



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

MAY 9 1978

MEMORANDUM FOR: Region III Files  
THRU: *W.H.S.*  
W. H. Schultz, Acting Chief, Materials Radiological  
Protection Section No. 1  
FROM: C. T. Oberg, Radiation Specialist  
SUBJECT: KERR-McGEE CHEMICAL CORPORATION, WEST CHICAGO, ILLINOIS  
LICENSE NO. STA-583  
BRIEF INSPECTION OF TESTING IN PROGRESS AND TOUR OF  
FACILITIES

On December 2, 1977, a RIII inspector made a brief inspection of the various decontamination testing techniques presently in progress at the subject licensee's facilities. The testing was being performed by ATCOR under contract with the subject licensee.

Testing consisted of marking off a 10' x 10' area of floor space and performing four different decontamination techniques with each 25 square ft. quadrant. The decontamination techniques employed were: vacuum cleaning, application and removal of stripable latex paint, standard washing technique, and mechanical surface removal. Fixed and removable activity surveys were performed before and after testing. Tests were performed in Buildings 1 and 5; the latter included mechanical Destructive Testing (DT) within a trench included in the test area. Additional DT was also performed within a trench on the ground floor of Building 9. The DT of the trenches was performed to investigate the manner in which the trenches were constructed as well as to determine if there was any significant penetration of thorium contamination into the soil beneath the trench. A plastic tent was constructed over the testing areas in Buildings 1 and 5 to contain the possible spread of contamination. Personnel wore protective clothing and respirators while working in these areas. Air samples were also taken within these areas.

While on site, the inspector was informed that further testing was to be discontinued at the request of Kerr-McGee personnel in Oklahoma City, Oklahoma, and that ATCOR personnel would be leaving the site this day. These individuals also informed the inspector that because of the cold weather, they had experienced difficulties performing the actual work and some of the specific testing procedures. The inspector requested a copy of the results of the testing procedures. These results have been received and are attached.

MAY 9 1978

The inspector toured the licensee facilities at West Chicago and observed replacement signs (CRM) which had been installed, the returned high lift and back-hoe vehicles and the 55 gallon steel drums marked "Radioactive LSA" from M. Moore Chemical Company, Andres, Illinois. The location where fencing had been broken and presently being repaired was also observed. An opening was noticed which was large enough to permit access through one of the gates on the West side of the plant site. The site representative was appraised of this and the fact that the gate appeared to have been forced off of its track.

The site representative stated that he would correct this situation.

Additional inspection tours will be performed as necessary to maintain cognizance of the status of the facilities and any work which may be in progress.

*C. T. Oberg*  
C. T. Oberg  
Radiation Specialist

# Decontamination Test Data

Building: 1

Section: I, II, III, IV

Location: 8' from south wall;  $\rightarrow$   
25' from west wall

before decon:

Alpha

Puc -45

(dpm)

<table> <tr> <td>4400</td><td>4800</td></tr> <tr> <td>4800</td><td>3200</td></tr> </table>	4400	4800	4800	3200	<table> <tr> <td>4400</td><td>4000</td></tr> <tr> <td>2400</td><td>3200</td></tr> </table>	4400	4000	2400	3200
4400	4800								
4800	3200								
4400	4000								
2400	3200								
<table> <tr> <td>9600</td><td>5600</td></tr> <tr> <td>4000</td><td>4400</td></tr> </table>	9600	5600	4000	4400	<table> <tr> <td>5600</td><td>4400</td></tr> <tr> <td>4000</td><td>3200</td></tr> </table>	5600	4400	4000	3200
9600	5600								
4000	4400								
5600	4400								
4000	3200								

after decon:

