1	5.5	63.3	208.0	7.1	3.5
Solids, Vol	mg/L 164	25.0	22.3	72.1	5.3	61.0	218.0	7.2	3.5
Solids, Vol Diss	mg/L 164	30.0	22.4	72.3	4.1	47.3	265.0	7.2	3.9
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 0.289								
Phosphorus, Tot	mg/L <0.0200								
Phosphorus, Diss	mg/L <0.0200								
OrthoPhosphate, D	mg/L <0.0500								
Organic Carbon, T	mg/L 2.30								
Hardness, Tot	mg/L								
Sulfate, Tot	mg/L 27.2								
Calcium, Tot	mg/L 23.5								
Magnesium, Tot	mg/L 5.99								
Sodium, Tot	mg/L 5.35								
Potassium, Tot	mg/L 1.43								
Chloride, Tot	mg/L 4.51								
Arsenic, Tot	ug/L 0.6								
Barium, Tot	ug/L 25.6								
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 1.4								
Iron, Tot	ug/L 75.0								
Iron, Diss	ug/L <20.0								
Lead, Tot	ug/L 0.6								
Lead, Diss	ug/L 0.6								
Manganese, Tot	ug/L 95.9								
Manganese, Diss	ug/L 1.6								
Thallium, Tot	ug/L <0.5								
Molybdenum, Tot	ug/L <0.5								
Nickel, Tot	ug/L 1.1								
Silver, Tot	ug/L <0.5								
Vanadium, Tot	ug/L 0.6								
Zinc, Tot	ug/L 0.9								
Zinc, Diss	ug/L 1.2								
Antimony, Tot	ug/L <0.5								
Aluminum, Tot	ug/L 49.3								
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: 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: 11 Sep 2012

Water Surface Elevation = 445.3 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	32.4	90.3	6.5	88.9	211.0	7.4	4.4
5.0	32.4	90.3	6.5	88.9	210.0	7.4	4.5
10.0	32.4	90.3	6.5	88.9	210.0	7.4	4.8

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: 11 Sep 2012

Water Surface Elevation = 445.3 ft

Secchi Disk = 1.0 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	22.1	71.8	6.5	74.6	204.0	7.2	2.8
5.0	22.1	71.8	6.4	73.4	204.0	7.2	2.8
10.0	22.1	71.8	6.4	73.4	205.0	7.2	3.1
15.0	22.1	71.8	6.4	73.4	204.0	7.2	2.9
20.0	22.1	71.8	6.4	73.4	205.0	7.2	2.3
25.0	22.1	71.8	6.4	73.4	204.0	7.2	3.1
30.0	22.1	71.8	6.3	72.3	204.0	7.2	2.6
35.0	22.1	71.8	6.3	72.3	205.0	7.2	3.0
40.0	22.0	71.6	6.2	71.0	206.0	7.2	3.1
45.0	22.0	71.6	6.1	69.9	206.0	7.2	2.8
49.0	22.0	71.6	6.1	69.9	206.0	7.2	2.5

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: 11 Sep 2012

Water Surface Elevation = 445.3 ft

Secchi Disk = 0.9 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	21.3	70.3	6.3	71.2	205.0	7.2	2.0	
5.0	21.3	70.3	6.3	71.2	205.0	7.2	2.0	
10.0	21.3	70.3	6.3	71.2	204.0	7.2	2.1	
15.0	21.3	70.3	6.3	71.2	205.0	7.2	2.0	
20.0	21.3	70.3	6.3	71.2	205.0	7.2	2.0	
24.0	21.3	70.3	6.2	70.1	205.0	7.2	2.0	

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: SmithLatitude: 36° 16" 7.4'
Longitude: 85° 58" 55.9'Quad: Carthage, TN
HUC: 05130201

Sample Date: 11 Sep 2012

Water Surface Elevation = 445.3 ft

Secchi Disk = 1.0 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	19.8	67.6	7.2	79.1	195.0	7.3	1.2
5.0	18.2	64.8	7.6	80.9	185.0	7.3	1.2
10.0	17.8	64.0	7.7	81.3	183.0	7.3	1.2
15.0	17.7	63.9	7.7	81.1	182.0	7.3	1.2
20.0	17.4	63.3	7.7	80.6	180.0	7.3	1.1
25.0	17.4	63.3	7.7	80.6	180.0	7.3	1.2