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GROUP H-6 MONTHLY REPORT - Dean D. Meyer, Group Leader - August 20 to Sept. 15, 1951

Reviewed/Lab Counsel
Publicly Releasable

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Reference No. H-6-197

LAM-895

JOB AND PERSONNEL

PROGRESS

I. Health Chemistry

Samples of drinking water and circulating water in CMR Buildings were taken in August. They were prepared for uranium analysis and submitted to H-5. Results are not yet available due to trouble with instruments.

Polonium analyses of filter paper are still in progress.

Two weeks were spent attending the A.C.S. meeting in New York City.

A two week study was made of air-borne contamination in Room 406, DP West. The only source of air-borne contamination definitely determined was the dusting and wiping down of the ceiling and ceiling fixtures. During the study none of the tests taken throughout the working day were above the maximum allowable concentration. In the three weeks previous to the study, readings above the M.A.C. were found on nine days. During the two week period since the study was terminated, the room has been operating at well below the M.A.C. One factor possibly responsible for the improvement was the changing of the intake air filters just prior to the study period.

Flow rates were measured in the air exhaust system at DP East for purposes of installing new sample pick-up tubes.

A compressor installation for supplying breathing air to personnel at DP West was checked for adequate flow of air to personnel.

266 items having a replacement value of approximately \$2,200 were decontaminated and returned to use. In addition two vehicles were decontaminated and transfer containers were decontaminated.

II. Special Air Tests

A. O. Dodd

III. Decontamination

J. B. Webber
A. Fernandez
F. Martinez

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Health & Contamination

PROGRESS REPORT FOR MONITORING SECTION

Surface monitoring:

	<u>No. Rooms checked</u>	<u>No. Positions over tolerance</u>	<u>Percent Decontamination</u>
<u>Tech Area</u>			
D Building	745	325	59
Sigma and Tu	121	108	80
U,M,H Bldg.	11	3	100
<u>DP West</u>			
GMR-11 Areas	72	540	61
GMR-4 Areas	39	71	89
GMR Laundry	40	22	64
<u>DP East</u>			
Polonium Areas	797	190	92
Actinium Areas	24	33	100

AIR-BORNE ALPHA CONTAMINATION
(Tech Area - Plutonium Laboratories)
Maximum allowable concentration 0.0044 c/m/l

<u>Location</u>	<u>No. Tests</u>	<u>No. Tests over M.A.C.</u>		<u>Sept. High c/m/l</u>	<u>Sept. Ave. c/m/l</u>	<u>Aug. Ave. c/m/l</u>
		<u>Sept.</u>	<u>Aug.</u>			
D-101	15	1	1	0.0186	0.0019	0.0011
D-107	19	0	1	0.0017	0.0007	0.0010
D-130	22	0	0	0.0015	0.0006	0.0006
D-134	23	9	6	0.0693	0.0070	0.0077
D-136	23	0	0	0.0010	0.0006	0.0006
D-138	23	2	2	0.0072	0.0019	0.0017
D-139	23	0	3	0.0036	0.0008	0.0019
D-142	23	2	1	0.0079	0.0013	0.0020
D-148	23	9	11	0.0351	0.0066	0.0044
D-152	22	2	7	0.0095	0.0019	0.0029
D-304	22	2	2	0.0068	0.0028	0.0018
D-304B	23	3	3	0.0232	0.0019	0.0019
D-311	23	0	3	0.0043	0.0009	0.0018
D-313	23	9	14	0.5160	0.0400	0.0175

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<u>Location</u>	<u>No. Tests</u>	<u>No. Tests over M.A.U.</u>		<u>Sept. High</u> c/m/l	<u>Sept. Ave.</u> c/m/l	<u>Aug. Ave.</u> c/m/l
		<u>Sept.</u>	<u>Aug.</u>			
D-320	23	2	3	0.0064	0.0020	0.0040
D-411	8	0	0	0.0019	0.0009	0.0010
D-504	12	0	0	0.0017	0.0009	0.0008
<u>DP West</u>						
Room 201	15	0	5	0.0035	0.0011	0.0034
Room 213						
Evap. Room	23	0	0	0.0019	0.0008	0.0012
Main Aisle	21	2	1	0.0055	0.0015	0.0014
Unloading Rm	23	0	0	0.0023	0.0010	0.0008
Beside Filter						
Drybox	21	0	1	0.0044	0.0014	0.0014
Room 218	22	1	4	0.0060	0.0018	0.0025
Room 313*	23	1	7	0.0052	0.0014	0.0171
Room 322	21	0	1	0.0015	0.0006	0.0009
Room 401	23	0	1	0.0044	0.0014	0.0020
Room 406	23	2	7	0.0534	0.0039	0.0027
Room 408*	22	15	4	0.1255	0.0321	0.0027
Room 413*	23	18	21	0.6684	0.0911	0.0020
Room 501						
Control Rm	22	0	0	0.0011	0.0004	0.0004
Plant	21	4	3	0.0137	0.0027	0.0020
Room 506	22	4	5	0.0217	0.0036	0.0025
Room 508	23	2	0	0.0207	0.0025	0.0009
Room 513	23	2	4	0.0075	0.0021	0.0073
Hot Locker Rm	23	2	3	0.0075	0.0028	0.0024
Bldg. 34	23	0	0	0.0017	0.0009	0.0008
Bldg. 35	21	3	2	0.0088	0.0032	0.0021

