

# PROJECT SPECIFIC PLAN FOR OFF-SITE SOIL SAMPLING IN THE FORT SCOTT AREA

FERNALD CLOSURE PROJECT  
FERNALD, OHIO



November 13, 2003

U.S. DEPARTMENT OF ENERGY

*William J. Taylor*  
for William J. Taylor, Director  
U.S. DOE Fernald Closure Project

*11-26-03*  
Date

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REVISION 0

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FOR OFF-SITE SOIL SAMPLING IN THE FORT SCOTT AREA**

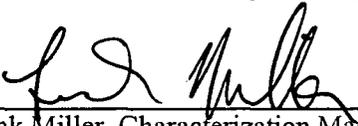
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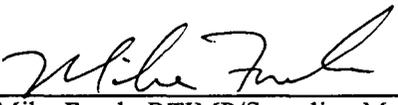
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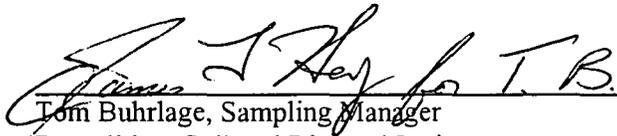
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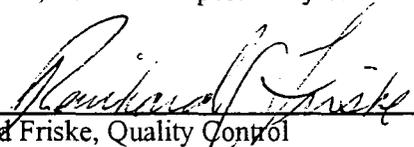
APPROVAL:

  
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Jyh-Dong Chiou, Project Manager  
Demolition, Soil and Disposal Project  
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Date

  
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Frank Miller, Characterization Manager  
Demolition, Soil and Disposal Project  
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Demolition, Soil and Disposal Project  
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Tom Buhrlage, Sampling Manager  
Demolition, Soil and Disposal Project  
12/2/03  
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Reinhard Friske, Quality Control  
Demolition, Soil and Disposal Project  
12-2-03  
Date

**FERNALD CLOSURE PROJECT**

Fluor Fernald, Inc.  
P.O. Box 538704  
Cincinnati, Ohio 45253-8704

**A. Project Summary**

1. **Purpose & Background:** This sampling plan defines the locations and requirements for collecting 12 surface soil samples for total uranium analysis from the property tract owned by Edward Nusekabel in the vicinity of New Baltimore, Ohio near the Great Miami River (Figure 1). The property encompasses approximately 400 acres, a portion of which is formerly known as the Fort Scott Camp. The property consists of forested hillsides and plateaus, pasture land and lawns primarily in the old Fort Scott camp vicinity, and lowland crop fields. The elevation ranges from 530 feet to 720 feet above mean sea level. The property is located approximately two miles southeast of the former Fernald production area boundary.

The request for soil sampling and analysis was initiated by prospective buyers of the property who plan to develop the 400 acres into a residential area. The prospective buyers appealed to Congressman Steve Chabot for this request, who then submitted a request to the Department of Energy headquarters office for implementation of the sample collection and analysis.

2. **Number of Samples and Locations:** Twelve surface soil sample locations have been identified that are representatively positioned across the property based on 12 sectors determined by common areas of elevation or surface features (e.g., predominantly sloped or flat lowland, etc.) in conjunction with safe access to the locations (Figure 2). This combined systematic/biased sampling design provides the most effective means of assessing potential uranium contamination versus other designs (random, authoritative, etc.) given that the only potential mode of deposition was by the air pathway. Figure 3 represents an aerial photograph of the property from October 2000 and includes the approximate sample locations. In addition to the 12 soil samples, one field duplicate sample and one equipment rinsate will also be analyzed for quality control purposes.

The sample locations will be initially surveyed and staked using geographical information system coordinates and a hand-held global positioning system (GPS) unit. During or following sample collection, the locations coordinates will be determined using more precise GPS instrumentation or land survey equipment.

**B. Sample Collection Information**

1. **General:** Soil samples will be collected from the 0-6 inch depth interval after removing any surface vegetation, detritus and/or root mass. Samples will be collected using a clean plastic or stainless steel liner (tube) or a Macro-Core® sampler driven into the ground or by use of a hand auger. Soil samples will be homogenized in the field then containerized for submittal to the Fernald Closure Project (FCP) onsite laboratory. The sampling, homogenization and decontamination process will adhere to the steps in the "Solids Sampling" procedure, SMPL-01.

