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**INFORMATION SUBMITTAL FOR THE FERNALD
CRU5/USID SOIL DECONTAMINATION
TREATABILITY STUDY DEMONSTRATION**

07/08/93

**DOE-FN/EPA
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LETTER
OU5**



Department of Energy
Fernald Environmental Management Project
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JUL 08 1993

DOE-2316-93

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Graham E. Mitchell, Project Manager
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402-2086

Dear Mr. Saric and Mr. Mitchell:

**INFORMATION SUBMITTAL FOR THE FERNALD CRU5/USID SOIL DECONTAMINATION
TREATABILITY STUDY DEMONSTRATION**

This letter provides permit information on the soil blending operation that will be used to provide feed stock for phase II of the integrated soil washing demonstration.

This activity is an extension of the original soil blending project that has supplied the current on going treatability studies. However the process is sufficiently changed (with new improved equipment) to warrant a separate regulatory discussion and submittal. The process description and equipment diagram is enclosed with this transmittal.

If you or your staff have any questions, please contact Rod Warner at (513) 648-3156.

Sincerely,


Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Warner

Enclosure: As Stated

cc w/ enc:

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CWP FOR
URANIUM SOILS INTEGRATED DEMONSTRATION TREATABILITY STUDY SOIL MIXING
PLANT 1 PAD "B" SOILS & SEWAGE TREATMENT PLANT "A" SOILS

I. Contract Work Plan Name

The name of this construction work plan will be: Uranium Soils Integrated Demonstration Treatability Study (USID) Soil Mixing.

II. Purpose

The purpose of this work is to perform two uniformly homogeneous blendings of the entire mass of soil contained in each set of two white metal boxes. This soil was collected from the plant 1 pad and the sewage treatment plant in 1991. The blended soil will be used in the USID treatability studies (plant 8 soil washing).

III. Contract Work Plan General Description

This project is an extension of soil blending activities for the ID program; using soil boxed for treatability studies during a previous project. These projects were previously performed by Rust Construction. The previous projects (Rust Work Orders #1361 and #1416) consisted of excavating, blending, and drumming/boxing soils, #1361 and reblending and redrumming soils #1416. The general work plan description for this activity consists of the following:

A. SET UP ACTIVITIES

The equipment used for screening will be set up at the plant 9 east pad in preparation for the blending operations. This will include: The set up of a 40 HP ribbon mixer and connection to electrical service. Set up of a Read Screen All soil screen model RD-40 (diesel engine powered). The blending and Screening equipment will be set on a double thickness of Herculite or equivalent type material to prevent gross contact of the soil with the concrete pad. All equipment will be verified as in proper working order. The construction equipment required to move the soil from each of the machines will be brought in to verify its operation as part of the process.

B. BLENDING ACTIVITIES

The soil is to be removed from one box and placed in a suitable earth screening device to separate out debris and organics greater than 3/4". This soil will then be put in a ribbon mixer where it will be blended into a homogenous mixture. After this the soil will be drummed. A minimum of twelve drums are required, after this goal is obtained additional drums may be filled, limited by the ribbon mixer capacity. The drums will be marked and identified with a lot number, then weighed, and marked with GNT weights. Per site procedures 65 cards will be filled out and sent to MCA. The drums will be placed on skids and secured per site procedures for

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movement to Plant 8. This process will be repeated for the subsequent batches of soil. The mixing equipment will then be decontaminated.

The general areas under the equipment used for screening will have a double thickness of Herculite material to prevent contamination from being spread to the concrete pad. It is anticipated that the soil will have a very high moisture content which would mean airborne dust will not pose a problem. However, when screening operations are performed, a hose with a fine mist nozzle will be available, and the soil will be misted with water if required, to eliminate airborne dust.

C. PERMITS

Prior to the start of the soils screening and blending there will be a kick-off safety meeting to review all safety concerns and equipment issues.

The following site permits will be required prior to the start of work:

- Construction Safety Work Permit.
- Radiation Work Permit.
- Mechanical (piping/equipment) Permit.
- Other permits as required.