<p>I.</p> <table> <tr> <td>4000</td><td>4400</td></tr> <tr> <td>*4000</td><td>*4400</td></tr> <tr> <td>4400</td><td>4400</td></tr> <tr> <td>*4400</td><td>*4400</td></tr> </table>	4000	4400	*4000	*4400	4400	4400	*4400	*4400	<p>II.</p> <table> <tr> <td>3600</td><td>4000</td></tr> <tr> <td>2000</td><td>3200</td></tr> </table>	3600	4000	2000	3200
4000	4400												
*4000	*4400												
4400	4400												
*4400	*4400												
3600	4000												
2000	3200												
<p>III.</p> <table> <tr> <td>2800</td><td>2800</td></tr> <tr> <td>3200</td><td>4000</td></tr> </table>	2800	2800	3200	4000	<p>IV.</p> <table> <tr> <td>-</td><td>0</td></tr> <tr> <td>-</td><td>0</td></tr> </table>	-	0	-	0				
2800	2800												
3200	4000												
-	0												
-	0												

type of D.T.:

I. Vacuum Cleaning Test

II. Stripable Latex Paint

III. Standard Washing Test

IV. Surface Removal Test ( $\frac{1}{2}$ " min)

\*Second Vacuum Cleaning

DEC 21 1977

ATC00

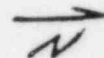
# Decontamination Test Data

Building: 1  
 Section: I, II, III, IV  
 Location: 8' from south wall  
25' from west wall

before decon:

Beta Gamma  
 E-120  
 (mr/hr)

<table> <tr> <td>.04</td><td>.08</td></tr> <tr> <td>.04</td><td>.16</td></tr> </table>	.04	.08	.04	.16	<table> <tr> <td>.04</td><td>.06</td></tr> <tr> <td>.06</td><td>.16</td></tr> </table>	.04	.06	.06	.16
.04	.08								
.04	.16								
.04	.06								
.06	.16								
<table> <tr> <td>.04</td><td>.04</td></tr> <tr> <td>.06</td><td>.10</td></tr> </table>	.04	.04	.06	.10	<table> <tr> <td>.04</td><td>.04</td></tr> <tr> <td>.10</td><td>.16</td></tr> </table>	.04	.04	.10	.16
.04	.04								
.06	.10								
.04	.04								
.10	.16								



after decon:

I. <table> <tr> <td>.04</td><td>.04</td></tr> <tr> <td>.04</td><td>.06</td></tr> </table>	.04	.04	.04	.06	II. <table> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> </table>				
.04	.04								
.04	.06								
III. <table> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> </table>					IV. <table> <tr> <td>-</td><td>.00</td></tr> <tr> <td>-</td><td>.03</td></tr> </table>	-	.00	-	.03
-	.00								
-	.03								

type of D.T.:

- I. Vacuum Cleaning Test
- II. Stripable Paint Test
- III.
- IV. Surface Removal Test

# ATCOR RADIOLOGICAL SURVEY DATA FORM

1. OF: Ken McHale - West Chicago Facility Block # 1

2. OF Survey: 12-1-77 Surveyed By: Owen J. Sullivan

3. OF Survey: Survey of grid where of trippable part was used

4. Contamination: Beta-Gamma ☐ Surface Contamination  
 Gamma ☐ Loose Surface ☒ Beta-Gamma ☐  
 Fixed ☐ Alpha ☒

Instr: MS-2 w/RD-13

Count Time 1 Min. BKG 17 CPM

Efficiency CF 2.06 dpm/cpm

Ion	dpm/100 cm <sup>2</sup>	Location	dpm/100 cm <sup>2</sup>
	20	27	
	70	28	
	30	29	
	BKG	30	
	10	31	
		32	
		33	
		34	
		35	
		36	
		37	
		38	
		39	
		40	
		41	
		42	
		43	
		44	
		45	
		46	
		47	
		48	
		49	
		50	
		51	

of: Low M<sup>c</sup> Lee Warehouse - Building #1

f Survey: Mar 29, 1977

Surveyed By: J. S. S. S.