The sample containerization, preservation and other information is as follows:

Analyte	Sample Matrix	Sample Type	Preservative	Lab	ASL	Holding Time	Container
Total Uranium	Solid	Grab	None	On-site	B	6 Months	Plastic 250 mL
Total Uranium	Deionized Water	Grab	HNO <sub>3</sub> to pH<2	On-site	B	6 Months	250 mL plastic

3. **Required QC Samples:** One field duplicate (see B.5) and one equipment rinsate using the most frequently used sample collection devices.

FCP

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4. **Sampling Equipment Cleaning:** All sample liners, cutting shoes, stainless steel mixing spoons, pans and utensils will be cleaned using a level 2 cleaning process in accordance with the SMPL-01 procedure. Any other reusable sampling equipment that indirectly comes in contact with the surface of the sample material (e.g., slam hammer adaptor, potentially) will be wiped visibly clean between sample locations.

5. **Sample Identification Information:**

<u>Location</u>	<u>Sample ID</u>	<u>Location</u>	<u>Sample ID</u>
Subarea 1	ENP-01^1-U	Subarea 7	ENP-07^1-U
Subarea 2	ENP-02^1-U	Subarea 8	ENP-08^1-U
Subarea 3	ENP-03^1-U	Subarea 9	ENP-09^1-U
Subarea 4	ENP-04^1-U	Subarea 10	ENP-10^1-U
Subarea 5	ENP-05^1-U	Subarea 11	ENP-11^1-U
Subarea 6	ENP-06^1-U	Subarea 12	ENP-12^1-U
Subarea 6	ENP-06^1-U-D	N/A	ENP-U-1X

Note: Sample nomenclature description: ENP – Edward Nusekabel Property  
 Subarea 01, 02, etc.  
 1 = 0-6 inch depth interval, etc.  
 ^ = SED notation for database purposes (not used for rinsate)  
 U = total uranium analysis  
 D or X = duplicate (D) or rinsate (X) QC sample

C. **Analytical Requirements**

The total uranium analysis will be performed by ICP/MS at the FCP onsite laboratory at Analytical Support Level (ASL) B as specified in the Data Quality Objective (DQO) SL-048. The laboratory's minimum detectable concentration for total uranium shall be 1.0 mg/kg. The expected analytical turn-around time will be 7-10 calendar days.

D. **Safety Concerns**

The safety precautions and measures for general sampling methods are provided in the "Solids Sampling" procedure (SMPL-01). Site-specific safety concerns and measures are as follows:

- Wear boots which meet ANSI Z-41 with adequate traction for walking on potentially wet, slippery slopes at all times.
- Walk down the work area before the start of an activity and identify possible hazards and correct the concern or avoid the hazard location.
- Use caution on uneven terrain to avoid slips, trips and falls.
- Wear safety glasses with rigid side shields that meet or exceed ANSI-Z87.1 when not in vehicles or other enclosures.
- Wear long sleeved clothing when walking through tall vegetation and wooded areas to avoid scratches/cuts from briars, etc.
- Utilize the "buddy system" with acceptable communication at all times.

All emergencies shall be reported immediately by calling "911" by phone. Emergency response personnel should respond to either "6762 River Road" or "7278 New Haven Road" dependent on the location of the personnel needing emergency response assistance. Other non-emergencies involving injuries shall be immediately reported to the FCP Medical Department. Any unplanned event, injury or accident shall be reported to the site AEDO and the Demolition, Soils & Disposal Project Health & Safety representative as soon as time permits after the event.

**E. Implementation of Field Changes**

Changes to this sampling plan will be provided through the Variance/Field Change Notice form process as specified in the Sitewide CERCLA Quality Assurance Plan (SCQ).

**F. Data Validation**

Field logs and analytical data will be validated to Validation Support Level (VSL) B criteria as defined in the SCQ.

**G. Data and Records Management**

As specified in Section 5.1 of the SCQ and procedure SMPL-01, sampling teams will describe sampling activities on Sample Collection Logs, the Field Activity Logs, and the Chain of Custody/Request for Analysis Form, as required. The PSP number will be on all documentation associated with these sampling activities. Standard required information will be entered into the Sitewide Environmental Database (SED). The original field data packages will be filed and controlled by the FCP Sample and Data Management group.

Laboratory analytical data packages will be filed and distributed in accordance with existing data management procedures. The analytical data package will be forwarded to the FCP Data Validation group for validation at VSL B. All analytical data and data validation qualifiers will be transferred (from FACTS) or entered into the SED per existing procedures.

