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**REMOVAL SITE EVALUATION SOIL FROM THE
GARAGE FACILITIES UPGRADE PROJECT**

09-05-90

**LW-510-90
LWA/DOE-FMPC
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MEMORANDUM**



LEE WAN & ASSOCIATES, INC.

LW-510-90

M E M O R A N D U M

DATE: September 5, 1990

TO: Carlos Fermaintt, DOE

FROM: Mike Neal, LWA *M.N.*

SUBJECT: REMOVAL SITE EVALUATION, SOIL FROM THE GARAGE FACILITIES
UPGRADE PROJECT

The subject draft Removal Site Evaluation (RSE) (WMCO:PM&A(GPP/CE):90-005) has been reviewed and the following suggestions are offered to document this non-removal action:

- 1) Please reword the last paragraph in the section "Appropriateness of A Response", as follows:

Incidental to a maintenance activity, intrusion into an area of contaminated soil has occurred. The reason for the excavation was not to remove or remedy the situation. The FMPC is currently on the NPL and is in the RI/FS process. The overall remedial action will address the final means of removing or stabilizing the contaminated soil. The maintenance work associated with this RSE will be conducted with appropriate controls, and removed soil will be properly controlled as contaminated waste. Existing site policy and procedures adequately manage the control of construction generated excavation rubble and identifies proper control measures to prevent fugitive contaminant releases during materials dispositioning. A removal action is not required to address the existing situation.

2) Please provide the following changes to Attachment I, Table I:

TABLE ONE
GARAGE UPGRADE PROJECT (BUILDING)
LEAD, URANIUM AND THORIUM ANALYSIS

SAMPLE	LEAD (Pb) - 206 mg/g	U (wt%)	U (pCi/g)	TOT TH232 (pCi/g)	TH228 (pCi/g)
RC 0319	9.7	U234 0.005 U235 0.70 U238 99.28	< 7.4	< 2.5	ND
RC 0320	N.A.	----	----	< 2.5 (23PPM)	----
RC 0321	25.7	U234 0.005 U235 0.66 U238 99.32	< 7.2	< 2.5 (23PPM)	ND
OSWER 9355.4-02	500	----	----		----
NRC BTP			TOT U 30	TOT TH 10	
DOE 5400.5 IV-4 (a) (2)					5 15

NOTE: ND SIGNIFIES THAT THIS QUANTITY WAS NOT DETERMINED BECAUSE OF THE LOW THORIUM CONCENTRATION OF THESE SAMPLES AND COMPARISON OF ALL THORIUM RESULTS OBTAINED.

NA SIGNIFIES THAT DATA WAS NOT AVAILABLE.

NRC BTP = NUCLEAR REGULATORY BRANCH TECHNICAL POSITION (PG. 13 OF FMPC-720) LEAD IN SOILS INTERIM GUIDANCE USEPA FOR OSWER 9355.4-02.

DOE ORDER 5400.5 GUIDELINES FOR RESIDUAL RADIONUCLIDES IN SOIL, 30 pCi/gm IS FOR NATURAL URANIUM (U 238+235+234) WITHOUJ OTHER DAUGHTERS PRESENT, THORIUM 228 IS 5 pCi/g FOR THE FIRST 15 cm DEPTH OF SOIL AVERAGE OVER 100 cm²; 15 pCi/gm BEYOND 15 cm DEPTH

3) Please provide the following changes to Attachment I, Table 2:

TABLE 2 - GARAGE UPGRADE PROJECT (BUILDING 31)
EP TOXICITY ANALYSIS

SAMPLE	Ag	As	Hg	Se	Ba	Cd	Cr	Pb
RC 0319	<1.0	<1.0	<0.1	<0.1	<25	<0.2	<1.0	<1.0
RC 0321	<1.0	<1.0	<0.1	<0.1	<25	<0.2	<1.0	<1.0
TCLP	5.0	5.0	0.2	1.0	100	1.0	5.0	5.0

NOTE: THE METHOD FOR THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE WAS PUBLISHED IN THE FEDERAL REGISTER ON THURSDAY, MARCH 29, 1990.

4) Also, please note for Table I:

As always, the Curie concentration per gram measurements should be given first priority with conversion to mass concentration and parts per million presented in parentheses. This will also eliminate speculation with regard to isotopic ratio distribution (abundance).

For sample RC 0319, 11 ppm (11 ug/g) the corresponding pCi/g will be:

U-234 = 3.7 pCi/gm
U-238 = 3.64 pCi/gm

Total U = 7.5 pCi/gm

For RC 0321

U-234 = 3.7 pCi/gm
U-235 = 0.1554 pCi/gm
U-238 = 3.64 pCi/gm

Total U = 7.5 pCi/gm

For Total Th, this is meaningful if Th-232 and Th-228 are both present, otherwise, if Th-230, we have a problem at 43.7×10^4 pCi/gm.

If solely Th-232 we have 2.5 pCi/gm which isn't a problem.

cc: D. J. Carr, WMCO
R. S. Shirley, WMCO
LWA Central Files

C.L. Griffin (2)

ERA File

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