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<u>Location</u>	<u>No. Tests</u>	<u>No. Tests over M. A. C</u>		<u>Sept. High</u>	<u>Sept. Ave.</u>	<u>Aug. Ave.</u>
		<u>Sept.</u>	<u>Aug.</u>	<u>c/m/l</u>	<u>c/m/l</u>	<u>c/m/l</u>
DP West - CMR-4						
Room 307	23	0	0	0.0021	0.0009	0.0008
Room 319	23	0	1	0.0010	0.0005	0.0009

PLUTONIUM - AMERICIUM - POLONIUM AND URANIUM
Maximum allowable concentration 0.0044 c/m/l

CMR Laundry

Sorting Rm	23	3	5	0.5810	0.0298	0.0034
Washing Rm	21	0	2	0.0019	0.0007	0.0021
Respirator Rm	23	0	1	0.0039	0.0014	0.0014

POLONIUM
Maximum allowable concentration 0.700 c/m/l

DP East

Room 5203	23	0	0	0.010	0.001	0.003
Room 5204	23	0	0	0.071	0.004	0.004
Room 5205	10	0	0	0.004	0.001	0.002
Room 5206	10	0	0	0.076	0.009	0.004
Room 5208	10	0	0	0.006	0.004	0.003
Room 5210	12	0	1	0.038	0.008	≈ 1.6
Room 5211	10	0	0	0.053	0.010	0.005
Room 5212	23	0	0	0.020	0.002	0.004
Room 5213	13	0	0	0.010	0.001	0.003
Room 5214	12	0	0	0.023	0.003	0.004
Room 5227	13	0	0	0.038	0.004	0.026
Room 5230	13	0	0	0.001	0.001	0.005

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Location	No. Tests	No. Tests over M.A.C.		Sept. High c/m/l	Sept. Ave. c/m/l	Aug. Ave. c/m/l
		Sept.	Aug.			

NORMAL URANIUM

Maximum allowable concentration 0.033 c/m/l

Sigma Bldg.

S-21	23	0	0	0.0201	0.0058	0.0078
S-21C	23	0	0	0.0121	0.0073	0.0034
S-22	23	0	1	0.0076	0.0028	0.0171
S-104	23	2	0	0.0711	0.0118	0.0079
S-118	23	0	0	0.0104	0.0015	0.0007

Tu Bldg.

Saw Room	17	0	1	0.0115	0.0042	0.0087
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ENRICHED URANIUM

Maximum allowable concentration 0.0044 c/m/l

These rooms are located in a plutonium area and are held to the plutonium tolerance.

D Bldg.

D-108A	21	0	1	0.0025	0.0013	0.0026
D-112	22	3	6	0.0098	0.0015	0.0021
D-115	22	7	14	0.0084	0.0032	0.0097
D-116	23	6	20	0.0083	0.0035	0.0075
D-127	22	0	0	0.0052	0.0022	0.0019
D-129	23	1	0	0.0100	0.0012	0.0008

M Bldg.

M-15	23	0	-	0.0020	0.0008	-
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Sigma Bldg.: M.A.C. - 0.033 c/m/l

S-106	22	0	0	0.0148	0.0028	0.0011
S-110	23	0	0	0.0206	0.0056	0.0058
S-117	23	0	5	0.0112	0.0051	0.0241

* These rooms are being dismantled. Personnel working in them wear respirators or supplied air equipment.

