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AUG 03 1999

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Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V, SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0996-99

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

REGULATORY STATUS OF SLUDGE DRYING BED MATERIAL

The Sludge Drying Beds at the Fernald Environmental Management Project's (FEMP) former sewage treatment plant were designated as a listed Hazardous Waste Management Unit (HWMU) because they previously managed a F002 listed waste solvent (tetrachloroethene). The residual above Waste Acceptance Criteria (WAC) F-listed wastes (about 120 cubic yards of old sludge cake and soil-like materials) that were managed in the unit have already been removed and containerized for off-site disposal as listed mixed waste. As a follow-up to our July 27 meeting and July 28 field tour, this letter summarizes the Department of Energy's (DOE) position relative to the regulatory status of the excavated materials that will be generated from the remediation of the remaining portion of the Sludge Drying Beds.

Regulatory Background

As described in the Records of Decision (ROD) for Operable Units 2 and 5, the boundaries of FEMP have been designated as a Corrective Action Management Unit (CAMU). Management of remediation waste within a CAMU is not subject to the strict Subtitle C requirements (40 CFR 260.10 and 40 CFR 264.552). As defined in 40 CFR 260.10, remediation waste includes all solid and hazardous waste, and all media and debris, which contain listed hazardous waste or themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements. Further, a material is said to "contain" a listed hazardous waste if the hazardous waste constituent is present at a significant level, taking into account such factors as site hydrology and

potential exposure pathways (53 FR 37194, August 8, 1992). As such, the regulatory status and disposition alternatives for materials associated with the excavation of the

Sludge Drying Beds can be determined through knowledge of the concentrations of tetrachloroethene, and other site constituents of concern, in the materials.

Site-Specific Regulatory-Based Guidelines

The Sludge Drying Beds are one of the 25 designated HWMU that are to be closed under the FEMP's integrated Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act (CERCLA/RCRA) closure process. The integrated CERCLA/RCRA process and the specific HWMUs to be closed under the process are defined in the June 6, 1996, Ohio Environmental Protection Agency (OEPA) Director's Findings and Orders (DF&O).

The On-Site Disposal Facility (OSDF) WAC Attainment Plan is the regulatory-based document that outlines the details of the disposition process for the excavated soil, soil-like material (sand and gravel), and debris such as those to be generated from the remaining Sludge Drying Bed excavation activity. Briefly, all soil and soil-like material that originates from within the HWMU boundary and which satisfies the OSDF WAC is eligible for disposal in the OSDF, regardless of whether or not listed RCRA constituents are detected (CAMU concept). However, soil or soil-like material that does not meet the OSDF WAC, and which is therefore destined for off-site disposal, must go through an additional evaluation to see if RCRA listed-waste treatment and/or management requirements for off-site disposal apply. Under this evaluation, the excavated materials from within the HWMU boundary that are above the OSDF WAC limits must be subjected to additional analysis for the specific listed constituents previously managed in the unit (in this case tetrachloroethene). If concentrations of tetrachloroethene are found above detection limits, the above-WAC soils or soil-like materials need to be designated as RCRA listed mixed wastes and managed appropriately. If tetrachlorethene concentrations are not detected, then the above-WAC portion can be managed as low-level radiological waste.

Under the WAC Attainment Plan, evaluations are also necessary for subsurface debris (if any) found within the boundaries of the HWMU footprints. Excavated debris found with the below-WAC areas would be immediately eligible for disposal in the OSDF, provided size restrictions and visual inspection criteria are met. Excavated debris found within the above-WAC areas will need to be evaluated further, to ensure that the appropriate decontamination measures/inspection requirements have been achieved prior to OSDF disposal. Alternately, this debris would need to be sent off-site for disposal as hazardous debris and/or low-level radiological debris pending on classification of the surrounding soil and soil-like materials.

It should be noted that DOE conservatively chose analytical detection limits as an appropriate regulatory threshold for contained-in determinations for soil and soil-like material under the integrated HWMU closure program because of the relatively small volumes of affected materials believed to be involved. Under the U.S. Environmental Protection Agency's (U.S. EPA) RCRA Contained-In Policy, decision-makers are permitted, on a case-by-case basis, to use health-based numerical thresholds (that may be higher than analytical detection limits) in making RCRA contained-in determinations for affected environmental media. DOE recognizes that it could, in the future, choose to utilize other approved health-based criteria for new contained-in determinations that may arise outside of the integrated HWMU closure process specifically addressed by the WAC Attainment Plan. DOE acknowledges that these case-by-case applications of the Contained-In Policy, should they arise, will be subject to agency review and approval as appropriate.

