7446 U-007-409.13

TECHNICAL DIRECTION AND CLARIFICATION FOR CONDUCTING SURFACE SOIL SAMPLING - (USED AS A REFERENCE IN OU 5 FS REPORT, APPENDIX H)

05/11/94

M:CRU5:94-0212
M. CHERRY ANDERSON/SMYSER
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MEMO

7446

Fernald Environmental

FERMCO

Restoration Management Corporation

INTEROFFICE MEMORANDUM

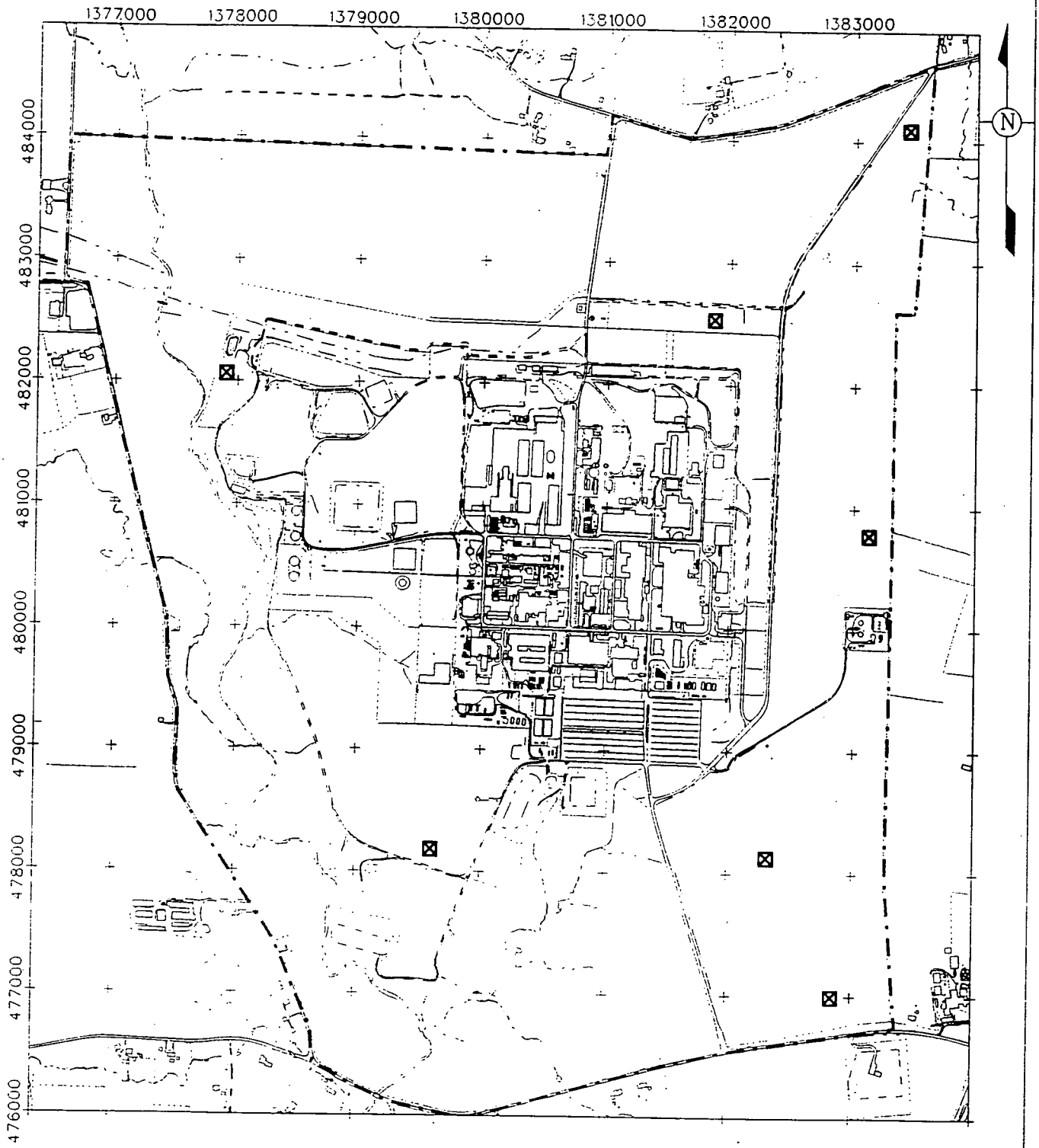
To:	Tom Anderson Cheri Smyser	**Date:**	May 11, 1994
Location:	Fernald, T-80	**Reference:**	
From:	Mark Cherry MJC	**FERMCO #:**	M:CRU5:94-0212
Location:	Fernald, T-80	**Client:**	DOE DE-AC05-920R21972
Extension:	738-6816	**Subject:**	Technical Direction and Clarification for Conducting Surface Soil Sampling

c: File Record Storage Copy 106.4.19

This memo provides technical direction and clarification for conducting surface soil sampling in support of air modeling for the baseline risk assessment.

