PRELIMINARY ASSESSMENT/SITE INSPECTION REPORT AND SWMU ASSESSMENT REPORT

UNIT NUMBER: 514

UNIT NAME: C-340 Reject Magnesium Fluoride Storage Silo

DATE: 12/11/2001

REGULATORY STATUS: Solid Waste Management Unit (SWMU)

LOCATION: C-340 Metals Plant, west side

APPROXIMATE DIMENSION: Cylindrical silo, approximately 10 ft in diameter, 15 ft high.

FUNCTION: Collection and temporary storage of reject magnesium fluoride (MgF_2).

BRIEF HISTORY: The silo began operation with the startup of the metals plant in 1957. It operated intermittently until the final shutdown of the metals facility in 1975. Its only function was the collection and temporary storage of MgF_2 rejected for use as liner material in the "bombs" used in the reduction of uranium tetrafluoride (UF_4) to uranium metal.

OPERATIONAL STATUS: Inactive

DATES OPERATED: The facility was erected in 1957 with operations in the metals plant continuing until 1975. Final lockdown of the facility occurred in 1991. Decontamination and decommissioning (D&D) activities began in 1992.

SITE/PROCESS DESCRIPTION: MgF_2 was produced during the reduction of UF_4 to uranium metal. UF_4 was reacted with magnesium metal in steel cylinders called "bombs" that were lined with MgF_2. After the uranium metal was removed, the MgF_2 from the original liner and that which was produced during the reaction was stored for reuse. The MgF_2 was pulverized in a ball mill and then screened to remove large particles. The fine material was reused for bomb liners and the larger reject particles were sent to the storage silo by an enclosed coveyor Periodically the MgF_2 in the silo was emptied for disposal.

WASTE DESCRIPTION: The silo may contain residual MgF_2. The silo was emptied when the process was shut down, but it is not known if it was cleaned. There also may be some uranium contamination present in the form of metal and UF_4.

WASTE QUANTITY: Unknown

SUMMARY OF ENVIRONMENTAL SAMPLING DATA: Environmental sampling has been performed for Waste Area Grouping (WAG) 8)DOE/OR/07-1867&D1, *Site Evaluation Report for Waste Area Grouping 8 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky,* June 2000. WAG 8 includes the C-340 Building. The sampling included surface and subsurface soils. In addition, groundwater wells have been installed for WAG 8. Sampling of these wells is an ongoing activity.

DESCRIPTION OF RELEASE AND MEDIA AFFECTED: No releases from this SWMU have been documented.

GROUNDWATER: There are no groundwater wells in the immediate vicinity of the C-340 Building.

SURFACE WATER: No surface water samples from the immediate vicinity of the SWMU have been taken.

SOIL: Surface and subsurface soil samples from the vicinity of the SWMU indicate the presence of levels of magnesium slightly above the established background levels.

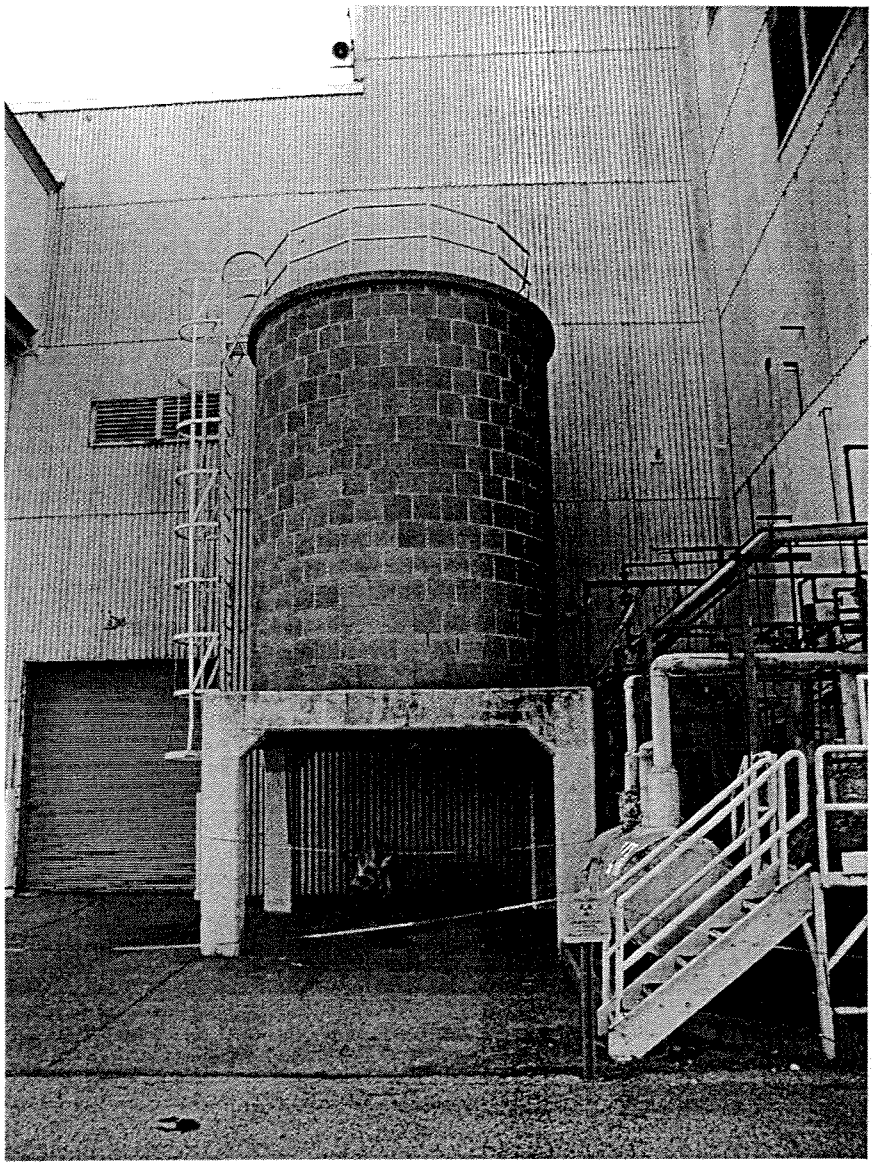
ECOLOGY AFFECTED (i.e., threatened/endangered species): No known impacts. No federal or state listed T&E plant or animal species have been identified. The federally endangered Indiana bat (*Myotis sodalis*) potentially occurs in the vicinity, but the C-340 complex does not provide a suitable habitat.
DOCUMENTATION OF NO RELEASE: There is no documentation.