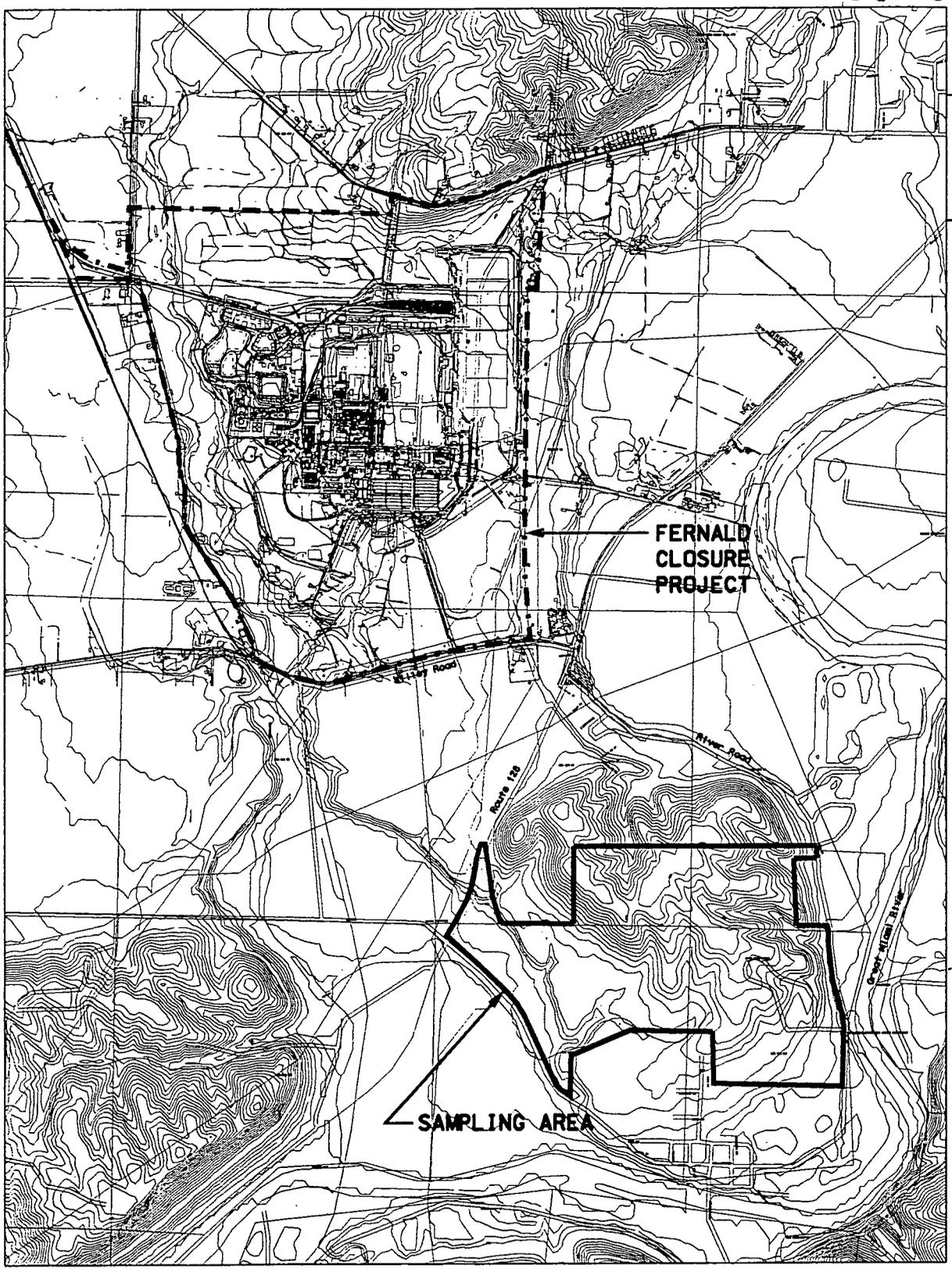
**H. Waste Disposition**

Sampling and investigation-derived waste such as disposable gloves, towels, etc. will be returned to the FCP and disposed as clean material in an on-site dumpster. Excess soil samples remaining after analysis will be returned to the Ft. Scott area property for disposal on the ground surface near one of the forested sample locations.