- Samples should be collected from the seven locations identified on the attached map (Attachment 1).
- Surface soil sampling protocols outlined in the attached EPA procedure (Attachment 2) and Appendix K of the SCQ should be followed.
- All samples should be field screened for beta/gamma activity and recorded in the field log. A Radiation Technician should be present during all sampling activities.
- Samples should be transported to the FERMCO lab for sieving.
- Samples should be split at the lab into two equal fractions. One sample fraction should be sieved immediately and the other should be allowed to air dry for 24 hours prior to sieving.
- Samples should be sieved per the attached EPA procedure (Attachment 2).
- The health and safety requirements defined in the Health and Safety Plan for the Surface and Subsurface Soil Sampling Investigation (WBS No. 50.03.18, June 1993) as amended in the attached memo (Attachment 3) must be followed.

If you have any questions or require additional information, please contact me at your earliest convenience.



LEGEND:

⊠ SOIL SAMPLING LOCATION

– – – – – FEMP BOUNDARY

SCALE

1200 600 0 1200FEET

FIGURE 2-X. SURFACE SOIL SAMPLING LOCATIONS TO SUPPORT AIR PATHWAY MODELING

FIELD PROCEDURE FOR DETERMINATION OF THRESHOLD FRICTION VELOCITY*

1. Prepare a nest of sieves with the following openings: 4 mm, 2 mm, 1 mm, 0.5 mm, 0.25 mm. Place a collector pan below the bottom sieve (0.25 mm opening).

2. Collect a sample representing the surface layer of loose particles (approximately 1 cm in depth for an uncrusted surface), removing any rocks larger than about 1 cm in average physical diameter. The area to be sampled should not be less than 30 cm x 30 cm.

3. Pour the sample into the top sieve (4 mm opening), and place a lid on the top.

4. Rotate the covered sieve/pan unit by hand using broad sweeping arm motions in the horizontal plane. Complete 20 rotations at a speed just necessary to achieve some relative horizontal motion between the sieve and the particles.

5. Inspect the relative quantities of catch within each sieve and determine where the mode in the aggregate size distribution lies, i.e., between the opening size of the sieve with the largest catch and the opening size of the next largest sieve.

* Adapted from a laboratory procedure published by W. S. Chepil (1952).

Figure 3-3.

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Fernald Environmental

FERMCO

Restoration Management Corporation

INTEROFFICE MEMORANDUM

To:	Greg Johnson	Date:	May 12, 1994
Location:	Fernald, T-80	Reference:	
From:	Mark Cherry MJC	FERMCO #:	M:CRU5:94-0216
Location:	Fernald, T-80	Client:	DOE DE-AC05-920R21972
Extension:	738-6816	Subject:	Health and Safety Plan

c: File Record Storage Copy 106.4.19
Tom Anderson
Cheri Smyser

The attached health and safety plan is applicable to the air model surface soil sampling with the following modifications:

- In reference to Section 13.1.1: Replace Art Bomberger with Dave Brettschneider as CRU5 Project Director; also, add Mark Cherry as CRU5 Project Manager.

- Replace item 1. on page 19 with the following statement:
  1. The project will consist of collecting soil samples in non-production areas of the FEMP. The soil will be collected at a depth interval of 0-3 inches (maximum).

- Replace item 2.b. on page 20 with the following statement:
  2.b. A RCT will accompany the samples during sampling activities. In addition, all sample team members will be radiological worker trained to the RAD II level.

- Delete item 2.e. on page 20 "Prior to the implementation of..."

- Add to item 2: The samplers shall take care to avoid poison ivy, bees and other bio-hazards; and shall check periodically for ticks.

- Page 24: Provide a map of the sampling locations.

Also attached is a memo describing the work to be performed. If you are in agreement with the terms of this memo, please sign on the line below.

Concurrence: Greg Johnson
Greg Johnson, CRU5 HSO

MJC:TAA:daz
Attachment

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