f Survey:

ion: Beta-Gamma ☐  
Gamma ☐

Surface Contamination

Loose Surface ☒

Beta-Gamma ☐

Fixed ☐

Alpha ☒

Instr: M5-3 w/RO-13

Count Time 1 Min. BKG 17 CPM

Efficiency CF 2.16 Com/ioni

ion	dpm/100 cm <sup>2</sup>	Location	dpm/100
#1	315	27	
#2	225	28	
#3	155	29	
#4	230	30	
#5	235	31	
#6	165	32	
#7	230	33	
#8	260	34	
#9	125	35	
#10	165	36	
#11	215	37	
#12	170	38	
#13	180	39	
#14	180	40	
#15	220	41	
#16	295	42	
		43	
		44	
		45	
		46	
		47	
		48	
		49	
		50	



# Decontamination Test Data

Building: 5  
 Section: II, III, IV  
 Location:

before decon:  
 Alpha  
 Pac-45  
 (dpm)

trench

48K	48K	40K	40K
80K	80K	16K	40K
80K	6.4K	6.4K	52K
48K	8K	8K	48K

after decon:

trench

I.	II.
56K	6.4K
24K	8K
III.	IV.
60K	52K
Hole into soil	8K
	52K

type of D.T.:

I. —

II. Surface Removal Test

III. Vacuum Cleaning Test

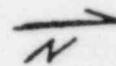
IV. Stripable Paint Test

# Decontamination Test Data

Building: 5  
 Section: 2, 3, 4, 5  
 Location:

before decon:  
 Beta Gamma  
 E-120  
 (mc/hr)

<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div>.3</div> <div>.24</div> </div> <div> <div>.1</div> <div>.8</div> </div>	<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div>.14</div> <div>.14</div> </div> <div> <div>.1</div> <div>.4</div> </div>
<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div>.42</div> <div>.38</div> </div> <div> <div>.16</div> <div>.16</div> </div>	<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div>.24</div> <div>.24</div> </div> <div> <div>.12</div> <div>.14</div> </div>



after decon:

<div>I.</div> <div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div>	<div>II.</div> <div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div> <div>.38</div> <div>.24</div> </div> <div>Hole</div> </div>
<div>III.</div> <div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div>.2</div> <div>.20</div> </div> <div> <div>.24</div> <div>.16</div> </div>	<div>IV.</div> <div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div> <div> <div>.16</div> <div>.24</div> </div> <div> <div>.28</div> <div>.12</div> </div>

type of D.T.:

- I. Standard Wiping test
- II. Surface Remnant test
- III. Vacuum cleaning test
- IV. Stripable paint test



OF: Ken Mc G. WauhanBuilding # 5Survey: Nov 29, 1977Surveyed By: J. L. L. L.

Survey:

ion: Beta-Gamma ☐  
Gamma ☐

Surface Contamination

- Loose Surface ☒Fixed ☐Instr: MS-3 W/RD-13Count Time 1 Min. BKG 17 CPMEfficiency CF 2.06 cpm/dpmBeta-Gamma ☐Alpha ☒

Ion	dpm/100 cm <sup>2</sup>	Location	dpm/100 cm <sup>2</sup>
#1	100	27	
2	105	28	
3	65	29	
4	150	30	
5	155	31	
6	580	32	
7	730	33	
8	300	34	
9	450	35	
10	175	36	
11	40	37	
12	50	38	
13	80	39	
14	80	40	
15	200	41	
16	150	42	
		43	
		44	
		45	
		46	
		47	
		48	
		49	
		50	

ATCOR RADIOLOGICAL SURVEY DATA FORM

1 of: Kenneth Williams Bldg #5  
 of Survey: 12-1-77 Surveyed By: Quinn L. Lillian

of Survey: Survey of trench after chipping

tion: Beta-Gamma ☐ Surface Contamination  
 Gamma ☐ Loose Surface ☒ Beta-Gamma ☐  
 Fixed ☐ Alpha ☒