**I. General Project Information**

1. **Project Contacts:** Johnny Reising (DOE Associate Director)  
J.D. Chiou (Fluor Fernald Project Manager)  
Mike Frank (Fluor Fernald Project Lead)  
Tom Buhrlage (Fluor Fernald Sampling Mgr.)  
Jim Schwing (Fluor Fernald Surveying Mgr.)  
Frank Miller (Fluor Fernald Characterization Mgr.)  
Gregg Johnson (Fluor Fernald Health and Safety)  
Reinhard Friske (Fluor Fernald Quality Control)  
Heather Medley (Analytical Services)  
Jim Chambers (Data Validation)

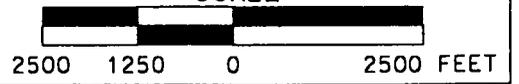
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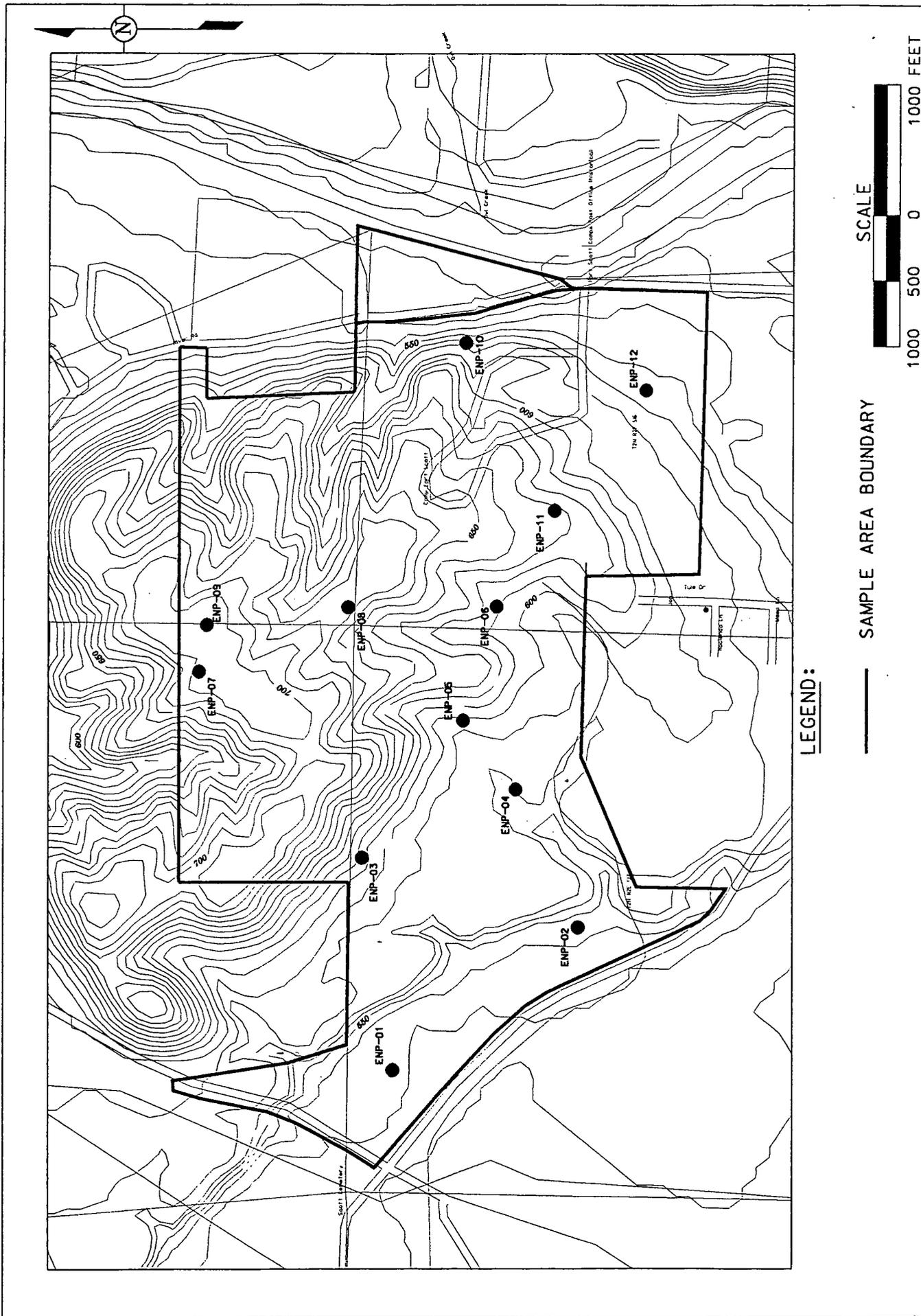
**LEGEND:**

