



DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA. 22333

D. Taras/seb/AUTOVON 284-9340

DRCSE-P

17 April 1980

SUBJECT: Decontamination of Diamond Ordnance Radiation Facility

THRU: Commander
US Army Electronics Research and Development Command
ATTN: DRDEL-SS
11 Apr 80 - Adelphi, MD 20783

TO: Commander
Harry Diamond Laboratories
ATTN: DELHD-N-RBI
Adelphi, MD 20783

1. Reference is made to the following report: Radiation Protection Special Study No. 28-43-0982-80, Close-Out Survey of Diamond Ordnance Radiation Facility (DORF), 25-28 February 1980.

2. On 10 April the Army Reactor Committee for Health and Safety reviewed the referenced report and concluded that decontamination is consistent with the criteria in NRC Regulatory Guide 1.86 and is as low as reasonably achievable. In PHONECON, 17 April 80, LTC Quillin, WRAMC Radiation Protection Officer, stated these achieved levels are acceptable to WRAMC. Based on the above, the facility is suitable for unrestricted use and occupancy.


DARWIN N. TARAS

Member, Army Reactor Committee
for Health and Safety

CF:
HQDA(DASG-PSP-E); (DAPE-HRS)
DRCIS
DRCSE

DRCSG-E (3 Apr 80) 1st Ind

SUBJECT: Preliminary Report, Radiation Protection Special Study No.
28-43-0982-80, Close-Out Survey of Diamond Ordnance Radiation
Facility (DORF), 25-28 February 1980

Headquarters, US Army Materiel Development and Readiness Command
5001 Eisenhower Avenue, Alexandria, VA 22333 9 Apr 80

TO: Commander, US Army Electronics Research and Development Command
ATTN: DELHD-N-RBI, Adelphi, MD 20783

Subject report has been reviewed by this office and is forwarded for
information and appropriate action.

FOR THE COMMANDER:

1 Incl
nc

CF:
DRCSE-P
DRCSA-NS
DRXOS-ES
DRCIS-A

for Carl W. Johnson MAJ, MSC
ROBERT T. CUTTING, M.D.
Colonel (P), MC
Command Surgeon

CARL W. JOHNSON
MAJOR, MSC
MEDICAL ENTOMOLOGIST
OFFICE OF THE SURGEON



DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Mr. Lodde/cw/AUTOVON
584-3526

HSE-RH/WP

3 APR 1980

SUBJECT: Preliminary Report, Radiation Protection Special Study No.
28-43-0982-80, Close-Out Survey of Diamond Ordnance Radiation
Facility (DORF), 25-28 February 1980

Commander
US Army Materiel Development and
Readiness Command
ATTN: DRCSG
5001 Eisenhower Avenue
Alexandria, VA 22333

1. AUTHORITY. Letter, DELHD-N-RBI, Harry Diamond Laboratories, 2 November 1979, subject: Request for a Radiological Health Special Study, and indorsement thereto.
2. PURPOSE. This special study was performed to determine the presence and extent of radioactive contamination and whether the facility met the radioactive contamination levels stated in Nuclear Regulatory Commission, Regulatory Guide 1.86, Termination of Operating Licenses for Nuclear Reactors, June 1974, following decontamination.
3. GENERAL.
 - a. This radiation protection special study was conducted by Mr. Gordon M. Lodde, Health Physicist, and 2LT Roger M. Davis, Jr., Health Physics Division, this Agency, during the period 25-28 February 1980.
 - b. An entrance interview and an exit briefing were provided to Mr. Charles Ware, Contracting Officer's Representative, Harry Diamond Laboratories.
4. FINDING.
 - a. The results of smear surveys are provided in Inclosure 1.
 - b. The results of concrete analysis are provided in Inclosure 2.

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c. Surveys by direct radiation measurements indicated that the highest radiation values were obtained on the north, south, and west walls of the exposure room. The values ranged from 20-400 microrentgen per hour (μ R/h) on contact as measured with an Eberline, Model PRM-7, Micro-R-Meter and up to 350 μ R/Hr when measured with a Victoreen, Model 440, Ionization Chamber. These two methods of radiation measurements are in close agreement.

5. DISCUSSION.

a. Samples were taken from the wastewater holding tanks and the sewage system down stream from the holding tanks.

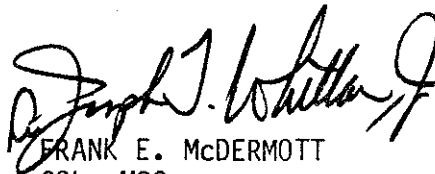
b. Core samples were taken off site and soil and vegetation samples were taken both on and off site.

c. The final report will be forwarded in about 60 days following analysis of the samples.