IMPACT ON OR BY OTHER SWMU/AOC: SWMUs 56, 74, and 80 are located in the immediate vicinity of C-340. A hydraulic oil system, SWMU 101, is located inside C-340.

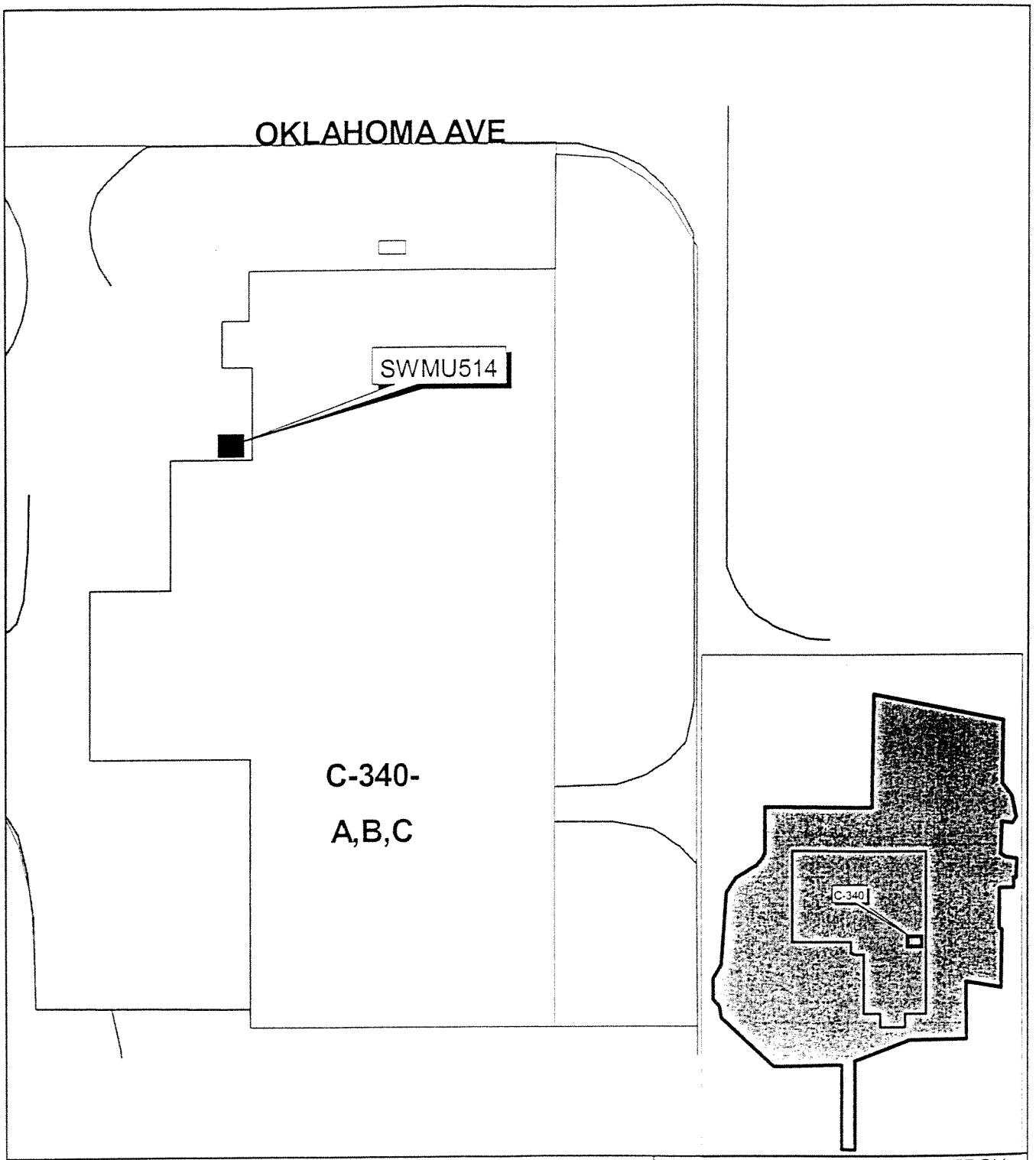
PRG COMPARISON: NA

RFI NECESSARY: This area is associated with an inactive facility that is included in the decontamination and decommissioning (D&D) program. Site evaluation work is underway at this time, along with planning associated with the infrastructure D&D phase. The need for a Remedial Investigation/Feasibility Study will be evaluated as part of the facility structure D&D phase.

NOTE: Elements included in this outline shall be considered and incorporated, as appropriate, when developing the above referenced document.



SWMU 514



50 0 50 100 Feet

TRUE NORTH 20° PLANT NORTH

U.S. DEPARTMENT OF ENERGY
DOE OAK RIDGE OPERATIONS
PADUCAH GASEOUS DIFFUSION PLANT

BECHTEL JACOBS
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SWMU 514 at C-340

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FIGURE No. c5ac90001sk214.apr
DATE 12-28-01