Regulatory Status of the Sludge Drying Bed Excavated Materials

The enclosed figure to this letter denotes the analytical results obtained for the remaining soil and soil-like materials found within the Sludge Drying Bed HWMU boundary (i.e., the boundary surrounding the beds and associated soil berms). Each sampling location involved a vertical profile that extended downward to native soil. As can be seen from this figure, a number of sampling locations exceed the OSDF radiological WAC for technetium-99 (29.1picocuries per gram) and at one location exceed the OSDF radiological WAC for uranium (1030 parts per million), and therefore, require the affected soils to be sent off-site for disposal. None of these affected soil volumes contain tetrachloroethene at levels above analytical detection limits, and therefore the off-site volumes can be sent for disposal as low-level radiological waste.

In the southern berm area of the HWMU footprint (the sampling location shown as WAC-9 on the enclosed figure), there is some berm material below the 18-inch depth that contains detectable tetrachloroethene at 8.39 parts per billion. The berm material at this depth, however, meets the OSDF radiological WAC for both uranium and technetium-99, and therefore is eligible for disposal in the OSDF "as is", consistent with the regulatory discussions provided above. The remaining soils above this depth will be sent off-site for disposal as low-level radiological waste due to the technetium-99 detections that were above WAC.

Following agency concurrence with this letter, DOE will proceed with the excavation of the materials in accordance with the above analytical interpretations (as supplemented where necessary with additional WAC sampling during project execution per Site-Wide Excavation Plan (SEP) guidelines to refine exact excavation limits), and disposition the materials to their proper on-site and off-site disposal locations as appropriate. The same strategy will then be followed for the remaining HWMUs to be closed via the integrated CERCLA/RCRA closure strategy.

If you have any further questions concerning these determinations, please contact Robert Janke at (513) 648-3124.

Sincerely,

Johnny Reising

Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

Enclosure

cc w/enclosure:
N. Hallein, EM-42/CLOV
G. Jablonowski, USEPA-V, SRF-5J
T. Schneider, OEPA-Dayton (three copies of enclosures)
F. Bell, ATSDR
M. Schupe, HSI GeoTrans
R. Vandegrift, ODH
F. Barker, Tetra Tech
AR Coordinator, FDF/78

cc w/o enclosure:
J. Reising, OH/FEMP
A. Tanner, OH/FEMP
D. Carr, FDF/52-2
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U. Kumthekar, FDF/64
T. Walsh, FDF/65-2
ECDC, FDF/52-7