--- FCP BOUNDARY

**SCALE**



**FIGURE 1. OFF-SITE SAMPLING AREA SOUTHEAST OF FERNALD CLOSURE PROJECT**



LEGEND:

— SAMPLE AREA BOUNDARY

SCALE



FIGURE 2. SAMPLE LOCATIONS WITH TOPOGRAPHIC CONTOURS

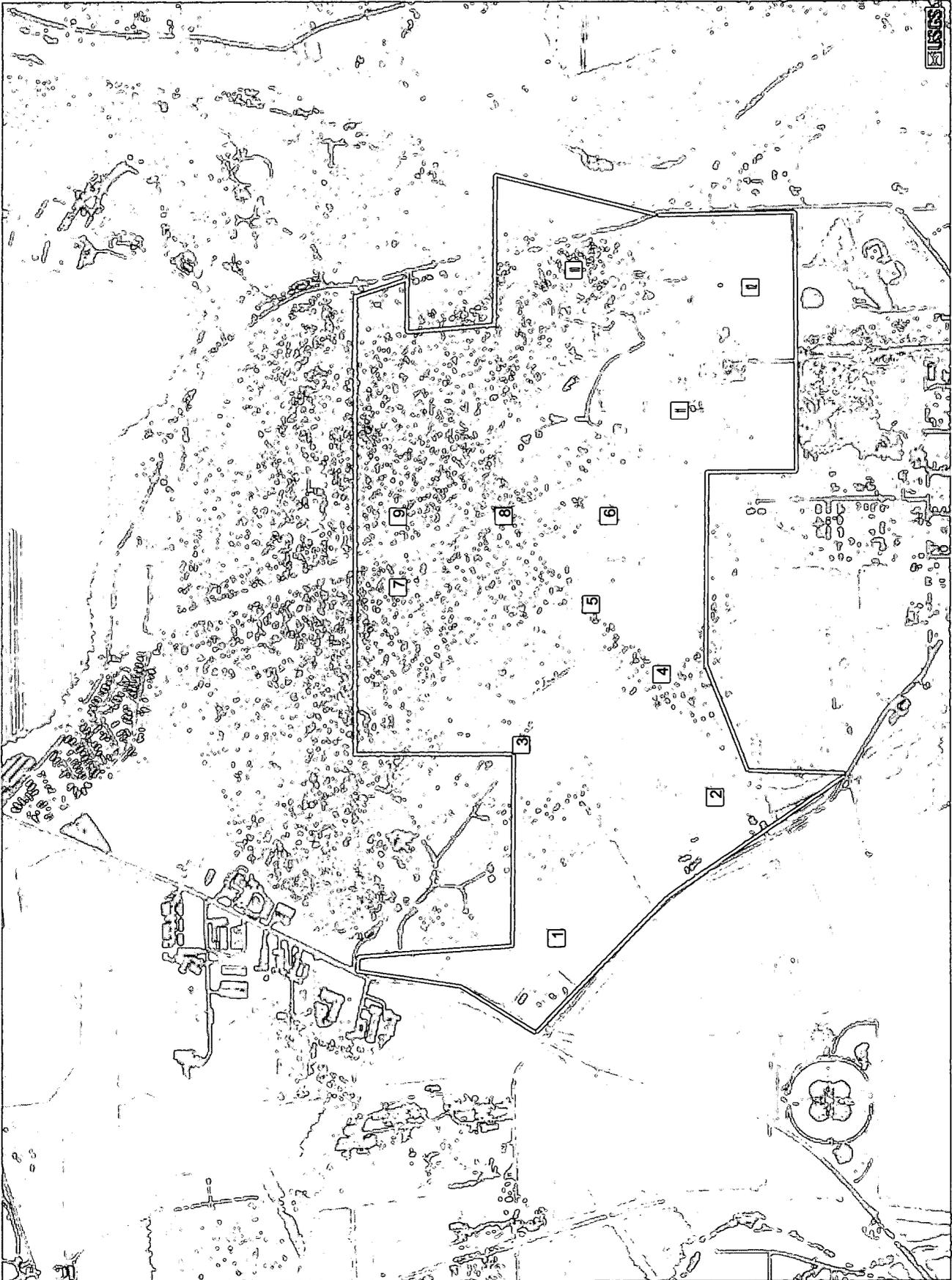


Figure 3 – Aerial Photograph (USGS - October 2000)  
(approximate property boundary/project area)