D. ORDER OF WORK

- 1) The electric and plant air required for the soil blender will be run in by the FERMC0 labor broker force. A 90 amp Fused disconnect switch will be installed at location "A" (see attached soil mixing sketch).
- 2) The blender and the vibrating screen will be set in place by the site transportation department.
- 3) The blender will be assembled and connected to power by the FERMC0 labor broker force. Fuel for the vibrating screen will be also be provided by the labor broker force as required.
- 4) The soil will be transferred from the white metal boxes to the vibrating screen with a backhoe and hand shovels.
- 5) After the soil is screened through the READ Screen All vibrating screen the soil will be transferred to the soil blender with the backhoe and hand shovels if required.
- 6) After the soil blending process the soil will be transferred to metal drums, the drums will be weighed, marked with gnt

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weights and lot numbers, 65 cards will be made out for each drum, the drums will be then transported to plant 8.

- 7) All waste materials will be put back into the white metal boxes for disposal. Any soil spillage will be picked up with a wet/dry vac.

IV. Assumptions

The following assumptions are to be used:

The soils are not to be placed directly on the ground, or handled in such a way that the soils might directly contact and contaminate the general area where the mixing is done.

The Construction ES&HW survey (CESHEWS) will be developed for this activity. In addition, a Construction Waste Identification/Disposition form CWID will be developed in association with the above mentioned activity.

A project specific Health and Safety plan is being developed for this activity. Any amendments to the plan shall be prepared and submitted for review prior to the start of any field work.

Identification of an area where the soil can be unloaded and mixed is required. The plant 9 east pad is the preferred location at this time.

V. Contract Specific Description - Scope

- A. Materials to be Removed

Not applicable.

- B. Methods of Removal

Not applicable

- C. Hazardous Waste Removal

Not applicable.

- D. Waste Flow

Not applicable

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E. Special Tools/Equipment

Drum handling equipment, a ribbon mixer (to be identified), screening equipment(Read Screen All), and electrical generation equipment for operation (if required).

VI. Reference Drawings

Due to the nature of this activity, no design drawings, specifications, or other supporting documents will be required.

VII. Exhibits

None

VIII. Associated Regulatory Issues

A. NEPA

NEPA requirements for the soil washing treatability study activity have been met under NEPA document #319, reference letter WEMCO:EC&QA(NEPA):91-095. This activity is a continuation of that activity.

B. NRDA

NRDA is not applicable since the soils to be used were previously excavated in the preceding work efforts to this activity.

C. RSE

The original project of which this activity is a continuation, was exempted from the requirements of an RSE, because it implemented the appropriate environmental controls as specified in reference letter WEMCO:EMT:535 "Exemption from Removal Site Evaluations (RSEs) for Maintenance Activities" and obtained an exemption in letter WEMCO:EMT:91-578 "Integrated Demonstration Treatability Tests Sampling".

D. RCRA

The soils used in this activity have been determined non RCRA, reference: Memorandum to File(MEF#1795) B soils, letter WEMCO:EM:RCRA(FME):92-056 and FERMC0 #: M:ESH:EP:93:341 A soils.

