



4370 Contractors Common
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Sampling and Shipment of Soil/Backfill for Thermal Analysis

Native Soil samples for Thermal Analysis

- If cohesive soils (clayey or silty) are encountered, samples should be taken in nominal 3" diameter Shelby tubes or large diameter California sampler with brass liners, otherwise, standard split spoon samples or auger cuttings should be taken.
- Please do not extrude undisturbed sample from Shelby tube. Cut the bottom 6" section (+/- 1/2") of the tube, seal both ends with plastic caps and tape it to prevent any moisture loss.
- Identify the samples with Project Name, Location, Bore Hole, Depth, Date samples taken, etc
- The samples should be representative of the soil at the cable (or ductbank) burial depth. If the soil above this elevation is different, it should be sampled as well.
- Please include a copy of the borehole logs.
- If **bedrock** is encountered, you may take core samples (minimum 2" diameter by 5" long) or block samples of about 5" cube of irregular shape.

Disturbed or Bulk Soil/Backfill samples for Thermal Analysis

- We require about 5-10 pounds of each sample, contained in double heavy-duty plastic (Ziploc) bags, identified with Project Name, Location, Bore Hole, Depth, Date samples taken, etc...
- Mark the package "**Aggregate samples for laboratory testing only**".
- Fax/email the details of the shipment - courier name, tracking number, etc.
- You may use the shipping label given below.
- Please contact us if you have any questions or require further details.
- For all shipments, declare a value of \$10 for the entire package and send it via **FedEx or UPS** overnight service (or 2nd day air service).
- We require the Proctor (Standard or Modified) density, in-situ moisture content and percent compaction effort.

COOL SOLUTIONS FOR UNDERGROUND POWER CABLES
THERMAL SURVEYS, CORRECTIVE BACKFILLS & INSTRUMENTATION

Serving the electric power industry since 1978



Purpose for testing (in-situ vs. construction phase), the following apply:

For thermal resistivity measurements to determine in-situ values

- For soils that are cohesive
 - Undisturbed tube samples
 - bottom 6-inches of Shelby tube or
 - brass/stainless steel liner (minimum diameter of 2-inches)
 - must be continuous and NOT ring samplers
 - Disturbed samples
 - Provide us a Proctor Density Curve (Standard or Modified)
 - Provide percent (%) compaction (i.e. 95%, 90% or 85%)
 - Provide starting moisture content (i.e. in-situ, optimum or %)

For thermal resistivity measurements to determine construction phase (materials to be used around cables)

- Disturbed samples
 - Provide us a Proctor Density Curve (Standard or Modified)
 - Provide percent (%) compaction (i.e. 95%, 90% or 85%)
 - Provide starting moisture content (i.e. in-situ, optimum or %)
- 1. Provide soil descriptions or borehole logs a business card or contact information with the samples in a separate Ziploc bag.**
 - 2. We require payment within 30 days from the date of our invoice.**
 - 3. Please issue a PO or a charge to number with the samples**
 - 4. Turnaround time is about 10 days after we receive all the necessary information**

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Aggregate Samples for Laboratory Testing



Chain Of Custody Form

Please include this form in a Ziploc bag for each sample submitted:

Company Name: _____

Contact Name: _____ Contact Number _____

Project Name: _____

Project Location: _____ Your PO Number: _____

Report Submittal email: _____

Sample Location/ID: _____

Sample Collection Date: _____ Sample Depth: _____

Soil Description: _____

Does the sample require recompaction?

____ Yes (Continue below) ____ No (Tube Sample test "as is")

If the sample requires recompaction:

1. What is the % compaction required?

a. ____ Specify Proctor Maximum Dry Density (pcf)

b. ____ Standard Proctor – OR– ____ Modified Proctor

c. ____ What is the compaction effort? (Specify % i.e. 85%, 90 or 95%)

2. What is the starting moisture content?

____ As Received/In-situ? ____ Optimum?