



1367 Old State Route 34
Jonesborough, TN 37659

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JOHNSON CITY ENVIRONMENTAL
FIELD OFFICE

Little Limestone Creek Instream Water Quality Analysis

PURPOSE/OBJECTIVE

To establish consistent techniques for sampling every 4 months of Little Limestone Creek. Sampling sequencing must be completed for sampling points #4 and #5, such that the Outfall 001 discharge contribution should be included, and the corresponding sampling point #3 upstream monitoring to provide the receiving stream's background characteristics.

SCOPE

To show sampling techniques performed at sampling points #3, #4, and #5 on Little Limestone Creek.

RESPONSIBILITIES

Waste personnel are responsible for procedure compliance.

The Environmental, Health and Safety Manager is responsible for ensuring procedure compliance.

EQUIPMENT/MATERIAL

YSI-52 Dissolved oxygen meter
Thermo Scientific pH meter
Global Water flow meter
Grab sampler
Tape measure (50 feet)
Clean plastic bottles
Outside analytical bottles (ESC)
Form #120-99-042, "Instream Sampling Data"
Form #120-99-001, "Flow of Little Limestone Creek"

Little Limestone Creek Instream Water Quality Analysis (continued)

SAFETY

Comply with all applicable safety procedures.

PPE Requirements

Coveralls

Vinyl Gloves

Safety Glasses

INSTRUCTIONS

All instream sampling must be recorded as to date, location, time taken, time test, person sampling, and person performing analytical testing.

INSTREAM FLOW MEASUREMENTS

- This sampling point (#4) must be completed first.
- Take flow measurements at sampling point #4 to insure correct travel time from Outfall 001 to sample point #5.
- Grid width of creek into one (1) foot increments.
- Take flow readings every foot and log down cubic feet per seconds on flow worksheet.
- After all flow measurements are taken, calculate flow in cubic feet per second.
- Refer to the Rating Curve – Little Limestone Creek Travel Time from Outfall 001 to Instream Monitoring Station #5 (Attachment 1) to determine the correct travel time in hours.
- Flow results are entered on the Flow of Little Limestone Creek form (120-99-001).

Little Limestone Creek Instream Water Quality Analysis (continued)

SAMPLING, ANALYTICAL REQUIREMENTS

SAMPLING POINTS #3, #4, AND #5

- Place calibrated dissolved oxygen meter in stream.
- Wait for stable reading.
- Record dissolved oxygen and temperature readings on the Instream Sampling Data worksheet (120-99-042).
- Secure a clean sample in grab sampler.
- Sample Little Limestone Creek to satisfy all permit requirements.
- Log down time, date, and person sampling on the Instream Sampling Data worksheet (120-99-042).
- pH readings need to be taken within 15 minutes of sampling.

NOTE: Repeat Sampling, Analytical Requirements for sampling point #3 and #5.

RECORDS

Form # 120-99-001, "Flow of Little Limestone Creek"

Form #120-99-042, "Instream Sampling Data"

REFERENCES

Little Limestone Creek Time of Travel Study, August 23, 2010, prepared by Civil & Environmental Consultants, Inc.

Attachment 1 – "Rating Curve-Little Limestone Creek"

State of Tennessee NPDES Permit No. TN0057983