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AIR-BORNE ALPHA CONTAMINATION IN EXHAUST SYSTEMS

<u>Location</u>	<u>No. Tests</u>	<u>Sept. High</u> <u>c/m/l</u>	<u>Sept. Ave.</u> <u>c/m/l</u>	<u>Aug. Ave.</u> <u>c/m/l</u>
<u>DP West</u>				
Average conc. from stacks (24 hrs)	167	0.1888	0.0106	0.0415
Average conc. from bldg. ducts (24 hrs)	83	0.3420	0.0284	0.1169
Daily conc., Stack 1, day run (7 hrs)	23	0.0880	0.0158	0.1473
Daily conc., Stack 2, day run (7 hrs)	23	0.1888	0.0198	0.1377
Daily conc., Stack 3, day run (7hrs)	23	0.0553	0.0061	0.0405
Daily conc., Stack 4, day run (7 hrs)	23	0.1433	0.0142	0.0807
Daily conc., Stack 1, night run (17 hrs)	18	0.0190	0.0061	0.0075
Daily conc., Stack 2, night run (17 hrs)	19	0.0475	0.0131	0.0119
Daily conc., Stack 3, night run (17 hrs)	19	0.0183	0.0047	0.0059
Daily conc., Stack 4, night run (17 hrs)	19	0.0350	0.0105	0.0114
Daily conc., east side plenum, day (7 hrs)	23	0.1475	0.0600	0.4352
Daily conc., west side plenum, day (7 hrs)	23	0.3420	0.0318	0.1034
Daily conc., east side plenum, night (17 hrs)	19	0.0293	0.0179	0.0415
Daily conc., West side plenum, night (17 hrs)	18	0.0719	0.0218	0.0238
<u>DP East</u>				
Average conc. from stacks (8 hrs)	43	0.802	0.176	0.060
Average conc. from bldg. ducts (24 hrs)	22	0.986	0.216	0.116

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NOSE SWIPE TESTS

<u>Area</u>	<u>No. Tests Taken</u>	<u>No. Over Tolerance</u>	<u>Highest Over Tolerance</u>
D and M Buildings	1337	1	305 c/m
Sigma and Tu	342	0	- -
DP West (CMR-11, H-6 and Zia)	1415	1	78/80 c/m
DP West (CMR-4)	74	0	- -
Laundry	385	0	- -
DP East Polonium Area	189	0	- -
Actinium Area	14	0	- -

HAND COUNTS

	<u>No. Counts Recorded</u>	<u>No. Over Tolerance</u>	<u>Highest Over Tolerance</u>
D Building	5601	0	- -
Sigma	384	0	- -
DP West (CMR-11)	2196	2	5000 c/m
DP West (Zia)	2224	0	- -
DP West (CMR-4)	570	0	- -
Laundry	1936	3	2500 c/m
DP East Polonium Area	1050	1	90000 c/m
Actinium Area	142	0	- -

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General:

1. 145 persons were scheduled for Health passes during the month. These include 63 University of California personnel, 55 Zia Company personnel and 27 AEC personnel. Twenty one of these tests were submitted by the home collection method. Reports on all tests show concentrations below the permissible levels in the urine.
2. Work on dismantling Rooms 408, 413 and 313 continued at DP West. All of the contaminated exhaust ducts have been removed from Rooms 408 and 413. The contaminated roof on Room 413 has been removed. Personnel working in these rooms have worn respirators or supplied air respiratory equipment. The air-borne contamination in the adjacent areas has been kept below the maximum allowable concentration.
3. CMR-3 continued work with actinium. Thirty three air samples were taken during the month. The average air-borne activity was 0.001 c/m/l, with a maximum of 0.002 c/m/l. One of the samples did not decay and indicates the presence of actinium, this sample has increased to 0.002 c/m/l.
4. The filters in the exhaust air filter house at DP East were changed during the month. Personnel working in the filter house wore supplied air equipment and all urine counts were below tolerance levels. The changing of the filters increased the stack count average for the month.
5. The CMR areas handling tritium were monitored during the month. No excessive air concentrations were detected and all urine counts were below tolerance levels.
6. Two contaminated accidents occurred during the month.
 - a. A plutonium solution was spilled in D Building. Tests indicate that personnel exposure was low. The area has been decontaminated and is back in operation.
 - b. A fire in a drybox at DP West contaminated a portion of Room 201. Tests indicate that personnel exposure was low. The room has been cleaned and is back in operation. Personnel exposed in both of these accidents have been scheduled for health passes.
7. Two Zia craftsmen at DP West became ill while working on a HF system. These men were wearing supplied air equipment at the time. They were sent to the hospital for observation and were released the next day. The supplied air equipment has been checked and was found to be in good condition.

Dean D. Meyer
Dean D. Meyer
Group Leader, H-6

DDM:jwe
1A Doc. Room
2A E. R. Jette
3A T. N. White
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