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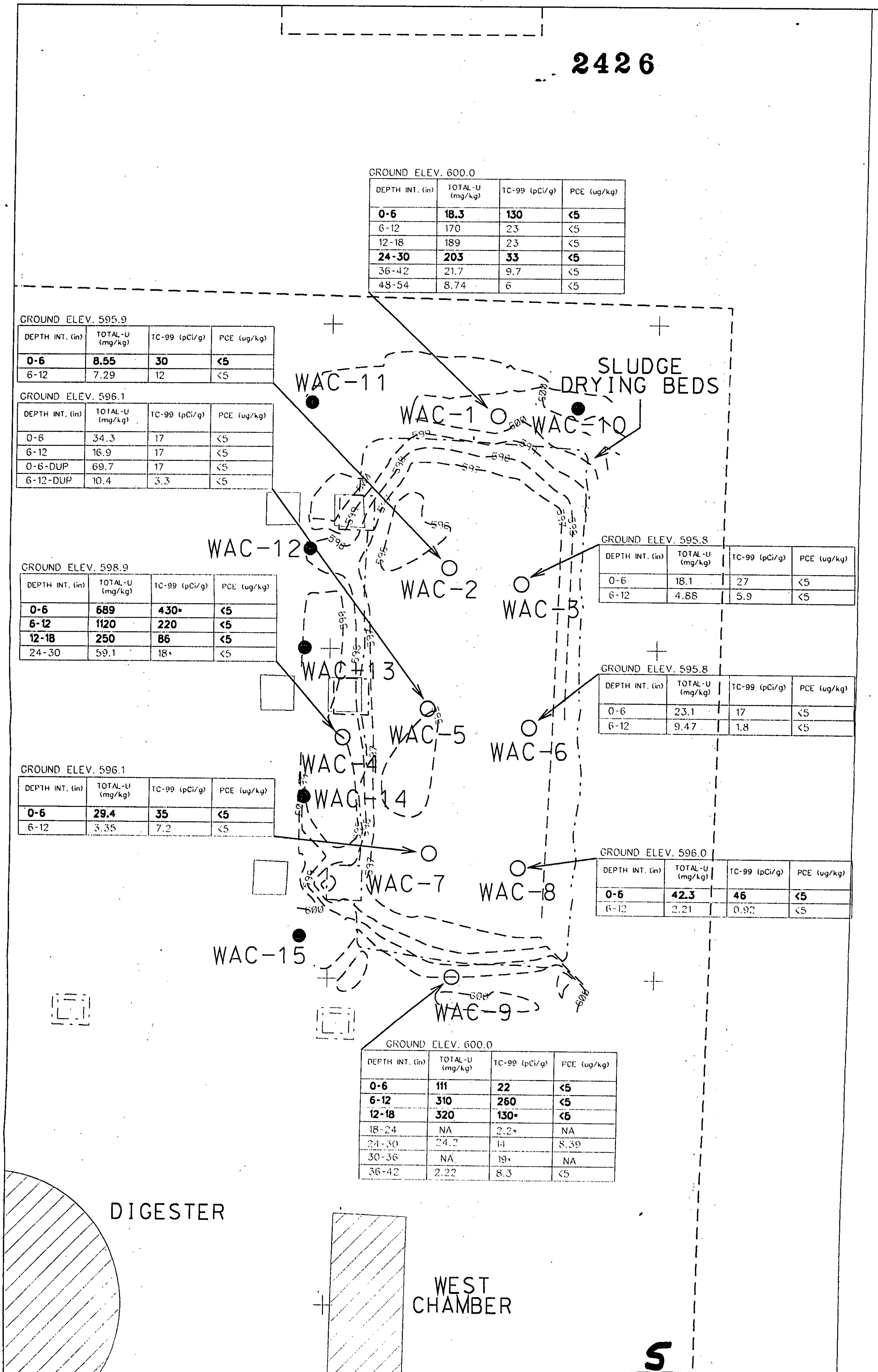

GROUND ELEV. 600.0

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	**18.3**	**130**	**<5**
6-12	170	23	<5
12-18	189	23	<5
24-30	**203**	**33**	**<5**
36-42	21.7	9.7	<5
48-54	8.74	6	<5

GROUND ELEV. 595.9

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	**8.55**	**30**	**<5**
6-12	7.29	12	<5

GROUND ELEV. 596.1

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	34.3	17	<5
6-12	16.9	17	<5
0-6-DUP	69.7	17	<5
6-12-DUP	10.4	3.3	<5

GROUND ELEV. 598.9

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	**689**	**430***	**<5**
6-12	**1120**	**220**	**<5**
12-18	**250**	**86**	**<5**
24-30	59.1	18*	<5

GROUND ELEV. 596.1

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	**29.4**	**35**	**<5**
6-12	3.35	7.2	<5

GROUND ELEV. 595.8

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	18.1	27	<5
6-12	4.88	5.9	<5

GROUND ELEV. 595.8

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	23.1	17	<5
6-12	9.47	1.8	<5

GROUND ELEV. 596.0

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	**42.3**	**46**	**<5**
6-12	2.21	0.92	<5

GROUND ELEV. 600.0

DEPTH INT. (in)	TOTAL-U (mg/kg)	TC-99 (pCi/g)	PCE (ug/kg)
0-6	**111**	**22**	**<5**
6-12	**310**	**260**	**<5**
12-18	**320**	**130***	**<5**
18-24	NA	2.2*	NA
24-30	24.2	14	8.39
30-36	NA	19*	NA
36-42	2.22	8.3	<5

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LEGEND:

● ADDITIONAL SAMPLE LOCATIONS TO NATIVE SOIL (PROPOSED)
* PRELIMINARY RESULTS
NA NOT AVAILABLE

DRAFT

SCALE
15 7.5 0 15 FEET

NOTE: DUP = DUPLICATE SAMPLE

STP SLUDGE DRYING BED SAMPLING RESULTS (FOR LOCATIONS WAC-1 AND WAC-9)
SAMPLING OVER JULY 12 & 13 1999)

STATE PLANAR COORDINATE SYSTEM 1983

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30-JUL-1999