6. CONCLUSION. A review of the findings indicated that after decontamination the facility conformed to the requirements of Regulatory Guide 1.86.

7. RECOMMENDATION. None

FOR THE COMMANDER:



FRANK E. McDERMOTT
COL, MSC

Director, Radiation and
Environmental Sciences

2 Incl
as

CF:
Cdr, ERADCOM
Cdr, HSC (HSPA-P)

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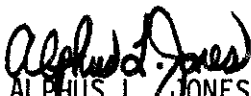
RESULTS OF ANALYZING WIPE TEST SAMPLES

Sample Identification	RCB Lab No.	Disintegrations per Minute ± 2 Standard Deviations/100 c	
		Gross Alpha Activity	Gross Beta Activity
1	L244	< 1.4	4.4 ± 2.5
2	L245	< 1.4	< 2.5
3	L246	< 1.4	< 2.5
4	L247	< 1.4	< 2.5
5	L248	< 1.4	< 2.5
6	L249	< 1.4	< 2.5
7	L250	< 1.4	< 2.5
8	L251	< 1.4	2.8 ± 2.0
9	L252	< 1.4	< 2.5
10	L253	< 1.4	6.0 ± 2.7
11	L254	< 1.4	2.6 ± 2.0
12	L255	< 1.4	< 2.5
13	L256	< 1.4	< 2.5
14	L257	< 1.4	< 2.5
15	L258	< 1.4	< 2.5
16	L259	< 1.4	3.6 ± 1.9
17	L260	< 1.4	< 2.5
18	L261	< 1.4	< 2.5
19	L262	< 1.4	14.6 ± 3.7
20	L263	4.7 ± 2.4	14.0 ± 3.6
21	L264	< 1.4	< 2.5
22	L265	< 1.4	6.2 ± 2.3
23	L266	< 1.4	7.0 ± 2.6
24	L267	3.2 ± 1.9	< 2.5
25	L268	< 1.4	5.2 ± 2.4
26	L269	< 1.4	< 2.5
27	L270	< 1.4	3.0 ± 2.0
28	L271	< 1.4	< 2.5
29	L272	< 1.4	< 2.5

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<u>Sample Identification</u>	<u>RCB Lab No.</u>	<u>Disintegrations per Minute ± 2 Standard Deviations/100 cm²</u>	
		<u>Gross Alpha Activity</u>	<u>Gross Beta Activity</u>
30	L273	< 1.4	3.2 \pm 2.2
31	L274	< 1.4	9.8 \pm 3.2
32	L275	< 1.4	3.2 \pm 2.3
33	L276	< 1.4	< 2.5
34	L277	< 1.4	< 2.5
35	L278	< 1.4	3.2 \pm 2.4
36	L279	< 1.4	3.2 \pm 2.1
37	L280	< 1.4	5.0 \pm 2.4
38	L281	< 1.4	4.8 \pm 2.3
39	L282	< 1.4	< 2.5
40	L283	< 1.4	< 2.5
41	L284	< 1.4	3.4 \pm 2.1
42	L285	< 1.4	< 2.5
43	L286	< 1.4	< 2.5
44	L287	< 1.4	< 2.5


ALPHUS L. JONES, Chief
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INTERIM RESULTS OF ANALYZING CONCRETE SAMPLES

<u>Sample Identification</u>	<u>RCB Lab No.</u>	<u>Microcurie per Gram ± 2 Standard Deviations</u>		
		<u>Europium-152 Activity</u>	<u>Europium-154 Activity</u>	<u>Cobalt-60 Activity</u>
EX-N	RC1	$3.5 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$2.8 \times 10^{-6} \pm 0.6 \times 10^{-6}$	$1.0 \times 10^{-5} \pm 0.4 \times 10^{-6}$
EX-S	RC2	$5.9 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$4.5 \times 10^{-6} \pm 0.8 \times 10^{-6}$	$3.4 \times 10^{-5} \pm 0.1 \times 10^{-5}$
ES In Pool	RC3	$1.6 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$1.4 \times 10^{-6} \pm 0.4 \times 10^{-6}$	$5.4 \times 10^{-6} \pm 0.3 \times 10^{-6}$
ES-W	RC4	$2.8 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$2.2 \times 10^{-6} \pm 0.5 \times 10^{-6}$	$1.4 \times 10^{-5} \pm 0.1 \times 10^{-5}$
EX LIFT-S	RC5	$1.1 \times 10^{-4} \pm 0.2 \times 10^{-5}$	$7.9 \times 10^{-6} \pm 0.9 \times 10^{-6}$	$3.0 \times 10^{-5} \pm 0.1 \times 10^{-5}$



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