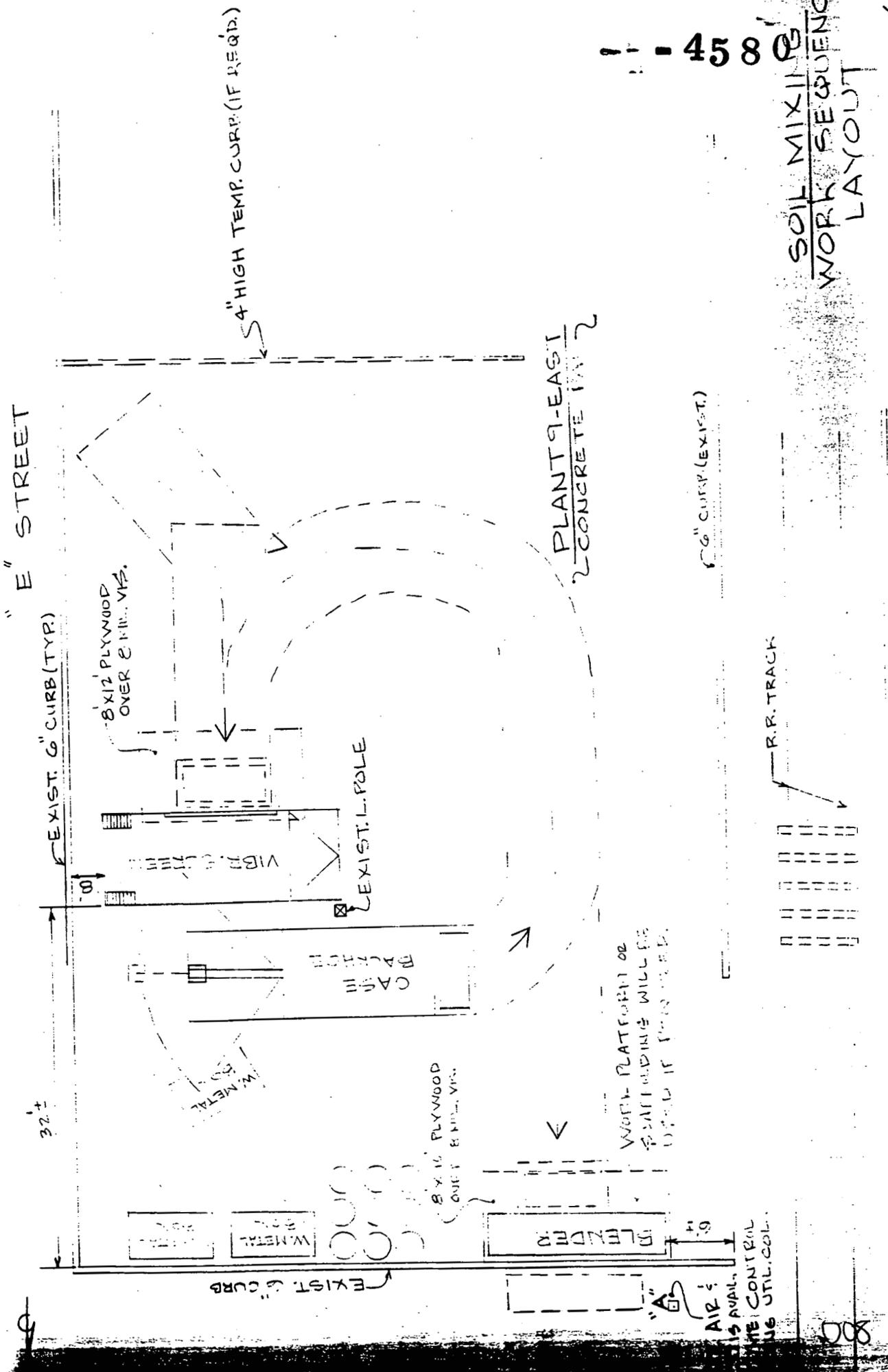
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E. CERCLA

This activity is being conducted as part of the CRU5/ID Soil Washing Treatability Study as the ID phase II demonstration. There will be no emissions to water from this activity. The potential for air emissions is zero due to the enclosed design of the soils blender, the small quantities involved and the measures to be used for dust abatement.

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SOIL MIXING WORK SEQUENCE LAYOUT



" E STREET

EXIST. 6" CURB (TYP.)

32'

4" HIGH TEMP. CURB (IF REQ'D.)

8' X 12' PLYWOOD OVER 2" MIN. VIB.

EXIST. L. POLE

PLANT 9-EAST CONCRETE WALL

6" CURB (EXIST.)

R.R. TRACK

VIB. CONTROL

CASING

W. METAL

8' X 10' PLYWOOD OVER 2" MIN. VIB.

WORK PLATFORM OR BRACING WILL BE USED IF PROVIDED

EXIST. 6" CURB

BLENDER

6'

AIR IS AVAILABLE CONTROL USE UTIL. CO.

800

SOIL MIXING
WORK SEQUE
LAYOUT

"E" STREET

EXIST. 6" CURB (TYR)

32'

8x12 PLYWOOD
OVER 8 MIL. VFS.

VIBR. SCREEN

EXIST. L. POLE

CASE
BACKHOE

W. METAL
BOX

W. METAL
BOX

W. METAL
BOX

8x16 PLYWOOD
OVER 8 MIL. VFS.

BLENDER

WORK PLATFORM OR
SCAFFOLDING WILL BE
USED IF REQUIRED.

EXIST. 6" CURB

4" HIGH TEMP. CURB (IF RE

PLANT 9-EAST
CONCRETE PAD

6" CURB (EXIST.)

R.R. TRACK

PLANT AIR
ELECT. IS AVAIL.
AT FUME CONTROL
BUILDING UTIL. COL.