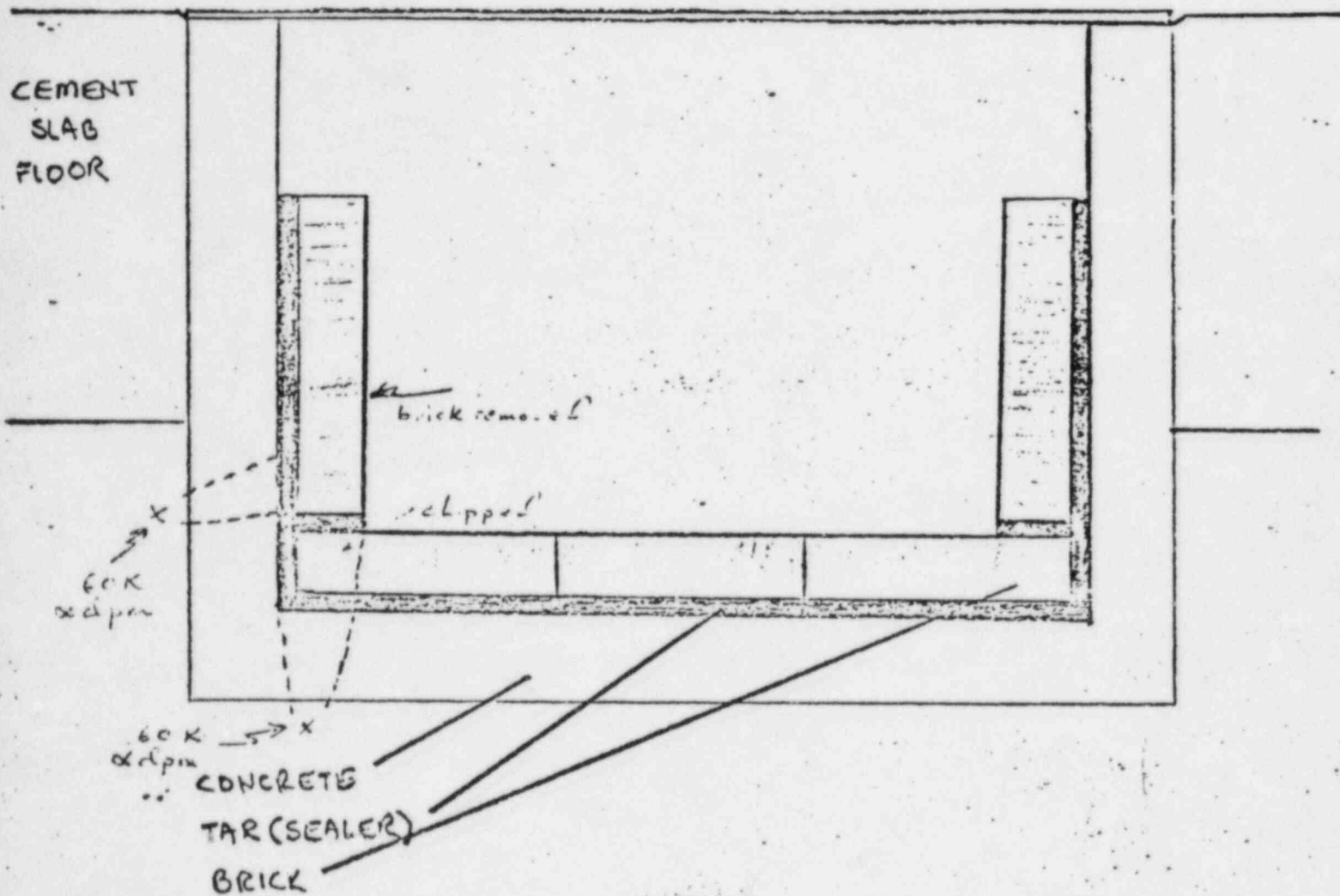
Instr: 124-3 w/2012

Count Time 1 Min. BKG 17 CPM

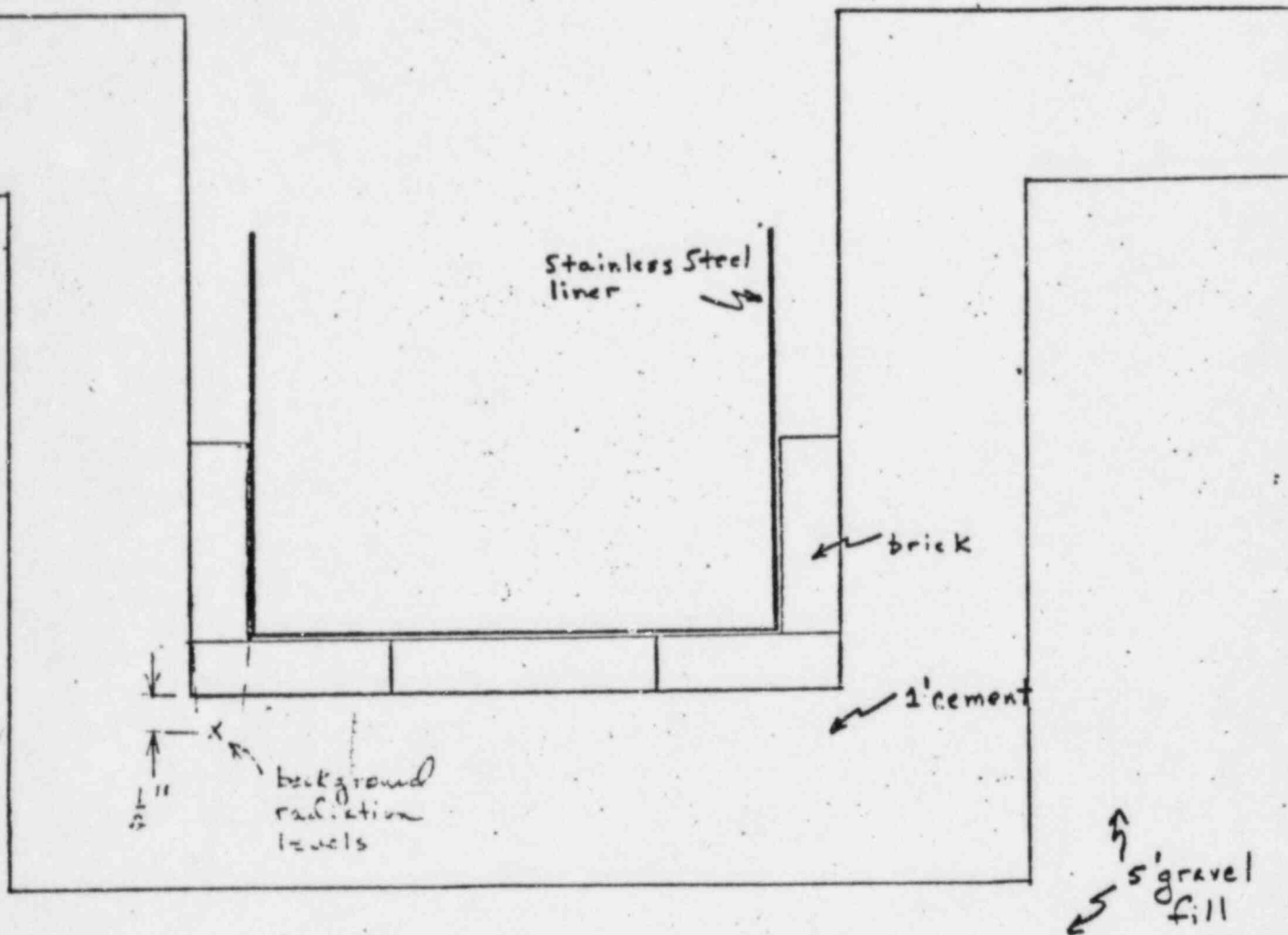
Efficiency CF 206 dpm/cpm

ion	dpm/100 cm <sup>2</sup>	Location	dpm/100 cm <sup>2</sup>
#1	Bkg	27	
#2	Bkg	28	
#3	30	29	
#4	30	30	
#5	Bkg	31	
#6	Bkg	32	
		33	
		34	
		35	
		36	
		37	
		38	
		39	
		40	
		41	
		42	
		43	
		44	
		45	
		46	
		47	
		48	
		49	
		50	
		51	

# TRENCH (LOG #5 - KERR - MCGEE)



TRENCH - BLDG 9 - KERR MCGEE



- no type of sealer between liner, brick or cement